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HEALTH DEPARTMENT.

Report for the Quarter ending September 30, 1894.

HEALTH DEPARTMENT,
CENTRE, ELM, WHITE AND FRANKLIN STREETS,
CRIMINAL COURT BUILDING,
NEW YORK, November 14, 1894.

Hon. THOMAS F. GILROY, Mayor of the City of New York:

SIR—I have the honor to transmit herewith the report of the Board of Health of the Health Department of the City of New York for the quarter ending September 30, 1894.

Very respectfully,
EMMONS CLARK, Secretary.

WORK PERFORMED BY THE SANITARY BUREAU

During the Quarter ending September 30, 1894.

The following is a summary of the operations of the Sanitary Bureau, which is charged with the duty of inspecting and reporting, in proper form, all nuisances or causes of danger to the public health, with the execution of the orders of the Board, and with the care of contagious diseases.

The number of inspections and reinspections made by the Sanitary Inspectors and the Sanitary Police was 193,460, classified as follows:

By the Sanitary Inspectors.....	12,377
By the Sanitary Police Inspectors.....	62,774
By the Division of Contagious Diseases.....	16,064
By the Milk Inspectors.....	15,585
By the Fruit and Food Inspectors.....	58,387
By the Meat and Fish Inspectors.....	16,512
By the Offensive Trades Inspectors.....	9,697
By the Division of Pathology, Bacteriology and Disinfection.....	2,064
Total.....	193,460

The number of complaints returned was 7,065, classified as follows:

By the Sanitary Inspectors.....	3,604
By the Sanitary Police Inspectors.....	2,823
By the Fruit and Food Inspectors.....	303
By the Offensive Trades Inspectors.....	122
By the Division of Pathology, Bacteriology and disinfection.....	213
Total.....	7,065

The number of complaints received from citizens was 4,477, all of which were referred to the Sanitary Inspectors and the Sanitary Police for investigation and report.

The Sanitary Superintendent, during the same period, under instructions and authority of the Board, granted 743 permits to discharge cargoes, under proper vouchers from the Health Officer of the Port; 356 permits to scavengers to empty privies; 14 permits to land rags (in bulk), under bonds, and 54 miscellaneous permits under the Sanitary Code.

The following is a summary of the work performed by the Sanitary Inspectors:

Number of inspections and reinspections made.....	12,377
“ complaints made.....	3,604

The following premises and locations have been inspected and reported upon by the Sanitary Inspectors, a summary of which is as follows:

Summary of Inspections.

Tenement-houses.....	4,535
Lodging-houses.....	1,093
Private dwellings.....	680
Other dwellings.....	358
Public buildings.....	3
Other buildings.....	161
Manufactories and workshops.....	141
Stores and warehouses.....	122
Stables.....	405
Sunken and vacant lots.....	287
Public highways.....	49
Harlem Railroad.....	3
Fire hydrant.....	1
Docks and piers.....	4
Receiving-basins and public sewers.....	34
Dumps and dumping grounds.....	4
Slaughter-houses.....	140

Total.....	8,020
Total reinspections.....	4,357

Total inspections and reinspections made..... 12,377

Number of privy vaults ordered abolished.....	92
“ cellars ordered to be made water-tight.....	72

The following is a summary of reports made by Sanitary Inspectors, with the result of inspections:

NATURE OF COMPLAINT.	Cause.	No Cause.	Total.	NATURE OF COMPLAINT.	Cause.	No Cause.	Total.
Plumbing.....	1,504	271	1,775	Filth.....	1,587	165	1,752
Drainage.....	1,058	276	1,334	Sunken and vacant lots.....	147	83	230
Ventilation.....	217	45	262	Streets, gutters and sidewalks.....	8	..	8
Dangerous structures.....	107	6	113	Sewers and receiving-basins.....	33	9	42
Stables.....	237	129	366	Gas mains.....	2	..	2
Manure vaults.....	40	..	40	Housekeepers.....	2	1	3
Public highways.....	21	13	34	Ash receptacles.....	6	..	6
Repairs.....	908	49	957	Fire hydrants.....	1	..	1
Cellars and basements.....	515	105	620	Dangerous buildings.....	8	1	9
Privies and water-closets.....	1,239	232	1,471	Wells.....	4	..	4
Cesspools.....	104	17	121	Croton-water main.....	1	..	1
Chimneys.....	34	30	64	Dumps.....	..	1	1
Croton water.....	271	22	293	Light.....	..	3	3
Cows, etc.....	6	2	8				
Fowls.....	32	8	40	Total.....	8,092	1,468	9,560

Number of inspections and reinspections..... 12,377

Number of inspections on—

Complaints and reports forwarded for Board's orders.....	3,464
Complaints and reports forwarded to Sanitary Superintendent.....	140
Complaints, negative reports.....	1,809
Miscellaneous.....	2,607

Total..... 8,020

Number of reinspections on—

Orders forwarded.....	3,335
Miscellaneous.....	1,022

Total..... 4,357

Number of visits to Court.....	16
“ visits to Department.....	514
“ Inspectors (average).....	16

Two Inspectors devote their entire time to inspection of lodging-houses.

The following is a summary of the work performed by the corps having charge of foods and chemicals:

Number of inspections made.....	100,181
“ analyses made.....	183
“ citizens' complaints received.....	581
“ citizens' complaints held over since last report.....	43
“ complaints made and returned to Sanitary Superintendent.....	425
“ original complaints by Inspectors.....	324
“ citizens' complaints returned for orders.....	101
“ citizens' complaints returned as negatives.....	491
“ citizens' complaints under observation.....	32
“ days at Court or Department.....	648
“ arrests made.....	80
Number held on bail.....	78
Number of trials at Special and General Sessions.....	47
“ orders received.....	504
“ orders complied with.....	369
“ orders not complied with.....	114

Amount of fines collected at Court..... \$708 00

Number of pounds of milk, fruit and foods, meat and fish, condemned and seized..... 1,957,273

Milk Inspections.

Number of inspections made.....	15,585
“ specimens examined.....	21,813
“ citizens' complaints received.....	21
“ citizens' complaints returned as negatives.....	17
“ citizens' complaints under observation.....	6
“ days at Court and Department.....	178
“ special day inspections.....	16
“ nights of special work.....	19
“ quarts of adulterated milk destroyed (1,364 pounds).....	682
“ days in Court or at Laboratory.....	104
“ arrests made.....	43
Number held on bail.....	43
Number of trials at Special and General Sessions.....	19

Amount of fines collected at Court..... \$500 00

Fruit and Food Inspections.

Number of inspections made.....	58,387
“ citizens' complaints received.....	105
“ original complaints by Inspectors.....	291
“ citizens' complaints returned for orders.....	12
“ citizens' complaints returned as negatives.....	98
“ citizens' complaints under observation.....	1
“ days at Court and Department.....	175
“ nights of special work.....	18
“ arrests made.....	37
Number held on bail.....	35
Number of trials at Special and General Sessions.....	28
Amount of fines collected at Court.....	\$208

Number of inspections of auction houses.....	394
“ stores.....	14,115
“ licensed vendors.....	25,677
“ vessels.....	208
“ railroad depots.....	425
“ stands.....	17,077
“ markets.....	409
“ ice houses.....	82
Total.....	58,387

Condemned and seized.		Pounds.
Assorted fruits.....	43,655	
Apples.....	24,385	
Apricots.....	3,650	
Beans.....	3,350	
Bananas.....	709,915	
Blackberries.....	2,300	
Beets.....	1,350	
Celery.....	800	
Citron.....	150	
Cucumbers.....	5,675	
Canned goods.....	5,040	
Cabbage.....	5,000	
Cocoanuts.....	15,600	
Cherries.....	2,410	
Crackers.....	850	
Currents.....	700	
Cauliflower.....	1,350	
Confectionery.....	1,250	
Egg plants.....	4,050	
Eggs.....	660	
Figs.....	80	
Flour.....	100	
Grapes.....	12,100	
Groceries.....	103,400	
Huckleberries.....	1,500	
Limes.....	6,750	
Lemons.....	111,150	
Melons (water).....	210,615	
Melons (musk).....	42,025	
Nectarines.....	1,450	
Oranges.....	18,735	
Onions.....	10,600	
Peaches.....	32,300	
Pineapples.....	26,615	
Potatoes.....	15,350	
Plums.....	22,060	
Pears.....	33,815	
Raspberries.....	350	
Squash.....	1,950	
Strawberries.....	150	
Tapioca.....	1,050	
Tea.....	200	
Tomatoes.....	17,440	
Vegetables.....	3,690	

Total.....1,506,515

Number of pounds of fruit condemned.....	1,323,360
“ vegetables condemned.....	70,605
“ canned goods condemned.....	5,040
“ confectionery condemned.....	1,250
“ groceries condemned.....	106,260

Total.....1,506,515

Meat and Fish Inspections.

Number of inspections made.....	16,512
“ citizens' complaints received.....	60
“ citizens' complaints returned as negatives.....	56
“ citizens' complaints under observation.....	8
“ days at Court and Department.....	69
“ nights of special work.....	1

Number of pounds of meat and fish condemned.....449,394

Condemned and Seized.		Pounds.
Beef.....	19,045	
Veal.....	29,645	
Sheep.....	218,170	
Hogs.....	70,505	
Assorted meats.....	550	
Poultry.....	34,555	
Game.....	3	
Fish.....	76,921	

Total.....449,394

Carcasses Condemned and Seized.		Pounds.
Beef.....	39	
Veal.....	408 1/4	
Sheep.....	2,248	
Hogs.....	448	

Total.....3,143 1/4

Number of inspections made of fish stores.....	1,877
“ stands.....	2,278
“ licensed venders.....	2,056
“ commission houses.....	2,475
“ butcher shops.....	1,741
“ slaughter-houses.....	2,837
“ packing-houses.....	106
“ ice-houses.....	1,834
“ vessels.....	460
“ railroad depots.....	287
“ stock yards.....	152
“ markets.....	409

Total.....16,512

Work Performed by Assistant Chemists.

Number of analyses made.....	183
“ days at Court and Department.....	83

Summary of Analyses Made.

Bread.....	1	Rochelle salts.....	2
Candy.....	2	Selters water.....	1
Coffee.....	2	Water (croton).....	68
Cardboard.....	2	“ (from wells).....	1
Flour.....	1	“ (from tanks).....	1
Ice cream.....	2	“ (from cellars).....	3
Liquid.....	1	“ (from springs).....	7
Meat.....	1		
Milk.....	84	Total.....	183
Milk (condensed).....	4		

Work Performed in the Inspection of Offensive Trades.

Number of inspections made.....	9,697
“ citizens' complaints received.....	395
“ original complaints by Inspectors.....	33
“ citizens' complaints returned for orders.....	89
“ citizens' complaints returned as negatives.....	320
“ citizens' complaints under observation.....	17
“ days at Court and Department.....	143
“ nights of special work.....	18

The reports received from the Inspectors of Offensive Trades, classified as to cause of complaint, are:

Bakeries.....	26	Locomotives.....	14
Blacksmith shops.....	26	Liquor stores.....	6
Bone yards.....	23	Machine shops.....	4
Boiler factories.....	1	Milk depots.....	110
Box factories.....	21	Markets.....	2
Breweries.....	172	Offices.....	470
Butcher shops.....	25	Offal docks.....	43
Bottling works.....	2	Offal wagons.....	317
Butter stores.....	133	Oil works.....	25
Churches.....	1	Offal boats.....	3
Candle manufactories.....	2	Packing houses.....	9
Candy manufactories.....	7	Private dwellings.....	188
Cigar manufactories.....	59	Printing houses.....	32
Cabinet manufactories.....	18	Provision houses.....	9
Clothing manufactories.....	12	Piers.....	195
Cheese manufactories.....	2	Public baths.....	9
Calveshead cleaning establishments.....	183	Restaurants.....	54
Calfskin dressing establishments.....	15	Rag shops.....	65
Clothes cleaning establishments.....	14	Round houses.....	15
Carpet cleaning establishments.....	9	Railroads.....	22
Chemical works.....	8	Railroads (elevated).....	2
Cattle yards.....	470	Railroad depots.....	3
Coal yards.....	23	Slaughter houses (cattle).....	3,203
Cellars.....	66	Slaughter houses (chickens).....	1
Carpenter shops.....	5	Smoke-houses.....	37
Cold storage warehouses.....	1	Sawmills.....	161
Dumps (manure).....	1	Soap manufactories.....	8
Dumps (garbage).....	15	Snuff manufactories.....	7
Dynamos.....	13	Soda water manufactories.....	118
Dumps (earth).....	1	Streets.....	4
Excavations.....	88	Storage warehouses.....	6
Fat rendering establishments.....	428	Schools.....	1
Foundries.....	35	Spice and coffee mills.....	21
Factories.....	342	Smelting works.....	5
Fruit stands.....	1	Sewers.....	318
Furniture factories.....	13	Steam engines (stationary).....	25
Fertilizer factories.....	6	Stables.....	43
Fur stores.....	21	Stone yards.....	12
Fires.....	2	Subway Company's pipes.....	1
Gas engines.....	10	Steam heating pipes.....	1
Gas houses.....	218	Steam exhaust pipes.....	87
Gas leaks in mains.....	6	Tenement-houses.....	266
Gas leaks in houses.....	2	Tanneries.....	5
Gas holders.....	46	Tripe factories.....	4
Gas trenches.....	39	Tar boiling.....	2
Grocery stores.....	607	Vinegar factories.....	2
Grain drying establishments.....	13	Venders' wagons.....	1
Hair picking establishments.....	6	Vacant lots.....	2
Hide cellars.....	234	Wheelwright shops.....	14
Hog yards.....	14	Water (Croton).....	7
Hat stores.....	3	Water (tanks).....	3
Hospitals.....	2	Water (wells).....	1
Hotels.....	17	Water (hydrants).....	1
Ice manufactories.....	29	Wire works.....	13
Iron works.....	1	Wood yards.....	4
Junk shops.....	26	Yards.....	82
Kindling wood factories.....	17		
Laundries.....	22	Total.....	9,697
Lime Kilns.....	18		

THE FOLLOWING IS A SUMMARY OF THE WORK PERFORMED BY THE SANITARY POLICE:

Number of inspections and reinspections made.....	62,774
“ complaints made and forwarded to the Sanitary Superintendent.....	2,211
“ complaints made and referred to the Sanitary Inspectors.....	387
“ complaints made on complaints of citizens and forwarded to the Sanitary Superintendent.....	579
“ complaints made on overcrowding in tenements.....	33

Citizens' Complaints.

Under investigation date of last report.....	191
Received from Sanitary Superintendent.....	1,332
Returned to Sanitary Superintendent, complaint made and forwarded.....	579
Returned to Sanitary Superintendent, no cause for complaint.....	465
Returned to Sanitary Superintendent, nuisance abated.....	385
Under investigation.....	94

Communications.

Under investigation date of last report.....	1
Received from Sanitary Superintendent for examination and report.....	6
Returned to Sanitary Superintendent with report of examination made.....	6
Under investigation.....	1

Orders for Reinspection.

Held for reinspection date of last report.....	465
Attorneys received from Sanitary Superintendent.....	4,673
Attorneys returned to Sanitary Superintendent complied with.....	2,258
Attorneys returned to Sanitary Superintendent not complied with.....	2,186
Orders received from Sanitary Superintendent.....	6,146
Orders returned to Sanitary Superintendent complied with.....	3,454
Orders returned to Sanitary Superintendent not complied with.....	2,724
Held for reinspection, or while work is progressing.....	662

Orders from the Division of Contagious Diseases.

Under observation date of last report.....	2
Received to stop work, close stores and keep premises under observation.....	11
Relieved from observation.....	8
Under observation.....	5

Number of night inspections of tenement apartments to report overcrowding.....	9,921
“ complaints of overcrowding made and forwarded.....	33
“ orders issued by the Board to reduce number of occupants in overcrowded apartments.....	27
“ orders complied with.....	48
“ orders not complied with.....	4
“ letters delivered.....	2,304
“ officers (total).....	44
“ water closets ordered in lieu of privy vaults.....	56
“ number of receptacles removed from sidewalks.....	1,542
“ scavenger permits collected and forwarded to the Sanitary Superintendent.....	236
“ manure dump inspections.....	245
“ lodging-house inspections.....	425
“ tenement-house inspections.....	21,263
“ tenement-house inspections (under the law, house-to-house inspections).....	16,989
“ slaughter-house inspections.....	712
“ stable inspections.....	1,790
“ miscellaneous inspections and reinspections of orders.....	9,756
“ notices served directing burial of persons who died from contagious or infectious diseases.....	329
“ postal cards transmitted to the Department of Street Cleaning.....	56
“ officers on special duty.....	12

Nature of Complaints and Violations Reported by Sanitary Police.

NATURE OF COMPLAINTS AND VIOLATIONS.	COMPLAINTS MADE.	NUISANCES ABATED BY PERSONAL EFFORT.	TOTAL.
Air shafts filthy, not covered or connected with house sewer.	116	257	373
Areas filthy and dangerous	185	196	381
Ash-boxes in violation of Sanitary Code	24	1,532	1,556
Balusters and stairs dangerous	83	...	85
Cellars filthy	432	687	1,119
Cellars occupied as a place of dwelling or lodging	137	...	137
Cellar doors dangerous	14	...	14
Cellars not water-tight	14	...	14
Cesspools	46	...	46
Chimneys dangerous or obstructed	33	...	33
Cows, no permit	4	...	4
Clothes pole dangerous	5	...	5
Dock filthy	2	...	2
Dogs in violation of Sanitary Code	20	...	20
Drains obstructed or defective	75	...	75
Eaves gutters defective or dangerous	19	...	19
Fences dangerous	34	...	34
Flooring broken, dangerous or filthy	250	43	293
Fire-escapes filthy or obstructed	9	32	41
Fowls, no permit	109	...	109
Fresh-air inlets obstructed	9	276	285
Goats, no permit	17	...	17
Halls not properly ventilated	2	...	2
Hogs, no permit	1	...	1
Hydrants out of repair	21	...	21
Ice-boxes not connected with a properly trapped Croton supplied sink	55	...	55
Inside rooms not properly ventilated	2	...	2
Leaders defective, obstructed or dangerous	35	...	35
Manure-vaults in violation of the Sanitary Code or no permit	29	...	29
Pigeons kept	49	...	49
Pumps out of repair	5	...	5
Privy accommodations not sufficient	3	...	3
Privy-vaults full offensive, or out of repair	98	...	98
Privy-houses filthy or out of repair	206	86	292
Premises not connected with street sewer	14	...	14
Rabbits	11	...	11
Rags stored in tenement houses, no permit	18	...	18
Receiving-basins full or offensive	62	...	62
Roofs leaking or filthy	264	27	291
Schools kept in tenement-houses	2	...	2
Street culverts obstructed	2	...	2
School sinks out of order or neglected	97	143	240
Stable yards filthy, not paved, graded or sewer connected	24	22	46
Skylights broken	41	...	41
Stoops dangerous	17	...	17
Soil-pipes obstructed, defective or not ventilated	56	...	56
Sinks filthy, defective or not trapped	156	18	174
Sidewalks filthy, dangerous or not flagged	27	13	40
Street pavements dangerous	44	...	44
Streets or gutters filthy or obstructed	77	142	219
Supply-pipes obstructed or defective	91	...	91
Smoke-house in tenement-house, no permit	6	...	6
Urinals not trapped, flushed or sewer connected	70	...	70
Vacant lots filthy, dangerous, not fenced or sewer connected	135	42	177
Vault covers or gratings dangerous	12	...	12
Water-closets out of repair or filthy	269	...	269
Water-closet not trapped or ventilated	2	...	2
Water-tanks filthy	1,125	362	1,487
Walls and ceilings filthy or out of repair	1,999	...	1,999
Waste-pipes obstructed, defective or not ventilated	103	...	103
Yards filthy, not properly graded or sewer connected	345	833	1,178
Yard pavements out of repair	153	...	153
Total	7,367	4,731	12,098

The number of dead animals removed from the streets and the quantity of offal, etc., removed from the markets and slaughter-houses, by the contractor, was:

Horses	2,283	Dogs from public pound	1,646
Mules	5	Barrels of fish	1,729
Colts	1	Barrels of offal	8,054
Steers	6	Barrels of blood	960
Cows	16	Quarters of beef	136
Calves	208	Quarters of veal	687
Sheep	2,061	Quarters of mutton	241
Hogs	8	Barrels of poultry	165
Cats and dogs	9,117	Quarters of deer	1

WORK PERFORMED BY THE DIVISION OF CONTAGIOUS DISEASES.

Contagious Diseases Reported and Referred to the Inspector.

The number of cases reported during the quarter, and referred to the Inspectors, was:

Typhoid fever	319
Scarlet fever	413
Measles	365

Diphtheria	1,761
Small-pox	88
Total	2,946

Other Cases Reported and Referred to the Inspector.

Cerebro-spinal meningitis	7
Varicella	34
Croup	66
Pertussis	16
Erysipelas	1
Malarial fever	19
Morbili	2
Total	145

Summary of Work Performed.

Number of inspections made	16,064
“ general and special reports made	2,823

Work Performed by the Inspectors of Vaccination.

Number of primary vaccinations performed	5,584
“ revaccinations performed	15,879
Total	21,463

Number of visits to sick children	1
“ visits to infected houses	1,044
“ reports forwarded	504

Work Performed by the Medical Sanitary Inspectors.

Number of cases visited	13,416
“ houses inspected	12,474
“ inspections of tenement houses	11,594
“ inspections of private houses	435
“ inspections of schools and institutions	284
“ inspections of hotels	19
“ miscellaneous inspections	142
“ visits to doctors and undertakers	211
“ schools' notices sent	429
“ special diagnoses made	722
“ visits to Court and Central Office	982
“ days (24 hours) as diagnosticians	361 1/2
“ reports forwarded to Chief Inspector	1,121

Work Performed by the Disinfectant Corps.

Number of houses visited	3,181
“ infected rooms fumigated	4,036
“ patients removed to hospital on account of contagious diseases	270
“ dead bodies removed to the Morgue	26
“ infected rooms disinfected	3,850
“ pieces infected goods removed by Department	6,462
“ pieces infected goods returned by Department	5,614
“ pieces infected goods destroyed	603
“ pieces infected goods on hand	843
“ pieces infected goods disinfected	5,961
“ times ambulances, etc., fumigated	519
“ reports to Chief Inspector	704

Work Performed by the Veterinarian.

Number of cases of contagious diseases in animals visited	181
“ inspections made	409
“ heads of cattle examined	5,191
“ glandered horses destroyed	42
“ post-mortems on cattle	34

Miscellaneous Work Performed.

Number of animals vaccinated	35
“ quill slips collected	50,998
“ ivory points collected	4,427
“ capillary tubes filled	85
“ certificates of vaccination issued	10,410
“ prescriptions written	157
“ prescriptions filled	157
“ reports forwarded to Chief Inspector	494

Moneys received from the sale of bovine vaccine virus, and deposited with the City Chamberlain	\$597 22
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Work Performed by the Summer Corps for the Nine Weeks Ending September 4, 1894.

Number of visits to houses	35,658
“ visits to families therein	319,155
“ revisits to patients under treatment	5,054

Total number of visits and revisits 324,209

Number of Sick Treated for the Following Diseases.

Diarrhoeal	11,569
Dysenteric	206
Respiratory	2,863
Contagious	219
Miscellaneous	5,889

Total 20,746

Circulars for care of infants distributed	67,773
St. John's Guild tickets for Floating Hospital distributed	6,846
Nuisances abated by personal effort	5,586
Complaints of nuisances forwarded to Sanitary Superintendent	288
Patients of other physicians found under treatment	5,038
Prescriptions written at Central Office	157
Prescriptions filled at Central Office	157
Total visits and revisits to the sick	25,800

WORK PERFORMED BY THE DIVISION OF PATHOLOGY AND BACTERIOLOGY.

Work Performed by the Inspector of Bacteriology.

Number of inspections made	15
“ bacteriological examinations, general	145
“ bacteriological examinations of vaccine virus	8
“ second bacteriological examinations of diphtheria (convalescents)	1,483
“ days on duty	56
“ nights on duty	1
“ bacteriological examinations of healthy throats in infected families	43

Work Performed by the Inspector of Diphtheria.

Number of inspections made	155
“ bacteriological examinations, general	347
“ bacteriological diagnoses of suspected diphtheria	1,416
“ found to be true diphtheria	484
“ found to be false diphtheria	207
“ exact bacteriological diagnoses impossible	325
“ days on duty	75

Work Performed by Medical Inspectors Detailed at Laboratory.

Number of bacteriological examinations, general.....	127
" bacteriological examinations of supposed tuberculous sputum.....	147
" tubercle bacilli found.....	82
" tubercle bacilli not found.....	65
" days on duty.....	65

Work Performed by Laboratory Assistants.

Number of days on duty.....	127
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Work Performed by Collectors.

Number of visits to collect diphtheria culture tubes and samples of sputa.....	1,649
" days on duty.....	82
" nights on duty.....	46

Work Performed by Medical Inspectors.

Number of inspections.....	1,894
" days on duty.....	387
" original complaints.....	213

Summary.

Number of inspections.....	2,064
" autopsies.....	1
" original complaints by Inspectors.....	213
" bacteriological examinations, general.....	619
" bacteriological examinations of vaccine virus.....	8
" bacteriological diagnoses of suspected diphtheria.....	1,416
found to be true diphtheria.....	884
found to be false diphtheria.....	207
exact bacteriological diagnosis impossible.....	325
" secondary bacteriological examinations of diphtheria (convalescents).....	1,483
" bacteriological examinations of healthy throats in infected families.....	43
" bacteriological examinations of supposed tuberculous sputum.....	147
tubercle bacilli found.....	82
tubercle bacilli not found.....	65
" visits to collect diphtheria culture tubes and samples of sputa.....	1,649

BACTERIOLOGICAL LABORATORY.

REPORT ON BACTERIOLOGICAL INVESTIGATIONS AND DIAGNOSIS OF DIPHTHERIA.

CHARLES F. ROBERTS, M. D., *Sanitary Superintendent*:

SIR—I have the honor to submit the following history and report of the bacteriological and experimental work on diphtheria performed in the Bacteriological Laboratory of the Health Department during the past year.

Early in January, 1893, a communication was addressed to the Board of Health of New York City, recommending the systematic employment by the Health Department of bacteriological examinations for the diagnosis of diphtheria. The appointment of Dr. William H. Park was suggested as a special inspector for this work.

This recommendation was made in view of the following considerations there detailed:

1. "The practical differentiation of diphtheria from other diseases affecting the upper air-passages is of great sanitary importance.

2. "It is admitted by all clinicians of experience in this disease that it is often impossible either from the clinical history or the anatomical lesions or both to make an accurate diagnosis of diphtheria. There are no constant differences which separate the simple non-contagious forms of inflammation from the diphtheritic and communicable types, and it is only in a rather small proportion of cases that an early and reliable diagnosis can be arrived at from any data obtainable. The records of the Health Department of New York City have shown this in a very striking way. In the cases of suspected diphtheria under treatment at the Willard Parker Hospital, in which the diagnoses were made by the department inspectors and confirmed by the department diagnosticians before the removal of the patients to the hospital, subsequent bacteriological examinations showed that from 30 to 50 per cent. of these cases were not diphtheria, but were cases of pseudo-diphtheria.

3. "All recent bacteriological investigations made to determine the value of such examinations for the diagnosis of diphtheria, are in accord in stating positively that reliable conclusions may be reached by this method in from twelve to twenty-four hours. These investigations include those made by Baginsky in Berlin, Martin in Paris, and Koplik and Park in New York. The results arrived at in these investigations have been confirmed by the subsequent histories of the cases examined. In those cases in which bacteriological examinations have shown the absence of the Klebs-Loeffler bacillus, the mortality has varied from 1 to 5 per cent., and the cause of death has been usually broncho-pneumonia, and not the local disease; while in those cases in which bacteriological examinations have shown the presence of the Klebs-Loeffler bacillus, the mortality has varied from 20 to 50 per cent. Further, it has been demonstrated that in the cases in which the Klebs-Loeffler bacillus is not found, there is little danger of the transmission of the disease to others; while from the cases of true diphtheria (as shown by bacteriological examinations), even when the disease is of the mildest type, frequent and numerous instances of infection have occurred.

4. "The employment of bacteriological examinations for the diagnosis of diphtheria would have an important influence in diminishing the work of the Department and the cost of this work. Bacteriological investigations in diphtheria have shown that in most cases accurate conclusions as to the nature of the disease can be arrived at within fourteen hours. Investigations made by Dr. Park at the Willard Parker Hospital show the Department has in the past provided for the maintenance and treatment of a large number of patients having pseudo-diphtheria. This has been at a large, unnecessary cost, and the facilities of the Department for the treatment of cases of true diphtheria have been thereby limited.

"In addition to this, under the present regulations of the Department, a large number of cases of pseudo-diphtheria must be repeatedly visited by inspectors, and the rooms, clothing, etc., after convalescence, thoroughly disinfected. This is at a further large cost to the Department, and the expenditure of much valuable time.

"If the Department was prepared to avail itself at once in all cases of means for the bacteriological diagnosis of diphtheria—as this can be arrived at in so short a time—any definite action could, as a rule, be held in abeyance until a conclusion as to the nature of the disease had been reached. In those cases in which the results showed the disease was pseudo-diphtheria the Department would be at once relieved from further action.

"During the year 1891, 4,874 cases of diphtheria were reported to this Board, and so far as can be judged from the data at hand, at least $\frac{1}{2}$, and perhaps more, of these cases were not diphtheria.

5. "The resort to bacteriological examinations for the differentiation of true diphtheria from pseudo-diphtheria would constitute an important step in advance.

"The Health Department of the City of New York determined in 1892 to depend solely on bacteriological examinations for the diagnosis of Asiatic cholera. No State or municipal sanitary board has as yet officially adopted bacteriological examinations for the diagnosis of diphtheria; but in New York at least these are of far greater importance for the diagnosis of diphtheria than for the diagnosis of cholera, because of the greater prevalence and constant presence of diphtheria here. The formal recognition of this method by the Board would be received by the medical profession as an important indication of the determination of the Board to keep the work of the Department thoroughly abreast of the most recent discoveries of scientific medicine.

6. "In addition to the work in the diagnosis of diphtheria, there would naturally arise from such examinations, investigations as to the best methods to prevent the extension of the disease."

In the report just quoted, the appointment of Dr. William H. Park as Bacteriological Diagnostician and Inspector of Diphtheria was recommended, because of the investigations which had been carried on by Dr. Park during the previous year in the hospitals under the control of the Health Department, and because his special training and fitness for this position had been thoroughly demonstrated.

After some unavoidable delay, early in May, 1893, Dr. Park was appointed, in accordance with the recommendation, "Bacteriological Diagnostician and Inspector of Diphtheria."

The Board of Health, on my recommendation, then determined to make use of bacteriological examinations for the diagnosis of diphtheria, not only in all cases admitted to the hospital wards, but also in all cases of suspected diphtheria occurring in the city where the co-operation or consent of the attending physician could be obtained. This action was taken with a view to giving precision to the work of the Department in the prevention of this disease.

During the first weeks after the commencement of this work the number of cases examined weekly was comparatively small, but the number was continually increased until, during the past few months, a large proportion of all the cases of suspected diphtheria occurring in the city have been subjected to bacteriological examination.

As the scope and extent of the work increased, it was found it would be impossible for Dr. Park to make all the bacteriological examinations, and Mr. Alfred L. Beebe, Inspector of Bacteriology in this Department, was assigned to assist him.

From the beginning, those in charge of the work had little doubt of its ultimate success, but they appreciated the importance of the change that was made in the sanitary management of this

disease, and did not feel assured that the physicians of this city would quickly avail themselves of the opportunities thus afforded to them.

At first, as far as possible, the Inspector of Diphtheria, or special inspectors assigned to this duty, visited physicians who reported cases of diphtheria and explained to them the purposes of the work. The Inspectors made inoculations from cases only after a request from or the consent of the attending physician had been received.

After a short trial, it was evident that a large majority of the physicians of New York would be glad to avail themselves of the assistance offered by the Department. A further step was then taken to increase the facilities for such examinations. A number of depots were established throughout the city (these now number about 40) where culture tubes and the directions required for making the inoculations could be obtained by physicians without charge.

These depots were generally established in drug stores, at convenient points, and arrangements were made for the collection of the tubes left at these depots by Department Collectors late in the afternoon of each day. For convenience and safety in transportation, small wooden boxes, containing the requisites for making a culture there, were supplied from each of the depots, i. e., a culture tube, a swab for inoculating it, and a blank for recording the name, address, etc., of the patient. Each box, with its contents, is known as "a culture outfit."

Cards giving directions for making the cultures and the addresses of the depots where tubes could be obtained were also supplied with the tubes (see below).

Form 20 L. 1894.

2055

HEALTH DEPARTMENT—DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY,
WHITE, CENTRE, ELM AND FRANKLIN STREETS.

DIRECTIONS FOR MAKING CULTURES IN CASES OF SUSPECTED DIPHTHERIA.

The patient should be placed in a good light, and, if a child, properly held. In cases where it is possible to get a good view of the throat, depress the tongue and rub the cotton swab gently, but freely, against any visible exudate. In other cases, including those in which the exudate is confined to the larynx, avoiding the tongue, pass the swab far back, and rub it freely against the mucous membrane of the pharynx and tonsils. Without laying the swab down, withdraw the cotton plug from the culture tube, insert the swab, and rub that portion of it which has touched the exudate gently but thoroughly back and forth all over the surface of the blood serum. Do not push the swab into the blood serum, nor break the surface in any way. Replace the swab in its own tube, plug both tubes, put them in the box, and return the culture outfit at once to the station from which it was obtained.

A report will be forwarded the following morning by mail, or can be obtained by telephone, after 12 noon.

Culture outfits can be obtained from the following station free of cost:

East side—

No. 712 Tremont avenue.....	Eichwort
One Hundred and Thirty-eighth street and Third avenue.....	Fraser
One Hundred and Twenty-fifth street and Madison avenue.....	Marsh
One Hundred and Sixteenth street and Third avenue.....	Engelhardt
One Hundred and Fifteenth street and First avenue.....	New
One Hundred and Tenth street and Madison avenue.....	Barnes
One Hundred and Fifth street and Third avenue.....	Aaronstam
Eighty-sixth street and Park avenue.....	Falkenrecht
Sixty-seventh street and Third avenue.....	Hoykendoff
Forty-fifth street and Third avenue.....	Goetting
Forty-second street and Park avenue.....	Schoonmaker
Forty-first street and Park avenue.....	Van Horn & Ellison
Twenty-ninth street and Fourth avenue.....	Bagoe
Twelfth street and Second avenue.....	Proben
Eleventh street and Avenue A.....	Montesser
Spring street and Bowery.....	Minor

West side—

One Hundred and Thirty-fifth street and Seventh avenue.....	Breen
One Hundred and Twenty-fifth street and Eighth avenue.....	Spear
One Hundred and Twenty-second street and Seventh avenue.....	Heinemann
Ninety-eighth street and Columbus avenue.....	Rosenon
Ninety-third street and Columbus avenue.....	Dorn
Seventy-second street and Boulevard.....	Kerley
Seventy-second street and Columbus avenue.....	Cassaber
No. 411 West Fifty-ninth street.....	Dougherty
Forty-sixth street and Fifth avenue.....	Bartlett & Liell
Thirty-sixth street and Ninth avenue.....	Rupp
Twenty-ninth street and Fifth avenue.....	Frazer
Twenty-second street and Ninth avenue.....	Smith
No. 157 Eighth avenue.....	Lins
No. 148 Eighth avenue.....	Utley
Twelfth street and Sixth avenue.....	Ridgeway
Eighth street and Sixth avenue.....	Bigelow
No. 283 Bleeker street.....	McCord
No. 172 Varick street.....	Jennsen

Form of blank with each "Culture Outfit":

21 L. 1894.

Return swab and both tubes.

2058

DIPHTHERIA.

Name of Maker of Culture

Date

Time

Name of Patient

Age

Address

Address

Att. Phys.

Duration of Disease

How Contracted

Can Case be Isolated?

Location of Membrane

Was Inoculation Satisfactory?

Clinical Diagnosis

Return swab and both tubes.

The diagnosticians, and later the Medical Inspectors of the Department, were supplied with leather pocket cases containing a number of culture tubes and swabs, and were given instructions regarding the methods of making the inoculations. These arrangements being completed, the following circular was delivered, by special messengers, at the office of every physician in this city:

HEALTH DEPARTMENT,
NEW YORK, July, 1893.

CIRCULAR OF INFORMATION CONCERNING THE USE OF BACTERIAL CULTURES FOR THE DIAGNOSIS OF DIPHTHERIA.

Recent bacterial investigations have shown that a considerable proportion of the cases of pseudo-membranous and exudative inflammations of the throat and upper air passages, commonly considered as diphtheria, and having the anatomical appearances found in diphtheria, are not true diphtheria. These cases may be called pseudo or false diphtheria.

It has also been shown that a considerable number of cases which are apparently false diphtheria prove on bacterial examination to be true diphtheria. While in true diphtheria the mortality is very high and the danger of transmission to others is great, in false diphtheria the mortality is low and the danger of infection slight. The differential diagnosis between true and false diphtheria can be made by bacteriological examination within fourteen hours, while without this the differentiation is difficult or impossible.

The Health Department is now prepared to make use of bacterial cultures for diagnosis in all cases of suspected diphtheria occurring in the city, and desires that in every case either the physicians should themselves make the inoculations, or should authorize an Inspector to make them. They should be made in every suspicious case at the earliest possible moment, for during convalescence the specific organisms often disappear from the throat and the full benefit of a positive diagnosis is not obtained unless it is made early in the disease.

The inoculations are made by gently rubbing a cotton swab against the throat, and then drawing it over the surface of the culture-medium. When the physician desires to himself make the culture (and this is usually the better plan, for it can be done earlier and is more agreeable to the family), he can obtain, free of cost, a culture-tube and swab, and the simple directions necessary for their use, at any one of the druggists whose addresses are given below. After the inoculation the tubes are to be returned at once to the druggist from whom they were obtained. The tubes will be collected by the Department every evening.

In cases where an inoculation has not been made by the attending physician, the Medical Inspector will make one, unless for some reason the physician requests that none be made when he notifies the Department of the case.

The diagnosis will be ready by noon of the following day. The attending physician can obtain it immediately by telephoning to the laboratory, or when this is not done he will be notified by mail. Cases which prove to be false diphtheria will not be visited by the Health Department

Inspectors. Cases, on the other hand, which prove to be true diphtheria, will be subjected to the usual rules and regulations covering contagious diseases.

The materials required for making inoculations can be obtained from the following druggists free of cost:

All communications on this subject should be addressed to Dr. Hermann M. Biggs, Chief Inspector, Division of Pathology, Bacteriology and Disinfection, No. 42 Bleecker street (Telephone "1191 Spring").

By order of the Board of Health,

CHARLES G. WILSON, President.

EMMONS CLARK, Secretary.

As soon as it was possible to still further enlarge the work, a new investigation was instituted. This was to determine by the bacteriological examination of secondary cultures made from the throats of convalescent cases of diphtheria, how long the bacilli of diphtheria persist during convalescence.

After a number of examinations had been made sufficient to draw accurate conclusions, the following circular was printed, and ordered to be sent to physicians with the report of the result of the bacteriological examination of the first culture. In it the important announcement is made that in the future no case will be considered free of the contagion of diphtheria until this fact has been established by culture test.

Form 31 L.

HEALTH DEPARTMENT, No. 301 MOTT STREET,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
No. 42 BLEECKER STREET (Telephone, 1191 Spring),
NEW YORK,.....189..

To Dr.....

SIR—During the last few months a series of investigations have been made in the bacteriological laboratory of the Health Department to determine how long the Loeffler bacilli remain in the throat in cases of diphtheria after the disappearance of all false membrane. The results obtained are extremely significant, and have caused the Department to establish new regulations regarding the discharge from observation of patients who have suffered from diphtheria, and regarding the time of disinfection of the premises.

During the past three months 405 cases of true diphtheria have been subjected to repeated bacteriological examinations performed at short intervals during the course of the disease and during convalescence. In all of these cases cultures were made at the beginning of the disease, again after the lapse of three or four days, and finally at short periods after the complete disappearance of the false membrane, until the throat was found to be free from the diphtheria bacillus. In 245 of these 405 cases the diphtheria bacilli disappeared within three days after the complete separation of the false membrane; in 160 cases the diphtheria bacilli persisted for a longer time, namely: in 103 cases for seven days, in 34 cases for twelve days, in 16 cases for fifteen days, in 4 cases for three weeks and in 3 cases for five weeks after the time when the exudation had completely disappeared from the upper air passages. In many of these cases the patients were apparently well many days before the infectious agent had disappeared from the throat. These results show that in a considerable proportion of cases persons who have had diphtheria continue to carry the germs of the disease in their throats for many days after all signs and symptoms of the disease have disappeared. No doubt the disease is largely disseminated by these persons who are apparently well, and who mingle with others while their throat secretions still contain the diphtheria bacilli.

These experiments have led the Health Department to adopt the rule, that no person who has suffered from diphtheria shall be considered free from contagion until it has been shown, by a bacteriological examination, made after the disappearance of the membrane from the throat, that the throat secretions no longer contain the diphtheria bacilli, and until such examinations have shown such absence all cases in boarding houses, hotels and tenement houses must remain isolated and under observation. Disinfection of the premises there will not be performed by the Department until examination has shown the absence of the diphtheria bacilli.

Secondary cultures, as well as primary cultures, may be made by the attending physician, if he so desires; otherwise they will be made by the inspector of the district in which the case occurs. This applies only to cases occurring in boarding houses, hotels and tenement houses—not to those in private houses.

It has been noticed that, occasionally, when culture tubes are inoculated immediately after irrigation of the throat with antiseptic solutions, the cultures do not show any Loeffler bacilli, although subsequent examinations may demonstrate their presence. This observation should be noted in making inoculations.

Very respectfully,

HERMANN M. BIGGS, M. D.,

Chief Inspector of Pathology, Bacteriology and Disinfection.

Approved by the Board of Health,

CHARLES G. WILSON, President.

EMMONS CLARK, Secretary.

Blank to be Filled Out and Returned with Secondary Cultures.

26 L. 1894.

Return swab and both tubes.

2057

DIPHTHERIA.—Later Cultures.

Number of Culture, 2d, 3d, 4th, 5th, 6th, 7th, 8th.

Date

Inspector or Physician

Name of Patient

Laboratory Number

Address

Duration of Disease

Is the place ready for disinfection if the culture is found free from diphtheria bacilli?

During the first few months, in order to test the results of the examinations and to make the liability to error as slight as possible, the following plan was adopted:

All cases which yielded no diphtheria bacilli were turned over to Special Inspectors, who made, if possible, in every case a second culture, and followed up the patient for some time after recovery.

From the information thus secured, the Bacteriologists of the Department were able to decide more and more surely how far they could base an absolute diagnosis on the examination of a culture.

In the circular given above, the Board of Health announced that cases which proved on bacteriological examination to be false diphtheria would not be kept under the observation of the Department. Some physicians who heartily approved of the work of the Department in its treatment of diphtheria, believed that in this step it had proceeded too far, and that the false cases, though less contagious than the true, were yet sufficiently so to render isolation and supervision necessary. From a large experience, the Board of Health believed these cases were so rarely serious in their results and were so little, if at all, contagious, that visits from Department Inspectors were unnecessary. Nevertheless, before issuing the circular, 150 consecutive cases were investigated, all sources of contagion sought for, and the patients kept under observation for two weeks after convalescence. In none of these was isolation or disinfection required. The evidence obtained so completely confirmed the previous experience that the Board of Health felt justified in concluding it was unnecessary to exercise any sanitary supervision over cases of false diphtheria. Those who believe they have met with cases of false diphtheria which have been the cause of severe or fatal illness in others, have probably either mistaken the nature of the first case, or have been dealing with some other infectious disease (such as scarlet fever), in which the inflammation of the throat is merely a secondary lesion.

In order to make the possibility of error in the routine work as small as possible, for some months the following circular has been mailed to physicians with every report:

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
No. 42 BLEECKER STREET,
NEW YORK, February 20, 1894.

To Physicians:

It is the earnest desire of the Health Department that the service in the bacteriological diagnosis of diphtheria be made as perfect as possible and as useful to physicians as it can be made. When cultures are left at any of the depots before 4 P. M., it is the aim to return in every case a report of the bacteriological diagnosis on the following day. Reports are mailed before one o'clock, and should be delivered to the physician before the last mail of the day. Earlier reports can be obtained by applying to the Laboratory by telephone after 12 M.

When the bacteriological diagnosis does not harmonize with the clinical facts and the history, as shown by antecedent or subsequent cases of diphtheria, and where there are any defects or reasons for complaint regarding the service in any respect, physicians are earnestly requested to report these promptly to the Chief Inspector, Dr. H. M. Biggs, No. 42 Bleecker street. Knowledge of defects in the service can only reach the Department through such reports, and the service can only thus be improved and perfected.

Physicians are requested to read carefully the accompanying circulars describing the character of the work and the method of procedure, and to follow exactly the instruction given. Thus uniformity in method and accuracy in results will be insured.

HERMANN M. BIGGS, M. D.,
Chief Inspector of Pathology, Bacteriology and Disinfection.

Depending on the results obtained from the examination of primary cultures, one of the following blanks is filled out and mailed to the attending physician before 12 M. of the day following that on which the culture was made:

22 L. 1894.

Laboratory

2056

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY, CENTRE, WHITE, ELM AND FRANKLIN STREETS,
NEW YORK,.....189..

Dr.....

DEAR SIR—The examination of the culture made by inoculating the tube with the exudation from the throat of.....on..... shows the presence of the diphtheria bacilli.

The case is therefore one of true diphtheria.

.....Chief Inspector.

.....Inspector of Diphtheria.

24 Form L.

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY, No. 42 BLEECKER STREET,
NEW YORK,.....189..

Dr.....

DEAR SIR—The examination of the cultures made by inoculating the tube with the exudation from the throat of.....on..... does not show the presence of any diphtheria bacilli.

The case is therefore not true diphtheria,* but pseudo or false diphtheria, and no further cognizance will be taken of it by the Department unless by the special request of the physician in attendance.

.....Chief Inspector.

.....Inspector of Diphtheria.

32 Form L.

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY, No. 42 BLEECKER STREET,
NEW YORK,.....189..

Dr.....

DEAR SIR—The examination of the cultures made by inoculating the tube with the exudation from the throat of.....on..... does not admit of an exact bacteriological diagnosis, for the following reasons:

A. The inoculation was made at so late a period in the disease that it is possible that the diphtheria bacilli, though now absent, were at an earlier time present.

B. The growth on the culture media was so scanty that it is probable that the inoculation was not properly made, or that some antiseptic had been applied to the throat shortly before obtaining the material for inoculating the tube.

C. The culture media was contaminated.

D. The serum in the tube was too dry to permit of the growth of the diphtheria bacilli.

a. Another culture is requested.

b. The case will be treated as one of diphtheria.

c. The case will be treated as one of false diphtheria unless the physician in charge of the case requests otherwise.

.....Chief Inspector.

.....Inspector of Diphtheria.

After the examination of each secondary culture, and depending on the result of the examination, one of the following blanks is filled out and forwarded to the attending physician and to the Chief Inspector of Disinfection.

27 L. 1894.

Laboratory No.....

2060

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY, CENTRE, WHITE, ELM AND FRANKLIN STREETS,
NEW YORK,.....189..

Dr.....

DEAR SIR—The examination of the culture made by inoculating the tube from the throat of.....on..... shows the presence of the diphtheria bacilli.

The case is therefore not yet ready for disinfection, but needs a further culture.

.....Chief Inspector.

.....Inspector of Diphtheria.

28 L. 1894.

Laboratory No.....

2061

HEALTH DEPARTMENT,
DIVISION OF PATHOLOGY, BACTERIOLOGY AND DISINFECTION,
BACTERIOLOGICAL LABORATORY, CENTRE, WHITE, ELM AND FRANKLIN STREETS,
NEW YORK,.....189..

Dr.....

DEAR SIR—The examination of the culture made by inoculating the tube from the throat of.....on..... does not show the presence of any diphtheria bacilli.

The case is therefore ready for disinfection, if the other circumstances allow.

.....Chief Inspector.

.....Inspector of Diphtheria.

In the beginning of this work some physicians familiar with bacteriological work feared it was unwise to trust the inoculation of the culture tubes to physicians unskilled in bacteriological methods. The Department has found, however, that physicians may, as a rule, be relied on to carefully follow the simple directions given for making inoculations of culture tubes, and that the diagnosis based on the results obtained from the bacteriological examinations of such tubes can be safely accepted.

A communication was forwarded to the Board of Health in November, 1893, recommending the adoption of an amendment to the Sanitary Code which should include so-called "membranous croup" with the contagious diseases, concerning which the Department requires reports from physicians. This recommendation was based on the results of the bacteriological examinations of a considerable number of cases of croup, which showed that more than 80 per cent. of them were really cases of laryngeal diphtheria.

The detailed results of the work for the first year, both as to the bacteriological examination of cases of suspected diphtheria and the experimental work on questions allied to this, are contained in the appended report from the Bacteriological Laboratory, by Dr. William H. Park, Bacteriological Diagnostician and Inspector of Diphtheria, and Mr. Alfred L. Beebe, Inspector of Bacteriology, by whom the work has been performed.

The question is naturally and properly asked, as to what influence this work has had on the prevalence of diphtheria in this city? In reply to this it can only be said that there has been a very large increase in the number of cases of diphtheria occurring during the last year in many of the large cities of the world, and New York has suffered from this semi-epidemic influence, but to a much less extent than some other cities. The number of cases reported weekly had begun to increase before the initiation of this work, and this increase has continued notwithstanding it. The total number of cases reported during the last year has been considerably greater than during the previous year, but the number of cases, apparently occurring in the city, has been unquestionably increased by the more universal reporting of cases by physicians. It is, of course, impossible to say how much greater the real increase of cases would have been without the work which has been carried on by the Department. The inability of the Department to completely control the spread of the disease will be readily understood by reference to the description of the methods of dissemination of the disease contained in the detailed report from the Bacteriological Laboratory.

It may be said in conclusion that the success of this new departure of the Health Department of New York City has far exceeded all anticipation. The Board of Health was the first sanitary Board in the world to officially adopt and provide for the making of such bacteriological examinations, and the course of the Board in this matter has been carefully watched by the sanitary authorities in various parts of the world. Constant inquiries have been made as to the conduct of the work and many requests for circulars and for information as to the manner in which the work is carried on have been received. Numerous representatives of other health departments have been instructed in the Bacteriological Laboratory, in the methods employed, and the plan of work, as devised by this Department, has been adopted, without modification, by the Health authorities of many other cities.

Respectfully submitted,
HERMANN M. BIGGS,
Pathologist, and Director of the Bacteriological Laboratory.

* This conclusion is based on the supposition that the directions have been carefully followed and that the inoculation was made before the commencement of convalescence. After convalescence is established the bacilli often disappear from the exudate.

A REPORT ON THE BACTERIOLOGICAL EXAMINATION OF 5,611 CASES OF SUSPECTED DIPHTHERIA, WITH THE RESULTS OF OTHER INVESTIGATIONS ON THE DIPHTHERIA AND THE PSEUDO-DIPHTHERIA BACILLUS.

By William Hallock Park, M. D., Bacteriological Diagnostician and Inspector of Diphtheria, and Alfred L. Beebe, Ph. B., Inspector of Bacteriology, to Herman M. Biggs, M. D., Pathologist and Director of the Bacteriological Laboratory.

From May 4, 1893, to May 4, 1894, there were 5,611 cases of suspected diphtheria subjected to bacteriological examination. In 3,255 of these the Loeffler bacilli (the bacilli of true diphtheria) were found to be present; and these cases were thus proven to be true diphtheria. In 1,540 no diphtheria bacilli were present in the cultures; and as these had been carefully made at an early period of the disease, the cases from which they were taken may be considered as proven not to have been true diphtheria. In 816 cases, although no diphtheria bacilli were found in the cultures, yet, for various reasons (either because they were made after the fourth day of the disease, or the exudate was imperfectly obtained from the throat or the culture media had become contaminated or were too dry) the cases from which the cultures were obtained were considered to be of a doubtful nature, as far as the bacteriological examination was concerned, although they were probably not diphtheria.

Thus we find in 5,611 cases of suspected diphtheria that about 58 per cent. were proven to be true diphtheria, 27 per cent. to be false or pseudo-diphtheria, and 15 per cent. to be of a somewhat doubtful character. It would probably be just to consider that 60 per cent. were true and 40 per cent. were false diphtheria.

SEX, AGE AND MORTALITY IN THE CASES OF TRUE DIPHTHERIA.

In a large percentage of the cases the sex was given, and in these there were 54 per cent. females and 46 per cent. males, a fairly even division. The statistics reveal some interesting facts as to the influence of age on the occurrence of true diphtheria, as well as on the mortality of the disease. The ages of persons attacked ranged between three weeks and seventy years. The number of cases increased with each twelve months of life up to the fourth year and then gradually diminished. The mortality was highest in the first two years of life and then steadily diminished until adult life was reached, when it again slowly increased. The ages and mortality were determined in 1,625 cases, and were as follows:

AGE.	NUMBER OF CASES.	MORTALITY.	AGE.	NUMBER OF CASES.	NUMBER OF CASES PER YEAR, AVERAGE.	MORTALITY.
First 12 months.....	24	45 per cent.	7th to 10th year.....	292	97+	15 per cent.
Second "	109		10th to 15th year.....	117	23+	5 "
Third "	233		15th to 20th year.....	20	4	20 "
Fourth "	258		20th to 30th year.....	41	4+	
Fifth "	192	30th to 50th year.....	13	13 to 20		
Sixth "	163	33 "				
Seventh "	163					
			Total mortality in all cases.....			27 per cent.

Scarlet fever was associated with diphtheria in about five of every thousand cases. Exact figures cannot be given.

The 5 deaths occurring in uncomplicated pseudo-diphtheria in children under five years of age were all in cases in which the larynx was affected, and in 3, more or less broncho-pneumonia developed as a complication.

AGE AND MORTALITY IN FALSE OR PSEUDO-DIPHTHERIA.

It has been the general rule of the Department to take no further cognizance of cases of false diphtheria after the culture has demonstrated the absence of the diphtheria bacilli.

In order, however, to compare the mortality and the communicability of false diphtheria with that of true diphtheria, 450 cases of the false were carefully investigated by sanitary inspectors detailed for this work. These cases comprised 300 occurring in the Fall months and 150 occurring in the following Spring. The cases were taken in consecutive order, and are believed to be average cases.

AGE.	NUMBER OF CASES.	NUMBER OF DEATHS.	MORTALITY.	AGE.	NUMBER OF CASES.	AVERAGE PER YEAR.	NUMBER OF DEATHS.	MORTALITY.
First 12 months.....	2	0	7 per cent.	7th to 10th year.....	63	21	..	0
Second ".....	17	5*		10th to 15th year.....	63	12+	..	0
Third ".....	47	0		15th to 20th year.....	44	9—	..	0
Fourth ".....	36	2†		20th to 30th year.....	63	6+	1	2½ per cent.
Fifth ".....	30	2‡	2 per cent.	30th to 50th year.....	17	1—	..	
Sixth ".....	34	0		Over 50 years....	2	..	1	
Seventh ".....	32	0						

* Two deaths due to scarlet fever. † One death due to scarlet fever. ‡ One death due to scarlet fever.

In the 450 cases investigated there were 11 deaths, or about 2½ per cent. mortality. Of the 450 cases, 42 were complicated by scarlet fever, and of these 42 4 died. In six of the 450 cases, measles occurred as a complication, and these all recovered. Of the 2 deaths which occurred among the adults, 1 was of a man of 70 years, who was suffering from a serious valvular lesion of the heart, and the other was of a young adult female,* who died of septicaemia.

TRUE AND PSEUDO-DIPHTHERIA OF THE LARYNX. (Membranous Croup.)

The statistics gathered of the location of the disease in the true and false cases are of special interest. There were 286 of the cases examined in which the disease was entirely or chiefly confined to the larynx or bronchi, and of these, 283 were in children and 3 in adults. In the cultures of 229 of the 286, characteristic Loeffler bacilli were found, and the cases were thus proven to be true diphtheria. Of the 229 cases in which the Loeffler bacilli were found, 167 showed no pseudo-membrane or exudate above larynx, while in the remaining 62, although the larynx was mainly involved, there was also some membrane or exudate present on the tonsils or in the pharynx. In 57 out of the 286 examined, no diphtheria bacilli were found, but in 17 of these the cultures were unsatisfactory. Excluding the 17 doubtful cases, there were 40 cases of pseudo-diphtheria in which the diphtheria bacilli were certainly absent. The disease was confined to the larynx or bronchi in 27 out of the 40, while more or less exudate or membrane was present on the tonsils or in the pharynx in 13.

Table of Results of Examinations of Cases of "Membranous Croup."

	Diphtheria Bacilli Found.	Diphtheria Bacilli Not Found.
Cases in which the exudate was confined to the larynx or bronchi.....	167	27
Cases in which the exudate was chiefly confined to the larynx or bronchi, but other parts somewhat involved.....	62	13
Cases in which satisfactory cultures were not obtained.....		17
Total cases examined.....		286
Diphtheria.....		229
Pseudo-diphtheria.....		40
Doubtful.....		17

We find, therefore, that of the cases of acute laryngitis in children which have been subjected to bacteriological examination in the laboratory of the Health Department during the past twelve months, about 80 per cent. have proved to be undoubtedly cases of diphtheria, and of the remaining 20 per cent. only 14 per cent. were certainly not diphtheritic.

Not only have the bacteriological examinations shown that a large proportion of the cases of acute croupous laryngitis in children (commonly designated by the name membranous croup) are

* NOTE.—The history, in brief, of the second case was as follows: Three weeks before death the disease began with a swelling of 1 tonsil and its surrounding tissues. A week later the tonsil was incised, but no pus obtained, and about the incision a dirty brown pseudo-membrane formed. Later, the tonsil and its surrounding tissue became necrotic and sloughed off; then the ulceration extended to the pharynx and the other tonsil, and was still progressing, when the patient died of sepsis and exhaustion.

diphtheria, but the Department Inspectors have frequently found that these cases were apparently the cause of characteristic pharyngeal diphtheria in others.

The comparatively small number of laryngeal cases examined is partially due to the fact that membranous croup has not been considered a contagious disease, and reports of such cases have not been required by the Health Department; and partially to the custom of Department Inspectors to not make cultures in cases which have been intubated, or which seem so sick that the family may think injury has been done by inserting the swab in the throat. The cases in which no cultures are made are treated as cases of true diphtheria.

An amendment to the Sanitary Code was adopted by the Board of Health on June 6, 1894, by virtue of which membranous croup is regarded as laryngeal diphtheria, and hereafter physicians will be required to report such cases to the Health Department.

NOTE.—Many experienced physicians still find difficulty in believing that cases in which the exudate or pseudo-membrane is entirely absent from the pharynx and tonsils are those of true diphtheria. It is also often difficult to persuade parents that such cases are diphtheria, as for instance, a child, aged five, subject to attacks of bronchitis and slight laryngitis, developed a croupy cough. For diagnostic purposes, a culture was made and the diphtheria bacilli were found to be present. It was with the greatest difficulty that the parents could be made to consider the case a serious one and to quarantine the child. Under suitable treatment, on the fifth day the child seemed nearly recovered, and now the parents became sure it was not a case of diphtheria, stopped all precautions, allowed the child to go out, etc. A relapse followed, the laryngeal symptoms increased, and the child died in thirty-eight hours, of asphyxia, intubation being refused.

THE RELATION BETWEEN THE LENGTH OF THE BACILLUS AND ITS VIRULENCE.

Some investigators have believed the degree of virulence possessed by the diphtheria bacilli could, to a certain extent, be judged by their length. The longest bacilli were supposed to be the most virulent, those of medium length less so, and the shortest, little if at all virulent. By observing this characteristic it was thought cultures might become helpful in prognosis. Very careful notes have been made on this point in the examination of the bacteria from the original serum tubes in 1,613 cases.

The results of the examinations are shown in the following table:

	NUMBER OF CASES.	MORTALITY.
Bacilli of average size found in.....	1,398	26 per cent.
Bacilli longer than average in.....	82	27 "
Bacilli shorter than average in.....	67	35 "
Bacilli short, not characteristic in shape and evenly stained, of which many were pseudo-diphtheria bacilli.....	66	12 "
Number of cases examined.....	1,613	

The results obtained from this examination of 1,613 cultures therefore indicate that in New York the great majority of cases of diphtheria yield in cultures bacilli of medium size, which are characteristic in shape and manner of staining. In a moderate number of cases, the bacilli found are much longer, and in about an equal number they are much shorter. Both the clinical histories and the animal experiments show that whenever in their shape and in the way in which they take the staining fluid the bacilli are characteristic, no information as to their virulence, either in men or animals, can be gathered from their length. Those bacilli, on the other hand, which are short and stain uniformly with methyl blue, usually prove to be of the pseudo-diphtheria type, and have no virulence in animals.

THE BACTERIOLOGY OF DIPHTHERIA.

So many inquiries have been sent to the Department regarding the methods employed for the general bacteriological examinations of suspected cases of diphtheria, that it has been thought desirable to include in this report a condensed account of the new facts which have been brought out in the various bacteriological investigations made on this subject, together with a description of the characteristics of the diphtheria bacilli which must be known in order to make bacteriological examinations for diagnostic purposes.

It is hoped that with these additions this report may be of greater practical assistance to many who have begun or are about to begin similar work.

Successive Investigations Showing the Specific Causal Relation of the Diphtheria Bacillus of Klebs and Loeffler to Diphtheria.

In the year 1883, bacilli which were very peculiar and striking in appearance were shown by Klebs (1) to be of constant occurrence in the pseudo-membranes from the throats of those dying of true epidemic diphtheria. One year later, Loeffler (2) published the results of a very thorough and extensive series of investigations on this subject. He found the bacillus described by Klebs in most but not all cases of throat inflammations which had been diagnosed as diphtheria. He separated these bacilli from the other bacteria present and obtained them in pure culture. When he inoculated these bacilli upon the abraded mucous membrane of susceptible animals, pseudo-membranes were produced, and frequently death followed. If a certain amount of a bouillon culture was injected subcutaneously into guinea pigs, death was caused with characteristic lesions. Loeffler's failure to find the bacilli in every case examined is now explained by the fact that certain varieties of pseudo-membranous inflammation not due to the diphtheria bacillus, such as occur especially in scarlet fever, were then wrongly considered to be true diphtheria.

In 1887 (3) further studies by Loeffler added to the proof of the dependence of diphtheria on the diphtheria bacilli. In 1888 D'Espiné found the bacilli in 14 cases of characteristic diphtheria, and proves them to be absent in 24 cases of mild sore throats which, clinically, were believed not to be cases of diphtheria. In the same year, the first portion of the results of the very important investigations of Roux (4) and Yersin was published, and the dependence of diphtheria on the diphtheria bacilli may be considered to have been established. Roux and Yersin found the diphtheria bacilli were present in all characteristic cases of diphtheria, and that these bacilli possessed the cultural and pathogenic qualities of those described by Loeffler. They found, too, when the bacilli were inoculated upon the healthy mucous membrane of the trachea of the rabbit, no result followed; but, if the inoculation was made on the abraded membrane, phenomena occurred, which strikingly resembled those present in membranous laryngitis in man, i. e., congestion of the mucous membrane, followed by the formation of a pseudo-membrane, oedematous swelling of the tissues and of the glands of the neck, dyspnea, stridulous breathing and asphyxia. Injection of cultures beneath the skin of rabbits and guinea pigs in sufficient quantity caused their death in from thirty-six hours to five days, the period varying in ratio to the susceptibility of the animal, and the number and violence of the bacteria introduced. The same result followed the injections of filtered cultures, showing the products formed by the growth of the bacilli were, by themselves, capable of causing the general lesions.

Roux and Yersin were also able to produce in animals characteristic diphtheria paralysis. They produced this in many cases where the inoculated animals did not succumb to a too rapid intoxication. Paralysis commenced in a pigeon three weeks after the inoculation of the pharynx, and after all membranes had disappeared and the animal seemed to have completely recovered. In rabbits the paralysis usually commenced in the posterior extremities and then gradually extended to the whole body, causing death by paralysis of the heart or respiration. In rare instances, the muscles of the neck or of the larynx were first paralyzed, and thus characteristic symptoms were caused. The authors conclude, "the occurrence of these paralyses, following the introduction of the bacilli of Klebs and Loeffler, completes the resemblance of the experimental disease to the natural malady, and establishes with certainty the specific rule of this bacillus."

Finally, the microscopic changes in the internal organs of animals dying of experimental diphtheria produced by the bacilli have been shown by Welch and Flexner (5), and by Babes (6) and others to be essentially the same as those produced by diphtheria in man, and thus a still further proof is afforded of the specific role of this bacillus.

The results of the various observations detailed above have since been confirmed by a great number of combined clinical and bacteriological investigations, so that all who have studied the bacteriology of diphtheria would now agree with the following statement made by Welch (7) in an address on diphtheria: "All the conditions have been fulfilled for diphtheria which are necessary to the most rigid proof of the dependence of an infective disease upon a given micro-organism, viz., the constant presence of this organism in the lesions of the disease, the isolation of the organism in pure culture, the reproduction of the disease by inoculations of pure cultures, and similar distribution of the organism in the experimental and in the natural disease. In view of these facts, we must agree with Prudden (8) that we are now justified in saying that the name diphtheria, or at least primary diphtheria, should be applied, and exclusively applied, to that acute infectious disease usually associated with pseudo-membranous affection of the mucous membrane which is primarily caused by the bacillus called the bacillus diphtheriae of Loeffler."

Pseudo or False Diphtheria.

Under this general title are included all cases of pseudo-membranous or exudative inflammation of the mucous membranes in which the diphtheria bacillus is absent.

The thorough consideration of the bacteriology of this form of inflammation is to be reserved for a later report, but it is necessary to touch on a few points here.

Since Loeffler (2), in 1889, first described a class of pseudo-membranous inflammations of the throat in which the diphtheria bacilli were absent and cocci present, it has been established that a

certain proportion of the inflammations of the respiratory mucous membranes, which closely resemble the less characteristic cases of diphtheria, are not due to the diphtheria bacilli, but to cocci, especially to streptococci.

It has been found that streptococci are commonly present in the throats of healthy persons, or at least in the throats of persons living in large cities, and that other forms of cocci, especially the pneumo-cocci, and staphylococci are apt to be associated with them. These germs seem to live in the throat without creating any disturbance there, so long as the mucous membranes are healthy, but under certain conditions, as when the mucous membrane has been made vulnerable by exposure to cold or other deleterious influences, or by the poison of scarlet fever, measles or some other disease, the streptococci, alone or associated with other cocci, are able to attack the mucous membrane and to cause an inflammation. This may be of any degree of intensity, from a simple inflammatory hyperemia to an inflammation with the extensive production of pseudo-membrane or with ulceration. Such inflammations when associated with the formation of a pseudo-membrane are known as pseudo-diphtheria. The exudate or pseudo-membrane in pseudo-diphtheria is usually confined to the tonsils, but other parts, such as the larynx, pharynx and nostrils, may be invaded.

It has been found that the percentage of mortality in these cases is far less than in diphtheria, and that the disease is seldom, if ever, communicated to others.

The Proportion of Cases of Suspected Diphtheria which upon Examination Prove to be True Diphtheria.

As soon as careful investigation had demonstrated it was possible, with proper precautions, to separate by bacteriological examination the cases of the true from the cases of the false diphtheria, large numbers of cases suspected to be diphtheria were examined bacteriologically. The reports from hospitals in which all cases of suspected diphtheria were examined are of special interest as showing the proportion of cases of true to false diphtheria. The results from these hospitals are all the more valuable because the cases came from all parts of the various cities in which the respective hospitals were located, and hence special local conditions were not likely to greatly influence the general results obtained. Thus, Baginsky (9), in Berlin, found the diphtheria bacilli in 120 out of 154 suspected cases; Martin (10), in Paris, in 126 out of 200; Park (11), in New York, in 127 out of 244; Janson (12), in Switzerland, in 63 out of 100, and Morse (13), in Boston, in 239 out of 400. Thus, from 20 to 50 per cent. of the cases sent to diphtheria hospitals did not have diphtheria.

If we examine the reports of examinations made under some special conditions, as during an outbreak of some contagious disease in a hospital for children, we find the results may differ in a striking manner.

Thus, in 1889, Prudden (14) made bacteriological examinations of 24 fatal cases of pseudo-membranous inflammation of the tonsils, pharynx and larynx. In none of these were the Loeffler bacilli found to be present. These cases occurred in 2 hospitals for children in New York, in which both scarlet fever and measles were at the time prevalent. During the past year we have examined the exudate from 46 fatal cases of suspected diphtheria occurring in these same institutions and found the bacilli present in 44 of them.

If scarlet fever and measles (but not true diphtheria) were prevailing in an institution, it is evident the bacilli would be absent from the pseudo-membranes occasionally occurring in the throat as a complication of these diseases.

The Mortality in True Diphtheria and in Pseudo-Diphtheria.

All observers have found the mortality far higher in those cases in which the diphtheria bacilli were present than in those in which they were absent. In true diphtheria the mortality has been found to vary from 25 to 70 per cent., while in pseudo-diphtheria it varies from 0 per cent. to 20 per cent.

The death rate in cases of pseudo-diphtheria occurring in hospitals averages far higher than the death rate outside of such institutions. The reason for this is chiefly to be found in the fact that it is mainly the graver cases, especially those suffering from laryngeal obstruction, which are removed to the hospitals.

LABORATORY TECHNIQUE.

Collection of the Blood Serum and its Preparation for Use in Cultures.

A covered glass jar, which has been thoroughly cleansed with hot water, is taken to the slaughter-house and filled with freshly shed blood from a calf or sheep. The blood is received directly in the jar as it spurts from the cut in the throat of the animal. After wiping the edge of the jar, it is covered with the lid and set aside where it may stand quietly until the blood has thoroughly clotted. The jar is then carried to the laboratory and placed in an ice chest. If the jar containing the blood is carried about before the latter has clotted, very imperfect separation of the serum will take place. It is well to inspect the blood in the jar after it has been standing a few hours, and if the clot is found adhering to the sides, to separate it by a rod. The blood is allowed to remain twenty-four hours on the ice, and then the serum which surrounds the clot is siphoned off by a rubber tube and mixed with one-third its quantity of nutrient beef broth, to which 1 per cent. glucose has been added. This constitutes the Loeffler blood serum mixture. The broth used to mix with the serum is prepared as follows: One pound of finely chopped lean beef is allowed to soak in one liter of water in a cool place for at least twelve hours. The meat and fluid are now dumped into a cheese-cloth or towel, and the fluid squeezed out. To this solution 1 per cent. of peptone, 1 per cent. of glucose and $\frac{1}{2}$ per cent. of common salt are added. It is well to test the reaction of the mixture, and if it is found to be acid, to render it neutral by adding a few drops of a solution of caustic soda or carbonate of soda. The whole is now boiled for half an hour, and filtered through absorbent cotton or filter paper. If the broth is to be kept, it should be placed in flasks and sterilized. The Loeffler blood serum mixture when ready is poured into tubes, which should be about four inches in length and two-thirds of an inch in diameter. These tubes should first be plugged with cotton and sterilized by dry heat at 150° C. for one hour. Care should be taken in filling the tubes to avoid the formation of air bubbles, as they leave a permanently uneven surface when the serum has been coagulated by heat. To prevent this, the end of the pipette or funnel which contains the serum should be inserted well into the test tube. About 2 c.c. are sufficient for each tube. The tubes, having been filled, are now to be coagulated and sterilized. The tubes are placed at the proper angle, and then kept for two hours at a temperature just below the boiling point. For this purpose a Koch serum coagulator or a double boiler serves best, though a steam sterilizer will suffice. If the latter is used, a wire frame must be arranged to hold the tubes at the proper inclination, and the degree of heat must be carefully watched, as otherwise the temperature may go too high, the serum actually boiled, and the culture medium thus spoiled. After sterilization by this process, the tubes containing the sterile, solidified blood serum can be placed in covered tin boxes and kept for months. The serum thus prepared is quite opaque and firm. A mixture of blood cells renders the serum darker, but it is not less useful.

The Swab for Inoculating Culture Tubes.

The swab to inoculate the serum is made as follows: A stiff, thin steel iron rod 6 inches in length is roughened at one end by a few blows of a hammer, and about this end a little absorbent cotton is firmly wound. Each swab is then placed in a separate glass tube, and the mouths of the tubes are plugged with cotton. The tubes and rods are then sterilized by dry heat at about 150° C. for one hour, and stored for future use. These cotton swabs have proved much more serviceable for making inoculations than platinum wire needles, especially in young children and in laryngeal cases. It is easier to use the cotton swab in such cases, and it gathers up so much more material for the inoculation that it has seemed more reliable.

For convenience and safety in transportation a "culture outfit" has been devised, which consists of a small wooden box containing a tube of blood serum, a tube holding a swab and a record blank. These "culture outfits" may be carried or sent by messenger or express to any place desired, and are kept at stations scattered throughout the city for the free use of physicians.

Directions for Inoculating Culture Tubes with the Exudate in Cases of Suspected Diphtheria.

The patient should be placed in a good light and, if a child, properly held. The swab is removed from its tube, and while the tongue is depressed with a spoon it is passed into the pharynx (if possible, without touching the tongue) and is rubbed gently but firmly against any visible membrane on the tonsils or in the pharynx, and then, without laying the swab down, it is immediately inserted in the blood serum tube, and the portion which has been previously in contact with the exudate is rubbed a number of times back and forth over the whole surface of the serum. This should be thoroughly done, but it is to be gently done, so as not to break the surface of the serum. The swab is replaced in its tube, and both tubes, their cotton plugs having been inserted, are returned to the box and sent to the collecting station. The blank forms of report which accompany each outfit should be completely filled out and forwarded to the station with the tubes.

Where there is no visible membrane (it may be present in the nose or pharynx) the swab should be thoroughly rubbed over the mucous membrane of the pharynx and tonsils, and in nasal cases, when possible, a culture should also be made from the nose. In little children, care should be taken not to use the swab when the throat contains food or vomited matter, as then the bacterial examination is rendered more difficult. Under no conditions should any attempt be made to collect the material shortly after the application of disinfectants (especially solutions of corrosive sublimate) to the throat. If any of these instructions have not been carried out, the fact should be carefully noted on the record blank.

The Examination of Cultures.

The culture tubes which have been inoculated, as described above, are kept in an incubator at 37° C. for twelve hours, and are then ready for examination. On inspection, it will be seen the surface of the blood serum is dotted with very numerous colonies, which are just visible. At this time no diagnosis can be made from simple inspection (if, however, the serum is found liquefied, or

shows other evidences of contamination, the examination will probably be unsatisfactory). A microscopical preparation is now made by placing a tiny drop of water upon a clean cover glass, and then a platinum needle is inserted in the tube, and quite a large number of colonies are swept with it from the surface of the culture medium. The bacteria adherent to the needle are washed off in the drop of water previously placed on the cover glass, and smeared over its surface. The bacteria on the glass are then allowed to dry in the air. The cover glass is then passed quickly through the flame of a Bunsen burner or alcohol lamp 3 times in the usual way, covered with a few drops of Loeffler's solution of alkaline methyl blue, and left without heating for ten minutes. It is then rinsed off in clean water, dried and mounted in balsam.

In the great majority of cases, 1 of 2 pictures will be seen with the $\frac{1}{2}$ oil immersion lens; either an enormous number of characteristic Loeffler bacilli with a moderate number of cocci, or a pure culture of cocci, mostly in pairs or short chains (see photographs). In a few cases there will be an approximately even mixture of Loeffler bacilli and cocci, and in others a great excess of cocci. Besides these, there will be occasionally met preparations, in which, with the cocci, there are mingled bacilli more or less resembling the Loeffler bacilli. These bacilli, which are pseudo-diphtheria bacilli (see photograph), are especially frequent in cultures from the nose.

In not more than 1 case in 20 will there be any serious difficulty in making the diagnosis, if the serum tube has been properly inoculated. In such a case, another culture must be made.

The Direct Microscopical Examination of the Exudate.

An immediate diagnosis, without the use of cultures, is often possible from a microscopical examination of the exudate. This is made by smearing a cover glass with a little exudate from the swab, drying, staining and examining it microscopically. This examination, however, is much more difficult, and the results more uncertain, than when the covers are prepared from cultures. The bacilli from the membrane are usually less typical in appearance than those found in cultures, and they are mixed with fibrin, pus and epithelial cells. They may also be very few in number in the parts reached by the swab, or bacilli may be met which closely resemble the Loeffler bacilli in appearance, but which differ greatly in growth and in other characteristics. When in a smear containing mostly cocci a few of these doubtful bacilli are present, it is impossible either to certainly exclude or make the diagnosis of diphtheria. Although in certain cases this immediate examination may be of the greatest value, it is not a method suitable for general use.

Characteristics of the Loeffler Bacillus.

When cover glass preparations made from the blood serum tubes are examined, the diphtheria bacillus are found to possess the following characteristics:

The diameter of the bacilli varies from 0.3 to 0.8 mm., and the length from 1.5 to 6.5 mm. They occur singly and in pairs (Photographs) and very infrequently in chains of 3 or 4. The rods are straight or slightly curved and usually are not uniformly cylindrical throughout their entire length, but are swollen at the ends, or pointed at the ends and swollen in the middle portion. Even from the same culture, different bacilli differ greatly in their size and shape. The 2 bacilli of a pair may lie with their long diameter in the same axis, or at an obtuse or an acute angle. The bacilli possess no spores, but have in them highly refractile bodies. They stain readily with the ordinary aniline dyes and retain their color after staining by Gram's method. With an alkaline solution of methyl blue, the bacilli, from blood serum especially, and from other media less constantly, stain in an irregular and extremely characteristic way (see photographs). The bacilli do not stain uniformly. Certain oval bodies situated in the ends, or in the central portions, stain much more intensely than the rest of the bacillus. Sometimes these highly stained bodies are thicker than the rest of the bacillus, again, they are thinner and surrounded by a more slightly stained portion. The bacilli seem to stain in this peculiar way at a certain period in their growth, so that only a portion of the organisms taken from a culture at any one time will show the characteristic staining. In old cultures, it is often difficult to stain the bacilli, and the staining, when it does occur, is frequently not at all characteristic.

Growth on Blood Serum.

If we examine the growth of the diphtheria bacillus in pure culture on blood serum, we will find at the end of ten to twelve hours little colonies of bacilli, which appear as pearl-gray or whitish-gray slightly raised points. The colonies when separated from each other may increase in forty-eight hours so that the diameter may be $\frac{1}{4}$ inch. The borders are usually somewhat uneven. Those colonies lying together fuse into 1 mass, especially if the serum is rather moist. During the first twelve hours, the colonies of the diphtheria bacilli about equal in size those of the streptococci; but after this time the diphtheria colonies become larger than those of the streptococci, nearly equalling those of the staphylococci. The diphtheria bacilli in their growth never liquefy the blood serum.

Growth on 1 Per Cent. Alkaline Glycerine Agar, and Method of Obtaining Pure Cultures.

It is frequently desired to obtain the diphtheria bacillus in pure culture. This is most readily accomplished by removing with a platinum needle a portion of the mixed growth of bacteria in a serum tube and lightly streaking it over the surface of the nutrient agar contained in a Petri dish.

Though the growth of the diphtheria bacilli upon agar is less certain and luxuriant than upon serum, the appearance of the colonies when examined under the microscope is more characteristic.

If the diphtheria colonies develop deep in the substance of the agar, they are usually round or oval, and, as a rule, present no extensions, but if near the surface, commonly from one but sometimes from both sides they spread out an apron-like extension which exceeds in surface area the rest of the colony. When the colonies develop entirely on the surface, they are more or less coarsely granular or nearly translucent, and usually have a darker centre. The edges are sometimes jagged and frequently shade off into a delicate lace-like fringe; at other times, the margins are more even and the colonies are nearly circular. With a high power lens, the edges show sprouting bacilli (see photographs). The colonies are gray or grayish-white by reflected light and pure gray with olive tint by transmitted light.

The growth of the diphtheria bacillus upon agar presents certain peculiarities which are of the utmost practical importance. While the bacilli from the majority of cases grow rather feebly, some grow luxuriantly. If a large number of the bacilli from a recent culture are implanted upon a properly prepared agar plate, a certain and fairly vigorous growth will always take place. If, however, the agar is inoculated with the exudate of a throat which contains but few Loeffler bacilli, no growth whatever of the bacilli may occur; while the tubes of coagulated blood serum inoculated with the same exudate contain them abundantly. Again, agar prepared from broth made from different specimens of beef, or to which different peptones have been added, varies somewhat as to its suitability for the growth of the bacilli. Because of the uncertainty of obtaining a growth by the inoculation of agar with a few bacilli, or with bacilli of diminished vigor, agar is a far less reliable medium than blood serum for use in cultures made for diagnostic purposes, and is, therefore, not to be recommended. All agar should be tested by means of a pure culture of the diphtheria bacillus, before being used experimentally.

NOTE.—The agar is prepared by adding 1 per cent. of agar to the required quantity of broth. This broth is prepared in the same way as that used in the blood serum mixture already described, except that it contains no glucose. The agar must be thoroughly dissolved in the broth, and to accomplish this it is necessary to boil the mixture for from three to six hours. Before filtering, sufficient alkali must be added to make the agar slightly but distinctly alkaline. Finally, 6 per cent. of glycerine is added, and the mixture sterilized in flasks. When needed, it is melted and poured into sterilized Petri dishes in a thin layer.

Growth in Broth.

All the varieties of the Loeffler bacillus experimented with have grown in slightly alkaline broth with or without the addition of 1 per cent. glucose. The characteristic growth is one showing fine grains. These deposit along the sides and bottom of the tube, leaving the broth nearly clear. In some cultures, for twenty-four or forty-eight hours there is a more or less diffuse cloudiness and, exceptionally, a film forms over the surface of the broth. On shaking the tube, this film breaks up and slowly sinks to the bottom. All the varieties tested caused the alkaline broth to become acid, or, at least, distinctly less alkaline, within forty-eight hours.

ANIMAL INOCULATIONS AS A TEST OF VIRULENCE.

Animal experiments form the only reliable method of determining with certainty the virulence of the diphtheria bacillus. For this purpose, alkaline glucose broth cultures of forty-eight hours growth should be used for the subcutaneous inoculation of guinea pigs. The amount injected may vary from $\frac{1}{4}$ to $\frac{1}{2}$ per cent. of the body weight of the animal inoculated. In the great majority of cases when the bacilli are virulent, this amount causes death within seventy-two hours. In the autopsy the characteristic lesions described by Loeffler are found, namely: At the seat of inoculation there is a grayish focus surrounded by an area of congestion; the subcutaneous tissues for an extensive area around are congested, and at times very oedematous; the adjacent lymph nodes are swollen, and the serous cavities—especially the pleura—frequently contain an excess of fluid, usually clear, but at times turbid; the lungs are usually congested. If the organs are subjected to microscopical examinations, the lesions described by Welch and Flexner (5), Babes (6) and others are found. There are numerous smaller and larger masses of necrotic cells, which are permeated by leucocytes. The heart and the voluntary muscular fibres usually show degenerative changes. The number of leucocytes in the blood is increased. From the area surrounding the point of injection, virulent bacilli may be obtained, but in distant areas and organs they are only occasionally found.

Bacilli which in cultures and in animal experiments have shown themselves to be characteristic may be regarded as certainly true diphtheria bacilli, and as capable of producing diphtheria in man under favorable conditions.

Original Investigations.

A large portion of the daily work in the laboratory has consisted in the routine examination of the cultures received each day. Besides this, however, a number of important questions have been studied experimentally, of which the most important are the following:

1. How much reliance can be placed on the bacteriological diagnosis made from the examination of a culture inoculated with the exudates in the throat of a case of suspected diphtheria?

2. If in cultures bacilli are found which possess the shape, size and staining characteristics of the diphtheria bacillus, can they, without further cultural or animal experiments, be considered as virulent diphtheria bacilli?

3. What is the period of time during which virulent diphtheria bacilli remain in the throat after the disappearance of the exudate or pseudo-membrane?

4. (a) What relation has the pseudo and the non-virulent diphtheria bacillus to the true virulent bacillus? (b) Are virulent diphtheria bacilli ever present in the throats of healthy persons who have been in contact with diphtheria?

5. To what degree is pseudo-diphtheria communicable?

6. What are the means by which diphtheria is transmitted?

7. How much reliance can be placed on the bacteriological diagnosis made from the examination of a culture inoculated with the exudates in the throat of a case of suspected diphtheria?

During the first few months, in order to test the results of the examinations and to make the liability to error as slight as possible, the following plan was adopted:

All cases in which the cultures yielded no diphtheria bacilli were turned over to special inspectors, who made, whenever possible, a second culture, and followed up the case during the illness, and for some time even after its recovery.

By means of the information thus obtained, the bacteriologists of the Department were able more and more surely to decide how far they could base an absolute diagnosis on a culture, especially when made by others. Many physicians, as well as the inspectors, gradually became so skilled in making inoculations that it was possible to rely certainly on the results obtained from the examination of their cultures, while, on the other hand, it was found that caution was necessary in accepting the inoculations of others, and in such cases a second culture was requested.

After a year's trial, the following conclusions have been arrived at:

The examination by a competent bacteriologist of the bacterial growth in a blood serum tube which has been properly inoculated and kept for fourteen hours at the body temperature, can be thoroughly relied on in cases where there is visible membrane in the throat, if the culture is made during the period in which the membrane is forming, and no antiseptic, especially no mercurial solution, has lately been applied.

In cases in which the disease is confined to the larynx or bronchi, and where, therefore, there is no visible exudate against which the swab can be rubbed, surprisingly accurate results can be obtained from the examination of cultures, but in a certain proportion of cases no diphtheria bacilli will be found in the first culture, and yet will be abundantly present in later ones, the bacilli having probably been coughed up more freely as the disease progressed. We believe, therefore, that absolute reliance for a diagnosis cannot be placed on a negative result in a single culture from the pharynx in purely laryngeal cases.

In nasal diphtheria a negative result may be obtained from a culture made from the throat, and yet the bacilli be found in cultures from the nose.

In making a diagnosis from a culture, it is essential to know the duration of the disease in the case from which it was made, because, although bacilli may remain present and alive in some throats for many weeks, it is, nevertheless, important to remember they may vanish early and suddenly, and that, therefore, the cultures cannot be certainly relied on after the membrane begins to disappear.

The use of antiseptics shortly before making the inoculation of a culture tube may render the culture useless for diagnosis. It has been found in a few instances that a culture made from a case of diphtheria, shortly after a thorough irrigation with a 1-4,000 solution of bi-chloride of mercury, gave no diphtheria bacilli, though one made just before and one made sometime later gave them abundantly. It is a curious fact that under such circumstances a vigorous growth of other organisms may take place.

The above conclusions are true only when the inoculations have been properly made, and, in judging cultures received from physicians in general, the greatest care must be taken. Some cultures are made carelessly, and some evidently without taking the pains to even read the instructions or to glance at the condition of the coagulated serum in the tube. If, therefore, when no diphtheria bacilli are found, the bacterial growth is scanty, the media dry or contaminated, or the inoculation in any way faulty, the case must be referred back for another culture. The second culture in these cases not infrequently contains the bacilli when the first did not.

The absence of bacilli in a culture proves the case to be one of false diphtheria only when it has been possible to make it under the proper conditions.

2. If, in cultures, bacilli are found, which possess the shape, size and staining characteristics of the diphtheria bacillus, can they, without further cultural or animal experiments, be considered as virulent diphtheria bacilli?

Since it is the custom in the Laboratory of the Health Department to make a bacteriological diagnosis in suspected cases of diphtheria, from the examination of the growth on the original blood serum tube without waiting for further cultural or animal experiments, it is of the greatest practical importance to ascertain to what extent bacilli appearing upon the serum in every way characteristic of the diphtheria bacilli, can be assumed to be virulent.

To test the virulence of bacilli, it is necessary to obtain them in pure culture, for otherwise it would be impossible to determine whether the changes produced in the inoculated animal were due to the supposed diphtheria bacilli or to other micro-organisms injected with them. It is further necessary to grow the bacilli in proper media, and to inoculate susceptible animals at a period when the growth of the bacilli in the media has reached its maximum. It is only when these precautions have been followed that accurate results will be obtained. The present almost uniform practice is to inoculate half-grown guinea pigs with from $\frac{1}{4}$ to $\frac{1}{2}$ per cent. of their body weight of a forty-eight hours' culture of the bacilli grown at 37° C. in simple nutrient or glucose alkaline broth. It is important to remember that it is not safe to decide, because the growth derived from 1 bacillus is not virulent, that all the bacilli from that throat are not virulent. The cultures from several bacilli must be tried. The majority of those who have inoculated bacilli derived from pseudo-membranes and possessing the characteristics of the Loeffler bacilli, have found, as Loeffler did, that they were always virulent. The researches of Hofmann (15), Beck (16), and others, however, showing that in a certain number of healthy throats there were bacilli, which closely resembled the Loeffler bacillus, and yet were not virulent, stimulated others to subject the bacilli from large numbers of cases of suspected diphtheria to the test of animal inoculation.

In 1890, Roux and Yersin (17) published the results of some examinations as to the virulence of the bacilli obtained from 100 cases of diphtheria. 55 of these were fatal cases, and in all of them virulent bacilli were found, although in a few, together with many virulent bacilli, there were a few non-virulent ones. Among the 45 cases which recovered many were very mild, and in 10 of them they found no bacilli of sufficient virulence to cause the death of guinea pigs, when injected in moderate amount. From all of them, however, they obtained bacilli capable of causing inflammation in the guinea pig at the point of injection. This varied from slight, transient oedema to extensive necrosis. From further experiments they proved similar bacilli were capable under proper conditions to regain their virulence. They further showed in these milder cases, among many non-virulent or slightly virulent bacilli, there were usually a few virulent ones; therefore, they believed, in most of these 10 cases fully virulent bacilli may have been present in the throat with the slightly virulent ones which by chance were used for the inoculations. In similar investigations carried on in a different locality, somewhat different results were obtained. Escherich (18) was unable to obtain from a large number of diphtheria cases studied any bacilli having the characteristics of the Loeffler bacillus which were not virulent, and only a few which, in injections of $\frac{1}{4}$ per cent. of the body weight of a forty-eight-hour bouillon culture, did not kill guinea pigs within forty-eight hours. Koplik (19), in New York, in testing the virulence of bacilli from mild cases of tonsillar diphtheria found them in every case fully virulent.

In Baltimore, Welch (20) and Abbott in 8 cases of diphtheria found the bacilli in every case fully virulent. In a later investigation, in which a large number of healthy and slightly inflamed throats were examined, Abbott (21) found in the cultures from 3, bacilli resembling the Klebs-Loeffler bacilli, but lacking virulence. These will be considered bacteriologically in connection with the pseudo-diphtheria bacilli, but the cases are of sufficient interest to be briefly quoted in the present consideration of the virulence of bacilli obtained from throats in which inflammatory lesions have appeared, which more or less resemble diphtheria.

Case 1—Adult, age 59. While in hospital, developed a laryngitis and pharyngitis. The uvula, tonsils and faucial pillars became swollen and oedematous, of an intense crimson red color, and covered with a thin, grayish white, slightly adherent exudate. In five days the patient completely recovered. Bacteriological examination showed abundant, apparently characteristic diphtheria bacilli, which, when inoculated, proved not to be virulent.

Case 2—Adult. Similar lesions to last; well on ninth day. Bacteriological examination—abundant bacilli, in appearance similar to Klebs-Loeffler bacillus, but not virulent.

Case 3—Girl, age 11 years. Acute tonsillitis, with small white plug in one crypt. Quick recovery. Bacteriological examination, apparently characteristic Loeffler bacilli, but not virulent.

It must remain a matter of doubt whether some colonies from these cases would have been found to possess virulence if more had been tested as to this characteristic. These cases, as well as those of Roux and Yersin, show that now and then the bacilli from cases suspected to be diphtheria have little or no virulence.

Original Investigations.

In order to determine the virulence of the bacilli obtained in the ordinary routine examinations from suspected cases of diphtheria, blood serum cultures from 20 cases were selected, in which bacilli were found having the characteristic appearance of the virulent diphtheria bacilli. The

cultures tested were selected before any information was possessed of the severity of the cases from which they were obtained, and were used for experiments on animals.

Virulence of the Bacilli Found in Twenty Cases of Throat Inflammation of Such a Character as to Arouse a Suspicion of Diphtheria.

SEVERITY.	WEIGHT OF GUINEA PIG GMS.	AMOUNT OF CULTURE INJECTED C. C.	DURATION OF LIFE AFTER INOCULATION.	PERSISTENCE OF LOEFFLER BACILLUS AFTER RECOVERY OF PATIENT.
1. Very mild case; sick only four or five days.....	485	2	40 hours.....	14-19 days.
2. Moderately severe case; subsequently contracted scarlet fever.....	305	1	12 days.....	
3. Mild case.....	350	1	45 hours.....	24-32 days.
4. Mild case.....	900	3	40 hours.....	
5. Mild case.....	405	1	40 hours.....	6 days.
6. Very mild case; culture taken after disappearance of membrane.....	430	1.5	40 hours.....	13 days.
7. Very mild case.....	410	1.5	40 hours.....	
8. Fatal case, and cause of severe case in mother.....	435	1.33	40 hours.....	P. 16 days.
9. Mild case.....	390	1.33	40 hours.....	P. 38-42 days.
10. Mild case; adult; never in bed.....	210	0.5	50 hours.....	P. 44 days.
11. Removed to Diphtheria Hospital; severe case.....	220	0.5	40 hours.....	
12. Rather mild case.....	620	3.33	25 hours.....	P. 42 days.
13. Very mild case.....	479	2	40 hours.....	P. 20-24 days.
14. Fatal case; croup.....	675	1.5	40 hours.....	
15. Fairly severe case, followed by measles.....	443	1.33	40 hours.....	P. 15-23 days.
16. Moderately severe case.....	435	1.33	4 days.....	P. 15-19 days. R.
17. Moderately severe case.....	510	1.66	40 hours.....	
18. Fatal case; croup.....	475	1.5	40 hours.....	
19. Very mild case.....	500	1.66	40 hours.....	
20. Contracted from a mild case; no membrane present.....	250	1	40 hours.....	

We find, therefore, that the bacilli obtained from 20 cases of suspected diphtheria, $\frac{2}{3}$ of which were very mild cases, proved in every case to be virulent, and in all but 3 fully so. If these results are considered in connection with those obtained by other American and European observers, we must conclude, that for diagnostic purposes, all bacilli found in throat inflammations suspected to be diphtheria, which possess the morphological and cultural characteristics of the Loeffler bacilli, must be regarded as virulent, unless animal inoculations prove otherwise. Further, it should be remembered (as shown by Roux and Yersin, and as confirmed by others and by ourselves), that the absence of virulence in a culture derived from 1 bacillus is not sufficient to prove that cultures from other bacilli from the same case would not be virulent.

In 3 of the above cases, the cultures from the first colony selected were not virulent, while from others they were fully so.

3. What is the period of time during which virulent diphtheria bacilli remain in the throat after the disappearance of the exudate or pseudo-membrane?

If a piece of membrane be removed from the throat during the period of invasion of diphtheria and examined microscopically or by cultures the presence of abundant diphtheria bacilli will be noted. If, a few days later, when the membrane has begun to loosen, another bit be examined, the diphtheria bacilli will be found to be partly or at times wholly replaced by other micro-organisms, mostly cocci. If, several days later, after the complete disappearance of the membrane, cultures be made from the mucus of the throat, it will be found the bacilli of diphtheria in many of the cases will have disappeared from the throat. This rule is not, however, without many exceptions, for it will be frequently found, days after the complete disappearance of the membrane and after the return of the throat to a healthy condition, fully virulent bacilli linger in the throat.

If we examine the researches of others regarding the matter, we find the following record in observations:

SEVERITY OF THE DIPHTHERIA IN THE CASE.	LENGTH OF TIME DURING WHICH THE BACILLI HAD PERSISTED AFTER THE DISAPPEARANCE OF THE EXUDATE WHEN THEY WERE TESTED AS TO THEIR VIRULENCE.	RESULTS OBTAINED FROM THE INOCULATION OF GUINEA PIGS.
<i>Roux and Yersin (17).</i>		
1. Mild case.....	3 days.....	Guinea pig died, 24 hours.
2. Mild case.....	3 days.....	Fully virulent. Killed in a few hours.
3. Severe laryngeal case.....	11 days.....	Guinea pig died in three days.
4. Severe case.....	14 days.....	Guinea pig. Fully virulent.
5. Mild case.....	9 days.....	Some colonies virulent; some not virulent. For one week more, non-virulent bacilli were found.
6. Mild case.....	7 days.....	Virulent and non-virulent colonies. For four days more, only non-virulent bacilli found.
7. Laryngeal case.....	15 days.....	On twelfth day, all virulent. On fifteenth, some virulent and some not virulent.
8. Severe case.....	2 months.....	Produced a slight local oedema only, when injected into guinea pigs.
<i>Koplik (19).</i>		
9. Mild case.....	14 days.....	Fully virulent.
10. Mild case.....	7 days.....	Virulent. A week later, the bacilli obtained were not virulent.
<i>Loeffler (22).</i>		
11. Moderate case.....	8 days.....	Fully virulent (this was twenty-fourth day of disease).

Escherich (18)—In a number of cases the Loeffler bacilli were found to persist after the disappearance of the membrane. In all of these, the bacilli were as virulent as those obtained at the height of the disease.

Morse (13)—In 25 cases found the average length of time the Loeffler bacillus remained in the throat after the disappearance of the membrane was ten days.

The average duration was the same for both nose and throat, although in some cases the bacilli were found in the throat much longer than in the nose, and vice versa. The bacilli disappeared in 1 case the day after the throat was clear, in another three days after, and in another four days after. The longest periods during which they persisted were twenty-two and thirty-seven days. The bacilli were tested from only 1 case, and these were fully virulent ten days after the disappearance of the membrane from the throat.

Tobiesen (23)—Found virulent diphtheria bacilli in the throats of 24 out of 46 patients at the time of their discharge from the hospital. The majority were children between 6 and 12 years. The following table gives the length of time after convalescence that the diphtheria bacilli were found:

SEVERITY OF CASE.	NUMBER OF CASES.	PERSISTENCE OF BACILLI AFTER DISAPPEARANCE OF MEMBRANE, AT TIME OF EXAMINATION AT DISCHARGE.	SEVERITY OF CASE.	NUMBER OF CASES.	PERSISTENCE OF BACILLI AFTER DISAPPEARANCE OF MEMBRANE, AT TIME OF EXAMINATION AT DISCHARGE.
Mild.....	1	4 days.	Moderate.....	1	10 days.
Moderate.....	5	4 "	Mild.....	1	10 "
".....	4	5 "	Moderate.....	1	11 "
".....	4	6 "	Severe.....	1	16 "
Mild.....	1	8 "	Moderate.....	1	22 "
Moderate.....	1	8 "	".....	1	31 "
".....	1	9 "			
Severe.....	1	9 "			
				24	153 days.

Average.....6.924

In the 22 of Tobiesen's cases in which the bacilli were not found, the length of stay in hospital of the patients after convalescence was about the same. Tobiesen's studies indicate that the existence of throat lesions render the conditions more favorable for the persistence of bacilli. The virulence of the bacilli was proven in 19 out of 24. In 16 cases the guinea pigs died within a period of fifty hours, and the autopsies showed typical lesions; in 2, local necrosis developed, followed by death in 1 animal and recovery in the other. In the last case the animal developed paralysis five weeks after the local symptoms had disappeared. From these results he draws the following conclusions:

In 19 out of the 24 persistent cases, the Loeffler bacilli proved virulent, and the probability is they were also virulent in the 5 not tested. In other words, $\frac{1}{2}$ of the patients who are allowed to leave the hospital under the usual conditions carry virulent bacilli in their throats, and are capable of giving diphtheria to others. Clinical investigation alone can decide the frequency with which these convalescent cases infect others. This investigation must be carried on with great caution. In the 24 investigated by Tobiesen, he excluded those where numerous cases had occurred in the house besides the ones under investigation. Among those remaining he discovered 1 where the convalescent child was the almost certain cause of diphtheria in another.

Original Investigations.

In order to test the virulence of the bacilli in the throats of convalescent cases, they were obtained in pure culture from the healthy throats of 15 convalescent diphtheria cases and used for the inoculation of the guinea pigs. The following table gives the results of these experiments:

Case No.	SEVERITY OF THE DIPHThERIA IN THE CASE.	THE BACILLI TESTED PERSISTED AFTER RECOVERY FOR—	VIRULENCE.			PERSISTENCE FROM INCEPTION OF DISEASE.	
			Weight guinea pig, gms.	Amount injected, c. c.	Life of guinea pig after injection.	Still present, days.	Absent, days.
1	Rather severe case.....	8 days.....	392	1.33	60-70 hours.....	13	17
2	Mild case.....	10 ".....	250	0.5	8 days.....	12	19
3	".....	12 ".....	290	1.25	11 ".....	?	?
4	Severe case.....	18 ".....	229	1.00	9 ".....	21	30
5	Moderate case.....	6 ".....	549	1.25	14 ".....	10	22
6	Mild case.....	33 ".....	226	1.00	Extensive necrosis with final recovery.....	38	..
7	Very mild case.....	12 ".....	440	1.5	40 hours.....	14	22
8	Mild case.....	8 ".....	370	2.00	40 ".....	16	20
10	Very mild case.....	25 ".....	505	1.66	40 ".....	30	?
11	Very mild case (nasal).....	10 ".....	253	2.00	40 ".....	10	?
12	Mild case.....	6 ".....	490	1.66	40 ".....	24	?
13	".....	8 ".....	450	1.33	40 ".....	13	20
14	".....	12 ".....	367	1.33	40 ".....	19	..
15	Fairly severe case.....	26 ".....	347	1.33	5 days.....	35	44
16	Mild case.....	50 ".....	470	3.00	2 ".....	56	..

In each case, in testing the virulence of the bacilli derived from it, we employed the last culture or the next to the last culture made from it in which the bacilli were found to be present. The results in these 15 cases tested, as well as in those before recorded by others, prove conclusively that the bacilli, which in a certain proportion of cases persist in the throat after an attack of diphtheria, are always virulent for some time. In the exceptional cases in which the bacilli persist for a very long time, it is found they occasionally lose their virulence a few days before their final disappearance, while in other cases they retain their virulence to the end. That the cases themselves are not so liable to spread diphtheria is probably because of the relatively small number of bacilli present in convalescent throats as compared with the number found in those showing the lesions of diphtheria.

During the last six months completed observations have been made in 605 cases of diphtheria as to the length of time during which the Loeffler bacilli persist. In these cases cultures were made at the beginning of the disease, and then again at short intervals after the complete disappearance of the exudate, until the throat was found to be free of diphtheria bacilli. The custom was to make the second culture three days after the complete disappearance of the membrane, and then, when necessary, to make further cultures about every fourth or fifth day. In 304 of these 605 cases the diphtheria bacilli disappeared within three days after the complete disappearance of the exudate; in 301 cases the diphtheria bacilli persisted for a longer time, viz.: in 176 cases, for seven days; in 64 cases, for twelve days; in 36 cases, for fifteen days; in 12 cases, for three weeks; in 4 cases, for four weeks; in 4 cases, for five weeks, and in 2 cases for nine weeks after the time when the exudate had to all appearances completely disappeared from the upper air passages.

4. (a) What relation has the pseudo and the non-virulent diphtheria bacillus to the true, virulent bacillus?

In 1888 Hofmann published the results of the bacteriological examinations of a number of diseased and healthy throats, which for a time threw doubt on the specific character of the Loeffler diphtheria bacillus. Further research has entirely dispelled the confusion which his discoveries seemed to make, but the results of these studies and of similar ones on the virulent and non-virulent bacilli are of such practical importance in relation to the bacteriological diagnosis of cases of suspected diphtheria that a detailed account of the work of the subsequent investigators as well as that of the Health Department will be presented.

Hofmann's (15) results were similar to those of Loeffler, in that he found the virulent bacillus in all of 8 cases of true diphtheria, but in further search he was surprised to find in the throats of 26 out of 45 persons, none of whom was suffering from diphtheria, a bacillus which very closely resembled the Loeffler bacillus. Some of these persons were suffering from scarlet fever, measles or some other disease, while many were entirely healthy. The bacilli from a number of these healthy throats were obtained in pure culture and inoculated into animals. The majority had no virulence whatever. The bacilli from the different cases varied somewhat in their characteristics. Some in appearance, manner of staining and growth on media, seemed identical with the Loeffler bacillus, while others presented slight but constant differences. Between the extremes were many gradations.

Those bacilli which did not possess all the characteristics of the virulent bacillus differed in the following respects. They were shorter, thicker, and more uniform in size. On agar, they grew in whiter and thicker colonies, whose circumference was more circular and less notched. They also grew at a lower temperature than the virulent bacilli (20° to 22° C.).

Hofmann was undecided whether all of these bacilli were really Loeffler diphtheria bacilli, which had lost their virulence, or whether they were a different species of bacteria and of a saprophytic nature. He was also undecided whether, even among these non-virulent bacilli there might not be included different species. Hofmann's death prevented further attempts on his part to solve this problem, and different investigators since that time have been divided in their opinions; some taking the view that these bacilli were derived from true Loeffler bacilli, having merely lost their virulence; others, that they were a different species, having no connection with the Loeffler bacillus; and still others consider the matter as undecided. The results of two other important series of investigations should be considered here; those of Roux and Yersin and those of Escherich.

Roux and Yersin found in a hospital for children in Paris, where cases of diphtheria occurred from time to time, that 15 out of 45 children contained in their healthy throats non-virulent bacilli resembling the Loeffler bacillus. In a French village, where no diphtheria had been present for a long time, they made cultures from the healthy throats of 59 children living in a school. In 26 of these non-virulent bacilli were found.

In an examination of the throats of 10 attendants in a diphtheria hospital non-virulent bacilli were found once. Thus, in 114 healthy throats the non-virulent bacilli were found 42 times. In all of these throats the bacilli were present in very small numbers. They found the same bacilli twice in 6 children with mild sore throats, and 5 times in 7 children sick with measles. It should be noted that these examinations were made chiefly in a hospital and in a school, both for children. In both of these the children were confined together for considerable periods of time, and the direct transmission of the bacilla from one throat to another would be likely to occur. The unusually large percentage of children in which they were found might thus be accounted for.

The bacilli found, when studied in pure culture, differed somewhat from each other. The majority were identical in all their characteristics with the Loeffler bacillus, except as to their lack of virulence. The minority resembles those described by Hofmann, being shorter and thicker and growing at a lower temperature than the characteristic Loeffler bacilli. They made the important observation that the non-virulent bacilli which they tested, when grown in broth, caused the same changes in the reaction as the virulent forms, namely, from alkaline to acid in forty-eight to seventy-two hours, and later, back again to alkaline in the course of some weeks. These changes

were found to occur even more rapidly in the cultures of the non-virulent than of the virulent bacilli. Roux and Yersin regarded the occasional slight differences in growth, shape and staining as too slight and inconstant to distinguish the virulent from the non-virulent bacilli. Animal experiments alone sufficed to determine the question of virulence, and they regarded as arbitrary a division founded on the reaction of the guinea pig to inoculation; since they found bacilla from cases of diphtheria may possess every degree of virulence, from those which cause death within twenty-four hours to those which caused only a temporary oedema. With such variations it is a difficult matter to determine what should be the proper line of division between the virulent and the non-virulent bacilli.

To fully prove these bacilli belong to the same species, they believe it is necessary to derive non-virulent bacilli from the virulent ones, and to give virulence to those entirely lacking it.

They found it was impossible to produce an attenuation of the virulence of the bacilli in a number of ways. For instance, if a current of sterile air is kept passing through a broth culture of diphtheria bacilli, maintained at a temperature of 39½° C, after about two weeks some of the bacilli begin to lose their virulence, and at the end of about four weeks all of the bacilli have lost all of their virulence and produce non-virulent cultures. A little while after losing their virulence, bacilli remaining in the culture died.

They also found that if from time to time cultures were made from dried bits of membrane, a period finally came when the bacilli, although alive had become non-virulent. Thus they had fulfilled the first condition.

The attempt to restore to bacilli the virulence which they had entirely lost was not so successful. They found it possible to greatly increase the virulence of bacilli by injecting them together with a virulent culture of the streptococcus of erysipelas. The bacilli obtained from animals which had succumbed to this double inoculation were found to have fully regained their virulence. Roux and Yersin were unable, on the other hand, to give back virulence to those bacilli which had been completely robbed of their virulence by the above methods, or to those which had no virulence when obtained from the throat. Thus, of the 2 proofs necessary to establish the identity of the virulent and non-virulent forms, they had obtained the first fully, the second only partially.

As additional proof of the identity of the virulent and non-virulent bacilli, they brought forward the fact that they found the latter more frequently in patients recently convalescent from true diphtheria than in those who had never had the disease, and that the bacilli which had artificially been deprived of their virulence, frequently were changed in other respects, so as to resemble in all ways the bacilli which were originally lacking in virulence. From their studies, they concluded the non-virulent and virulent bacilli were one and the same species of bacteria.

If we now turn to the work of Escherich, we find results which tend to show the virulent and some of the non-virulent bacilli are different species of bacteria.

He first lays stress on the methods to be employed in testing the virulence. He advises the animal inoculations be made always from broth cultures, which have been grown for forty-eight hours at 37½° C, and that the amount of the culture be regulated by the size of the animal. With these precautions, he found the bacilli from every case of diphtheria examined to be fully virulent, and in a few cases, where he obtained characteristic bacilli from the healthy throats of persons exposed to diphtheria, he found them also to be virulent.

Escherich did indeed find in a moderate number of throats of persons not suffering from diphtheria a bacillus similar to those described by Hofmann. Thus, in Munich he found this non-virulent bacillus in 2 throats out of 70, and in Graz, in 11 out of 250, or 13 times in 320 cases. These bacilli, however, all possessed certain cultural and morphological characteristics which were sufficient to separate them from the virulent bacilli. They were, as in some described by Hofmann, plumper and shorter than the Loeffler bacilli and more uniform in size. The growth on agar was more luxuriant and whiter than is the case with the diphtheria bacilli. He noticed two new points of difference which seemed to him important. The non-virulent or pseudo-diphtheria bacilli, when spread on a cover glass, lie in parallel rows, while the virulent diphtheria bacilli lie at every angle and the most varied positions. The second difference was still more marked. He found, as had all others who had noticed this point, that the virulent bacilli in their growth in alkaline bouillon changed the reaction of the bouillon to acid in the course of forty-eight hours. The amount of acid formed differed in different cultures, and had no relation to the degree of virulence. He then noticed the pseudo-diphtheria bacilli always made the bouillon more alkaline instead of acid. Therefore, if at the end of forty-eight hours litmus was added to the different bouillon cultures, it turned red in the virulent ones and blue in the pseudo-diphtheric non-virulent ones. Although this will be referred to again, it should be noticed this difference in reaction was not found by Roux and Yersin in the cultures of the non-virulent bacilli tested by them.

Escherich, in conclusion, states his position as follows:

"Since we have found constant cultural differences between the true and the pseudo-diphtheria bacilli, we can give the pseudo-diphtheria bacilli no diagnostic value. We do not find it to be a frequent inhabitant of the mouth. Chronic throat inflammations and measles seem to render the throat more liable to the invasion."

He did not find, as Roux and Yersin and Fraenkel had, that it was possible to determine from the abundance of the colonies of bacilli present whether they were composed of virulent or non-virulent bacilli.

If we review the remaining literature of this subject we find some investigators have been led by the results to adopt similar views to those of Roux and Yersin, others to those of Escherich, and still others have been forced to content themselves with the position of Hofmann, viz.: that we are not yet in a position to affirm whether all these bacilli are of one or of different species of bacteria.

Up to the present time, the results, so far as they are known to the writers, are given in the following table:

	VON HOFMANN (15).	LOEFFLER (3).
Morphology.....	Some bacilli identical with those of Loeffler, others were shorter, thicker and more uniform in size.	Somewhat larger than virulent bacilli and more tendency to produce swollen ends.
Growth in Bouillon and reaction.....	Similar to virulent.	Similar to virulent.
Growth on Blood serum.....	Sometimes identical with Loeffler bacilli; again, found in larger and somewhat whiter colonies.	Similar to virulent.
Growth on agar.....	Grows most luxuriantly and spreads more on the surface. May become of a dirty brown color in central part of colonies.	Colonies had less jagged edges and were of a whiter hue.
Frequency met with.....	In 45 throats, comprising some healthy and some the seat of non-diphtheric inflammations they were found in 26.	Once with virulent bacilli from a case of diphtheria.
Opinion as to the nature of the bacilli.....	Is doubtful whether these non-virulent bacilli belong to the same species as the virulent diphtheria bacilli, or whether they are of a different species.	Believes them to be of a different species, but only to be separated by animal cultures.
	ESCHERICH (18).	BECK (16).
Morphology.....	Bacilli shorter, plumper and more uniform in size. When a drop of bouillon culture is smeared on a cover glass, the bacilli are found to lie in parallel rows.	Shorter, plumper bacilli as a rule, but some more like virulent bacilli.
Growth in bouillon and reaction.....	More luxuriant growths, with tendency to cause cloudiness; when grown in neutral litmus bouillon, the litmus turns blue after two or three days.	Quicker and more luxuriant in growth.
Growth on blood serum.....	Fairly characteristic, but apt to be a more luxuriant and whiter growth.	Somewhat more luxuriant, and of a more yellow color.
Growth on agar.....	Grows more luxuriantly and spreads more on surface; may become brownish in color after some days.	Colonies less jagged on margin and more yellow in hue.
Frequency met with.....	In Munich, in 2 out of 70; in Graz, in 11 out of 250 healthy throats and those the seat of non-diphtheric lesions examined.	In 66 well children, found in 22; in 41 non-diphtheric affections, in 14, or in a total of 107, found them in 36. Also, along with virulent bacilli in true diphtheria.
Opinion as to the nature of the bacilli.....	Believes that they have no relation to the virulent diphtheria bacilli, and that they can be separated pretty accurately by cultural differences.	Believed that the non-virulent forms found by him were of a different species from the virulent, and were saprophytic in nature.

	KOPLIK (19), FIRST PAPER.	KOPLIK (19), SECOND PAPER.
Morphology.....	Short, plump, uniform in size; take a more uniform stain.	Identical in form and size with virulent and characteristic stain.
Growth in bouillon and reaction.....	More luxuriant, cloudy at first, afterward clearing, with abundant deposit; bouillon acid after forty-eight hours.	Cloudy; less abundant growth in bouillon to which glucose has been added; bouillon alkaline after forty-eight hours.
Growth on blood serum...	More luxuriant and spreading.	More luxuriant, opaque and whiter growth.
Growth on agar.....	More luxuriant and spreading.	More luxuriant, opaque and whiter growth.
Frequency met with.....	In 4 mild throat inflammations.	In 2, following true attack of diphtheria. For first three weeks found virulent bacilli; then for two weeks there were non-virulent forms.
Opinion as to the nature of the bacilli.....	Are of a different species from Loeffler bacilli.	

	ROUX AND YERSIN (2).	ABBOTT (3).
Morphology.....	Majority identical with virulent bacilli. The minority of shorter, plumper and more uniform variety.	Bacilli from 3 cases were identical with virulent forms; from 1 they were larger than the virulent average.
Growth in bouillon and reaction.....	Characteristic, except for slight cloudiness. Changes of broth were same as in virulent forms, but somewhat more rapid.	Growth in bouillon same as in virulent forms, except the changes from alkaline to acid, and, later, back again to alkaline, were more rapid than in case of virulent bacilli.
Growth on blood serum...	Same as in virulent.	Characteristic.
Growth on agar.....	Same as in virulent, varying within the limits noticed in different virulent cultures.	Two of 4 characteristic; 2 more luxuriant in growth, and 1 giving colonies with darker central portion.
Frequency met with.....	In 104 healthy children's throats found 41 times; 10 adults, once; in 6 mild throat inflammations, twice; in 7 sick with measles, five times.	Four times in 53 throats. Some healthy, others the seat of moderately severe inflammations.
Opinion as to the nature of the bacilli.....	Believed the non-virulent to be of the same species as the virulent; they were simply an attenuated form.....	In doubt.
Note.....		The bacillus growing more luxuriantly on agar gave a dirty brown growth on potato.

	FRAENKEL (24).	MARTIN (10).
Morphology.....	Identical with virulent forms.....	Short, plump bacilli.
Growth in bouillon and reaction.....	Characteristic.....	
Growth on blood serum...	Characteristic.....	
Growth on agar.....	Characteristic.....	More moist, luxuriant and whiter. Grow at room temperature.
Frequency met with.....	In number of healthy conjunctive and in some cases of mild tonsillitis and with virulent bacilli in diphtheria. Figures not given.....	In quite a number of diphtheria cases running in mild course.
Opinion as to the nature of the bacilli.....	Believes the virulent and non-virulent to be of same species, and includes under non-virulent some causing local reaction.....	An attenuated form of the virulent diphtheria bacillus.

If we inspect closely the descriptions of the non-virulent bacilli, we find there seems to be 2 forms which stand out distinctly as separate varieties with which the others can be grouped.

First—Bacilli which are in all respects, except that they lack virulence, identical with the Loeffler bacillus, and which, like it, produce an acid in their growth in broth cultures.

Second—Bacilli which are shorter, plumper and more uniform in size than the Loeffler bacilli, and which produce an alkali in their growth in broth cultures.

As we look over the tables, we see that some observers have chanced to find 1 of these varieties, some the other, and some both. This has led to the present confusion.

Original Investigations.

In order to study these various bacilli, and to clear up, if possible, some of the questions connected with their classification, cultures were made upon blood serum from 330 healthy throats.

When any of the varieties of bacilli described above were discovered in the cultures, they were isolated, and in the great majority of cases, tested as to their virulence on guinea pigs. The results of these studies are given in the tables below. The bacilli formed may be divided into three groups:

(1) Bacilli identical with the Loeffler diphtheria bacillus in growth, producing acid in bouillon, but having no virulence.

(2) Bacilli not having all the characteristics of the Loeffler bacillus in growth producing alkali in bouillon, and having no virulence.

(3) Virulent Loeffler diphtheria bacilli, characteristic in growth, producing acid in bouillon.

Table Showing Results of Cultures Made from the Throats of Healthy Persons where there had been no History Obtained of Direct Contact with Diphtheria.

FROM WHERE.	TOTAL CASES.	VIRULENT CHARACTERISTIC DIPHThERIA BACILLI.	NON-VIRULENT CHARACTERISTIC DIPHThERIA BACILLI.	NON-VIRULENT PSEUDO-DIPHThERIA BACILLI.
New York Dispensary, by Dr. J. H. Hudson.....	Nos. 1 to 151	3	12	21
Northern Dispensary.....	152 to 163	..	..	..
Vanderbilt Clinic.....	164 to 189	..	2	2
Throughout the city.....	190 to 193	..	4	..
College of Physicians and Surgeons—Students.	194 to 242	..	2	3
New York F. H. Dispensary.....	243 to 257	..	..	1
Orthopedic Hospital (through kindness of Dr. Chappell):				
Female Ward.....	258 to 267	..	3	..
Male Ward.....	268 to 275	..	..	..
New York Foundling Hospital, By Dr. Adams.....	276 to 330	5	1	..
Totals.....	330	8	24	27

A Comparative Table of—				
CASE No. AND SOURCE.	NON-VIRULENT DIPHThERIA BACILLI.		PSEUDO-DIPHThERIA BACILLI.	
	(1) N. Y. 66, Throat.	(2) N. Y. 72, Throat.	(1) P. & S. 30, Throat.	(2) N. Y. 101, Throat.
Examination of bacilli in primary culture.....	Abundant large characteristic diphtheria bacilli.	Abundant characteristic diphtheria bacilli.	Abundant short even stained bacilli (see photograph of pseudo-diphtheria bacilli).	Abundant short even stained bacilli (pseudo-diphtheria).
Growth in pure culture on serum at 37½ C.....	Characteristic appearance of colonies.	Characteristic.	Fairly characteristic appearance of colonies.	Characteristic appearance of colonies.
Agar.....	Fairly typical colonies.	Not typical colonies.	Coarsely granular colonies, with jagged, rough borders, and of about equal thickness throughout, brownish hue by transmitted light.	Fairly typical; more heavily pigmented and uniformly thick than is characteristic of the virulent bacilli; colonies nearly circular, with even borders.
Growth in neutral glucose broth..	Characteristic. Acid at end of forty-two hours.	Not characteristic; broth cloudy for two days; acid at end of forty-eight hours.	Typical growth in rather coarse grains; alkaline reaction end of forty-eight hours.	Formation of thin pellicle and slight diffuse cloudiness; alkaline reaction at end of forty-eight hours.
Virulence in guinea pigs.....	Guinea pig, 216 gms., 1.33 c. c.; no reaction.	Guinea pig, 164 gms., 1.33 c. c.; no reaction.	Guinea pig, 405 gms., 3 c. c.; no reaction.	Guinea pig, 400 gms., 2 c. c.; no reaction.
Clinical notes.....	Bronchitis; diphtheria in house; three weeks previous.	Intest. catarrh; no history of contagion.	Healthy throat.	Bronchitis; no history of contagion.
Sex.....	Female, one year.	Female, fifteen mos.	Twenty-seven years.	Male, ten years.

In the above table we find 24 cases containing bacilli possessing all the characteristics of the Loeffler bacilli except that of virulence, namely:

Nos. 7, 33, 52, 63, 66, 72, 103, 105, 110, 114, 124, 132, 188, 189, 190, 191, 192, 193, 198, 212, 258, 259, 260, 297.

These bacilli were abundant in the primary cultures from 17 cases and present in small numbers only in the cultures from 7.

They were on the average a little longer than the virulent bacilli from the cases of suspected diphtheria examined on the same days. In broth, the bacilli from 13 of the 24 cases grew characteristically, while from 6 they caused a more or less dense cloudiness. It was found, however, that sometimes the virulent bacilli produced the same effect though never to the same degree as the bacilli from case 191. In 5 cases the bacilli were not grown in broth. In all the cases in which broth cultures were made (19) the bacilli produced acid in their growth. When their acid producing power was compared with that of an equal number of virulent cultures no marked difference could be noted. Some virulent bacilli were found to produce more acid than the non-virulent ones, while others produced less.

Upon blood serum, the bacilli grew in a manner characteristic of the Loeffler bacillus.

Upon agar, the bacilli from 11 cases grew as the virulent bacilli usually grow, while from 7 they grew in a less typical manner, but always in ways seen exceptionally in the virulent form. Guinea pigs were inoculated with the bacilli from 15 cases. The lack of virulence in the bacilli from the remaining 9 cases was taken for granted from the close association with the 15 tested.

For this purpose half grown guinea pigs were employed, and they were inoculated under the skin with ½ per cent. of their weight of a forty-eight hour broth culture. In only 1 animal was there any appreciable reaction, and in this the local induration caused passed away within four days. A very slight degree of immunity was given to some of the pigs by the injection.

Two hundred and eighty of the 330 healthy persons from whose throats cultures were made were children under twelve, while 50 were adults. In 24 of these characteristic but non-virulent bacilli were found, and in only 9 of the 24 were there present noticeable pathological changes in the throat, such as enlarged tonsils. The bacilli persisted in 4 of the throats for four weeks, in 1 for three weeks, in 3 for two weeks, and in some of the others for shorter periods.

Column III. of the table shows that in 27 cases bacilli were found corresponding to those described by Hofmann and Escherich and photographed by Koplik (19). These were smaller, shorter, thicker and more uniform in size than the Loeffler bacilli, and always formed alkali in their growth in broth. These bacilli were never virulent in animals. Guinea pigs were inoculated with large amounts (½ to 1 per cent. of their weight) of broth cultures of bacilli, obtained from 8 cases, without showing any reaction.

As is shown in Column I. of the table, virulent diphtheria bacilli were found in 8 of the 330 cases. They were, in all probability, derived from mild cases of unrecognized diphtheria or from healthy children who were carrying the bacilli in their throats. The number of such infected children is indicated by the results of studies described in the following pages.

4 (b). Are virulent diphtheria bacilli ever present in the throats of healthy persons who have been brought in contact with diphtheria?

The search for the origin of obscure cases of diphtheria has revealed the fact that it is possible for the human throat to become the habitat of the virulent Loeffler bacillus without any visible lesions resulting. Thus, Loeffler (3) found the virulent bacillus once, Fraenkel (24) twice, and Escherich (18) found it in several cases. In one of Escherich's cases the history is so significant as to be worth repeating. It was noticed among the children coming under the care of a certain apparently healthy nurse a number of cases of diphtheria were developing. A bacteriological examination being made, her throat was found to contain very numerous virulent diphtheria bacilli. These remained present and virulent for weeks. A similar and interesting case is reported by Feer (25). In a diphtheria epidemic occurring in a hospital ward, due to a single infection, the throats of 7 children became infected. The infection caused fatal diphtheria in 4, an acute angina without membrane in 2, and no symptoms whatever in 1. In all of these the bacilli were abundant and equally virulent. Many similar examples have been met with by 1 of us (Park).

A very interesting investigation has been carried on to determine how frequently the throats of healthy children become infected in families where 1 is sick with diphtheria, and where little or no isolation is possible.

As will be seen by the following tables, the throats of the healthy children of 14 families, in which 1 or more of the other members had diphtheria, were examined. There were in all 48 healthy children. In 50 per cent. of these diphtheria bacilli were found, 40 per cent. developed later, to a greater or less extent, the lesions of diphtheria. In considering the high percentage of cases in which this virulent Loeffler bacillus was found, it must be remembered in these families the conditions were the best possible for the transmission of the contagion.

In numerous instances cultures have been made from the throats of healthy children in families where the diphtheria case was well isolated, in such cases the bacilli have been found in less than 10 per cent. of the children.

FAMILY.	NUMBER OF CASES EXAMINED ASIDE FROM THE ORIGINAL CASE OF DIPHThERIA.	LOEFFLER BACILLI.		REMARKS.
		FOUND IN.	NOT FOUND IN.	
A.	1	..	1	Isolation partial.
B.	3	3	..	No isolation; all three cases subsequently developed diphtheria.
C.	2	1	1	No isolation.
D.	1	1	..	"
E.	3	1	2	"
F.	4	1	3	Isolation partial.
G.	5	3	2	"
H.	4	3	1	No isolation.
I.	4	1	3	Isolation partial.
J.	8	3	5	"
K.	4	1	3	"
L.	3	1	1	"
M.	5	3	2	"
N.	1	1	..	No isolation.
14	48	24	24	

Of the above cultures in which the Loeffler bacilli were found, in 6 the virulence was tested in the usual way. The results are stated in the following table:

FAMILY No.	CASE No.	AMOUNT BOUILLON CULTURE INOCULATED.	WEIGHT GUINEA PIG GMS.	VIRULENCE.	CLINICAL HISTORY.
B.	1	1.33 C.C.	337	Died in 40 hours.	Developed fatal diphtheria one day after culture was taken.
G.	2	1 "	205	Died in 44 hours.	Developed tonsillar diphtheria two days after culture was taken.
H.	3	1.33 "	202	Died in 48 hours.	No subsequent development of diphtheria.
K.	4	1.33 "	300	Died in 40 hours.	"
M.	5	1.66 "	490	Died in 40 hours.	"
N.	6	1 "	250	Died in 40 hours.	"

It may be interesting to detail here 2 instances out of many observed in which the virulent bacilli of diphtheria derived from healthy throats have been the cause of diphtheria in others.

1. A child was admitted into a hospital ward in an anemic condition and with a chronic coryza. Five days later 4 children in his neighborhood developed diphtheria. 2 of these died. In seeking the cause of the diphtheria, suspicion was directed to the child by a slight nasal discharge. Bacteriological examination showed this secretion contained many diphtheria bacilli. On further examination, it was found the child came from a family in which three weeks before there had been a case of diphtheria.

2. In a family of 8 children 1 child sickened with diphtheria and a second child, a baby, was sent to a neighbor. The next day cultures showed this baby, as well as 2 of the other children, all of whom were apparently healthy, were infected with diphtheria bacilli. The 3 apparently healthy, but infected, children, as well as the sick one were at once quarantined, but already 1 of the family to which the baby had been sent had contracted diphtheria from it.

The practical value of bacteriological examinations of the throats of healthy children in families where isolation has not been carried out in the first days is further shown by the fact that those children in whom the bacilli are found are extremely apt to develop diphtheria in the course of a few days, when no cleansing treatment is adopted, while they seem much less liable to do so if kept under treatment.

The detection of the virulent bacilli in throats prevents the dissemination of diphtheria by allowing us to isolate those infected.

A very striking instance of this was the following: In a family of 4 children 1 was sick with diphtheria. The Department Inspector found 3 other children in the same bed with the sick one, who was constantly spitting upon and soiling the bedclothes. He made cultures from these 3 children, whose throats appeared healthy, as well as from the sick one; all contained abundant characteristic Loeffler bacilli (these were later shown to be virulent by the inoculation of guinea pigs). When the Inspector visited the same family three days later he found 2 of the previously healthy children had meanwhile sickened and died, and that the third was severely ill. This child finally recovered.

From the observation detailed above, we cannot escape the conclusion that all members of an infected household should be regarded as under suspicion, and in those cases where isolation is not enforced, the healthy as well as the sick should be prevented from mingling with others until cultures from the throat have shown the absence of bacilli, or a sufficient lapse of time gives the presumption that they are not carriers of the contagion.

SUMMARY AND CONCLUSIONS ON DIPHTHERIA BACILLI IN HEALTHY THROATS.

We have found that children, and to a less extent adults, who are brought in direct contact with true cases of diphtheria very often receive the diphtheria bacilli into their throats, and that these bacilli may persist and develop in these throats for days or weeks. In some cases we have found that true diphtheria followed the appearance of the bacilli in the respiratory passages, while in others no disease developed, though they might be the source of diphtheria in others. The examination of the throats of 330 healthy persons in whom no contact with diphtheria was known, revealed the presence of virulent bacilli in but 8 persons, 2 of whom later developed diphtheria.

We must conclude then that virulent diphtheria bacilli are to be found in the throats of a small proportion of healthy persons throughout the city, and that they have been derived either directly from diphtheria cases or from those who have been in contact with them. The examinations of the throats of the 330 healthy persons showed that in 24 bacilli existed in every way identical with the Loeffler bacillus, except that they were not virulent in animals. As the bacilli in cases of true diphtheria are known to gradually lose their virulence, and as this loss of virulence can be caused artificially, it seems to the writers that these bacilli, characteristic except as to virulence, should be regarded as true diphtheria bacilli which have lost their virulence.

The examination of the same throats showed that in 27 there were bacilli present which were so uniform in their peculiarities as to staining, size, shape and the production of an alkali instead of an acid, that there seems to us to be even more reason to separate them from the diphtheria bacillus than there is, for example, to separate the colon bacillus from that of typhoid.

We have never found bacilli possessing these peculiarities to be virulent, nor have they seemed to have any connection with diphtheria. It seems to us that to these bacilli alone the name pseudo-diphtheria bacillus should be given.

The few bacilli which do not seem to come under either of these divisions must await further study before being classified.

5. To what Degree is Pseudo-diphtheria Communicable?

In the general circular issued by the Department, it was announced that cases which bacteriologically proved to be false diphtheria would not be kept under the supervision of the Department. Some who approve heartily of the rest of the work of the Board in its dealings with diphtheria believe in this step it has made a mistake, and that the pseudo-diphtheria cases, though less contagious than the true, are yet sufficiently so as to render isolation necessary. From the experience obtained in the diphtheria hospital, it was believed, these cases were so little, if at all, contagious, that visiting by the Department Inspectors was unnecessary. Nevertheless, to investigate this question thoroughly, 450 cases of false diphtheria, as nearly consecutive as possible, were investigated, all sources of contagion sought for, and the cases followed up for two weeks after complete convalescence. In none of these was isolation or disinfection enforced by the Health Department. This is such an important question that the results of the investigation of one hundred consecutive cases are given below in tabular form. As a comparison, a similar table is given of 50 consecutive cases of true diphtheria which were taken from the same district and at the same time of the year as the first 50 cases of pseudo-diphtheria.

FALSE DIPHTHERIA.

Table No. I.

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	DURATION OF ILLNESS.	MORTALITY.	HISTORY OF CONTAGION, ETC.
			Years.				
1	1	1	4	Mild	7 days..	Recovered.	{ Came from a house where diphtheria was present.
2	2	2	11	"	2 " ..	"	None.
3	3	3	2	Severe ..	30 " ..	"	Complicated by pneumonia.
4	2	4	1½	Mild	5 " ..	"	None.
5	1	5	..	" ....	.....	"	"
6	5	6	8	"	7 days..	"	"
7	3	7	6	"	5 " ..	"	{ These 2 cases occurred together.
		8	3	"	3 " ..	"	
8	4	9	6	"	2 " ..	"	{ These 2 out of 4 children attacked nearly together; 1 with simple tonsillitis, the other with suppurative tonsillitis.
		10	9	"	5 " ..	"	
9	..	11	..	"	10 " ..	"	Complicated by scarlet fever.
10	2	12	6½	" ....	.....	"	None.
11	3	13	3	"	7 days..	"	{ The child was first taken sick; a few days later the servant developed sore throat.
		14	20	"	5 " ..	"	
12	3	15	2	"	8 " ..	"	None.
13	4	16	12	"	4 " ..	"	"

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	DURATION OF ILLNESS.	MORTALITY.	HISTORY OF CONTAGION, ETC.
			Years.				
14	1	17	15	Mild	3 days..	Recovered.	None.
15	4	18	2½	"	3 " ..	"	"
16	4	19	9	"	2 " ..	"	"
17	3	20	3	"	3 " ..	"	"
18	4	21	5	"	3 " ..	"	"
19	2	22	10	"	5 " ..	"	"
20	3	23	8	"	30 " ..	"	"
21	2	24	4	"	7 " ..	"	Another mild sore throat in house.
22	2	25	3½	"	2 " ..	"	None.
23	..	26	21	"	12 " ..	"	"
24	5	27	7	"	3 " ..	"	"
25	5	28	4	Severe..	14 " ..	"	{ These cases occurred at same time in family. No others developed in house.
		29	9	Mild	2 " ..	"	
26	2	31	1½	Severe..	7 " ..	"	Complicated by pneumonia.
27	..	32	21	Mild	7 " ..	"	None.
28	2	33	25	"	5 " ..	"	Exposed to scarlet fever.
29	3	34	6	"	7 " ..	"	None.
30	..	35	1½	Severe ..	7 " ..	"	"
31	2	36	10	Mild	6 " ..	"	"
32	1	37	21	"	2 " ..	"	{ Case of true diphtheria in another family in house.
33	3	38	29	"	4 " ..	"	
34	2	39	7	"	2 " ..	"	Scarlet fever in family.
35	4	40	2	"	4 " ..	"	None.
36	3	41	2	"	9 " ..	"	{ Scarlet fever in house one month before.
37	3	42	2	"	7 " ..	"	
38	3	43	20	"	3 " ..	"	None.
39	3	44	30	"	1 " ..	"	{ The mother, the first case, was never really sick. The child had very slight tonsillitis.
		45	3	"	7 " ..	"	
40	3	46	3	"	4 " ..	"	None.
41	2	47	19	Severe..	10 " ..	"	"
42	2	48	2½	Mild	10 " ..	"	"
43	3	49	6	"	7 " ..	"	"
44	6	50	2	Severe ..	7 " ..	"	"
45	3	51	18	Mild	5 " ..	"	"
46	2	52	2½	Severe..	10 " ..	"	"
47	4	53	3½	Mild	3 " ..	"	Another case in house.
48	..	54	24	"	4 " ..	"	None.
49	3	55	8	"	30 " ..	"	{ Scarlet fever as complication. Other cases of scarlet fever in house.
50	..	56	2	"	10 " ..	"	

Table No. II.

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	DURATION OF ILLNESS.	MORTALITY.	HISTORY OF CONTAGION, ETC.
			Years.				
1	4	1	8	Mild	2 days..	Recovered.	{ First case one week previous to second. No others in house.
		2	5	"	5 " ..	"	
2	1	3	30	"	1 " ..	"	None.
3	2	4	32	"	2 " ..	"	"
4	4	5	11	"	6 " ..	"	"
5	..	6	16	"	2 " ..	"	"
6	..	7	19	"	5 " ..	"	Scarlet fever in house.
7	2	8	19	Severe ..	5 " ..	"	Followed surgical operation on throat.
8	..	9	19	Mild	3 " ..	"	Scarlet fever in house.
9	..	10	2	Severe ..	15 " ..	"	None.
10	7	11	16	Mild	1 " ..	"	"
11	2	12	12	"	3 " ..	"	"
12	1	13	4	"	3 " ..	"	Scarlet fever in house.
13	3	14	2	"	3 " ..	"	"
14	..	15	3½	"	3 " ..	"	None.
15	5	16	4	"	3 " ..	"	{ These 2 children were taken sick together; 1 with mild "croup" and the other with tonsillitis.
		17	2	"	2 " ..	"	
16	1	18	8	"	2 " ..	"	None.
17	..	19	3	"	3 " ..	"	"
18	2	20	12	"	4 " ..	"	Scarlet fever as complication.
19	3	21	6	Severe ..	7 " ..	"	Scarlet fever previously in house.
20	3	22	9	" ..	6 weeks.	"	Scarlet fever as complication.
21	..	23	4	Mild	3 days..	"	None.
22	1	24	2½	"	2 " ..	"	"
23	4	25	5	"	5 " ..	"	"
24	1	26	9	"	3 " ..	"	Measles in house.
25	4	27	20	"	7 " ..	"	{ This and following case occurred in same house one week apart.
		28	22	Severe..	7 " ..	"	
26	4	29	6	Mild	12 " ..	"	{ These children slept together; 2 had very mild sore throat, while the 3d had a more severe attack, complicated by mumps.
		30	5	Severe..	21 " ..	"	
27	4	31	3	Mild	5 " ..	"	"
28	3	32	25	"	10 " ..	"	None.
29	2	33	13	"	6 " ..	"	"
30	1	34	4½	"	10 " ..	"	{ These 2 cases, mother and child, had sore throats within three days of each other.
		35	26	"	5 " ..	"	

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	DURATION OF ILLNESS.	MORTALITY.	HISTORY OF CONTAGION, ETC.
31	4	36	Years. 8 mos.	Severe ..	14 days..	Recovered.	{ Complicated by scarlet fever; other cases in family.
32	3	37	5	" ..	30 "	"	Scarlet fever as a complication.
33	5	38	9	Mild	1 "	"	A sister had scarlet fever.
34	1	39	30	Severe...	5 "	"	None.
35	1	40	2	Mild	4 "	"	"
36	4	41	37	Severe...	14 "	"	None. Suppurative tonsillitis.
37	2	42	4	Mild	4 "	"	None.
38	..	43	20	"	4 "	"	"
39	1	44	9	"	1 "	"	"
40	..	45	21	"	7 "	"	"
41	2	46	20	"	5 "	"	Complicated by erysipelas.
42	2	47	1	Fatal....	7 "	Died	{ Membranous laryngitis and scarlet fever.
		48	5½	"	7 "	"	{ Scarlet fever from preceding.
43	2	49	2½	Mild	5 "	Recovered.	None.
44	3	50	1½	Fatal....	7 "	Died	{ Complicated by scarlet fever contracted from sister.
45	2	51	1½	"	7 "	"	None.
46	2	52	19	Mild	5 "	Recovered.	{ These 2 cases occurred in same house a few days apart.
		53	30	"	3 "	"	
47	5	54	16	"	6 "	"	None.
48	2	55	6	"	7 "	"	"
49	..	56	15	"	4 "	"	"
50	6	57	7	"	3 "	"	"

Table of True Diphtheria Cases from the same District as the False Diphtheria of Table "1."

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	ISOLATION.	MORTALITY.	HISTORY OF CONTAGION, ETC.
1	5	1	Years. 4	Moderate..	Poor	Recovered.	None.
2	4	2	11	" ..	"	"	Previous case four weeks before.
3	1	3	3	Severe....	Good.....	Died	None.
4	4	4	2	Slight	None.....	Recovered.	"
5	1	5	10	"	Good.....	"	Other cases in school.
6	2	6	3	Moderate..	None.....	"	{ Two days before 2 children in same family died of "diphtheria." At time of culture child was not sick, but developed diphtheria later.
7	1	7	5	" ..	Good.....	"	None.
8	4	8	5	" ..	None.....	"	"
9	2	9	6	Slight	Poor	"	{ 2 children had just died of diphtheria in family.
10	1	10	2	Severe	Good.....	Died	None.
11	4	11	3	Slight.....	None.....	Recovered.	{ From case 3, which was in adjacent room.
12	4	12	10	"	Good.....	"	None.
13	1	13	8	Severe....	"	"	"
14	2	14	7	Slight.....	"	"	{ Sent away for safety from family in which there was a case of diphtheria.
15	2	15	4½	Severe....	"	"	Fatal case previously in family.
16	1	16	1½	" ..	"	"	{ Servant had just come from case 9, where there had been three cases in family.
17	1	17	2	Moderate..	"	"	None.
18	4	18	5	" ..	Poor	"	Case diphtheria on floor below.
19	3	19	9	" ..	Good.....	"	{ Two fatal cases just previous to this case.
20	3	20	3	Severe....	"	"	Other cases in school.
21	1	21	4	"	"	Died	None.
22	5	22	6	Slight	Poor	Recovered.	{ From a candy store. The proprietor's children had diphtheria. This store seemed the cause of several cases in street and a number in a school.
23	3	23	5	Severe	"	"	Previous case in house.
		24	3	"	"	Died	"
		25	8	Mild	"	Recovered.	"
24	6	26	2	Moderate..	None.....	"	None.
25	1	27	4	" ..	Good.....	"	"
26	1	28	3	Slight	"	"	A case six weeks before in house.
27	1	29	5	Moderate..	"	"	None.
		30	5	" ..	Poor	"	From cases in school.
28	4	31	6	Severe....	"	Died	From brother.
		32	9	"	"	"	"
29	1	33	1½	"	Good.....	"	None.
30	2	34	5	Moderate..	"	Recovered.	From school.
31	2	35	3	Slight	Poor	"	None.
32	2	36	3	Malignant.	"	Died	"
		37	6	" ..	"	"	From brother.
33	2	38	4	Moderate..	Good.....	Recovered.	{ From school, or from a case next door three weeks before.
		39	2	Severe	"	Died	From family.
34	1	40	5	Moderate..	"	Recovered.	From case in school.
35	4	41	7	" ..	Poor.....	"	{ This and following case had symptoms of a cold only.
		42	3	No lesions.	"	"	"
		43	8	Severe	"	Died	From family.
36	2	44	7	"	Good.....	Recovered.	From school.
		45	30	Moderate..	"	"	From family.
37	1	46	2	Malignant.	"	Died	None.
38	2	47	4	Severe	None.....	Recovered.	{ Had had a previous case one week before in family. Had just moved to new house.
		48	2	Slight	"	"	"
39	2	49	3	"	"	"	"
40	2	50	5	Severe....	Poor	Died	From case 14, originally from school.

FAMILY No.	CHILDREN IN FAMILY.	CASE No.	AGE.	SEVERITY.	ISOLATION.	MORTALITY.	HISTORY OF CONTAGION, ETC.
41	1	51	2	Severe	Good.....	Died	None.
42	1	52	5	"	"	Recovered.	"
43	1	53	8	Slight	"	"	From case next door or from school.
44	1	54	9	Severe	"	"	From school.
45	3	55	7	"	"	"	"
46	4	56	6	Moderate.	None	"	"
47	2	57	8	Slight	Poor	"	"
48	1	58	4	Severe	Good.....	"	None.
49	1	59	18	Moderate..	"	"	"
50	3	60	5	" ..	"	"	"

Summary of Tabulated Cases.

	TABLE 1 (50 FAMILIES). PSEUDO-DIPHTHERIA.	TABLE 2 (50 FAMILIES). PSEUDO-DIPHTHERIA.	TABLE 3 (50 FAMILIES). TRUE DIPHTHERIA.
Total number cases.....	56	57	60
History of contact with other cases.....	7	7	33
No history of contact.....	49	50	27
Families in which more than one case developed.	5	4*	13
Recovered	56	53	46
Died.....	..	4†	17
Cases complicated with scarlet fever.....	4	6‡	..

* Two had scarlet fever.

† Three of which had scarlet fever.

‡ Six others had been in contact with scarlet fever, but never showed any characteristic rash.

We find, therefore, in 113 cases of false or pseudo-diphtheria, occurring in 100 families, that 14 occurred at the same time with or shortly after some other case, and that it is possible to assume the disease had been directly communicated to them. In 9 of the 100 families more than 1 case developed. In these, as in the other 350 cases of pseudo-diphtheria investigated, it did not seem secondary cases were any less liable to occur where the primary case was isolated than when it was not. In this connection, we must remember mild throat inflammations are very frequent, especially in the early spring months, and that it is quite possible where 2 cases occurred in a family together or within a short time of each other, that they may have both been due to exposure to some common conditions rather than to direct transmission. The presence in nearly all healthy throats in New York City of streptococci renders this assumption almost a probability. The presence of the same germs in healthy throats as well as in those of patients suffering from pseudo-diphtheria prevents us from deciding the point by bacteriological examinations.

A good illustration of the difficulty in determining whether these cases are communicable is the following:

In a family of 8 there were a mother, aged forty-five, 6 children, whose ages ranged from twenty-five to ten, and a grandchild, aged two. The family lived on the top floor of a tenement. Two days before being visited by the Inspector of Diphtheria a heavy, wet snow had fallen, which, as the roof leaked, caused the walls to become very damp. The next morning 4 of the children were attacked by more or less severe tonsillitis, which later developed follicular deposits or croupous patches. On the following day the baby had an attack of croup. All recovered, and no further cases developed in the tenement. Here, the exposure to dampness certainly seems to be the explanation of the first 4 cases of tonsillitis, but the occurrence of laryngitis in the baby might with equal justice be considered as due to the dampness, or the result of communication from the others.

Even if further investigation should seem to prove the 14 cases of pseudo-diphtheria out of 113 tabulated, which were found to have had some connection with other mild sore throats, were due to contagion and not to the simultaneous effects of atmospheric or other deleterious conditions, there would still be an important practical objection to sanitary supervision or enforced isolation. All of the 14 cases, except the 3 who had scarlet fever, were mild, and, indeed, leaving out of consideration the cases which occurred as complications of scarlet fever, there was only 1 death in 113 cases of pseudo-diphtheria, and in this case, as has been said, there was no history of infection or contact with other cases.

6. What are the means by which diphtheria is transmitted?

The facts brought out by the investigations of the Department throw important light on the manner in which diphtheria is transmitted.

As related to this question, let us first consider very briefly what is known of the duration of life of the Loeffler bacillus outside of the body.

In actual experiment, the Loeffler bacillus has been found to live for long periods of time, namely: by Hofmann, on blood serum for one hundred and fifty-five days; by Loeffler and by one of us (Park) for seven months, and in gelatine, by Klein, for eighteen months. The bacilli have been found to live in bits of dried membrane by Loeffler for fourteen weeks, by us for seventeen, and by Roux and Yersin for twenty weeks. Dried on silk threads, Abel (26) reports they may sometimes live for one hundred and seventy-two days, and upon a child's plaything, which had been kept in a dark place, they lived for five months.

As examples of the manner in which diphtheria may be contracted, he gives the following from Johannessen:

A teacher developed diphtheria from passing the night in a room in which three weeks before a fatal case had occurred.

A child developed diphtheria after putting on the clothing worn by a child which had died of diphtheria two months before.

In a number of isolated dwellings diphtheria developed nearly a year after previous outbreaks, without there being any apparent possibility of a new infection taking place from the outside.

We ourselves have met with a number of cases where the infected bedding or clothing has undoubtedly been the source of the infection.

Sources from which Virulent Bacilli may be Received.

1. From the pseudo-membrane, exudate or discharges from diphtheria patients.
2. From the secretions of the nose and throat of convalescent cases of diphtheria in which the virulent bacilli persist.
3. From the throats of healthy individuals who acquired the bacilli from being in contact with others having virulent germs on their persons or clothing. In such cases, the bacilli may sometimes live and develop for days or weeks in the throat without causing any lesion.

When we consider it is only the severe types of diphtheria that remain isolated during their actual illness, the wonder is, not that so many, but that so few persons contract the disease. This seems to be more remarkable when we observe that in a city like New York the whole tenement-house district, at least, is an infected area. This has become evident from the observations made by the Department.

It has been the practice of the Department during the last year to plat upon a city map the location and date of every case of diphtheria in which the diagnosis had been settled by bacteriological examination. After several months the map presented a very striking appearance. Wherever the densely crowded tenements were located, there the marks were very numerous, while in the districts occupied by private residences very few cases were indicated as having occurred. It was also apparent the cases were far less abundant, as a rule, where the tenements were in small groups than in the regions of the city where they covered large sections. At the end of six months there were square miles in which nearly every block occupied by tenement houses contained marks indicating the occurrence of 1 or more cases of diphtheria; and in some blocks many cases (15 to 25) had occurred.

As the plating went on from time to time the map showed the infection of a new area of the city, and often the subsequent appearance of a local epidemic. It was interesting to note 2 varieties of these local epidemics; in 1, the subsequent cases evidently were from neighborhood infection, while in the second variety the infection was as evidently derived from schools, since a whole school district would suddenly become the seat of scattered cases. At times, in a certain area of the city from which several schools drew their scholars, all the cases of diphtheria would occur (as investigation showed) in families whose children attended 1 school, the children of the other schools being for the time exempt.

Another fact noted, perhaps as important as the foregoing, was that with the most careful inquiry it was impossible to find any connection with preceding cases of diphtheria in about 1/2 of the first cases of diphtheria occurring in different houses.

The two following histories are instructive as showing that special conditions, which are largely unknown to us, determine in every individual the occurrence or escape from diphtheria under exposure. Two children in a family were taken sick with diphtheria and removed to the hospital. The servant (who was and remained apparently healthy) went to another family, where the youngest child developed diphtheria a week later. In the meantime, a case developed in the family living in the next apartments. There were in this latter family 3 other children who were not isolated at all from the sick child, yet none of these developed diphtheria.

The child of a man who kept a candy store developed diphtheria; there were 4 other children in the family, and these were in no way isolated from the sick, yet none of them developed diphtheria; but children who bought candy at the store and other children coming in contact with these in school developed diphtheria. The secondary cases ceased to develop as soon as the candy store had been closed.

Many similar histories could be given to illustrate the fact that the majority of persons, and even, perhaps, the majority of children, are not ordinarily very susceptible to diphtheria, and that in addition to receiving the germs of the disease into the respiratory passages they must be in a condition favorable to the development of the disease.

It seems to be generally true that the more malignant a case of diphtheria is the more likely it is to cause diphtheria in others. This may be due to the high grade of virulence possessed by the bacilli, or to the peculiar association of other micro-organisms in the membrane, or to the wider dissemination of the infectious matter through the discharges.

It is also well known young children are much more susceptible to diphtheria than older persons. It is comparatively rare for the parents of children sick with diphtheria to contract the disease, although in nearly every case they must at some time receive the germs into their throats.

CONCLUSIONS.

1. All inflammation of the mucous membrane due to the diphtheria bacillus of Loeffler should be included under the name "diphtheria," and in this report they have been so included. An acute hyperemia of the mucous membrane caused by the Loeffler bacilli is considered as truly diphtheria as an inflammation with pseudo-membrane or exudate, and a case in which the lesions are confined to the larynx or bronchi as truly diphtheria as one in which the tonsils and pharynx are involved.

2. Under pseudo-diphtheria should be included all inflammations of the mucous membranes, which simulate true diphtheria and which are due to streptococci, or, more rarely, other cocci.

3. The name croup or membranous croup should be regarded as a term merely indicating that the location of the pseudo-membranous or exudative lesion is in the larynx, and not as describing the nature of the disease, whether diphtheritic or pseudo-diphtheritic. In New York City at the present time, 80 per cent. of the cases of "croup" are diphtheria.

4. The examination of cultures made upon solidified blood serum under the conditions insisted on by the Department form a reliable method of determining whether the diphtheria bacillus is present or absent in a throat. For diagnostic purposes, cultures should be made before the pseudo-membrane or exudate begins to disappear.

5. Virulent diphtheria bacilli were apparently in about 1 per cent. of the healthy throats in New York City at the time of these examinations. Diphtheria, however, was rather prevalent in the city at this time. Most of the persons in whose throats they exist have been in direct contact with cases of diphtheria. Very many of those whose throats contain the virulent bacilli never develop diphtheria. We must therefore conclude that the members of a household in which a case of diphtheria exists should be regarded as sources of danger, unless cultures from their throats show the absence of diphtheria bacilli.

6. The bacilli found in the original serum cultures, which in appearance and staining are identical with the typical Loeffler diphtheria bacillus, may be regarded, for diagnostic purposes, as virulent diphtheria bacilli, if the cultures have been made either from throats containing exudate or from those of persons who have been in contact with true diphtheria, for investigation has shown that over 95 per cent. of such bacilli are virulent.

7. All bacilli which are identical with the virulent Loeffler diphtheria bacillus, morphologically, biologically, and in staining by reagents, should be classed with the diphtheria bacilli, whether they have much, little or no virulence when tested in guinea pigs. Bacilli which have entirely lost their virulence rarely, if ever, regain it. They probably are incapable of causing diphtheria, for the 24 cases in which they were found by us never developed any lesions, nor were they the origin of any case of diphtheria, so far as could be ascertained.

8. The name pseudo-diphtheria bacillus should be regarded as applying to those bacilli found in the throat which, though resembling the diphtheria bacilli in many respects, yet differ constantly from them. These bacilli are rather short and are more uniform in size and shape than the Loeffler bacilli. They stain, as a rule, equally throughout with the alkaline methyl blue solution and produce alkali in their growth in bouillon. They are found in about 1 per cent. of the healthy throats in New York City, and seem to have no connection with diphtheria. They are never virulent.

9. One or more varieties, both of streptococci and other forms of cocci, exist in the great majority, and possibly in all, of the healthy throats in New York City. Cultures from the throats in cases of pseudo-diphtheria contain more cocci, especially more streptococci, than those from healthy throats, but otherwise do not seem to differ.

10. The investigations of the Health Department have given striking evidence of the marked difference in mortality between true and pseudo-diphtheria, for while it was 27 per cent. in diphtheria, it was under 2 per cent. in pseudo-diphtheria.

11. The combined clinical and bacteriological investigation of over 5,000 cases has demonstrated clearly the fact that many of the less characteristic cases of diphtheria and pseudo-diphtheria are so similar in appearance, symptoms and duration, that it is impossible to separate them, except by bacteriological examinations. In the more severe cases and after the disease has fully developed, cultures are less necessary, although their systematic use is desirable.

12. Persons who have suffered from diphtheria should be kept isolated until cultures prove the bacilli have disappeared from the throat, for not only are the bacilli which persist in the throat virulent, but they are not infrequently the cause of diphtheria in others. Where cultures cannot be made, isolation should be continued for at least three weeks after the disappearance of the membrane, for our experience has shown that it is not unusual for the bacilli to persist this length of time.

13. In pharyngeal cases in which thorough irrigation of the nostrils and throat with 1-4,000 bi-chloride of mercury solution has been practised every few hours, the bacilli have not remained in the throat for as long a time after the complete disappearance of the pseudo-membrane as when no antiseptic has been employed. Other cleansing and antiseptic solutions are also useful.

14. Inflammations of the mucous membranes due to streptococci, either alone or associated with other cocci, are usually mild in character. These inflammations may be more serious when the lesions are located in the larynx, or when they are complicated by scarlet fever or measles.

15. While the streptococci and perhaps other forms of cocci may be considered as the primary etiological factor in pseudo-diphtheria, yet, in the majority of cases at least, certain predisposing factors, such as exposure to cold or other deleterious influences or the presence of certain infectious diseases, appear to be of great importance in determining the occurrence of the disease.

The streptococci which under these conditions apparently cause the disease are probably those which had for a long time existed in the throat, and not those freshly derived through communication with other cases of pseudo-diphtheria. In a small number of cases, indeed, the histories suggest a direct communication, but the causation may be equally well explained by the supposition that the second case shared with the original one the same predisposing cause.

16. The slight mortality and the usual mildness of the cases of pseudo-diphtheria do not warrant us in enforcing isolation, even if further investigation produced positive proof that this disease is directly communicable.

With the results of these investigations before us, we can appreciate the difficulty of exterminating diphtheria from a city like New York. On the one hand, we have cases of diphtheria scattered all through the city, many of which are so mild as to be unrecognized, and, on the other hand, we have the crowded tenements with their ignorant and shifting population, where proper isolation of the patient from other members of the family, or of the family from other inmates of the building, is usually impossible unless harsher measures are adopted than are now customary. With stricter isolation of patients and intelligent and systematic supervision of the schools and tenements, we can certainly reduce the number of cases of diphtheria in the city, but the total extermination of the disease under the existing conditions of life here does not seem probable unless we can acquire new means to combat the disease.

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HEALTH DEPARTMENT, No. 301 MOTT STREET,
NEW YORK, May 4, 1894.

HERMANN M. BIGGS, M. D., Pathologist and Director of the Bacteriological Laboratory:

SIR—I have the honor to make the following report on a series of investigations relating to the persistence of Klebs-Loeffler bacilli in the throats of diphtheria patient in whom systematic irrigation with antiseptic or cleansing solutions was employed:

The cases of diphtheria included in this investigation were subjected to three different methods of treatment.

In the first series the nasal and throat cavities were thoroughly irrigated every one to three hours with warm salt solution until the pseudo-membrane had disappeared, then from one to three times daily until the entire disappearance of the bacilli. For irrigation the fountain or Davidson syringe was used.

In the second series, the cases, besides receiving the treatment given in the first series, had their nostrils and throats thoroughly sprayed every three hours (except during the night) with solutions of peroxide of hydrogen, which varied from 25 per cent. to 5 per cent. in strength. The special form of peroxide used was that known under the name of pyrozone.

The third series of cases were subjected to the same treatment as the first, except that solutions of bi-chloride of mercury were substituted for the salt water solution. The nasal cavities were irrigated every eight hours with a warmed 1-4,000 solution, and the throat every three hours with a 1-3,000 solution. Besides this local treatment, nearly all the cases received frequent doses by the mouth of the tincture of the chloride of iron and of alcoholic stimulants.

The following tables show the results obtained by these comparative tests:

Tabulation of all Cases, Showing Day of the Disease on which Pseudo-membrane Disappeared.

	DAY OF DISEASE.																							Total Number of Cases.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Salt water irrigation and Pyrozone spray.....	..	..	1	2	2	2	2	2	2	1	2	1	2	1	2	1	..	..	..	..	..	..	1	24
Bi-chloride irrigation.....	..	2	2	1	1	2	2	2	1	3	1	..	1	..	..	2	..	..	..	..	..	..	..	20
Salt water irrigation.....	1	2	3	4	3	4	5	6	5	4	..	1	1	1	..	..	..	..	..	..	..	..	..	40
Total.....	1	4	6	7	6	8	9	10	8	8	3	2	4	2	2	1	2	..	..	..	..	..	1	84

Tabulation of all Cases, Showing Number of Days on which the Bacilli Persisted After Disappearance of Pseudo-membrane.

	Before Membrane.	NUMBER OF DAYS AFTER DISAPPEARANCE OF MEMBRANE.																						Total Number of Cases.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Salt water irrigation and Pyrozone spray.....	..	..	3	2	1	..	2	..	..	1	2	..	2	1	1	1	1	3	2	..	1	..	1	24
Bi-chloride irrigation.....	4*	..	3	2	1	..	1	..	1	1	..	..	1	1	..	3	1	..	..	..	..	..	1	20
Salt water irrigation.....	..	..	1	..	1	..	3	3	5	2	7	4	6	4	1	1	1	..	..	..	..	..	1	40
Total.....	4	..	7	4	3	..	6	3	6	4	9	4	9	6	2	5	3	3	2	..	1	..	3	84

* In these four cases bacilli disappeared one day before membrane. In those cases treated with bi-chloride irrigation only were cultures taken before disappearance of membrane, while in some cases examination for bacilli were not made for two or three days after membrane had disappeared.

Tabulation of all Cases, Showing the Duration from First Appearance of Pseudo-membrane to Disappearance of Bacilli.

	NUMBER OF DAYS FROM APPEARANCE OF MEMBRANE TO DISAPPEARANCE OF KLEBS-LOEFFLER BACILLI.																																	Total Number of Cases.
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33					
Salt water irrigation and Pyrozone spray .....	..	..	..	2	..	1	1	..	1	..	1	1	1	1	2	1	1	1	2	1	3	2	2	..	..	..	..	..	..	..	24
Bi-chloride irrigation.	2	..	..	..	1	3	1	..	2	..	1	..	3	..	1	2	2	1	..	..	..	1	..	..	..	..	..	..	..	..	20
Salt water irrigation..	..	..	..	..	1	1	5	..	2	..	2	3	4	9	2	4	4	..	1	1	..	1	..	..	..	..	..	..	..	..	40
Total	2	..	..	2	2	5	7	..	5	..	4	4	8	10	5	7	7	2	3	2	3	4	2	..	..	..	..	..	..	..	84

Recapitulation.

	Average Age of Patients.	Average Number of Days of Membrane before Treatment.	Average Days of Membrane in Hospital.	Average Total Days of Membrane.	Average Days of Bacilli after Membrane.	Average from First Appearance of Membrane to Disappearance of Klebs-Loeffler Bacilli.	Number of Mild Cases.	Number of Severe Cases.	Total.
Salt water irrigation and Pyrozone spray.....	13 years.	3	6.6	9.6	9.6	19.2	17	7	24
Bi-chloride irrigation.....	10.5 "	1.6	6.3	7.9	7.4	15.3	15	5	20
Salt water irrigation.....	7.75 "	2.4	4.5	6.9	10.2	17.1	28	12	40
Total.....	10.4 years.	2.3	5.8	8.2	9	17.2	60	24	84

In using the Pyrozone 3 different strengths were employed, 25 per cent., 12 1/2 per cent. and 5 per cent. solutions.

With the 25 per cent. solution the average time for disappearance of bacilli after disappearance of membrane was 6.8 days, a somewhat better result than with bi-chloride or salt solution;

but it was very noticeable that the pseudo-membrane treated with the stronger solutions of pyrozone lasted much longer than would be expected from the severity of the disease, and certainly much longer than in those cases where the 5 per cent. solution of pyrozone or the salt or bi-chloride solution was employed. Out of 16 cases treated with the 25 per cent. and 12½ per cent. solutions of pyrozone 10 had membrane from ten to sixteen days, while in another quite bad case traces of the pseudo-membrane persisted for twenty-three days.

The average time from first appearance of diphtheritic membrane to the disappearance of bacilli in the 25 per cent. cases was 17.75 days, this not being quite as good a record as that made by the bi-chloride solution, and about the same as that made by the water irrigation. As all the pyrozone cases received, as mentioned before, thorough washing of throat and nose before and after treatment with the spray, the results as shown in the tables would certainly indicate that the addition of spraying strong solutions of peroxide to the treatment with plain water irrigation had no good result. On the contrary, it would seem from the long continuance of the diphtheritic membrane in those cases treated with the 25 per cent. and 12½ per cent. solutions that they acted as an irritant to the already inflamed mucous membrane.

The 5 per cent. solution caused no noticeable irritation. The pseudo membrane disappeared in the usual time, and it would certainly appear to be the best strength (if any) to use for this purpose.

The best results were apparently obtained by the bi-chloride solution in hastening the disappearance of the bacilli and thus shortening the period of necessary isolation; the duration of membrane being about the same as in those cases where non-antiseptic solutions were used.

Among the 20 cases on this treatment, 1, a boy four years old, developed mercurial stomatitis in quite a severe form, and another showed symptoms of intestinal irritation; both of them were undoubtedly caused by swallowing the bi-chloride solution during irrigation, as they had not been given internally mercury in any form. Both soon recovered after the cessation of the bi-chloride irrigation.

Laryngeal cases have not been included in this list, as the treatment tried in these cases could have no possible effect upon membrane or bacilli in the larynx. In 6 cases in which these 3 tests were tried, it apparently had no effect whatever, the bacilli being found in the larynx from thirty to forty days after admission to the hospital.

Since the tabulation of the cases in this report was made I have had 2 cases in which the Klebs-Loeffler bacilli persisted for twenty-nine days and forty-eight days respectively after disappearance of membrane. These cases received the bi-chloride irrigation treatment as described above until all signs of the bacilli had disappeared. This would make the average number of days for the persistence of the bacilli after disappearance of membrane and the entire duration of the disease about the same in the bi-chloride cases as in those where no antiseptic was used.

The results obtained in the special series of 40 cases treated with plain or salt water irrigation are similar to those obtained in over 600 other cases treated at this hospital in the same manner, and we have found no antiseptic solution which has materially shortened the duration of the diphtheritic membrane or the necessary period of isolation of the patient.

Respectfully submitted,

(Signed) A. CAMPBELL WHITE, Resident Physician, Willard Parker Hospital.

WILLARD PARKER HOSPITAL.
General Statement.

	MALES.	FEMALES.	NATIVE.	FOREIGN.	TOTAL.	ACCOMPANYING.
Remaining in Hospital June 30, 1894.....	36	25	43	18	61	3
Admitted during quarter	81	89	135	35	170	22
Total treated during quarter.....	117	114	178	53	231	25
Discharged during quarter.....	75	76	112	39	151	22
Died during quarter.....	17	15	28	4	32	..
Total	92	91	140	43	183	22
Remaining in Hospital September 30, 1894.....	25	23	38	10	48	3

REMAINING IN HOSPITAL JUNE 30, 1894.

	CLASS.			NATIVE.			FOREIGN.			Total Males and Females.	Accompanying.
	City.	Public Institutions.	Quarantine.	Males.	Females.	Total.	Males.	Females.	Total.		
Scarlet fever	20	7	..	8	8	16	4	7	11	27	..
Diphtheria	28	6	..	18	9	27	6	1	7	34	3
Total.....	48	13	..	26	17	43	10	8	18	61	3

ADMITTED.

Scarlet fever	30	18	..	17	17	34	9	5	14	48	..
Diphtheria	103	19	..	49	52	101	6	15	21	122	22
Total.....	133	37	..	66	69	135	15	20	35	170	22

DISCHARGED.

Scarlet fever	38	17	..	18	20	38	7	10	17	55	..
Diphtheria	82	14	..	39	35	74	11	11	22	96	22
Total.....	120	31	..	57	55	112	18	21	39	151	22

DIED.

Scarlet fever	1	..	..	..	..	..	1	1	1	..	..
Diphtheria	27	4	..	16	12	28	1	2	3	31	..
Total.....	28	4	..	16	12	28	1	3	4	32	..

REMAINING IN HOSPITAL SEPTEMBER 30, 1894.

Scarlet fever	11	8	..	7	5	12	6	1	7	19	..
Diphtheria	22	7	..	12	14	26	..	3	3	29	3
Total.....	33	15	..	19	19	38	6	4	10	48	3

Report by Age of Patients.

	REMAINING JUNE 30, 1894.				ADMITTED DURING QUARTER.				DISCHARGED DURING QUARTER.				DIED DURING QUARTER.				REMAINING SEPT. 30, 1894.			
	Under 5 Years.	5 to 16 Years.	Over 16 Years.	Total.	Under 5 Years.	5 to 16 Years.	Over 16 Years.	Total.	Under 5 Years.	5 to 16 Years.	Over 16 Years.	Total.	Under 5 Years.	5 to 16 Years.	Over 16 Years.	Total.	Under 5 Years.	5 to 16 Years.	Over 16 Years.	Total.
Scarlet fever.....	6	13	8	27	26	15	7	48	21	22	12	55	..	..	1	1	11	6	2	19
Diphtheria.....	18	14	2	34	80	31	11	122	59	28	9	96	26	5	..	31	13	12	4	29
Total.....	24	27	10	61	106	46	18	170	80	50	21	151	26	5	1	32	24	18	6	48

Mortality per Centum.

	UNDER 5 YEARS.	5 TO 16 YEARS.	OVER 16 YEARS.	TOTAL.
Scarlet fever.....	....	....	.066	.015
Diphtheria .....	.265	.111	....	.198

Recapitulation of Report for Quarter ending September 30, 1894.

	REMAINING JUNE 30, 1894.		ADMITTED DURING QUARTER.		DISCHARGED DURING QUARTER.		DIED DURING QUARTER.		REMAINING SEPT 30, 1894.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Scarlet fever.....	12	15	26	22	25	30	..	1	13	6
Diphtheria.....	24	10	55	67	50	46	17	14	12	17
Accompanying.....	..	3	..	22	..	22	..	..	..	3
Total.....	36	28	81	111	75	98	17	15	25	26

Comparative Statement of Scarlatina and Diphtheria.

YEAR.	QUARTER.	SCARLATINA.	DIPHTHERIA.	TOTAL.	YEARLY TOTAL.
1886.....	1st	28	16	44	161
	2d	27	11	38	
	3d	3	25	28	
	4th	6	45	51	
1887.....	1st	38	34	72	342
	2d	21	34	55	
	3d	21	51	72	
	4th	62	81	143	
1888.....	1st	48	63	111	488
	2d	69	83	152	
	3d	48	41	89	
	4th	65	71	136	
1889.....	1st	83	134	217	588
	2d	75	123	198	
	3d	17	54	71	
	4th	30	72	102	
1890.....	1st	55	67	122	447
	2d	38	57	95	
	3d	20	42	62	
	4th	42	126	168	
1891.....	1st	79	70	149	593
	2d	83	66	149	
	3d	61	58	119	
	4th	81	95	176	
1892.....	1st	68	94	162	479
	2d	54	73	127	
	3d	18	35	53	
	4th	44	93	137	
1893*.....	1st	106	67	173	760
	2d	129	101	230	
	3d	61	60	121	
	4th	102	134	236	
1894*.....	1st	136	192	328	862
	2d	126	238	364	
	3d	48	122	170	
Total.....	1,992	2,728	4,720

* Scarlatina, fourth quarter, 1893, and first quarter, 1894, treated at North Brother Island.

RECEPTION HOSPITAL.
General Statement.

	MALES.	FEMALES.	NATIVE.	FOREIGN.	TOTAL.	ACCOMPANYING.
Remaining in Hospital June 30, 1894.....	5	..	4	1	5	..
Admitted during quarter.....	90	75	102	63	165	25
Total.....	95	75	106	64	170	25
Transferred during quarter.....	71	61	80	52	132	19
Discharged during quarter.....	13	8	14	7	21	6
Died during quarter.....	7	5	11	1	12	..
Total.....	91	74	105	60	165	25
Remaining in Hospital September 30, 1894.....	4	1	1	4	5	..

REMAINING IN HOSPITAL JUNE 30, 1894.

	CLASS.			NATIVE.			FOREIGN.			Total Males and Females.
	City.	Public Institutions.	Quarantine.	Males.	Females.	Total.	Males.	Females.	Total.	
Scarlatina and diphtheria.....	1	1	..	2	..	2	..	..	..	2
Diphtheria and pertussis.....	..	1	..	1	..	1	..	..	..	1
Suspects.....	1	1	..	1	..	1	1	..	1	1
Total.....	2	3	..	4	..	4	1	..	1	4

ADMITTED.

Small-pox.....	65	12	..	28	19	47	17	13	30	77
Measles.....	13	7	..	2	9	11	6	3	9	20
Scarlatina.....	2	..	..	..	..	..	2	..	2	2
Scarlatina and diphtheria.....	3	3	..	2	3	5	..	1	1	6
Scarlatina and varicella.....	..	1	..	..	1	1	..	..	..	1
Scarlatina and pertussis.....	1	2	..	3	..	3	..	..	..	3
Diphtheria.....	1	..	..	1	..	1	..	..	..	1
Diphtheria and pertussis.....	..	1	..	..	1	1	..	..	..	1
Diphtheria and measles.....	..	2	..	2	..	2	..	..	..	2
Suspects.....	29	23	..	16	15	31	11	10	21	52
Accompanying.....	..	..	..	..	..	..	..	..	..	25
Total.....	114	51	..	54	48	102	36	27	63	190

DISCHARGED.

Measles.....	1	..	..	..	..	1	..	1	1	1
Scarlatina and diphtheria.....	1	..	..	1	..	1	..	..	..	1
Scarlatina and varicella.....	..	1	..	..	1	1	..	..	..	1
Suspects.....	10	8	..	8	4	12	3	3	6	18
Accompanying.....	..	..	..	..	..	..	..	..	..	6
Total.....	12	9	..	9	5	14	4	3	7	27

TRANSFERRED.

Small-pox.....	64	11	..	28	18	46	16	13	29	75
Measles.....	12	7	..	2	9	11	5	3	8	19
Scarlatina.....	2	..	..	..	..	..	2	..	2	2
Scarlatina and diphtheria.....	3	4	..	3	3	6	..	1	1	7
Scarlatina and pertussis.....	1	1	..	2	..	2	..	..	..	2
Diphtheria.....	1	..	..	1	..	1	..	..	..	1
Diphtheria and measles.....	..	1	..	1	..	1	..	..	..	1
Suspects.....	14	11	..	5	8	13	6	6	12	25
Accompanying.....	..	..	..	..	..	..	..	..	..	19
Total.....	97	35	..	42	38	80	29	23	52	151

DEATHS.

Small-pox.....	1	..	..	..	1	1	..	..	..	1
Scarlatina and pertussis.....	..	1	..	1	..	1	..	..	..	1
Diphtheria and pertussis.....	..	2	..	1	1	2	..	..	..	2
Diphtheria and measles.....	..	1	..	1	..	1	..	..	..	1
Suspects.....	4	3	..	4	2	6	..	1	1	7
Total.....	5	7	..	7	4	11	..	1	1	12

REMAINING IN HOSPITAL SEPTEMBER 30, 1894.

Small-pox.....	..	1	..	..	..	1	..	1	1	1
Suspects.....	2	2	..	..	1	1	3	..	3	4
Total.....	2	3	..	..	1	1	4	..	4	5

RECAPITULATION OF REPORT FOR QUARTER ENDING SEPTEMBER 30, 1894.

	REMAINING JUNE 30, 1894.		ADMITTED DURING QUARTER.		DISCHARGED DURING QUARTER.		TRANSFERRED DURING QUARTER.		DIED DURING QUARTER.		REMAINING SEPT. 30, 1894.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Small-pox.....	..	..	45	32	..	..	44	31	..	1	1	..
Measles.....	..	..	8	12	1	..	7	12	..	..	..	..
Scarlatina.....	..	..	2	..	..	..	2	..	..	..	..	..
Scarlatina and diphtheria.....	2	..	2	4	1	..	3	4	..	..	..	..
Scarlatina and varicella.....	..	..	..	1	..	1	..	..	..	..	..	..
Scarlatina and pertussis.....	..	..	3	..	..	..	2	..	1	..	..	..
Diphtheria.....	..	..	1	..	..	..	1	..	..	..	..	..
Diphtheria and pertussis.....	1	..	..	1	..	..	..	..	1	1	..	..
Diphtheria and measles.....	..	..	2	..	..	..	1	..	1	..	..	..
Suspects.....	2	..	27	25	11	7	11	14	4	3	3	1
Accompanying.....	..	..	..	25	..	6	..	19	..	..	..	..
Total.....	5	..	90	100	13	14	71	80	7	5	4	1

RIVERSIDE HOSPITAL.
SMALL-POX.

	City.	Quarantine.	Public Institutions.	Other Places.	Male.	Female.	White.	Colored.	Native.	Foreign.	Total.
Remaining June 30, 1894.....	21	..	3	..	10	14	24	..	13	11	24
Admitted.....	74	..	9	1	46	38	69	15	50	34	84
Total treated.....	95	..	12	1	56	52	93	15	63	45	108
Died.....	14	..	3	..	8	9	16	1	11	6	17
Discharged.....	67	..	7	..	40	34	63	11	44	30	74
Remaining September 30, 1894.....	14	..	2	1	8	9	14	3	8	9	17

Mortality, 15.74 per cent.

MEASLES.

Remaining June 30, 1894.....	5	..	1	7	5	8	13	..	11	2	13
Admitted.....	5	..	6	12	9	14	23	..	15	8	23
Total treated.....	10	..	7	19	14	22	36	..	26	10	36
Died.....	..	..	1	3	1	3	4	..	4	..	4
Discharged.....	6	..	5	14	9	16	25	..	18	7	25
Remaining September 30, 1894.....	4	..	1	2	4	3	7	..	4	3	7

Mortality, 11.11 per cent.

SCARLET FEVER WITH DIPHTHERIA.

Remaining June 30, 1894.....	11	..	1	1	8	5	13	..	9	4	13
Admitted.....	13	..	..	..	6	7	13	..	9	4	13
Total treated.....	24	..	1	1	14	12	26	..	18	8	26
Died.....	10	..	..	..	7	3	10	..	9	1	10
Discharged.....	11	..	1	..	7	5	12	..	7	5	12
Remaining September 30, 1894.....	3	..	..	1	..	4	4	..	2	2	4

Mortality, 38.46 per cent.

SCARLET FEVER WITH MEASLES.

Remaining June 30, 1894.....	2	..	..	1	1	2	3	..	2	1	3
Admitted.....	..	..	..	..	..	..	..	..	..	..	..
Total treated.....	2	..	..	1	1	2	3	..	2	1	3
Died.....	..	..	..	..	..	..	..	..	..	..	..
Discharged.....	2	..	..	1	1	2	3	..	2	1	3
Remaining September 30, 1894.....	..	..	..	..	..	..	..	..	..	..	..

Mortality, 0 per cent.

SCARLET FEVER WITH WHOOPING COUGH.

Remaining June 30, 1894.....	1	..	..	2	..	3	3	..	2	1	3
Admitted.....	2	..	..	..	2	..	2	..	2	..	2
Total treated.....	3	..	..	2	2	3	5	..	4	1	5
Died.....	1	..	..	..	1	..	1	..	1	..	1
Discharged.....	2	..	..	2	1	3	4	..	3	1	4
Remaining September 30, 1894.....	..	..	..	..	..	..	..	..	..	..	..

Mortality, 20 per cent.

MEASLES WITH DIPHTHERIA.

	City.	Quarantine.	Public Institutions.	Other Places.	Male.	Female.	White.	Colored.	Native.	Foreign.	Total.
Remaining June 30, 1894 .....	..	..	..	..	..	..	..	..	..	..	..
Admitted	2	..	..	..	2	..	2	..	2	..	2
Total treated	2	..	..	..	2	..	2	..	2	..	2
Died	2	..	..	..	2	..	2	..	2	..	2
Discharged .....	..	..	..	..	..	..	..	..	..	..	..
Remaining September 30, 1894 .....	..	..	..	..	..	..	..	..	..	..	..

Mortality, 100 per cent.

OBSERVATION.

	City.	Quarantine.	Public Institutions.	Other Places.	Male.	Female.	White.	Colored.	Native.	Foreign.	Total.
Remaining June 30, 1894
Admitted	1	..	1	..	1	..	..	1	1
Total treated	1	..	1	..	1	..	..	1	1
Died
Discharged	1	..	1	..	1	..	..	1	1
Remaining September 30, 1894

Mortality, 0 per cent.

TOTAL PATIENTS.

	City.	Quarantine.	Public Institutions.	Other Places.	Male.	Female.	White.	Colored.	Native.	Foreign.	Total.
Remaining June 30, 1894	40	..	5	11	24	32	56	..	37	19	56
Admitted	96	..	16	13	66	59	110	15	78	47	125
Total treated	136	..	21	24	90	91	166	15	115	66	181
Died	27	..	4	3	19	15	33	1	27	7	34
Discharged	88	..	14	17	59	60	108	11	74	45	119
Remaining September 30, 1894	21	..	3	4	12	16	25	3	14	14	28

Mortality, 18.78 per cent.

ACCOMPANYING.

	City.	Quarantine.	Public Institutions.	Other Places.	Male.	Female.	White.	Colored.	Native.	Foreign.	Total.
Remaining June 30, 1894	3	..	..	..	3	3	..	..	3	3	3
Admitted	17	..	..	1	18	17	1	4	14	18	18
Total	20	..	..	1	21	20	1	4	17	21	21
Died .....	..	..	..	..	..	..	..	..	..	..	..
Discharged	15	..	..	..	15	14	1	3	12	15	15
Remaining September 30, 1894	5	..	..	..	6	6	..	1	5	6	6

Mortality, 0 per cent.

Average daily census for quarter—

Patients	33.12
Help	43.07

Total

Number of dead bodies received, 22.

Number of trips by steamboat "Franklin Edson," 120.

RECAPITULATION OF REPORT.

DISEASES.	REMAINING JUNE 30, 1894.			ADMITTED.			TOTAL TREATED.			DIED.			DISCHARGED.			REMAINING SEPT. 30, 1894.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Small-pox	10	14	24	46	38	84	56	52	108	8	9	17	40	34	74	8	9	17
Measles	5	8	13	9	14	23	14	22	36	1	3	4	9	16	25	4	3	7
Scarlet fever with diphtheria	8	5	13	6	7	13	14	12	26	7	3	10	7	5	12	..	4	4
Scarlet fever with measles	1	2	3	..	..	..	1	2	3	..	..	..	1	2	3	..	..	..
Scarlet fever with whooping-cough .....	..	3	3	2	..	2	2	3	5	1	..	1	1	3	4	..	..	..
Measles with diphtheria .....	..	..	..	2	..	2	2	..	2	..	..	2	..	..	..	..	..	..
Observation .....	..	..	..	1	..	1	1	..	1	..	..	1	..	..	1	..	..	..
Total patients	24	32	56	66	59	125	90	91	181	19	15	34	59	60	119	12	16	28
Accompanying .....	..	3	3	..	18	..	21	21	..	..	..	..	..	15	15	..	6	6
Total	24	35	59	66	77	143	90	112	202	19	15	34	59	75	134	12	22	34

REPORT OF BUREAU OF RECORDS.

	1894.	1893.	1892.	1891.	1890.
Number of deaths in the City of New York during the quarter ending September 30	10,900	11,318	12,181	11,140	10,468
Death-rate for quarter, estimated on average population for quarter	22.18	23.83	26.55	26.41	25.57

QUARTER ENDING SEPTEMBER 30, 1894.	Certificates Received and Tabulated.	Increase over Previous Quarter.	Decrease from Previous Quarter.	Annual rate per 1,000, Population Estimated at 1,966,000.	Burial Permits Issued.	Transit Permits Issued.	Coroners' Cases.	Searches Made.	Transcripts Issued.
Marriages	4,462	227	..	9.08	..	..	..	476	248
Births	14,498	500	..	29.49	..	..	..	417	219
Deaths	10,930	401	..	22.24	10,930	238	1,229	2,726	2,424
Still-births	907	..	33	1.85	907	..	..	..	..

Actual number of deaths in institutions during quarter ending September 30

tenement-houses during quarter ending September 30

dwellings during quarter ending September 30

hotels during quarter ending September 30

rivers, streets, etc., during quarter ending September 30

The total number of deaths for the quarter was 10,900, being lower than for the corresponding quarter of any year since 1890, and representing a death-rate of 22.18, which is lower than for either of the four preceding years.

The decrease of 418 from the number for the corresponding quarter of 1893 was mainly due to a decrease of 272 in the deaths from diarrhoeal diseases, and of 154 from diseases of the respiratory organs.

Contagious and infectious diseases, as a whole, show little change from last year, although there was an increase of about 17 per cent. in diphtheria, and of nearly 30 per cent. in typhoid fever, with a decrease of more than 50 per cent. in measles, and of nearly 50 per cent. in whooping cough, the actual figures for this class of diseases being as follows for 1894 and 1893, respectively, viz.: Diphtheria, 450 against 383; typhoid fever, 127 against 98; measles, 42 against 88; scarlet fever, 67 against 63; small-pox, 22 against 23; whooping cough, 74 against 123, and typhus fever, 0 against 7; making a total of 782 against 785.

The deaths of children under 5 years of age numbered 5545 against 5867 in 1893, and of persons 65 years of age and upwards 824 against 859.

The births reported during the quarter numbered 14,498 against 14,307 in 1893, and the marriages 4,462 against 3,608, the latter showing being peculiarly significant, as the marriages had of late been falling off in number on account of the "hard times."

Actual Deaths by Certain Diseases, According to Nativity of Deceased, of Parents of Deceased, and Color, for Quarter ending September 30, 1894.

CAUSE OF DEATH.	PLACE OF BIRTH OF DECEASED.														PLACE OF BIRTH OF PARENTS OF DECEASED.														Total.	Colored.			
	Austro-Hungary.	Bohemia.	British America.	England.	France.	Germany.	Ireland.	Italy.	Poland.	Russia.	Scotland.	Switzerland.	United States.	Other Nationalities.	Unknown Nationality.	Austro-Hungary.	Bohemia.	British America.	England.	France.	Germany.	Ireland.	Italy.	Poland.	Russia.	Scotland.	Switzerland.	United States.			Other Nationalities.	Mixed Nationalities.	Unknown Nationality.
Total—All Causes	113	35	29	145	45	934	1,405	180	11	147	55	39	7,537	130	95	392	159	35	170	60	1,831	2,567	564	25	539	69	54	1,940	215	1,489	791	10,900	291
Diphtheria.....	1	1	2	1	..	6	2	..	..	1	..	..	434	1	1	24	11	3	4	1	74	57	8	..	28	2	..	116	5	108	9	450	4
Measles .....	..	..	..	..	..	..	..	..	..	..	..	..	42	..	..	5	..	..	..	2	5	13	1	5	..	..	1	..	2	8	42	3	
Scarlatina	1	..	..	..	..	1	1	1	..	1	..	..	60	2	..	4	1	..	3	..	5	9	4	..	7	..	..	12	2	14	6	67	..
Diarrhoeal Diseases.....	4	1	2	6	..	33	83	6	..	6	3	2	1,964	6	13	102	64	8	27	11	315	303	138	7	113	10	9	454	45	429	94	2,129	52
Cancer.....	6	1	..	8	5	73	72	8	1	12	..	3	69	7	1	7	1	..	7	5	77	76	7	1	11	..	3	36	6	11	18	266	5
Insanity.....	2	..	..	1	3	8	9	..	..	1	..	2	16	1	..	2	..	..	1	2	12	12	1	1	1	..	..	6	1	1	3	43	5
Heart Disease.....	9	3	2	11	3	99	135	13	..	10	8	6	188	9	5	10	4	2	12	3	116	172	13	..	10	5	3	72	6	29	44	501	25
Phthisis.....	31	10	8	22	10	136	240	42	5	32	11	10	546	23	..	31	11	4	16	8	206	456	39	4	32	10	9	113	23	96	68	1,126	47
Pneumonia	5	6	1	11	..	53	88	16	..	3	3	..	464	9	1	28	16	1	8	4	101	176	55	..	56	2	..	80	14	76	43	660	14
Cirrhosis of Liver and Hep- atitis.....	..	1	1	..	..	17	35	2	..	2	4	1	33	3	..	1	1	1	..	..	20	44	2	..	1	3	..	10	3	3	10	99	1
Bright's Disease and Ne- phritis.....	6	4	4	21	2	85	185	9	2	12	5	1	204	10	8	6	5	3	18	2	101	241	10	1	13	7	..	61	9	36	45	558	16
Old age	2	2	..	4	..	29	58	1	1	3	1	..	27	4	..	2	2	..	3	..	24	61	2	1	3	1	..	20	4	4	5	132	4
Alcoholism	1	1	..	1	..	7	20	1	..	..	1	..	38	1	1	1	1	..	1	1	9	34	..	..	1	..	..	8	1	4	12	72	1
Sunstroke.....	1	..	..	3	..	13	40	..	..	..	..	..	28	..	3	1	..	..	1	1	13	49	1	..	1	1	..	5	..	6	9	88	..
Homicide.....	1	..	..	..	1	..	1	3	..	1	..	..	11	..	1	1	..	..	1	1	3	1	1	3	1	..	..	3	..	1	4	19	..
Suicide.....	3	..	..	2	2	33	5	2	..	2	..	1	21	3	7	3	..	..	1	1	32	6	2	..	2	..	1	10	2	3	18	81	..
Inanition, Atrophy, Maras- mus, etc.....	..	..	..	..	..	..	..	..	..	..	..	..	568	..	16	17	6	2	6	..	48	52	10	..	26	1	2	140	8	115	151	584	24
Other Causes.....	40	5	9	54	19	341	431	76	2	61	19	13	2,824	51	38	147	36	11	62	21	673	813	258	6	229	26	27	793	86	551	244	3,983	90
Died in institutions.....	46	3	13	57	24	310	502	69	6	74	18	17	1,294	54	45	64	5	9	49	18	354	689	65	8	130	17	9	297	52	195	571	2,532	101

*Comparative Table of Mortality from the Principal Causes of Death in the Third Quarter of the Year 1894, with the Corresponding Quarter of the Preceding Five Years.

CAUSES OF DEATH.	THIRD QUARTER, 1894.				1889.	1890.	1891.	1892.	1893.	Total for Five Years Preceding 1894.	Average for Five Years Preceding 1894.	Average Death-rate for same Period on Average Population.	Death-rate for Third Quarter 1894. Average Population.
	July.	August.	September.	Total.									
Total, all causes	4,539	3,324	3,037	10,900	10,491	10,468	11,140	12,181	11,318	55,598	1,119.6	25.05	22.18
Cerebro-spinal Meningitis.....	21	21	10	52	29	34	44	62	96	265	52.0	.12	.11
Diphtheria	190	139	121	450	249	224	277	265	383	1,398	279.6	.63	.92
Enteric Fever.....	28	42	57	127	159	144	150	162	98	713	142.6	.32	.26
Erysipelas.....	5	6	5	16	16	18	13	25	14	86	17.2	.04	.03
Malarial Fevers.....	11	15	10	36	76	51	67	50	44	288	57.6	.13	.07
Measles.....	26	5	11	42	29	128	100	155	88	500	100.0	.23	.09
Scarlatina	34	18	15	67	51	53	224	77	63	468	93.6	.21	.14
Small-pox.....	10	4	8	22	....	....	....	26	23	49	9.8	.02	.04
Whooping-cough.....	26	34	14	74	159	168	60	141	123	651	130.2	.29	.15
Typhus Fever.....	....	....	....	....	....	....	....	....	7	7	1.4	.003	....
Asiatic Cholera.....	....	....	....	....	....	....	....	9	....	9	1.8	.004	....
Cholera Morbus	27	9	2	38	74	46	50	74	51	295	59.0	.13	.08
Other Diarrhoeal Diseases.....	1,170	544	377	2,091	2,411	2,168	2,395	2,575	2,350	11,899	2,379.8	5.36	4.25
Other Zymotic Diseases.....	25	20	14	59	37	39	31	34	31	172	34.4	.07	.12
Cancer	104	93	69	266	230	231	214	256	265	1,196	239.2	.54	.54
Rheumatism.....	13	3	7	23	25	34	29	24	21	133	26.6	.06	.05
Phthisis	395	381	350	1,126	1,284	1,265	1,207	1,158	1,144	6,058	1,211.6	2.73	2.29
Other Constitutional Diseases	125	85	120	330	262	274	304	327	306	1,473	294.6	.66	.67
Apoplexy.....	100	83	99	282	188	181	234	276	261	1,140	228.0	.51	.57
Convulsions.....	50	31	38	119	158	127	122	118	153	678	135.6	.31	.24
Meningitis and Encephalitis	103	67	69	239	205	230	231	293	283	1,242	248.4	.56	.49
Other Diseases of Nervous System	73	45	47	165	269	227	216	220	192	1,124	224.8	.51	.34
Aneurism.....	5	8	3	16	8	11	12	16	11	58	11.6	.03	.03
Heart Diseases	172	169	160	501	431	411	487	485	523	2,337	467.4	1.05	1.02
Other Diseases of Circulatory System.....	8	7	5	20	25	23	24	24	37	133	26.6	.06	.04
Bronchitis.....	62	63	71	196	305	288	271	270	226	1,360	272.0	.61	.40
Croup.....	22	20	21	63	98	78	107	124	99	506	101.2	.23	.13
Pneumonia	230	206	224	660	513	624	687	810	709	3,343	668.6	1.51	1.34
Other Diseases of Respiratory System	53	44	55	152	76	186	184	203	181	830	166.0	.37	.31
Gastritis, Gastro-Enteritis, Enteritis and Peritonitis.....	368	232	186	786	550	561	583	784	784	3,262	652.4	1.47	1.60
Cirrhosis of Liver and Hepatitis.....	40	39	20	99	104	105	116	103	114	542	108.4	.24	.20
Other Diseases of Digestive System.....	118	74	90	282	168	224	249	295	238	1,174	234.8	.53	.57
Bright's Disease and Nephritis.....	191	211	156	558	564	551	560	577	589	2,841	568.2	1.28	1.14
Premature and Preternatural Births, Cyanosis and Atelectasis....	97	96	94	287	264	293	296	303	300	1,456	291.2	.66	.58
Puerperal Diseases.....	21	22	25	68	83	67	80	75	86	391	78.2	.18	.14
Old Age.....	55	37	40	132	133	125	93	130	121	602	120.4	.27	.27
Alcoholism	29	27	16	72	55	66	80	115	67	383	76.6	.17	.15
Sunstroke.....	78	7	3	88	25	55	60	291	31	462	92.4	.21	.18
Accident	230	158	134	522	312	448	537	738	437	2,472	494.4	1.11	1.06
Homicide.....	6	6	7	19	17	16	15	10	12	70	14.0	.03	.04
Suicide.....	25	30	26	81	51	58	61	74	90	334	66.8	.15	.16
Under one month	290	231	207	728	771	774	800	813	785	3,943	788.6	1.78	1.48
One month, and under one year	1,628	855	770	3,253	3,154	2,990	3,222	3,535	3,335	16,236	3,247.2	7.31	6.62
Total under five years.....	2,562	1,559	1,424	5,545	5,315	5,314	5,756	6,200	5,867	28,452	5,690.4	12.82	11.28
Sixty-five years and over.....	322	256	246	824	859	855	800	964	859	4,337	867.4	1.95	1.68
Males	2,481	1,768	1,689	5,938	5,551	5,618	5,999	6,623	6,086	29,877	5,975.4	13.46	12.08
Females	2,058	1,556	1,348	4,962	4,940	4,850	5,141	5,558	5,232	25,721	5,144.2	11.59	10.10
Colored	122	91	78	291	236	242	227	261	294	1,260	252.0	.57	.59

* This table represents throughout only the actual mortality of the quarter.

Particulars Regarding Births, Deaths, Marriages and Still-births Reported for Quarter ending September 30, 1894.

	TOTAL.	WHITE.		COLORED.		NATIVE PARENTS.		FOREIGN PARENTS.		PARENTAGE OF MIXED NATIVITIES.		PARENTAGE UNKNOWN OR NOT STATED.		SINGLE.		MARRIED.		WIDOWED.		NOT STATED.		NON-RESIDENTS.	The Returns of Births, Marriages and Still-births are Incomplete.													
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		MONTH OF UTEROGESTATION.													
																							1	2	3	4	5	6	7	8	9	10	Not Stated.			
Marriages	4,462	4,382	4,383	80	79	.....	.....	.....	.....	.....	.....	.....	.....	3,933	3,986	.....	.....	529	476	.....	.....	.....	1	2	3	4	5	6	7	8	9	10	Not Stated.
Births	14,498	7,250	7,058	102	88	1,798	1,704	4,438	4,295	1,027	1,071	89	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deaths	10,930	5,797	4,838	164	131	1,038	917	3,641	3,058	811	682	471	312	4,098	3,238	1,380	1,021	407	698	76	12	112	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Still-births.....	*307	502	368	16	14	116	91	314	279	50	47	38	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	30	44	93	104	146	126	357	3	1

* Sex undetermined, seven.

Actual Deaths from Zymotic and Certain other Preventable Diseases, by Wards,* for Quarter ending September 30, 1894.

WARDS.	AREA IN ACRES.	Cerebro-spinal Meningitis.	Diphtheria.	Typhoid Fever.	Erysipelas.	Malarial Fevers.	Measles.	Scarlet Fever.	Small-pox.	Typhus Fever.	Whooping Cough.	Diarrhœal Diseases.	Rheumatism.	Phthisis.	Bronchitis.	Croup.	Pneumonia.	Puerperal Diseases.	Alcoholism.	Bright's Disease and Nephritis.	Influenza.	All Causes.	In Institutions not Redistributed.	In Institutions Redistributed.	Total Deaths in Institutions.
First.....	154	1	8	..	..	..	..	2	..	..	1	18	1	18	3	1	5	1	1	4	..	128	9	21	30
Second.....	81	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	4	..	1	1
Third.....	95	..	..	..	..	1	..	..	..	..	..	1	..	3	..	..	..	2	2	..	26	12	6	18	
Fourth.....	83	1	5	..	1	..	1	1	2	..	..	34	..	28	3	1	13	3	2	10	..	166	1	41	42
Fifth.....	168	1	2	1	..	..	..	..	1	..	1	18	1	9	4	2	7	..	1	8	..	88	..	17	17
Sixth.....	86	..	3	1	..	..	..	1	3	..	..	22	..	23	10	1	9	1	2	2	..	134	1	33	34
Seventh.....	198	6	16	6	1	1	1	4	3	..	3	91	..	41	6	2	43	3	3	23	..	453	6	92	98
Eighth.....	183	1	8	3	1	1	..	1	1	..	4	39	1	31	8	1	20	1	2	12	..	236	1	43	44
Ninth.....	322	4	15	7	2	2	..	..	..	..	6	89	1	43	3	2	14	3	1	20	1	391	14	58	72
Tenth.....	110	2	14	3	..	..	4	4	1	..	1	73	1	38	8	2	37	2	4	15	..	373	..	103	103
Eleventh.....	196	1	22	5	..	..	2	2	..	..	4	104	2	39	8	2	40	1	2	18	..	448	11	62	73
Twelfth.....	5,504.13	12	100	23	1	13	..	15	1	..	7	419	4	185	34	11	89	12	7	85	1	1,949	206	205	411
Thirteenth.....	107	..	15	..	1	..	5	3	..	..	..	47	1	18	2	1	17	1	..	10	..	260	2	45	47
Fourteenth.....	96	..	5	4	1	1	9	..	2	..	..	48	..	38	12	2	25	..	3	11	..	266	..	49	49
Fifteenth.....	198	1	1	..	..	..	2	..	..	..	..	17	..	20	2	..	13	2	3	13	..	137	4	42	46
Sixteenth.....	348.77	..	10	4	1	1	..	3	..	..	3	62	1	27	5	1	21	3	2	31	..	342	8	60	68
Seventeenth.....	331	1	39	6	1	1	3	3	1	..	3	118	..	78	10	6	43	5	4	27	..	637	12	123	135
Eighteenth.....	449.89	6	20	6	1	1	..	2	..	..	2	79	..	56	11	3	23	3	2	16	..	437	46	79	125
Nineteenth.....	1,480.60	8	78	17	2	7	8	12	..	..	12	336	2	153	23	10	107	8	6	105	..	1,740	463	161	624
Twentieth.....	444	1	17	11	1	1	4	3	..	..	7	112	5	86	13	4	32	2	5	36	1	634	12	121	133
Twenty-first.....	411	2	13	5	..	1	..	1	2	..	5	63	..	34	3	3	21	4	10	28	1	403	44	63	107
Twenty-second.....	1,529.42	3	24	15	1	2	2	4	4	..	6	207	1	95	17	5	61	9	4	59	1	1,055	26	134	160
Twenty-third.....	4,267.023	1	22	8	1	3	1	5	1	..	7	107	..	49	9	3	16	4	6	13	..	451	23	42	65
Twenty-fourth.....	8,050.323	..	13	2	..	..	..	1	..	..	2	25	2	13	2	..	4	..	..	10	..	142	20	10	30
Total.....	24,893.156	52	450	127	16	36	42	67	22	..	74	2,129	23	1,126	196	63	660	68	72	558	5	10,900	921	1,611	2,532

* Deaths in institutions redistributed according to residence, where residence was known.

Deaths by Suicide during Quarter ending September 30, 1894.

NATIVITY.	CUTS AND STABS.		DROWNING.		GUNSHOT.		HANGING.		LEAPS.		LEAP FROM BROOKLYN BRIDGE.		ILLUMIN- ATING GAS.		ARSENIC.		CAR- BOLIC ACID.		MURI- ATIC ACID.		SUL- PHURIC ACID.		PARIS GREEN.		OPIUM.		COCAINE.		TOTAL BY SEXES.		TOTAL, BOTH SEXES.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Austria.....	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	I	I	..	..	..	..	..	..	..	..	..	..	I	2	3
England.....	I	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
France	I	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Germany.....	3	..	..	..	6	..	9	..	..	2	..	..	2	2	..	..	3	2	2	..	I	..	..	I	..	..	..	..	26	7	33
Ireland.....	I	..	..	..	I	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	I	..	..	..	..	2	3	5
Italy.....	..	..	..	..	I	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Russia.....	..	..	..	..	I	..	..	..	..	..	..	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Switzerland.....	..	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	I	..	I
Other foreign countries.....	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	2	I	3
United States.....	2	..	I	..	10	I	..	..	..	..	..	..	I	..	2	..	2	..	..	..	..	..	..	I	..	I	..	18	3	21	
Unknown.....	I	..	I	..	3	..	I	..	..	..	I	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	7
Total.....	9	..	2	I	27	I	11	..	..	4	I	..	3	2	3	..	4	6	2	..	I	..	..	2	I	..	I	..	65	16	81

Ages of Suicides.

NATIVE.		FOREIGN.		15-25.		25-45.		45-65.		65 AND OVER.		TOTAL BY SEXES.		TOTAL, BOTH SEXES.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
18	3	47	13	4	3	34	9	22	2	5	2	65	16	81

Deaths from Surgical Operations during Quarter ending September 30, 1894.

Amputation for cancer of thigh.....	1	Laparotomy for appendicitis, peritonitis.....	1	Operation for congenital hernia.....	1
Amputation of leg.....	1	Laparotomy for cancer of uterus.....	1	Operation for intestinal obstruction, perforation, gangrene, septic peritonitis.....	1
Amputation of leg from block falling on him.....	1	Laparotomy for cancer of pancreas.....	1	Operation for malignant growth of bladder wall, shock.....	1
Amputation of thigh for gangrene.....	1	Laparotomy for intestinal perforation.....	1	Operation for pelvic abscess.....	1
Circumcision.....	2	Laparotomy for ovarian cyst.....	1	Operation for pyo-salpinx.....	1
Circumcision, pyæmia.....	1	Laparotomy for ovarian tumor.....	1	Operation for strangulated hernia.....	3
Cœliotomy for ovarian abscess and adhesion, septic peritonitis, marasmus.....	1	Lithotomy, septicæmia, tuberculosis.....	1	Operation for tumor of thyroid gland, shock.....	1
Cœliotomy for uterine fibroma, septic peritonitis.....	1	Ovariectomy for ovarian cyst, peritonitis.....	2	Operation for tubercular glands of neck, right and left.....	1
Cœliotomy for bi-lateral salpingo-oöphoritis, mania.....	1	Ovariectomy for ovarian cyst.....	1	Operation for stricture of colon, colitis, hæmophilia.....	1
Cystotomy, supra pubic.....	1	Operation for abdominal tumor.....	1	Resection of necrotic hip.....	1
Excision of rectum and vagina.....	1	Operation for cancer of breast.....	1	Splenectomy.....	1
Excision of hip joint for tuberculosis.....	1	Operation for cancer of ovary, tubercular peritonitis.....	1	Salpingo-oöphorectomy.....	1
Excision of tongue for cancer.....	1	Operation for cancer of stomach.....	1	Salpingo-oöphorectomy, ovarian cystoma, retroversion of uterus, shock.....	1
Emptying of uterus of products of gestation and adhesions, retroversion, marasmus.....	1	Operation for cancer of uterus.....	1	Urethrotomy, external.....	1
Hysterectomy for cancer of uterus.....	1	Operation for cerebral tumor.....	1		
Hysterectomy for fibroid tumor of uterus, shock.....	1	Operation for deep cellulitis of neck.....	1		
Intra-cranial neurectomy for facial neuralgia, shock.....	1	Operation for fibroid uterus, shock.....	2		
				Total.....	53

Deaths from Accident and Negligence during Quarter ending September 30, 1894.

Fractures and contusions—		Drowning—		Falls—		Suffocation by—	
Diving in shallow water.....	3	“ in boiler of water.....	77	From scaffolds	6	At fire No. 226 Rivington street	2
Crushed by door of ice-box.....	1	Sun stroke.....	88	“ Elevated Railroad structure.....	2	Overlaid in bed	2
“ elevators.....	3	Knocked down by horse.....	1	“ baby carriage.....	1	Lodgment of piece of meat in throat.....	1
“ falling stone.....	1	Horse stepping upon him.....	1	“ balcony.....	1	Obstruction of larynx from vomited matter.....	1
Crushed between cable cars.....	1	Kicked by horse	1	“ hay-loft	1	Explosion of lamps.....	1
Caught by machinery.....	1	Struck by lightning.....	1	“ stoops.....	2	Homicide by—	
Dragged by car of New York Central and	1	Struck by electric current while oiling fan, No. 777 }	1	Over baluster	1	Blows	6
Hudson River Railroad.....		Broadway.....				Cut, stab.....	4
Jumped from window during conflagration,	1	Struck by electric current while grasping iron railing	1	Killed by railroads—		Drowning	1
No. 226 Rivington street.....				New York and New Haven Railroad.....	3	Pistol.....	8
Knocked down by wagon.....	1	Wounds—		New York Central and Hudson River Railroad.	6		
“ Second avenue car.....	1	Of index finger while at work.....	1	New York and Harlem Railroad	1	Recapitulation—	
Struck by barrel of potatoes.....	1	By gunshot.....	1	West Shore Railroad.....	1	Fractures and contusions.....	55
“ fan of blower on steamship “Plymouth”	1	Incised of foot while at work.....	1	Northern Railroad.....	1	Burns	17
Struck by bridge while on train of New York	2	Falls—		Trolley Union Railroad.....	2	Scalds.....	17
Central		Not defined by Coroners.....	14	Cable car (Third avenue).....	1	Drowning	78
Struck by piece of ice.....	1	In street.....	1	Cars, line not given.....	2	Sun stroke.....	88
“ barrel	1	Into area.....	2	Belt Line car.....	1	Falls	135
Struck by falling embankment.....	1	“ excavation	1	Street vehicles—		Railroads.....	18
“ bale of hay.....	1	Down stairs.....	10	Wagons, carts, etc.....	24	Street vehicles.....	24
“ beam on boat.....	1	“ cellars.....	3	Poison by—		Electric currents.....	2
“ beam.....	1	“ hatchway.....	1	Carbolic acid.....	7	Struck by lightning.....	1
“ plank	1	“ dumb-waiter shaft.....	1	Colchicum.....	1	Knocked down and stepped on by horse.....	2
Striking head against post.....	1	“ steps	1	Inhaling fumes of Nitric acid.....	1	Kick by horse.....	1
Thrown from carriage.....	1	Through elevator shafts.....	6	Kerosene oil.....	1	Thrown down by car.....	1
“ wagon.....	1	“ air-shafts.....	3	Lead	3	Poison	13
Manner not defined by Coroners.....	27	“ skylight.....	1	Illuminating gas, No. 995 First avenue.....	1	Illuminating gas.....	7
Burns—		From fire-escapes.....	9	“ No. 1008 First avenue.....	1	Suffocation.....	6
Not defined.....	1	“ lamp-post while playing.....	1	“ No. 233 East Thirty-fifth street	1	Explosion	1
At conflagration, No. 164 East Fourth street...	1	“ windows	37	“ No. 213 East Fifty-sixth street	1	Wounds	3
“ Fort George	1	“ roofs	13	“ No. 309 West Twenty-sixth	1	Surgical operations.....	53
Clothes fired.....	13	“ wagons.....	7	street.....	1	Homicide*	19
Oil stoves.....	1	“ tree	2	“ No. 429 West Thirty-seventh	1	Total accidents and negligence.....	522
Scalds—		“ buildings.....	2	street.....			
Not defined.....	4	“ ladders.....	6	“ No. 14 West One Hundred	1		
Coffee.....	2			and Twenty-fifth street.....			
Hot water.....	11						

* Homicide not included in total.

Deaths by Age and Sex and Percentage of each Age Period to Total Mortality during Quarter ending September 30, 1894.

AGE.	TOTAL NUMBER OF DEATHS.								PERCENTAGE OF EACH AGE PERIOD TO TOTAL MORTALITY.							
	JULY.		AUGUST.		SEPTEMBER.		TOTAL.		JULY.		AUGUST.		SEPTEMBER.		TOTAL.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Under 1 year	1,069	849	565	521	534	443	2,168	1,813	9.81	7.79	5.18	4.78	4.90	4.06	19.89	16.63
1 to 5 years.....	338	306	232	241	242	205	812	752	3.10	2.81	2.13	2.21	2.22	1.88	7.45	6.90
5 to 10 “	55	70	50	50	37	40	142	160	0.50	0.64	0.46	0.46	0.34	0.37	1.30	1.47
10 to 15 “	16	25	12	20	19	15	47	60	0.15	0.23	0.11	0.18	0.17	0.14	0.43	0.55
15 to 20 “	39	33	27	35	26	23	92	91	0.36	0.30	0.25	0.32	0.24	0.21	0.84	0.83
20 to 25 “	76	60	66	60	65	60	207	180	0.70	0.55	0.61	0.55	0.60	0.55	1.90	1.65
25 to 35 “	226	154	218	161	157	129	601	444	2.07	1.41	2.00	1.48	1.44	1.18	5.51	4.07
35 to 45 “	188	133	169	109	191	109	548	351	1.72	1.22	1.55	1.00	1.75	1.00	5.03	3.22
45 to 55 “	177	116	169	133	166	113	512	362	1.62	1.06	1.55	1.22	1.52	1.04	4.70	3.32
55 to 65 “	153	134	124	106	125	92	402	332	1.40	1.23	1.14	0.97	1.15	0.84	3.69	3.05
65 to 75 “	96	106	99	80	75	89	270	275	0.88	0.97	0.91	0.73	0.69	0.82	2.48	2.52
75 and over.....	48	72	37	40	52	30	137	142	0.44	0.66	0.34	0.37	0.48	0.28	1.26	1.30
Total.....	2,481	2,058	1,768	1,556	1,689	1,348	5,938	4,962	22.76	18.88	16.22	14.28	15.50	12.37	54.48	45.52

Births and Birth-rate by Sex during Quarter ending September 30, 1894.

MONTHS.	NUMBER OF BIRTHS REGISTERED	BIRTH-RATE PER 1,000.	MALES.	FEMALES.	PER-CENTAGE OF MALES TO TOTAL.	PERCENTAGE OF FEMALES TO TOTAL.
July.....	4,994	30.48	2,519	2,475	50.44	49.56
August.....	4,988	30.45	2,519	2,469	50.50	49.50
September.....	4,516	27.57	2,314	2,202	51.24	48.76
Total	14,498	29.50	7,352	7,146	50.71	49.29

Deaths and Death-rate by Sex during Quarter ending September 30, 1894.

MONTHS.	NUMBER OF DEATHS.			DEATH-RATE PER 1,000 OF ESTIMATED POPULATION.		
	Male.	Female.	Total.	Male.	Female.	Total.
July.....	2,481	2,058	4,539	15.15	12.56	27.71
August.....	1,768	1,556	3,324	10.79	9.50	20.29
September.....	1,689	1,348	3,037	10.31	8.23	18.54
Total.....	5,938	4,962	10,900	12.08	10.10	22.18

Deaths of Persons 100 Years of Age and Over during Quarter ending September 30, 1894.

DATE OF DEATH.	NAME.	AGE.			NATIVITY.	TIME OF RESIDENCE IN UNITED STATES.	CAUSE OF DEATH.
		Years.	Months.	Days.			
July 10.....	Mary Bresnahan.....	101	2	10	Ireland.....	50 years.....	Old age.
August 11.....	Mary Sullivan	108	6	9	“	44 “	Old age, bronchitis.

Ages of Bridegrooms and Brides during Quarter ending September 30, 1894.

AGES OF BRIDEGROOMS— YEARS.	AGES OF BRIDES—YEARS.																	Total Bride- grooms.
	15	16	17	18	19	20	21 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	Unspecified.	
17	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
18	3	4	..	..	1	..	..	..	..	..	..	..	..	..	..	8
19	5	11	11	3	4	..	..	..	..	..	..	..	..	..	..	34
20	1	11	19	21	26	7	3	..	..	..	..	..	..	..	..	..	88
21 to 25	7	66	188	220	302	569	99	14	3	1	..	..	..	..	..	..	1,469
25 to 30	4	38	81	104	170	586	378	80	17	4	2	..	..	..	..	2	1,466
30 to 35	1	2	5	17	23	46	174	227	105	36	8	1	1	..	..	..	..	646
35 to 40	6	9	4	86	93	79	53	16	3	4	..	..	..	2	355
40 to 45	1	..	..	18	38	41	37	33	4	1	..	..	..	..	173
45 to 50	2	1	10	19	18	26	22	10	4	1	..	..	..	113
50 to 55	1	..	..	3	4	8	13	12	12	2	4	..	..	..	59
55 to 60	1	1	1	7	8	3	4	..	..	..	25
60 to 65	2	..	..	1	2	4	1	1	1	..	..	12
65 to 70	1	1	1	1	1	1	..	1	..	7
70 to 75	2	..	..	1	..	3
75 to 80	1	..	..	..	..	1
80 and upwards	1	..	..	..	1
Unspecified	1	1
Total brides	1	15	128	328	390	552	1,460	862	347	188	106	45	20	12	1	2	5	4,462

Former Condition of Persons Married.

	JULY.	AUGUST.	SEPTEMBER.	TOTAL.	PERCENTAGE TO TOTAL.
Bachelors and spinsters.....	1,217	987	1,435	3,639	81.56
Bachelors and widows	86	79	96	257	5.76
Widowers and spinsters.....	92	86	113	291	6.52
Widowers and widows.....	73	65	90	228	5.11
Bachelors and unknown	1	..	..	1	.02
Condition unknown.....	2	..	..	2	.04
Divorced	15	10	19	44	.99
Total.....	1,486	1,223	1,753	4,462	..

Marriage-rate per 1,000 of the Estimated Population.

	NUMBER OF MARRIAGES.	NUMBER OF PERSONS MARRIED.	MARRIAGE-RATE PER 1,000 OF ESTIMATED POPULATION.	
			Number of Marriages.	Number of Persons Married.
July.....	1,486	2,972	9.07	18.14
August.....	1,223	2,446	7.46	14.93
September	1,753	3,506	10.70	21.40
Total.....	4,462	8,924	9.08	18.16

Interments of Deceased Persons during Quarter ending September 30, 1894.

LOCATION OF INTERMENTS.	1894.	1889.	1890.	1891.	1892.	1893.	AVERAGE FOR FIVE YEARS PRECEDING 1894.
City Cemetery.....	1,186	1,047	1,075	1,053	1,202	1,236	1,122.6
Cemeteries outside of New York City.....	9,425	9,121	9,046	9,775	10,633	9,717	9,658.4
Cemeteries inside of New York City	319	392	438	368	428	385	402.2
Ward's Island*.....	..	15	..	..	..	..	3.0
Total interments	10,930	10,560	10,559	11,196	12,263	11,338	11,183.2
Percentage of Pauper Burials to total.....	10.85	9.92	10.18	9.40	9.80	10.90	10.04

* Immigrants' Hospital and Cemetery now abandoned.

OFFICE OF THE SECRETARY—NOTICES OF THE BOARD.

The notices of the Board for the abatement of nuisances are issued upon the facts and evidence contained in the written reports of the Sanitary Inspectors, the result of personal inspection of premises complained of. During the quarter ending September 30, 1894, the number of notices issued by the Board was 6,540. These notices call the attention of owners, lessees and agents to violations of the Sanitary code in each case, and require the necessary alteration, repair, cleaning and improvement of the premises named within five days from the receipt of the notice. If, upon reinspection, it is found that the requirements of the notice have not been complied with, a suit for penalty is commenced against the delinquents under section 82, chapter 335, Laws of 1873. The subjects of the notices of the Board above referred to are as follows:

- Air shafts cleaned, disinfected, graded, paved, connected with sewer.
- Alleys cleaned, disinfected, graded, paved, connected with sewer.
- Apartment cleaned, disinfected or ventilated.
- Areas connected with sewer, cleaned, disinfected, pavements of, graded and repaired.
- Balusters of stairs repaired.
- Basements cleaned and disinfected.
- Business of lard-rendering, slaughtering, gut-cleaning, fat-rendering, storing bones, manufacturing fertilizers, smoking sausages, or storing rags discontinued.
- Buildings cleaned or inclosed.
- Ceilings cleaned, whitewashed or repaired.
- Cellars cleaned, made water-tight, cemented, connected with sewer, ceilings plastered, doors repaired.
- Cellars vacated as places of living or sleeping.
- Cesspools disinfected, emptied, cleaned, filled, constructed, repaired or covered.
- Chimneys repaired, extended, cleaned or obstructions removed.
- Cisterns disinfected, emptied, cleaned or covered or provided.
- Clothes-poles reset.
- Coops cleaned, disinfected or removed.
- Cows removed.
- Dogs removed.
- Drains cleaned, constructed, covered, repaired, removed, obstructions in removed, or connected with sewer.
- Excavations cleaned, repaired, relaid, graded, or connected with sewer.
- Fences repaired or constructed.
- Fire-escapes cleaned or obstructions removed.
- Fixtures trapped and waste-pipes therefrom connected on outlet side of water-closet traps.
- Flashings provided over woodwork of sinks.
- Floors cleaned, repaired, relaid, graded, cemented or connected with sewer.
- Fowls removed.
- Gas-mains and pipes repaired, and gas provided in dark halls and rooms.

- Garbage and ash receptacles provided, removed, cleaned and disinfected.
- Gutters (house or street) provided, repaired, cleaned, disinfected, obstructions in removed, connected with street sewer, street gutter or cesspool.
- Halls cleaned and filthy or defective floor coverings removed.
- House drains provided with running traps and fresh-air inlets.
- Hydrants repaired, constructed, removed.
- Housekeepers provided for tenements.
- Ice-boxes connected with properly trapped, water supplied, open sinks.
- Joints closed or calked with lead.
- Leaders repaired, provided, extended, adjusted, connected with sewer, street, gutter, or privy vault.
- Lodging-houses discontinued.
- Lots (vacant) cleaned, disinfected, inclosed, filled, graded, connected with sewer or street gutters.
- Manure vaults, boxes or receptacles disinfected, emptied, cleaned, covered, filled, constructed or lined.
- Manholes covered and repaired and removed.
- Offensive trades and business discontinued or removed.
- Pigeons removed.
- Pipe (soil, supply, vent, waste, sewer, or iron) provided.
- Pipe (soil, waste, or supply) repaired, trapped, removed, extended, graded, cemented, ventilated or repaired, and openings closed and obstructions removed.
- Privy vaults disinfected, emptied, cleaned, ventilated, lined with brick, repaired, cemented, constructed, filled or removed.
- Privy-houses cleaned, disinfected, repaired, constructed, removed, adjusted to vaults, or seats of, provided with cover.
- Pumps provided or repaired.
- Rabbits removed.
- Railings provided or repaired.
- Roofs repaired or cleaned, and roof bulkheads repaired.
- Roof tanks provided, cleaned or covered.
- School-sinks provided, cleaned or repaired.
- Sewer-pipes provided, repaired, obstructions in removed, trapped or openings inclosed.
- Sinks provided, repaired, cleaned, removed, flushed, connected with street sewer or street gutters.
- Sidewalks cleaned, repaired, graded, flagged, or obstructions in removed.
- Skylights repaired and provided.
- Slaughter-houses cleaned, repaired, or connected with sewer.
- Smoke-pipes extended or repaired.
- Soil-pipes discontinued as rain leaders.

Spaces cleaned, disinfected, graded, cemented, filled or connected with sewer.
 Stables cleaned, removed, repaired, or connected with street sewer.
 Stagnant water removed.
 Stairways cleaned or repaired.
 Trees removed.
 Urinals cleaned, disinfected, repaired, flushed, connected with sewer, removed, or floor covered with zinc.
 Walls cleaned, whitewashed or repaired.
 Wash-rooms repaired.
 Wash-trays trapped, provided.
 Water-closets repaired, cleaned, disinfected, flushed, constructed, ventilated, or connected with street sewer.
 Water-closet pans adjusted to preserve water-seal, bowls burned out and retarred, cisterns provided, window sashes repaired and glazed.
 Yards cleaned, disinfected, filled, graded, paved, grade of pavements repaired, relaid in cement, or connected with street sewer.

FEES RECEIVED FOR SEARCHES AND TRANSCRIPTS.

Amount of fees received for searches and transcripts of the records of births, marriages and deaths, and deposited with the City Chamberlain, was \$1,537.30.

OFFICE OF ATTORNEY AND COUNSEL.

Number of orders received for prosecution.....	2,453
Attorney's notices issued.....	3,494
Nuisances abated before suit.....	2,074

Civil suits commenced.....	414
Suits pending at close of quarter.....	244
Judgments opened by the Court.....	8

Total.....	666
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Discontinued for all causes.....	398
Judgments obtained.....	14
Suits pending at close of quarter.....	254

Total.....	666
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Executions issued.....	23
Transcripts filed.....	25
Judgments, Criminal Court.....	59

Money collected and paid to City Chamberlain.....	\$25 00
Fines received in Criminal Court and paid to the City.....	\$925 00

By order of the Board,

EMMONS CLARK, Secretary.

CHARLES G. WILSON, President.

BOARD OF CITY RECORD.

MAYOR'S OFFICE, CITY HALL,
 NEW YORK, December 24, 1894.

The Hons. Thomas F. Gilroy, Mayor; William H. Clark, Counsel to the Corporation, and Michael T. Daly, Commissioner of Public Works, the officers designated by section 66 of the New York City Consolidation Act, met this day.

The minutes of the meetings of December 18 and 21 were read and approved.

Requisitions were laid before the Board, and were acted on as follows:

No.	DATE.	APPLIED FOR.	ACTION OF BOARD.
		<i>By Department of Public Works.</i>	
	Dec. 4, 1894	15 copies contract for flagging First avenue, Sixty-second to Sixty-fourth street.....	Allowed.
		15 copies contract for flagging south side of Second street, Avenue A to Avenue B.....	"
		15 copies each estimates for above.....	"
		15 envelopes for each set of estimates.....	"
	" 4, "	50 copies contract for reregulating Ninety-eighth street.....	"
		50 copies contract for regulating, etc., One Hundred and Twenty-fifth street.....	"
		50 copies contract for regulating, etc., One Hundred and Sixty-fourth street.....	"
		50 copies each estimates for above.....	"
		50 envelopes each of three lots of estimate.....	"
		<i>By Fire Department.</i>	
	" 20, "	12 Tucker's blue copying ribbons.....	"
		12 Tucker's black record ribbons.....	"
		3 Hammond purple copying ribbons.....	"
		100 sheets Underwood's semi-carbon, 8 x 12.....	"
		<i>By Department of Street Cleaning.</i>	
	" 19, "	200 sheets carbon, 8 x 12.....	"
		<i>By Fire Department.</i>	
	" 13, "	25 copies contract for furnishing a water-tower.....	"

By a concurrent vote of the three officers the Supervisor was instructed to procure by direct order, that is, without contract let after advertisement, the articles called for by the requisitions allowed, that course being deemed to be for the best interests of the city.

The Supervisor of the City Record presented a tabulated statement of the bids to supply printed or lithographed matter, which were opened at the meeting held on December 21st. He said that he had found errors of addition in the figures of the bidders. They were as follows: \$100.60 in the estimate of the Metropolitan Job Printing Company on the printing required by the Board of Police Justices; \$10 in the estimate of the Jordan Stationery Company on the lithographing required by the Health Department; \$6 in the estimate of M. Schlesinger & Brother on the printing required by the Department of Taxes, and \$7 in the estimate of Stephen Grogan on the printing required by the Surrogates. The only one of these errors which affected the award of contracts upon the basis of the figures read from the recapitulation sheets at the meeting on the 21st instant, the Supervisor said, was that of Stephen Grogan. According to his recapitulation figures, his estimate to supply the Surrogates with printed matter was the lowest by 51 cents. The correction of his addition had proved that he was higher than Martin B. Brown by \$6.49.

The Supervisor of the City Record also stated that Martin B. Brown's aggregate bid for the printing for the Health Department was the lowest by \$492.30, but that on item No. 94, Stephen Grogan had bid \$600 against \$735 by Martin B. Brown. Under the provisions of the bidding this item would have to be awarded to Stephen Grogan, although all the rest of the printing for the Department went to Martin B. Brown.

On motion of the Counsel to the Corporation, the following resolution was adopted by a concurrent vote of the three officers:

Resolved, That, upon the report of the Supervisor of the City Record respecting the bids to supply printed or lithographed matter to the Courts and the Departments, Boards or Bureaus of the City Government, opened at the meeting held on the 21st instant, contracts are awarded as follows:

To Martin B. Brown—For printing of the Executive Department, Armory Board, Civil Service Boards, Finance Department, Department of Public Works, Board of Street Opening and Improvement, Board of Estimate and Apportionment, Law Department, Fire Department, Department of Public Charities and Correction, Commissioner of Street Improvements, Health Department (in part), Department of Buildings, Department of Public Parks, City Record Office, Department of Street Cleaning, District Attorney, Department of Taxes and Assessments, Surrogates' Office and Courts, Police Courts, County Clerk, Court of Common Pleas, District Courts, and the Sheriff's Office. Total of bids, \$22,016.95;

To Martin B. Brown—For lithographing for the Executive Department, Board of Aldermen, Register's Office, Finance Department, Department of Public Works, Board of Street Opening, Fire Department, Department of Charities and Correction, Commissioner of Street Improvements, Health Department, Department of Buildings, Department of Parks, Department of Street Cleaning, Department of Taxes, Surrogates, County Clerk, Court of Common Pleas, Superior Court, District Courts, Court of General Sessions, Sheriff, Commissioners of Accounts, Supreme Court; total of bids, \$6,109.27;

To Stephen Grogan—For printing for the Register's Office, the Health Department (in part), and the Superior Court; total of bids, \$692.75;

To the Jordan Stationery Company—For lithographing for the Armory Board, Civil Service Boards, Law Department, Coroner's Office, City Record Office, District Attorney, Board of Police Justices, and City Court; total of bids, \$897.50;

To John F. Hahn—For printing for the Board of Aldermen, Coroners, Court of Special Sessions, and Court of General Sessions; total of bids, \$518.80;

And to the Metropolitan Job Print—For printing for the City Court, total, \$96.

The bill of Martin B. Brown for printing the CITY RECORD during November, \$2,910.29 (Voucher 369), was approved.

Adjourned.

W. J. K. KENNY, Secretary.

EXECUTIVE DEPARTMENT.

CITY OF NEW YORK,
 OFFICE OF THE MAYOR,
 January 12, 1895.

To the Supervisor of the City Record:

DEAR SIR—I am directed by the Mayor to notify you of the following appointment made by him, in accordance with chapter 410 of the Laws of 1882, and to transmit a memorandum of same for publication in the CITY RECORD, in pursuance of section 51 of the Consolidation Act of 1882, viz.:

George E. Waring, Jr., to succeed William S. Andrews, resigned, said appointment to take effect January 15, 1895.

Very respectfully,

JOB E. HEDGES, Secretary.

CITY OF NEW YORK,
 OFFICE OF THE MAYOR,
 January 12, 1895.

To the Supervisor of the City Record:

MY DEAR SIR—I am instructed by the Mayor to inform you that John H. Nagle, Warrant and Bond Clerk, and John J. Regan, Assistant Warrant and Bond Clerk in this office, have tendered their resignations, which have been accepted to take effect at noon to-day, and that Mr. Henry H. Alexander, of No. 264 Third avenue, has been appointed Warrant and Bond Clerk in this office, at a salary of \$2,500.

Very truly,

JOB E. HEDGES, Secretary.

OFFICIAL DIRECTORY.

STATEMENT OF THE HOURS DURING which the Public Offices in the City are open for business, and at which the Courts regularly open and adjourn, as well as of the places where such offices are kept and such Courts are held; together with the heads of Departments and Courts:

EXECUTIVE DEPARTMENT.

Mayor's Office

No. 6 City Hall, 10 A. M. to 4 P. M.; Saturdays, 10 A. M. to 12 M.
 WILLIAM L. STRONG, Mayor. JOB E. HEDGES, Secretary and Chief Clerk.

Mayor's Marshal's Office.

No. 1 City Hall, 9 A. M. to 4 P. M.
 EDWARD H. HEALY, First Marshal.
 JOHN J. BRENNAN, Second Marshal.

COMMISSIONERS OF ACCOUNTS.

Rooms 114 and 115, Stewart Building, 9 A. M. to 4 P. M.
 JAMES S. LEHMAIER and SETH S. TERRY.

AQUEDUCT COMMISSIONERS.

Room 209, Stewart Building, 5th floor, 9 A. M. to 4 P. M.
 JAMES C. DUANE, President; JOHN J. TUCKER, FRANCIS M. SCOTT, H. W. CANNON, and THE MAYOR, COMPTROLLER and COMMISSIONER OF PUBLIC WORKS, ex officio, Commissioners; EDWARD L. ALLEN, Secretary, A. FTELEV, Chief Engineer.

BOARD OF ARMORY COMMISSIONERS.

THE MAYOR, Chairman; PRESIDENT OF DEPARTMENT OF TAXES AND ASSESSMENTS, Secretary.
 Address EDWARD P. BARKER, Stewart Building. Office hours, 9 A. M. to 4 P. M.; Saturdays, 9 A. M. to 12 M.

COMMON COUNCIL.

Office of Clerk of Common Council.
 No. 8 City Hall, 9 A. M. to 4 P. M.
 JOHN JEROME, President Board of Aldermen.
 WILLIAM H. TEN EYCK, Clerk Common Council.

DEPARTMENT OF PUBLIC WORKS.

No. 31 Chambers street, 9 A. M. to 4 P. M.
 MICHAEL T. DALY, Commissioner; MAURICE F. HOLAHAN, Deputy Commissioner (Room A).
 ROBERT H. CLIFFORD, Chief Clerk (Room 6).
 GEORGE W. BIRDSALL, Chief Engineer (Room 9); JOSEPH RILEY, Water Register (Rooms 2, 3 and 4); WM. M. DEAN, Superintendent of Street Improvements (Room 5); HORACE LOOMIS, Engineer in Charge of Sewers (Room 9); WILLIAM G. BERGEN, Superintendent of Repairs and Supplies (Room 15); MAURICE FEATHERSON, Water Purveyor (Room 1); STEPHEN MCCORMICK, Superintendent of Lamps and Gas (Room 11); JOHN L. FLORENCE, Superintendent of Streets and Roads (Room 12); MICHAEL F. CUMMINGS, Superintendent of Incumbrances (Room 16); NICHOLAS R. O'CONNOR, Superintendent of Street Openings (Room 14).

DEPARTMENT OF STREET IMPROVEMENTS.

TWENTY-THIRD AND TWENTY-FOURTH WARDS.
 No. 2622 Third avenue, northeast corner of One Hundred and Forty-first street. Office hours, 9 A. M. to 4 P. M.; Saturdays, 12 M.
 LOUIS F. HAFEN, Commissioner; JACOB SEABOLD, Deputy Commissioner; JOSEPH P. HENNESSY, Secretary.

DEPARTMENT OF BUILDINGS.

No. 220 Fourth avenue, corner of Eighteenth street, 9 A. M. to 4 P. M.
 THOMAS J. BFADY, Superintendent.

FINANCE DEPARTMENT.

Comptroller's Office.

No. 15 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
 ASHBEEL P. FITCH, Comptroller; RICHARD A. STORRS, Deputy Comptroller; EDGAR J. LEVEY, Assistant Deputy Comptroller.

Auditing Bureau.

Nos. 19, 21 and 23 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
 WILLIAM J. LYON, First Auditor.
 JOHN F. GOULDSBURY, Second Auditor.

Bureau for the Collection of Assessments and Arrears of Taxes and Assessments and of Water Rents.

Nos. 31, 33, 35, 37 and 39 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
 EDWARD GILON, Collector of Assessments and Clerk of Arrears.
 No money received after 2 P. M.

Bureau for the Collection of City Revenue and of Markets.

Nos. 1 and 3 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
 DAVID O'BRIEN, Collector of the City Revenue and Superintendent of Markets.
 No money received after 2 P. M.

Bureau for the Collection of Taxes.

No. 57 Chambers street and No. 35 Reade street, Stewart Building, 9 A. M. to 4 P. M.
 DAVID E. AUSTEN, Receiver of Taxes; JOHN J. McDONOUGH, Deputy Receiver of Taxes.
 No money received after 2 P. M.

Bureau of the City Chamberlain.

Nos. 25 and 27 Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
 JOSEPH J. O'DONOHUE, City Chamberlain.

Office of the City Paymaster.

No. 33 Reade street, Stewart Building, 9 A. M. to 4 P. M.
 JOHN H. TIMMERMAN, City Paymaster.

LAW DEPARTMENT.

Office of the Counsel to the Corporation

Staats Zeitung Building, third and fourth floors, 9 A. M. to 5 P. M.; Saturdays, 9 A. M. to 12 M.
 WILLIAM H. CLARK, Counsel to the Corporation.
 ANDREW T. CAMPBELL, Chief Clerk.

Office of the Public Administrator.

No. 49 Beekman street, 9 A. M. to 4 P. M.
 WILLIAM M. HOES, Public Administrator.

Office of the Corporation Attorney.

No. 49 Beekman street, 9 A. M. to 4 P. M.
 LOUIS HANNEMAN, Corporation Attorney.

Office of Attorney for Collection of Arrears of Personal Taxes.

Stewart Building, Broadway and Chambers street, 9 A. M. to 4 P. M.
 JOHN G. H. MEYERS, Attorney.
 MICHAEL J. DOUGHERTY, Clerk.

Bureau of Street Openings.

Staats Zeitung Building, No. 2 Tryon Row.
 JOHN P. DUNN, Assistant to the Counsel to the Corporation, in charge.

POLICE DEPARTMENT.

Central Office.

No. 300 Mulberry street, 9 A. M. to 4 P. M.
 JAMES J. MARTIN, President; CHARLES H. MURRAY, JOHN C. SHEEHAN and MICHAEL KERWIN, Commissioners; WILLIAM H. KIPP, Chief Clerk; T. F. RODENBOUGH, Chief of Bureau of Elections.

BOARD OF EDUCATION.

No. 146 Grand street, corner of Elm street.
 CHARLES H. KNOX, President; ARTHUR McMULLIN, Clerk.

DEPARTMENT OF CHARITIES AND CORRECTION.

Central Office.

No. 66 Third avenue, corner Eleventh street, 9 A. M. to 4 P. M.
 HENRY H. PORTER, President; CHAS. E. SIMMONS, M. D., and EDWARD C. SHEEHY, Commissioners; GEORGE F. BRITTON, Secretary.
 Purchasing Agent, FREDERICK A. CUSHMAN. Office hours, 9 A. M. to 4 P. M.; Saturdays, 12 M.
 Plans and Specifications, Contracts, Proposals and Estimates for Work and Materials for Building, Repairs and Supplies, Bills and Accounts, 9 A. M. to 4 P. M. Saturdays, 12 M.
 CHARLES BENN, General Bookkeeper.
 Out-Door Poor Department. Office hours, 8:30 A. M. to 4:30 P. M. WILLIAM BLAKE, Superintendent. Entrance on Eleventh street.

FIRE DEPARTMENT.

Office hours for all, except where otherwise noted, from 9 A. M. to 4 P. M.; Saturdays, 12 M.

Headquarters.

Nos. 157 and 159 East Sixty-seventh street.
JOHN J. SCANNELL, President; ANTHONY EICKHOFF and S. HOWLAND ROBBINS, Commissioners; CARL JUSSEN, Secretary.
HUGH BONNER, Chief of Department; PETER SEERY, Inspector of Combustibles; JAMES MITCHELL, Fire Marshal; WM. L. FINDLEY, Attorney to Department; J. ELLIOT SMITH, Superintendent of Fire Alarm Telegraph. Central Office open at all hours.

HEALTH DEPARTMENT.

New Criminal Court Building, Centre street, 9 A. M. to 4 P. M.
CHARLES G. WILSON, President, and CYRUS EDSON, M. D., the President of the Police Board, *ex officio*, and the HEALTH OFFICER of the PORT, *ex officio*, Commissioners; EMMONS CLARK, Secretary.

DEPARTMENT OF PUBLIC PARKS.

Emigrant Industrial Savings Bank Building, Nos. 49 and 51 Chambers street, 9 A. M. to 4 P. M.; Saturdays, 12 M. to 2 P. M.
GEORGE C. CLAUSEN, President; ABRAHAM B. TAPPEN, NATHAN STRAUS and EDWARD BELL, Commissioners; CHARLES DE F. BURNS, Secretary.

DEPARTMENT OF DOCKS.

Battery, Pier A, North river.
J. SERGEANT CRAM, President; JAMES J. PHELAN and ANDREW J. WHITE, Commissioners; AUGUSTUS T. DOCHARTY, Secretary.
Office hours, 9 A. M. to 4 P. M.

DEPARTMENT OF TAXES AND ASSESSMENTS.
Stewart Building, 9 A. M. to 4 P. M.; Saturdays, 12 M. to 2 P. M.
EDWARD P. BARKER, President; JOHN WHALEN and JOSEPH BLUMENTHAL, Commissioners; FLOYD T. SMITH, Secretary.

BOARD OF ELECTRICAL CONTROL.

No. 1262 Broadway.
HENRY S. KEARNEY, JACOB HESS, and AMOS J. CUMMINGS, Commissioners.

DEPARTMENT OF STREET CLEANING.

Criminal Court Building, Centre street, from Franklin to White street. Office hours, 9 A. M. to 4 P. M.
GEORGE E. WARING, Jr., Commissioner; JOHN J. RYAN, Deputy Commissioner; J. JOSEPH SCULLY, Chief Clerk.

CIVIL SERVICE SUPERVISORY AND EXAMINING BOARDS.

Criminal Court Building, Centre street, between Franklin and White streets, 9 A. M. to 4 P. M.
DANIEL P. HAYS, Chairman; LEMUEL SKIDMORE and LEE PHILLIPS, *ex officio*, Members of the Supervisory Board; LEE PHILLIPS, Secretary and Executive Officer; JOHN FOORD, Examiner.

BOARD OF ESTIMATE AND APPORTIONMENT.

The Mayor, Chairman; E. P. BARKER (President, Department of Taxes and Assessments), Secretary; the COMPTROLLER, PRESIDENT of the BOARD of ALDERMEN, and the COUNSEL to the CORPORATION, Members; CHARLES V. ADDE, Clerk.
Office of Clerk, Department of Taxes and Assessments, Stewart Building.

BOARD OF ASSESSORS.

Office, 27 Chambers street, 9 A. M. to 4 P. M.
CHARLES E. WENOT, Chairman; EDWARD CARILL, PATRICK M. HAVERTY and HENRY A. GUMBLETON, Assessors; WM. H. JASPER, Secretary.

BOARD OF EXCISE.

Criminal Court Building, Centre street, between Franklin and White streets, 9 A. M. to 4 P. M.
WILLIAM DALTON, President; MICHAEL C. MURPHY and EUGENE L. BUSH, Commissioners; JAMES F. BISHOP, Secretary.

SHERIFF'S OFFICE.

Nos. 6 and 7 New County Court-house, 9 A. M. to 4 P. M.
EDWARD J. H. TAMSEN, Sheriff; HENRY H. SHERMAN, Under Sheriff.

REGISTER'S OFFICE.

East side City Hall Park, 9 A. M. to 4 P. M.
FERDINAND LEVY, Register; JOHN VON GLAHN, Deputy Register.

COMMISSIONER OF JURORS.

Room 127, Stewart Building, Chambers street and Broadway, 9 A. M. to 4 P. M.
ROBERT B. NOONEY, Commissioner; JAMES E. CONNER, Deputy Commissioner.

COUNTY CLERK'S OFFICE.

Nos. 7 and 8 New County Court-house, 9 A. M. to 4 P. M.
HENRY D. PURROY, County Clerk; P. J. SCULLY, Deputy County Clerk.

DISTRICT ATTORNEY'S OFFICE.

New Criminal Court Building, Centre Street, 9 A. M. to 4 P. M.
JOHN R. FELLOWS, District Attorney; HENRY W. UNGER, Chief Clerk.

THE CITY RECORD OFFICE.

And Bureau of Printing, Stationery and Blank Books.
No. 2 City Hall, 9 A. M. to 5 P. M., except Saturdays on which days 9 A. M. to 12 M.
W. J. KENNY, Supervisor; EDWARD H. HAYES, Assistant Supervisor; JOHN J. McGRATH, Examiner.

CORONERS' OFFICE.

New Criminal Court Building, Centre street, 8 A. M. to 5 P. M. Sundays and holidays, 8 A. M. to 12:30 P. M.
EDWARD J. FITZPATRICK, WILLIAM H. DOBBS, EMIL W. HOBBER and WILLIAM O'MEAGHER, Coroners; EDWARD F. REYNOLDS, Clerk of the Board of Coroners.

SURROGATE'S COURT.

New County Court-house. Court opens at 10:30 A. M. adjourns 4 P. M.
FRANK T. FITZGERALD and JOHN H. V. ARNOLD, Surrogates; WILLIAM V. LEARY, Chief Clerk.

SUPREME COURT.

Second floor, New County Court-house, opens 10 A. M.; adjourns 4 P. M.
CHARLES H. VAN BRUNT, Presiding Justice; GEORGE L. INGRAHAM, ABRAHAM R. LAWRENCE, GEORGE C. BARRETT, GEORGE P. ANDREWS, EDWARD PATTERSON and MORGAN J. O'BRIEN, Justices; HENRY D. PURROY, Clerk.
General Term, Room No. 9, WILLIAM LAMB, Jr., Clerk.
Special Term, Part I., Room No. 10, JAMES B. F. SMITH, Clerk.
Special Term, Part II., Room No. 18, WILLIAM J. HILL, Clerk.
Chambers, Room No. 11, AMBROSE A. MCCALL, Clerk.
Circuit, Part I., Room No. 12, WALTER A. BRADY, Clerk.
Circuit, Part II., Room No. 14, JOHN LERSCHER, Clerk.
Circuit, Part III., Room No. 13, GEORGE F. LYON, Clerk.
Circuit, Part IV., Room No. 15, J. LEWIS LYON, Clerk.

SUPERIOR COURT.

Third floor, New County Court-house, opens 11 A. M. adjourns 4 P. M.
General Term, Room No. 35.
Special Term, Room No. 33.
Equity Term, Room No. 36.
Chambers, Room No. 33.
Part I., Room No. 34.
Part II., Room No. 35.
Part III., Room No. 36.
Naturalization Bureau, Room No. 31.
Clerk's Office, Room No. 31, 9 A. M. to 4 P. M.
JOHN SEDGWICK, Chief Judge; JOHN J. FREEDMAN, P. HENRY DUGRO, DAVID MCADAM, HENRY A. GILDER-SLEEVE and HENRY R. BEEKMAN, Judges; THOMAS BOESE, Chief Clerk.

COURT OF COMMON PLEAS.

Third floor, New County Court-house, 9 A. M. to 4 P. M.
Assignment Bureau, Room No. 23, 9 A. M. to 4 P. M.
Clerk's Office, Room No. 21, 9 A. M. to 4 P. M.
General Term, Room No. 24, 11 o'clock A. M. to adjournment.
Special Term, Room No. 22, 11 o'clock A. M. to adjournment.
Chambers, Room No. 22, 10:30 o'clock A. M. to adjournment.
Part I., Room No. 26, 11 o'clock A. M. to adjournment.
Part II., Room No. 24, 11 o'clock A. M. to adjournment.
Equity Term, Room No. 25, 11 o'clock A. M. to adjournment.
Naturalization Bureau, Room No. 23, 9 A. M. to 4 P. M.
JOSEPH F. DALY, Chief Judge; MILES BEACH, HENRY BOOKSTAVEN, HENRY BISCHOFF, JR., ROGER A. PRYOR and LEONARD A. GIEGERICH, Judges; ALFRED WAGSTAFF, Chief Clerk.

HARLEM RIVER BRIDGE COMMISSION.**TO CONTRACTORS.**

CITY OF NEW YORK,
HARLEM RIVER BRIDGE COMMISSION,
No. 45 BROADWAY.
PUBLIC NOTICE IS HEREBY GIVEN BY THE undersigned Commissioners, appointed and acting pursuant to the provisions of chapters 487 of the Laws of 1885, 573 of the Laws of 1888, and 249 of the Laws of 1890, that all persons and corporations having any claim or claims against the said Commissioners, or against the Mayor, Aldermen and Commonalty of the City of New York, for or on account of the construction of the bridge provided for in chapter 487 of the Laws of 1885, and known as "Washington Bridge," or of any act, matter or thing connected with the performance of any duty conferred upon the said Commissioners, or done or performed, or omitted to be done or performed by them or under their direction, to present such claims, in writing, to the said Commissioners for examination and adjustment on or before Tuesday, the 5th day of February, 1895, at the office of the Commission, No. 45 Broadway, New York City.

This notice is given pursuant to section 4 of chapter 249 of the Laws of 1890, whereby after directing the publication of said notice, it is provided, that no action shall be commenced nor proceeding taken against the said Commissioners or any of them, or against the Mayor, Aldermen and Commonalty of the City of New York, upon any claim which shall not have been so presented to the said Commissioners for examination and adjustment, on or before the day and at the place designated for that purpose in and by said notice.

JACOB LORILLARD,
VERNON H. BROWN,
DAVID JAMES KING,
Harlem River Bridge Commissioners.

FIRE DEPARTMENT.

HEADQUARTERS FIRE DEPARTMENT,
Nos. 157 and 159 East Sixty-seventh street,
NEW YORK, January 14, 1895.

TO CONTRACTORS.

SEALED PROPOSALS FOR FURNISHING
800 TONS BUCKWHEAT COAL.

—will be received by the Board of Commissioners at the head of the Fire Department, at the office of said Department, Nos. 157 and 159 East Sixty-seventh street, in the City of New York, until 10 o'clock A. M., Wednesday, January 30, 1895, at which time and place they will be publicly opened by the head of said Department and read.

The coal is to be of the best quality of Wilkesbarre, to weigh 2,240 pounds to the ton, and be well screened and free from slate.

All of the coal is to be delivered at the Headquarters of the Department, in such quantities and at such times as may be from time to time directed, and the same is to be weighed in the presence of an Inspector designated for that purpose by the Department upon scales furnished by the Department, which are to be transported by the contractor.

No estimate will be received or considered after the hour named.

The form of the agreement (with specifications), showing the manner of payment for the work, may be seen, and forms of proposals may be obtained at the office of the Department.

Bidders must write out the amount of their estimates in addition to inserting the same in figures.

The award of the contracts will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall present the same in a sealed envelope to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation and a statement of the supply to which it relates.

The Fire Department reserves the right to decline any and all bids or estimates if deemed to be for the public interest. No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter as surety or otherwise, upon any obligation to the Corporation.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a department, chief of a bureau, deputy thereof or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as sureties for its faithful performance in the sum of twelve hundred (\$1,200) dollars; and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any

subsequent letting; the amount in each case to be calculated upon the estimated amount of the work by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of security required for the completion of this contract over and above all his debts of every nature, and over and above his liabilities as bail, surety or otherwise; and that he has offered himself as surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York, before the award is made and prior to the signing of the contract.

No estimate will be considered unless accompanied by either a certified check upon one of the banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of sixty (60) dollars. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box; and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he, or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

JOHN J. SCANNELL,
ANTHONY EICKHOFF,
S. HOWLAND ROBBINS,
Commissioners

ARMORY BOARD.

ARMORY BOARD—OFFICE OF THE SECRETARY,
No. 280 BROADWAY,
NEW YORK, January 12, 1895.

PROPOSALS FOR ESTIMATES FOR FURNISHING MATERIALS AND WORK FOR ALTERATIONS AND REPAIRS TO THE SHIP "NEW HAMPSHIRE," IN USE AS AN ARMORY FOR THE FIRST NAVAL BATTALION, AND NOW MOORED AT THE FOOT OF EAST TWENTY-EIGHTH STREET, NEW YORK CITY.

PROPOSALS FOR ESTIMATES FOR FURNISHING materials and work in making the alterations and repairs to the Ship "New Hampshire," now moored at the foot of East Twenty-eighth street, and in use as an armory, in the City and County of New York, will be received by the ARMORY BOARD, at the MAYOR'S OFFICE, CITY HALL, UNTIL 10:30 O'CLOCK A. M., WEDNESDAY, THE 30TH DAY OF JANUARY, 1895, at which time and place they will be publicly opened and read by said Board.

Any person making an estimate for the above work shall furnish the same in a sealed envelope to the President of said Armory Board, indorsed "Estimate for Furnishing Materials and Work in Making the Alterations and Repairs to the Ship 'New Hampshire,' in use as an Armory at the foot of East Twenty-eighth street, New York City," and also with the name of the person or persons presenting the same, and the date of its presentation.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract, by his or their bond, with two sufficient sureties, in the amount of FIFTEEN HUNDRED DOLLARS (\$1,500).

Bidders are required to submit their estimates upon the following express conditions, which shall apply to and become part of every estimate received:

1st. Bidders must satisfy themselves, by personal examination of the location of the proposed work, and by such other means as they may prefer, as to the accuracy of the estimate, and shall not at any time after the submission of an estimate dispute or complain of the statement of quantities, nor assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work to the satisfaction of the Armory Board, and in substantial accordance with the specifications of the contract and the plans therein referred to. No extra compensation, beyond the amount payable for the work before mentioned, which shall be actually performed, at the prices therefor to be specified by the lowest bidder, shall be due or payable for the entire work.

Bidders will state in their estimates a price for the whole of the work to be done, in conformity with the approved form of contract and the specifications therein set forth, by which price the bids will be tested. This price is to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay, from any cause in the performing of the work thereunder.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be awarded will be required to attend at this office, with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet, and so on, until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, the estimate shall distinctly state the fact; also that the estimate is made without any connection with any other person making an estimate for the same purpose, and that it is in all respects fair and without collusion or fraud; and also that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, upon its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to

execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion and that which said Corporation or the Armory Board may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work to be done by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of security required for the completion of the contract over and above all his debts of every nature and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as surety in good faith and with an intention to execute the bond required by law. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of SEVENTY-FIVE DOLLARS (\$75). Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box; and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned by the Comptroller to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him by the Comptroller.

No estimate will be accepted from, or the contract awarded to, any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

Bidders are requested, in making their bids or estimates, to use a blank prepared for that purpose by the Board, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be seen upon application at the Ship "New Hampshire," now moored at the foot of East Twenty-eighth street, New York City.

The Board reserves the right to reject any or all estimates not deemed beneficial to or for the public interest. The Ship may be examined and specifications and blank forms for bids or estimates obtained by application to John Guy, Clerk of the Works, at the Ship, between the hours of two and five P. M., each day.

WILLIAM L. STRONG, Mayor;
EDWARD P. BARKER,
President Department of Taxes and Assessments;
MICHAEL T. DALY,
Commissioner of Public Works;
BRIG.-GEN. LOUIS FITZGERALD,
COL. WILLIAM SEWARD,
Board of Armory Commissioners.

CORPORATION NOTICE.

PUBLIC NOTICE IS HEREBY GIVEN TO THE owner or owners, occupant or occupants, of all houses and lots, improved or unimproved lands affected thereby, that the following assessments have been completed and are lodged in the office of the Board of Assessors for examination by all persons interested, viz.:

List 4716, No. 1. Sewer in Lexington avenue, between One Hundred and Thirtieth and One Hundred and Thirty-first streets, and in One Hundred and Thirtieth street, between Lexington and Park avenues.

List 4717, No. 2. Sewer in Convent avenue, between One Hundred and Forty-eighth and One Hundred and Forty-ninth streets.

List 4757, No. 3. Receiving-basin and appurtenances on the southwest corner of Rider avenue and One Hundred and Forty-fourth street.

List 4779, No. 4. Sewer in One Hundred and Twenty-fourth street, between Amsterdam avenue and Boulevard.

List 4781, No. 5. Sewer in One Hundred and Thirty-second street, between Twelfth avenue and Boulevard.

List 4782, No. 6. Sewer in Ninetieth street, between Harlem river and Avenue A.

List 4783, No. 7. Sewer in One Hundred and Forty-sixth street, between Lenox and Seventh avenues.

List 4787, No. 8. Alteration and improvement to receiving basins on the northwest and southwest corners of Thirty-sixth street and First avenue.

List 4793, No. 9. Sewer and appurtenances in One Hundred and Forty-fourth street, between Brook and St. Ann's avenues.

List 4803, No. 10. Sewer in One Hundred and First street, between Central Park, West, and Manhattan avenue.

List 4804, No. 11. Alteration and improvement to receiving-basin on the southeast corner of Murray street and College place.

List 4805, No. 12. Alteration and improvement to receiving-basin on the northeast corner of Park place and College place.

List 4806, No. 13. Alteration and improvement to receiving-basin in Baxter street, opposite Franklin street.

List 4807, No. 14. Alteration and improvement to receiving basins on the northeast and northwest corners of Broome and Crosby streets.

List 4795, No. 15. Flagging and reflagging, curbing and receding south side of One Hundred and First street, from Boulevard to Riverside Drive.

List 4796, No. 16. Flagging and reflagging east side of Pleasant avenue, from One Hundred and Twenty-third to One Hundred and Twenty-fourth street.

List 4797, No. 17. Flagging and reflagging, curbing and receding sidewalks in front of No. 134 East One Hundred and Twenty-third street.

The limits embraced by such assessments include all the several houses and lots of ground, vacant lots, pieces and parcels of land situated on—

No. 1. Both sides of Lexington avenue, from One Hundred and Thirtieth to One Hundred and Thirty-first street; both sides of One Hundred and Thirty-first street, from Lexington to Park avenue, and east side of Park avenue, from One Hundred and Thirtieth to One Hundred and Thirty-first street.

No. 2. Both sides of Convent avenue, from One Hundred and Forty-eighth to One Hundred and Forty-ninth street.

No. 3. South side of One Hundred and Forty-fourth street, from Rider avenue to Railroad avenue, East.

No. 4. Both sides of One Hundred and Twenty-fourth street, from Amsterdam avenue to the Boulevard.

No. 5. Both sides of One Hundred and Thirty-second street, from Twelfth avenue to the Boulevard.

No. 6. Both sides of Ninetieth street, from Avenue A to Avenue B.

No. 7. Both sides of One Hundred and Forty-sixth street, from Lenox to Seventh avenue.

No. 8. Block bounded by Thirty-sixth and Thirty-seventh streets, First and Second avenues; also south side of Thirty-sixth street, from First to Second avenue, and west side of First avenue, extending about 100 feet south of Thirty-sixth street.

No. 9. Both sides of One Hundred and Forty-fourth street, from Broome to St. Ann's avenue.

No. 10. Both sides of One Hundred and First street, from Central Park, West, to Manhattan avenue; also east side of Manhattan avenue, from One Hundred and First to One Hundred and Second street, and west side of Central Park, West, extending about 100 feet north and south of One Hundred and First street.

No. 11. South side of Murray street, from Church street to College place.
 No. 12. North side of Park place, from College place to Church street; east side of College place, from Park place to Murray street, and west side of Church street, extending about 83 feet north of Park place.
 No. 13. East side of Baxter street, from Park street to Bayard street.
 No. 14. Both sides of Crosby street, from Spring street to Broome street, and block bounded by Spring and Broome streets, Elm and Crosby streets.
 No. 15. South side of One Hundred and First street, from Boulevard to Riverside Drive.
 No. 16. East side of Pleasant avenue, from One Hundred and Twenty-third to One Hundred and Twenty-fourth street.
 No. 17. South side of One Hundred and Twenty-third street, west of Lexington avenue, on Block 473, Ward No. 57.
 All persons whose interests are affected by the above-named assessments, and who are opposed to the same, or either of them, are requested to present their objections, in writing, to the Chairman of the Board of Assessors, at their office, No. 27 Chambers street, within thirty days from the date of this notice.
 The above-described lists will be transmitted, as provided by law, to the Board of Revision and Correction of Assessments for confirmation on the 12th day of February, 1895.

CHARLES E. WENDT, Chairman,
 PATRICK M. HAVERTY,
 EDWARD CAHILL,
 HENRY A. GUMBLETON,
 Board of Assessors.
 OFFICE OF THE BOARD OF ASSESSORS,
 No. 27 CHAMBERS STREET,
 NEW YORK, January 12, 1895.

CHANGE OF GRADE DAMAGE COMMISSION, TWENTY-THIRD AND TWENTY-FOURTH WARDS.

PURSUANT TO THE PROVISIONS OF CHAPTER 567 of the Laws of 1894, entitled "An Act to amend chapter 537 of the Laws of 1893, entitled 'An Act providing for ascertaining and paying the amount of damages to lands and buildings, suffered by reason of changes of grade of streets or avenues, made pursuant to chapter seven hundred and twenty-one of the Laws of 1889, and chapter eight hundred and seven, providing for the depression of railroad tracks in the Twenty-third and Twenty-fourth Wards, in the City of New York, or otherwise,' notice is hereby given, that public meetings of the Commissioners appointed under said act, will be held at Room No. 58 Schermerhorn Building, No. 95 Broadway, in the City of New York, on Monday, Wednesday and Friday of each week, at 2 o'clock P. M., until further notice.

Dated NEW YORK, September 10, 1894.
 DANIEL LORD,
 JAMES M. VARNUM,
 DANIEL P. HAYS,
 Commissioners.
 LAMONT McLOUGHLIN, Clerk.

THE COLLEGE OF THE CITY OF NEW YORK.

A SEATED SESSION OF THE BOARD OF Trustees of the College of the City of New York will be held at the Hall of the Board of Education, No. 146 Grand street, on Tuesday, January 15, 1895, at 4.30 o'clock P. M.

CHARLES H. KNOX,
 Chairman.
 ARTHUR McMULLIN, Secretary.
 Dated NEW YORK, January 8, 1895.

DEPARTMENT OF STREET CLEANING.

PUBLIC NOTICE.

RELATIVE TO THE GRANTING OF PERMITS FOR THE TEMPORARY OCCUPANCY OF PUBLIC STREETS BY LICENSED VEHICLES

NOTICE IS HEREBY GIVEN THAT CHAPTER 697, Laws of 1894, authorizes the Commissioner of Street Cleaning to grant permits for the temporary occupancy of portions of the streets and public places in the City of New York, from 4 P. M. until 8 A. M., and on Sundays and legal holidays only, by unlicensed licensed trucks or other unlicensed licensed vehicles owned by residents of the City of New York who have the consent of the owner or lessee of the abutting property upon the condition that the owners of trucks or vehicles for which such permits are issued shall keep the street clean under and around said trucks or vehicles, and subject to such other rules and conditions as the said Commissioner may from time to time prescribe, which permits the said Commissioner may at any time revoke.

Such permits will not be granted for either side of a street contiguous to a public building of the City and County of New York, or a church, school-house, hospital, asylum or other incorporated benevolent institution, or a licensed place of amusement, or for the following-named streets and public places:

Bowery, Broadway, Carmine street, Catharine street, Chambers street, Christopher street, College place, Cortlandt street, Desbrosses street, Essex street, Exchange place, Fulton street, Hester street, Hudson street, Liberty street, Nassau street, New street, Park Row, Varick street, Wall street, West Broadway.

Second avenue (East Houston street to Twenty-third street), Third avenue (Bowery to Harlem river, Harlem river to One Hundred and Sixty-fourth street), Fourth avenue (Sixth street to Forty-second street), Fifth avenue (all), Seventh avenue (Forty-second street to Fifty-ninth street), Eighth avenue (Hudson street to Fifty-ninth street), Lexington avenue (all), Madison avenue (all), Fourteenth street (First avenue to Eighth avenue), Twenty-third street (all), Thirty-fourth street (East river to Tenth avenue), Forty-second street (Second avenue to Ninth avenue), Fifty-ninth street (First avenue to Tenth avenue), One Hundred and Twenty-fifth street (Third avenue to Ninth avenue).

Or for any streets under the control of the Department of Parks, Docks and Public Works, except upon the consent of the heads of those Departments.

All existing permits for the occupancy by unlicensed vehicles of any of the streets or portions of streets or places enumerated above are hereby revoked.

All unlicensed wagons, trucks or other vehicles standing in the streets or public places, other than those for which permits have been issued and which are in compliance with the conditions of the same will be seized and removed to the Corporation Yards of the Department of Street Cleaning, in pursuance of the provisions of the law.

Applications for permits as above made at the office of the Department of Street Cleaning, in the basement of the New Criminal Court-house, corner of Centre and Franklin streets. Entrance on Centre street.

WILLIAM S. ANDREWS,
 Commissioner of Street Cleaning.

NOTICE.

PERSONS HAVING BULKHEADS TO FILL, IN the vicinity of New York Bay, can procure material for that purpose—ashes, street sweepings, etc., such as is collected by the Department of Street Cleaning—free of charge, by applying to the Commissioner of Street Cleaning, in the Criminal Court Building.

WILLIAM S. ANDREWS,
 Commissioner of Street Cleaning.

DEPARTMENT OF TAXES AND ASSESSMENTS.

DEPARTMENT OF TAXES AND ASSESSMENTS,
 STEWART BUILDING,
 NEW YORK, January 14, 1895.

IN COMPLIANCE WITH SECTION 817 OF THE New York City Consolidation Act of 1882, it is hereby advertised that the books of "The Annual Record of the Assessed Valuations of Real and Personal Estate" of the City and County of New York, for the year 1895, are open and will remain open for examination and correction until the thirtieth day of April, 1895.

All persons believing themselves aggrieved must make application to the Commissioners of Taxes and Assessments, at this office, during the period said books are open, in order to obtain the relief provided by law.

Applications for correction of assessed valuations on personal estate must be made by the person assessed to the said Commissioners, between the hours of 10 A. M. and 2 P. M., except on Saturdays, when between 10 A. M. and 12 M., at this office, during the same period.

EDWARD P. BARKER,
 JOHN WHALEN,
 JOSEPH BLUMENTHAL,
 Commissioners of Taxes and Assessments.

FINANCE DEPARTMENT.

PETER F. MEYER, Auctioneer.

SALE OF THE ASTORIA FERRY, LONG ISLAND.

THE FRANCHISE OF THE FERRY FROM Ninety-second street, East river, to Astoria, Long Island, will be offered for sale by the Comptroller of the City of New York, at public auction, to the highest bidder, at his office, room No. 15, Stewart Building, No. 280 Broadway, on Monday, January 21, 1895, at twelve o'clock M., together with the wharf property belonging to the Corporation of said city, used and required for ferry purposes, for a term of ten years, from May 1, 1894, and the following terms and conditions of sale:

The highest bidder for the lease of the franchise and wharf property of said ferry will be required to pay the auctioneer's fee, and to deposit with the Comptroller, at the time of sale, twenty-five per cent. of the yearly rental of the wharf property, and twenty-five per cent. also of the minimum amount, paid yearly for the franchise of the ferry, to be credited upon the first quarter's rent, or to be forfeited to the City if the lease is not executed by the purchaser when notified that it is ready for execution.

The minimum or upset price for the franchise for the first five years of said term is two thousand five hundred (\$2,500) dollars per annum. For the second five years of said term the minimum or upset price for said franchise is five per cent. per annum of the gross receipts, such five per cent., however, not to be less in any one year of such second five years of said term than four thousand five hundred (\$4,500) dollars. The yearly rental of the wharf property is fixed at seven hundred (\$700) dollars.

Bids for the franchise only will be received, and the wharf property belonging to the City will be subject to the yearly rental fixed by the Commissioner of the Sinking Fund, in addition to the rental to be paid for the franchise or license to operate the ferry.

No bids will be received for this ferry franchise which shall be less than its value as appraised and fixed by the Commissioners of the Sinking Fund.

The lessee will be required to give bonds in double the amount of the minimum yearly rentals, with two sufficient sureties, to be approved by the Comptroller, conditioned for the faithful performance of the covenants and conditions of the lease and the payment of the rent quarterly and in advance for the fixed rent payable on the wharf property.

The lease will contain the usual covenants and conditions in conformity with the provisions of law and the ordinances of the Common Council relative to ferries, that the lessee will maintain and operate the ferry during the whole term and will provide ample accommodation in the way of safe and capacious boats and frequency of trips as to the sufficiency of which boats and the number of trips to be made on said ferry the decision of the Mayor and Comptroller shall be final; also conditions that the lessee will dredge the ferry slips, as required by the Department of Docks, and that during the term of the lease they will erect and build, at their own expense, and will at all times well and sufficiently repair, maintain and keep in good order all and singular the floats, racks, fenders, bridges and other fixtures at the landing places, and in the event of any damage to the bulkheads or piers, from collision by their ferry-boats or otherwise, from any accident or negligence on their part, they will immediately repair and restore said wharf property to its previous condition, free of cost and expense to the City of New York, and also that if at any time during the term of the lease the Department of Docks shall require any of the wharf property used for ferry purposes, in order to proceed with the water-front improvement in the vicinity of the ferry landings, the said lessee shall surrender and vacate the premises without any claim upon the City for any damage whatever, upon written notice being given to the lessee three months in advance of the intention of said department.

The rates of ferrage and charges for vehicles and freight shall not exceed the rates now charged. Sworn returns of the amounts of the ferry receipts shall be made to the Comptroller, when required by him, and the books of account of the ferry shall be subject to his inspection.

The lease shall also contain a covenant providing for the purchase, at a fair valuation, of the boats, buildings and other property of the lessee used in and actually necessary for the operation of said ferry, upon the termination of the lease and the surrender and yielding up of the premises by the lessee, if the lessee shall not become the purchaser of the franchise for another term; but the Mayor, Aldermen and Commonality of the City of New York shall not be deemed thereby to covenant to purchase said property in any event.

The term of lease which the purchaser will be required to execute can be seen at the office of the Comptroller, and is made part of these terms of sale.

The right to reject any bid is reserved, if deemed for the interest of the City.

By order of the Commissioners of the Sinking Fund, under a resolution dated October 12, 1894.

ASHBEL P. FITCH,
 Comptroller.

CITY OF NEW YORK—FINANCE DEPARTMENT,
 COMPTROLLER'S OFFICE, January 7, 1895.

BOARD OF EDUCATION.

SEALED PROPOSALS WILL BE RECEIVED BY the Board of School Trustees for the Twenty-third Ward, at the Hall of the Board of Education, No. 146 Grand street, until 4 o'clock P. M., on Tuesday, January 22, 1895, for supplying a Heating and Ventilating Apparatus for the New School Building in course of erection at Fox, Simpson and One Hundred and Sixty-seventh street.

JAS. A. FERGUSON, Chairman,
 J. C. JULIUS LANGBEIN, Secretary,
 Board of School Trustees, Twenty-third Ward.
 Dated NEW YORK, January 9, 1895.

Sealed proposals will also be received at the same place by the School Trustees of the Twenty-second Ward, until 10 o'clock A. M., on Tuesday, January 22,

1895, for supplying a Heating and Ventilating Apparatus for the Annex to Grammar School Building No. 87, erected on north side of Seventy-seventh street, east of Amsterdam avenue.

JACQUES H. HERTS,
 RICHARD S. TREACY,
 HENRY CRAWFORD,
 JAMES BEGAN,
 JOSEPH H. BYRNE,
 Board of School Trustees, Twenty-second Ward.
 Dated NEW YORK, January 9, 1895.

Sealed proposals will also be received at the same place by the School Trustees of the Twelfth Ward, until 4 o'clock P. M., on Monday, January 21, 1895, for erecting a New School Building on the site on south side of Eighty-eighth street, between Second and Third avenues.

JOHN WHALEN,
 ROBERT E. STEEL,
 WILLIAM E. STILLINGS,
 ANTONIO RAJINES,
 M. E. STERNE,
 Board of School Trustees, Twelfth Ward.
 Dated NEW YORK, January 7, 1895.

Plans and specifications may be seen, and blank proposals obtained, at the office of the Superintendent of School Buildings, No. 146 Grand street, third floor. The Trustees reserve the right to reject any or all of the proposals submitted.

The party submitting a proposal, and the parties proposing to become sureties, must each write his name and place of residence on said proposal. Two responsible and approved sureties, residents of this city, are required in all cases. No proposal will be considered from persons whose character and antecedent dealings with the Board of Education render their responsibility doubtful.

The party submitting a proposal must include in his proposal the names of all sub-contractors, and no change will be permitted to be made in the sub-contractors named without the consent of the School Trustees and Superintendent of School Buildings.

It is required as a condition precedent to the reception or consideration of any proposals, that a certified check upon, or a certificate of deposit of, one of the State or National banks or Trust Companies of the City of New York, drawn to the order of the President of this Board, shall accompany the proposal to an amount of not less than three per cent. of such proposal, when said proposal is for or exceeds ten thousand dollars, and to an amount not less than five per cent. of such proposal when said proposal is for an amount under ten thousand dollars; that on demand, within one day after the awarding of the contract by the proper Board of Trustees, the President of the Board will return all the deposits of checks and certificates of deposit made by the persons making the same, except that made by the person or persons whose bid has been so accepted; and that if the person or persons whose bid has been so accepted shall refuse or neglect, within five days after due notice has been given that the contract is ready for execution, to execute the same, the amount of the deposit or of the check or certificate of deposit made by him or them shall be forfeited to and retained by this Board, not as a penalty, but as liquidated damages for such neglect or refusal, and shall be paid into the City Treasury to the credit of the Sinking Fund of the City of New York; but if the said person or persons whose bid has been so accepted shall execute the contract within the time aforesaid, the amount of his or their deposit of check or certificate of deposit shall be returned to him or them.

THE NORMAL COLLEGE OF THE CITY OF NEW YORK.

A SEATED SESSION OF THE BOARD OF Trustees of the Normal College of the City of New York will be held at the Hall of the Board of Education, No. 146 Grand street, on Tuesday, January 15, 1895, at 4 o'clock P. M.

CHARLES H. KNOX,
 Chairman.
 ARTHUR McMULLIN, Secretary.
 Dated NEW YORK, January 8, 1895.

DEPARTMENT OF DOCKS.

DEPARTMENT OF DOCKS,
 PIER "A," NORTH RIVER.

TO CONTRACTORS.

(No. 491.)

PROPOSALS FOR ESTIMATES FOR FURNISHING AND DELIVERING ABOUT 600 TONS OF ANTHRACITE COAL.

ESTIMATES FOR FURNISHING AND DELIVERING about 600 Tons of Anthracite Coal will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 11 o'clock A. M. of THURSDAY, JANUARY 17, 1895,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract, in the manner prescribed and required by ordinance, in the sum of One Thousand Dollars.

It is expected that about 500 tons will be required to be delivered at the West Fifty-seventh Street Yard of the Department of Docks, and that about 100 tons will be required to be delivered at the East Twenty-fourth Street Yard.

Where the City of New York owns the wharf, pier or bulkhead at which materials under this contract are to be delivered, no charge will be made to the contractor for wharfage upon vessels conveying said materials.

Bidders are required to submit their estimates upon the following express conditions, which shall apply to and become a part of every estimate received:

1st. Bidders must satisfy themselves, by personal examination of the location of the proposed delivery of materials, and by such other means as they may prefer, as to the accuracy of the foregoing Engineer's estimate, and shall not, at any time after the submission of an estimate, dispute or complain of the above statement of quantities, nor assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work to the satisfaction of the Department of Docks, and in substantial accordance with the specifications of the contract. No extra compensation, beyond the amount payable for the work before mentioned, which shall be actually performed, at the price therefor per ton, to be specified by the lowest bidder, shall be due or payable for the entire work.

A ton of coal under these specifications shall be 2,240 pounds avoirdupois.

The work to be done under the contract is to be commenced within ten days from the date of the receipt of an order from the Engineer to begin the delivery of coal, and the delivery will be continued in lots of about 200 tons, at such times and places and in such manner as may be directed by the Engineer, and the delivery of

said coal will be fully completed on or before the 1st day of July, 1895; and the damages to be paid by the contractor for each day that the contract may be unfulfilled after the time fixed for the fulfillment thereof has expired are, by a clause in the contract, fixed and liquidated at Fifty Dollars per day.

Bidders will state in their estimates a price, per ton, for furnishing and delivering coal, in conformity with the approved form of agreement and the specifications therein set forth, by which price the bids will be tested. This price is to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay, from any cause, in the performing of the work thereunder.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be awarded will be required to attend at this office with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet, and so on until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence, the names of all persons interested with them therein, and, if no other person be so interested, the estimate shall distinctly state the fact; also, that the estimate is made without any connection with any other person making an estimate for the same work, and that it is in all respects fair and without collusion or fraud; and also, that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, upon its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion, and that which said Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the work to be done by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York and is worth the amount of the security required for the completion of the contract over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as surety in good faith and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be subject to approval by the Comptroller of the City of New York, after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or Clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same, within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter as surety or otherwise, upon any obligation to the Corporation.

THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED, IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,
 JAMES J. PHELAN,
 ANDREW J. WHITE,
 Commissioners of the Department of Docks,
 Dated NEW YORK, December 6, 1894.

DEPARTMENT OF DOCKS,
 PIER "A," NORTH RIVER.

TO CONTRACTORS.

(No. 493.)

PROPOSALS FOR ESTIMATES FOR DREDGING ON THE EAST AND HARLEM RIVERS.

ESTIMATES FOR DREDGING ON THE EAST and Harlem rivers, will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 11 o'clock A. M. of THURSDAY, JANUARY 17, 1895,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour before named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract, in the manner prescribed and required by ordinance, in the sum of Eight Thousand Dollars.

The Engineer's estimate of the quantities of material necessary to be dredged is as follows: Mud dredging, not to exceed 1,000,000 cubic yards.

N. B.—Bidders are required to submit their estimates upon the following express conditions, which shall apply to and become a part of every estimate received:

1st. Bidders must satisfy themselves, by personal examination of the location of the proposed dredging, and by such other means as they may prefer, as to the accuracy of the foregoing Engineer's estimate, and shall not, at any time after the submission of an estimate, dispute or complain of the above statement of quantities, nor assert that there was any misunderstanding

in regard to the nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work to the satisfaction of the Department of Docks, and in substantial accordance with the specifications of the contract. No extra compensation, beyond the amount payable for the work before mentioned, which shall be actually performed, at the price therefor, per cubic yard, to be specified by the lowest bidder, shall be due or payable for the entire work.

The work to be done under this contract is to be commenced within five days after receiving a notification from the Engineer-in-Chief of the Department of Docks that any part or portion of the dredging herein mentioned is required. The dredging to be done under this contract will be in slips or portions of slips between the Battery and East One Hundred and Twenty-fifth street, on the East and Harlem rivers, and is to be done from time to time, and in such quantities and at such times as may be directed by the Engineer. And all the work under this contract is to be fully completed on or before the 1st day of May, 1895.

The damages to be paid by the contractor for each day that the contract, or any part thereof that may be ordered or directed by the Engineer may be unfulfilled after the time fixed for the fulfillment thereof has expired, are, by a clause in the contract, determined, fixed and liquidated at Fifty Dollars per day.

Bidders will state in their estimates a price per cubic yard for doing such dredging, in conformity with the approved form of agreement and the specifications therein set forth, by which price the bids will be tested. This price is to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay, from any cause, in the performing of the work thereunder.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be awarded will be required to attend at this office with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do he or they will be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet and so on until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, the estimate shall distinctly state the fact; also, that the estimate is made without any connection with any other person making an estimate for the same work, and that it is in all respects fair and without collusion or fraud; and also, that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate that the several matters stated therein are in all respects true. *Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.*

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, upon its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion and that which said Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount, in each case, to be calculated upon the estimated amount of the work to be done by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as surety in good faith, and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be subject to approval by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from or contract awarded to any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED, IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,
JAMES J. PHELAN,
ANDREW J. WHITE,

Commissioners of the Department of Docks,
Dated New York, December 6, 1894.

DEPARTMENT OF DOCKS,
PIER "A," NORTH RIVER.

TO CONTRACTORS.

(No. 492.)

PROPOSALS FOR ESTIMATES FOR DREDGING NORTH OF WEST THIRTY-FOURTH STREET, ON THE NORTH RIVER.

ESTIMATES FOR DREDGING ON THE NORTH river will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 11 o'clock A. M. of

THURSDAY, JANUARY 17, 1895,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall

furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract in the manner prescribed and required by ordinance, in the sum of Eight Thousand Dollars.

The Engineer's estimate of the quantities of material necessary to be dredged is as follows:

ON THE NORTH RIVER.

Mud dredging, not to exceed.....100,000 cubic yards.

N. B.—Bidders are required to submit their estimates upon the following express conditions, which shall apply to and become a part of every estimate received:

1st. Bidders must satisfy themselves, by personal examination of the location of the proposed dredging, and by such other means as they may prefer, as to the accuracy of the foregoing Engineer's estimate, and shall not at any time after the submission of an estimate dispute or complain of the above statement of quantities, nor assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work to the satisfaction of the Department of Docks, and in substantial accordance with the specifications of the contract. No extra compensation beyond the amount payable for the work before mentioned, which shall be actually performed, at the price therefor, per cubic yard, to be specified by the lowest bidder, shall be due or payable for the entire work.

The work to be done under this contract is to be commenced within five days after receiving a notification from the Engineer-in-Chief of the Department of Docks that any part or portion of the dredging herein mentioned is required. The dredging to be done under this contract will be in slips or portions of slips between West thirty-fourth and West One Hundred and Thirty-fourth streets, on the North river, and is to be done from time to time, and in such quantities and at such times as may be directed by the Engineer. And all the work done under this contract is to be fully completed on or before the 1st day of May, 1895.

The damages to be paid by the contractor for each day that the contract, or any part thereof, that may be ordered or directed by the Engineer, may be unfulfilled after the time fixed for the fulfillment thereof has expired, are, by a clause in the contract, determined, fixed and liquidated at Fifty Dollars per day.

Bidders will state in their estimates a price, per cubic yard, for doing such dredging, in conformity with the approved form of agreement and the specifications therein set forth, by which price the bids will be tested. This price is to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay from any cause in the performing of the work thereunder.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be awarded will be required to attend at this office with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet, and so on until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, the estimate shall distinctly state the fact; also, that the estimate is made without any connection with any other person making an estimate for the same work, and that it is in all respects fair and without collusion or fraud; and also, that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate, that the several matters stated therein are in all respects true. *Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.*

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders of the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, upon its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion and that which said Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount, in each case, to be calculated upon the estimated amount of the work to be done by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as surety in good faith, and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be subject to approval by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from or contract awarded to any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED, IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,
JAMES J. PHELAN,
ANDREW J. WHITE,

Commissioners of the Department of Docks,
Dated New York, December 6, 1894.

DEPARTMENT OF DOCKS,
PIER "A," NORTH RIVER.

TO CONTRACTORS.

(No. 490.)

PROPOSALS FOR ESTIMATES FOR FURNISHING SAWED SPRUCE TIMBER.

ESTIMATES FOR FURNISHING SAWED Spruce Timber will be received by the Board of Commissioners at the head of the Department of Docks, at the office of said Department, on Pier "A," foot of Battery place, North river, in the City of New York, until 11 o'clock A. M. of

THURSDAY, JANUARY 17, 1895,

at which time and place the estimates will be publicly opened by the head of said Department. The award of the contract, if awarded, will be made as soon as practicable after the opening of the bids.

Any person making an estimate for the work shall furnish the same in a sealed envelope to said Board, at said office, on or before the day and hour above named, which envelope shall be indorsed with the name or names of the person or persons presenting the same, the date of its presentation, and a statement of the work to which it relates.

The bidder to whom the award is made shall give security for the faithful performance of the contract, in the manner prescribed and required by ordinance, in the sum of Two Thousand One Hundred Dollars.

The Engineer's estimate of the quantities of materials to be furnished is as follows:

SPRUCE PLANK FOR REPAIRS.

Feet, B. M.
3-inch and 4-inch plank, as ordered, in pieces varying in length from 11 feet to 26 feet, 9 inches wide and upward, about.....250,000

The 3-inch and 4-inch plank called for shall be delivered in lots of not less than 500 feet, board measure, within six hours after receipt of an order that said delivery is to commence.

Where the City of New York owns the wharf, pier or bulkhead at which the materials under this contract are to be delivered, no charge will be made to the contractor for wharfage upon vessels conveying said materials.

N. B.—Bidders are required to submit their estimates upon the following express conditions, which shall apply to and become a part of every estimate received:

1st. Bidders must satisfy themselves, by personal examination of the location of the proposed delivery of materials, and by such other means as they may prefer, as to the accuracy of the foregoing Engineer's estimate, and shall not, at any time after the submission of an estimate, dispute or complain of the above statement of quantities, nor assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

2d. Bidders will be required to complete the entire work to the satisfaction of the Department of Docks and in substantial accordance with the specifications of the contract. No extra compensation, beyond the amount payable for the work before mentioned, which shall be actually performed, at the price therefor, per thousand feet, B. M., to be specified by the lowest bidder, shall be due or payable for the entire work.

The contractor shall be ready to commence the delivery of the materials called for under this contract within five days after the date of this contract, and the delivery shall be commenced and shall be continued in such manner and quantities and at such times and places as may from time to time be directed by the Engineer-in-Chief, and the entire work is to be fully completed on or before the 1st day of July, 1895, and the damages to be paid by the contractor for each day that the contract may be unfulfilled after the time fixed for the fulfillment thereof has expired, are, by a clause in the contract, fixed and liquidated at Fifty Dollars per day.

Bidders will state in their estimates a price, per thousand feet, B. M., for spruce timber delivered, in conformity with the approved form of agreement and the specifications therein set forth, by which price the bids will be tested. This price is to cover all expenses of every kind involved in or incidental to the fulfillment of the contract, including any claim that may arise through delay, from any cause, in the performing of the work thereunder.

Bidders will distinctly write out, both in words and in figures, the amount of their estimates for doing this work.

The person or persons to whom the contract may be awarded will be required to attend at this office with the sureties offered by him or them, and execute the contract within five days from the date of the service of a notice to that effect; and in case of failure or neglect so to do, he or they will be considered as having abandoned it, and as in default to the Corporation; and the contract will be readvertised and relet, and so on until it be accepted and executed.

Bidders are required to state in their estimates their names and places of residence; the names of all persons interested with them therein; and if no other person be so interested, the estimate shall distinctly state the fact; also, that the estimate is made without any connection with any other person making an estimate for the same work, and that it is in all respects fair, and without collusion or fraud; and also, that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof; which estimate must be verified by the oath, in writing, of the party making the estimate, that the several matters stated therein are in all respects true. *Where more than one person is interested, it is requisite that the verification be made and subscribed to by all the parties interested.*

Each estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person or persons making the estimate, they will, upon its being so awarded, become bound as his or their sureties for its faithful performance; and that if said person or persons shall omit or refuse to execute the contract, they will pay to the Corporation of the City of New York any difference between the sum to which said person or persons would be entitled upon its completion and that which said Corporation may be obliged to pay to the person to whom the contract may be awarded at any subsequent letting; the amount, in each case, to be calculated upon the estimated amount of the work to be done, by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as a surety in good faith, and with the intention to execute the bond required by law. The adequacy and sufficiency of the security offered will be subject to approval by the Comptroller of the City of New York after the award is made and prior to the signing of the contract.

No estimate will be received or considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money, to the amount of five per centum of the amount of security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons

making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Bidders are informed that no deviation from the specifications will be allowed, unless under the written instructions of the Engineer-in-Chief.

No estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation, upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

THE RIGHT TO DECLINE ALL THE ESTIMATES IS RESERVED, IF DEEMED FOR THE INTEREST OF THE CORPORATION OF THE CITY OF NEW YORK.

Bidders are requested, in making their bids or estimates, to use the blank prepared for that purpose by the Department, a copy of which, together with the form of the agreement, including specifications, and showing the manner of payment for the work, can be obtained upon application therefor at the office of the Department.

J. SERGEANT CRAM,
JAMES J. PHELAN,
ANDREW J. WHITE,

Commissioners of the Department of Docks,
Dated New York, December 6, 1894.

CIVIL SERVICE SUPERVISORY AND EXAMINING BOARDS.

NEW YORK CITY CIVIL SERVICE BOARDS,
NEW CRIMINAL COURT BUILDING,
NEW YORK, January 10, 1895.

PUBLIC NOTICE IS HEREBY GIVEN THAT

open competitive examinations, for the positions below mentioned, will be held on the dates specified:

January 17. ASSISTANT BACTERIOLOGIST.

January 17. ASSISTANT PATHOLOGIST.

January 17. ASSISTANT CHEMIST (in Physiological Chemistry).

January 21. INSPECTOR OF ELECTRICAL WIRES AND APPLIANCES, Fire Department.

LEE PHILLIPS,

Secretary and Executive Officer.

DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
No. 31 CHAMBERS STREET,
NEW YORK, January 8, 1895.

NOTICE OF SALE AT PUBLIC AUCTION.

ON FRIDAY, JANUARY 25, 1895, AT 11 O'CLOCK A. M., the Department of Public Works will sell at public auction, on the ground or grounds, under the direction of the Water Purveyor, by Peter F. Meyer, Auctioneer:

About 30,000 old Belgian paving-blocks, lying on One Hundred and Twenty-seventh street, east of Second avenue.

About 25,000 old Belgian paving-blocks, lying on One Hundred and Ninth street, near East river.

About 300,000 old Belgium paving-blocks, lying on Seventy-ninth street, near East river.

About 160,000 old Belgium paving-blocks, lying between Sixty-eighth and Sixty-ninth streets, east of Pleasant avenue.

About 75,000 old specification trap paving-blocks, lying on Delancey street, near East river.

About 75,000 old Belgium paving-blocks, lying on Peck Slip, near East river.

The sale to begin at One Hundred and Twenty-seventh street, and to proceed in the above order.

TERMS OF SALE:

Cash payment in bankable funds at the time and place of sale, and the removal of the paving-blocks within ten days by the purchaser; otherwise the purchaser will forfeit ownership of the same, together with all moneys paid therefor, and the Department will resell the paving-blocks.

MICHAEL T. DALY,

Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
Room 6, No. 31 CHAMBERS STREET,
NEW YORK, January 8, 1895.

TO CONTRACTORS.

BIDS OR ESTIMATES, INCLOSED IN A sealed envelope, with the title of the work and the name of the bidder indorsed thereon, also the number of the work as in the advertisement, will be received at this office until 12 o'clock M., on Tuesday, January 22, 1895, at which place and hour they will be publicly opened by the head of the Department:

No. 1. FOR FURNISHING, DELIVERING AND LAYING WATER-MAINS IN THE BOULEVARD, between One Hundred and Eighteenth and One Hundred and Forty-fifth streets; in ONE HUNDRED AND FORTY-FIFTH STREET, between Boulevard and Amsterdam avenue, and in AMSTERDAM AVENUE, between One Hundred and Forty-fifth and One Hundred and Seventy-second streets.

No. 2. FOR FURNISHING, DELIVERING AND LAYING WATER-MAINS IN THIRD AVENUE, between One Hundred and Seventy-sixth and One Hundred and Eighty-third streets.

No. 3. FOR FURNISHING AND DELIVERING STOP-COCKS, HYDRANTS, WOODEN HYDRANT BOXES, CAST-IRON STOP-COCK BOXES AND MANHOLE-HEADS.

No. 4. FOR FURNISHING CAST-IRON WATER PIPES, BRANCH PIPES AND SPECIAL CASTINGS.

No. 5. FOR FURNISHING CAST-IRON WATER PIPES, BRANCH PIPES AND SPECIAL CASTINGS.

No. 6. FOR FURNISHING AND DELIVERING STOP-COCKS, HYDRANTS, WOODEN HYDRANT BOXES AND CAST-IRON STOP-COCK BOXES.

No. 7. FOR FURNISHING AND DELIVERING DOCK HYDRANTS, HYDRANT NOZZLES, CAPS AND CHAINS, DRILLS, PLUGS AND STOP-COCK BOX COVERS.

No. 8. FOR FURNISHING AND DELIVERING LEAD, LEAD PIPE AND SOLDER.

No. 9. FOR FURNISHING AND DELIVERING TAPPING-COCKS AND TAPPING-COCK BOXES AND PLUGS.

No. 10. FOR FURNISHING THE DEPARTMENT OF PUBLIC WORKS WITH SIX THOUSAND FOUR HUNDRED (6,400) GROSS TONS, 2,240 POUNDS TO A TON, OF EGG-SIZE WILKESBARRE COAL.

Each estimate must contain the name and place of residence of the person making the same, the names of all persons interested with him therein, and if no other person be so interested it shall distinctly state that fact. That it is made without any connection with any other person making an estimate for the same work, and is in all respects fair and without collusion or fraud. That no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested in the estimate or in the work to which it relates or in the profits thereof.

Each estimate must be verified by the oath, in writing, of the party making the same, that the several matters therein stated are true, and must be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, to the effect that if the contract is awarded to the person making the estimate, they will, upon its being so awarded, become bound as his sureties for its faithful performance; and that if he shall refuse or neglect to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled upon its completion, and that which the Corporation may be obliged to pay to the person to whom the contract shall be awarded at any subsequent letting; the amount to be calculated upon the estimated amount of the work by which the bids are tested.

The consent last above mentioned must be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of the contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety, or otherwise, and that he has offered himself as surety in good faith, with the intention to execute the bond required by law.

No estimate will be considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of the deposit will be returned to him.

THE COMMISSIONER OF PUBLIC WORKS RESERVES THE RIGHT TO REJECT ALL BIDS RECEIVED FOR ANY PARTICULAR WORK IF HE DEEMS IT FOR THE BEST INTERESTS OF THE CITY.

Blank forms of bid or estimate, the proper envelopes in which to inclose the same, the specifications and agreements, and any further information desired, can be obtained at Room 10, No. 31 Chambers street.

MICHAEL T. DALY,

Commissioner of Public Works.

DEPARTMENT OF PUBLIC WORKS,
COMMISSIONER'S OFFICE,
No. 31 CHAMBERS STREET,
NEW YORK.

TO OWNERS OF LANDS ORIGINALLY ACQUIRED BY WATER GRANTS

ATTENTION IS CALLED TO THE RECENT act of the Legislature (chapter 449, Laws of 1894), which provides that whenever any streets or avenues in the city, described in any grant of land under water, from the Mayor, Aldermen and Commonality containing covenants requiring the grantees and their successors to pave, repave, keep in repair or maintain such streets shall be in need of repairs, pavement or repavement, the Common Council may, by ordinance, require the same to be paved, repaved or repaired, and the expense thereof to be assessed on the property benefited; and whenever the owner of a lot so assessed shall have paid the assessment levied for such paving, repaving or repairing, such payment shall release and discharge such owner from any and every covenant and obligation as to paving, repaving and repairing, contained in the water grant under which the premises are held, and no further assessment shall be imposed on such lot for paving, repaving or repairing such street or avenue, unless it shall be petitioned for by a majority of the owners of the property (who shall also be the owners of a majority of the property in frontage) on the line of the proposed improvement.

The act further provides that the owner of any such lot may notify the Commissioner of Public Works, in writing, specifying the ward number and street number of the lot that he desires, for himself, his heirs and assigns, to be released from the obligation of such covenants, and elects and agrees that said lot shall be thereafter liable to be assessed as above provided, and thereupon the owner of such lot, his heirs and assigns shall thenceforth be relieved from any obligation to pave, repair, uphold or maintain said street, and the lot in respect of which such notice was given shall be liable to assessment accordingly.

The Commissioner of Public Works desires to give the following explanation of the operation of this act:

When notice, as above described, is given to the Commissioner of Public Works, the owner of the lot or lots therein described, and his heirs and assigns, are forever released from all obligation under the grant in respect to paving, repaving or repairing the street in front of or adjacent to said lot or lots, except one assessment for such paving, repaving or repairs, as the Common Council may, by ordinance, direct to be made thereafter.

No street or avenue within the limits of such grants can be paved, repaved or repaired until said work is authorized by ordinance of the Common Council, and when the owners of such lots desire their streets to be paved, repaved or repaired, they should state their desire and make their application to the Board of Aldermen and not to the Commissioner of Public Works, who has no authority in the matter until directed by ordinance of the Common Council to proceed with the pavement, repavement or repairs.

MICHAEL T. DALY,

Commissioner of Public Works.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
No. 66 THIRD AVENUE,
NEW YORK, January 7, 1895.

TO CONTRACTORS.

PROPOSALS FOR DRY GOODS, ETC.

SEALED BIDS OR ESTIMATES FOR FURNISHING Dry Goods, etc., during the year 1895, in conformity with samples and specifications, will be received at the office of the Department of Public Charities and Correction, No. 66 Third Avenue, in the City of New York, until 10 o'clock A. M. of Friday, January 18, 1895.

- 207,000 yards Brown Muslin, "Atlantic A," "Buck's Head," or "Massachusetts Standard."
- 180,000 yards Bandage Muslin, "Utica C."
- 30,000 yards Stillwater Muslin, "Grecian Bunting."
- 10,000 yards Bleached Muslin, 4/4, "Dwight Anchor."
- 4,500 yards Bleached Muslin, 8/4, "Dwight Anchor."
- 6,000 yards Shroud Muslin, "Pioneer or Dauntless."
- 23,000 yards Ticking, "Pearl River."
- 20,500 yards Crash Toweling, "Stevens' All Linen."
- 6,000 yards Huck Toweling.
- 17,600 yards Awning Stripe, "Extra Stout."
- 16,000 yards Hickory Stripe, Hamilton.
- 1,000 yards Seersucker, "Bates."
- 25,000 yards Dark Calico, "American Print Company."
- 2,500 yards Light Calico, "American Print Company."
- 16,000 yards Furniture Check, "Otis."

5,000 yards Gingham, "Johnson Manufacturing Company."

- 30,000 yards Cassimere, "Quinnepocit."
- 20,000 yards Cotton Jean, "Flushing."
- 20,000 yards Cottonade, "New York Mills."
- 200 yards Cottonade, "Flat Rock."
- 1,500 yards Linsey Woolsey, Park Mills.
- 1,500 yards Blue Denim, "Otis."
- 1,100 yards Brown Denim, "Warren C. C."
- 21,500 yards Canton Flannel, "Amoskeag A. A."
- 3,900 yards White Flannel, "B. H. No. 2."
- 2,300 yards Red Flannel, "Belvidere A."
- 300 yards Blue Flannel, "Belvidere A."
- 2,100 yards Linen Diaper.
- 1,800 yards Table Linen.
- 800 yards Dress Goods.
- 3,800 Toilet Quilts, "Bates."
- 3,260 yards Prison Cloth.
- 4,500 Colored Blankets, "Blue Kersey," average 7 pounds pair.
- 1,500 White Blankets, "Hartford," average 6 pounds pair.
- 2,000 dozen pairs Men's Socks.
- 1,900 dozen pairs Women's Stockings.
- 150 doz. n pairs Girls' Stockings.
- 100 dozen n pairs Boys' Stock ngs.
- 464 dozen Knit Shirts.
- 56 doz. n Knit Drawers.
- 960 Women's Shawls, 8/4, "Bradford."
- 1,560 Women's Wool Hoods.
- 500 Girls' Wool Hoods.
- 108 Infants' Wool Hoods.
- 42 dozen Children's Mitts.
- 1,300 pounds Linen Thread, No. 30, 700 white, 600 black, "Stewart's."
- 1,300 pounds Machine Thread, No. 50, 550 white, 750 black, "Stewart's."
- 260 dozen White Spool Cotton, No. 30.
- 10 dozen Black Spool Cotton, No. 30.
- 50 dozen White Basting Cotton, No. 20.
- 550 pieces Crinoline.
- 100 pieces Oiled Muslin, "Centennial."
- 3 pieces Swiss Muslin.
- 250 pieces Mosquito Netting.
- 35 bales Cotton Batts, "Manhattan."
- 3,000 Rubber Blankets.
- 25 Rubber Coats, Nos. 3 to 6.
- 105 pairs Rubber Boots, No. 6 to 11, "Candee."
- 12 Rubber Pillow Cases.
- 200 Ward Coats.
- 1,000 yards Duck, No. 4, 28, "Ontario."
- 400 yards Duck, No. 10, "Ontario."
- 320 yards Bunting, 12", 150 red, 120 white, 80 blue, "Standard."
- 24 Uniform Blouses.
- 70 Attendants' Caps, 7 devices.
- 34 doz. n Polo Caps.
- 25 dozen Peaked Caps.
- 320 U. S. A. Overcoats.
- 144 Oil Suits, "Tower's Best."
- 420 dozen Men's Straw Hats.
- 42 doz. n Boys' Straw Hats.
- 34 dozen Girls' Straw hats.
- 24 Pea Jackets.
- 225 gross Coat Buttons.
- 200 gross Dress Buttons.
- 70 gross Jacket Buttons.
- 95 great gross Suspender Buttons.
- 60 great gross A/22 Buttons.
- 40 great gross Brace Buttons.
- 6 great gr. ss Porcelain Buttons.
- 75 gross Pantalon Buckles.
- 146 Feather Pillows.
- 5,000 pounds Grey Curled Hair, "Strictly Pure S. A."
- 770 yards Blue Flannel.
- 460 yards Blue Cassimere 5/4.

No empty packages are to be returned to bidders or contractors except such as are designated in the specifications.

The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Dry Goods, etc.," with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

The quality of the articles, supplies, goods, wares and merchandise must conform in every respect to the samples of the same on exhibition at the office of the said Department, or, in the absence of samples, to the printed specifications. Bidders are cautioned to examine the specifications for particulars of the articles, etc., required, before making their estimates.

Bidders will state the price for each article, by which the bids will be tested, and write out the amount of their estimate in addition to inserting the same in figures.

THE BOARD OF PUBLIC CHARITIES AND CORRECTION RESERVES THE RIGHT TO REJECT ALL BIDS OR ESTIMATES IF DEEMED TO BE FOR THE PUBLIC INTEREST, AS PROVIDED IN SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Delivery will be required to be made from time to time and in such quantities as may be directed by the said Commissioners.

Any bidder for this contract must be known to be engaged in and well prepared for the business, and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the ESTIMATED amount of the contract.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a department, chief of a bureau, deputy thereof, or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested, it is requisite that the VERIFICATION be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance, and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the supplies by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as a surety in good faith and with the intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy

and sufficiency of the security offered is to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box, and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited to and retained by the City of New York, as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to his or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it and as in default to the Corporation, and the contract will be readvertised and relet as provided by law.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract, or from time to time, as the Commissioners may determine. The form of the contract, including specifications, and showing the manner of payment, can be obtained at the office of the Department, and bidders are cautioned to examine each and all of its provisions carefully, as the Board of Public Charities and Correction will insist upon its absolute enforcement in every particular.

HENRY H. PORTER, President,
CHARLES F. SIMMONS, M. D.,
EDWARD C. SHEEHY, President,
Commissioners, Department of Public Charities and Correction.

DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
No. 66 THIRD AVENUE,
NEW YORK, January 5, 1894.

TO CONTRACTORS.

PROPOSALS FOR GROCERIES, HARDWARE, LUMBER, ETC.

SEALED BIDS OR ESTIMATES FOR FURNISHING Groceries and other Supplies during the year 1895, in conformity with samples and specifications, will be received at the office of the Department of Public Charities and Correction, No. 66 Third Avenue, in the City of New York, until 10 o'clock A. M. of Thursday, January 17, 1895.

- 2,500 pounds Currants.
- 700 pounds Chocolate, "Baker's."
- 1,260 pounds Farina, in pound packages.
- 100 pounds Prime No. 1 Nutmegs.
- 8 dozen French Mustard.
- 3 dozen Prime Quality Pineapple Cheese.
- 3 dozen Edam Cheese.

- 60 gross Fine Combs.
- 55 gross Plantation Combs.
- 200 gross Cotton Shoe Laces, 5-4.
- 300 gross Safety Matches, Vulcan.
- 750 gross Safety Pins, 350 No. 2, 400 No. 3.
- 200 dozen Bixby's Shoe Blacking, No. 3.
- 1,000 pounds Splitting Cotton.
- 250 bunches Leather Shoe Laces.
- 85,000 Needles, Nos. 3 to 8 (as per specification).
- 500 packs Pins.
- 100 Nail Needles, assorted.

- 200 Sledge Handles.
- 200 Striking Hammer Handles.
- 400 Stone Hammer Handles.
- 100 Pick Handles.
- 100 dozen Saucpan Handles.
- 55 dozen Mop Handles.
- 11 gross Kettle Bars, 2 No. 3, 3 No. 4, 6 No. 6.
- 10 gross Hat and Coat Hooks.
- 250 gross Clothes Pins.
- 50 gross Tablespoons.
- 18 gross Teaspoons.
- 600 gross Screws, 1/2" to 2" (as per specifications).
- 6 reams Heavy Manila Wrapping Paper, 36 x 40.
- 23 papers Rivets: 10, 1 1/2, 16 black; 10, 2, 16 tinned.
- 100 quires Sandpaper.
- 48 quires Emery-cloth, assorted.
- 36 dozen Flat Shovels, "Ames' No. 2."
- 12 dozen Scoop Shovels, "Ames' No. 4."
- 4 dozen Spades.
- 3 dozen Curry Combs.
- 1 dozen Butcher's Cleavers, No. 4.
- 1 dozen Handled Axes.
- 100 dozen pairs Cast Fast Butts, 60 2", 30 2 1/2", 10 3".
- 50 dozen Taper Saw Files (see specifications).
- 12 dozen Flat Bastard Files, 14".
- 2 dozen Wood Faucets, No. 8.
- 2 dozen Oil Faucets, 3/8".
- 24 dozen Glass Cutters, "Woodward."
- 7 dozen Claw Hammers, No. 20.
- 72 dozen each Knives and Forks.
- 6 dozen each Carving Knives and Forks.
- 5 dozen Butcher Knives, 10".
- 2 dozen Farrier's Knives.
- 6 dozen Putty Knives, No. 31558.
- 3 dozen Brass Padlocks.
- 28 dozen Iron Padlocks, 2 1/2", No. 1058.
- 6 dozen Hand Lanterns.
- 18 dozen Rules, 2-ft.
- 24 dozen Razors, W. & B., No. 753.
- 2 dozen Horse Raps, 18".
- 8 dozen Garden Rakes.
- 2 dozen Scythes.
- 12 dozen Scythe Stones.
- 4 dozen Butcher's Steels.
- 6 dozen Barber's Shears.
- 24 dozen Scissors, 8", "Heinisch."
- 7 dozen Sickles.
- 30 dozen Thermometers, 7".
- 120 dozen Spectacles, assorted, Nos. 6 to 24.
- 3 dozen Brick Trowels, Brade's 10 1/2".
- 160 dozen papers Carpet Tacks (see Specifications).
- 250 dozen Tin Plates.
- 72 dozen Carpenter's Pencils.
- 2 kegs Cut Nails, 4d.
- 15 kegs Cut Nails, 6d.
- 24 kegs Cut Nails, 8d.
- 3 kegs Cut Nails, 10d.
- 2 kegs Cut Nails, 12d.
- 1 keg Cut Nails, 2cd.
- 2 kegs Finishing Nails, 6d.
- 4 kegs Finishing Nails, 8d.
- 3 kegs Finishing Nails, 10d.
- 2 kegs Wrought Nails, one 6d., one 8d.
- 2 kegs Lath Nails.
- 4 kegs Tinned Roofing Nails.
- 50 pounds Iron Shoe Nails, 3/4".
- 100 pounds Horse-shoe Nails each, Nos. 8 and 9, "Ausable."
- 50 boxes Brass-head Chair Nails.
- 250 papers Finishing Nails, 100 1", 100 1 1/4", 50 1 1/2".
- 20 kegs Horse-shoes, F. & H., 10 No. 4, 10 No. 5.

IRON AND TIN.

- 40 bundles Galvanized Iron, No. 24, 24" x 84".
- 10 bundles R. G. Iron, No. 24, 24" x 84".
- 2 drums Zinc, No. 9, 36" x 84".
- 1,120 boxes Prime Quality Charcoal Tin, IX., 14" x 20".
- 14 boxes Prime Quality Charcoal Tin, XX., 14" x 20".
- 4 boxes Prime Quality Charcoal Tin, XX., 12" x 12".
- 72 stones Tinned Broom Wire, No. 18.
- 12 stones Brush Wire, No. 26.
- 7 coils bright Iron Wire, No. 6.
- 7 coils bright Iron Wire, No. 10.

LEATHER AND FINDINGS.

- 1,200 sides Prime Quality Waxed Upper Leather, to average about 17 feet.
- 900 sides Prime Quality Waxed Kip Leather, to average about 11 feet.
- 2,400 sides Sole Leather, warranted good damaged, to weigh from 21 to 25 pounds.
- 12,000 pounds Offal Leather, medium weight.
- 1,550 pounds Shoe Nails, No. 13, 100 4/8, 250 5/8, 1,200 6/8.
- 700 pounds Swedes Shoe Nails, No. 16, 100 4/8, 300 5/8, 400 6/8.
- 300 pounds Shoe Tacks, 2-ounce.
- 96 pounds Shoe Thread, "Barbor's H. B., No. 12."
- 50 pounds Shoe Wax.
- 48 bushels Shoe Pegs, 8 5/8", 40 6/8".
- 50 gross Shoe Binding.
- 12 gross Patent Peg Awns.
- 12 gross Sewing Awns (assorted).
- 20 dozen Shoe Ink, "Champion."
- 10 dozen Patent Peg Awns.
- 6 dozen Shoe Raps, 9".
- 20 dozen Shoe Knives, No. 4, "square point."
- 12 dozen Sand Stones.

WOODENWARE, ETC.

- 85 coils Manila Rope, 9-thread.
- 1 coil Manila Bolt Rope, 2 1/2" circumference.
- 1 coil best Manila Bolt Rope, 2 1/2" circumference.
- 3 coils best Manila Bolt Rope, 3" circumference.
- 2 coils best Manila Bolt Rope, 3 1/2" circumference.
- 680 pounds Sash Cord, "Silver Lake."
- 200 pounds Cotton Cord.
- 600 pounds Sail Twine.
- 500 pounds Broom Twine.
- 250 pounds Coarse Twine.
- 200 pounds Medium Twine.
- 60 pounds Stitching Twine, No. 52.
- 200 dozen Cotton Mops.
- 90 dozen Wooden Pails.
- 100 dozen Bath Brick.
- 14 dozen Wash Boards.

LUMBER.

- 40,000 feet First Quality Coffin Box Board, 3/4", 12" to 15" by 12 to 16", dressed one side.
- 50,000 feet Extra Clear White Pine Shelving, 12" to 16" by 12" to 16", dressed two sides.
- 10,000 feet 1" Clear Pine, 12" to 16", dressed one side.
- 12,000 feet 1 1/4" Clear Pine, 12" to 16", dressed one side.
- 12,000 feet 1 1/2" clear pine, 12" to 16" x 12" to 16", dressed one side.
- 5,000 feet 2" clear pine, 12" to 16" x 12" to 16", dressed one side.
- 600 pieces rough spruce plank, 1 1/4" x 9" x 13".
- 600 pieces rough spruce plank, 2" x 9" x 13".
- 600 hemlock joists, 3" x 4" x 13".
- 1,200 merchantable worked pine boards, 3/4".
- All lumber to be delivered at Blackwell's Island.

OIL.

- 200 barrels best quality water-white kerosene oil, 150 test barrels to be returned.
- No empty packages are to be returned to bidders or contractors, except such as are designated in the specifications.

The person or persons making any bid or estimate shall furnish the same in a sealed envelope, indorsed "Bid or Estimate for Groceries, Hardware, Lumber, etc.," with his or their name or names, and the date of presentation, to the head of said Department, at the said office, on or before the day and hour above named, at which time and place the bids or estimates received will be publicly opened by the President of said Department and read.

The quality of the articles, supplies, goods, wares and merchandise must conform in every respect to the samples of the same on exhibition at the office of the said Department, or, in the absence of samples, to the printed specifications. Bidders are cautioned to examine the specifications for particulars of the articles, etc., required, before making their estimates.

Bidders will state the price for each article, by which the bids will be tested, and write out the amount of their estimate in addition to inserting the same in figures.

THE BOARD OF PUBLIC CHARITIES AND CORRECTION RESERVES THE RIGHT TO REJECT ALL BIDS OR ESTIMATES IF DEEMED TO BE FOR THE PUBLIC INTEREST, AS PROVIDED IN SECTION 64, CHAPTER 410, LAWS OF 1882.

No bid or estimate will be accepted from, or contract awarded to, any person who is in arrears to the Corporation upon debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the Corporation.

The award of the contract will be made as soon as practicable after the opening of the bids.

Delivery will be required to be made from time to time, and in such quantities as may be directed by the said Commissioners.

Any bidder for this contract must be known to be engaged in and well prepared for the business and must have satisfactory testimonials to that effect; and the person or persons to whom the contract may be awarded will be required to give security for the performance of the contract, by his or their bond, with two sufficient sureties, in the penal amount of fifty (50) per cent. of the ESTIMATED amount of the contract.

Each bid or estimate shall contain and state the name and place of residence of each of the persons making the same; the names of all persons interested with him or them therein; and if no other person be so interested, it shall distinctly state that fact; also that it is made without any connection with any other person making an estimate for the same purpose, and is in all respects fair and without collusion or fraud; and that no member of the Common Council, head of a department, chief of a bureau, deputy thereof or clerk therein, or other officer of the Corporation, is directly or indirectly interested therein, or in the supplies or work to which it relates, or in any portion of the profits thereof. The bid or estimate must be verified by the oath, in writing, of the party or parties making the estimate, that the several matters stated therein are in all respects true. Where more than one person is interested it is requisite that the VERIFICATION be made and subscribed by all the parties interested.

Each bid or estimate shall be accompanied by the consent, in writing, of two householders or freeholders in the City of New York, with their respective places of business or residence, to the effect that if the contract be awarded to the person making the estimate, they will, on its being so awarded, become bound as his sureties for its faithful performance, and that if he shall omit or refuse to execute the same, they will pay to the Corporation any difference between the sum to which he would be entitled on its completion, and that which the Corporation may be obliged to pay to the person or persons to whom the contract may be awarded at any subsequent letting; the amount in each case to be calculated upon the estimated amount of the supplies by which the bids are tested. The consent above mentioned shall be accompanied by the oath or affirmation, in writing, of each of the persons signing the same, that he is a householder or freeholder in the City of New York, and is worth the amount of the security required for the completion of this contract, over and above all his debts of every nature, and over and above his liabilities as bail, surety and otherwise; and that he has offered himself as a surety in good faith, and with the

intention to execute the bond required by section 12 of chapter 7 of the Revised Ordinances of the City of New York, if the contract shall be awarded to the person or persons for whom he consents to become surety. The adequacy and sufficiency of the security offered is to be approved by the Comptroller of the City of New York.

No bid or estimate will be considered unless accompanied by either a certified check upon one of the State or National banks of the City of New York, drawn to the order of the Comptroller, or money to the amount of five per centum of the amount of the security required for the faithful performance of the contract. Such check or money must not be inclosed in the sealed envelope containing the estimate, but must be handed to the officer or clerk of the Department who has charge of the estimate-box; and no estimate can be deposited in said box until such check or money has been examined by said officer or clerk and found to be correct. All such deposits, except that of the successful bidder, will be returned to the persons making the same within three days after the contract is awarded. If the successful bidder shall refuse or neglect, within five days after notice that the contract has been awarded to him, to execute the same, the amount of the deposit made by him shall be forfeited and retained by the City of New York as liquidated damages for such neglect or refusal; but if he shall execute the contract within the time aforesaid, the amount of his deposit will be returned to him.

Should the person or persons to whom the contract may be awarded neglect or refuse to accept the contract within five days after written notice that the same has been awarded to him or their bid or proposal, or if he or they accept but do not execute the contract and give the proper security, he or they shall be considered as having abandoned it, and as in default to the Corporation, and the contract will be readvertised and relet, as provided by law.

Payment will be made by a requisition on the Comptroller, in accordance with the terms of the contract, or from time to time, as the Commissioners may determine.

The form of the contract, including specifications, and showing the manner of payment, can be obtained at the office of the Department, and bidders are cautioned to examine each and all of its provisions carefully, as the Board of Public Charities and Correction will insist upon its absolute enforcement in every particular.

HENRY H. PORTER, President,
CHARLES E. SIMMONS, M. D.,
EDWARD C. SHEEHY,
Commissioners, Department of Public Charities and Correction.

POLICE DEPARTMENT.

POLICE DEPARTMENT—CITY OF NEW YORK,
OFFICE OF THE PROPERTY CLERK (Room No. 9),
No. 300 MULBERRY STREET,
NEW YORK, 1893

OWNERS WANTED BY THE PROPERTY CLERK of the Police Department of the City of New York, No. 300 Mulberry Street, Room No. 9, for the following property, now in his custody, without claimants: Boots, rope, iron, lead, male and female clothing, boots, shoes, wine, blankets, diamonds, canned goods, liquors, etc., also small amount money taken from prisoners and found by patrolmen of this Department.
JOHN F. HARRIOT,
Property Clerk

SUPREME COURT.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired), to ONE HUNDRED AND ELEVENTH STREET, from Amsterdam Avenue to Riverside Avenue, in the Twelfth Ward of the City of New York.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment, in the above entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved and unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers Street, in the said city, there to remain until the 25th day of February, 1895.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers Street, in the said city, there to remain until the 25th day of February, 1895.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Northerly by the centre line of the blocks between One Hundred and Eleventh Street and One Hundred and Twelfth Street, from the easterly line of Riverside Avenue to the westerly line of Amsterdam Avenue; easterly by the westerly line of Amsterdam Avenue; southerly by the centre line of the blocks between One Hundred and Tenth Street and One Hundred and Eleventh Street, from the westerly line of Amsterdam Avenue to the easterly line of Riverside Avenue; excepting from said area all the streets, avenues and roads or portions thereof heretofore legally opened, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof in the County Court-house in the City of New York, on the 15th day of March, 1895, at the opening of the court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated NEW YORK, January 14, 1895.
CLIFFORD W. HARTRIDGE, Chairman,
PETER MCINTYRE,
APPELION L. CLARK,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to ISHAM STREET (although not yet named by proper authority), between the lines of Kingsbridge Road and Tenth Avenue, in the Twelfth Ward of the City of New York.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, on the 28th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and

equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as Isham Street, as shown and delineated in red color on a map attached to the petition herein, and as shown and delineated on a certain map entitled "Map or Plan of streets, roads, etc." within that part of the Twelfth Ward lying northerly of the northerly line of Dyckman Street, etc., and filed in the offices of the Department of Public Works, Counsel to the Corporation, Secretary of State of the State of New York, the Department of Public Parks and the Register of the City and County of New York, on or about the 25th day of January, 1885, and more particularly set forth in the said petition of the Board of Street Opening and Improvement, filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 2, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 11, 1895).

And we, the said Commissioners, will be in attendance at our said office on the 15th day of February, 1895, at 4 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated NEW YORK, January 11, 1895.

JAMES A. LAMB,
SAML. R. ELLIOTT,
PIERRE VAN BUREN HOES,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTY-FIFTH STREET (although not yet named by proper authority), extending from its present terminus easterly to the westerly line of Edgecombe Road, in the Twelfth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Sixty-fifth Street, as shown and delineated in red color on a map attached to the petition herein, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 660 of the Laws of 1893, and filed on or about the 15th day of September, 1893, in the office of the Department of Public Works, in the office of the Counsel to the Corporation, in the office of the Secretary of State of the State of New York, in the office of the Register of the City and County of New York, and in the office of the Department of Public Parks, and more particularly set forth in the said petition of the Board of Street Opening and Improvement, filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 2, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 10, 1895).

And we, the said Commissioners, will be in attendance at our said office on the second day of February, 1895, at 12 o'clock noon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated NEW YORK, January 10, 1895.

E. FERRERO,
JAMES R. TORRANCE,
JOSEPH A. CARBERRY,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Mayor, Aldermen and Commonality of the City of New York, by and through the Counsel to the Corporation, to acquire title in fee to certain lands, tenements, hereditaments and premises, including upland and land under water or rights therein, fronting upon Riverside Park, in the City of New York, as and for a part or extension of the Riverside Park, and for public docks, wharves or commercial purposes, under and pursuant to the provisions of chapter 152 of the Laws of 1894.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, bearing date the 7th day of July, 1894, and filed in the office of the Clerk of the City and

County of New York, on the 27th day of November, 1894, Commissioners of Appraisal for the purpose of ascertaining and appraising the compensation to be made to the owners and all persons interested in the real estate hereinafter described and laid out, appropriated or designated by said chapter 152 of the Laws of 1894, as and for a part or extension of the Riverside Park and for public docks, wharves or commercial purposes, proposed to be taken or affected for the purposes named in said act, and to perform such other duties as are by said act prescribed.

The real estate so proposed to be taken or affected for said purposes comprises all the lands, tenements, hereditaments and premises, including upland and land under water, or rights therein not now owned or the title to which is not vested in the Mayor, Aldermen and Commonality of the City of New York, or the State of New York within the limits or boundaries of the parcels of land laid out, appropriated or designated by said act for the aforesaid purposes, namely:

All those pieces or parcels of land, including land under water and upland, fronting upon Riverside Park, in the City of New York, bounded southerly by the southerly side of Seventy-second Street, if extended westerly; northerly by the southerly side of One Hundred and Twenty-ninth Street, if extended westerly; easterly by the westerly line of the route or roadway of the Hudson River Railway Company as laid down on the map of said route or roadway, filed in the office of the Register of the City and County of New York, on or about the 15th day of September, 1897, and westerly by the bulkhead-line of the Hudson River, laid out by the Commissioners of Central Park, and established by chapter 288 of the Laws of 1868, including the lands under water or rights therein, if any exist, in any party or person, westerly of said bulkhead-line as the same may have been heretofore granted by the State or the Mayor, Aldermen and Commonality of the City of New York, between Seventy-second and One Hundred and Twenty-ninth Streets.

All parties and persons, owners, lessees or other persons interested in the real estate above described, and to be taken for the purpose of the extension of Riverside Park or for public docks, wharves or commercial purposes or any part thereof, or affected by the proceedings had under or authorized by said act, chapter 152 of the Laws of 1894, and having any claim or demand on account thereof, are required to present the same to us, duly verified, with such affidavits or other proof in support thereof as the said owner or claimant may desire, within sixty days after the date of this notice (January 9, 1895), at our office, No. 166 Broadway in the City of New York, which office is also the office of Edward V. Loew, one of said Commissioners.

And we, the said Commissioners, will be in attendance at our said office on the 15th day of March, 1895, at 11 o'clock in the forenoon of that day, to hear the said parties and persons in relation thereto; and in case any such person or claimant shall desire at such time and place to offer further and additional proofs or testimony, such person or claimant will be heard or said proofs or testimony will be received by us.

And at such time and place, or at such further or other time and place as we may appoint, we will hear the proofs and allegations of any owner, lessee or other person, in any way entitled to or interested in said real estate or any part or parcel thereof, and also such proofs and allegations as may be then offered on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated NEW YORK, January 9, 1895.

CHARLES L. GUY,
EDWARD V. LOEW,
JOHN H. COSTER,
Commissioners.

JAMES R. TORRANCE, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTY-FOURTH STREET (although not yet named by proper authority), extending from its present terminus easterly to the westerly line of Edgecombe Road, in the Twelfth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Board.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Sixty-fourth Street, as shown and delineated in red color on a map attached to the petition herein, dated the 14th day of December, 1893, and signed Joseph O. B. Webster, Assistant Engineer and Surveyor of the Department of Public Works, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 660 of the Laws of 1893, and filed on or about the 15th day of September, 1893, in the office of the Department of Public Works, one in the office of the Counsel to the Corporation, one in the office of the Secretary of State of the State of New York, one in the office of the Register of the City and County of New York, and one in the office of the Department of Public Parks, and more particularly set forth in the said petition of the Board of Street Opening and Improvement, filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York (Room No. 2), with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 10, 1895).

And we, the said Commissioners, will be in attendance at our said office on the second day of February, 1895, at 12.30 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated NEW YORK, January 10, 1895.

E. FERRERO,
JAMES R. TORRANCE,
JOSEPH A. CARBERRY,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to VANDERBILT AVENUE, WEST (although not yet named by proper authority), from Pelham Avenue to Webster Avenue, in the Twenty-fourth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court entered in the office of the Clerk of the City and County of New York on the 28th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as Vanderbilt Avenue, West, as shown and delineated on a map attached to the petition herein, dated September 7, 1894, and as shown and delineated on a certain map, entitled, "Map or plan showing the location, width, course, windings, classification and grade of streets, avenues and roads within the area bounded on the south by East One Hundred and Eighty-fourth Street, on the west by Marion Avenue, Bainbridge Avenue and Marion Avenue, on the north by Suburban Street, and on the east by the New York and Harlem Railroad, in the Twenty-fourth Ward of the City of New York, established by the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards, under authority of chapter 545 of the Laws of 1890, and more particularly set forth in the said petition of the Board of Street Opening and Improvement, filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 9, 1895).

And we, the said Commissioners, will be in attendance at our said office on the first day of February, 1895, at 12 o'clock noon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated NEW YORK, January 9, 1895.

JAMES R. TORRANCE,
ARTHUR T. SULLIVAN,
A. A. ALLING,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to EAST ONE HUNDRED AND THIRTY-FOURTH STREET (although not yet named by proper authority), from Third Avenue to Brook Avenue in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as East One Hundred and Thirty-fourth Street, as shown and delineated in red color on a map attached to the petition herein, dated the sixth (6th) day of September, 1893, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on a certain map made under authority of chapter 841 of the Laws of 1898, and filed in the office of the Register of Westchester County, at White Plains, on or about February 21, 1897, and as shown and delineated on a certain map made by the Commissioner of the Department of Public Works, under authority of chapter 410 of the Laws of 1882, entitled, "Map or plan of the streets, roads and avenues in that portion of the Twenty-third Ward of the City of New York bounded on the north by East One Hundred and Sixty-fifth Street, on the east by St. Ann's Avenue and Long Island Sound, on the south by Long Island Sound and Harlem River, and on the west by Railroad Avenue, East, as established and classified by the Department of Public Parks, in pursuance of chapter 410 of the Laws of 1882, and filed in the office of the Secretary of State of the State of New York on the 29th day of January, 1885, in the office of the Register of the City and County of New York on the 21st day of January, 1885, and in the office of the Department of Public Parks on the 26th day of January, 1885, and more particularly set forth in the said petition of the Board of Street Opening and Improvement, filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said

street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 9, 1895).

And we, the said Commissioners, will be in attendance at our said office on the first day of February, 1895, at 11:30 o'clock in the forenoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonalty of the City of New York.

Dated New York, January 9, 1895.
ISAAC FROMME,
THEODORE E. SMITH,
JAMES R. TORRANCE,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTIETH STREET (although not yet named by proper authority), extending from its present terminus easterly to the westerly line of Edgecombe road, in the Twelfth Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by said Board.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, bearing date the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as ONE HUNDRED AND SIXTIETH STREET, as shown and delineated in red color on a map attached to the petition herein, dated the 14th day of December, 1893, and signed Joseph O. B. Webster, Assistant Engineer, and Surveyor of the Department of Public Parks, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 660 of the Laws of 1893, and filed on or about the 15th day of September, 1893, one in the office of the Department of Public Works, one in the office of the Counsel to the Corporation, one in the office of the Secretary of State of the City and County of New York, and one in the office of the Register of the City and County of New York, and one in the office of the Department of Public Parks, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act, entitled, "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 9, 1895).

And we, the said Commissioners, will be in attendance at our said office on the first day of February, 1895, at 11 o'clock in the forenoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonalty of the City of New York.

Dated New York, January 9, 1895.
WILLIAM J. C. BERRY,
ISAAC FROMME,
JAMES R. TORRANCE,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to EAST ONE HUNDRED AND THIRTY-FIFTH STREET (although not yet named by proper authority), from Third Avenue to Willis Avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court entered in the office of the Clerk of the City and County of New York, the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as East One Hundred and Thirty-fifth Street, as shown and delineated in red color on a map attached to the petition herein, dated the 6th day of September, 1893, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on a certain map made under authority of chapter 841 of the Laws of 1888 and filed in the office of the Register of Westchester County, at White Plains, on or about February 21, 1891, and as shown and delineated on a certain map made by the Commissioners of the Department of Public Parks, under authority of chapter 410 of the Laws of 1882, entitled "Map or Plan of the Twenty-third Ward of the City of New York bounded on the north by East One Hundred and Sixty-first Street, on the east by St. Ann's Avenue and Long Island Sound, on the south by Long Island Sound and Harlem River, and on the west by Railroad Avenue, East, as established and classified by the Department of Public Parks, in pursuance of chapter 410 of the Laws of 1882," and filed in the office of the Secretary of State of the City of New York on the 29th day of January, 1885, and in the office of the Register of the City and County of New York on the 27th day of January, 1885, and in the office of the Department of Public Parks on the 26th day of January, 1885, and more particularly set forth in the said petition of the Board of Street Opening and Improvement

filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 3, 1895).

And we, the said Commissioners, will be in attendance at our said office on the 26th day of January, 1895, at 11 o'clock in the forenoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonalty of the City of New York.

Dated New York, January 3, 1895.
CHAS. FUZZEL,
GEO. A. CHAPPELL,
JOSEPH A. CARBERRY,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to RIVER AVENUE (although not yet named by proper authority), from East One Hundred and Forty-fourth Street to Jerome Avenue, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York the 17th day of December, 1894, Commissioners of Estimate and Assessment, for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as River Avenue, as shown and delineated in red color on a map attached to the petition herein, dated May 25th, 1894, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on certain maps entitled "Map or Plan showing revised system of avenues and streets lying between the Spuyten Duyvil and Port Morris Railroad, Jerome Avenue, East One Hundred and Sixty-fifth Street, Mott Avenue, Juliet Street and Walton Avenue, also showing River Avenue, from East One Hundred and Forty-fourth Street to the Spuyten Duyvil and Port Morris Railroad, in the Twenty-third Ward of the City of New York," and filed, one in the Department of Public Parks on the 27th day of August, 1883, one in the office of the Register of the City and County of New York on the 30th day of August, 1889, and one in the office of the Secretary of State of the City of New York on the 31st day of August, 1889, and more particularly set forth in same petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (January 7th, 1895).

And we, the said Commissioners, will be in attendance at our said office on the 1st day of February, 1895, at 10 o'clock in the forenoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonalty of the City of New York.

Dated New York, January 7, 1895.
EDWARD L. PARRIS,
EDWARD B. LA FEIRA,
MAX SILVERSTEIN,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to EAST ONE HUNDRED AND THIRTY-SEVENTH STREET (although not yet named by proper authority), from Rider Avenue to the Southern Boulevard, in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved and unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us, at our office, No. 2 Tryon Row, Room 1 (fourth floor), in said city, on or before the 22nd day of January, 1895, and that we, the said Commissioners, will hear parties so objecting within

in the ten week days next after the said 22nd day of January, 1895, and for that purpose will be in attendance at our said office on each of said ten days at 3 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited in the Bureau of Street Openings in the Law Department of the City of New York, at its office, No. 2 Tryon Row, Room 1 (fourth floor), in the said city, there to remain until the 1st day of February, 1895.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Northerly by the easterly line of the blocks between East One Hundred and Thirty-seventh Street and East One Hundred and Thirty-eighth Street, from the easterly line of Rider Avenue to the westerly line of the Southern Boulevard; easterly by the westerly line of the Southern Boulevard; southerly by the centre line of the blocks between East One Hundred and Thirty-seventh Street and East One Hundred and Thirty-sixth Street, from the westerly line of the Southern Boulevard to the easterly line of Rider Avenue; and westerly by the easterly line of Rider Avenue; excepting from said area all the streets, avenues and roads or portions thereof heretofore legally opened as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on the 8th day of February, 1895, at the opening of the court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, December 26, 1894.
JAMES L. WELLS, Chairman,
JNO. H. SPELLMAN,
PATRICK A. McMANUS,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to NELSON AVENUE (although not yet named by proper authority), from Kemp Place to Bozobol Avenue, in the Twenty-third and Twenty-fourth Wards of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards of the City of New York.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, the 17th day of December, 1894, Commissioners of Estimate and Assessment, for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as Nelson Avenue, as shown and delineated in red color on a map attached to the petition herein, dated the 28th day of May, 1894, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on certain maps entitled "Plan and Profile showing the laying-out of Nelson Avenue, from Devoe Street to Kemp Place; also showing the location, width, course, windings, classifications and grades of Nelson Avenue, from Devoe Street to Fetherbed Lane, Plimpton Avenue, from Orchard Street to Fetherbed Lane, and of Fisk Place, from Plimpton Avenue to Nelson Avenue, prepared by the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards of the City of New York, under chapter 545 of the Laws of 1890, in order to render more definite and certain a part of the map of the Highbridge District, filed by the Department of Public Parks September 9, 1884, and another map made under authority of chapter 407 of the Laws of 1886, and filed by the Department of Public Parks May 16, 1888, filed in the office of the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards of the City of New York on the 17th day of February, 1894, in the office of the Register of the City and County of New York on the 21st day of February, 1894, and in the office of the Secretary of State of the City of New York on the 21st day of February, 1894, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 31, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 24th day of January, 1895, at 4 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonalty of the City of New York.

Dated New York, December 31, 1894.
THOS. J. CREAMER,
ISAAC FROMME,
MATTHEW CHALMERS,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to EAST ONE HUNDRED AND THIRTY-SEVENTH STREET (although not yet named by proper authority), from the westerly line of Locust Avenue to the easterly line of the Southern Boulevard in the Twenty-third Ward of the City of New York, as the same has been heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and im-

proved and unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 2 Tryon Row, Room 1 (fourth floor), in said city, on or before the 22nd day of January, 1895, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 22nd day of January, 1895, and for that purpose will be in attendance at our said office on each of said ten days at 3:30 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited in the Bureau of Street Openings in the Law Department of the City of New York, at its office, No. 2 Tryon Row, Room 1 (fourth floor), in the said city, there to remain until the 1st day of February, 1895.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land, situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Beginning a point in the United States pier and bulkhead line distant 628.11 feet from the southerly side of East One Hundred and Thirty-eighth Street; running thence parallel with East One Hundred and Thirty-eighth Street to Locust Avenue; thence along Locust Avenue to a point midway between East One Hundred and Thirty-sixth and East One Hundred and Thirty-seventh Streets; thence parallel with and midway between the lines of East One Hundred and Thirty-sixth and East One Hundred and Thirty-seventh Streets to the Southern Boulevard; thence along the Southern Boulevard to a point midway between East One Hundred and Thirty-seventh and East One Hundred and Thirty-eighth Streets; thence parallel with and midway between the lines of East One Hundred and Thirty-seventh and East One Hundred and Thirty-eighth Streets to Locust Avenue; thence along Locust Avenue to the corner of Locust Avenue and East One Hundred and Thirty-eighth Street; thence along East One Hundred and Thirty-eighth Street to the United States pier and bulkhead line; thence along said bulkhead-line to the point of beginning; excepting from said area all the streets, avenues and roads, or portions thereof, heretofore legally opened, as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof in the County Court-house, in the City of New York, on the 8th day of February, 1895, at the opening of the court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated, New York, December 26, 1894.
JAMES L. WELLS, Chairman,
JNO. H. SPELLMAN,
PATRICK A. McMANUS,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonalty of the City of New York, relative to acquiring title (wherever the same has not been heretofore acquired) to ONE HUNDRED AND SIXTEENTH STREET, from Boulevard to Riverside Avenue, in the Twelfth Ward of the City of New York.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate and Assessment in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved and unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate and assessment, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 2 Tryon Row, Room 1 (fourth floor), in said city, on or before the 7th day of February, 1895, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 7th day of February, 1895, and for that purpose will be in attendance at our said office on each of said ten days at 4 o'clock P. M.

Second—That the abstract of our said estimate and assessment, together with our damage and benefit maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at its office, No. 31 Chambers Street, in the said city, there to remain until the 7th day of February, 1895.

Third—That the limits of our assessment for benefit include all those lots, pieces or parcels of land situate, lying and being in the City of New York, which taken together are bounded and described as follows, viz.: Beginning at the intersection of the easterly line of Riverside Avenue with the southerly line of One Hundred and Nineteenth Street; running thence along said easterly line of Riverside Avenue to the centre line of the block between One Hundred and Fourteenth and One Hundred and Fifteenth Streets; thence along said centre line to the centre line of the block between the Boulevard and Amsterdam Avenue; thence along said last-mentioned centre line to the centre line of the block between One Hundred and Fifteenth and One Hundred and Sixteenth Streets; thence along said last-mentioned centre line to the westerly line of Morningside Avenue, West; thence along said last-mentioned line to the centre line of the block between One Hundred and Sixteenth and One Hundred and Seventeenth Streets; thence along said last-mentioned centre line to Amsterdam Avenue; thence along Amsterdam Avenue to the centre line of the block between One Hundred and Seventeenth and One Hundred and Eighteenth Streets; thence along said centre line to the centre line of the block between the Boulevard and Amsterdam Avenue; thence along said last-mentioned centre line to the easterly line of One Hundred and Nineteenth Street prolonged; thence along said last-mentioned line to the point of beginning; excepting from said area all the streets, avenues and roads or portions thereof heretofore legally opened as such area is shown upon our benefit map deposited as aforesaid.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof in the County Court-house in the City of New York, on the 14th day of February, 1895, at the opening of the court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, December 20, 1894.
ROLLIN M. MORGAN, Chairman,
JOHN H. ROGAN,
JAMES F. C. BLACKHURST,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Mayor, Aldermen and Commonalty of the City of New York, by and through the Department of Public Parks, relative to acquiring title to certain lands in the Twelfth Ward of the City of New York, for public use and public purposes, as and for a PUBLIC PLACE AND PUBLIC PARK AND PARKWAY, under and pursuant to the provisions of chapter 746 of the Laws of 1894.

NOTICE IS HEREBY GIVEN THAT THE undersigned, appointed by an order of the General Term of the Supreme Court, Commissioners of Estimate for the purpose of making a just and equitable estimate of the loss and damage to the respective owners, lessees, parties and persons respectively entitled

to or interested in the lands, tenements, hereditaments and premises laid out, appropriated or designated by chapter 746 of the Laws of 1894 for a public place and public park and parkway, bounded on the south by the northerly side of One Hundred and Eleventh street; on the north by the southerly side of One Hundred and Fourteenth street; on the west by the easterly side of the First avenue, and on the east by the bulkhead-line of the East river, or so much thereof as we shall deem advisable to be acquired for said purposes, will hold a public meeting in Room No. 112, on the third floor of the Stewart Building, No. 280 Broadway, in the City of New York, on Tuesday, the 15th day of January, 1895, at 2 o'clock in the afternoon, for the purpose of considering and determining the question whether the whole, or, if less than the whole, how much of the lands and premises specified in said Act of the Legislature shall be acquired for said public purposes.

An opportunity will be afforded at such time and place to all persons who may so desire to be heard in regard to said questions.

Dated New York, January 3, 1895.
ABRAM KLING,
RICHARD V. HARNETT,
EDMUND L. MOONEY,
Commissioners.

W. T. H. HUGHES, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTY-SECOND STREET (although not yet named by proper authority) extending from its present terminus easterly to the westerly line of Edgecombe road in the Twelfth Ward of the City of New York, as the same has heretofore laid out and designated as a first-class street or road by said Board.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Sixty-second street, as shown and delineated in red color on a map attached to the petition herein, dated the 14th day of December, 1893, and signed Joseph O. B. Webster, Assistant Engineer and Surveyor of the Department of Public Works, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 660 of the Laws of 1893, and filed on or about the 15th day of September, 1893, one in the office of the Department of Public Works, one in the office of the Counsel to the Corporation, one in the office of the Secretary of State of the State of New York, one in the office of the Register of the City and County of New York, and one in the office of the Department of Public Parks, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 28, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 15th day of January, 1895, at 3 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 28, 1894.
EDWARD C. STONE,
H. ALFRED FREEMAN,
CHARLES PRETZEL,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTY-SEVENTH STREET (although not yet named by proper authority) extending from its present terminus easterly to the westerly line of Edgecombe road, in the Twelfth Ward of the City of New York, as the same has heretofore laid out and designated as a first-class street or road by said Board.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court entered in the office of the Clerk of the City and County of New York on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Sixty-seventh street, as shown and delineated in red color on a map attached to the petition herein dated the 14th day of December, 1893, and signed Joseph O. B. Webster, Assistant Engineer and Surveyor of the Department of Public Works, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under chapter 660 of the Laws of 1893 and filed on or about the 16th day of September, 1893, one in the office of the Department of Public Works, one in the office of the Counsel to the Corporation, one in the office of the Secretary of State of the State of New York, one in the office of the Register of the City and County of New York, and one in the office of the Department of Public Parks, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so

to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 28, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 23d day of January, 1895, at 3 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 28, 1894.
JOHN G. O'KEEFE,
ALBERT BACH,
ISAAC RODMAN,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to that portion of ONE HUNDRED AND SIXTY-SIXTH STREET (although not yet named by proper authority) extending from its present terminus easterly to the westerly line of Edgecombe road, in the Twelfth Ward of the City of New York, as the same has heretofore laid out and designated as a first-class street or road by said Board.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, on the 17th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Sixty-sixth street, as shown and delineated in red color on a map attached to the petition herein, dated the 14th day of December, 1893, and signed Joseph O. B. Webster, Assistant Engineer and Surveyor of the Department of Public Works, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 660 of the Laws of 1893, and filed on or about the 15th day of September, 1893, one in the office of the Department of Public Works, one in the office of the Counsel to the Corporation, one in the office of the Secretary of State of the State of New York, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 28, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 23d day of January, 1895, at 3 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 28, 1894.
ALBERT BACH,
JOHN G. O'KEEFE,
ISAAC RODMAN,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to ONE HUNDRED AND EIGHTY-SIXTH STREET (although not yet named by proper authority), from Amsterdam avenue to Wadsworth avenue, in the Twelfth Ward of the City of New York.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, on the 11th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as One Hundred and Eighty-sixth street, as shown and delineated in red color on a map attached to the petition herein dated the 9th day of May, 1893, and signed Joseph O. B. Webster, Assistant Engineer and Surveyor of the Department of Public Works, and as shown and delineated on certain maps made by the Board of Street Opening and Improvement of the City of New York, under authority of chapter 410 of the Laws of 1882, as amended by chapter 360 of the Laws of 1883, chapter 17 of the Laws of 1884, and chapter 185 of the Laws of 1885, and filed on or about the 21st day of April, 1893, in the office of the

Department of Public Works, in the office of the Secretary of State of the State of New York, in the office of the Register of the City and County of New York, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 24, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 18th day of January, 1895, at 4 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 24, 1894.
ANDREW S. HAMERSLEY, JR.,
SAMUEL W. MILBANK,
PIERRE VAN BUREN HOES,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Commissioners of the Department of Public Parks of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title in fee to certain pieces or parcels of land extending from the easterly side of Jerome avenue, at One Hundred and Sixty-second street to the easterly bulkhead-line of the Harlem river, opposite One Hundred and Fifty-fifth street and Seventh avenue, in the Twenty-third Ward of said city, for the purpose of the construction of the Jerome avenue approach, with the necessary abutments and arches, to the New Macomb's Dam Bridge across the Harlem river in said city.

WE, THE UNDERSIGNED COMMISSIONERS of Estimate in the above-entitled matter, hereby give notice to all persons interested in this proceeding, and to the owner or owners, occupant or occupants, of all houses and lots and improved and unimproved lands affected thereby, and to all others whom it may concern, to wit:

First—That we have completed our estimate, and that all persons interested in this proceeding, or in any of the lands affected thereby, and having objections thereto, do present their said objections in writing, duly verified, to us at our office, No. 2 Tryon Row, Room 1 (fourth floor), in said city, on or before the 4th day of February, 1895, and that we, the said Commissioners, will hear parties so objecting within the ten week days next after the said 4th day of February, 1895, and for that purpose will be in attendance at our said office on each of said ten days, at 12.30 o'clock p. m.

Second—That the abstract of our said estimate, together with our damage maps, and also all the affidavits, estimates and other documents used by us in making our report, have been deposited with the Commissioner of Public Works of the City of New York, at his office, No. 31 Chambers street, in the said city, there to remain until the 5th day of February, 1895.

Fourth—That our report herein will be presented to the Supreme Court of the State of New York, at a Special Term thereof, to be held at the Chambers thereof, in the County Court-house, in the City of New York, on the 12th day of February, 1895, at the opening of the Court on that day, and that then and there, or as soon thereafter as counsel can be heard thereon, a motion will be made that the said report be confirmed.

Dated New York, December 19, 1894.
LEWIS J. CONLON, Chairman,
WM. C. HOLBROOK,
WILLIAM H. BARKER,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to INWOOD AVENUE (although not yet named by proper authority), extending from Cromwell avenue to Featherbed lane, in the Twenty-third and Twenty-fourth Wards of the City of New York, as the same has heretofore laid out and designated as a first-class street or road.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, on the 7th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as Inwood avenue, as shown and delineated in red color on the map attached to the petition herein dated the 3d day of January, 1894, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on a certain map entitled "Map or plan showing revised system of avenues and streets lying between the Spuyten Duyvil and Port Morris Railroad, Jerome avenue, East One Hundred and Sixty-fifth street, Mott avenue, Juliet street and Walton avenue; also showing River avenue, from East One Hundred and Forty-fourth street to the Spuyten Duyvil and Port Morris Railroad, in the Twenty-third Ward of the City of New York, dated February 26, 1889, and filed, one in the office of the Register of the City and County of New York, August 30, 1889, and one in the office of the Secretary of State of the State of New York, on August 31, 1889," and as also shown and delineated on a certain map entitled "Map or plan showing location, width, course, windings, classifications and grade of avenues and streets lying between Elliot street, Inwood avenue, Featherbed lane and Jerome avenue, in order to render more definite and certain a part of a map filed by the Department of Public Parks, March 29, 1888, in the office of the Register of the City and County of New York, proposed by the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards of the City of New York, under chapter 543 of the Laws of 1892, dated April 9, 1892," and filed, one in the office of the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards, July 15, 1892; one in the office of the Register of the City and County of New York, July 21, 1892, and one in the office of the Secretary of State

of the State of New York, July 22, 1892, and more particularly set forth in the said petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 20, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 15th day of January, 1895, at 3 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 20, 1894.
ANDREW S. HAMERSLEY, JR.,
SAMUEL W. MILBANK,
PIERRE VAN BUREN HOES,
Commissioners.

JOHN P. DUNN, Clerk.

In the matter of the application of the Board of Street Opening and Improvement of the City of New York, for and on behalf of the Mayor, Aldermen and Commonality of the City of New York, relative to acquiring title, wherever the same has not been heretofore acquired, to WOLF PLACE (although not yet named by proper authority), extending from Jerome avenue to Inwood avenue, in the Twenty-fourth Ward of the City of New York, as the same has heretofore laid out and designated as a first-class street or road by the Department of Public Parks.

NOTICE IS HEREBY GIVEN THAT WE, THE undersigned, were appointed by an order of the Supreme Court, entered in the office of the Clerk of the City and County of New York, bearing date the 7th day of December, 1894, Commissioners of Estimate and Assessment for the purpose of making a just and equitable estimate and assessment of the loss and damage, if any, or of the benefit and advantage, if any, as the case may be, to the respective owners, lessees, parties and persons respectively entitled unto or interested in the lands, tenements, hereditaments and premises required for the purpose by and in consequence of opening a certain street or avenue, herein designated as Wolf place, as shown and delineated in red color on a map attached to the petition herein, dated the 13th day of February, 1893, and signed Louis A. Risse, Chief Engineer, and as shown and delineated on a certain map, entitled "Map or plan showing proposed changes of avenues and streets in that part of the Twenty-third and Twenty-fourth Wards of the City of New York, bounded on the north by Belmont street and Elliot street, on the east by Sheridan avenue and Mott avenue, on the south by the Spuyten Duyvil and Port Morris Railroad, and on the west by Jerome avenue, Bosobel avenue and Cromwell avenue," filed in the Department of Public Parks on the 24th day of March, 1888, in the office of the Register of the City and County of New York, on the 29th day of March, 1888, and in the office of the Secretary of State of the State of New York, and on the 30th day of March, 1888, and as also shown and delineated on a certain map, entitled "Map or plan showing location, width, course, windings, classification and grades of avenues and streets lying between Elliot street, Inwood avenue, Featherbed lane and Jerome avenue, in order to render more definite and certain a part of a map filed by the Department of Public Parks, March 29, 1888, in the office of the Register of the City and County of New York, prepared by the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards of the City of New York, under chapter 543 of the Laws of 1892, and filed in the office of the Commissioner of Street Improvements of the Twenty-third and Twenty-fourth Wards, on the 15th day of July, 1892, in the office of the Register of the City and County of New York, on the 21st day of July, 1892, in the office of the Secretary of State of the State of New York, on the 22d day of July, 1892, and more particularly set forth in the petition of the Board of Street Opening and Improvement filed in the office of the Clerk of the City and County of New York; and a just and equitable estimate and assessment of the value of the benefit and advantage of said street or avenue so to be opened or laid out and formed, to the respective owners, lessees, parties and persons respectively entitled to or interested in the said respective lands, tenements, hereditaments and premises not required for the purpose of opening, laying out and forming the same, but benefited thereby, and of ascertaining and defining the extent and boundaries of the respective tracts or parcels of land to be taken or to be assessed therefor, and of performing the trusts and duties required of us by chapter 16, title 5, of the act entitled "An Act to consolidate into one act and to declare the special and local laws affecting public interests in the City of New York," passed July 1, 1882, and the acts or parts of acts in addition thereto or amendatory thereof.

All parties and persons interested in the real estate taken or to be taken for the purpose of opening the said street or avenue, or affected thereby, and having any claim or demand on account thereof, are hereby required to present the same, duly verified, to us, the undersigned Commissioners of Estimate and Assessment, at our office, No. 2 Tryon Row, in the City of New York, Room No. 1, with such affidavits or other proofs as the said owners or claimants may desire, within twenty days after the date of this notice (December 20, 1894).

And we, the said Commissioners, will be in attendance at our said office on the 15th day of January, 1895, at 4 o'clock in the afternoon of that day, to hear the said parties and persons in relation thereto. And at such time and place, and at such further or other time and place as we may appoint, we will hear such owners in relation thereto and examine the proofs of such claimant or claimants, or such additional proofs and allegations as may then be offered by such owner, or on behalf of the Mayor, Aldermen and Commonality of the City of New York.

Dated New York, December 20, 1894.
ANDREW S. HAMERSLEY, JR.,
EDWARD L. PARRIS,
JAMES A. DONEGAN,
Commissioners.

JOHN P. DUNN, Clerk.

THE CITY RECORD.

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