

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE.

FRANCIS A. WALKER, Superintendent,
Appointed April 1, 1879; resigned November 3, 1881.

CHAS. W. SEATON, Superintendent,
Appointed November 4, 1881. Office of Superintendent
abolished March 3, 1885.

REPORT

ON THE

SOCIAL STATISTICS OF CITIES,

COMPILED BY

GEORGE E. WARING, Jr.,
EXPERT AND SPECIAL AGENT.

PART I.

THE NEW ENGLAND AND THE MIDDLE STATES.

PART II.

THE SOUTHERN AND THE WESTERN STATES.

PART I.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1886.

Bureau of the Census

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,

Washington, D. C., February 1, 1886.

Hon. L. Q. C. LAMAR,

Secretary of the Interior.

SIR: I have the honor to transmit herewith the report on Social Statistics of Cities, constituting the eighteenth and nineteenth volumes of the series forming the final report on the Tenth Census.

Colonel George E. Waring, jr., of Newport, Rhode Island, was the chief special agent charged with the preparation of this report, and in his extensive investigation and labors he had the aid of Messrs. George W. Cable, George W. Dresser, S. Waterhouse, James M. Bugbee, and Wilson Eyre.

I have the honor to be, very respectfully, your obedient servant,

JAMES H. WARDLE,

Chief of Census Division.

LETTER OF TRANSMITTAL.

NEWPORT, R. I., *February 20, 1885.*

HON. CHARLES W. SEATON,
Superintendent of Census.

SIR: I beg to transmit herewith my report concerning the Social Statistics of Cities of the United States.

Ordinarily, there have been considered only chartered cities of a certain size, but in a few cases towns, villages, and boroughs of a size and importance to justify their consideration here have been included in the report; so have certain smaller cities which are capitals of states or are for some other reason of more than ordinary interest.

It is proper to say a word in explanation of the disproportion, in some cases, of the completeness of the report to the importance of the city. This disproportion is due to two causes: The reports concerning New Orleans, Boston, and a few other cities were already well advanced on the basis of very complete treatment, when it was found that the appropriation would not permit similarly full treatment of all other cities of equal population. Then, again, it was necessary to depend for much of our information on the volunteer aid of city officials and public-spirited citizens. This reliance was generally well placed, but in some cases it was found impossible to secure attention to the subject, and the reports concerning such cities were necessarily restricted, mainly to information which had been obtained by other branches of the Census Office.

Although published at this late day, the report relates only to the condition of the cities treated of in the census year (1880). It is believed that for that year it presents an accurate statement of their condition so far as relates to the subjects discussed.

Very respectfully, yours,

GEO. E. WARING, JR.,
Expert and Special Agent.

THE NEW ENGLAND STATES.

MAINE.

AUGUSTA, BANGOR, BIDDEFORD, LEWISTON, PORTLAND.

NEW HAMPSHIRE.

CONCORD, DOVER, MANCHESTER, NASHUA, PORTSMOUTH.

VERMONT.

BURLINGTON, RUTLAND.

MASSACHUSETTS.

BOSTON,
BROCKTON,
CAMBRIDGE,
CHELSEA,
CHICOPEE,
FALL RIVER,
FITCHBURG,

GLOUCESTER,
HAVERHILL,
HOLYOKE,
LAWRENCE,
LOWELL,
LYNN,
MALDEN,

NEW BEDFORD,
NEWBURYPORT,
NEWTON,
NORTH ADAMS,
PITTSFIELD,
SALEM,
SOMERVILLE,

SPRINGFIELD,
TAUNTON,
WALTHAM,
WEYMOUTH,
WOBURN,
WORCESTER.

RHODE ISLAND.

NEWPORT, PAWTUCKET, PROVIDENCE, WOONSOCKET.

CONNECTICUT.

BRIDGEPORT,
DANBURY,
HARTFORD,

MERIDEN,
MIDDLETOWN,

NEW BRITAIN,
NEW HAVEN,

NEW LONDON,
NORWICH,
WATERBURY.

MAINE.

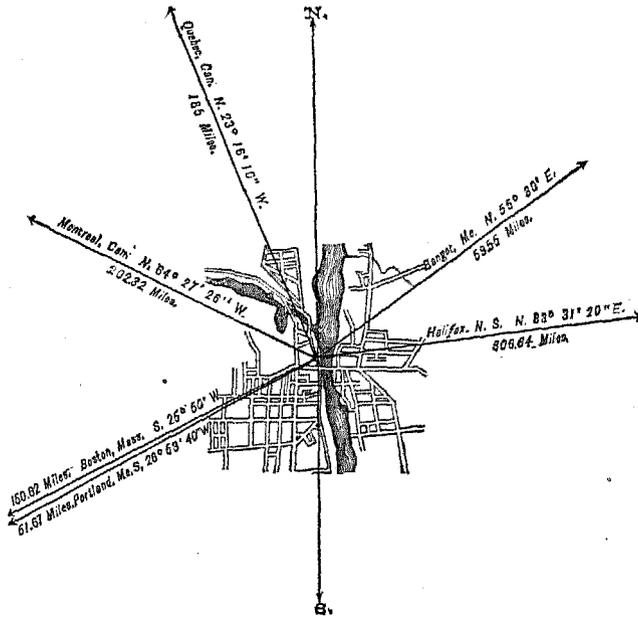
AUGUSTA,

KENNEBEC COUNTY, MAINE.

POPULATION

IN THE
AGGREGATE,
1790-1880.

	Inhab.
1790.....	1,194
1800.....	1,210
1810.....	1,805
1820.....	2,451
1830.....	3,980
1840.....	5,314
1850.....	8,225
1860.....	7,609
1870.....	7,808
1880.....	8,665



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	4,068
Female.....	4,597
—	
Native.....	7,844
Foreign-born.....	821
—	
White.....	8,615
Colored.....	49

Latitude 44° 19' North; Longitude: 69° 47' (west from Greenwich); Altitude on tide-water.

FINANCIAL CONDITION:

Total Valuation: \$4,392,915; per capita: \$507 00. Net Indebtedness: \$319,100; per capita: \$36 83. Tax per \$100: \$2 39.

HISTORICAL SKETCH.(a)

Under the Indian name of Cushman, Augusta (including Hallowell) was first occupied in 1754 by colonists of New Plymouth, who established a trading-house on the east side of the river, a little below the Kennebec bridge, on the site of old fort Western, of which the main building is still standing. This fort was strongly garrisoned during the English and French war, after the close of which, in the autumn of 1759, it was occupied by a smaller force. No dwelling was erected outside of the fortifications until after the fall of Quebec. Then, the power of their Indian enemy being broken, the Plymouth colony began the settlement of their lands. A survey and a plan of lots were made by John Winslow, and allotments were made to actual settlers on the condition of the performance

a Chiefly from *The History of Augusta*, by James W. North.

July 23, 1849, the governor approved an act of the legislature chartering the town of Augusta as a city. December 31, at a special town-meeting, the act was accepted by a majority of three-fourths. The city was then divided into seven wards, and in March of the following year a city council was elected and the government was organized. The population in this year was 8,232.

March 9, 1850, a large number of shops and stores were destroyed by fire; and again on the 2d of September, 1853, a still more severe conflagration took place. It originated in a spool factory, and included in its ravages six saw-mills, a flouring-mill, a machine-shop, and other buildings. The loss amounted to \$75,000, and 200 men were thrown out of employment.

The Augusta Gas Light Company was incorporated March 9, 1853. The works were completed and the city was lighted with gas October 26 of the same year.

On Sunday, September 17, 1865, there occurred the most destructive fire that has visited Augusta. Starting in a row of three wooden buildings on the east side of Water street, it was not stayed until eighty-one of the best buildings in the city were consumed. "Every bank was burned out; the post-office; two hotels; every shoe-store and clothing-store, and every lawyer's office." The value of property destroyed amounted to \$500,000, upon which was insurance to half that amount. The fire was doubtless the work of an incendiary, George W. Jones, of China, Maine. He had been selling lobsters in the city during the summer, some of which were taken from his cart by soldiers without payment. Not receiving from the police that protection which he thought was his right, he became incensed and took this means for revenge. He was apprehended, convicted of arson, and sentenced to a term in the state prison.

During the war of the rebellion, Augusta was the chief rendezvous for troops, near whose route to the seat of war it lay. This was far from being an advantage to the city. Aside from the disastrous conflagration described above, the presence of troops in temporary encampment and subject often to the lax discipline of new organizations, as in the case of so many other towns, implanted in the breasts of the young men of the town a spirit of lawlessness, the evil effect of which was felt long after the war had ceased.

In 1865 negotiations were opened with A. and W. Sprague for the sale to them of the Kennebec water-power, excepting the cotton-mill and the power required to operate it. The sum of \$150,000 was offered, provided they could purchase contiguous lands at a reasonable price and in sufficient quantity fully to develop the water-power. The Kennebec Company demanded \$185,000. It was found that the value of the selected property was \$315,000. For this the Spragues declined to pay more than \$150,000. Meetings were held, and the city council finally directed the mayor to petition the legislature to grant authority to the city to raise the difference by loan. This was done, and the legislature granted the authority, upon a two-thirds vote, in ward meetings of the citizens, to accept the same, to raise \$250,000. This the voters did, and the city at once issued its bonds for this amount. It was soon found that \$250,000 were not sufficient to meet the deficit on the property within the limits of the contemplated purchase. In this event the proposal was made to the Spragues that they should purchase the bonds and accept the lands which could be bought with the proceeds. This was accepted upon the condition that they should be allowed to take only such of the bonded land as they might select, and the balance in bonds instead of in land. The unexpended bonds were to be applied to the purchase of contiguous bonded land at the bonded price until the 13th of April, 1867. On the 30th of March the conveyance was made. Subsequently, and by the 13th of April, A. and W. Sprague had purchased additional bonded property amounting to \$76,000. The property purchased covered a large area; on the west side of the river it extended from the railroad bridge to Ballard's brook, and on the east side from the eddy at Fort Point to the north line of the McDonald farm, on lot No. 32. Upon this are the dam and lock, a cotton-mill of 9,000 spindles, saw-mills, machine-shops, dwelling-houses, stores and shops, house-lots in great number, two farms of large extent and considerable fertility, and two granite quarries.

September 8, 1869, the city and county were visited by a storm of unprecedented violence. Later storms of this year were also very severe, doing considerable damage to property along the river by its great and sudden rising. In February, 1870, a great freshet occurred, which carried away the railroad bridge and jammed it against the Kennebec bridge, damaging the latter considerably. The dam also was much injured. The railroad bridge was rebuilt with iron in the same year, at a cost of about \$100,000.

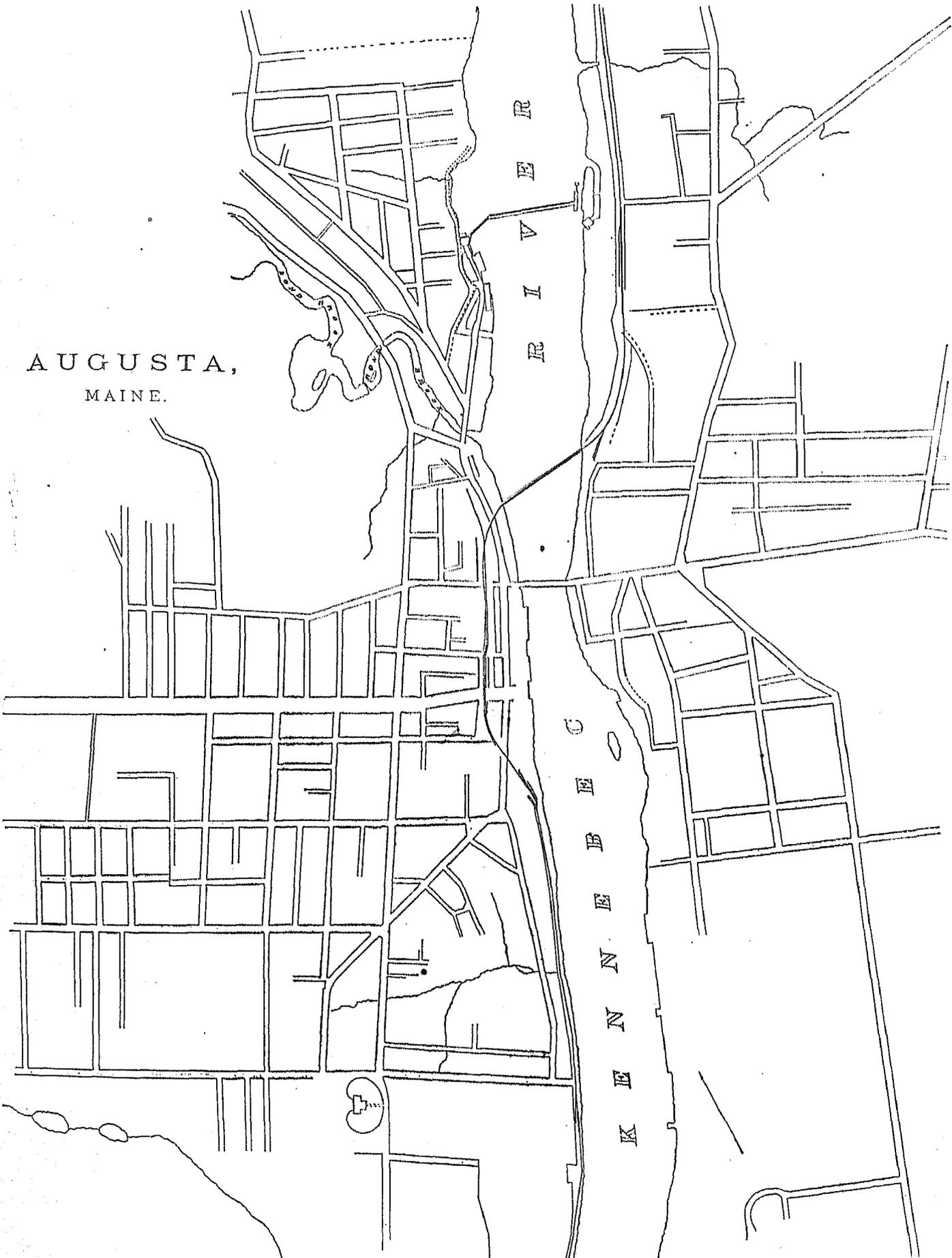
AUGUSTA IN 1880.

The following, collected by the Census Office, indicates the present condition of this city:

LOCATION.

Augusta, the capital of the state of Maine, is situated principally on the right bank of the Kennebec river, at the head of sloop navigation, 45 miles from its mouth, in latitude 44° 19' north, and longitude 69° 47' west from Greenwich. A short distance from the river the ground suddenly rises to a considerable elevation, after which the ascent is more gradual. The river has been improved so as to give a channel up to the city 100 feet wide, with a

AUGUSTA,
MAINE.



depth in the summer stage of water of $6\frac{1}{2}$ feet at low and $11\frac{1}{2}$ feet at high tide. The river is closed by ice on an average 121 days each year, the longest time recorded being in 1798-'99, when the river closed November 23, and the ice did not run out until April 13—143 days; and the shortest being in 1870-'71, from December 16 to March 12—85 days.

RAILROAD COMMUNICATIONS.

The city is on the Maine Central railroad, 67 miles from Bangor and 60 miles from Portland, and 170 miles from Boston.

TRIBUTARY COUNTRY.

The surrounding country is agricultural, large quantities of hay being prepared annually for shipment. There are several stone-quarries in the immediate vicinity, and in winter the cutting and storing of ice constitutes an important and growing industry.

TOPOGRAPHY.

The soil on which the city is built is a clay loam, in many places a stiff clay resting upon a formation of hornblende granite, of very good texture and cleavage, more or less tabular. The varieties of level are extreme, the banks of the Kennebec river rising in a series of three terraces, back from and parallel with it and intersected by deep ravines running from the high land to the river, these ravines being cut down in many places to the Tertiary clays.

The natural drainage of the city is excellent; back from the high terraces the land falls off toward lower fields, although there are no marshes, ponds, or lakes within a radius of 5 miles.

The surrounding country is open, with occasional small areas of wood, and the soil is the same as that on which the city is built.

CLIMATE.

The southerly winds are the warmest; those from the north and west are the coldest. The range of temperature is extreme. The average greatest heat in past years was 87.6° Fahr., 100 being the highest point recorded. The average greatest cold for the same period was -21.3° Fahr., -40° Fahr. being the lowest recorded point.

STREETS.

There are 150 miles of streets and roads in the city, and of these but five or six miles are graveled, the remainder being the ordinary dirt road. The gravel is not expensive and is easily obtained. The sidewalks are mostly of concrete, with some of flag-stone, brick, and asphalt. There are many more miles of sidewalk than of graveled street. Where curbstones are set they are 2 feet deep by 6 inches wide. The gutters in some cases are laid with cobble-stones.

Tree-planting is no longer allowed on the streets outside of the lines of private property, and the street commissioner can, when he deems it advisable, remove trees now growing there. There is an average yearly appropriation of \$12,000 for the maintenance and repair of streets and roads (including the removal of snow in winter), and all work is done by the day.

The following is received from the local correspondent of the Census Office:

The streets are in miserable condition and are inadequately administered. Not a single paved street exists in the city. The method of keeping Water street—the main street—in condition, is to haul on gravel in the summer and grade up in places where needed. In the fall and spring this makes a road-bed of 6 or 8 inches of mud during periods of three to six weeks each, travel on our chief business street being worse than on the ordinary turnpike. Then in the spring our streets are scraped, and the gravel that was hauled in is again carted out. The cost of thus *repairing* the chief street of the city would, if applied from year to year in paying for paving, be sufficient to pay for the same in less than ten years.

There are no street-railroads or omnibus lines in the city. Nothing could be learned regarding the public water-supply or the gas-works.

PUBLIC BUILDINGS.

The valuation of buildings owned by the city is \$105,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There is one public park in the city—area $2\frac{1}{2}$ acres. The land was donated to the city for the purpose of having erected on it a soldiers' monument, now nearly completed. The grounds are now being laid out, walks are being made, trees planted, seats placed, etc.

The large and handsome grounds around the state house, which stands on a commanding eminence in the southern part of the city, and which are well laid out and kept, also the well-improved grounds of the United States arsenal on the east side of the river, are used by the citizens as parks.

PLACES OF AMUSEMENT.

There are two halls in Augusta: Granite hall, with a seating capacity of 1,500, and Masonic hall, which is

DRAINAGE.

Although the location of the city is most favorable for the introduction of a complete system of sewers at reasonable cost, and although the same need of such a system exists here as in other towns of the same size, scarcely anything has been done in this direction. The drainage of the city, its buildings and its streets, is reported as very imperfect and unsatisfactory. The main street, parallel with the river, is from 40 to 50 feet above it. Here are located two large hotels, and other public buildings, and many places of business. On the higher lands west of this street is the residence portion of the city; here, also, are the county court-house, the jail, and the state house; also three large publishing houses, giving employment to numerous operatives. "Yet with all this there is no system of street drainage or sewers connected with any of the public buildings except in a few instances, and in these cases they are generally private sewers. The city has done almost nothing to introduce or carry out anything like a thorough system of street drainage, and it is suffering in consequence of this neglect". It is reported that "what is now spent in keeping surface drains in poor condition at best, would, in less than ten years, be sufficient to pay for a thorough and complete system of sewers in those portions of the city where most needed".

Such sewerage as the city has, consists of about a dozen badly-constructed stone sewers built square, not water-tight, and varying in size from 18 by 18 inches to 4 by 4 feet. They were built at various times under different street commissioners, and are very imperfectly cemented, so that even where water-tight the inner surface is not smooth. Sewers are still being built irregularly. There is no ventilation provided, save that the street inlets are untrapped. Many of the sewers and private drains empty into open gullies in the thickly-settled parts of the town, and the discharge flows directly past dwellings—in some cases under their very windows. "A case in point: In a certain hotel with 110 rooms, situated about 500 or 600 feet from the river, they have a close drain, about 50 feet long, to the other side of the street; there it empties into an open gully, and in this manner is carried down all the waste of the hotel, which, when the legislature is in session, is crowded." There is no artificial flushing or removal of deposits from the sewers. Such flushing as they do receive is accomplished by storm-water. It is proper to say that these sewers were built by the city for the removal of city drainage, and were not intended to receive household waste. Their use for the removal of house drainage, although frequent, is unauthorized. The street commissioner has often protested against the existing method of drainage, but without result.

CEMETERIES.

There are 9 cemeteries in the city; 7 of these are public property and 2 are owned by private corporations.

Mount Pleasant and Mount Vernon Cemeteries, owned by the city, are the largest; they are situated on Winthrop street, at the top of Winthrop hill, at the edge of the thickly-settled portion of the city. Though separated by a fence, they are practically one cemetery. They occupy together an area of about 18 acres.

The other cemeteries are as follows:

Brackett's Corner Cemetery.—At Brackett's Corner, on Belgrade road, inside of city limits, but outside of city proper; area, about 1 acre.

Cony Cemetery.—On River road, about 3 miles from city proper, but within the city limits; area, 2 acres.

One at Coombs' mills, near Bond Brook road, 3 miles from city proper, but within the city limits; area, about 2 acres.

Riverside Cemetery.—On the east side of the river, inside city limits, but in a thinly-settled part; area, 5½ acres. One on Bolton hill, about 5 miles from city proper; area, about 2 acres.

Forest Grove Cemetery.—On Winthrop hill, just beyond the city proper; area, 12 acres. (Private.)

Catholic Cemetery.—Next to the above; area, 6 acres. (Private.)

The interments in the year 1880, as reported by the superintendent of burials, were 135 in number. No burial permits are required. Interments are generally made three days after death. The depth of the grave must be not less than 4 feet.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief health organization is entitled "the board of health". It consists of the mayor, the city marshal, and the city physician.

Its annual disbursements are merely nominal, probably less than \$50. Its disbursements may be increased during an epidemic only by the action of the board of aldermen. Its authority in the absence of epidemics is "little or nothing". This authority would probably be increased during an epidemic, by special action of the board of aldermen. The mayor is the chief executive officer of the board, without additional salary.

In response to the query, "What is the mode of transacting the business of the board?" the following answer is made: "None: they don't ever seem to meet."

In response to the query, "What number of assistant health officers and of inspectors are employed?" the following answer is made: "No regular assistant health officers or inspectors are employed."

There is no regular inspection. Nuisances are inspected only as reported. When reported the mayor investigates the matter, and, if he sees fit, orders abatement through the city marshal. No notice is taken of defective house-drains, privy-vaults, cesspools, and defective sources of drinking-water, defective sewerage, street-cleaning, etc., except when specially reported. The board exercises no control over the conservation and removal of garbage.

INFECTIOUS DISEASES.

Small-pox patients are isolated by removal to a small building at the poor-farm, outside of the city proper.

Scarlet-fever patients are not isolated or quarantined at home, nor does the board take cognizance of the breaking out of contagious diseases in public and private schools.

Vaccination, when necessary, is done at the public expense.

There is no system of registration of births or of diseases, nor is there a complete registration of deaths; the superintendent of burials keeps account of all interments.

MUNICIPAL CLEANSING.

Street-cleaning.—All street-cleaning is done by the city, under supervision of the street commissioner. The principal street (Water) is cleaned once in three weeks, and the rest once a year, in the fall. Such of the sweepings as can be used for manure are taken by the farmers, and the balance is used for filling in low places. The cost of the work is about \$300 annually, and it is fairly well done.

Removal of garbage and ashes.—There are no regulations as to the removal of ashes and garbage, which is done by the householders. Most of the garbage is fed to pigs, and the ashes are used for filling.

Dead animals.—All dead animals are removed and buried beyond the city limits, by the owners.

Liquid household wastes.—Most of the household wastes are run into cesspools and vaults, a small proportion only passing into the sewers or private drains. The cesspools are generally porous, and have no overflows. They are cleaned out at night, and the contents are removed in water-tight covered carts.

Human excreta.—The city depends almost entirely on vaults. There are no special regulations regarding their cleaning or the disposition of their contents. The night-soil is generally taken by farmers. The wastes from the manufactories escape into the river.

CITY GOVERNMENT.

The charter of the city of Augusta, approved by the governor July 23, 1849, and adopted in town-meeting December 31, 1849, provided for a mayor, a board of 7 aldermen, and a common council of 21 members. By an amendment of the charter approved February 15, 1878, the common council was abolished, all its powers, rights, privileges, duties, and obligations devolving upon the board of aldermen.

The powers of the city government, so far as the assessment and appropriation of money are concerned, are limited to the powers of the former government of the town of Augusta, "and all notes, bonds, obligations, scrip, or orders given by the city council or any officer or agent thereof", except in accordance with this provision, are made void.

The mayor presides in the board of aldermen, but has only a deciding vote. In addition to his regular salary, he may be elected by the council to any city office and have a reasonable compensation for services rendered in such office. The aldermen receive no compensation.

The executive powers of the city, the administration of police, and all the powers of the selectmen of the town of Augusta are vested in the mayor and aldermen; "all other powers not vested in the inhabitants of said town, and all powers granted by this act, shall be vested in the mayor and aldermen and common council of said city, to be exercised by concurrent vote, each board to have a negative upon the other."

The mayor has the right for seven days of vetoing any act of the council, but his veto may be set aside by a clear majority of the whole number of the council.

In case of a vacancy in the office of mayor, the vacancy is filled for the remainder of the term by a new election, but the board of aldermen has the right to elect a president *pro tempore*, and he becomes the acting mayor pending this election.

POLICE. (a)

The chief executive officer of the police is the city marshal. He is elected by the board of aldermen. He appoints his own deputies, subject to the confirmation of the board of aldermen. The city marshal performs the duties of a sheriff for all parts of Kennebec county and the state at large. His salary is \$500 and fees.

There are four regular uniformed police officers, whose compensation is \$2 per day. Each provides his own uniform, which costs \$40. No belt or billy is worn openly, but the officers carry a billy, a revolver, handcuffs, twisters, and whistles. Patrolmen are on duty twelve hours per day on the average. The beat of each covers from 5 to 15 miles. There are no printed rules or regulations for the government of the force.

SOCIAL STATISTICS OF CITIES.

The number of arrests for 1880 was 420, including the following:

Drunkenness	175
Vagrancy	82
Assault and battery	53
Liquor-selling	26
Larceny	33

No record was kept of lost and stolen property reported to the police, or of property recovered and returned to owners, or of the number of station-house lodgers. Free meals were furnished to station-house lodgers, but no account of them was kept.

The police department has a private fire alarm; rings the fire bells, co-operates with the fire department at fires, and takes charge of property exposed during fires.

Special policemen are appointed by the city marshal when required, as on the occasion of conventions, celebrations, public exhibitions, church entertainments, etc. They have for the time being the same authority as regular officers.

The appropriation for the force in 1880 was \$3,300; expenses, \$3,098 34.

The municipal court of Augusta exercises authority over nearly all the towns in Kennebec county, aside from the cities of Gardiner and Hallowell. The arrests above reported represent, therefore, a very large territory outside of the city proper. The near proximity of the National Soldiers' Home at Togus, 4½ miles distant, where nearly a thousand old soldiers are kept, must account for a very large part of the arrests for drunkenness, etc., within the jurisdiction of the city police. It is estimated that from one-half to two-thirds of the arrests for drunkenness are of this class. The great number of men employed in cutting and storing ice during the winter months (several thousand) brings extra work upon the force, as these men flock into the city on Saturday to remain over Sunday, causing much disturbance.

PUBLIC SCHOOLS.

There are 24 school districts. One of these, the village district, has a board of directors, created by a special statute, which has control over, and the management of, all schools in the district. The other 23 districts are under a supervisor, elected annually by the board of aldermen.

The school census, taken April 1, 1880, showed 2,233 children in the city between the ages of 4 and 21 years. Of these, 1,195 lived in the village district, and 1,038 in the other districts. The following table shows the number of scholars registered and the average attendance of the schools for 1880. It is taken from the directors' report for that year of the village district:

Schools.	Total average.	FIRST TERM.		SECOND TERM.		THIRD TERM.		FOURTH TERM.		
		Whole number.	Average number.							
High school	58½	56	50	67	64	67	64	63	56	
Grammar school	166	176	150½	193	172	162	172	189	160½	
INTERMEDIATE SCHOOLS.										
Chestnut street	43½	46	42	54	45	51	40	53	41	
Grove street	44½	47	39	53	46	56	46	54	46	
Kendall street	21	27	24	24	21	26	22	21	16	
Crosby street	35	45	37	42	31	47	40	42	33	
PRIMARY SCHOOLS.										
Chestnut street	48	64	52	61	50	58	46	57	44	
Grove street	59½	83	70	80	67	64	50	70	51	
Kendall street	51	62	67	64	52	65	51	57	42	
Crosby street	29	48	34	36	26	39	30	43	29	

NOTE.—The enrollment by terms above will not give the annual enrollment.

The annual cost for these schools (1880) was \$9,663 77.

The annual report of the supervisor for 1880 shows the following for the other 23 districts:

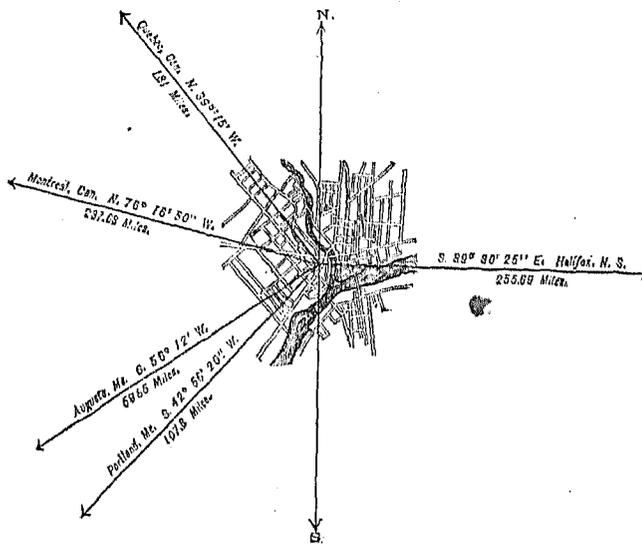
Number of scholars registered in summer schools	539
Average number attending summer schools	417
Number of scholars registered in winter schools	519
Average number attending winter schools	421
Number of schools taught by female teachers in summer	24
Number of schools taught by female teachers in winter	11
Number of schools taught by male teachers in winter	11
Average wages of female teachers per week, excluding board	\$4 30
Average wages of male teachers per month, excluding board	\$21 64
Average cost of board per week	\$1 98
Total amount expended on these schools	\$4,877 96

BANGOR,

PENOBSCOT COUNTY, MAINE.

POPULATION IN THE AGGREGATE, 1800-1880.

Year	Inhab.
1790	.....
1800	..... 277
1810	..... 850
1820	..... 1,221
1830	..... 2,867
1840	..... 8,627
1850	..... 14,432
1860	..... 16,407
1870	..... 18,289
1880	..... 16,856



POPULATION

BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	..... 7,931
Female	..... 8,925
Native	..... 14,362
Foreign-born	..... 2,494
White	..... 16,763
Colored	..... * 93

* Including 3 Indians.

Latitude 44° 46' North; Longitude: 68° 47' (west from Greenwich); Altitude: 17 to 242 feet.

FINANCIAL CONDITION:

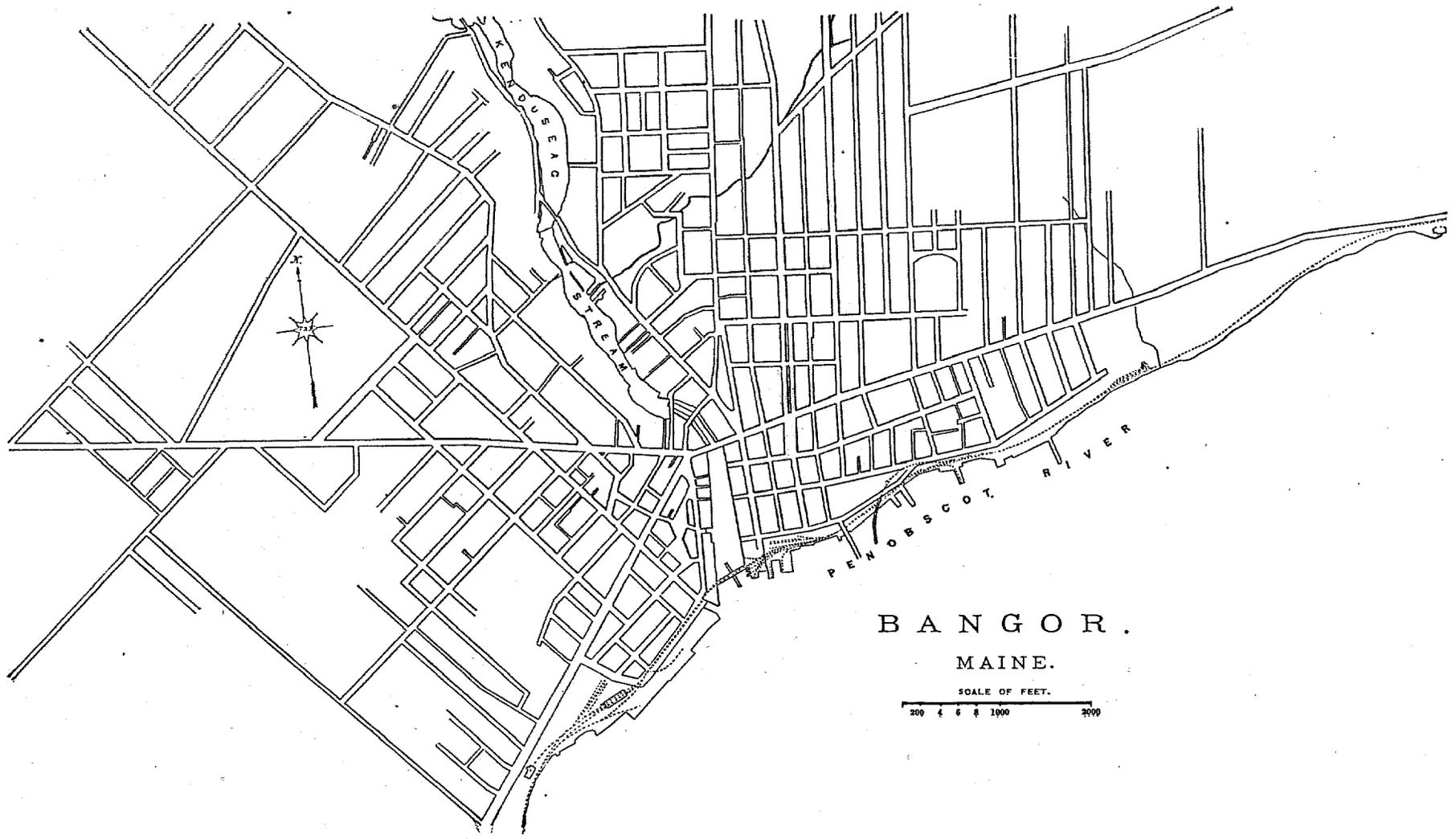
Total Valuation: \$9,074,064; per capita: \$538 00. Net Indebtedness: \$2,661,000; per capita: \$157 87. Tax per \$100: \$2 25.

HISTORICAL SKETCH.

The Penobscot river was early known to the people of Europe. It is laid down upon the charts of the sixteenth century, and in 1604 Henry IV of France made a grant of lands in Maine. But, though known, little attention was paid to it, and settlers were slow in coming. Not until 1759, when George Pownell built a fort on the banks, and thus made it safe to explore the river, did settlers venture to establish themselves along it; and not until 1769 did any one locate himself on the spot where the city of Bangor now stands. In this year Jacob Burwell took up his abode near where the Kenduskeag enters the Penobscot. The next year his son Stephen came with his family from Castine (then Bagaduce), and was followed in 1771 and 1772 by parties from Woolwich, Brunswick, and other towns.

In 1771 a saw-mill was built to meet the needs of the settlers, and fifteen years later a grist-mill. The Indians were friendly though not especially desirable neighbors, and gave little alarm though considerable annoyance by their persistent visits.

The history of the settlement until 1800 is not very interesting. The settlers made little progress, and during the



BANGOR.
MAINE.

SCALE OF FEET.
200 400 600 800 1000 2000

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In 1852 gas was introduced. Four years later a superintendent of schools was first appointed, and we find that from a school population of 5,510, the schools in winter taught 4,170 pupils, and in summer 3,560. In 1856 the Penobscot and Kennebec railroad went into operation, and in 1859 the valuation of Bangor was \$6,015,601, an increase of \$2,116,383 since 1850.

The period of the civil war was one of trouble and anxiety, yet the city's progress was steady, if slow.

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The history of the struggle with England in eastern Maine is not one to fill an American heart with pride. In 1779 General McLean was sent by England against the Penobscot country. Here he was cooped up by a fleet sent against him from Massachusetts, and might readily have been captured but for the cowardice of the commander of the expedition, who, instead, was, in his turn, shut up in the river by British ships sent to relieve McLean, and forced, finally, to blow up his ships and retreat as best he might through the forests to Massachusetts.

With the close of the Revolutionary war the growth of the settlement became a little more rapid, and in 1787 it began to call itself Sunbury, and settled Mr. Noble as its first minister.

In 1791 the settlers sent Mr. Noble to Boston with instructions to petition the general court that "the subscribers, inhabitants of and living upon a tract of land in the county of Lincoln, by name of No. 1 Land range, lying on the west side of Penobscot river", be incorporated as the town of Sunbury. The minister, however, was a singer, and melancholy withal, so that the hymn known as Bangor, beginning "Hark! from the tombs, a doleful sound", was his especial favorite; and thinking the name a fine one, he substituted it in the petition for Sunbury, and accordingly the town, which was incorporated February 25, 1791, was given the name of Bangor.

In 1800 Bangor had a population of 277 busily occupied in the lumber, fish, and ship-building industries, and was fairly started on its way to future prosperity. Its situation in the center of eastern Maine, at the junction of the Kenduskeag and Penobscot, seemed to make its growth a certainty.

In 1807 a bridge was built across the Kenduskeag. This was to be a toll-bridge for twenty years, although citizens of Bangor were to pass free, and at the end of that time it was to come into the full possession of the town.

Between 1808 and 1810 the "black death" was raging in the town, and carried off 100 victims in a single year. Trade suffered greatly from the embargo acts, and the progress of the town was seriously checked.

In 1810 Joseph Leavitt, a new settler, reported of it that there was "no meeting-house, several school-houses, several tolerable houses, partly finished. On the whole the place has the appearance of little wealth". The following year Mr. Loomis was settled as the minister. Prior to his coming, Sunday had been little observed, "the streets were thronged with idlers, whose disregard of the day was shameful".

In 1814 the town was attacked by the English. Although it was, perhaps, too much to expect untrained troops to repulse the regular forces of the English army, yet it was not unreasonable to suppose they could make a brave stand against them; but the battle of Hampden proved otherwise. The men fled when once under fire. Bangor was entered by the enemy, its stores were rifled, its people insulted, and its property destroyed. Three vessels were upon the stocks, waiting for the close of the war to be launched; these the British threatened to destroy, but finally spared them on condition that they be delivered to them at Castine the following spring, and Bangor was compelled to give bonds to fulfill its promise. The victors departed, having had a successful, jolly, and far from dangerous expedition.

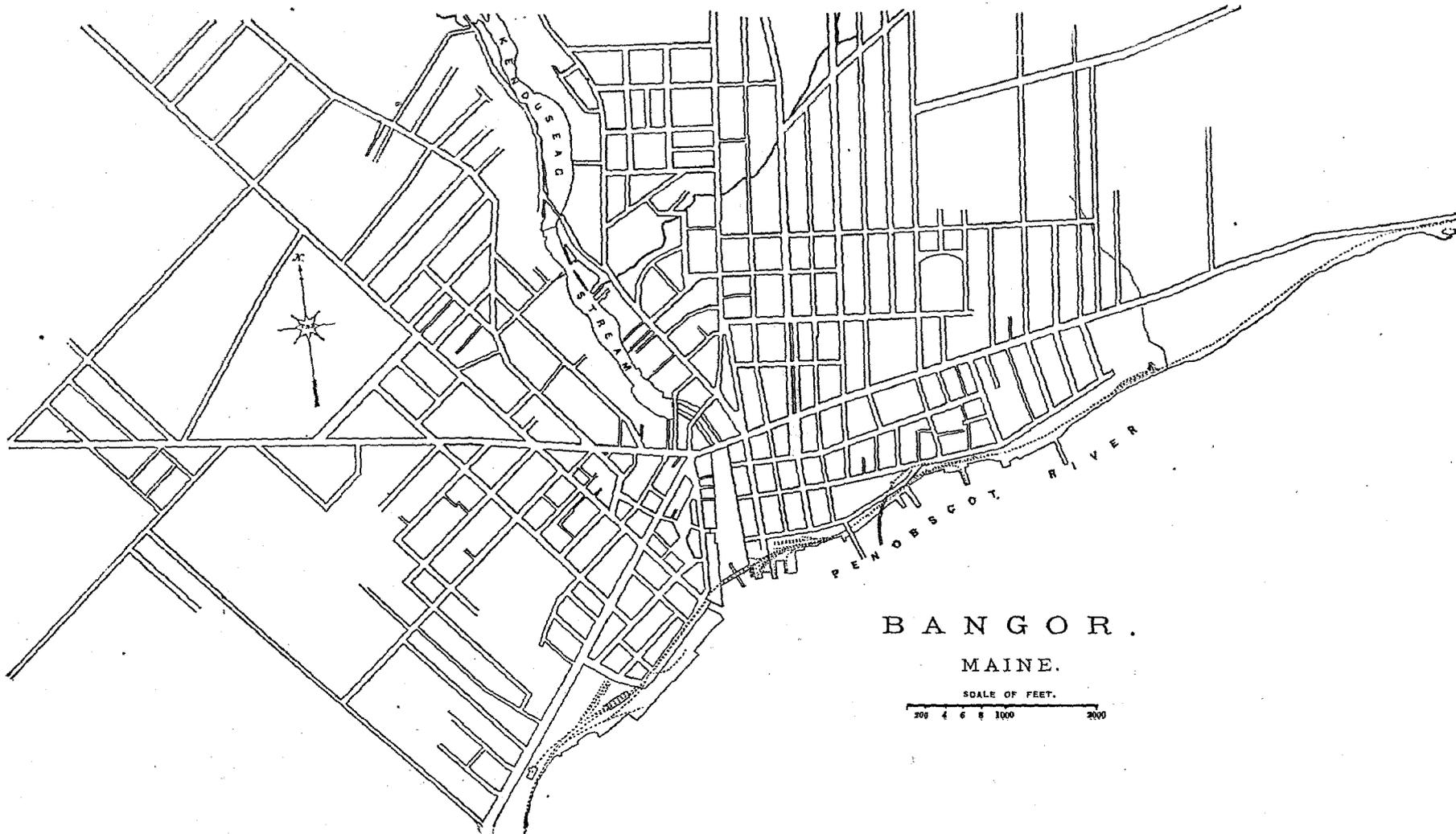
With the end of the war of 1812 Bangor's importance began to increase. The regular establishment of business there begins with 1817. November 25, 1815, the first newspaper, the *Bangor Weekly Register*, appeared. In 1816 the town became the shire town of Penobscot county, and in 1820 it had a population of 1,221. The town grew rapidly. In 1821 the Penobscot Agricultural Society was organized; in 1824 the first steamboat made its appearance, and in the next year the Penobscot Manufacturing and Exporting Company was formed there for the manufacture of and trade in lumber. The editor of the *Eastern Argus* says of Bangor that it "is a highly flourishing town, and will without doubt continue to grow rapidly".

In 1828 it had a daily mail, and in 1830 its population had increased to 2,867.

The next year found business flourishing, "our streets exhibit the bustle of a city, and a fleet of shipping is constantly in the harbor". The valuation was \$405,067, and 100 buildings were in course of erection. Lumber was becoming a very important commodity, and people were flocking to Bangor; some to engage in the trade, more to bury themselves in speculation in timber-lands. In 1832, 200 buildings were under way, rents were high, and houses were rented as soon as the places could be prepared. Commercial enterprises of all kinds were springing up on all sides.

In 1833 the people, dissatisfied with the town organization, took steps toward becoming a city, and February 12, 1834, Bangor was incorporated as a city, and Allen Gilman was elected its first mayor. The speculation in lands made the city famous, and its advance became more rapid; a correspondent in the *Boston Transcript* complained that each man was for himself, no one for Bangor—"it is only a collection of Yankee Ishmaelites"—yet the citizens predicted a great future for their city, and the *Bangor Whig* only spoke the general feeling when it said: "The time will come, and that on the right side of fifty years, when Bangor, in size, character, architectural taste, and general importance, will equal if not rival Boston." The streets were being graded, and 1,000 men were at work on the Bangor and Oldtown railroad. The event indicated that future eminence must have a firmer foundation than wide-spread speculation.

With 1836 money began to grow scarce, yet 300 houses were in progress, and speculation was only slightly checked. The next year, 1837, was one of financial ruin throughout the country, and Bangor did not escape. The banks suspended specie payments, though professing their ability to pay gold and silver. The times were emphatically bad, but as much lumber was shipped from the city as in any former year, though at much lower prices. The year is remarkable in one other respect, for in it the city government first refused to grant licenses for the sale of intoxicating liquors.



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a Furnished largely by the kindness of Thomas W. Baldwin, esq.

TRIBUTARY COUNTRY.

The country immediately tributary to Bangor is agricultural, raising principally hay and potatoes, but the city is the market for the products of all the settled portions of the state lying north of it for a distance of 100 miles.

In and around the city bricks are made in large quantity, and in winter the cutting and storing of ice, for home use as well as for export, is an important and rapidly increasing industry. Large amounts of lumber are annually floated down the river and prepared here for shipment. Iron and slate, from a point about 50 miles north, are brought here for export.

The surrounding country is hilly. Near the city it is open, and the soil is clayey.

TOPOGRAPHY.

The city is situated on the right bank of the Penobscot river, and is divided by the Kenduskeag river into two unequal parts. It covers some 17,500 acres, over 27 square miles, and the land rises gradually from both rivers until it attains a height of 242 feet on the west and 200 feet on the east side of the Kenduskeag, above mean sea-level. There are two or three small streams that run through the city, and the natural facilities for drainage are excellent.

The soil is a hard clay, with an underlying rock of metamorphic slate. Near the streams are ridges that furnish a very good quality of gravel. The relative elevation of the country surrounding the city is 125 feet above the river-level, except on the east side, some 5 miles distant, where a range of hills rises much higher. There are no marshes, but many lakes and ponds are found within a radius of 10 miles.

CLIMATE.

The highest recorded summer temperature is 96.7°. The highest summer temperature in average years, 88.7°. Lowest recorded winter temperature, — 35.6°. Lowest winter temperature in average years, — 24.8°.

In the winter months the prevailing wind is from the northwest and west, which gives a cold, clear, and crisp atmosphere. In the summer months the prevailing wind is from the southwest and south, and comes charged with moisture, giving a humid atmosphere and a fair distribution of rain. The average annual rainfall is 44.5 inches.

STREETS.

Total length, 125 miles. None of the streets are paved, all being finished with gravel, and as it is easily procured, the cost is moderate. The sidewalks are of brick, concrete, and gravel, with some of plank. Gutters are paved with cobble-stones and concrete, and in some cases are gravelled and grassed.

There is no regular plan regarding tree-planting along the sides of the streets. Property-owners have, however, done this to a considerable extent, and the streets are well lined with shade-trees.

The work of construction and repair is all done by the day, under charge of the street commissioner, and the annual appropriation for this work ranges from \$12,000 to \$16,000. "Day work" is preferred by the authorities, as they think that they get more work and at a less cost than they could under contract.

There are no street-cars in the city. There is one two-horse omnibus that carries passengers, the rate of fare being 5 cents.

WATER-WORKS.

The works for the water-supply are owned by the city, their total cost to date being about \$500,000. Water is taken from the Penobscot river, above the city, at a dam constructed to afford power for the pumping machinery. The water is taken through a filtering chamber and pumped directly into the mains, by what is known as the Holly system. There are three water-wheels connected with the pumps, and a steam-engine is always ready in case of accident, or failure of the water-power. The pressure in the pipes is 110 pounds to the square inch, but this can be increased if desired. The average number of gallons pumped during the past year was 656,010 daily. The cost of raising 1,000,000 gallons 1 foot high was \$2 76, and the yearly cost of maintenance, aside from the cost of pumping, \$2,500. There are 1,348 connections, and the yearly income from water-rates is \$22,000. The total length of street-mains is 22.4 miles, and the number of hydrants connected with them, 155. As there are only six water-meters in use, they cannot be said to have any appreciable effect on the daily consumption of water, the average amount pumped into the mains being about 39 gallons per diem for each of the population.

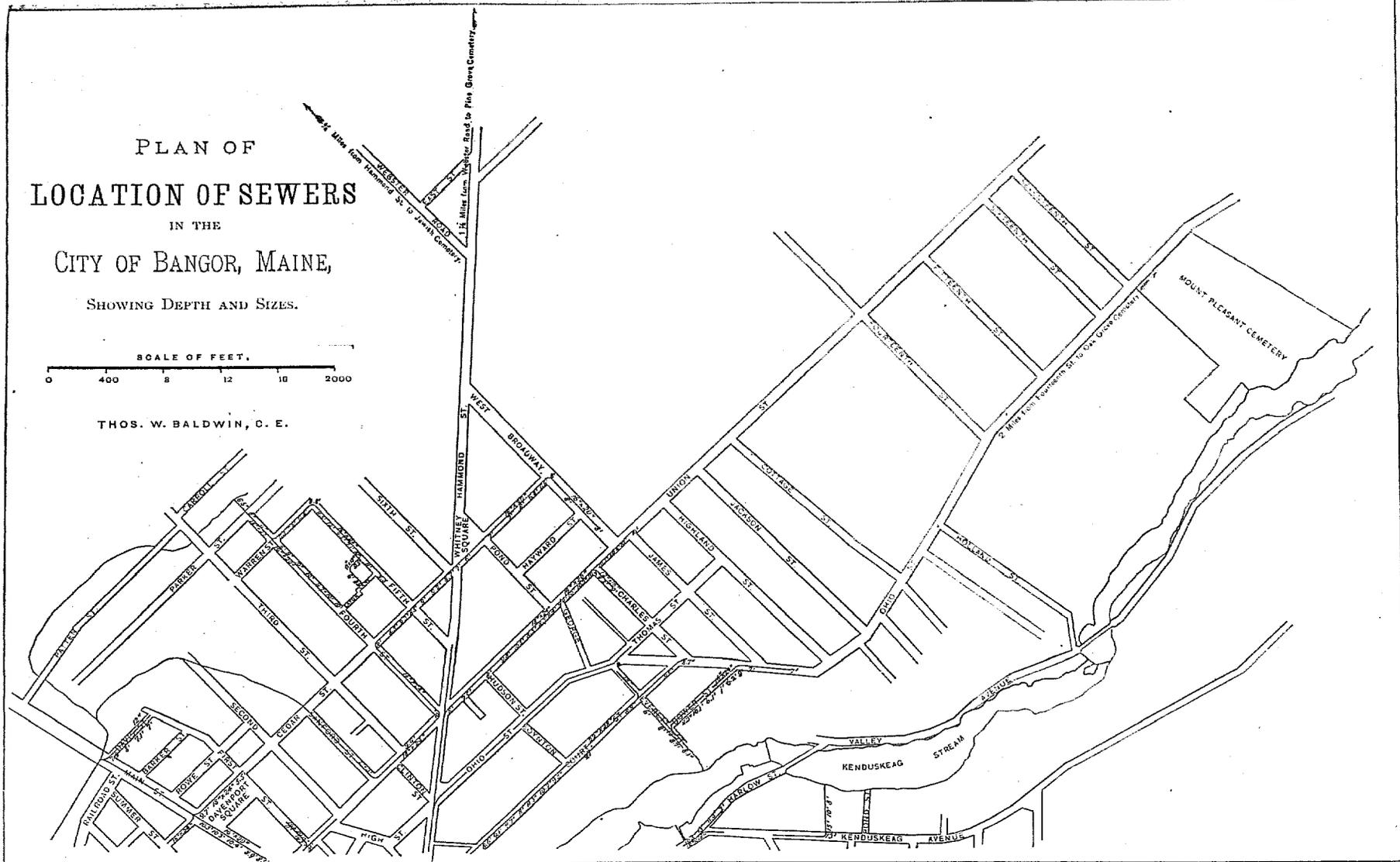
GAS.

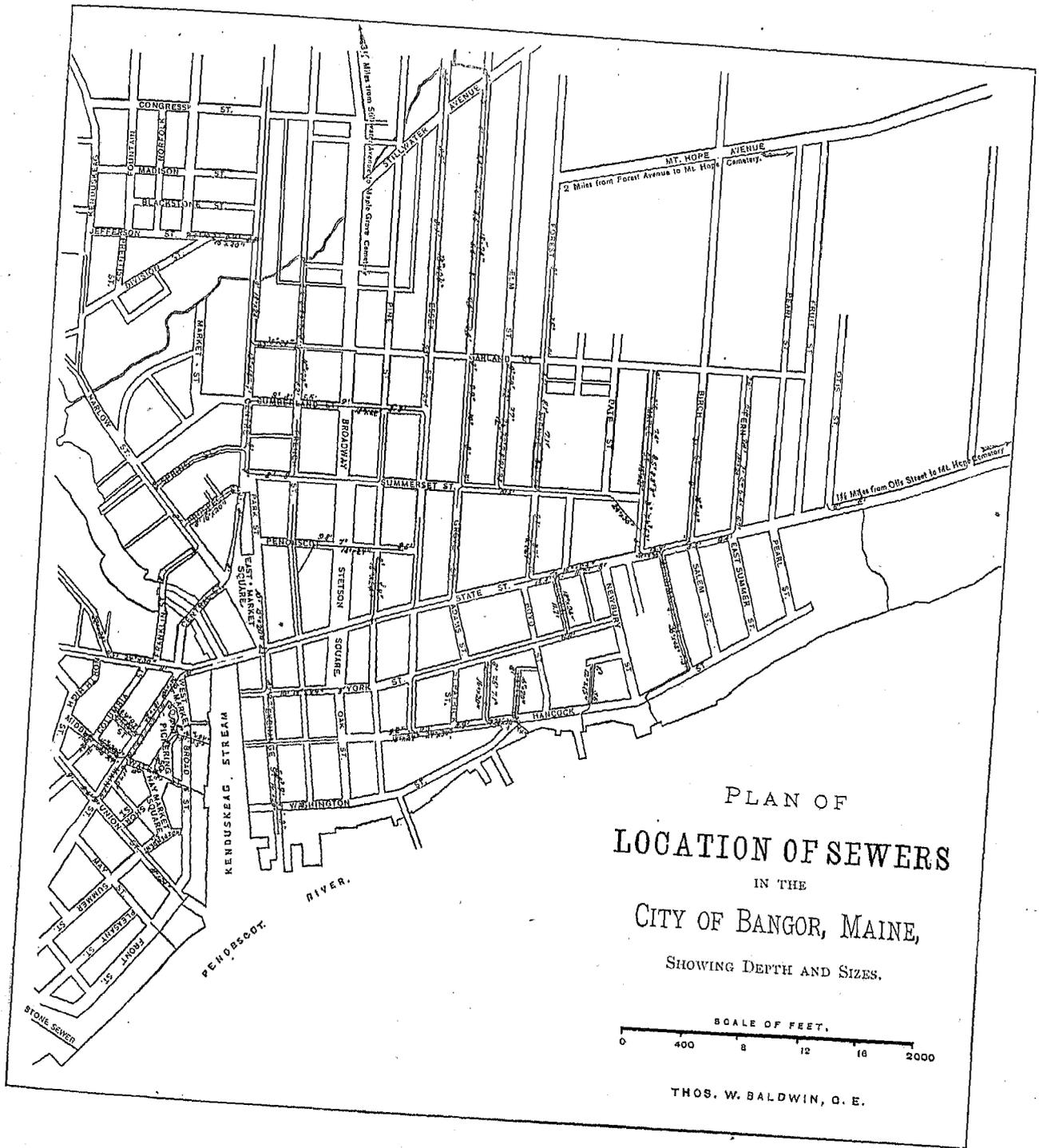
Gas is supplied by the Bangor Gas-Light Company, a private corporation. The charge is \$2 50 per 1,000 cubic feet. The city has 96 street lamps, and pays annually \$37 for each lamp burning all night and \$27 for each lamp extinguished at midnight. There are 25 of the former and 71 of the latter.

PLAN OF
LOCATION OF SEWERS
 IN THE
CITY OF BANGOR, MAINE,
 SHOWING DEPTH AND SIZES.

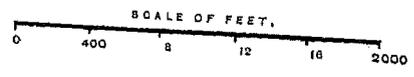


THOS. W. BALDWIN, C. E.



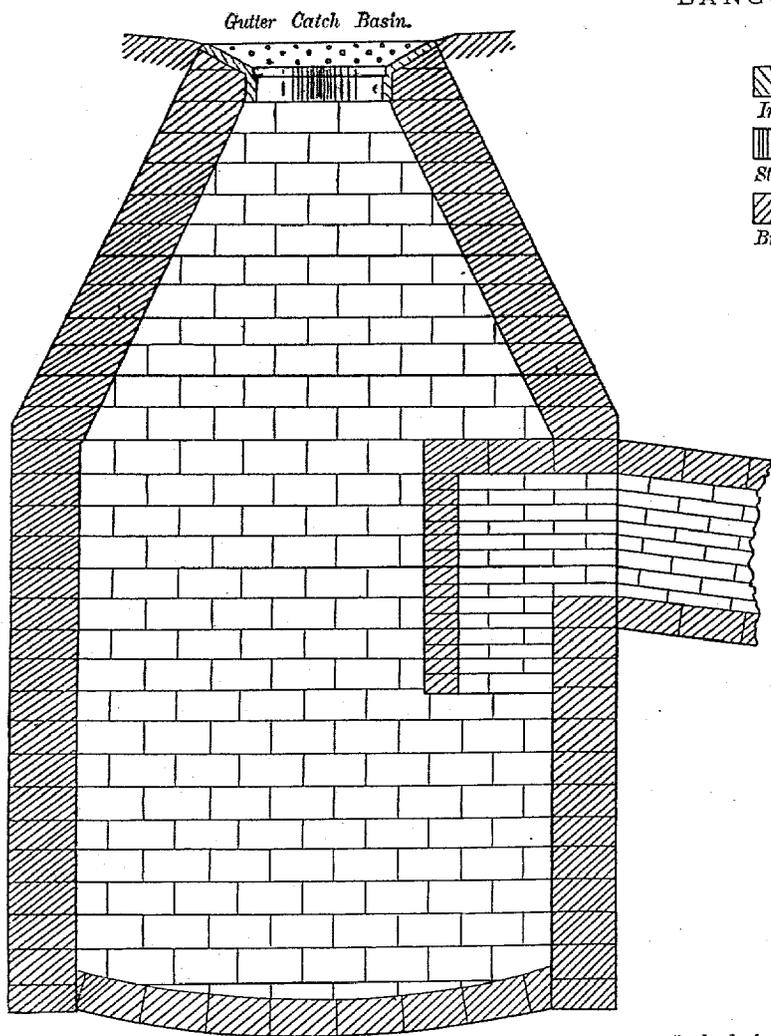


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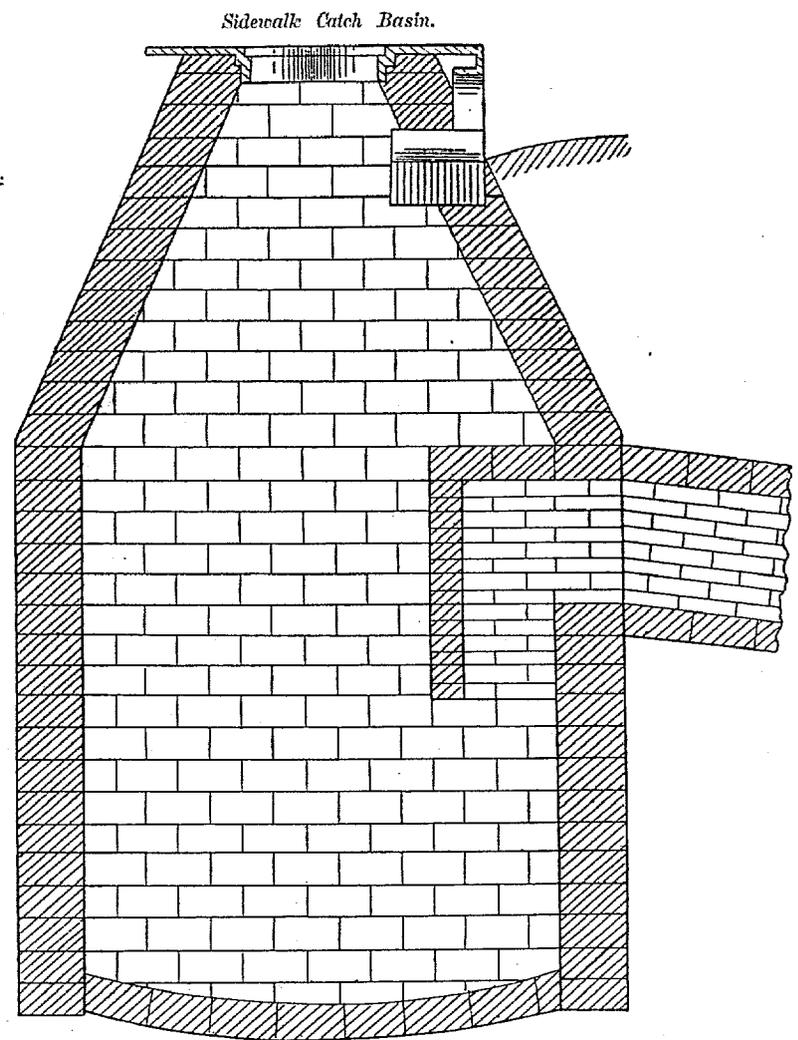


THOS. W. BALDWIN, G. E.

BANGOR, ME.



-  Iron.
-  Stone.
-  Brick.



Scale $\frac{1}{4}$ inch = 1 foot.

PUBLIC BUILDINGS.

There are but two buildings owned by the city and occupied for municipal purposes: the city hall, a wooden building; and one of brick, containing the police court and one or two offices. As these buildings are quite old, it was impossible to obtain their cost. The total municipal real estate, including the water-works, is valued at \$774,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no large parks in the city. There are a number of pieces of land, some fenced and some not, that are called parks, but no special care is given them, nor is any appropriation made for their maintenance. They aggregate about 18 acres, and are all under charge of a committee of the city government called the "committee on city property".

PLACES OF AMUSEMENT.

There are no theaters in Bangor. Norombega hall, seating capacity 1,080, is used for public entertainments of all kinds; Music hall, seating capacity 650, and Unity hall, seating capacity 250, are used for concerts and dances. City hall, seating capacity 600; Art hall, seating capacity 175. Theatrical and other shows pay a license to the city, the annual amount received from this source being about \$150.

DRAINAGE.

But little has as yet been done in covering troublesome water-courses, only one or two having been so treated. The first drains built by the city were of wood. These have been run across private land. Such drains have been done away with, and brick sewers in the streets have been substituted for them. One or two private drains have been incorporated without change into the present system. The work is not done according to a regular plan, but the depth and size of the sewers, all of which are of brick, are regulated by the supposed requirements of each case as it comes up. Sewers are built on the petition of abutters, who are assessed a proportion of the cost.

There is no system of sewer ventilation. In former years all street drainage was taken to the sewers through untrapped street gullies, which served as ventilators. Since the introduction of a public water-supply and increased use of sewers for house drainage, frequent complaints are made of the offensive odor of these gullies, and they are gradually being removed and trapped catch-basins substituted for them. Only trapped catch-basins have been built in recent years. No provision has as yet been made for a substitute for the old gully ventilation. "Some attention has been paid by individuals to the ventilation of their private drains."

With one or two exceptions all sewers discharging into the river deliver their flow below the surface of the water except during unusually low tides. All discharge below high-water mark. Many sewers discharge into water-courses which run uncovered to the river, in some cases for a long distance. All the sewage of the town is discharged into the river and then allowed to take care of itself. Some of the sewers deliver into the Penobscot and some into the Kenduskeag, a branch running through the heart of the town.

Owing to the hilly character of the site of the city, and the consequent steep grades, but little trouble is experienced from deposits in the sewers. In some cases where the grades are flat the sewers have become choked, and it has been necessary to clean them by hand. Such cases are rare. The cost of cleaning 300 feet of 30 by 40 inch sewer in 1879 was \$80. Three-quarters of the cost of each sewer is assessed upon the abutting owners; the remaining quarter of the cost and the cost of the catch-basins are paid by the city. The assessments are based upon the frontage of lots. Corner-lots are assessed on one side only, the cost to be assessed being divided by the total assessable frontage. All sewers are of brick, and the city engineer (Thomas W. Baldwin, civil engineer) gives the following table of cost of recent actual work:

Size.	Length.	Average depth.	Cost per foot.
<i>Inches.</i>	<i>Feet.</i>	<i>Feet.</i>	
12 by 18.....	205	8.1	\$0 78
18 by 27.....	362	6.1	98½
16 by 24.....	1,065	9.6	71

Catch-basins, exclusive of castings, cost \$34 each, and the castings for each cost \$7 50.

The above statement includes all sewers built during the year 1880.

There are but one or two manholes in the city; none have been built recently.

The existing sewerage system of Bangor is shown on the accompanying map. The only drawing of special interest furnished by the city engineer is that of the gutter and sidewalk catch-basins, which are reproduced.

CEMETERIES.

There are in the city 6 public and private cemeteries, as follows:

Mount Hope Cemetery.—Part public, part private, between Mount Hope avenue and State street; area, 150 acres.

Mount Pleasant Cemetery.—Catholic, on Ohio street and bank of Kenduskeag river; area, 20 acres.

Oak Grove Cemetery.—Public, on Ohio street, 2 miles from Fourteenth street; area, 8 acres.

Maple Grove Cemetery.—Public, on Broadway, 3 $\frac{1}{2}$ miles from Stillwater avenue; area, 3 acres.

Pine Grove Cemetery.—Public, on Hammond street, 1 $\frac{1}{2}$ mile from Webster road; area, 22 acres.

Jewish Cemetery.—Private, on Webster road, five-eighths of a mile from Hammond street; is very small; but two burials have occurred there since 1862.

The following interments have been made in the several cemeteries since March 1, 1862:

Mount Hope	2,698
Mount Pleasant.....	1,804
Oak Grove.....	87
Maple Grove.....	90
Pine Grove.....	82
Giving a total of.....	<u>4,821</u>

Interments are made by licensed undertakers, usually from two to four days after the death. The grave of an adult must not be less than 4 feet deep, and that of a child 3 feet.

In the part of Mount Hope cemetery, owned by the private corporation, lots are sold and deeds are given. Persons purchasing the lots improve them as they like, the trustees reserving the right to remove any tree or shrub which interferes with roads or with other lots. Persons leaving the city, if they wish their lots cared for, deposit a sum of money with the trustees who use the interest for that purpose. The corporation cares for all the walks and drives, but makes no attempt at landscape-gardening.

MARKETS.

Norombega Market, built in 1853 at a cost of \$40,000, is situated on an island on the Kenduskeag, just above the custom-house, between Central and Franklin streets. There are 14 stalls, with an annual rental of \$150. No particular rules govern the opening or closing of the market. It is private property, and as but 3 stalls are occupied, the proportion of sales is small compared with the private stores in the city.

Haymarket and Pickering squares, near the Kenduskeag bridge, are used as standing-ground for country wagons bringing produce and hay into the city for sale. The city derives no rental from this space, and no particular regulations are enforced regarding the matter.

SANITARY AUTHORITY—BOARD OF HEALTH.

The mayor and aldermen act as a board of health, serving without pay. No regular appropriation is made, as there are no expenses other than for the suppression of nuisances, and even these are recovered by the city. In case of an epidemic the board can increase its expenses to any amount it deems necessary to preserve health, and it has full authority under the laws of the state to take any measures judged best to check and control the spread of disease.

HEALTH OFFICER.

In ordinary times the general health and sanitary condition of Bangor is under the care of a health officer, appointed annually by the city council, at an annual salary of \$300. He has no police powers, but can call on the police department for assistance in performing his duty.

Inspections are made whenever nuisances are reported, or whenever the inspector thinks one exists. If a nuisance is not removed or abated two hours after notice has been given ordering such removal or abatement, the health officer proceeds to remove the nuisance at the cost of the person notified, not exceeding \$50.

HOUSE-DRAINAGE.

No particular law governs the inspection and correction of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, etc., except so far as they may become nuisances; in this case they are treated like all nuisances. The health officer exercises no control over defective sewers or street-cleaning, the former being under the charge of the superintendent of sewers, the latter of the street commissioner. He, however, notices these in his annual report.

GARBAGE.

The board of health limits itself to preventing the deposit of garbage in the public streets, and its becoming a nuisance through delay in its removal.

BURIAL OF THE DEAD.

The burial of the dead is unregulated by ordinances. The undertakers annually appointed by the mayor and aldermen take the whole charge of this matter, and make weekly returns to the city clerk.

POLLUTION OF STREAMS, HARBOR, ETC.

The health ordinances forbid, under penalty of a fine, the casting of any dead animal, foul or offensive ballast, animal or vegetable substance, into the rivers between the channel and the shore, or landing it upon the shore.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home or sent to the pest-house on the city farm, 1½ mile from the center of the city. Scarlet-fever patients are quarantined at home. When a contagious disease breaks out in the schools, they are closed. Vaccination among the school children is compulsory, and is done at public expense when the parents request it. No record of diseases is kept, but the city clerk records births and deaths.

REPORTS.

The board makes no reports. The health officer reports annually to the city council, and this report is published with the city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—This is done at the city's expense, with its own force, and is done by hand. The street commissioner determines the time and manner of cleaning, and, when he thinks fit, sends a portion of his force to do the work. The sweepings are deposited on low ground and used for filling. The annual cost is about \$1,000, and the system gives satisfaction.

Removal of garbage and ashes.—On all except the principal streets (on which the city makes the removal) the householders dispose of their garbage and ashes for themselves. No special regulations govern the matter. No law requires garbage and ashes to be kept separate, and they are disposed of in the same way as street-sweepings. No ill effects are known to have arisen from the system in vogue, and it is considered good enough.

Dead animals.—Although the owner is required to remove the carcass of any animal dying within the city limits, there seems to be no law regulating the manner of removal or the final disposition of carcasses. If thrown into the river, they must be taken to the channel and sufficiently weighted to cause them to sink. If the owner fails to remove the body, the health officer proceeds as against a nuisance. The system is acknowledged to be defective.

Liquid household wastes.—Where public sewers exist, the laundry and kitchen wastes and chamber slops are run into them; very little is run into gutters. Where no sewers exist, cesspools or vaults are used. These are generally porous and not provided with overflows. The street gutters are not flushed. The water from wells is generally contaminated by sewage and unfit for use. The health officer can order the cesspools to be cleansed if he thinks best, although there is no regulation on the subject.

Human excreta.—On the line of the sewers water-closets are largely used, but the rest of the city depends entirely on privy-vaults, none of which are water-tight. The construction and location are unregulated. They must be emptied at night between June 1 and October 1, and the contents removed in water-tight covered wagons or boxes. The health officer can order them cleaned if he considers them nuisances. The night-soil is generally taken by farmers and used for manure, though this is not allowed on land within the gathering ground of the water-supply.

Manufacturing wastes.—No special regulations govern the disposition of these wastes, other than that they must not become nuisances. As a rule, the liquids run into the sewers, while the solids are used for filling.

POLICE.

The police force is composed of a city marshal, appointed by the city council annually, and twelve policemen, appointed for the same time by the mayor and aldermen.

The city marshal has full charge of the police, and is responsible for their efficiency. He must report all cases of neglect of duty or misconduct on their part to the mayor and aldermen. His salary is \$900 yearly.

The policemen receive \$600 each annually. The uniform is of navy-blue cloth, with star and cap. Each man carries a billy and a revolver. The force is divided into 3 day and 6 night police. The former are on duty from 7 a. m. to 6 p. m., and the latter divide as follows: Four from 6 p. m. to 4 a. m., and two from 9 p. m. to 7 a. m.

During the year ending March 1, 1881, there were 520 arrests, the chief causes being assault and battery, cruelty to animals, drunkenness, larceny, etc. The cases were principally settled by fines.

One hundred and thirty-six station-house lodgers were cared for, against 433 the previous year.

The police must co-operate with the fire department.

Special policemen are appointed by the mayor, in the same manner as the regular force, and receive \$2 a day while on duty.

The annual expense of the department is about \$8,000.

FIRE DEPARTMENT.

The force consists of 1 chief engineer, 3 assistant engineers, 75 men, and one volunteer company of 15 men at Cottageville. The apparatus consists of 3 steamers, 1 ladder-truck, 1 two-horse hose-carriage carrying 1,000 feet of hose, 4 hand hose-carriages carrying 500 feet of hose each, and 2 four-wheeled carriages in reserve. There are 7,000 feet of hose, 6 horses, and 1 Babcock fire-engine.

During the year there were 45 fires. The total loss was \$12,500, on which \$10,700 was paid as insurance.

As the water-works are on the Holly system, with 155 hydrants, the steamers are not much used.

The cost of the department for the past year was \$15,201 08.

PUBLIC SCHOOLS.

There are 47 public schools, divided as follows: 1 high, 1 grammar, 13 intermediate, 19 primary, and 13 suburban. There are 91 teachers, 4 males and 87 females. The following table gives the number of scholars registered in the schools, and the attendance:

Schools.	SUMMER TERM.			FALL TERM.			WINTER TERM.		
	Registered.	Attendance.	Per cent.	Registered.	Attendance.	Per cent.	Registered.	Attendance.	Per cent.
High	198	190	96	183	177	97	165	158	95
Grammar	726	680	87	806	783	91	753	686	91
Intermediate	508	436	86	524	468	89	520	468	90
Primary	1,108	1,002	84	1,072	922	86	1,004	858	84
Suburban	291	224	77	308	251	82	300	236	79

The annual expense in 1880 was \$30,568 83.

The annual cost per pupil is as follows: High school, \$20 45; grammar, \$10 25; intermediate, \$9 88; primary, \$7 85; and suburban, \$9 40.

The number of scholars under 6 years of age registered in the schools was 172, and those over 16 years of age, 205. No child under 5 years and no one that has not been vaccinated can attend the public schools.

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Bangor, Maine.	1879.	1880.
Total value of imports	\$13,761	\$12,050
Total value of exports:		
Domestic	163,814	86,792
Foreign	None.	None.
Total number of immigrants	None.	None.

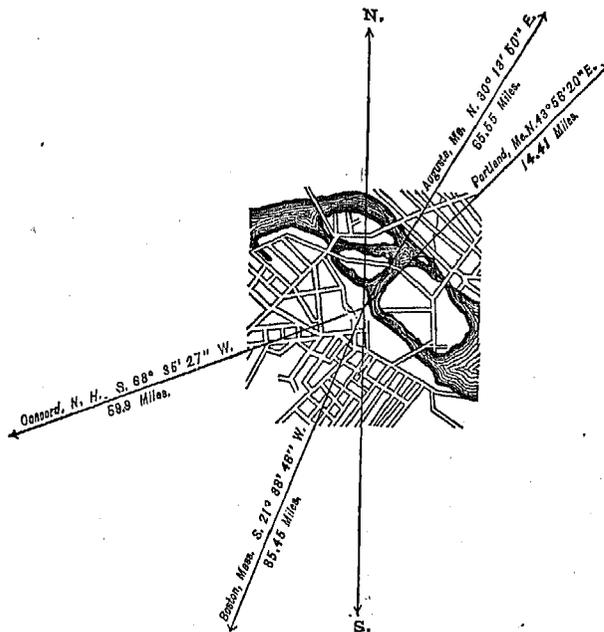
Customs district of Bangor, Maine.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	23	4,108	17	2,619
Cleared	77	15,566	35	8,294
Vessels in coast trade and fisheries:				
Entered	167	147,191	159	159,238
Cleared	0	096	16	4,880
Vessels registered, enrolled, and licensed in district..	168	26,129	174	26,686
Vessels built during the year	2	212	2	96

BIDDEFORD, YORK COUNTY, MAINE.

POPULATION

IN THE
AGGREGATE,
1790-1880.

	Inhab.
1790.....	1,018
1800.....	1,296
1810.....	1,563
1820.....	1,738
1830.....	1,905
1840.....	2,574
1850.....	6,095
1860.....	9,349
1870.....	10,282
1880.....	12,651



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT

Census of 1880.

Male.....	5,789
Female.....	6,862
—	
Native.....	8,141
Foreign-born.....	4,510
—	
White.....	12,650
Colored.....	1

Latitude: 43° 30' North; Longitude: 70° 27' (west from Greenwich); Altitude: 45 feet.

FINANCIAL CONDITION:

Total Valuation: \$5,442,964; per capita: \$430 00. Net Indebtedness: \$183,874; per capita: \$14 53. Tax per \$100: \$2 01.

BIDDEFORD IN 1880.(a)

LOCATION.

Biddeford lies in latitude 43° 30' north, longitude 70° 27' west from Greenwich, on the right bank of the Saco river, about 6 miles from the ocean and 14 miles southwest by south from Portland. The average elevation above sea-level is 45 feet, the lowest point being the foot of the falls, tide-water, and the highest 100 feet above tide-water.

The river is not navigable here, owing to a bar just above its mouth, over which there is but 2 feet of water at mean low-tide. Beyond the bar there is a small harbor, used by fishing vessels and by coasting vessels as a refuge during storms.

RAILROAD COMMUNICATIONS.

Biddeford is touched by the following railroads:

The Boston and Maine railroad, termini Boston and Portland; and the Portland, Saco, and Portsmouth railroad, the latter now being embraced in the system of the Eastern railroad.

These lines give Biddeford communication with Boston on the south, and via Portland with the Canadian lines.

a Neither a history nor a map of Biddeford could be obtained, and though every opportunity and ample time were given the city authorities, both before and after the publication of the first bulletin on Social Statistics, the following very meager information was all that could be procured in response to the schedules and letters from this office.

TRIBUTARY COUNTRY.

The country immediately tributary to Biddeford is agricultural. Farming is, however, carried on only in a small way, as the soil is generally poor; there does not seem to be much of business interest outside of the mills, with the exception of the granite quarries. The granite ledges are reported as inexhaustible, and much of this material is annually exported.

TOPOGRAPHY.

The city is situated on the Saco river, here a clear, rapid stream with an abrupt fall of 42 feet. Its area covers 12 by 4 miles. Saco, a large manufacturing town on the left bank, opposite, is connected by several bridges with Biddeford.

The site of the city is undulating, rising from the marsh-lands at the foot of the falls to an elevation of about 100 feet. The underlying rock is granite, slightly impregnated with iron, which crops out in many places.

The natural drainage is good and is toward the river.

CLIMATE.

The highest recorded summer temperature is 102°. The highest summer temperature in average years, 98°. The lowest recorded winter temperature, is -20°, and the lowest winter temperature in average years, -8°.

Concerning the influence of adjacent waters, marshes, or elevated lands on the climate, responses were confined to the statement that Biddeford has "the general New England weather".

STREETS.

Total length, 54 miles. Three-quarters of a mile is finished in broken stone, and all the rest is laid in gravel. The cost per square yard for the broken stone is 45 cents, while that of gravel is but 15 cents. The annual cost of repairing streets is about \$4,000. The broken stone is satisfactory, but the opinion prevails that to cover the business streets with gravel is a waste of money. Most of the sidewalks are of gravel, but during the past two years concrete has been put down on those of steep grade. The gutters are of cobble-stones and stone blocks, the latter being deemed much the best. Trees are set in the sidewalks on a line with the curbstones. All construction and repairs of streets are done by the day, this being preferred to the contract system. An annual appropriation of \$10,000 is made for the purpose, which includes \$2,000 for sewers.

There are no horse railroads or omnibus lines in the city.

Biddeford is supplied with water by the Saco Water Power Company, the supply being taken from the Saco river and pumped into a distributing reservoir 85 feet above the pump, which gives an available head of 50 feet. The reservoir is built of granite, lined with brick and cement, and roofed over. The pumps are run by water-power, and it is stated that the supply is seldom deficient.

The gas-works are owned by a private corporation, and no statistics regarding them are furnished.

PUBLIC BUILDINGS.

The city owns a "city building", which includes a bank, the post-office, police station, municipal court, and all municipal offices; it also owns a city hall. The total cost is \$85,000. The original cost of the city hall could not be obtained; it has lately been remodeled at a cost of \$5,000.

PLACES OF AMUSEMENT.

There two halls in the city used for theatrical performances, lectures, etc.: City hall, with a seating capacity of 1,500, and Marble hall, with a seating capacity of 500.

There is also a small lecture hall that seats about 200.

Exhibitions, etc., pay a license to the city, the revenue from this source being about \$225 annually.

DRAINAGE.

There is no regular plan for the sewerage of the city, each sewer being built according to the supposed requirements of each case as it comes up. The discharge is into the Saco river, and the mouths of the sewers are generally exposed. The sewers are built by day-work, under the supervision of the street commissioner. The expense is paid from an appropriation for sewers and drains, which covers the repairing of old sewers and the construction of new ones. There are a number of old plank and stone drains. There is generally more or less new sewerage constructed each year to take the place of the old, at the discretion of the street commissioner and committee on streets. The material used in their construction is either brick or cement pipe.

The cost of each inlet basin and its connection with the sewer is from \$15 to \$20. The average cost of each man-hole of average depth is about \$15.

There is no systematic ventilation. Deposits are removed by hand about twice a year.

The cost of the sewers is borne wholly by the city. Property-holders are taxed \$10 for each connection.

CEMETERIES.^(a)

No report received.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Biddeford is vested in three health commissioners, one of whom is a physician, chosen annually by the city government, and under the supervision of the mayor and aldermen, who constitute the board of health.

The annual appropriation for the department is generally \$300, exclusive of salaries; but during the past year (1880) the net expenses were but \$119 02.

In case of an epidemic, the extent to which expenses may be incurred is not limited, as the city government may authorize such expenditures as it judges necessary.

In ordinary times the commissioners have a general oversight of the sanitary condition of the city, and are authorized to see that all nuisances are abated.

During an epidemic they have authority to take all necessary precautions to prevent its spreading.

The chairman is the chief executive officer, has general oversight of all business done by the commissioners, and renders an account to the city of all expenditures. His salary is \$125 a year, the other members receiving annually \$75 and \$50, respectively.

The commissioners have no stated times for meetings, and their manner of conducting business could not be learned. The commissioners inspect nuisances only as reported. When found to exist, a notice is served on the owner or occupant requiring him to abate the same within twenty-four hours, and if this is not done the commissioners have the work performed, charging the expenses to those responsible. These expenses are reported to the city solicitor, who takes the necessary steps to have the city reimbursed.

No inspections are made of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, sewerage, or street-cleaning, unless the same are reported, when they are proceeded against the same as any nuisances. The same applies to the conservation and removal of garbage. The city ordinances do not invest the commissioners with any control over the burial of the dead, except in cases of contagious diseases. The pollution of streams and of the harbor is forbidden, and the commissioners are expected to see that the ordinances regarding the same are enforced.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home or sent to the pest-house, which is situated about 1 mile from the city proper; no attention seems to be paid to scarlet fever, nor do the commissioners take cognizance of the breaking out of contagious diseases in the public schools.

Vaccination is not compulsory, and it is not done at the public expense.

The registration of births and deaths is kept by the city clerk. Diseases are not recorded.

REPORTS, ETC.

The commissioners make an annual report as a board of health, which is published with the reports of the other city officers.

As the mayor and aldermen have not only supervision of the health commissioners, but can annul any order or regulation given by the commissioners, their powers as a board of health are, to say the least, restricted.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own regular force. The work is done wholly by hand, no sweeping-machine being used. The streets of each class are cleaned once a month, and the work is reported as being done thoroughly. The annual cost is \$1,000. The sweepings are deposited on the river bank, and are found to be advantageous in filling up the low marshy ground there.

^a The schedule first sent to Biddeford on this subject was returned with so little information that it was again sent, with a request for more complete answers. It has never been returned, nor has any answer been received in response to the many letters written to the city authorities in the matter.

Removal of garbage and ashes.—The removal of garbage and ashes is done principally by the city with its usual force. Between April 1 and December 1 the removal is weekly, the rest of the year every two weeks. There are no special regulations regarding the conservancy of garbage pending removal, except that it must be placed in boxes or barrels convenient for removal, and must not be allowed to become a nuisance or to be thrown on the streets. Ashes and garbage can be kept in separate vessels or in one, as the householder may elect, and the final disposal of both is the same as that of the street-sweepings. No nuisance or probable injury to health is reported as having resulted from the improper keeping, handling, or final disposal of the garbage.

Dead animals.—The carcass of any animal dying within the city must be removed beyond the limits of the city and buried. The annual cost of the service is given at \$50, but by whom paid is not reported. The number of dead animals of different kinds that are removed annually could not be ascertained, as no records are kept.

Liquid household wastes.—Nearly all the chamber and kitchen slops and laundry wastes are run into the sewers, none being allowed to go into the street gutters and only a small proportion into cesspools. The cesspools are generally porous, have no overflows, and do not receive the waste from water-closets. The regulations for the construction and cleaning out of cesspools are the same as those enacted for privy-vaults. No complaints are reported or experiences given touching the contamination of drinking-water by the overflowing or the underground escape of the contents of cesspools or privy-vaults.

Human excreta.—Some of the houses are provided with water-closets delivering into the public sewers, but nearly all have privy-vaults. The vaults are said to be built water-tight; they must not be nearer than 5 feet to any party-line, street, house, or well, and must be at least 4 feet deep, securely covered, and properly ventilated. All vaults are cleaned by licensed scavengers between October 1 and June 1, and none are allowed to be open between June 1 and October 1 except by permission of the health commissioners. The emptying is done between the hours of 10 p. m. and 5 a. m., and the contents are taken in water-tight carts to the city farm, where they are used for manuring land. The use of night-soil as a manure is not allowed within the gathering-ground of the public water-supply.

POLICE.

The city marshal is appointed annually by the mayor and aldermen, and he appoints all the police officers subject to their approval. The marshal is chief executive officer, and governs the force in accordance with rules and regulations, a copy of which could not be obtained. He receives a salary of \$4 47 per day.

The force consists of 6 regular policemen and 30 specials. The regular policeman receives \$2 per day, while the pay of the specials is not given. The uniform consists of a blue coat and trousers, with a cap, and each man provides his own. It is not stated how the policemen are armed and equipped. The patrolmen's tours of duty average 12 hours each, and the length of streets patrolled by the force is 5 miles.

The total number of arrests made during the year was 225. The causes were:

Assault and battery.....	48
Larceny.....	17
Intoxication.....	104
Intoxicating liquors, sale, etc.....	26
Breaking and entering.....	10
Miscellaneous.....	20

The final disposition of the above could not be learned, nor could the city marshal state the amount of property lost or stolen during the year and reported to the police, or how much of it was recovered and returned to the owners.

The number of station-house lodgers during the year was 217, and though a large number of free meals was given, the cost of them was not obtainable.

The police are required to co-operate with the fire, health, and building departments in all ways possible.

The yearly cost of the force is given as \$5,600.

FIRE DEPARTMENT.

The following regarding the fire department of Biddeford is taken from the annual report of the chief engineer for the year ending January 31, 1881:

The force of the department consists of a chief engineer, 2 assistant engineers, 2 steam fire-engine companies of 19 men each, and 1 hook-and-ladder company of 22 men, making a total of 63. The apparatus consists of 2 steam fire-engines, 2 hose-carriages, 1 hook-and-ladder truck, and 4,700 feet of hose. The hook-and-ladder truck was burnt November 25, but a new one was immediately ordered, and has been completed ere this. There are 5 horses in the department. There are 19 reservoirs and 8 hydrants available for fire purposes, but the capacity of the former is not given.

During the year there have been 20 fires, 17 alarms from a probable cause, and 7 false alarms. The amount of property destroyed and the amount of insurance involved in the fires were not given.

The chief and assistant engineers compose the board of engineers. They have control of the department, and govern it in accordance with ordinances making the several provisions.

PUBLIC SCHOOLS.

The annual report of the superintending school committee for the year ending February 1, 1881, shows the following :

The number of school children in the city between the ages of 4 and 21 is 3,911. The total number of children registered during the year was 2,387, the average attendance being as follows :

Schools.	Spring term.	Summer term.	Fall term.	Winter term.	Number of teachers.
All schools.....	1,326	1,331	1,350	1,405	34
High school.....	81	73	77	73	3
Grammar schools.....	212	188	205	199	5
Intermediate schools.....	182	181	182	180	5
Second primary schools.....	234	275	323	368	9
First primary schools.....	507	614	563	575	12

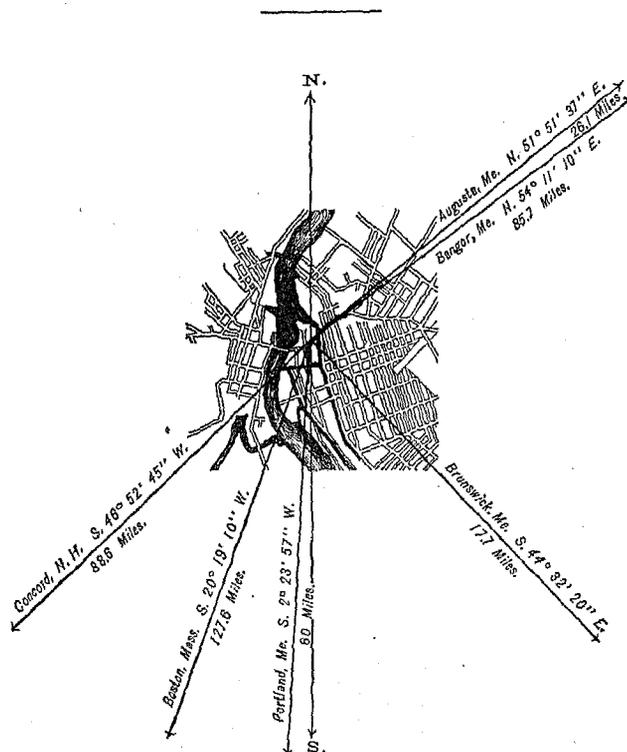
There are also 11 ungraded district schools in the city, with an aggregate school population of 437. The greatest number of weeks' schooling in any one of these districts was 34, the least number 16, and the average number 25.

The total expenditures on account of schools during the year amounted to \$19,195.26, and of this \$2,032.37 were devoted to the ungraded schools.

LEWISTON, ANDROSCOGGIN COUNTY, MAINE.

**POPULATION
IN THE
AGGREGATE,
1790-1880.**

	Inhab.
1790.....	260
1800.....	948
1810.....	1,054
1820.....	1,312
1830.....	1,549
1840.....	1,601
1850.....	3,584
1860.....	7,424
1870.....	13,600
1880.....	19,088



**POPULATION
BY
SEX, NATIVITY, AND RACE,
AT THE
Census of 1880.**

Male	8,588
Female	10,495
—	
Native	12,394
Foreign-born	6,689
—	
White	19,031
Colored.....	52

Latitude: 44° 5' North; Longitude: 70° 12' (west from Greenwich); Altitude: 500 to 820 feet.

FINANCIAL CONDITION:

Total Valuation: \$9,152,121; per capita: \$480 00. Net Indebtedness: \$1,038,102; per capita: \$54 40. Tax per \$100: \$2 41.

HISTORICAL SKETCH.

The territory now comprising the city of Lewiston was originally included in the patent granted to Thomas Purchase and George Way, June 16, 1632. Way never settled on the grant, but Purchase came to it before or very soon after he obtained the patent, built a house at the foot of the Brunswick falls, and, until the breaking out of the King Philip war in 1676, lived there and traded with the Indians. The patent being outside of any special jurisdiction, Purchase thought that some legal protection was necessary, so as early as 1639 he placed his grant under the laws of the Massachusetts Bay Company.

After the death of Way and Purchase the grant passed into the hands of Richard Wharton, of Boston, in 1684, and on his death, in 1714, it was sold to a company in Boston, which was known as the Pejepscoot Proprietors, and the grant was called the Pejepscoot claim, taking its name from the river below the Twenty-Mile or Lewiston falls.

In January, 1768, the proprietors of the Pejepscoot claim granted to Little and Bagley a tract of land on the east side of the Androscoggin river, commencing at the "Twenty-Mile falls on said river * * * from thence to extend 5 miles up said river, * * * from thence to extend on a course northeast 5 miles, from thence

on a course southeast 4 miles, from thence in a southern course to said Androscoggin river, and so up said river to said falls". The conditions of the grant were that 50 families, in as many houses, should be settled there before June 1, 1774; if less than 50 families were settled by that time, they should receive only such proportion of land as the "said number of families shall bear to 50". A road was to be opened to Royalsborough (now Durham), the houses were to be not less than 16 by 20 feet, with a 7-foot stud, and the settlement was to be called Lewiston. These liberal conditions were promptly accepted, and in 1770 the first settler appeared, building his house a little below the spot now occupied by the Continental mills. The natural advantages of the place seemed to have attracted quite a number of permanent settlers, for the first census, taken in 1790, shows the *plantation* to have had a population of 532, and 5 years later, February 18, 1795, the Massachusetts legislature incorporated Lewiston as a town, the inhabitants meeting and electing the first town officers April 6 of the same year.

The Lewiston falls (originally called the uppermost falls of the Pejepscot, Harris falls, and by their Indian name "Amytonponook", *Olay-land-falls*, by the early settlers) are formed by a ledge of gneiss and mica-schist, which crosses the river diagonally, and is so extended as to form its bed both below and above the falls, as well as the sides. In several places this ledge rises above the water-level, these making small islands in the stream. The natural fall is about 38 feet in 15 rods, which gives a remarkably good water-power.

The advantages offered by the falls were early seen by the settlers of Lewiston, for in 1770-'71 a saw-mill was erected and put into operation, and three years later a grist-mill was built. In 1809 a dam was built across the river at the falls, and a fulling-mill went into operation. In 1819 a mill that not only carded wool but also finished cloth was established and began work; it was burned in 1829 and rebuilt on a larger scale in 1830, when the owners, deciding to engage in the manufacture of satin cloth, and, requiring more capital, organized the Lewiston Manufacturing Company, which was incorporated the same year, and the first power-looms were then put up in the town. The undertaking was successful, and the industry rapidly increased, various kinds of woollen cloth being made. In 1836 a mill for the manufacture of cotton warps and batting went into operation, and in the same year a company, under the name of the Great Androscoggin Falls Dam, Locks and Canal Company, was incorporated, with a capital of \$100,000, for the purpose of developing on a large scale the water-power of Lewiston falls. In 1837 surveys were made, and in 1845 the corporation changed its name to the Lewiston Water-Power Company.

In the spring of 1850 work was begun on the canal, and the first section was finished in the following year, 1851. The original capital, which had been previously increased, was, in 1857, when the Franklin Company bought out the Lewiston Water-Power Company, further increased to \$1,000,000 in all. In 1862 the spring freshet carried away a part of the dam. This was replaced by a substantial granite structure during the year, and in 1863-'64 the rest of the dam was finished to correspond. This raised the fall of water to 60 feet, and gave a volume at the lowest stage of 94,000 cubic feet per minute for 11 hours a day, equal to 3,900 horse-power.

In 1849 the Androscoggin and Kennebec railroad (since merged in the Maine Central) was opened to Lewiston, which gave manufacturers increased facilities for the marketing of the products of their mills.

The improvement of the water-power gave an impetus to the manufacturing interests. New mills were erected and the old ones enlarged. The Lincoln mill, for cotton goods, which was begun in 1845, passed into the hands of the Franklin Company, and its capacity was much increased. In 1850 the Bates Manufacturing Company began work. The Card Clothing Works began work in 1852; the Lewiston Bagging Company in 1853; the Hill Manufacturing Company in 1854; and in 1860 the Lewiston Bleachery and Androscoggin Mills went into operation.

In 1861 the Androscoggin railroad, now a portion of the Grand Trunk railway, was opened, thus giving the city easy communication with Montreal. The same year the legislature granted Lewiston a city charter, although it was not until March 16, 1863, that it was accepted and city officers elected. The Aurora mills were completed in 1864, and the Continental mills in 1868.

The population of Lewiston, though greatly increased by foreign operatives, still remains largely native-born.

LEWISTON IN 1880.

LOCATION.

Lewiston lies in latitude 44° 5' north, and longitude 70° 12' west from Greenwich. Its elevation above sea-level is at an average of about 670 feet, the lowest point, at the foot of the falls, being 500 feet, with mount David, 1½ mile from the post-office, 820 feet.

The city lies on the left bank of the Androscoggin river, which is not navigable. The town of Auburn is opposite, on the right bank, and is reached by a bridge about 1,700 feet in length.

RAILROAD COMMUNICATIONS.

Lewiston is on the Maine Central railroad, termini Portland, Bangor, and Bath, and distant 35 miles north of the first-named city.

A short line connects at Danville junction with the Grand Trunk railway, termini Portland and Montreal.

TRIBUTARY COUNTRY.

The country mainly tributary to Lewiston is agricultural, supplying the city with farm and garden products, and to some extent shipping hay to other markets, more being cured and put up than the city needs.

The soil is a fine blue clay, holding moisture well, with underlying limestone. The face of the country is broken here and there by hills of clay and gravel; at a little distance from the city it is well wooded, and within a radius of 5 miles there are several ponds.

TOPOGRAPHY.

The city is situated on the Androscoggin river at the Lewiston falls, here a clear, rapid stream, which affords complete facilities for good drainage. Part of the city now covers what was once a channel of the river, but as it has been filled in, and as the drainage is good, it is now dry. The underlying rock is Archæan mica-schist and impure (Archæan) limestone in tilted strata, dipping to the northeast at about 30°. The soil is a fine blue clay mixed with gravel, there being much more gravel on the west side of the river than on the east. At a little distance from the city, a granite hill, mount David, rises 120 feet above the adjacent plain.

CLIMATE.

The highest recorded summer temperature is 90°. The average highest summer temperature in 15 years, 88.3°. The lowest recorded winter temperature is -24°. Average lowest winter temperature in 15 years, -19.3°. This record was taken from the gate-house of the Water-Power Company, the observations being made at sunrise, noon, sunset and midnight, and includes from 1875 to the present time. The prevailing winds are from the north and are cold. Heavy easterly storms occasionally occur.

STREETS.

Total length of streets, 70 miles, and of these 30 miles are in the city proper. Two miles are paved with broken stone, the rest being the ordinary dirt road, with here and there a patch of gravel. The cost of the broken-stone street, without including cost of material, is 85 cents per cubic yard; including stone, \$1 50 per cubic yard. It is not often necessary to purchase stone for this purpose, as in grading the streets enough stone is taken out, which, when crushed, completes the street.

The annual street appropriation averages \$15,000, and of this amount \$12,000 is expended on the dirt roads.

The sidewalks in the compact part of the city are of brick, and there are several miles of plank walks in the limits. The gutters, where they exist, are laid with cobblestones; the curbstones are of granite, 6 inches wide by 2 feet deep. Tree-planting along the sides of the streets is done by property-owners, and, in times past, was quite general, but when it was found to interfere with the sidewalks and curbstones, an ordinance was passed making it necessary for persons to obtain permission from the street commissioner before setting out trees.

All street work is done by the day, as it is found that not only is a better class of labor got in this way, but it enables the city to provide a support for a class of its population that would otherwise become a burden on the authorities. A regulation provides that this work be given only to residents of the city. A steam stone-crusher is used, and it is found to serve its purpose well.

The city takes its water-supply from the Androscoggin river, at the dam of the Franklin Company, above the falls. In 1877 the city appropriated \$500,000 for the purpose of procuring a supply of pure water; \$200,000 was paid to the Franklin Company to aid it in getting control of the headwaters of the river, and in return the city received the right to land at the dam sufficient for a pumping-station, power for the engines, and all water needed for the city's use. The remaining \$300,000 of the appropriation was for the water-works, supply-mains, etc. The water is taken to the pumping-works through a filtering basin, and either pumped to a reservoir of 12,000,000 gallons capacity, or directly into the street mains, as circumstances may require. The pumps are run by water-power, and a steam-engine is also kept in the pump-house in case accident causes a stoppage of the water-power. The pressure in the mains varies from 70 to 110 pounds to the square inch. There are 21 miles of pipe, 157 gates, and 141 hydrants in the distribution system. During the past year the pumps were run on the aggregate 185 days of 12 hours each, the average amount of water pumped per diem being 1,000,000 gallons. The cost of maintenance, aside from the cost of pumping, is \$1,800; the average cost of raising 1,000,000 gallons 1 foot high is 5½ cents, and the receipts from water-rates are \$20,860. The total number of water-takers is 2,788. Meters are set where motors are used.

The city is supplied with gas by the Lewiston Gas Light Company, a private corporation.

PUBLIC BUILDINGS.

The city owns buildings to the value of \$421,000—1 city hall, 1 hospital, 3 engine-houses, and 28 school-houses, with some other minor buildings. The city hall cost \$200,000, and is used only by the city.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There is one park in the city, area 8 acres, laid out with paths and provided with seats. The land was given to the city on the condition that \$5,000 should be spent on its improvement. It is controlled by a committee of the council, and now an annual appropriation of \$500 is made for maintenance.

PLACES OF AMUSEMENT.

Music hall, with a seating capacity of 1,300, is used as a theater, and is a handsome building, well adapted for that purpose. It pays the city a yearly license of \$75.

Lyceum hall, formerly used by traveling companies, is now used for lectures, balls, etc.

There is a large hall also in the city building, used for public meetings.

Lewiston has no beer-gardens or concert-halls.

DRAINAGE.

The original plan for the sewerage of this city was made by W. H. Bradley, of Boston. There are two main sewers extending through the city, which empty into the river, and the sewers of all intersecting streets enter these. There are also two minor sewers emptying into the river, specially designed to drain a small tract occupied by mills and their boarding-houses. Although the original plan was adopted for the comprehensive sewerage of the city, *the street commissioners who executed the work from time to time have exercised their discretion in the matter of alterations.* There is no systematic provision for the ventilation of the sewers. The mouths of the sewers are exposed except at very high water, and when the river is low they empty upon exposed flats, over which their discharge flows for a distance of from 20 to 30 feet before reaching the stream. All sewerage is discharged below the falls, the water-supply being taken from above the falls. It is necessary to remove deposits from the sewers only during very dry weather, and the cost of such removal is said to be only from \$5 to \$10. The sewers are built originally at the sole cost of the city. There is no charge against abutters, unless they enter their drains into the sewer, in which case they pay a fee of \$25. The work of sewer construction is all done by day labor. For the year ending February, 1881, there were constructed 4,214 linear feet of sewers, costing about \$1 27 per foot. The cost of each inlet-basin is about \$25. The cost of each manhole of average depth is about \$25.

CEMETERIES.

There are 9 cemeteries in Lewiston, as follows:

Riverside Cemetery.—Situated in the northern part of the city, on the river bank, approached by Cemetery street; area, 40 acres.

Catholic Cemetery (Irish).—Situated in the southern part of the city, near the river; area, 22 acres.

Catholic Cemetery (French).—In the northern part of the city, 3 miles from the city hall; area, 20 acres.

Herrick Cemetery.—On upper Main street; area, 4 acres.

Clough Burying-ground.—Near Crowley's Junction; area, 4 acres.

Garcelon Burying-ground.—Near Garcelon ferry; area, 4 acres.

Golder Burying-ground.—Near the center of the city limits; area, 2 acres.

Wright Burying-ground.—Near No-Name pond; area, 1 acre.

There is an old burying-ground at the head of Webster street, in the center of the thickly-settled part of the city, but it is no longer used.

Lewiston owns none of the cemeteries. The first three are the most important. The interments up to the close of 1880 were:

Riverside.....	2,000
Catholic (Irish).....	3,380
Catholic (French).....	572

No special regulations govern the burial of the dead, but the superintendent of burials has tried to have laws passed on this subject; for though the sextons are requested to report all interments, they are not obliged to do it. Corporations owning the cemeteries make their own rules.

The price of lots in Riverside is from \$30 to \$240, according to location, and owners are restricted to their use for burial purposes only.

The trustees of this cemetery reserve the right to regulate all improvements.

MARKETS.

There are no public or corporation markets in Lewiston. There is a place called Haymarket square, where farmers are allowed to stand with their teams and offer their loads for sale. The city derives no revenue from this.

SANITARY AUTHORITY—BOARD OF HEALTH.

The mayor and aldermen perform the duties of a board of health, receiving no additional salary. No regular appropriation is made, nor is any provision enacted in case of an epidemic.

The city marshal is the health officer, and, with the police, must carry out any ordinances made by the city in regard to removal of nuisances. The marshal makes daily inspections, and nuisances are reported to him when they exist. An examination is made by the board of aldermen on any complaint, and the owner of the property is given forty-eight hours within which to remove the nuisance. If he fails to do it, the marshal has it abated at the expense of the proprietor. The same procedure is followed in the case of defective house-drainage, foul vaults, and cesspools.

The street commissioner has the management of the sewers and of street-cleaning.

The marshal has the general supervision of the removal of garbage, and enforces the ordinances relating thereto.

The record of interments is kept by the superintendent of burials.

A city ordinance forbids the pollution of the river above the falls.

INFECTIOUS DISEASES.

There are no special ordinances on this subject. Small-pox patients are removed to the pest-house, which is located in a field, far from any dwelling. Scarlet-fever patients are cared for at their homes. The attendance of children at the schools in case of contagious diseases is regulated by the school committee.

Vaccination can be made compulsory, and is done at public expense when parents are unable to pay.

"A better sanitary system would be valuable but costly, so the city is contented with the existing one."

MUNICIPAL CLEANING.

Street-cleaning.—This is done by the city with its own force, under direction of the street commissioner, and all is done by hand. The business streets are cleaned four or five times a year, the others as circumstances will permit. The work is done as well as possible. The cost is not known, as no separate account is kept. Some of the sweepings are taken to the city farm and used as a fertilizer; the rest is used as filling on new streets and lots. A new system will be required with the increase of the city.

Removal of garbage and ashes.—The city removes the garbage and ashes from houses on the principal streets, but elsewhere the householders make their own arrangements. Garbage must not become a nuisance while awaiting removal. No other regulation is made. It must not be thrown on the streets. No account of the cost of removal is kept by the city. The cost to householders is merely nominal. No injury to health has been reported due to this careless system, but it is probable that nuisances frequently occur during the summer months.

Dead animals.—The owner of any dead animal is required to remove the carcass outside the city limits, but must not throw it into the canal or river. When the owner cannot be found, the city marshal orders the carcass removed and buried outside the city limits. The expense is nominal, as but few cases occur.

Liquid household wastes.—The largest part of the kitchen and laundry wastes and chamber slops goes into the sewers; none passes to the gutters, and but little into cesspools. There are but few of these. They are all built water-tight, and the overflow, if one is provided, delivers into the sewers. They are usually cleaned two or three times a year, the contents being taken out of the city in water-tight carts. The system, in the opinion of the mayor, answers very well.

Human excreta.—About one-third of the houses in the city are provided with water-closets connected with the sewers; the rest depend on privy-vaults, which must, by law, be water-tight, at least 2 feet from the street or property lines; the contents must never come within 2 feet of the top, and they must be cleansed when offensive. They can be emptied only at night, and between 10 p. m. and 4 a. m. The contents are taken in water-tight carts beyond the city limits, and are generally used by farmers as manure. As there are no farmers on the river banks above the falls, the gathering-ground of the water-supply is uncontaminated.

Manufacturing wastes.—The liquids from the mills, bleachery, etc., are turned into the river below the falls. Solid wastes are generally piled in heaps, and eventually worked into manure and sold to farmers.

POLICE.

The appointment, removal, and government of the police are vested in the mayor and aldermen by an act passed March 25, 1880.

The city marshal is appointed for a term of two years; the remainder of the force for three years, renewed by thirds, but subject to removal for misconduct or other cause, or to suspension.

The force consists of 1 marshal, salary \$900 a year; 1 deputy marshal and 12 policemen, salaries \$650 a year each, who are under the command of the marshal. The uniform is a blue coat, vest, trousers, and cap of the same material, the coat double-breasted, and finished with military buttons. Each man furnishes his own uniform. The policemen are armed with billies and revolvers. The hours of service are divided into three watches, the first from 3.30 a. m. to 1 p. m., the second from 1 to 6 p. m., and the third from 6 p. m. to 3.30 a. m. The beats are about 5 miles long.

During 1880, 242 arrests were made, the principal causes being intoxication, assault and battery, and larceny. Of \$900 worth of property lost or stolen and reported to the police, \$700 was recovered; 1,596 gallons of liquor were seized during the year; of this 933 gallons were spilled and 663 returned to the owner by order of the court.

The number of station-house lodgers was 99, against 116 in the previous year.

The police must aid the fire department at all fires, and must act as health officers.

Special police are appointed in the same manner as the regular force, and obey the same rules when on duty. They each receive \$1 50 a day when on duty.

The cost of the department for 1880 was \$9,500.

FIRE DEPARTMENT.

The fire department consists of 1 chief and 4 assistant engineers, who together control the department; 1 engineer and 2 assistants for steamers, 2 firemen, 30 hosemen, 20 ladder-men, and 1 driver.

The apparatus in use consists of 2 steamers, 3 hose-reels, 1 hose-pung for winter, 1 ladder-truck fully equipped, 8 large rubber blankets, 3,600 feet of leather hose, and 1,150 feet of rubber-lined hose. With the exception of 1 engineer and 1 driver, who are permanent, the force consists of men "on call".

During 1880 there were 39 fires in Lewiston, and the department answered 6 alarms from Auburn. The total amount of property destroyed was \$20,918, on which an insurance of \$16,118 was paid; \$4,700 of the property so destroyed was beyond the reach of the water-supply.

Besides 141 hydrants the city maintains 16 reservoirs, and the canal affords an excellent supply for engines called to its vicinity.

The fire-alarm telegraph has 9 miles of wire and 14 signal-boxes.

The total disbursements in 1880 were \$6,862.

PUBLIC SCHOOLS.

Lewiston has 28 school-houses: 1 high school, valued at \$20,000; 1 grammar school, at \$64,000; 11 intermediate and primary, at \$79,000; 15 rural, at \$17,000. These are divided into 66 school-rooms and 8 halls and recitation-rooms. The grades of the schools are 1 high, 1 grammar, 9 intermediate, 25 primary, 1 ungraded, and 15 rural. The total number of teachers is 71—4 males and 67 females. The average number belonging to the schools for the year ending August 28, 1880, was 2,332; average number actually attending, 2,043. The minimum age of attendance is 4 years; the number admitted under 5 years of age was about 125.

The financial report shows a total expenditure for year ending March 1, 1880, of \$32,443 63.

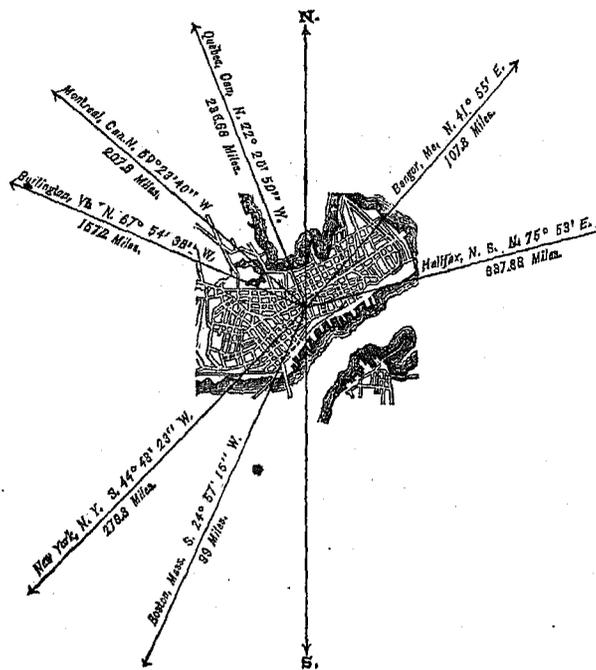
The number of school-days in the year was, high and grammar, 187½; primary and intermediate, 186½; rural, 172½. Besides the public schools of the city there is a French parochial school, exclusively under the charge of Father Hevey. Here the instruction is given entirely in French. The total number of pupils admitted to this school was 450, and the average attendance was 250.

PORTLAND,

CUMBERLAND COUNTY, MAINE.

POPULATION
IN THE
AGGREGATE,
1790-1880.

	Inhab.
1790.....	2,233
1800.....	3,704
1810.....	6,921
1820.....	8,581
1830.....	12,598
1840.....	15,218
1850.....	20,815
1860.....	26,341
1870.....	31,413
1880.....	33,810



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	15,752
Female.....	18,058
—	
Native.....	26,908
Foreign-born.....	6,902
—	
White.....	33,474
Colored.....	* 336
* Including 8 Chinese and 1 Indian.	

Latitude : 43° 39' North ; Longitude : 70° 15' (west from Greenwich) ; Altitude : 0 to 175½ feet.

FINANCIAL CONDITION:

Total Valuation: \$30,184,928; per capita: \$893 00. Net Indebtedness: \$4,322,154; per capita: \$127 84. Tax per \$100: \$2 50.

HISTORICAL SKETCH.

"Westward of Kennebec is the country of Aucocisco, in the bottom of a deep bay full of many great isles, which divide it into many great harbors," wrote Captain John Smith when describing his famous voyage, during the summer of 1614, along that part of the coast of North America now known as the coast of Maine. The bay that excited the navigator's admiration is now known as "Casco bay", and hither in 1632 came George Cleeves and Richard Tucker, who had been driven by Robert Winter from the proprietor's lands at the mouth of the Spurwink, looking for a new home. They selected a point of land jutting out into the western extremity of the bay, between the waters of what are now known as Fire river and Back cove, sheltered by cape Elizabeth, and on the beach now covered by the made-land of the Grand Trunk railway; a little east of what is now Hancock street they built their hut.

In 1637 Cleeves went to England and obtained from Sir Ferdinand Gorges, the proprietor of this part of Maine, a grant of the peninsula on which he had settled, and other adjacent lands, with some of the islands in the bay. On his return, Cleeves gave out portions of the land thus acquired to persons whom he could induce to come and settle.

The settlement, which came to be known as "Casco", a corruption of the Indian word *Aucocisco*, or *resting-place*, was slowly augmented from time to time by the arrivals of settlers and squatters from the colonies. Their dwellings consisted mainly of log shelters chipked in with clay, with here and there a one-story wooden building with a

thatched roof, and chimney constructed of wood. Fishing formed the principal means of subsistence, supplemented by hunting and a little agriculture. Beaver-skins were the only form of currency, while the morals of the community were not of the highest order. The open ocean was before them, an impenetrable forest behind, and the only means of communication with Massachusetts, the nearest colony, was along the beaches of the coast.

In 1658 Massachusetts included the government of this territory in its own, and gave it the name of Falmouth, comprising, in addition to Casco, that portion of the state now occupied by the towns of Cape Elizabeth, Westbrook, and Falmouth. With this change came a clergyman, and in the same year the first meeting house was built, on the ground where now stand the works of the Portland Company.

The town grew slowly, and in 1675, at the commencement of the King Philip Indian war, there were about 40 families, and of these only 4 or 5 lived on "Casco Neck". During this war Falmouth was completely destroyed, and remained deserted until 1678, when some of the inhabitants began to return and rebuild their homes. As a means of defense fort Loyal was built, where the round-house of the Grand Trunk railway now stands, and it was one of the largest fortifications on the coast. The town began to increase and prosper; quite an accession, in the shape of a party of French Huguenots, arrived; mills were erected; roads opened through the forest; a trade in fish and lumber sprang up with the towns of Massachusetts, and in 1681 the first tavern, licensed to sell spirituous liquors, was established.

In 1688 there were 80 families, representing a population of about 700 souls, in the town, and of these, 25 families, or a population of 160, lived on Casco Neck. The same year hostilities with the Indians again began. In 1689 an Indian attack on the town was met and repulsed by Major Church, with a force of volunteers and friendly Indians, but in the following year the Indians and French, some 500 strong, came down on the settlement and completely destroyed it. This destruction was so complete that for 25 years Falmouth was deserted, and the Neck was known as "Deserted Casco".

In 1715 the resettlement of the Neck began, and in 1728 there were 20 families living in a compact and defensible manner along the beach and where now is the foot of India street. The town was now for the first time incorporated under the name of Falmouth. The second meeting-house, corner of Middle and India streets, was built in 1727, and the same year saw 30 vessels riding at anchor in the harbor. From this time on until the war of independence the town grew and prospered. Fish, furs, and lumber were the principal articles of export. The former, indeed, was the main staple of subsistence, and as early as 1741, after a very hard winter, we find Parson Smith writing that "The fish have but now struck in; a great relief to people almost perishing."

In 1753 the population of Falmouth was 2,712, and of these 720 lived on Casco Neck, and in 1774 the people living on the Neck alone numbered 2,000. The trade with the West Indies had been steadily increasing, and 2,555 tons of shipping, engaged in this trade exclusively, was owned by people living on the Neck. The advancement in wealth and refinement was rapid. The people were loyal to the government, readily sent their quotas, and took part in the French wars and the numerous expeditions sent against Canada.

Thus stood Falmouth when, in October, 1775, Captain Henry Muratt, with an English fleet, sailed into Casco bay, and, opening fire on the defenseless town, not only laid it in ashes but drove off nearly all the inhabitants. For the third time was the settlement destroyed, and it again remained comparatively deserted for nearly eight years.

After the close of the revolution Falmouth again took a start, and in a short time recovered her lost ground. In the year 1784 there were built on the Neck 41 dwelling-houses, 10 stores, and 7 shops. In 1785 the first brick dwelling was erected and the first newspaper, *The Falmouth Gazette*, was published. In 1786 Falmouth was divided, and the Neck, with a population of nearly 2,000, was incorporated as a town under the name of Portland.

The boundaries of Portland as established by the act of the general court of Massachusetts, July 4, 1786, were as follows: Beginning at the creek that runs into Round marsh, so called, thence northeast to Back Cove creek, thence down the middle of that creek to Back cove, thence round by "Casco bay to Fire river, thence up Fire river to the first bounds, together with all islands now belonging to the first parish in said Falmouth". The same act also gave to Portland 180 acres of land of the estate of the late Moses Pearson, and all church lands that formerly belonged to the first parish of the mother towns.

In 1793 wharves were extended into the bay; in 1795 the first brick store was built, and in 1799 the first bank was incorporated. From 1795 to 1805 Portland increased more rapidly than any other town in New England. The foreign trade had revived, and the tonnage of the port went up from 5,000 tons in 1789 to 30,000 tons in 1807; the duties collected here for the same time mounting from \$8,000 to \$343,000. A very desirable class of immigration set in, and on all sides were seen the signs of increased wealth and prosperity. The embargo of 1807 was a terrible blow to Portland, while the war of 1812 completed the financial ruin of the town.

From 1815 to 1846 Portland was slowly recovering from the depression caused by these events, and though her commerce revived to some extent, it failed to reach the proportions it had attained at the beginning of the century. In March, 1820, Maine was admitted into the Union as a state, with the capital at Portland, where it remained for 12 years. The seat of government was moved to Augusta in 1832. In 1823 the first steamboat, the pioneer of the Boston line, entered Casco bay. In 1828 the Cumberland and Oxford canal was begun, and it was completed in 2 years. In 1832, Portland, having then a population of nearly 13,000, was granted a city charter. In 1846 the Atlantic and St. Lawrence railroad was begun, and in 1853 it was finished to its junction with the Canada road from

Montreal, a distance of 149 miles. From the opening of this road, now the Grand Trunk railway, to the present time, Portland has steadily advanced, and passed through the panic of 1857-'58 and the war of 1861-'65 without any serious check or disadvantage.

In 1845 the southern part of the old county road running northwesterly from the city, with the town of Westbrook on the easterly side, was annexed to Portland, and in 1855 the boundaries of this district were gone over and defined by the aldermen of Portland and the selectmen of Westbrook.

On June 2, 1855, a serious riot occurred in Portland, based on a misunderstanding among some of the citizens regarding the ownership of certain liquor stored in the city-agency store, the idea being that the liquor in question had been purchased by the mayor, not for the city, as required by law, but for his own use and profit. A subsequent investigation showed that the mayor had been wrongfully accused; but during an attempt on the part of the mob to break into the place where the disputed liquor was, for the purpose of destroying it, the local militia was called out, and before the riot was quelled the crowd was fired on and one man was killed.

On July 4, 1866, a carelessly-thrown fire-cracker started a conflagration in the city that soon passed beyond all control, and did not cease until 1,500 buildings had been consumed, 10,000 people rendered homeless, and \$10,000,000 worth of property destroyed. The insurance on this was \$3,160,000. The burnt district covered 200 acres, and had, previous to the fire, 8 miles of closely-built streets. The citizens at once went to work to rebuild, taking advantage of the opportunity given them to widen and straighten the streets and open new ones, and generally to improve that part of the town.

In 1873 the Boston and Maine railroad was extended from South Berwick to Portland. In 1875 the Portland and Rochester railroad completed its connections with Nashua, New Hampshire, and Worcester, Massachusetts, thus opening a direct route to New York. In the same year the Portland and Ogdensburg railroad, through the notch in the White mountains, was opened. The completion of the roads gave an impetus to business, and also gave the merchants of the city control of the trade of a large portion of their own state as well as of northern New Hampshire and Vermont.

PORTLAND IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of this city:

LOCATION.

Portland lies in latitude 43° 39' north, longitude 70° 15' west from Greenwich, on a narrow peninsula projecting from the west shore of Casco bay, just inside of cape Elizabeth. The average elevation above sea-level is 85 feet, the lowest point being tide-water, and the highest 175½ feet above the sea.

HARBOR.

The outer harbor has an area of 1½ square mile, with an average depth of 40 feet of water. The inner harbor has an area of a little over one-half square mile, and is used by vessels of considerable tonnage. The width of the channel over the bar is 500 feet and the depth at mean low-water is 21 feet. The mean rise and fall of the tide is 9½ feet, and the maximum velocity of the tidal current is eight-tenths of a mile an hour. The harbor is well protected.

Regular steamboat lines ply between the city and Halifax, Boston, and New York, while from November to May the Allan line of steamers to Liverpool makes this its port instead of Quebec, Canada.

TRIBUTARY COUNTRY.

Excepting in the town of Westbrook, where there are silk, thread, and cotton manufactories, the surrounding country is mainly agricultural, with the city for its market. Fishing is also an important industry, not alone in Portland, but in the islands in the vicinity. There is also some ship-building, but not so much as formerly. The railroads give the merchants in the city quite an extended trade with the interior of the state, as well as with the more northern portions of New Hampshire and Vermont.

RAILROAD COMMUNICATIONS.

The following railroads touch Portland:

The Grand Trunk railway, to Montreal.

The Boston and Maine railroad, to Boston.

The Portland and Ogdensburg railroad, to Fabyan's.

The Maine Central railroad, to Bangor.

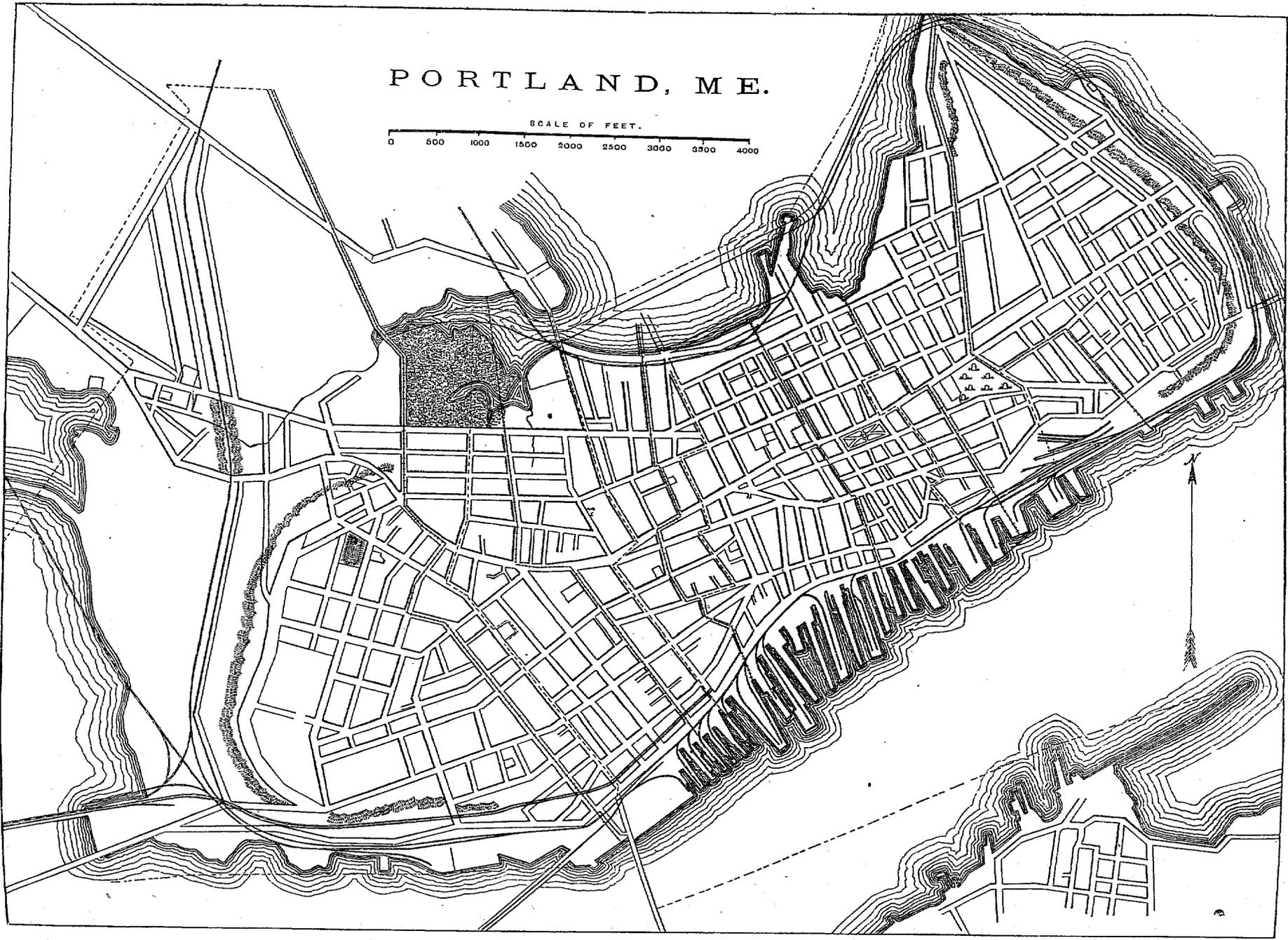
The Portland and Rochester railroad, to Worcester.

The Eastern railroad, to Boston.

The city has an interest both in the Portland and Ogdensburg railroad and in the Grand Trunk railway.

PORTLAND, ME.

SCALE OF FEET.



TOPOGRAPHY.

Portland comprises in its corporate limits a peninsula extending out from the mainland, and some 16 islands or parts of islands lying at a distance of from 3 to 5 miles down the bay. The peninsula on which the city proper stands is about 3 miles long, with an average breadth of three-quarters of a mile, and has an elevation, from the lowest point, tide-water, to 175½ feet above sea-level. The soil of the vicinity is the unmodified drift, underlaid with glacial clay. The upper strata of drift (which are easily percolated by water) do not as a rule extend under the valley in the middle of the center of the city, which is there underlaid with clay. The city has tide-water on each side, the land sloping towards Fire river, on the south and Back cove on the north, thus insuring good drainage.

The elevations of the surrounding country are about the same as that of the city, increasing somewhat, however, farther into the interior. The country in the immediate vicinity of Portland is wooded to a considerable extent, and the soil is the same as that on which the city stands. There are no near marshes, ponds, or lakes of any importance in the vicinity.

CLIMATE.

Highest recorded summer temperature, 97°; highest summer temperature in average years, 92.75°. Lowest recorded winter temperature, —12°; lowest winter temperature in average years, —7.12°. The White mountains, though some 70 miles away, cool, to a certain extent, all winds coming from them. The prevailing winds in winter are from the west and north, and in summer from the south.

STREETS.

There are 226 streets, lanes, and courts in the city, with a total length of 50 miles. The way in which they are paved and the cost is as follows:

Material.	Miles.	Cost per square yard.
Cobble-stones.....	8.23	\$0 90
Stone blocks.....	0.00	1 50
Broken stone.....	0.75	1 50
Wood.....	0.75	1 00
Gravel.....	44.67	Not given.

The prices given above are those last paid by the city, but stone blocks have cost as much as \$2 62 and the wooden pavement \$4 per square yard. In addition to the streets there is a drive around two sides of the city, 100 feet wide and 5 miles long, finished with gravel. The sidewalks are generally of brick, some are concrete, with a good deal of wood in the thickly-settled portions of the city. The curbs are of granite or native stone, 6 inches thick and from 12 to 18 inches deep. The gutters in the gravel, broken-stone, and cobble-stone streets are laid with cobble-stones, while in the others they are of the same material as that with which the street is paved.

Trees are planted along the sides of nearly all the streets. They are set out by the abutters, who then turn them over to the city, and after that they cannot be disturbed, except by permission of the authorities. Some of the streets have grassed places in the center, with double rows of trees.

The street-work is usually done by the day, though at times some is done by contract. A steam stone-crusher is used, and is found to be very efficient. The average annual cost of all street-work is \$70,000.

The Portland Street Railroad Company has tracks laid in nearly 7 miles of streets, uses 23 cars, 96 horses, and gives employment to 41 men. The total number of passengers carried during the past year was 855,000, the rates of fare being from 6 to 8 cents.

The water-works are owned by the Portland Water Company, a private corporation. Water is taken from Sebago lake and brought to a distributing reservoir of 12,000,000 gallons capacity, by gravity, the conduit being a little over 17 miles long and having a capacity of 7,000,000 gallons daily under a head of 260 feet. The surface of the reservoir is 160 feet above high-water mark. There are 36 miles of distributing pipes, varying in size from 2 to 16 inches, 245 hydrants, and 4,500 water-takers. The total cost of the works is \$1,800,000, and annual cost of maintenance and repairs \$10,000. The yearly income from water-rents was not stated. The city pays the company \$4,000 annually for water, and this includes water for fire purposes, street-sprinkling, flushing gutters and sewers, etc. The city is supplied with gas by the Portland Gas Light Company, a private corporation. The charge to the city is \$2 50 per thousand feet, and there are 451 street lamps.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, 4 engine-houses, 2 hose-houses, 13 school-houses, 1 almshouse, and 1 market-house. The total value, including the real estate, is \$755,400. The city hall was first built in 1859, at a cost of \$260,000. It was destroyed by the fire in 1866, and was at once rebuilt at a cost of \$300,000. The building is owned entirely by the city, but as the land on which it stands belongs to the county, a portion of it is used for county offices.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are four parks in the city, as follows:

Lincoln Park, situated between Congress, Franklin, Federal, and Pearl streets; area, $2\frac{1}{2}$ acres, improved with walks, seats, etc.

Western Promenade, situated on Bramhall hill, on the western side of city; area, 16 acres.

Eastern Promenade, situated on the eastern side of the city, overlooking the bay; area, 3 acres.

The Oaks, situated on Portland street, opposite Westbrook; area, 50 acres; the largest park, and formerly known as the "Deering Oaks". Part of the land was donated, the rest being purchased for \$10,500. Its natural advantages are great, and but little money has been spent on it in the way of improvements.

The annual cost of maintenance for all the parks is about \$3,000, and they are controlled by a committee of the city council.

PLACES OF AMUSEMENT.

The Portland theater, with a seating capacity of 1,100, and the City hall, with a capacity of 2,500, are used for theatrical exhibitions, lectures, balls, etc. They pay no license to the city, but exhibitions are taxed to a small extent for each representation.

DRAINAGE.

The older sewerage work of the city of Portland was done without regard to any well-defined system, and no record remains of it. The sewers were all large, quite out of proportion to any possible requirement. Private drains preceded regular sewerage, and have been very much in its way. Only one of these, 120 feet long, remains as a public sewer. One sewer seems to have followed a natural water-course, its alignment not being in accordance with the street lines and coming within a street only near its outfall. It was built by the county, and drains the city and county buildings. Other sewers afford drainage to more recent streets and buildings in its vicinity. The sewerage is divided into several separate systems. These are regularly planned, and sewers built as required are constructed in conformity with the plan. About two-fifths of the street inlets are untrapped gullies. There is no other public provision for the ventilation of the sewers. The ventilation of private sewers is generally well attended to, and some of these connect with the sewers without traps. The outlets of most of the sewers are fully exposed at low tide, delivering below high-water mark. A few of them have flap-gates. Many of the ventilating shafts in private houses have been built because of annoyance from gas forced into the house-drains under the influence of strong winds blowing in at the mouths of the sewers. All disposal of sewage is into tide-water, which has a mean rise and fall of $9\frac{1}{2}$ feet.

"The docks are frequently cleared by hand, and on unoccupied shores the sewer outlets are cared for every day between high- and low-water mark, the channels being kept clear, and dead animals and undissolved matter being buried." Very little removal of deposits has been requisite. The average cost of the work for the past decade has averaged less than \$100 per annum. The work was chiefly necessary in the case of old plank sewers, which had fallen in, and which are now rebuilt, or rebuilding, with brick or pipe.

The city pays for the construction of all sewers, and assesses two-thirds of the cost on abutters—on the basis of surface drainage one-third, and each side of the street one-third. The city pays the cost of all catch-basins. City property abutting on sewer lines is assessed the same as other property. The assessment is based on the area of the property within the drainage distance (usually not more than 100 feet back from the street), except such parts of the property as may be reserved for assessment for future sewers which would naturally receive the drainage of the excepted portion. The city engineer, William H. Goodwin, C. E., furnishes the following statement of the cost of construction of sewers of different sizes, averaging a depth of 9 feet:

	Cost per rod.	Cost per foot.
10-inch vitrified or cement pipe	\$10 50 to \$12 00	\$0 64 to \$0 72
12-inch vitrified or cement pipe	13 00 to 15 00	79 to 91
15-inch vitrified or cement pipe	16 00 to 18 00	97 to 1 09
18-inch vitrified or cement pipe	21 00 to 25 00	1 27 to 1 52
24 by 33 brick 8-inch wall, egg-shape	50 00	.....
28 by 42 brick 8-inch wall, egg-shape	60 00	.....

The above is in earth of varying quality, some requiring bracing. The brick sewer was through hard clay, and was bedded and tamped with gravel; bricks, \$9 per thousand; cement, \$1 35 per cask, both of first quality for their purpose. Mr. Goodwin says:

We do not care to build manholes, except for some special purpose, such as change of grade or of line or at points of reception of other sewers. On some of the older sewers, which cost large sums, manholes occurred at intervals of 200 to 300 feet, which have never been opened, except from curiosity, and, being on straight grades, can hardly be of any use, while the interest of their cost stands forever against us. I do not, of course, allude to manhole catch-basins, which are watched and cleared as often as necessary. These are built only when found to be requisite on old sewers, or with reasonable precaution on new ones.

The board of school trustees regulates the attendance at the public schools in case of contagious diseases breaking out there.

When small-pox threatens, vaccination is compulsory and is done at the public expense. The record of all births and deaths is kept by the city clerk.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own regular force. The paved streets are cleaned every other day with sweeping-machines, and the unpaved streets about twice a year by hand. This is deemed sufficient, as the grades of the streets are so steep that they are thoroughly cleansed by the rain. The annual cost of the work is from \$4,000 to \$5,000, and the sweepings are either used for filling in Back cove or sold for manure or other purposes.

Removal of ashes and garbage.—All garbage is removed by contractors, who do the work at their own expense. A city ordinance requires it to be kept in tight covered vessels pending removal, but it is generally kept in boxes and barrels, and, as a rule, separate from the ashes. The garbage is generally fed to swine, while the ashes are disposed of in the same way as the street-sweepings. The system is reported as working well, except in cases where people have obtained authority to dispose of the garbage to parties other than the contractors, and then delays in the removal are said to cause nuisances.

Dead animals.—The carcass of any animal dying within the city must be removed outside the city limits and buried by the owner. If the owner cannot be found, then it is done under the direction of the city marshal. The annual expense to the city for this work is not much, seldom exceeding \$50.

Liquid household wastes.—Nearly all the wastes from the houses in the city are run into the public sewers, none being allowed to pass into the gutters. Where sewers do not extend, cesspools are built for the reception of the wastes. These cesspools are porous, have no overflows, receive the wastes from water-closets, and are built under the streets, so that they can be filled up and their use discontinued when the sewers are opened. They are cleaned out when full.

Human excreta.—A little over 75 per cent. of the houses in the city have water-closets, nearly all of which deliver into the sewers, and the rest depend on privy-vaults. These vaults are built water-tight, and when full are emptied under permits given by the city marshal. The night-soil is taken outside the city limits and used to manure land, none of it being allowed within the ground of the public water-supply.

The liquid manufacturing wastes are run off through the public sewers, while the solids are treated in the same manner as the night-soil.

POLICE.

The police force of Portland is appointed by the mayor and aldermen, and is governed by the same authority. The members hold their position until removed for cause.

The city marshal is the chief executive officer, has entire control of the force, and administers it in accordance with ordinances making the usual provisions. He receives a salary of \$1,300 a year.

The force consists of 2 deputy marshals, at \$780 a year each, and 36 patrolmen, at \$730 a year each. The uniform consists of a suit of dark-blue cloth with police buttons, and regulation caps. From June 1 to September 10 of each year a blue flannel-blouse with police buttons, and a Panama straw hat may be worn. The men provide their own uniforms, at a cost of \$75 each. The patrolmen are equipped with a badge, club, revolver, and pair of handcuffs each. The terms of duty are ten hours each, and all the streets in the city are patrolled by the force.

During the past year there were 2,065 arrests made, the causes being as follows:

Assault and battery.....	106	Search and seizure.....	82
Affray.....	34	Single sales of intoxicating liquors.....	44
Breaking and entering.....	21	Selling liquor.....	15
Drunkenness.....	1,219	Suspicion of larceny.....	18
Insane.....	33	Truancy.....	30
Larceny.....	139	Tramps.....	15
Malicious mischief.....	51	Vagrants.....	19
Maintaining nuisance.....	10	Violation of city ordinances.....	149
Open shop on Lord's day.....	22	Miscellaneous.....	58

Which were disposed of as follows:

Taken before the municipal court, 1,150.
 Discharged, 817.
 Committed, 28.
 Otherwise, 70.

The total amount of property lost or stolen during the year and reported to the police was \$6,000, and of this \$5,272 was recovered and returned to the owners.

The total number of station-house lodgers was 447 as against 1,157 in 1879.

SEA-FISHERIES.

The following, taken from the report of G. Brown Goode, special agent, is a summary of the sea-fisheries of Portland for the year 1880:

Total persons employed.....	1,651	Dried, smoked, etc.....	pounds..	14,768,000
Total capital invested.....	\$753,951	Canned fish.....	cases..	51,804
Total number of vessels.....	106	Lobsters.....	pounds..	546,000
Total number of boats.....	1,007	Clams.....	do.....	623,520
Total number of nets.....	914	Fish-oil.....	gallons..	34,725
Total number of traps.....	9,715	Sounds.....	pounds..	22,425
Fresh fish taken.....	41,060,900			

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Portland for 1880, being taken from tables prepared for the Tenth Census by Marshall N. Rich, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	802	\$4,243,225	4,841	1,550	738	\$1,541,997	\$0,813,962	\$9,832,931
Blacksmithing (see also Wheelwrighting).....	3	1,850	8			4,318	2,800	11,700
Bookbinding and blank-book making.....	5	42,700	37	24		22,500	51,000	88,500
Boots and shoes, including custom work and repairing.....	7	166,000	200	152	5	141,070	405,100	629,000
Bread and other bakery products.....	10	67,900	73	3	4	35,030	118,836	178,254
Brooms and brushes.....	3	45,000	80	2	13	26,000	174,000	235,000
Carpentering.....	11	21,200	72			25,850	29,900	67,350
Carriages and wagons (see also Wheelwrighting).....	7	69,500	88			49,550	53,443	136,500
Coffee and spices, roasted and ground.....	5	30,500	19	9		16,065	150,500	195,000
Coffins, burial-cases, and undertakers' goods.....	5	12,000	11			7,835	12,252	32,078
Clothing, men's.....	6	146,800	27	84		38,996	225,500	348,500
Confectionery.....	8	49,200	36	36		13,750	50,700	83,000
Cooperage.....	13	36,700	81			34,738	63,400	117,600
Drugs and chemicals.....	3	33,000	27	2		9,000	37,250	62,500
Flouring and grist-mill products.....	5	37,000	15			5,800	124,750	133,700
Foundry and machine-shop products (see also Steam fittings and heating apparatus).....	8	527,000	415		6	192,867	322,121	600,400
Fruits and vegetables, canned and preserved.....	3	700,000	1,575	940	600	144,000	618,000	1,050,000
Furniture.....	11	75,800	112	7	3	49,800	110,450	213,800
Hats and caps, not including wool hats.....	3	18,500	11	13		8,850	28,150	48,300
Looking-glass and picture frames.....	3	4,500	7		1	3,500	8,000	13,800
Lumber, planed.....	4	85,000	47		12	27,180	236,600	291,056
Marble and stone work.....	4	6,500	20			7,500	7,887	18,000
Masonry, brick and stone.....	3	3,800	20			9,500	5,200	18,500
Painting and paperhanging.....	7	7,500	33			12,450	8,350	23,845
Photographing.....	6	18,200	19	8	1	9,300	7,500	20,300
Plumbing and gasfitting.....	6	16,000	36			14,650	40,496	67,600
Printing and publishing.....	15	155,900	102	28	4	107,184	80,278	227,189
Saddlery and harness.....	3	13,700	32		1	13,750	26,650	56,500
Shipbuilding.....	28	112,400	157			76,467	145,804	242,818
Slaughtering and meat-packing, not including retail butchering.....	3	150,000	67			28,000	595,000	667,000
Steam fittings and heating apparatus (see also Foundry and machine-shop products).....	3	4,000	13			3,900	12,500	22,000
Tinware, copperware, and sheet-iron ware.....	9	64,700	49			22,700	48,700	111,200
Tobacco, cigars, and cigarettes.....	4	6,900	21	7	1	8,862	14,500	29,000
Wheelwrighting (see also Blacksmithing; Carriages and wagons).....	6	3,850	13		1	6,420	3,100	12,600
All other industries (a).....	79	1,460,125	1,192	235	86	364,015	2,995,745	3,767,261

a Embracing agricultural implements; awnings and tents; babbitt metal and solder; belting and hose, leather; boot and shoe cut stock; boxes, fancy and paper; boxes, wooden, packing; brass castings; carriage and wagon materials; cutlery and edge tools; drain and sewer pipe; dyeing and finishing textiles; electroplating; emery wheels; engraving and die-sinking; engraving, steel; engraving, wood; fertilizers; files; flavoring extracts; food preparations; furnishing goods, men's; glass, cut, stained, and ornamented; grindstones; hairwork; hones and whetstones; instruments, professional and scientific; iron and steel; iron forgings; iron work, architectural and ornamental; ivory and bone work; lamps and reflectors; lasts; leather, dressed skins; leather, tanned; lock and gun-smithing; matches; mineral and soda waters; models and patterns; musical instruments, organs and materials; oil, lubricating; paints; patent medicines and compounds; pickles, preserves, and sauces; plated and britannia ware; refrigerators; regalia and society banners and emblems; roofing and roofing materials; sash, doors, and blinds; show-cases; soap and candles; stationery goods; stone and earthen-ware; straw goods; sugar and molasses, beet; sugar and molasses, refined; tools; trunks and valises; varnish; window blinds and shades; wood, turned and carved; and wool hats.

From the foregoing table it appears that the average capital of all establishments is \$14,050 41; that the average wages of all hands employed is \$216 30; that the average outlay in wages, materials, and interest (at 6 per cent.) on capital employed is \$28,511 76.

NEW HAMPSHIRE.

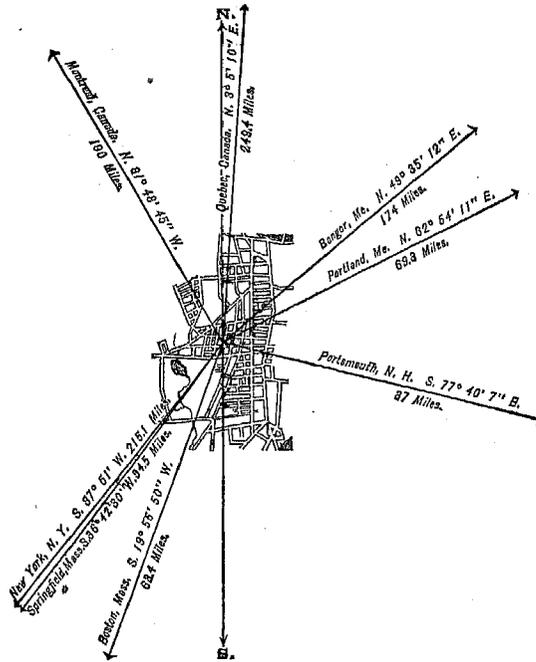
CONCORD,

MERRIMACK COUNTY, NEW HAMPSHIRE.

POPULATION

IN THE
AGGREGATE,
1800-1880.

Year	Inhab.
1790.....	
1800.....	663
1810.....	
1820.....	1,126
1830.....	3,720
1840.....	4,897
1850.....	8,576
1860.....	10,896
1870.....	12,241
1880.....	13,843



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	6,637
Female.....	7,206
Native.....	11,978
Foreign-born.....	1,865
White.....	13,774
Colored.....	* 69

* Including 1 Chinese.

Latitude: 43° 12' North; Longitude: 71° 30' (west from Greenwich); Altitude: 225 to 900 feet.

FINANCIAL CONDITION:

Total Valuation: \$10,053,737; per capita: \$726 00. Net Indebtedness: \$615,500; per capita: \$44 48. Tax per \$100: \$1 70.

HISTORICAL SKETCH.

The land now within the confines of the city of Concord, New Hampshire, was once the home of the Penacook Indians, a tribe of the Pawtucket nation, the fifth of the five great Indian nations of New England. The Indian history of Concord is interesting, but only one event is of general notoriety. The island from which Mrs. Hannah Dustin, of Haverhill, made her celebrated escape after killing her Indian captors, lies in the Merrimack river at Concord.

The land on which the city stands was granted in 1659, by the great and general court of Massachusetts Bay, to certain inhabitants of Dover and Newberry, Massachusetts, and again, in 1663, the grant was renewed to citizens of Salem, Massachusetts; but neither of these grantees fulfilled the conditions of the grant, which accordingly reverted to Massachusetts. In June, 1714, some citizens of Salem asked that the grant of 1663 be renewed, and repeated the petition in 1721. A survey was ordered by the general court the same year and completed the next year; still the petition seems to have remained unanswered, for in 1725 Benjamin Stevens, Andrew Mitchell, David Kimbal, Ebenezer Eastman, John Osgood, and Moses Day presented yet another petition on behalf of the 119 petitioners of 1721. They stated that a similar petition had been presented by other persons to the government of the province of New Hampshire, and suggested that if Massachusetts delayed, the New Hampshire grantees would obtain the land and the jurisdiction of Massachusetts be disputed. This time the petition was granted. On June 17, 1725, the petitioners were granted a tract of land described as follows: Beginning "where the Centercook river falls into Merrimack river, and thence to extend upon a course east 17° north 3 miles, and upon a course west 17° south 4 miles, to be the northerly bounds of said township; and from the extreme part of that line to be set off southerly at right angles until 7 miles be accomplished from the said north bounds". The land was to be divided into 103 equal shares, 100 to be assigned to 100 competent persons or families, and the remaining 3 to go, one to the first-settled minister, one for a parsonage, and one for the use of the school, forever. The survey was begun in 1726, and during its continuance a deputation sent by New Hampshire met the surveyors and warned them to desist, as they were taking lands belonging to that province. This claim was denied, and hence arose a controversy that caused endless trouble to the inhabitants of the Penacook plantation. In January, 1727, the first settlers, the family of Ebenezer Eastman, came to the plantation.

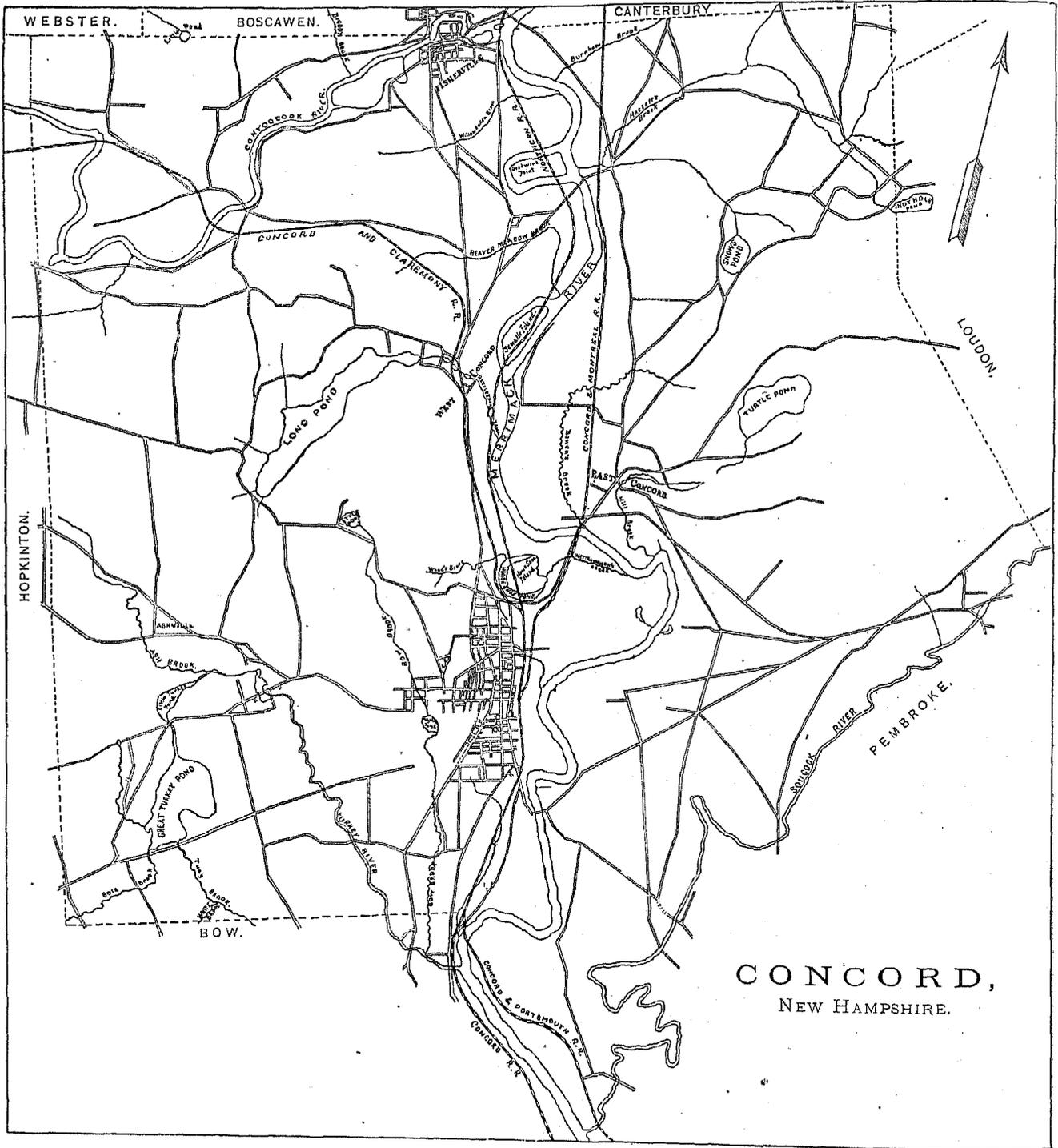
May 20, 1727, New Hampshire made a grant to Jonathan Wiggin, with others and their associates, who were the governor, council, and legislature of that province, of a tract of land including Penacook. From this grant came the "Bow controversy", which lasted until 1762.

The Massachusetts grantees proceeded to clear their lands, and soon had a flourishing plantation, and in 1730 the Rev. Timothy Walker was ordained as the first minister.

In 1732 Penacook plantation established the first school, and, February 27, 1733, was incorporated by Massachusetts as the town of Rumford. Although the plantation thus took on the dignity of a town, it sent no representative to the general court of Massachusetts until 1740. In this year Benjamin Rolfe was elected as a representative, and was instructed to petition his majesty "that the inhabitants of Rumford may be quieted in their possessions and remain under the jurisdiction of Massachusetts Bay". The reason for this was that the right of the settlers had been attacked by the claim of New Hampshire to the jurisdiction. The dispute between the provinces was as to the proper northern boundary of Massachusetts. After an unsuccessful attempt at a settlement in 1737, the king decided, in 1740, in favor of New Hampshire's claim, and Rumford thus came under the latter's jurisdiction and was united with other towns into a district.

From 1742 until the end of the French and Indian wars Rumford was engaged in a struggle with the Indians, and but little progress was made toward civilization in the new district. In 1750, Rumford petitioned to be incorporated as a town with its original boundaries, and a counter-petition was presented by the selectmen of Bow, who claimed Rumford as a part of their town. November 14 of the same year a suit of ejectment was begun by the grantees under the New Hampshire grant of 1727, against deacon John Merrill, and the legal contest for possession began. As this suit involved the title of all the Massachusetts grantees, the town united in upholding Merrill. Two decisions were rendered by the New Hampshire courts in favor of the plaintiffs, but on appeal to the crown the decisions were reversed and the titles of the Rumford proprietors were upheld. The ground of this decision was the declaration of the king, in 1740, that the decision as to the jurisdiction between New Hampshire and Massachusetts should not affect private property. Although this decision was made in 1762, it was not until 1774 that a complete settlement was effected, for New Hampshire continued to levy taxes on the inhabitants of Rumford as citizens of Bow until 1765, when she incorporated Rumford as the parish of Concord; but private contests continued much longer.

The name "Concord" was given to commemorate the harmony that had existed among the inhabitants from the first days of the settlement of Penacook, and especially during the long controversy with Bow. In 1767 the parish contained 752 inhabitants. Until 1772 there is no record of the county to which Concord belonged, but in that year it elected a juror for the county of Rockingham. The next year it was made part of the county of Hillsborough. Concord was greatly interested in the success of the revolution, and its people were very hostile to all suspected of toryism. This is well illustrated by their treatment of the illustrious Benjamin Thompson, later Count Rumford, but then school-master of Concord. Incensed against him by his acceptance of a major's commission in the provincial militia from the loyalist governor, Wentworth, and still more by his friendly reception of two British officers of General Gage's army, the citizens formed a plan to surround his house, seize him, and treat him as they thought he deserved. Thompson learned of the plan in time to escape, and fled to Woburn, Massachusetts, his native town. Finding himself distrusted here and unable to obtain a position in the Continental army, he took refuge with General Gage in Boston. He was sent by Gage to London with dispatches, and, once in Europe, entered on the career that made him so famous. He testified to his love for Concord by taking its former name, "Rumford," as his title when



CONCORD,
NEW HAMPSHIRE.

made a count of the holy Roman empire by the elector-palatine. His daughter, Sarah, countess of Rumford, died in Concord, and by her will left several bequests to institutions in that town. The Concord men were at Bunker Hill and in most of the battles of the Revolution.

Several conventions were held in the parish during that period. In 1779 a convention was held here to regulate the currency and prices; in 1781 the pastor's salary was still in arrears, although he had already been paid \$50,000 in currency. The convention which drew up the constitution of New Hampshire held its sessions in Concord. The legislature of the state generally met here; although Concord was not made the capital until 1816, and there were only four years in the period from 1782 until 1816 when the sessions were not held in the town. In 1784 the title was changed from "parish" to "town". Here met, in June, 1788, the state convention which ratified the Constitution of the United States. New Hampshire was the ninth state to ratify it, and its vote secured its adoption. The Concord delegate voted against the ratification, but Colonel Walker, another of the citizens, did the town better service, for tradition says he entertained a party of known opponents to the constitution so pleasantly that the decisive vote was taken while they were still enjoying themselves in the company of the diplomatic colonel.

In 1790 the town built a town-house, with rooms for the senate and house of representatives, and here the legislature held its sessions until the completion of the state-house, in 1819. In the same year the first newspaper in the town, the *Concord Herald and New Hampshire Intelligencer*, was published. Two years later the *Concord Mirror* appeared. December 7, 1798, "The proprietors of Concord library" were incorporated, and the library they collected was sustained about 25 years. In 1816 the Concord bank was incorporated, with a capital of not less than \$50,000 nor more than \$200,000, in specie. Over this charter a controversy arose, and two banks, known as the "Upper" and the "Lower", both claiming to be the exclusive "Concord bank", did business under the charter till its expiration in 1826, when the "Upper" bank obtained a new charter under the name of the "Merrimack County Bank". The "Lower" bank continued under an extension of the old charter until it failed disastrously in 1840.

In 1812 a state prison was finished in the town and a fire department was organized. The school department was first definitely arranged in 1807. In 1816 work was begun on a state-house, and in 1819 the building was completed. Concord thus became the capital of the state, and in 1823 was made the shire-town of Merrimack county. The streets were named in 1834, and a directory of that year shows that the town contained 3 state and county buildings, 5 meeting-houses, 3 school-houses, 10 hotels, 3 banks, 10 newspapers, and 152 shops and stores of various kinds.

The city suffered severely from the crisis of 1837. It early took great interest in railroad projects, forming the first company in 1830, and it took considerable stock in the Concord railroad, but finally disposed of it. In 1835 a company was formed to manufacture silk, but it failed after a few years' trial. September 6, 1842, marked an era in Concord's progress, for on that day the first railroad train came to the town, and after this date two or three trips to Boston were made daily.

July 9, 1849, the legislature of New Hampshire granted a city charter to Concord, but it was not accepted by the citizens until 1853, when Joseph Low was elected the first mayor. In 1851 the town suffered heavily from a fire which destroyed a large part of the business portion of the place.

CONCORD IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Concord:

LOCATION.

Concord lies in latitude 43° 12' north, longitude 71° 30' west from Greenwich, on the Merrimack river, which is here not navigable. It is 40 miles north of the Massachusetts state line, and about equidistant from the east and west boundaries of the state. Its altitude above mean sea-level is 225 feet at low water in the Merrimack river, at the bridge at the south end of Main street; 367 feet at the corner of School street and Summit avenue; and 252.4 feet on the Concord railroad track. The summits of Oak hill and Pine hill, a little out from the center of the city, are, respectively, 900 feet above sea-level for the former, and 800 feet for the latter.

RAILROAD COMMUNICATIONS.

The city is on the lines of the following railroads:

The Concord railroad, to Boston.

The Concord and Portsmouth railroad, to Portsmouth.

The Concord and Claremont railroad, to Claremont.

The Manchester and Lawrence railroad, to Boston.

The Northern New Hampshire railroad, from Boston to White River Junction.

The Boston, Concord, and Montreal railroad.

The two last-named roads pass through the city. Four of these roads cross the mountain ridge that separates the Merrimack and Connecticut valleys, at elevations of 990 feet, 1,063 feet, 1,181 feet, and 1,334 feet, respectively. These roads give Concord easy and frequent communication with Boston on the south; Montreal and the Canadian roads on the north; Portland and Portsmouth, at tide-water, on the east; and with the Connecticut Valley roads on the west. A large portion of the summer travel to and from the White mountains and the New Hampshire lakes passes through the city.

TRIBUTARY COUNTRY.

The country immediately tributary to Concord is mainly agricultural. The soil on the river and streams (intervales, alluvial, or bluff lands) is very productive, grass, corn, wheat, rye, potatoes, nearly all garden vegetables, apples, plums, pears, and all small fruits of this latitude being grown. In addition to the trade with the country immediately surrounding the city, Concord furnishes a market for the supplies coming from the northern and western portions of the state. The quarrying of granite is an important industry, while in the city itself the manufacturing interests are large.

TOPOGRAPHY.

Concord has a territory of 64 square miles. It is divided by the Merrimack river, which is bordered by broad intervales. The city proper lies on the right bank of the river, extending for a distance of about 2 miles along its course and about 3 miles back. The city datum line is low water in Merrimack river, at bridge at south end of Main street—225 feet above mean sea-level. The principal part of the city is about 30 feet higher than this. The river falls 50 feet in passing the city, thus giving good facilities for drainage and affording excellent water-power. The river is the outlet of lake Winnipiseogee, and the waters of that lake are controlled by artificial means so as to be available in increasing the flow during dry seasons. The Contoocook river extends along the northern boundary of the city, forming a wide valley of alluvial land, and making a descent of 111 feet as it passes Concord. On the southeastern border the Suncook river enters the Merrimack. The Turkey river runs along the southeastern border. These streams, like the Contoocook, are bordered by high alluvial deposits 100 feet above the broad intervales of the Merrimack. In the center of the territory is a range of hills rising, at the highest point, 560 feet above the river. This is a noted outcrop of granite known, commercially and geologically, as the "Concord granite". Upon the northeastern and northwestern borders granite hills rise from 500 to 700 feet above the level of the river. The soil is intervale, alluvial, or bluff land and rocky upland, bearing the oak, chestnut, and pine, but only a small portion is heavily wooded. The underlying rock is granite. Three ponds of considerable size are in the territory—one on either side of the Merrimack, of a marshy character, and one near the city, nearly free from marsh-land, from which the water-supply is taken.

CLIMATE.

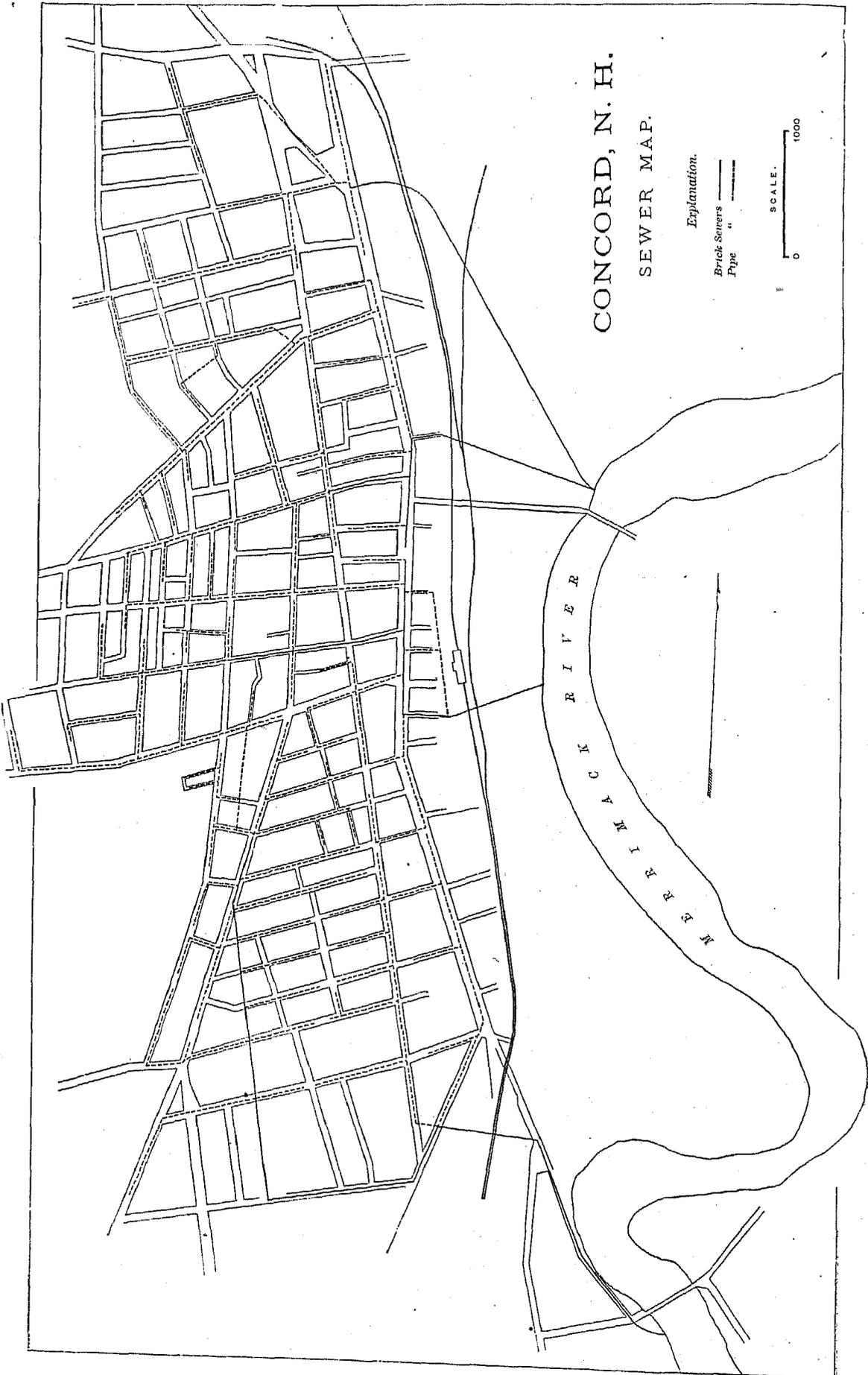
Highest recorded summer temperature, 103° (August 1, 1864); highest summer temperature in average years, 96°. Lowest recorded winter temperature, -37° (January 24, 1857); lowest winter temperature in average years, -21°. At certain seasons a heavy fog rises from the adjacent waters, but its influence is not considered injurious to health. The marsh-lands within the territory are of limited extent. They are believed to have an unhealthy influence in this immediate neighborhood. The uplands partake of the general New Hampshire climatic characteristics and are salubrious. The prevailing winds are from the north and west. Easterly winds, from the ocean, sometimes blow, and in the spring often come with a chilling force. The average annual rainfall is 33 inches, and the average annual fall of snow about 6 feet.

STREETS.

There are 30 miles of streets in the city proper, including Fisherville, and all of these, except some 1,200 feet, are either natural dirt roads or finished in gravel. About four years ago it was determined to try a block pavement, and since that time some 300 feet of this class of road-bed has been laid. The blocks are of granite, 3½ to 4 inches wide, 6 to 8 inches long, and 8 inches deep, the cost of the pavement being from \$1 25 to \$1 50 per square yard. Though the pavement is of but recent date, the municipal authorities are convinced of its durability and economy. Most of the sidewalks are laid in a concrete of gravel and gas-tar, the brick walks heretofore in use being replaced by this material. Some of the sidewalks are of gravel. Trees are planted extensively at the sides of the streets in the city proper. This is done by the abutters, and, as the custom has prevailed for many years, the trees are large and beautiful, giving a forest-like appearance to the city. The annual expenditure for the construction and repair of streets is \$20,000. Day labor is preferred. Teams at \$4 a day, including drivers, three or four foremen, and as many laborers as are deemed necessary, are employed.

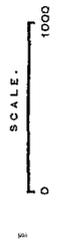
WATER-WORKS.

The works for the water-supply of Concord were built by the city in 1874 at a cost of \$350,000. The water is taken by gravitation from Long pond (on Penacook lake), 3 miles from the city and from 37 to 152 feet above it. The pressure in the mains averages 50 pounds to the square inch. The area of the pond is 350 acres, and that of



CONCORD, N. H.
SEWER MAP.

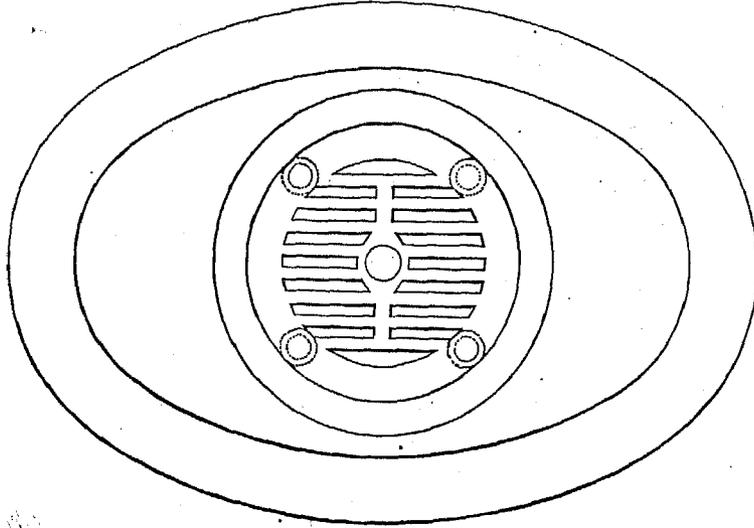
Explanation.
Brick Sewers ———
Pipe " ———



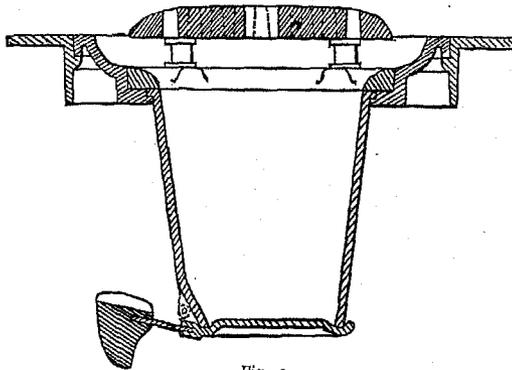
CONCORD, N. H.

Covers and Gratings for Sewer Inducts or Cesspools.

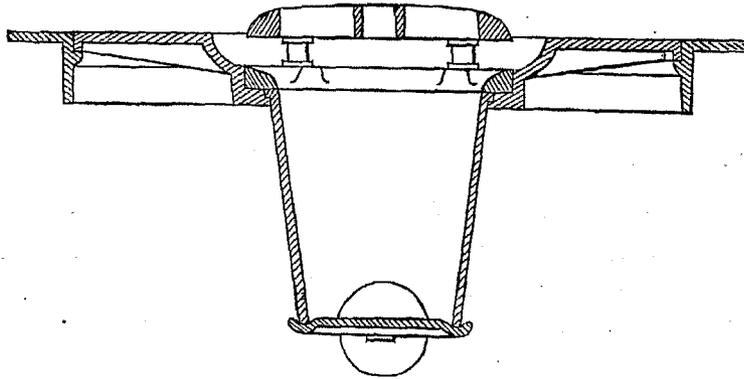
*Fig. 1.
Top View.*



*Fig. 2.
Transverse Section.*



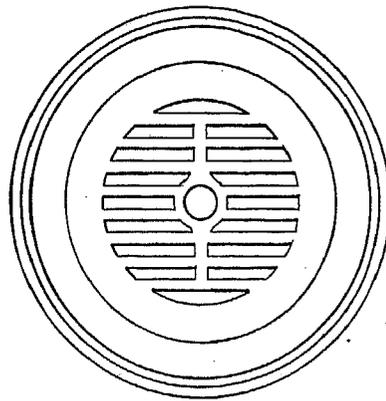
*Fig. 3.
Longitudinal Section.*



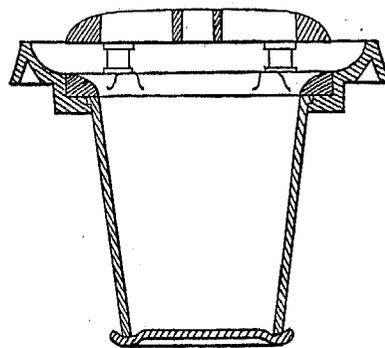
CONCORD, N. H.

Covers and Gratings for Sewer Inducts or Cesspools.

*Fig. 4.
Top View.*



*Fig. 5.
Transverse Section.*



its gathering-ground some 3 square miles. A dam, 2 feet wide at top, 3½ feet at bottom, and 18 feet high and 250 feet long, was built across the outlet of Forge pond, a little distance below the original outlet of Long pond, and a brick conduit (24 by 30 inches) extending into the lake nearly 2,000 feet, conveys the water to the supply-main of wrought-iron and cement pipe 14 inches in diameter and 3½ miles long. There are 26 miles of pipe laid and in use; the yearly cost of care and maintenance is \$2,500, and the annual income from the water-rents \$25,000. Water-meters are used to a small extent.

GAS.

Gas is supplied to consumers by a private corporation at the rate of \$2 70 per 1,000 cubic feet. The city pays \$20 a year for each street lamp, 120 in number, which includes lighting, extinguishing, care, and maintenance.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, a city hall, almshouse, engine and hose houses, central fire station, and school-houses, the total valuation being \$230,000. The city hall is owned in part by the county, and the city's portion, with the land, is valued at \$40,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are two parks in the city—*State House Park* and *City Hall Park*—each with an area of 2 acres. They are located near the center of the city proper, on Main street. Their original cost is unknown. The janitor of the building in each park has the care of the grounds, there being no special appropriation made for this purpose.

PLACES OF AMUSEMENT.

There is one theater in the city—*White's opera-house*—with a seating capacity of 1,100. It is used for transient theatrical and operatic entertainments. It pays no license to the city, but exhibitions pay from \$1 to \$5 each per night. The following halls are used for balls, concerts, lectures, etc. *Phoenix hall*, seating capacity, 1,100; *Eagle hall*, seating capacity, 800; *Rumford hall*, seating capacity, 400; *Masonic hall*, seating capacity, 250; *Odd Fellows' hall*, seating capacity, 250; *Pythian hall*, seating capacity, 200; *Good Templars' hall*, seating capacity, 200; *Tahanto hall*, seating capacity, 150; and *Union hall*, seating capacity, 125.

DRAINAGE.

The accompanying plan shows all the streets of the city, with the existing sewers and catch-basins. Previous to the general sewerage of the city there was little but surface drainage, though a few covered or plank drains were in use, some of them public and some private. But a small portion of the present system occupies the locations of the old drains. The whole work is new and is executed in accordance with the plan adopted, excepting slight variations in special cases. There is no provision for the ventilation of the sewers.

In building brick sewers invert blocks were used to keep the ditch free from water during construction. They proved effective for that purpose. The mouths of the sewers are fully exposed except during high water, for only a few days in the year. The sewage is discharged directly into the river. Deposits were removed three times during the year at a cost of \$650. The whole cost of construction is borne by the precinct in which it is located.

There is no assessment on abutting property.

George E. Jenks, esq., who communicates the foregoing information, says:

It is believed by many that the mortality record is considerably greater in the sewerage precincts than by the old method of surface drainage. Reason: the escape of concentrated gases from the pipes at public inlets and in houses, by reason of insufficient trapping and improper method of ventilation.

The largest amount of work on the sewers of Concord was done in the years 1876 and 1877, when 65,242 linear feet were constructed at a total cost of \$69,303 02. The lengths of sewers of different sizes comprised in the foregoing were as follows:

8-inch pipe	6,739
10-inch pipe	19,946
12-inch pipe	20,739
15-inch pipe	6,514
18-inch pipe	3,634
20-inch pipe	3,430
24-inch pipe	846
24 by 36 inches (brick)	3,394
Total	65,242

CEMETERIES.

There are 10 public and 2 private cemeteries in Concord. The area in acres is not reported. Their situations are as follows:

Old Cemetery.—In the 4th ward, on State street, between Walker and Bradley streets.

Lincoln Cemetery.—Also in the 4th ward, on the east side of the river near Death's hill, on the Portsmouth turnpike.

Blossom Hill Cemetery.—Also in the 4th ward, on State street, north of Wood's brook.

Calvary Cemetery (Roman Catholic).—Also in the 4th ward, just north of Blossom Hill cemetery.

Suncook Cemetery.—Near Eastville, in the 2d ward. Minot's inclosure is opposite.

Pine Grove Cemetery.—In the 3d ward, at junction of State street and Boscawen road.

Woodlawn Cemetery.—Near Fisherville, in the 1st ward.

Horse Hill Cemetery.—On Bay road, north of Contoocook river.

Milville Cemetery.—On Bay road, near Little Turkey pond.

West Concord Cemetery.—In 7th ward, near Great Turkey pond.

Besides these there is a small private cemetery, adjoining Old cemetery on the north, which is owned by a corporation that makes its own rules. The Catholic cemetery is under the rules ordinarily prescribed by the Roman Catholic Church. The superintendence and control of all the public cemeteries is vested in committees appointed annually by the city council. These committees attend to the sale and regulate the improvement of all lots, and designate the portions of the cemeteries to be used as common burial-grounds. All graves must be 4 feet deep to the top of the coffin for all persons over 12 years of age, and not less than 3½ feet for all under 12 years of age. Interments can be made only on permits from the city clerk, issued on certificates of the attending physicians.

MARKETS.

There are no public or corporation markets in Concord. Farmers and others bringing produce, hay, wood, etc., into the city are allowed to stand on Main street, in front of the state-house square, to dispose of the contents of their wagons. The city makes no charge for this privilege, but an ordinance forbids the offering of a load of wood or bark for sale unless it has been measured by the officers appointed for that duty and a certificate given.

SANITARY AUTHORITY—BOARD OF HEALTH.

The board of health consists of 3 health officers elected annually by the city council. It consists of the city marshal, city physician, and one other, who must be a physician. As health officers they receive \$1 each per hour for all time actually spent in inspecting and reporting nuisances, and these sums are charged against the property on which the nuisance may exist. The annual expense does not exceed \$100. The duties of the board consist mainly in inspecting and correcting nuisances and notifying the city council on the appearance of any disease of an infectious or contagious nature. The city marshal is the chief executive officer. He sees that all health ordinances are complied with and that notices to abate nuisances are properly served. No special regulations for the conduct of the business of the board seem to have been made. When nuisances are reported an inspection is made, and, if necessary, orders are given for their abatement. In case of neglect or refusal the board can have the abatement made, charging all expense on the property. Defective house-drainage, etc., are treated as nuisances when complained of. No special rules have been made for the removal of garbage.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home, as there is no pest-house. Vaccination is compulsory and is done at the public expense. The board takes no cognizance of scarlet fever or the breaking out of contagious diseases in either public or private schools. The city clerk, who is registrar of vital statistics, records all births and deaths. The board makes an annual report to the city council, which is published with the regular reports of the city officers.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own force. The work is done wholly by hand, no sweeping-machines being used. The business streets are cleaned quite often, and others in the spring and fall. The work is reported as thoroughly done. No separate account is kept of the expense, and the sweepings are used as filling when needed.

Removal of garbage and ashes.—Garbage and ashes are removed by the city. No regulations govern the method of keeping garbage while awaiting removal, nor is the keeping of garbage and ashes in the same vessel prohibited. Ashes are used for filling, but no information regarding the final disposition of the garbage is given. No separate account of the cost of work is kept. Little evil seems to come from either the improper handling, keeping, or infrequent removal, etc., of garbage.

Dead animals.—The owner of any animal dying within the city limits must remove the carcass. No special ordinance governs the matter, and no record is kept of the number of animals dying during the year.

Liquid household wastes.—The kitchen and laundry wastes and chamber slops are run into sewers where sewers exist, and, where there are no sewers, into privy-vaults. None of the wastes are allowed to pass into the gutters. There are a few cesspools. These are porous, are not provided with overflows, and do not receive the wastes from water-closets. No regulations seem to have been made regarding their cleansing, etc. There are only a few wells in the city, and there has been as yet no complaint of contamination by the overflowing or underground escape of the contents of cesspools or privy-vaults.

Human excreta.—All houses having sewer connections are provided with water-closets, and the number is increasing, though at present it is about 25 per cent. of the houses in the city. Privy-vaults must be built water-tight, securely covered, and at least 2 feet from any division-line. They can be opened and cleaned only between November 1 and May 1, and the work must be done at night. The night-soil is used by farmers as manure, and though used within the gathering-ground of the water-supply, no law seems to prohibit its use there.

Liquid manufacturing wastes are run into the river, and no bad results are reported therefrom.

POLICE.

The police force is appointed and governed by the mayor and aldermen. The mayor is chief of police, but the city marshal—salary \$900 a year—is the immediate head of the force. He has general charge of the welfare of the city and sees that its laws and ordinances are enforced. He is captain of the watch, and as such patrols the principal parts of the city. The rest of the force consists of 1 assistant marshal and 3 night watchmen, who receive each a salary of \$800 a year, and who are under the orders of the mayor. The uniform is of dark-blue cloth, with brass buttons bearing the letters "C. P." in Old English. All members must wear the badge prescribed by the mayor and aldermen. The men provide their uniforms, except the buttons, which are furnished by the city. The members are armed with a billy, handcuffs, and such other weapons as occasion may require. The night watchmen patrol from 2 p. m. to 4 a. m., while the chief of police keeps the day watch. The total length of streets patrolled is about 20 miles.

During 1880 the force arrested 208 persons, the principal causes being assault and battery, intoxication, rude and disorderly conduct, and keeping and selling liquors. Of those arrested, 95 were discharged without complaint and 88 sentenced to pay fines. The number of station-house lodgers during the year was 65, an increase of 1 over 1879. These lodgers were furnished with 195 free meals. The police are required to aid the fire department at all fires, and to aid the health department in reporting all nuisances. Special policemen are appointed by the mayor and aldermen, generally to keep the peace. They are all under command of the marshal, wear regular badges, and receive a per-diem pay for the time actually given to duty. The total annual expense of the force (1880) is \$5,210 67.

FIRE DEPARTMENT.

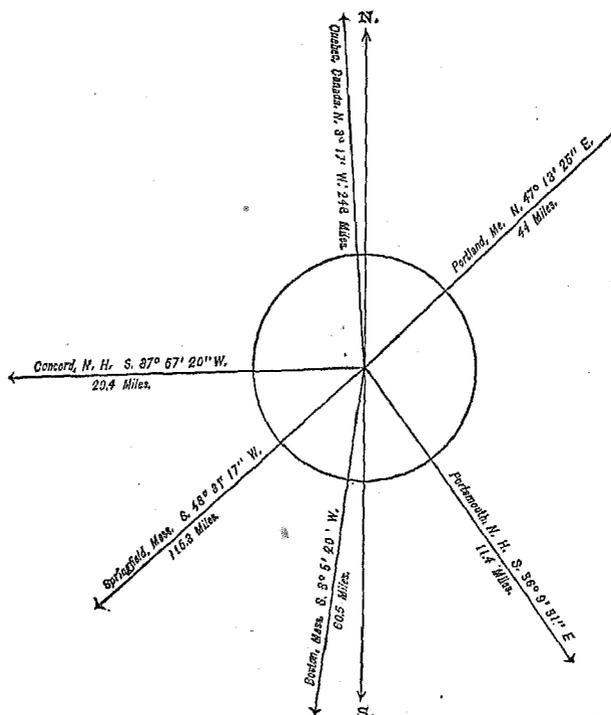
The force consists of 1 chief and 8 assistant engineers and 179 men. Of these, 1 assistant engineer and 50 firemen are at Fisherville; 1 assistant engineer and 30 firemen at East Concord, and 1 assistant engineer and 30 firemen at West Concord. The apparatus consists of 1 steamer, 3 hose-carriages, and 1 hook-and-ladder truck in the city proper; 1 steamer and 2 hose-carriages at Fisherville; 1 steamer and 1 hose-carriage at East Concord; and 1 steamer and 1 hose-carriage at West Concord. The value of the property of the department is \$72,595 50. During the past year there were but 13 alarms, and the aggregate loss by fire was less than \$3,500. Water for fire purposes is taken from 100 hydrants—93 public and 7 private—and from 13 public reservoirs having a total capacity of 73,300 cubic feet. During the past year an electric fire-alarm system, with 21 street signal-boxes, has been put into operation. The annual appropriation for the fire department (1880) is \$12,700.

DOVER,

STRAFFORD COUNTY, NEW HAMPSHIRE.

POPULATION IN THE AGGREGATE, 1800-1880.

Year	Inhab.
1790	.....
1800	..... 2,062
1810	..... 2,228
1820	..... 2,871
1830	..... 5,449
1840	..... 6,458
1850	..... 8,196
1860	..... 8,502
1870	..... 9,294
1880	..... 11,687



POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	..... 5,471
Female	..... 6,216
Native	..... 9,257
Foreign-born	..... 2,430
White	..... 11,649
Colored	..... 38

Latitude: 43° 14' North; Longitude: 70° 54' (west from Greenwich); Altitude: 14 to 150 feet.

FINANCIAL CONDITION:

Total Valuation: \$7,080,178; per capita: \$606 00. Net Indebtedness: \$468,830; per capita: \$39 26. Tax per \$100: \$1 52.

DOVER IN 1880. (a)

LOCATION.

Dover lies in latitude 43° 14' north, longitude 70° 54' west from Greenwich, on the Cocheco river, 12 miles northwest from Portsmouth. Its elevation above sea-level is at an average of 75 feet, rising from 14 feet at the wharves to 150 feet. The Cocheco river has 11 feet of water during high-tide at the city wharves, and the harbor has a capacity for about 20 small vessels. The channel width is 75 feet at bottom. There is a strong current with the ebb-tide, and at mean low water there is but 4 feet on the shallows in the channel.

^a Neither a map nor a history of Dover could be secured. The following statistical accounts, collected from the city officials, are all that could be obtained by the Census Office to indicate its present condition, though every effort was made to procure the necessary information.

RAILROAD COMMUNICATIONS.

Dover is touched by the following railroads:

The Boston and Maine railroad, termini, Boston and Portland.

The Eastern railroad, same termini.

The Dover and Winnipiseogee railroad, to lake Winnipiseogee.

A short branch of the Eastern railroad connects Dover directly with Portsmouth. The first two roads give the city direct communication with Boston and all connecting lines on the south, and, with Portland and the Canadian roads, to the east and north.

TRIBUTARY COUNTRY.

The country immediately tributary to Dover is essentially agricultural. The city has a local trade with the three or four adjoining towns. These towns are all engaged in agriculture, which is, in fact, their only industry. Good crops of hay, potatoes, and all cereals are produced, and Dover is the market for the surplus, supplying in exchange the wants of the farmers.

TOPOGRAPHY.

The city is situated on both banks of the Cocheco river—a tributary of the Piscataqua or Salmon Falls river—at the lower falls, where it is crossed by the Boston and Maine railroad. Its site presents an agreeable variety of surface, but the elevations are not great. The principal part of the city is 75 feet above mean sea-level; the highest point is 150 feet, rising from the harbor at the foot of the falls, which is 14 feet above the sea. The summit of Garrison hill, in the suburbs, is at an altitude of 300 feet. The natural drainage is into the Cocheco river, which here has a direct fall of 32 feet. The soil is slaty, with many granite bowlders scattered through it, and the underlying rock is slate. There are no extensive marshes and but two small ponds within the city limits. The surrounding country does not differ materially from the site of the city, and for a radius of 5 miles is open.

CLIMATE.

The highest recorded summer temperature is 103°; the highest summer temperature in average years, 98°. Lowest recorded winter temperature, —28°; lowest winter temperature in average years, —12°. Dover is about 8 miles from the ocean, in a straight line, and there is consequently more rain and less snow during the winter months, as compared with the towns situated more inland. On the other hand, the prevalence of cold easterly winds renders the city undesirable as a residence for those troubled with pulmonary complaints.

STREETS.

Total length of streets, 30 miles. Of these, 3 miles are finished in broken stone and 13 miles in gravel, the remainder being unpaved. The cost per square yard is \$4 for the broken stone and \$3 for the gravel. The cost of keeping each in good repair is about the same, \$10 per mile. The relative facility with which each is kept clean is not stated, but it is reported that the broken stone makes the best road and is in the end the least expensive. The sidewalks are mostly of brick, some being of concrete and some of gravel. The curbstones are of 20-inch flagging, and the gutters are laid with stone. Trees are planted by the abutters, and are generally set along the edges of the sidewalk. The repairing of the streets is done by day labor, the city owning the teams. About \$13,000 is annually expended on streets, sidewalks, and gutters. Day work is preferred by the city authorities, and is stated to give general satisfaction. A steam stone-crusher is used with good effect. There are no horse-railroads or omnibus lines in the city.

WATER-WORKS.

The city is partly supplied with water by 3 aqueduct companies, private corporations. There are no pumping-works, the pressure being obtained by gravitation. There are 30 hydrants, and the city pays for these, and for fountains, public buildings, street-sprinkling, etc., \$468 annually. This water-supply is stated by the mayor to be inadequate, and in his inaugural address he strongly recommends that steps be at once taken to secure a permanent supply of water sufficient for present and prospective needs, and that the works be owned by the city. He says: "The first cost would, of course, be considerable, but the returns would also be large, and by judicious management would, in a few years, extinguish any debt that might be incurred in construction and in keeping the system in operation."

GAS-WORKS.

The gas-works are owned by a private corporation. The average daily production is 40,000 cubic feet. The charge per thousand feet is \$2 70 to \$3. The city pays \$14 per annum each for street-lamps, 108 in number. The annual income from meter-rates is given at \$26,300.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, buildings to the value of \$230,000. These include the city hall, ward-houses, and school-houses. The city hall is owned in common with the county, its whole cost being \$100,000. Of this amount the county paid \$3,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no parks in Dover.

PLACES OF AMUSEMENT.

The city hall, with a seating capacity of 1,200, is used for theatrical performances, lectures, etc. It is owned by the city, and the rent, \$15 a night, carries a license with it. There are a few small halls, none exceeding a seating capacity of 300 or 400, but, as a rule, the city hall is used for all public entertainments.

DRAINAGE.

Until about 30 years ago the numerous brooks and water-ways within the town area were roughly inclosed in stone, and householders were allowed to connect cellar drains with these at their own expense. Since that time, and particularly since the adoption of the city charter, these old water-courses have been converted into brick and cement sewers. There still remain, however, many wooden drains leading from property near the river. There is no regular plan established for the sewerage of the city, all work being a somewhat natural outgrowth of that already existing.

There is no provision for the ventilation of sewers except "iron traps at short distances". These are probably gutter inlets.

The main sewer delivers below the surface of the river; the mouths of the others are exposed. The strong current of the river has thus far solved the question of final disposal to the entire satisfaction of the residents of the city. It has been necessary from time to time to uncover and clean the sewers, and less frequently to flush them with fire-steamers.

The city pays the first cost of all sewers, and charges \$25 for each connection made therewith. There are a number of private drains still in use leading directly to the water-courses. There is no assessment of cost or expenses against abutting property.

There is no record of the cost of the work, which is done almost entirely by the day by the city's force, under the superintendence of the street agent.

Charles M. Murphy, esq., who communicates the foregoing information, says:

No system of sewers has been adopted in Dover, though the river [Cocheco] affords excellent opportunity for planning and carrying out such a system. The fact is, we are not pushed. Most of the sewers empty into the river at such points as now cause little uneasiness; the people who live and work along the river-banks are not particularly sensitive about smells; and, lastly, Dover remains healthy. There is no system of water-works. It is not more than 30 years ago that the first public brick sewer was put down, and nobody was charged for entrance till 15 years ago.

CEMETERIES.

There are 4 public cemeteries in the city, and a grave-yard on almost every farm. *Pine Hill*, area about 50 acres, has been in use for 170 years. The *Catholic Cemetery*, area 10 acres, has been in use about 20 years. The *Dover Neck Cemetery*, area 10 acres, is the oldest, and has been used for 230 years. There is also another of 10 acres, recently laid out. Its name is not given. The Catholic church yard, near the Boston and Maine depot, is no longer used. The total number of interments in all the cemeteries, or even those in any of them, could not be learned, as the records are imperfect. No interments can be made in the old cemetery, nor can remains be removed from the city or from one grave to another without the written consent of the mayor. There are no regulations as to limit of time after death for burial. Graves must be not less than 3 feet in depth to the top of the coffin for all persons under 12 years of age, and 3½ feet in depth for all over 12. *Pine Hill* cemetery is under control of a standing committee of the city council, and is managed by the superintendent of burials. Lots are sold for burial purposes only, and are improved as the owners see fit, provided such improvements do not interfere with any other lot or any walk or avenue. All inclosures around the lots must be approved by the committee. From the annual report of the superintendent for the past year it appears that the expenditures were \$294 21, and the amount received for sales of lots, \$349. He reports the number of interments for the year as 101, and the number of lots now ready for sale as 16.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of the city is vested in an independent board of 3 health commissioners, one of whom is a physician, appointed annually by the city council. The annual expenses of the commissioners in the absence of an epidemic are \$200. During an epidemic the amount at the disposal of the commissioners is uncertain. In 1872 they expended \$4,000 during the prevalence of small-pox. In ordinary times their authority extends over the sanitary condition of the city and the abatement of nuisances, etc., while during an epidemic their powers, by statute, are arbitrary. They may remove persons, shut them off from the general public, etc. The ordinances direct them to inquire into all nuisances and other causes of danger to the public health, and, if these are found dangerous, to make oath before a justice of the peace, who must issue a warrant authorizing them to enter the premises and make search. They can employ such aids and assistants as are necessary, and any one offering resistance is an offender against the peace. The manner of transacting business is not stated. When nuisances are reported an inspection is made, and, if necessary, a written notice is served ordering its abatement. If this is disregarded, or no owner or occupant of the premises can be found, the commissioners have the nuisance removed or abated. In case defective house-drainage, privy-vaults, or cesspools affect the public health, the owners are directed to make such improvements as the commissioners may approve. All street-cleaning is under the supervision of the superintendent of streets. The only control exercised by the commissioners over the conservation or removal of garbage is to forbid its being thrown out around premises between June 15 and October 1. The only regulation regarding the burial of the dead forbids the opening of any tomb between May 20 and October 20 without permission from the commissioners.

INFECTIOUS DISEASES.

A single case of small-pox is quarantined in the house where it occurs; but during an epidemic the commissioners have authority to remove all infected persons to a pest-house outside the city limits. No notice seems to be taken of scarlet fever or of the breaking out of contagious diseases in public schools. Vaccination is not compulsory, and is done at public expense only during an epidemic.

The record of births and deaths is kept by the city clerk, to whom all physicians are required to report by law. It is published in the city reports, and returns are made to the secretary of state. The commissioners appear to make no reports.

MUNICIPAL CLEANSING.

Street-cleaning.—This is done by the city with its own force and wholly by hand. The cleaning is done on the streets as needed. The annual cost to the city is \$500, and to private parties perhaps \$50. The scrapings are deposited in a place provided for the purpose, and the whole system is reported as being "very imperfect".

Removal of garbage and ashes.—All garbage is removed by the householders at their own expense. While awaiting removal it must be closely kept, and must not be placed in the same vessel with ashes. It is carried out of the city for final disposal, but what that disposal is is not stated. Ashes are taken to the dump-lands. The annual cost of removal is given, for householders \$500, and for city \$300, but just how the city incurs this expense is not stated. It is reported that nuisances and probable injury to health result from the improper keeping of garbage on premises, from unfrequent removal, from improper handling, and from improper final disposal, and that the system is "wholly defective".

Dead animals.—The carcass of any animal dying within the city is removed by the health commissioners and buried. The annual cost of this service is \$50; the number of dead animals of different kinds removed is about 40, and the service is reported as well performed.

Liquid household wastes.—A large part of the liquid household wastes are run into the sewers; none is allowed to pass into the gutters, and some is thrown into cesspools. The cesspools are porous at the bottom, are not provided with overflows, and must be cleaned out when offensive. As no wastes pass into the gutters the latter are never flushed. Cesspools do not receive the wastes from water-closets, and as there are no wells in the city the water-supply is not contaminated by the overflow or underground escape of the contents of vaults and cesspools.

Human excreta.—Nearly all the houses in the city depend on privy-vaults. Some have water-closets that deliver into the sewers. The vaults are forbidden to be nearer than 40 feet to any dwelling, unless they be tight and vaulted over. No vault can be opened and contents removed between the 20th of May and the 20th of October, unless permission be given by the health commissioners. Night-soil is carted out of the city, but its ultimate disposal is not stated. None of it, however, is allowed on land within the gathering-ground of the public water-supply.

Liquid manufacturing wastes are run into tide-water. The disposition of the solids is not given.

POLICE.

The police force is appointed annually by the mayor and aldermen, and governed by them in accordance with ordinances enacted for that purpose. The city marshal is the chief executive officer and has command of the force. His salary is \$750 a year. The force comprises 1 assistant marshal at \$650 per annum, and 1 day policeman and 3 night watchmen at \$600 each per annum. The uniform consists of blue suits, with brass buttons, and a hat; each man providing his own. The men are armed with clubs and pistols, and the hours of service are as follows: The marshal and 1 policeman are on duty from 7 a. m. to 10 p. m.; the assistant marshal and 1 night watchman from 8 p. m. to 4 a. m.; and 2 night watchmen from 10 p. m. to 6 a. m. The number of miles of streets patrolled is not given. During the past year there were 414 persons arrested, the principal causes being for drunkenness, assaults, violation of liquor laws, larceny, and disorderly conduct. The cases were disposed of by fines, imprisonment, sent to supreme court, and some discharged. The amount of property lost or stolen during the year and reported to the police, or what sum was recovered and returned to the owners, was not reported. During the year there were lodged and fed in the station-house 197 persons, as against 160 in 1879. The money value of the meals thus given could not be learned. The police force is not required to co-operate with either the fire, health, or building departments. Special policemen are appointed by the mayor and aldermen, but only in emergencies. The total annual cost of the force (1880) is about \$5,000.

FIRE DEPARTMENT.

The force of the department numbers 145 men, as follows: 1 chief and 3 assistant engineers and 141 members. The apparatus in use consists of 3 steam fire-engines, 2 hand-engines, 6 hose-carriages, and 1 hook-and-ladder truck. There are 136 feet of suction and 10,000 feet of leading hose. Water is taken from 22 reservoirs and 4 water-plugs, but this is not deemed sufficient, as both the mayor and the chief engineer call attention to the matter in their annual reports, while the joint standing committee on the fire department says: "We have not failed to call the attention of the council to the inadequacy of the water-supply for fire purposes." During the past year there were 17 fires and alarms, and the total amount of property destroyed was \$41,400. There was \$24,750 of insurance paid on this loss, leaving a net loss of \$16,650.

The chief and assistant engineers are appointed annually by the mayor and aldermen. They together form the board of engineers, have the powers of fire-wards, and administer the affairs of the department in accordance with rules and regulations making the usual provisions.

PUBLIC SCHOOLS.

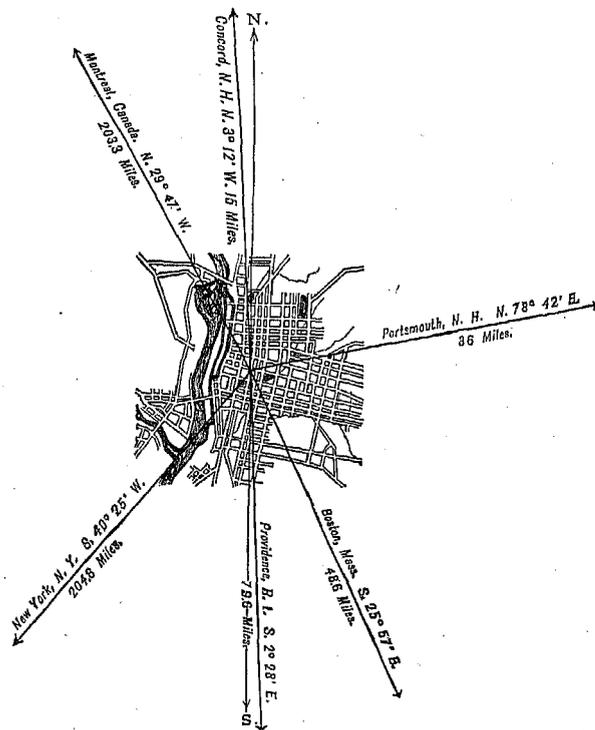
There are 18 public school-houses in Dover, 8 being of brick and 10 of wood. There are 7 two stories high and 11 one story in height. There are 43 school-rooms, with an aggregate seating capacity of 1,758. The condition of the buildings is reported as good for 16, fair for 1, and bad for the other. The annual report of the state superintendent of public instruction gives: Different public schools, 42; number of graded schools, 32; number of scholars enrolled, 1,880; and average daily attendance, 1,436. There are 4 male teachers, with an average pay per month of \$83 06 each, and 38 female teachers, with an average pay per month of \$40 50 each. The number of teachers from the normal schools is 6. The total annual expenditures for schools (1880) is \$24,379 84. The Franklin academy, a private school, chartered and organized in 1818, has 2 teachers and 50 pupils—30 males and 20 females. The school-year has 40 weeks and begins in September.

MANCHESTER,

HILLSBOROUGH COUNTY, NEW HAMPSHIRE.

POPULATION
IN THE
AGGREGATE,
1820-1880.

Year	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	761
1830.....	877
1840.....	3,235
1850.....	13,932
1860.....	20,107
1870.....	23,536
1880.....	32,630



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	14,698
Female.....	17,932
—	
Native	20,151
Foreign-born	12,479
—	
White.....	32,576
Colored	* 54

* Including 5 Chinese.

Latitude: 42° 59' North; Longitude: 71° 28' (west from Greenwich); Altitude: 300 feet.

FINANCIAL CONDITION:

Total Valuation: \$16,621,979; per capita: \$509 00. Net Indebtedness: \$972,907; per capita: \$29 81. Tax per \$100: \$1 59.

HISTORICAL SKETCH.

In May, 1629, Rev. John Wheelwright obtained from the Penacook Indians a deed of the southern part of what now is the state of New Hampshire. The first settlement of this land was made by Scotch-Irish immigrants in 1719, who obtained from the grandson of Wheelwright a tract of land 10 miles square, in what was known as the "Chestnut country". The spot on which they settled they called Londonderry. They introduced the cultivation of the potato and the spinning of flax. At Amoskeag falls the river in the season abounded with fish of various kinds. These fisheries the proprietors of Londonderry had meant to secure in their grant, but their ignorance of the country made their surveys faulty, and a strip of land between the then line of Chester and the Merrimack, a little over a mile wide and 8 miles in length, extending from what is now Litchfield to Hooksett, was left outside of the provincial grant. This piece of land, on which the mills and stores of Manchester stand to-day, was called "Harrytown".

In 1722 John Goffe, jr., and his brothers-in-law, Edward Lingfield and Benjamin Kidder, from Massachusetts, who were related to the Londonderry settlers, built for themselves houses on Cohas brook, being the first known inhabitants within the present city. To establish the right of Londonderry to the ungranted lands, Archibald Stark, John McNeil, and John Riddell went from that town in 1733 to occupy lands near the falls. They were the first known white settlers near Amoskeag falls.

All the New Hampshire settlements had been usurped in 1658 by Massachusetts, but in 1679 New Hampshire was made a royal province. In 1686 it was united with the rest of the northern colonies and made a province subordinate to Massachusetts authority. In 1733 seven tracts of land in New Hampshire were granted to soldiers of the Narragansett war of 1675, under the name of "Narragansett townships." The southeastern part of tract No. IV includes the village of Amoskeag. In 1735 Massachusetts granted a tract of land on the east side of the Merrimack, 3 miles wide and extending from Suncook to Litchfield, to certain soldiers who had fought the Indians in 1703, under Captain William Tyng, in whose honor the place was named Tyngstown. It included the old Harrytown. One of the soldiers, Major Hildreth, in 1735-'36, built a saw-mill upon the Cohas. This was the first mill of any kind in Manchester.

During all this time there had been disputes as to the boundary line between New Hampshire and Massachusetts, which disputes were settled in 1740 by cutting off from Massachusetts 26 townships which she had claimed as hers. Among these was Tyngstown.

About this time, 1746, the settlers on the ungranted tract became desirous of living in a town of their own, and additional territory was obtained from adjacent towns. At a meeting of the governor and council, September 3, 1751, a charter was granted, under the name of Derryfield, to a territory which included 18 square miles of the southwest part of Chester, 9 square miles of the northwest part of Londonderry, and 8 square miles of Harrytown—35 square miles in all. The north part of Harrytown was left ungranted, but was annexed in 1792. The name of Derryfield is said to have been given the new township because the people of Derry had been used to pasturing their cows within it.

The first meeting of the inhabitants of the new town was held September 9, 1751, at the house of John Hall, a tavern-keeper. After the seven years' war between the French and English, in which the men of Derryfield bore a conspicuous part, prosperity dawned upon New England. The settlers of Derryfield were early drawn from their farms to the fisheries. The thrift of agriculture was wanting, and a still worse factor, which impeded, and in fact for a time entirely stopped, all progress and growth, was the quarrelling between the Scotch and Irish Presbyterians and the English Puritans. At the first town-meeting money to pay for preaching was appropriated, but no preacher appears to have been hired. In 1754 the town voted to build a meeting-house at the Center. The frame was put up in 1758, and there at once began a strife about its location and about the support of the preacher. The action of one meeting was vetoed at the next. This condition of affairs bore its natural fruit in a depopulation of the town, there having been a decrease of one-fifth of the polls in the year which ended with March, 1766.

In 1771 New Hampshire was divided into 5 counties, and Derryfield was attached to one of them called Hillsborough. New Amherst was made the shire town, and courts of general sessions, common pleas, and probate were established. The Hon. Samuel Blodget, of Derryfield, was made a justice of the court of common pleas of the peace for Hillsborough county.

When the news of the battle of Lexington reached Derryfield, so strong was the revolutionary feeling that the selectmen and thirty-four out of thirty-six men capable of bearing arms started at once for the seat of war, leaving but two at home with the old and infirm. The conspicuous part in the war which these men bore under Captain John Stark is a matter of history.

At the beginning of the trouble, in 1775, the governor of the province had left, leaving the people to govern themselves. In 1793 a permanent system was established, by which, under a state government, Derryfield was classed with Litchfield for the choice of a representative to the legislature. At a joint meeting held March 25, 1793, Major John Webster, of Derryfield, was chosen the first representative, and it was voted to hold the annual meetings in the two towns alternately.

At the March meeting in 1784 a liberal appropriation for preaching and schooling was made, and it was voted to divide the town into 4 school-districts. There was no school-house in Derryfield until 1795, when one was built by private subscription on what was then the Falls road. In 1798 the town voted to buy this house and to build two more, and in 1809 a school-house was built at the Center.

In 1792 a corporation was formed for the purpose of building a bridge across the Merrimack at the foot of Bridge street. The bridge was finished in September of the same year, and was known as "McGregor's bridge", named for Robert McGregor, who lived just across the river in Goffstown. In the same year Henrysburg was annexed, and the town was visited by the small-pox.

On the 2d of May, 1794, Judge Blodget began the work of building around Amoskeag falls a canal, through which he expected vast quantities of lumber would be carried from the forests on the river-banks to market. He lost time and money in a vain attempt to make practicable a lock of his own invention, and it was not until May 1, 1807, that, having spent his own fortune and what money he had been able to raise by lotteries, he saw his

work completed. He died on the first day of September of the same year, and his canal, passing into the hands of the proprietors of the Middlesex canal, was of great benefit till the railroad destroyed its usefulness and it went to decay.

In 1795 a number of citizens formed a social library, and in 1799 they were incorporated as the "Proprietors of the Social Library in Derryfield". They then owned 78 books, but the association was subsequently dissolved.

March 13, 1810, when the population of the town was 615 and the first mill had just been built at Amoskeag, the town petitioned the legislature to change the name of Derryfield to Manchester, and the request was complied with at the June session of that year.

Manchester furnished its quota in the war of 1812. In 1815 the town was allowed by the legislature to be represented in that body by itself, instead of being classed with other towns.

On the 24th of October, 1838, occurred the first of the four sales of land by which the Amoskeag Company disposed of its possessions to men who were the builders of the coming city. Some streets had already been laid out in the vicinity. One hundred and forty-seven lots were sold. In January, 1839, the first private house on the company's lands was built. In this and the following year several blocks and residences were built; the population was much increased, and at the second sale in this year prices of land were much advanced. After this second sale it became evident from the growth of the village that the old regulations were ill-adapted to the existing needs. At a special meeting, October 26, 1839, it was voted to establish a system of police and a board of health, and to take measures for protection against fire, and the first fire-engine was then bought. Police officers to the number of four were appointed. This year saw the establishment, by John Caldwell, of *The Amoskeag Representative*, the first newspaper published in Manchester.

There was much ill-feeling between the dwellers in the old town and those in the new. This reached its height at the March meeting of 1840, when 30 constables had to be chosen to keep order before the town officers could be elected. The candidates of the new town carried the day, and thereafter held the reins of government. In 1840 three churches and Granite bridge were built and two more newspapers were established. The year 1844 was an important one in the life of the town. The Manchester Athenæum was organized. The legislature passed a bill allowing the October terms of the court of common pleas to be held in the town. Public and private improvements were active, and measures were taken for a better water-supply. In October, 1845, the present city hall was built, at a cost of \$35,000.

On the first day of June, 1846, agreeably to the petition of a committee of the town-meeting, the legislature passed an act to incorporate the city of Manchester. The first election was held August 19, and the first mayor was elected. In this year the population was 10,125.

In 1853 the villages of Piscataquog and Amoskeag, parts of Bedford and Goffstown, respectively, were made parts of Manchester. In 1864 the city council was authorized to establish a public library. In 1868 the school-districts were consolidated into one. In 1871 the legislature authorized the construction of water-works, at a cost of not over \$600,000.

The history of the Manchester of to-day is really a history of its manufactures, as but for them she would have remained a simple agricultural village, and the vast water-power at her doors would, in all probability, have remained unemployed. Though a cotton-mill had been erected in Manchester about a year before the name of Derryville was changed, not much was done till some Massachusetts capitalists, on the lookout for new and profitable investments, computed the power of the water-fall at Amoskeag. In 1809 a small mill was built on the west side of the falls at Amoskeag village, and in the next year a company was formed and incorporated under the name of the "Amoskeag Cotton and Woolen Manufacturing Company". There were no picks or looms in the mills, so the cotton was picked and woven in the neighborhood, a "smart" man being able to earn about 36 cents a day. The corporation did not prosper, and after the year 1815 little was done at the mill. In 1822 the property changed hands, business was resumed for a short time only, and then the mills passed into the hands of parties from Massachusetts and Providence, who began business three years after, 1825, on a firmer basis. In 1826 the old mill was enlarged; two new ones were built—one being on an island in the river—and the manufacture of sheetings, shirtings, and tickings was begun, the latter, under the brand of "A. C. A.", acquiring a wide reputation. On July 31, 1831, an act of the legislature, passed a few days previously, was accepted, and the Amoskeag Manufacturing Company, with a possible capital of \$1,000,000, was formed by the men into whose hands had passed the property of the old Amoskeag Cotton and Woolen Manufacturing Company. The property of the old company was exchanged for stock in the new one, and the latter purchased, in addition, land on both sides of the river—mostly, however, on the east side, where it owned some 1,500 acres. In 1835 the company had obtained a full title to all the water-power on the river from Manchester to Concord, all the land in Manchester on the Merrimack available for mill-sites, and also a large tract of land extending along the river and back from it. The company, having now obtained control, began operations in earnest. The old dam was repaired and used as a coffer-dam, and a wing-dam, with guard-locks on the east side, was built and a canal constructed. All these improvements were on the east side of the river, and the lots offered for sale brought into the market a large portion of the land on which Manchester now stands.

The start had now been made, and the Amoskeag Company not only increased its own works but erected mills, sold sites, and leased water-powers to other corporations as they successively appeared on the scene. More capital came in, and mill after mill was erected. In 1871 a new dam, in two parts, with a total length of 650 feet and 2 feet higher than the old dam, was built a little farther down the river. It is 8 feet wide at top, averages 12 feet in height, and cost \$60,000. Two canals lead from the basin of the dam, the upper one having a length of 5,480 feet to the weir at the foot of Central street, where it empties into the lower one, while the lower has a length of 6,900 feet to where it empties into the river just below the Namaske mills. The openings of the canals at the guard-gates are 580 feet square, their widths at the heads 73 feet, at the weirs 50 feet, and their average depth 10 feet. The upper canal has a fall of 20 feet and the lower of 34 feet. In early times the company was obliged to maintain locks on the lower canal at the river, but in 1855 permission was given by the legislature to discontinue them.

In 1879 the capital of the Amoskeag Manufacturing Company was \$3,000,000, the number of mills 10, engaged in the manufacture of tickings, denims, drillings, sheetings, canton-flannels, grain-bags, gingham, shirting-stripes, dress-goods, etc., and using 275,000 pounds of cotton a week. The machinery is driven by three 8-foot and thirteen 6-foot turbine water-wheels, aggregating 4,000 horse-power, a Corliss steam-engine being used as an auxiliary only. There are 5,000 looms and 145,000 spindles, turning out 775,000 yards of cloth in a week, and giving employment to some 4,000 operatives—1,500 males and 2,500 females. In addition to its mills the company has large machine-shops, in which are made all the new machinery needed in the mills and in which the old machinery is repaired. In 1859 the company, in these shops, began the making of the "Amoskeag steam fire-engines", and in 1875, 500 of them had already been built and shipped, not only to nearly all parts of the country, but to England, Russia, China, Australia, Chili, and Peru.

The Stark Mills were incorporated in 1838, and began operations the following year, purchasing the land and leasing 20 mill-powers from the Amoskeag Company. (a) The company owns 14 acres of land, one-third of which is occupied by the mill-yard, lying on the upper canal and having a frontage thereon of 1,022 feet. In 1879 the capital of the company was \$1,250,000, and the mills manufactured shirtings, drillings, cotton-duck, and seamless bags. Power is furnished by 9 turbine water-wheels. There are 2 mills with 1,400 looms and 50,000 spindles, using 170,000 pounds of cotton and turning out 305,000 yards of cloth per week. They give employment to 1,200 operatives—300 males and 900 females.

The Manchester Mills own about 4.3 acres of land between the lower canal and the river, extending 1,100 feet along the former and 1,310 feet along the latter. They lease 40 mill-powers from the Amoskeag Company. The mills turn out plain and fancy worsted goods, dress-goods, and prints. The Amoskeag Company had early begun the manufacture of delaines, a business then but little understood in this country, and in 1839 the Manchester Mills, composed for the most part of stockholders in the corporations already in existence, was incorporated with a capital of \$1,000,000. The company sent a man to Europe in 1844 to acquire a knowledge of the structures and machinery there used for printing delaines, and with the information thus gained started a mill in 1845. The property changed hands in 1847, and the name was changed to the Merrimack Mills. In 1849 the name was changed to the Manchester Print Works. In 1873 it again changed hands, finally passing into the possession of the present corporation under the name of the Manchester Mills, with a capital of \$2,000,000. In 1879 the company had 6 mills, 1 printing-house, 2,500 looms, and 90,000 spindles—75,000 cotton and 15,000 worsted. Power is furnished by three 8-foot, one 7-foot, and one 4-foot turbine water-wheels, with an aggregate of 2,000 horse-power, and one steam-engine of 150 horse-power as auxiliary. There are 3,000 operatives—1,140 males and 1,860 females—working up 85,000 pounds of cotton and 45,000 pounds of wool and turning out 600,000 yards of cloth per week. In the printing-house 1,000,000 yards of cloth are printed each week, not only using all that is made in the mills, but also drawing a considerable amount from outside.

The Langdon Manufacturing Company was incorporated in 1846, again in 1853, and finally in 1857. The company organized and began operations in 1860, increasing its capital in 1868 to \$500,000. The mills are on the northern limit of the upper canal, and have a frontage upon it of 683 feet. There are two mills, each with a turbine water-wheel, having an aggregate of 500 horse-power, and in 1879 running 720 looms and 32,256 spindles on fine sheetings and shirtings. There are 400 persons employed—120 males and 280 females—working up 33,000 pounds of cotton and turning out 93,000 yards of cloth each week.

The Namaske Mills, near the outlet of the lower canal, and the Amoskeag Axe Company, just above the Langdon Mills, purchased their land and leased their water-power from the Amoskeag Company. Mechanics' row, near the northern limit of the lower canal, was built and is still owned by the Amoskeag Company. It is a long building that is leased to miscellaneous manufacturers in need of power. The Manchester Locomotive Works, incorporated in 1854, is a large establishment, and up to 1875 had turned out 786 complete engines. The works are located on Canal street between Hollis and Dean streets.

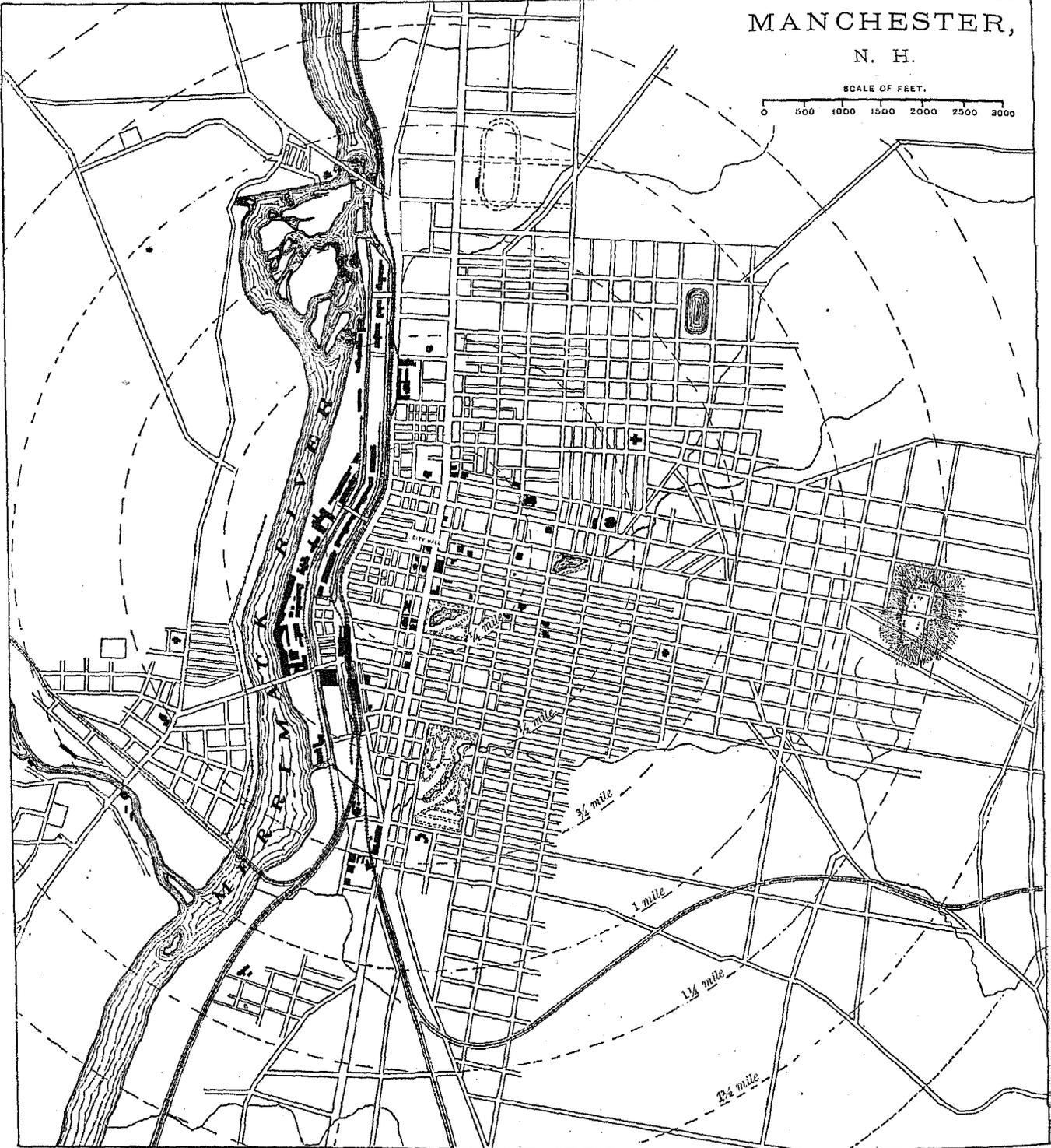
There are many other industries in the city, but those enumerated above, especially those on the water-power of the Amoskeag Company, have had the most influence on the growth and present prosperity of the city.

^a A "mill-power" is the power yielded by 35 cubic feet of water falling 30 feet per second. It averages, in practice, from 60 to 65 horse-power.

MANCHESTER,
N. H.

SCALE OF FEET.

0 500 1000 1500 2000 2500 3000



MANCHESTER IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of this city:

LOCATION.

Manchester lies in latitude $42^{\circ} 59'$ north, longitude $71^{\circ} 28'$ west from Greenwich, on both sides of the Merrimack river, at Amoskeag falls, 18 miles below Concord. The average elevation above mean sea-level, as given in the published reports of the Smithsonian Institute, is 300 feet. The river has a rapid descent at the city, falling some 50 feet within the distance of one mile. It is not navigable. The total area of the city is 21,700 acres, about one-third of which is improved. The city proper covers one square mile on the east bank of the river, about equidistant from the northern and southern limits. The land on this side rises to a height of 90 feet above the surface of the river, a few rods back from it, while 4 miles back, at lake Massabesic, it attains an elevation of 125 feet. The surface of the ground is generally level, though a group of hills rises in the northeast part and there is a high bluff on the west side. The soil is mostly light and sandy, some portions, however, being productive and easy of cultivation, while granite ledges are found in the northern and eastern sections. There are several lakes and ponds within the territory, the largest having an area of some 2,300 acres, and from these a number of small streams issue that eventually find an outlet in the river—one of them flowing through the most thickly settled portion of the city. Besides the 8 villages included in the corporate limits, Manchester has Goffstown and Hooksett on the north, Litchfield and Londonderry on the south, Auburn on the east, and Bedford and Goffstown on the west. The amount and character of the city's trade with the surroundings could not be ascertained.

RAILROAD COMMUNICATIONS.

Manchester is touched by the following railroads:

The Concord railroad gives communication with Boston and connecting roads on the south and Montreal on the north.

The Concord and Portsmouth railroad.

The Manchester and North Weare railroad.

The Manchester and Lawrence railroad.

These roads and their connections give the city ample means of communication to all points reached by rail.

CLIMATE.

The highest recorded summer temperature is 102° ; average of highest summer temperatures in 11 years, 98° . Lowest recorded winter temperature, -39° ; and average of lowest winter temperatures in 11 years, -1° . From observations taken during a period of eleven years the highest summer mean temperature is 72.94° , and the lowest winter mean temperature is 23.84° . The influence on the climate of adjacent waters, marshes, and elevated lands, and of the prevailing winds is not stated.

STREETS.

There are 55 miles of streets in the city proper and 70 miles of roads in the suburbs, making a total of 125 miles. The total length paved, the different kinds of materials, and the cost per square yard for each are as follows:

Material.	Miles in length.	Cost per square yard.
Cobble-stones	0.25	\$0 56
Stone blocks (cobble sides)	1.74	2 00
Asphalt	0.10	1 50
Broken stone	2.00	0 45
Gravel	90.00	0 20
Total number of miles paved ..	94.09	

The broken stone which has been in use 5 years, the first stone having been broken by hand, now needs reconstructing, while the later work needs scarcely any repair. Repairs on the streets paved with stone blocks and cobble-stones, when not disturbed for gas, water, and sewers, have cost less than 50 cents per square yard in 15 years. The relative facility with which each is kept clean is reported as being about the same. For quality and permanent economy the stone blocks and cobble-stones are preferred for business streets where there is heavy

teaming, broken stone where the teaming is light; and gravel for carriage-ways. Of sidewalks, there are in the city $24\frac{1}{2}$ miles of concrete, 1,200 feet of brick, and 170 feet of stone. The concrete is laid on a cobble-stone bed. On the paved and macadamized streets gutters are laid in cobble-stones, while in the others they are of the same material as the streets. The crossings on the paved streets are of split stones, and on the others of concrete. Trees are set on the sides of nearly all the streets, usually 6 inches outside of the edge-stones or sidewalk lines. Elm street, when first laid out, had a strip 10 feet wide reserved in the center for trees, and some elms stood in it until 1855, when, owing to the escape of gas from leaky pipes, they were destroyed. Construction and repair of streets is done by day work—materials are occasionally furnished by contract. The annual cost for repairs in the city proper averages \$2,000, and of roads in the suburbs, \$5,500. Day work is preferred, as, in the opinion of the city engineer, it is cheaper and requires less careful superintendence. A steam stone-crusher and an iron roller drawn by horses are used on the macadamized streets with good effect, making the roadway firm, and, were it not for the opening of the streets for pipes, but few repairs would be necessary.

HORSE-RAILROADS.

There is one horse-railroad in the city with a total length of $2\frac{1}{2}$ miles, 1 mile being double-track with a 3-foot gauge. There are 8 cars, 28 horses, and 11 men employed. During the past year (1880) 306,975 passengers were carried, the rate of fare being 5 cents per each person, or a package of 25 tickets for \$1. There are no omnibus lines.

WATER-WORKS.

The water-works are owned by the city and cost \$742,000. The source of supply is lake Massabesic, to the eastward of the city, with an area of 2,350 acres, a water-shed of 45 square miles, and an estimated daily flow of some 40,000,000 gallons. A dam of granite masonry, with hard earth embankments, rising to a height of 24 feet above the lake's level, has been built at its outlet, near Cohas brook. The water flows from this dam through a canal 1,400 feet long, and a wooden cylinder 600 feet, to the pumping station, and from there is forced to a distributing reservoir of 16,000,000 gallons capacity, 110 feet above the pumping station, by two pairs of double-acting "bucket-and-plunger" pumps of an aggregate capacity of 5,000,000 gallons daily, driven by two turbine water-wheels of 3 feet diameter each. The pumps and wheels are worked under a fall of 40 feet, equal to 500-horse power. The average pressure in the city mains is 65.1 pounds to the square inch, and the average amount of water pumped per diem is 1,246,913 gallons, the greatest being 2,000,000 gallons. The cost of raising 1,000,000 gallons 1 foot high is 2.46 cents; the yearly cost of maintenance, aside from the cost of pumping, is \$9,000; and the yearly revenue from water-rates is \$56,000. There are 251 meters in use, and it is reported that they reduce the consumption of water. There are a little over 33 miles of mains in use, $27\frac{1}{2}$ miles being cement-lined and $5\frac{1}{2}$ miles cast-iron pipe and 9 miles of service-pipe. There are 257 gates, 307 hydrants, and 7 air-valves. To December 31, 1880, the total number of services laid was 1,807.

GAS-WORKS.

The gas-works are owned by a private corporation. The daily average production is 150,000 cubic feet, and the charge per thousand feet is \$2. The city pays \$9 a year each for 349 street lamps, and pays \$1,500 per annum for lighting. The income from meter-rates, as reported for 1879, was \$97,450.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, 1 court-house, 1 city library, 2 engine-houses, 1 hose-house, 1 armory, and 2 ward-rooms, the total cost being \$163,000. The city hall cost \$50,000, and is owned entirely by the city. The court-house cost \$40,000, and a portion of it is rented to the county for court purposes.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 5 public parks in Manchester, aggregating $20\frac{1}{2}$ acres, in various parts of the city. They were given by the Amoskeag Company on condition that the city should never build on them or allow roads through them, and that they should be inclosed, kept neat, trees planted, and walks laid out. The parks are controlled by a committee of the city council, and during the past year the cost for maintenance was \$1,578 40.

PLACES OF AMUSEMENT.

The principal places of amusement are: Smyth's opera-house, on Elm street, seating capacity 2,000, used for theatrical exhibitions, etc.; pays the city a license of \$2 a day when in use; Music hall, also on Elm street, having a seating capacity of 1,100; and City hall, seating 800. It is not stated whether or not these last two pay license to the city.

DRAINAGE.

The only information obtained from Manchester in regard to sewers is as follows: They are 8.7 miles in length, varying from 6 inches to 4 feet 9 inches in diameter, of which $2\frac{1}{2}$ miles is of 12-inch pipe. From the inaugural address of Mayor Putnam the following on sewers is taken:

Our system of sewerage appears to me to be very defective. It is one of the most important matters that will demand your attention. The health of our city in a great measure depends on your deliberations. Our rapid growth has caused our sewers to be largely extended in order to meet the demands. Since the introduction of water much refuse matter has been emptied into them; and running, as many of them do, at a dead level through our streets, these emit from every opening an odious gas that poisons the very air we breathe. Situated as our city is, on a hill-side, with a river running along its whole front, there is no reason why the sewage should not be emptied into that stream, from east to west, down a steep descent, rather than through the whole length of the city from north to south. I have made some inquiry relative to the relieving of the Elm-street sewer, which frequently overflows, thereby causing much damage, by tapping it at Bridge street, thereby taking all the water east of Elm street and north of Bridge street to the river, the distance being 1,500 feet, the estimated cost of which is \$5,650.

CEMETERIES.

There are 12 cemeteries in Manchester: *Valley Cemetery*, on the southern verge of the compact part of the city, between Auburn, Pine, Valley, and Willow streets, area 19.7 acres, was given to the city by the Amoskeag Manufacturing Company in 1840, the company reserving the right to flood the valley within it, through which the Cemetery brook passes. *Pine Grove Cemetery*, $2\frac{1}{2}$ miles south of the city hall, between Calef and River roads, area 40 acres; the Old Bury-ground, at the Center, exclusively used until 1840; one at Goff's mills; one in Amoskeag; one in Piscataquog; one on the road to Amherst, just at the western limit of the city, used by the Roman Catholics; one at Harvey's mills, known as the "Merrill Cemetery"; one near the eastern part of the city, formerly known as "Huss Yard", and now as "Sturell's Ground"; the Ray cemetery, near Amoskeag falls; the Forest cemetery, on the old Weston farm; and a small yard in the northern part of the city. All these last 10 are but little used, except the Catholic, some being private and some being under control of the city. Burial permits are issued by the city clerk on certificates of the attending physicians. All interments must be made between sunrise and sunset, and all graves must be at least 4 feet deep to the top of the coffin. Valley and Pine Grove cemeteries are controlled by a committee of the city council, each having a superintendent, and \$2,000 is annually appropriated, which, with the receipts from the sales of lots, is used for their care and maintenance.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Manchester is a board of health, composed of 3 health commissioners appointed annually by the mayor. During the past year one of the members was a physician. The annual expenses when there is no epidemic are about \$100, and during an epidemic they can be increased without limit. Its authority is well-nigh unlimited. Houses can be entered, nuisances abated or removed, labor or assistants hired, and rules pertaining to the general health of the city enforced. But as the mayor and aldermen not only require all orders of the board to be submitted to them for approval, but also exercise a general supervision, this authority is somewhat restricted. No special authority seems to be given the board in time of an epidemic, the ordinary authority being deemed sufficient. All the members have equal authority, and each receives an annual salary of \$25. In case of contagious diseases the city physician must act with the board. The members have the same powers as sheriffs to command assistance. Nuisances are inspected when reported or as found to exist. A written notice to abate within 24 hours is served, and if this is not complied with the board has the nuisance abated or removed at the cost of the owner. Defective house-drainage, privy-vaults, cesspools, and sources of drinking-water are noticed only when they become nuisances. There are no regulations regarding defective sewerage or street-cleaning. The regulations of the board provide that garbage must be kept in boxes or barrels, but it exercises no control over their removal. The board exercises no control over the burial of the dead. There seems to be no regulation regarding the pollution of streams.

The board reports annually to the city council, and the report is published with those of the city officers.

INFECTIOUS DISEASES.

Small-pox patients are quarantined at home, or else removed to a pest-house. No child will be admitted to the public schools until it produces a certificate of successful vaccination. There seems to be no system of registration of births and diseases. The record of deaths shows the date, name, sex, color, social condition, age, residence, occupation, birthplace, cause of death, place of burial, etc.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own force. One sweeping-machine is used on the paved streets, the remainder being cleaned by hand. The principal streets are cleaned once a week, and the work is said to be well done. The annual expense is \$4,000. The sweepings are deposited in a "fill" in the southern part of the city.

Removal of garbage and ashes.—This is done by the city with its own force. But no regulations seem to govern the removal or the keeping of garbage and ashes in separate vessels. The board of health finds great difficulty in preventing the deposit of garbage and ashes in the back streets.

Dead animals.—No information could be obtained on this subject.

Liquid household wastes and human excreta.—All chamber slops and kitchen and laundry wastes are disposed of alike, about two-thirds passing into sewers and the rest into cesspools. The latter are porous. The number of houses with water-closets was not stated. Of those in use, two-thirds empty into sewers and one-third into cesspools. Vaults must not be within 40 feet of any street, dwelling-house, or well, unless it is vaulted, 6 feet deep, and sufficiently secure and closed. No information in regard to the final disposition of night-soil was furnished. The board of health complains that there are hundreds of illegally-constructed vaults and many more defective ones. The cleaning is not properly done and many other things are neglected; but owing to the difficulty surrounding legal action the board has thought best to let alone cases which, though bad enough, are not positive nuisances.

POLICE.

The Census Office schedule on this subject was never answered, and, though repeated requests were made no information could be obtained.

FIRE DEPARTMENT.

The force of the department consists of 102 members, as follows: 1 chief and 4 assistant engineers, 2 steamer companies of 14 men each, 1 hose company of 20 men, and 2 hose companies of 12 men each, and 1 hook-and-ladder company of 25 men. The apparatus consists of 2 steamers, 3 hose-carriages, 1 hose-sled, 1 supply-wagon, and 1 hook-and-ladder truck. Besides these there are 1 steamer and 1 hose-carriage in Piscataquog, and 1 hose-carriage at the paper-mills in Amoskeag, manned by men employed at the mills. The department owns 11,300 feet of hose in good condition. A fire-alarm telegraph with 35 street signal-boxes is used. During the past year the department answered 24 alarms. The total loss by fire was \$11,924 66, of which \$8,799 66 was covered by insurance. The department is managed by a board of engineers, consisting of the chief and assistant engineers. The annual expense of the department (1880) is \$10,937 15.

PUBLIC SCHOOLS.

Manchester has 25 school-houses, occupied by 1 high school, 6 grammar schools, 11 middle, 30 primary, 9 suburban, and 2 training schools. There are 79 teachers regularly employed. The total number of children in the city limits between the ages of 5 and 15 years is 5,460, of whom 4,136 attend school. The following table shows the attendance, etc., in the public schools:

Schools.	WHOLE NUMBER BELONGING.			Average number belonging.	Average daily attendance.	Per cent. of attendance.	No. scholars to each teacher.
	Total.	Boys.	Girls.				
All schools	4,136	2,166	1,970	2,970	2,727	91.7	.....
High school	175	82	93	183	178	97	37
Grammar schools	876	409	467	669	632	94	37
Middle schools	644	347	297	490	450	92	38
Primary schools	2,166	1,178	988	1,440	1,302	90	44
Suburban schools	275	150	125	188	105	87	23

There is an extensive system of Roman Catholic parochial schools in the city, which accounts in part for the small proportion of the population in the public schools. The total expenses for the year are given as \$50,051 64, or an average cost per scholar of \$12 10.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Manchester for 1880, being taken from tables prepared for the Tenth Census by Charles A. Luce, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	121	\$15,140,153	4,622	5,748	458	\$3,370,404	\$7,901,066	\$14,136,305
Blacksmithing.....	4	3,300	18			8,550	4,200	21,680
Bread and other bakery products.....	7	5,550	20	1		8,591	85,250	109,550
Carpentering.....	15	92,500	105			40,212	210,400	374,030
Carriages and wagons.....	3	44,000	47			23,000	28,500	63,000
Cotton goods.....	5	8,808,684	2,450	4,569	229	2,019,531	4,123,141	7,604,568
Flouring- and grist-mill products.....	4	27,000	16			7,518	156,750	172,812
Foundry and machine-shop products.....	12	354,000	500	19	9	194,492	353,029	717,851
Leather, curried.....	3	43,750	26			10,200	68,900	96,600
Leather, tanned.....	3	43,750	13			6,000	49,842	67,300
Marble and stone work.....	4	10,000	36			17,600	11,900	37,000
Painting and paperhanging.....	7	42,500	68	18		42,425	41,958	112,413
Photographing.....	5	7,000	4	5		3,880	2,300	14,550
Plumbing and gasfitting.....	3	24,000	27			20,160	47,380	84,118
Saddlery and harness.....	3	3,950	7			3,200	4,800	10,700
Sash, doors, and blinds.....	3	69,000	79		3	27,600	58,000	97,000
*Tinware, copperware, and sheet-iron ware.....	5	11,800	15	1		5,250	9,100	20,000
Tobacco, cigars, and cigarettes.....	3	8,500	14	3		7,946	8,750	23,810
All other industries (a).....	32	5,650,469	1,187	1,132	217	917,049	2,636,871	4,509,323

a Embracing belting and hose, leather; bookbinding and blank-book making; boots and shoes, including custom work and repairing; brass castings; brooms and brushes; carriage and wagon materials; confectionery; cooperage; dyeing and finishing textiles; emery-wheels; files; furniture; hosiery and knit goods; liquors, malt; lumber, planed; lumber, sawed; masonry, brick and stone; paper; sewing-machines and attachments; shoddy; soap and candles; stone and earthen-ware; upholstering; wood, turned and carved; woolen goods, and worsted goods.

From the foregoing table it appears that the average capital of all establishments is \$125,199 61; that the average wages of all hands employed is \$310 98 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$100,664 62

NASHUA,

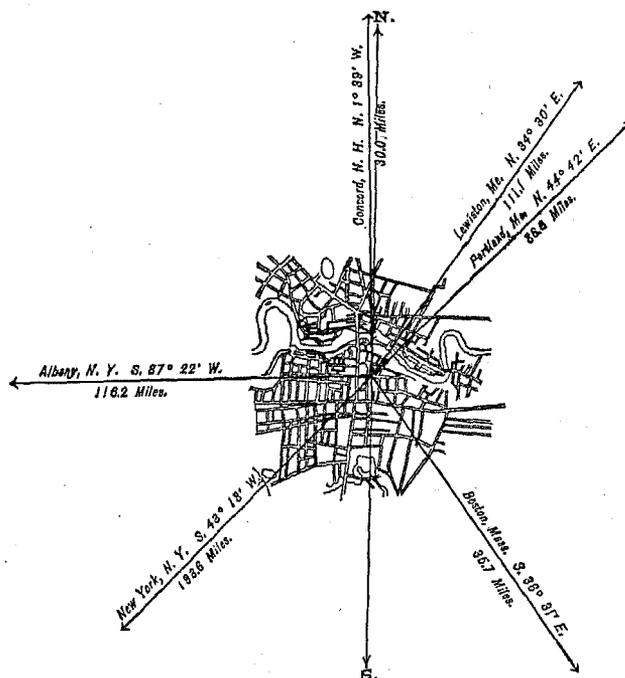
HILLSBOROUGH COUNTY, NEW HAMPSHIRE.

POPULATION

IN THE
AGGREGATE,
1790-1880.

	Inhab.
1790.....	* 632
1800.....	* 862
1810.....	* 1,049
1820.....	* 1,142
1830.....	* 2,417
1840.....	6,054
1850.....	5,820
1860.....	10,065
1870.....	10,543
1880.....	13,397

* As reported by the city authorities.



Latitude: 42° 46' North; Longitude: 71° 28' (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: \$8,332,274; per capita: \$622 00. Net Indebtedness: \$459,661; per capita: \$34 31. Tax per \$100: \$1 62

HISTORICAL SKETCH.

The date of the first settlement in the old township of Dunstable, which embraces the present city of Nashua, is uncertain, but it must have been considerably earlier than the date of its charter, 1673. Much of the contiguous lands on both sides of the Merrimack had been granted to settlers, mostly from Boston. It became necessary for their mutual benefit and protection to consolidate all the grants into one plantation and to secure the privileges of an incorporated township. Accordingly in September, 1673, the proprietors petitioned the general assembly, and received their charter, dated October 26 (N. S.), 1673, on condition that they should "settle" the plantation, procure a minister within three years, reserve a farm for the use of the colony, and erect a meeting-house. In May, 1674, the new plantation was surveyed by Jonathan Danforth. It received its name in compliment to Mrs. Mary Tyng, wife of Hon. Edward Tyng, one of the magistrates of the province of Massachusetts Bay, who came from Dunstable, England.

The land which lay between Salmon brook and the Merrimack was called "The Neck", and for the greater security the house-lots [house-lots] of the first settlers were laid out adjoining each another, and within the Neck.

In the summer of 1675 occurred the bloody "King Philip's war", in which nearly all the Indians of New England were engaged. The settlers of Dunstable were greatly alarmed. The friendly Indians who dwelt about them were suspected of hostility and intended treachery. In the winter of this year the apprehension was so great that every settler left Dunstable except Jonathan Tyng, who staid, fortified his house, and determined to defend it. The colony sent a few men to assist him, and the place was never deserted. After the war was ended, a party of Mohawks appeared in Dunstable at the mouth of the Souhegan, but they did no damage beyond the alarm which their appearance caused.

In 1677 several persons were "admitted as inhabitants". In 1678 the meeting-house, probably built of logs, was finished. Its precise location is not known, but it was likely not far from the settlement at Salmon brook. Before 1679 a lot of land upon Salmon brook was granted by the town, known as "the mill lot", and a saw-mill was erected. As early probably as May 1, 1679, the Rev. Thomas Weld was employed here as a minister. By 1682 the number of inhabitants had considerably increased, and the settlement appeared to be firmly grounded. The proprietorship of the township was divided into "30-acre rights", or house-lots of that size, with the privilege of equal share in the subsequent divisions of the common lands in the township. Of these proprietary rights there were about 80, and the proportion of each such right was about 600 acres. The value of the land may be judged of by the fact that the town discharged a debt to Mr. Tyng of £23 by giving him three rights, or 1,800 acres. About 1683 a second meeting-house was built.

In 1686 the Indians at Warmist and Naticook sold their claims on any lands within the limits of Dunstable, it is supposed for £20, to Jonathan Tyng and others, and nearly all of them removed from the vicinity. In 1687 the town raised £1 12s. 3d. as their share of the expense of building "the great bridge" over the Concord river at Billerica. In 1689 the settlement was again thrown into excitement and alarm by the attack on Dover by the Indians, said to be incited thereto by the French Jesuits. By vigilant measures for defense any designs which they may have had on Dunstable were thwarted. November 29, 1690, a truce was signed with them till May of the next year. But in the summer of 1691 hostilities were renewed. Several of the Indian scouting parties made attacks upon separate houses or isolated settlers as they could surprise them. At least six persons were thus killed. At this time there were several garrisons in Dunstable. These were continued until the latter part of 1692, and perhaps still longer. During the continuance of King William's war, or till 1698, the inhabitants were in constant fear, the effect of which is shown by a law passed in March, 1694, by the general court, "that every settler who deserted a town for fear of the Indians should forfeit all his rights therein". Neither the statute nor their natural courage was sufficient to make them withstand the incessant peril which menaced them, and in 1696 the selectmen affirmed that "near two-thirds of the inhabitants have removed themselves with their ratable estates out of the town". The depopulated town prayed for an abatement of £50, part of their state tax, which was granted.

In 1703 war was renewed between France and England. Again was Dunstable, in common with all frontier towns, put on the rack of an Indian war, for the Indians, as usual, took the part of the French. It was probably soon after the commencement of this war that the garrison of Robert Paris was surprised, and himself, wife, and eldest daughter were killed. In 1704 a block-house was erected somewhere in the town by Colonel Tyng.

In the summer of 1706 the Indians were particularly troublesome. "Their first descent was at Dunstable, July 3, 1706, when they fell on a house that had twenty troopers posted in it, who, by their negligence and folly, keeping no watch, suffered them to enter, which tended to the destruction of one-half their number." In 1711 the inhabitants still lived principally in garrison-houses, where soldiers under the pay of the colony were stationed constantly for their defense. It is probable that at this time the number of settlers had diminished one-half. During the sad years of the war, preaching had not been totally neglected, and immediately after peace, attention was given to the obtaining and "settling" of a permanent pastor. After repeated trials with various persons, they at length settled upon Rev. Nathaniel Prentice, in August, 1720. He preached here until his death, in 1737.

Again, in 1717, the Indians became troublesome, and soon the whole frontier was the scene of all the horrors of an Indian war. Many isolated houses and people were attacked. It ended only in 1724, with what was called "Lovewell's war" and "Lovewell's fight", which broke the power of the Indians.

After this period, with the return of a feeling of security, the place took new heart and increased rapidly, but the inhabitants were extremely poor. Quickly were the outlying lands taken up, and settlers pushed farther into the forests, which were rapidly falling before the new inhabitants. As settlements extended, various sections asked to be made separate townships. Thus township after township had been parceled out from the original body of old Dunstable until, in 1740, the old plantation was reduced to that portion which is now embraced within the limits of Nashua and Nashville, Tyngsborough and Dunstable. At length the boundary line between New Hampshire and Massachusetts was established, in 1741, severing Dunstable very nearly in the middle, and leaving the present towns of Nashua and Nashville within the limits of New Hampshire. April 4, 1746, the town was first incorporated by New Hampshire. September 29 of this year it was voted that "Jona Lovewell be desired to hire a schoolmaster until the next March for this town, upon the cost and charge of the town". Two dwelling-houses in different parts of the town were to be obtained, if possible, for school-houses. But one teacher was employed, and he was to teach one-half of the time at each place. The number of inhabitants was probably about 400.

In the autumn of 1747 a new meeting-house was built. In 1753 the town contained 109 polls and 1 female slave. There were 4 mills in town, and the valuation was £3,795. The next year a new meeting-house was erected. In the French war of 1755 the men of Dunstable took an active part; a number were in the famous troop known as "Rogers' Rangers". Their exploits were numberless and the service they rendered was invaluable. On the news of the skirmish at Lexington, in April, 1775, a company of the men of Dunstable was at once formed. Nearly one-half of the able-bodied inhabitants, "at the first call of liberty," must have been in the army a month before the battle of Bunker Hill. In February, 1776, the officers of the town "warned" the annual meeting, not as heretofore, "in his majesty's name", but "in the name of the people of the state of New Hampshire". At this meeting a committee of nine was chosen "to see that no British goods were sold in town". It is stated that during this long and often almost hopeless war nearly every able-bodied man in the town was at some time in the field. After the war, while poor and crippled by the great expenses of the long struggle, they devoted themselves to discussing and forming their future government. After the close of the war the population was found to have decreased from 705 to 578. The recovery was slow.

About 1795 the first stage-coach was put upon the road through Dunstable. It ran from Amherst to Boston and back again once a week, stopping at Billerica over night, making the trip both ways in about four days. In 1800 the population of Dunstable had increased to 862. In the spring of 1803 a canal-boat was built in the village by Robert Fletcher. It was launched on the 4th of July, amid a celebration by the people, with an oration by Daniel Abbott, esq. The landing was on the Merrimack near the mouth of the Nashua, and a store was there erected. The boat was christened "The Nashua", with much parade, and the village, which had until then been called "Indian Head", received the name of Nashua Village. That may be considered the *birth-day of Nashua*, and forms an important epoch in its history. In this year a post-office was first established in Dunstable. General Noah Lovewell was appointed postmaster.

In 1804 another impulse was given to the place by the completion of the Middlesex canal, thus opening a direct channel of communication with Boston, rendering the place, as the head of navigation, one of considerable trade. Before this the principal markets of this region had been Haverhill and Newburyport. From this period the growth of the settlement was gradual but constant. In 1812 the old meeting-house in front of the Gibson tavern was replaced by a better one, now called "the Old South". About 1817 a dam was thrown across Nashua river, a few rods above Main street, and a grist-mill was erected on one end of it and a saw-mill on the other. At this time the village had so increased that it contained a dozen or twenty houses, and had become a place of considerable business. The population of the town was 1,142 in 1820, when the census was taken, and there were returned from Dunstable: 1 meeting-house, 9 school-districts and school-houses, 6 taverns, 5 stores, 3 saw-mills, 3 grist-mills, 1 clothing-mill, 1 carding-machine, 2 bark-mills, 3 tanneries.

In 1822 a number of people formed an association for improving the water-power, bringing water from Mine falls by means of a canal. In June, 1823, a charter was granted to them as the "Nashua Manufacturing Company", with the power to increase their capital to \$1,000,000. Their capital stock was at first fixed by them at \$300,000. In 1824 work was begun; December 25, 1824, the machine-shop was completed and put in operation. Mill No. 1 of the Nashua corporation was erected and went into partial operation in 1825 and into full operation in 1826. In December, 1824, a charter was obtained by this company for the purpose of building "a canal with the necessary dams and locks" to connect the Nashua with the Merrimack. This was built in 1825 and opened for transit in the spring of 1826. The lower dam across the Nashua was built at this time. The locks cost \$20,000 and the canal dam \$10,000. "This canal was of very great advantage to the rising village, which was now becoming the center of business for the neighboring towns, by affording such increased facilities for the transportation of goods and produce, and its beneficial effects were soon sensibly felt in the increase of trade and enterprise."

In May, 1825, Charles C. Haven and others, incorporated as the "Indian Head Company", purchased of the Nashua Company a portion of the lower water-privilege for the purpose of erecting woolen factories. Their works were immediately begun, and went into operation in 1826. In 1824-'25 fifty or more new tenements were erected. In 1825 a new bridge at Main street was built over the Nashua river. Lots of land were selling at the rate of about \$1,000 per acre. In 1826 a charter was given a company called the "Proprietors of Taylor's Falls Bridge", for the purpose of putting a bridge across the Merrimack; it was finished and opened for travel the same year; its cost was about \$12,000. Mill No. 2 of the Nashua corporation was built in 1827, mill No. 3 in 1836, No. 4 in 1844. About 1828 the Indian Head Company became embarrassed, and the whole property was disposed of to a new company incorporated in 1830 by the name of the Jackson Company, which converted it into a cotton manufactory, with a capital stock of \$480,000.

In February, 1827, the first newspaper in the town was started by Andrew E. Thayer, and called *The Nashua Constellation*; it soon passed into the hands of Israel Hunt, jr., and its name was changed to *The Nashua Gazette*. In 1830 the population of Dunstable was 2,417, of which about 1,500 resided within the village of Nashua. In the winter of 1831 a paper called *The Nashua Herald* was started, but was soon given up. In September, 1832, *The New Hampshire Telegraph*, a weekly, was begun. *The Oasis* was begun in 1843. The First Baptist Society and the First Methodist Episcopal Society were organized in the fall of 1832.



NASHUA.
N. H.

SCALE OF FEET.
0 300 600 900 1200 1500 1800 2100 2400

The village was now on the high and certain road to municipal success. Trade and travel increased proportionately. June 23, 1835, a charter was granted for the extension of the Lowell railroad to Nashua by New Hampshire, and by Massachusetts April 16, 1836. October 3, 1838, the Nashua and Lowell railroad was first opened for the transportation of passengers as far as the *Great Elms* near Judge Parker's house, where a temporary depot was erected. December 23, 1838, the bridge over the Nashua and the depot near Main street were completed, and the cars for the first time came up to the present terminus. The total cost of the road was about \$380,000. June 27, 1835, the Concord Railroad Company was incorporated. In the spring of 1841 this road was begun, and it was finished to Concord, September 1, 1842; its capital was \$800,000. June 19, 1835, the Nashua bank was incorporated with a capital \$100,000. In this year the steamboat "Herald" was built; it was intended to ply upon the Merrimack between Nashua and Lowell, but the enterprise proved a failure. In April, 1836, the population was found to be 5,065, and January 1, 1837, the township laid aside its ancient name of Dunstable, which it had worn for 160 years, and adopted, in order to distinguish it from its neighbor, "t'other Dunstable", its present name—that of the river from which its prosperity is chiefly derived—Nashua. New churches of various denominations were erected as the need for them became apparent. In 1845 a large machine-shop, built of brick and slated, was erected by the Nashua Company on the site of the old one. The Nashua Manufacturing and Mechanics' Association was organized under charter in August, 1845. In the summer of 1845 the iron foundery of S. and C. Williams was erected. In the same year Alanson Crane began a cotton-manufacturing establishment on Salmon brook, at the harbor. In 1842 the town of Nashua was divided; a part of the territory, chiefly being north of the Nashua river, received the name of Nashville.

NASHUA IN 1880.

LOCATION.

Nashua lies in latitude $42^{\circ} 46'$ north, longitude $71^{\circ} 28'$ west from Greenwich, on both banks of the Nashua river at its confluence with the Merrimack river, in the southern part of New Hampshire, about 40 miles northeast from Boston. The altitudes above sea-level were not obtainable. Neither of the rivers on which the city lies is here navigable.

RAILROAD COMMUNICATIONS.

Nashua is touched by the following railroads:

The Nashua and Lowell railroad, along the valley of the Merrimack, connects the city with Boston.

The Concord railroad, also along the Merrimack, connects with the northern system of railroads to the White mountains, Vermont, Canada, and the Northwest.

The Wilton railroad, to Wilton and Greenfield, a distance of 30 miles.

The Acton, Nashua, and Boston railroad, recently built, is leased by the Concord railroad, and is used principally as a line for northern freight, in competition with the Lowell railroad.

The Nashua and Rochester railroad connects the city with Rochester, Portland, and the East.

The Nashua and Worcester railroad connects at the latter city with the great system of roads to New York and the West.

All of the above roads have their separate depots, but meet in a union depot known as the Nashua junction. Their tracks form a triangle inclosing the city, so that no outlet can be found in any direction without crossing a railroad-track at grade. The Nashua and Worcester railroad does all its switching and making up of trains in the heart of the city, crossing and recrossing the main streets at grade many hundred times daily.

TRIBUTARY COUNTRY.

The country immediately tributary to the city is agricultural, consisting of small farms. No further information regarding the character of the country in the neighborhood of the city, or with which it has a local trade, could be elicited in response to inquiries from this office.

TOPOGRAPHY.

The city, surrounded by highlands on all sides except the southwest, lies in the valley of the Nashua river, about $1\frac{1}{2}$ mile from the Merrimack. During the past 15 years the city has extended its growth to the latter, the 2d ward lying on the bank of that river. The drainage is into both rivers. A dam across the Nashua river, about 4 miles above, and another about in the center of the city, make the river between the dams slack-water. The Nashua river here has a fall of over 60 feet in 2 miles.

CLIMATE.

No information could be obtained regarding highest and lowest recorded or average highest and lowest temperatures, nor influence of adjacent waters, marshes, elevated lands, winds, etc., none of the questions on *climate* being answered.

STREETS.

The total length of streets was not obtainable. Main street from the bridge to the city hall, a distance of 800 feet, is paved with stone blocks; from city hall to Pearl street, a distance of 1,500 feet, the easterly half is finished in broken stone, the westerly side being laid in asphalt concrete. There is also 300 feet of the asphalt laid on Canal street. The contract for laying this pavement was 68 cents per square yard, including everything. The cost of the stone blocks or of the broken stone is not stated. The floor of the bridge at Main street, over the Nashua river, was paved with wooden blocks in 1870 at a cost of \$3,200. This pavement could not stand the heavy traffic, and in 1876 it was replaced by the present asphalt concrete at a cost of \$500. The asphalt at this time appears as good as ever. The cost of keeping each class of pavement in good repair could not be obtained, as no separate accounts are kept, neither is the relative facility with which each is kept clean given. It is reported that the asphalt gives the best satisfaction considering its small cost, does not wear slippery, and is ready for use as soon as laid. The sidewalks are of concrete and brick, the granite edge-stones being set by the city, while the walks are laid by the adjacent property-owners. Gutters are mostly in grass or earth except in a few streets. When the fall is steep they are laid with cobble-stones. Trees are planted and maintained by the property-owners, at their option, usually outside the edge-stones, in the gutters, and are of maple and elm. The city owns three 2-horse teams and two 1-horse teams, and an annual appropriation of \$6,000 is made, which is generally enough for maintenance, repairs, construction, removal of garbage, etc. All work is done by the day. If there is more required than can be done by the regular force extra men are employed. No steam crusher or roller is used, most of the streets being top-dressed with bank gravel. There are no horse-railroads or omnibus lines in the city.

WATER-WORKS.

Water is supplied by the Pennichuck Water Company, a private corporation, the water being taken from the Pennichuck brook, a small stream that flows from Lucy pond, west of the city. Two pumps, with an aggregate capacity of 4,000,000 gallons, driven by water-power, raise the water 132 feet to a distributing reservoir of some 1,500,000 gallons' capacity. Two mains, of 16- and 12-inch cast-iron pipe, lead to the city, where the water is distributed by 23 miles of cast-iron pipes from 10 to 4 inches in diameter. In 1880 the average daily consumption of water was 1,000,000 gallons.

GAS-WORKS.

The gas-works belong to a private corporation, the city being a stockholder to a certain extent. The charge per 1,000 cubic feet is \$2 30. The report of the city treasurer for the year 1880 shows the amount paid for street lights to be \$3,561 54, and of this \$2,878 32 was paid to the Nashua Gas Light Company, "as per contract".

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, 1 city farm, 1 city hospital, 1 engine-house with stable, and 16 school-houses, the total value, including land, being \$300,731. The city hall is used entirely by the city and is valued at \$35,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

North common, on Sargent avenue, between Amherst and Merrimack streets, three-quarters of a mile northwest of the city hall, has an area of 40 acres. It was once a swampy place, known as Artillery pond, and was a favorite skating-park. It was purchased by the city about 20 years ago, and drained by a pipe-sewer laid through private property, crossing Amherst and Franklin streets to the Nashua river. A trotting-course has recently been laid out in this park, and improved by private parties at an expense of \$1,500. The grounds of the park have been leased in small parcels, for agricultural purposes, to persons who clear, drain, and cultivate the land until they bring it into grass, when it is restored to the city improved, without expenditure other than the time required. South common, between Lake, Bowery, Chestnut, and Fulton streets, area not given, is but little improved, is partly inclosed by a stone fence, and some trees have been planted. The management and control of the parks is vested in a committee of the city council, consisting of 2 aldermen and 3 councilmen. There are no special police regulations. The city makes an annual appropriation of \$200 for maintaining and improving the parks.

PLACES OF AMUSEMENT.

Franklin opera-house, with a seating capacity of 1,000, is the only theater in the city. The city hall has a seating capacity of 800. There are no concert- and beer-gardens. The following from the city ordinances is observed as to license for theatrical performances, etc.:

SEC. 2. * * * For each circus or show where feats of agility, horsemanship, sleight-of-hand, or rope-dancing are performed, and for menageries where wild beasts are exhibited, the sum of fifty dollars (\$50); for each band, or troupe, or company of minstrels or comedians, where singing and dancing are performed, and for all other theatrical and dramatic exhibitions, the sum of five dollars (\$5); for each show where feats of ventriloquism, sleight-of-hand, or jugglery are performed, the sum of three dollars (\$3); for each performance, mirror, stereoscopic, or other views, the sum of two dollars (\$2); for each and all other shows, exhibitions, concerts, or performances, the mayor and city marshal shall fix the amount to be paid as licenses as they deem best.

The annual report of the city treasurer shows \$670 to have been received for rent and licenses.

DRAINAGE.

There is no published map of Nashua of sufficiently recent date to be of value in exhibiting its public works. The sewerage has been constructed and is maintained by men and teams permanently employed by the city to attend to all public works, including street-cleaning and construction. The plans of the principal sewers are made by local civil engineers or surveyors employed for the purpose in each separate case. No comprehensive system has been prepared. There is a brick sewer in Main street, $3\frac{1}{2}$ by $4\frac{1}{2}$ feet, flowing northerly and discharging into the Nashua river beneath the bridge. This receives laterals from all the streets right and left, including a long lateral from Elm street through West Hollis street. A main sewer in Walnut street receives branches from nearly all the streets it crosses. It crosses the grounds of the Nashua Manufacturing Company and discharges into the Nashua river. A pipe-sewer, 20 inches in diameter, on the north side of the Nashua river, was laid to drain the North common, and has since been used as a common sewer, receiving branches from the Mount Pleasant high-school building and from streets on each side. The sewer itself passes through private property, and discharges into the river about 500 feet above the Main-street bridge. These three sewers, embracing somewhat more than half the drainage of the city, discharge into the slack-water of the river but little above the dam. For weeks at a time in the summer season water does not flow over the dam, but is diverted through the canal to the cotton-mills. At such times the river becomes foul and unsightly and sometimes offensive. To avoid the further pollution of the water of the canal, but more especially to avoid its being silted up by street-drainage, a brick sewer $2\frac{1}{2}$ by $3\frac{1}{2}$ feet has been constructed in Canal street, intercepting the drainage from all the side streets and taking also the sewage from a large area of the densely-populated part of the city, discharging it into the Nashua river below the outlet of the canal. Other sewers also discharge below the dam, notably one on the south side of the river at Cottage street, draining most of the elevated region about Park and Oliver streets. There are other sewers of minor importance discharging in the same manner. The current below the dam is at most times sufficiently rapid and strong to carry off all the sewage without noticeable pollution, and the banks, which are high and steep on both sides, are not occupied by residences. A considerable area of the southerly part of the city is drained into the Harbor pond, an artificial pond in the course of a small stream with a sluggish current. Another sewer in East Hollis street, draining from the works of the Nashua Iron and Steel Company, runs in an easterly direction to the Merrimack river. This territory is rapidly increasing in population. Many of the sewers are furnished with man-holes only at long intervals. They do not always reach to the surface of the ground, but are fitted with close covers buried at a depth of from 6 to 8 inches or more. Their location is carefully recorded. The sewers are seldom examined, except incidentally to the connection of house-drains or when complaints are made. Catch-basins are provided at convenient intervals to receive the surface-water from heavy rains, but the water of lighter rains is absorbed by the light sandy soil before reaching the sewers. The gutters are broad and shallow, and are not paved except in a few of the steeper streets. The catch-basins are trapped, but, owing to the long intervals between streams of sufficient volume to feed them, they lose their seal by evaporation, and are left in open communication with the sewer. There is no provision for ventilation, and the only communication between sewers and the atmosphere is by their outlets at the river, by house-drains, or by empty catch-basins.

The total length of sewers in Nashua (1880) is very nearly 25 miles. The sewers are constructed almost entirely with cement pipe, with the exception of the brick sewers above described, in size from 12 inches in diameter and upward, the larger size being oval in cross-section. The pipe is manufactured in Nashua, is very heavy, and appears to give satisfaction. The rapid growth of the city has led to an extension of the population beyond the area reached by the sewers. The total cost of the work is paid by the city, and a fee is charged for connection, as follows, prepaid in all cases: For 1 sink, \$6; for 1 privy, \$6; for 2 sinks in one entrance, \$10; for 1 privy and sink, \$10. A majority of the committee on sewers and drains can change these rates in particular cases and make the charge reasonable and just. All connections are made under the supervision of the street commissioners, and the material used, manner of construction, and size must be to their satisfaction.

CEMETERIES.

There are two public cemeteries in Nashua, one on Hollis street, the other on Amherst street, area not given, belonging to the city, where any citizen may secure a family burial-plot, without cost, by applying to the proper authorities. The management and control of these cemeteries is in the hands of the same committee of the city government as that having charge of the parks. The city makes an appropriation of \$500, which is devoted to building and maintaining exterior fencing, suitable gate-ways, and laying out and keeping in order the drives and walks. The ground is perfectly level; the soil is light, sandy, and barren; there is little shade, and no attempt is made by the city at decoration or adornment, but the grounds are laid out in rectangular system, apparently to secure the largest number of plots in a given area. Improvements are made by the owners of plots according to their individual tastes. There is a private cemetery belonging to the Unitarian church; it is on Canal street, and running back to North Central street, in the heart of the city. Almost all the plots are now owned by private persons, and are used only as family burial-places. The grounds are very uneven, and are shaded by the original forest trees of great

size. Improvements consist principally of concrete foot-walks. The plots are inclosed with granite edge-stones and iron fences. No attempt has been made at landscape-gardening or general effect in ornamentation, but the plots are improved in accordance with the wishes of the owners. The French-Catholics have a burying-ground adjoining the public cemetery on Hollis street. It is private only in so far as it is limited to those who have died in the faith of the Roman Catholic Church. The Roman Catholics have their cemetery in the town of Hudson, on the opposite side of the Merrimack river; hence the dead from this very large proportion of the population of the city are removed and buried beyond its limits and control. There are two old cemeteries on the Lowell road, one $1\frac{1}{2}$ mile and the other 4 miles from the city hall; they are but little used now. The latter contains the remains of those who fell in the earlier French and Indian wars or who died in the colonial times, and is visited principally on account of the curious inscriptions on its ancient tombstones. The number of interments in the several cemeteries, either by years or in the total, was not obtainable, nor do there appear to be any ordinances or regulations regarding them. The only ordinance regarding cemeteries prescribes a penalty for any one digging, defacing, or injuring any lot, or injuring any plant, flower, or shrub.

MARKETS.

There are no public or corporation markets in the city, all supplies being procured from private stores.

SANITARY AUTHORITY—BOARD OF HEALTH.

The board of health of Nashua consists of 3 members—city marshal, city physician, and one other—appointed annually by the mayor and aldermen. The board receives \$75 a year, to be divided among the members for services in such proportions as they may themselves determine. The several questions sent to Nashua for information pertaining to sanitary matters were answered so inadequately that the information given below is taken mostly from the city ordinances and from the reports for the year 1880. It is the duty of the health officers to enforce all the ordinances relating to the public health. When satisfied that a house is not provided with a suitable drain, or privy and vault, they must give notice requiring that these defects be remedied, and they have authority to enforce compliance. When a nuisance is found or complained of the officers order the owner or occupant of the premises to remove or abate the nuisance within 48 hours; if this order is disregarded, the board proceeds to remove the nuisance, and all expenses are charged upon the estate. The city marshal acts as chairman of the board of health, and keeps an account of all its expenses and reports them to the city clerk, with the names of the offending persons. No one is allowed to throw filth into the streets or highways, or into streams without a current strong enough to remove it. Early in the past year the board gave notice that all vaults must be cleaned, all garbage and filth removed, all places liable to cause contagious diseases put in cleanly condition, and proper sanitary measures adopted. A short time after an inspection was made, and the report of the board shows that, as a rule, the notice was cheerfully complied with.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home, or removed to the pest-house, which is in the suburbs. Vaccination, except with school-children, is not compulsory. There are no regulations regarding scarlet fever. The school committee regulates the attendance of children at the public schools in case of an epidemic.

REPORTS.

The board makes an annual report to the city council, which is published with the annual reports of the city officers. The expenses of the board for 1880, exclusive of salaries, were \$726 88.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. They are cleaned every Saturday, and the mayor says Nashua will compare favorably with other cities in cleanliness. The cost is not known, as no separate account is kept. The sweepings are deposited on vacant lots.

Removal of garbage and ashes.—The city removes all garbage and ashes with its regular force. No regulations govern the method of keeping garbage while awaiting removal, or prohibit the keeping of ashes and garbage in the same vessel. They are disposed of by dumping them on vacant lots. No injury to health from this system of handling has been reported.

Dead animals.—The carcass of any animal dying in the city must be buried; but whether by the city force or by the owner is not stated. As only a few dogs and one horse were reported as having died last year, the cost cannot be great.

Liquid household wastes and human excreta.—Laundry and kitchen wastes and chamber slops are disposed of in the same way—either being run into sewers or thrown into cesspools. No detailed information in regard to these subjects could be obtained. It is estimated that two-thirds of the water-closets in the city deliver into sewers

and the remainder into cesspools. The night-soil is used for manuring land, and no regulations forbid its use upon the gathering-ground of the water-supply.

Manufacturing wastes.—The disposition of liquid or solid manufacturing wastes seems to be unregulated.

POLICE.

The force is appointed annually by the mayor and aldermen, and governed by the committee on police, consisting of the mayor and two aldermen. The city marshal is the chief executive officer, has general supervision of the force, and prosecutes all offenders against the city ordinances. His salary is \$650 and commitment fees. There is an assistant marshal, who is also a day watchman; he receives \$75 a year, with \$2 a day for services as watchman. There are 4 night watchmen, at \$2 a day. The uniform is of blue cloth with brass buttons, and such badge as the mayor and aldermen select. The men provide their own uniforms. Each man is equipped with a wooden billy, a whistle, and handcuffs; they are on duty 10 hours and patrol 15 miles of streets. During the past year 394 arrests were made, the principal causes being: Intoxication 166; noisy and disorderly, 51; larceny, 34; and assault and battery, 30. Of the persons arrested, 142 were discharged on probation, 56 committed to the house of correction, 61 paid fines, and 30 were discharged, while 23 were sent to the county jail. The total value of property lost or stolen, and reported to the police, was \$1,685; and of this \$1,470 was found and returned to the owners. The total number of station-house lodgers was 207, against 147 in 1879, and only a few of these were tramps. These lodgers are furnished with crackers and cheese; the cost to the department is not given. The police co-operates with the fire department and with the board of health. Special policemen are appointed by the mayor and aldermen; they are subject to call, and when on duty receive the same pay as the regular force. The expense of the department for 1880 was \$5,051 91.

FIRE DEPARTMENT.

The fire department consists of 1 chief and 5 assistant engineers and 61 men. The apparatus consists of 3 Amoskeag steam fire-engines, 2 of which have hose-tenders; 3 four-wheeled hose-carriages, and 1 hook-and-ladder truck complete, carrying a Bangor extension ladder. There are also 2 spare hose-carriages—ancient things. The department owns 3,900 feet of cotton rubber-lined hose in good condition; 2,300 feet of leather hose not reliable for hard service, and 850 feet of bad hose. Water for fire purposes is taken from 55 street hydrants and from 19 reservoirs. During 1880 the total value of property destroyed by fire was \$33,935 75, on which an insurance of \$14,944 75 was paid, leaving a net loss of \$18,991. The chief and assistant engineers, who are appointed annually by the mayor and aldermen, form the board of engineers, and exercise all the powers of fire-wardens. They can be removed at any time for cause. The chief engineer is the head of the force and has charge at all fires, with the singular exception that if a fire breaks out in the mill-yards of the Nashua Manufacturing Company or the Jackson Manufacturing Company, the agent of the company has charge of the department, unless a fire breaks out at the same time in another part of the city, in which case the chief engineer assumes the command so far as to dispatch such force to it as he thinks best. The total expense of the department in 1880 was \$6,146 66.

PUBLIC SCHOOLS.

There are in the city 16 school-houses, divided among the following schools: 1 high, 2 grammar, 3 middle, 8 primary, and 7 suburban. There are 52 teachers, and the average attendance is 1,630 pupils. There are also 3 evening schools, with an attendance of 347. The amount expended for school purposes in the year 1880 was \$29,912 31.

The following table gives the attendance during 1880 by months. The small attendance during the first three months is accounted for by an epidemic which temporarily reduced the attendance at many of the schools:

Months.	Total.	Girls.	Boys.	Average.	Per cent.	Tardy.
January	1,608	774	834	1,448	90	181
February	1,601	776	825	1,566	97	172
March	1,664	817	847	1,530	92	122
April	1,968	974	994	1,745	88	198
May	1,800	949	911	1,481	79	211
June	1,891	957	934	1,642	87	225
September	1,978	976	997	1,798	90	139
October	1,994	999	995	1,779	89	185
November	1,901	944	957	1,685	88	182

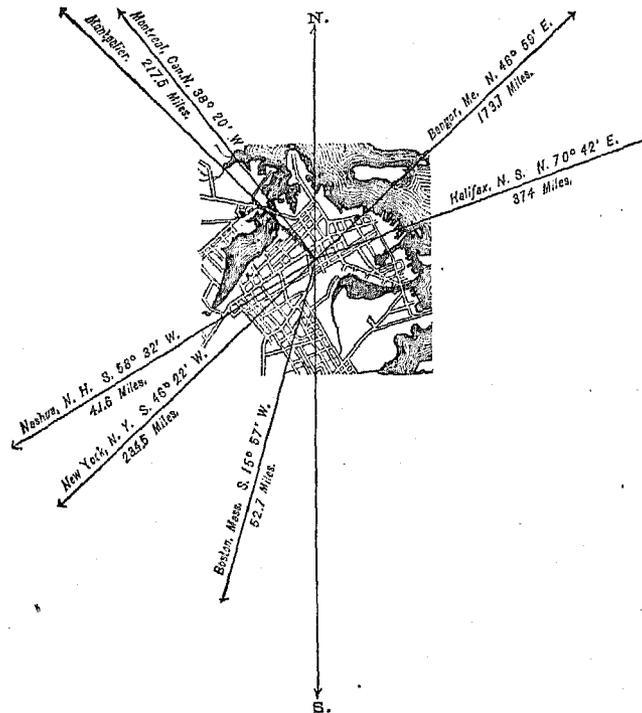
PORTSMOUTH,

ROCKINGHAM COUNTY, NEW HAMPSHIRE.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790 .....	.....
1800	5 339
1810	6,934
1820	7,327
1830	8,026
1840	7,887
1850	9,738
1860	9,335
1870	9,211
1880	9,690



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	4,511
Female	5,179
—	
Native	8,430
Foreign-born	1,260
—	
White	9,607
Colored	* 83

* Including 1 Chinese.

Latitude: 43° 4' North; Longitude: 70° 45' (west from Greenwich); Altitude: 10 to 58 feet.

FINANCIAL CONDITION:

Total Valuation: \$6,553,079; per capita: \$676 00. Net Indebtedness: \$488,000; per capita: \$50 36. Tax per \$100: \$2 06.

HISTORICAL SKETCH.

In the year 1603, two small vessels, the "Speedwell" and the "Discover", fitted out by citizens of Bristol, England, and under the command of Martin Pring, first visited the coast of New Hampshire and explored the Piscataqua river for a short distance. With these explorers it was "touch and go", and nothing but a bare record of the fact is left of Pring's visit. The same is true of a similar visit of French vessels under Champlain in 1605, though these visitors traded for a time with the natives. In 1614, however, Captain John Smith came to the Piscataqua, and reports a "safe harbor with a rocky shore". He drew a map of the coast, and assigned to the present location of Portsmouth the name of Hull.

A company known as the "Laconia Company" was formed in England under the leadership of Fernando Gorges and John Mason, which obtained from the crown a grant of lands in New Hampshire, and in 1623 sent a party of settlers to take possession. It was the intention of the company to found here a feudal manor, the occupant of the land to be tenant of the proprietors. In 1631 another party, this time nearly 80 in number and

including 22 women, was sent from England, and a determined effort to make a permanent settlement was begun. In 1634 Mason became the sole proprietor, but his dreams of becoming a great feudal landlord, if he had any such visions, were doomed to disappointment, for the settlers, in 1639, raised the cry of "freedom and independence", and resolved that the land should be the property of the cultivators, though still acknowledging Mason's title to the grant, which rested with his heirs till 1846. The town they formed was known as "Strawberry Bank", from the profuse growth of strawberries on what is now the most densely settled part of Portsmouth. The name lasted, however, only until 1653, for in that year the general court of Massachusetts granted the petition of the inhabitants to be incorporated as a township under the name of Portsmouth. The township as then constituted included, besides the site of the present city of Portsmouth, the towns of Rye, New Castle, Newington, and Greenland, and in 1679, when New Hampshire became independent of Massachusetts, it was the only town in the new province besides Dover, Hampton, and Exeter.

Its early history is that of all the early settlements; the story of stern conflict with nature and the Indians, resulting at last in victory over both. Fishing and ship-building became important industries, and these gave rise to others, prominent among which was the manufacture of salt. In 1705, in order to stimulate immigration, the town decreed that it would grant pre-emption leases of 999 years to those who would come and settle upon its lands, though it made use of its right to prevent incapable persons from coming. In spite of its careful supervision of its inhabitants, the town was compelled to take action in providing for its paupers, and in 1716 established the first pauper workhouse in the world. Yet, although some of its people were thus incompetent, the larger number were enterprising, industrious, and successful. Their trade was extensive and carried on largely with the West India islands. Their harbor was a fine one and their ships were of good report.

This prosperous condition of their town made the people impatient of the ill-treatment which they received from the mother country. In 1773 a Portsmouth "tea-party" was held, at which the people resolved that sending tea here was a direct assault on their liberties which all true Americans were bound to oppose. "Nowhere in the colonies was there a more determined spirit of resistance to the oppression of the mother country than in Portsmouth." On hearing that one of the townspeople had accepted a commission as agent of the stamp act, the citizens burned him in effigy, and on his return from Boston, whither he had gone, compelled him to give up his commission.

Here, on December 14, 1774, was struck the first military blow of the Revolution against England, though a bloodless one. News was brought by Paul Revere, riding express from Boston, that troops were to come from that town to insure the safety of supplies of cannon and gunpowder stored in fort William and Mary at New Castle. Immediately Captain Thomas Pickering formed a body of men, proceeded by night to the fort and captured it, taking away the gunpowder and a number of the cannon. Vain were Governor Wentworth's commands and entreaties; no force could be raised against the rebels. A tory was a hated thing, and the governor himself was forced to flee for safety to the fort, where he lived ready at any moment to make his escape to the frigate "Scarborough", which, with the "Canceau", General Page had dispatched from Boston to keep the people in subjection.

The town with its harbor was an important station during the war of independence. Here was built the first 74-gun ship of the American navy, the "America", which vessel was assigned to John Paul Jones, who came to Portsmouth late in 1779 to superintend her construction. He never, however, had command of her, for as soon as she was launched she was presented to France to make good the loss of the "Magnifique", which was sunk in Boston harbor. The "America" was the largest and finest vessel of her class afloat, a monument of Portsmouth workmanship. In 1782 a part of the French fleet was stationed in Portsmouth harbor under the Marquis de Vaudreuil; and from the Marquis de Chastelleux, a visitor to friends in the fleet, we obtain a glimpse of the town as it was in those days. The marquis says:

It was in a pretty flourishing state before the war, and carried on the trade in ship-timber and salt fish. It is easy to conceive that this commerce must have greatly suffered since the commencement of the troubles, but notwithstanding, Portsmouth is of all the American towns that which will gain the most by the present war. There is every appearance of its becoming to New England what the other Portsmouth is to the old; that is to say, that this place will be made choice of as the depot of the continental marine.

Yet he saw the town the year after it had suffered from its three great fires and before it had fully recovered. Washington, who visited Portsmouth in 1789, says it had about 5,000 inhabitants, and adds in his diary, under date November 1, 1789:

There are some good houses, but in general they are indifferent and almost entirely of wood. * * * Lumber, fish, and potash, with some provisions, compose the principal articles of export. Ship-building here and at Newburyport has been carried on to a considerable extent; during and after the war there was an entire stagnation to it, but it is beginning now to revive again.

Their business did increase until in 1800 the town had 28 ships, 47 brigs, 1 bark, and 10 schooners engaged in the foreign trade, and 20 coasting vessels.

The period from 1795 to 1800 was one of great commercial activity in the town. This, too, in spite of Jay's treaty with England in 1795. This treaty, which contained an article forbidding American vessels of over 70 tons to trade with any British colonial ports or islands, was very distasteful to the merchants of Portsmouth. A proclamation was issued calling on the citizens to meet "to remonstrate with coolness, but spirit, against signing a treaty which will be the death-warrant of your trade, and entail beggary on us and our posterity forever". A petition was drawn up and sent to the President asking him not to sign the treaty. So excited were the people that they burned Jay in effigy.

In the same year the Portsmouth Pier Company was incorporated and proceeded to construct a pier 340 feet in length and averaging 60 feet in breadth. Upon this was built a row of warehouses larger and finer than any other then existing in New England. Two years later the Portsmouth Aqueduct Company introduced a pure and unfailing supply of water into the town. About the same time the Piscataqua bridge was built, and in 1800 a market-house with a hall for town purposes was erected.

The year 1798 marks a time of death and terror in the town, for the yellow fever was raging there from July until October. The fever was brought thither by the ship "Mentor" from Martinique, where it was prevalent. The "Mentor" came at once to her wharf, for in those days quarantine was disregarded, and the first victim of the disease was a laborer engaged in unloading her. From him the fever spread rapidly and fatally till the first frost put an end to its ravages, though this was not until 55 of the 98 persons who suffered from the pestilence had died.

From 1800 the town progressed rapidly till its advance was checked by a terrible fire in 1813. Portsmouth suffered three times from fire. The first, in 1781, has been mentioned; the second occurred in 1802 and destroyed a large amount of property; but the third and last was the most disastrous. This fire was started by a serving-woman, in revenge on her employer, December 22, 1813, and was not extinguished until it had burned over 15 acres of the town. It destroyed 108 dwellings, 64 stores and shops, and 100 barns, and entailed a loss of \$300,000, in those days a vast sum.

The streets of Portsmouth are now shaded by elms and maples, but these are the third generation of trees which have lined the streets. In 1792 or 1793 Governor Langdon introduced the Lombardy poplar, which soon became popular, and for 20 years these graceful trees lined the streets, until they were destroyed by the fire of 1813. They were replaced by sycamores, which in their turn yielded, in another 20 years, to the elms and maples which now beautify the city.

The prediction that Portsmouth would become a depot of the American marine has been fulfilled only to a slight degree. In 1806 the United States government purchased what was known as Fernald's island, and constructed there a navy-yard, known as the Portsmouth navy-yard, although in fact it is situated in Kittery, Maine. Perhaps nowhere in the country is there a better location for a naval station. During the war of 1812 the Portsmouth merchants, compelled by the policy of the nation to see their legitimate commerce destroyed, took great interest in privateering, and many of them amassed large fortunes. From here sailed the privateers "Fox", "Governor Plumer", "Harlequin", "Ludlow", "Mars", "Macedonian", "Portsmouth", "Science", "Squando", "Thomas", "Nancy", "Champlain", and "Liverpool Packet", which were among the fleet of irregular vessels that gave a little glory to the war. Since the war the commerce of the town has declined, and though to-day more capital is invested in ships than in the old days, yet these vessels rarely come to Portsmouth's wharves. The town became a city in 1849, and for 20 years declined rapidly in population and importance; but during the last decade a reaction has begun, so that in 1880 the population of the city is nearly as large as it was in 1850.

PORTSMOUTH IN 1880.

LOCATION.

Portsmouth lies in latitude 43° 4' north, longitude 70° 45' west from Greenwich, opposite the town of Kittery, Maine, on a small peninsula formed by the Piscataqua river; and 2 miles from the Atlantic ocean. Its elevation above sea-level is from 10 to 58 feet. It is the commercial metropolis and only sea-port of New Hampshire.

HARBOR.

The harbor extends from the city to the mouth of the river. It is capacious and accessible at all times, and is navigable for ships of the largest size. The depth of water in the channel averages 9 fathoms. The strong tidal currents are quite rapid, preventing the formation of ice in winter sufficient to impede navigation, and keeping the river free from sand-bars or earthy deposits. The harbor is much sought by coasting vessels as a refuge during storms; it is estimated that some 2,000 craft of that kind could easily find safe anchorage at one and the same time. Portsmouth has open communication with all ports of the maritime world.

RAILROAD COMMUNICATIONS.

Portsmouth is touched by the following railroads:

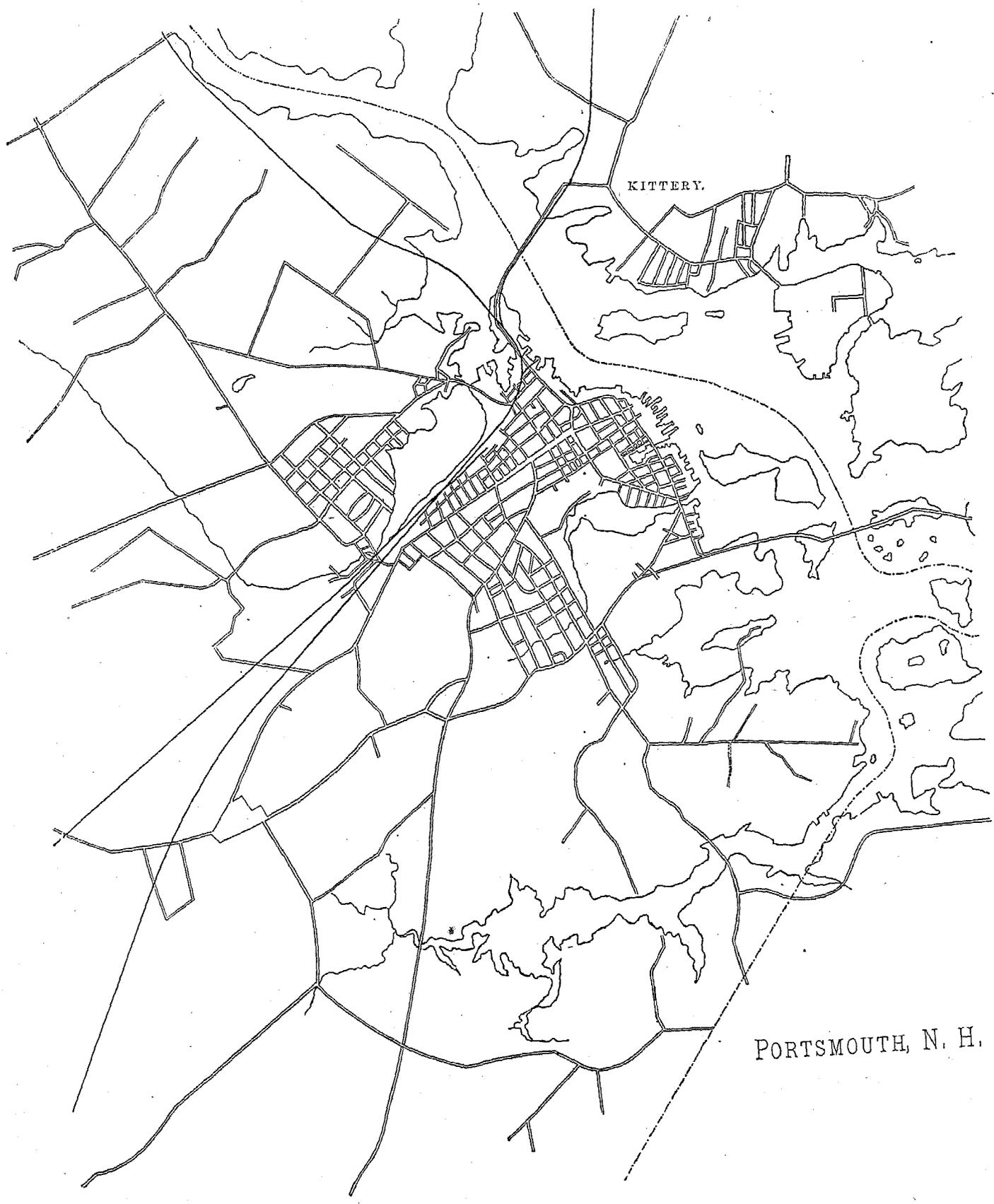
The Eastern railroad, to Boston on the south, to Portland, and by connecting lines to Halifax, Saint John's, etc., on the east, and, by a branch road, from the city to North Conway and Montreal on the north.

The Concord and Portsmouth railroad, to Manchester, New Hampshire.

The Portsmouth and Dover railroad, to Dover.

The Portsmouth, Saco, and Portland railroad, to Portland.

These lines give to Portsmouth railroad communication with all parts of the country.



KITTERY.

PORTSMOUTH, N. H.

TRIBUTARY COUNTRY.

The country immediately tributary to Portsmouth is agricultural, the products finding a market in the city. This, with the navy-yard and the manufacturing interests, constitutes the local trade. The navy-yard is on a small island across the river, and though this island is accredited to the town of Kittery it more properly belongs to Portsmouth.

TOPOGRAPHY.

The city is situated on the right bank of the Piscataqua river, on a gentle declivity overlooking the harbor. The principal part of the city is built on a peninsula formed by a bend in the river and two small creeks—North Mill pond above, and Sagamore creek below. There are five islands lying in the river, included in the corporate limits and belonging to the 4th ward. The elevations are gentle, the lowest points being 10 feet above sea-level and the highest 58 feet above. The whole natural drainage is toward the river. The soil is gravelly, with an underlying hard blue rock or greenstone. The surrounding country is rolling, and within a radius of 5 miles is open. There are no large ponds, lakes, or marshes in the vicinity.

CLIMATE.

The highest recorded summer temperature is 102°. The lowest recorded winter temperature is -27°. The highest summer and lowest winter temperatures in average years was not obtainable. The rapid current of the river carries away all impurities, its influence tending to make the temperature even and the city healthy. The near proximity of the ocean, by winds from it, cools the heats of summer and tempers the cold of winter.

STREETS.

There are 50 miles of streets and roads in the city. Of these 1 mile is paved with cobble-stones, 4 miles are finished in broken stone, and the remainder in gravel. The cost per square yard of each, cost of keeping in repair, and the relative facility with which each is kept clean, were not obtainable. The authorities report broken stone as the best and cheapest for a city of the size of Portsmouth. The sidewalks are of brick and gravel, the brick predominating. The compact part of the city has all brick sidewalks, brick being found the best and cheapest material. The gutters are paved with cobble-stones. Trees are planted along the sides of most of the streets in the compact part of the city. The annual expenditure for construction and repair of streets is \$9,000. In this connection day work is preferred, as it is believed to be more thorough than contract work and as cheap in the end. The authorities think that contract work will not stand the frost and great changes of the climate. A steam stone-crusher is used, and is found to furnish a superior material for the streets at a comparatively low rate. There are no horse-railroads or omnibus lines in the city.

WATER-WORKS.

Water is supplied by the Portsmouth Aqueduct Company, a private corporation, and was first introduced in 1797, two of the original supply-pipes of wood, 5½ inches in diameter, 2½ miles long, being still in use. Water is brought from springs, by gravity, to a distributing reservoir of 500,000 gallons capacity. The first cost of the works was \$90,000. The average daily consumption is from 750,000 to 1,000,000 gallons. The city pays \$90 a year for water used in public buildings, for stone-crusher, etc., but nothing for water used for fire purposes, sprinkling, flushing, etc.

GAS.

Gas is supplied by a private corporation. The average daily production is 20,000 cubic feet. The charge per thousand feet is \$2 76. The city pays \$21 a year for each street-lamp.

PUBLIC BUILDINGS.

The city owns the following buildings, occupied wholly or in part for municipal uses: 1 city hall, 1 almshouse, 1 market, 12 school-houses, 3 fire-engine houses, 2 stables, 3 ward buildings, and 1 powder magazine, the total cost being \$147,000. The city hall is owned and occupied entirely by the city; its cost was \$15,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are two parks in the city: *Langdon Park*, extending from South Mill pond to South street; area, 5 acres; and a small park, between Woodbury, Clinton, Stark, and Bartlett streets, near North Mill pond; area not stated.

The land comprising Langdon park was given to a board of trustees in 1867, to be in their trust and that of their successors forever as a public park. It was laid out by private enterprise in 1876.

PLACES OF AMUSEMENT.

There is one hall in the city, Music hall, with a seating capacity of 1,200. It is used for theatrical exhibitions, lectures, meetings, etc. It pays to the city an annual license of \$125.

DRAINAGE.

There is in this city no regular system of sewerage. Sewers have been constructed at different places as needed, and old drains and sewers have been extended as occasion required or as money was appropriated. The whole system does not to-day cover over one-half of the area of the city. The direction given to sewers is controlled very much by ledges of rock encountered in various parts of the city, the aim being to avoid these as far as possible. The mouths of all sewers are exposed at low water; most of them are covered at high water. The final disposition of the sewage is into tide-water. The sewers are not cleansed. Catch-basins are emptied four or five times a year, the cost of this work being about \$200 per annum. The sewers are constructed at the sole cost of the city, but abutters pay $1\frac{1}{2}$ per cent. on the valuation of their property for connection therewith; no assessment otherwise. There is no separate record kept of the different items of the work. The total expense in connection with sewers for the year 1880 was \$429 45. The cost of each inlet furnished with Clapp's apparatus, including the cost of connection with the sewer, is about \$35. Manholes are not used. There is no city engineer, and the construction and care of sewers is intrusted to the street commissioner. The work having been done under successive commissioners, no one person has any exact knowledge as to the construction or location of all the branches. No contour map of the city has been made. Wherever there are sewers frequent surface-water inlets are provided. These are mainly furnished with Clapp's iron grating and trap.

CEMETERIES.

There are 5 cemeteries in the city, owned by private individuals or corporations, as follows:

Harmony Grove Cemetery.—Area, 15 acres.

Proprietors' Cemetery.—Area, 8 acres.

Sagamore Cemetery.—Area, 15 acres.

These are together, not even divided by fences, and are situated on South street, running back to Jones avenue.

Catholic Cemetery.—Situated on Greenland road, about 2 miles from the center of the city; area, 3 acres.

Union Cemetery.—Area, 1 acre.

The city owns 3 small cemeteries: *Colton's*, on South street; *North*, on Elm street; and *Point of Graves*, on Mechanic street. They are but little used. The Episcopal church, on Chapel street, still allows interments in the church-yard, but they are very few. No data could be obtained as to the number of burials. No permits are required, and no laws regulate the time of burial or the depth of the graves, though they are usually made 4 feet deep. The city appoints annually, through its mayor and aldermen, a suitable person to take charge of the cemeteries which the city owns; all foreigners or strangers dying in the city must be buried on a ground reserved for that purpose on the city farm, unless burial places are purchased for them in one of the private or corporation cemeteries, or unless the bodies are removed from the city. No burial can be made in a place unauthorized by the city. The price of lots in Harmony Grove, Sagamore, and Proprietors' cemeteries varies from \$20 to \$125, and the owners must either care for their lots themselves or pay the corporation to do it. The grounds are handsomely laid out. The Catholic cemetery is governed in about the same manner, excepting the restrictions, etc., of the Roman Catholic Church.

SANITARY AUTHORITY—BOARD OF HEALTH.

The board of health is the chief sanitary authority of Portsmouth. It is appointed annually by the city council, and consists of 3 members, one of whom must be a physician. The chairman is the chief executive officer; his salary is \$50 a year, and his duty is the suppression of any nuisance that may come under his notice. There is no stated time for meetings and no order of conducting business. In case of an epidemic, the expense to be incurred is at the discretion of the board, subject to the approval of the mayor and aldermen; and it has authority to quarantine any dwelling or locality, or to remove patients to the pest-house. In the absence of an epidemic the board has authority to abate nuisances. The city charter vests all sanitary authority in the city council, which can exercise it in such manner and by such officers as it thinks best. All wastes must run into the sewers or into such places as the health officers direct. No decaying matter can be cast into the streets or alleys, or into the river above low-water mark. No swine can be kept or refuse of any kind be deposited on the lands adjoining any of the mill-ponds, or sewers or drains be discharged into them. Physicians are compelled to give notice to the board if any one under their charge is suffering from small-pox or other disease dangerous to the public health. A strict quarantine is maintained for all vessels coming from ports between the latitude of Georgetown, South Carolina, and the tropic of Capricorn, or from any port where cholera or other malignant, contagious, or infectious disease prevails, or on board which any passenger or sailor has been, or still is, suffering from such disease.

NUISANCES.

A thorough inspection of the city is made annually. At other times the board expects complaints to be made if nuisances exist. If on examination a nuisance is found to exist, it is ordered abated within a reasonable time. If this order is disregarded the board itself makes the abatement. No members of the board have police powers, but the city marshal lends assistance when it is needed. There is no regular proceeding in regard to defective house-drainage, privy-vaults, etc., unless they become nuisances. The control of defective street-cleaning, sewerage, etc., is in the hands of a committee of the city government. The board exercises no control over the conservation of garbage, except to see that it is not thrown into the streets or allowed to become a nuisance. The board of aldermen controls the matter of pollution of the harbor.

INFECTIOUS DISEASES.

Small-pox patients are removed to a pest-house on an island in the harbor about 1 mile from the city. There are no regulations for the isolation or home quarantine of scarlet-fever patients. The board takes no cognizance of the breaking out of contagious diseases in the schools. In case of necessity the school committee may close the schools. Vaccination is compulsory, but it is not done at the public expense. Vital statistics are regularly taken. All physicians are required by a state law to report annually to the city clerk all births and deaths.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the city with its regular force, and the work is all done by hand. The cleaning is done when the streets seem to need it, and is well done. The cost of this work cannot be obtained, as it is included in the regular appropriation for the streets and no separate account is kept. The sweepings are usually deposited around a pond which the city owns. The authorities deem the system a good one for a city of the size of Portsmouth.

Removal of garbage and ashes.—The city with its regular force removes the large part of its garbage and ashes. Garbage while waiting removal must be kept in closed vessels, though ashes may be deposited in the same receptacle. The city teams collect twice each week and deposit their loads where they dump the street-sweepings. No separate account of the expense of this service is kept. No injurious effects are reported of the improper handling, keeping, infrequent removal, or final disposal of garbage, and the system is considered on the whole to be good enough.

Dead animals.—No regulations respecting the removal or burial of dead animals have been made, as it is not thought of sufficient importance.

Liquid household wastes.—Chamber slops are thrown into privy-vaults. Laundry and kitchen wastes are run into sewers, none being allowed to go into the gutters. Dry wells or cesspools are used only to a small extent. They are porous and not provided with overflows. In a few cases they receive the wastes from water-closets. There has been no experience of contamination of drinking-water by the overflowing or underground escape of the contents of vaults or cesspools, but most of the houses depend on the water company for their supply.

Human excreta.—There are but five water-closets in Portsmouth, and nearly all these deliver into the sewers. The largest portion of the city depends on privy-vaults. There are no rules regulating the construction of the vaults, which are under the supervision of the board of aldermen. The contents must never come within a foot of the surface of the earth, and the vaults can be emptied in the daytime only in the winter months (except when ordered otherwise by the board of health). The contents must be taken away in water-tight carts. The use of night-soil as a manure is general and unregulated by the city.

Manufacturing wastes.—No regulations determine the disposal of liquid and solid manufacturing wastes.

POLICE.

The police force is appointed by the mayor, subject to the confirmation of the board of aldermen, and is governed by the mayor. The chief executive officer is the city marshal, who has charge of the force and sees that the laws and ordinances of the city are executed. His salary is \$700 a year. The rest of the force consists of 2 assistant marshals at \$600 a year each; 6 police officers, who receive \$1 78 a day, and 11 supernumerary watchmen, also receiving \$1 78 a day. The marshals act as a truancy committee. The uniform consists of blue cloth, bright buttons with "P. P." on them, and a cap. There are no regulations as to the style of the uniform, and the men consult their own taste as to material and style. Each member of the force, except the marshal, wears a star on the left breast of his coat; the marshal when on duty wears a cockade on his hat. The men provide their own uniforms, and are each supplied with a belt and a club by the city. They are on duty from 7 p. m. to 7 a. m., and visit all the streets. During the past year the police made 747 arrests, the principal causes being drunkenness, 490; assault and battery, 73; noisy and disorderly, 21; larceny, 22; malicious mischief, 15. The majority of cases were disposed of by fines, in default of payment the offenders going to the bridewell to work them out. The total

number of station-house lodgers in 1880 was 357, against 425 in 1879. No free meals were furnished these lodgers. The police are required to co-operate with all the departments of the city, under the direction of the mayor or the proper officers at the head of the several departments. The mayor and aldermen appoint special policemen for the protection of private property, as at railroad stations, wharves, etc. They have police powers, but receive no pay from the city. The cost of the force during the past year was \$6,482 73.

FIRE DEPARTMENT.

The total membership of the fire department is 130, as follows: 1 chief and 4 assistant engineers, 1 clerk, 3 steamer companies of 21 men each, 2 extinguisher companies of 10 men each, 1 hook-and-ladder company of 20 men, 1 hose company of 3 men, 4 steamer engineers, 3 firemen for steamers, 2 drivers, 6 men on relief steamers, and 3 men on supply-wagon. The apparatus consists of 3 steam fire-engines with hose-carriage attached and 1 steamer in reserve, 2 extinguishers, 1 hook-and-ladder truck, 1 supply-wagon, and 2 horse hose-carriages. There are 8,100 feet of hose in the department, of which, however, 2,400 feet are unfit for use. There are 13 reservoirs in the city used for fire purposes, 9 of them having an aggregate capacity of 624,000 gallons; of the 4 others, whose capacity was not obtainable, 2 are salt-water reservoirs. During 1880 there were 19 fires and 5 false alarms. The total value of property destroyed was \$354,851 02, all of which but \$200 was covered by insurance. The largest fire was the burning of the Kearsarge mills, December 4, with a loss of \$347,000. This fire was accidental. The management and control of the department is vested in the board of engineers, consisting of the chief and assistant engineers, who are appointed annually by the city council. The board appoints the officers and members of the several companies, and may remove a member or disband a company for cause. It is responsible for the efficiency of the department, the good order of the apparatus, and the condition of the reservoirs. The chief engineer has command at all fires, and in his absence the assistant next in rank commands. The salaries are as follows: Chief engineer, \$200; assistants, \$50 each; clerk, \$25; engineers of steamers, \$100 each; firemen, \$150; foremen, \$45 each; drivers, \$25 each; clerks of captains, \$45 each; members of fire-extinguisher companies, \$30 each; all other members, \$40 each. The expense for 1880 was \$9,653 71, of which \$5,660 was for salaries and \$3,993 71 was for contingent expenses.

PUBLIC SCHOOLS.

The annual report of the board of instruction for 1880 shows that there are, in the city, schools classified as high, ungraded, grammar, intermediate, and primary, the last three of two divisions each, called 1st, 2d, 3d, 4th, 5th, and 6th grades, respectively. Each division has two classes, and is allowed two years to complete its work. The attendance in the grammar, intermediate, and primary schools was: Total number of pupils enrolled December 31, 1880, 1,306; average monthly membership, 1,245; average daily attendance, 1,158; percentage of attendance, 933. Total number attending during year, 1,784. The high school had 147 pupils, with an average attendance of 105. The total expense for the schools in 1880 was \$20,656 73.

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Portsmouth, New Hampshire.	1879.	1880.
Total value of imports.....	\$57,532	\$27,196
Total value of exports:		
Domestic	\$2,870	None.
Foreign.....	None.	None.
Total number of immigrants.....	None.	None.

Customs district of Portsmouth, New Hampshire.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	29	3,272	21	1,788
Cleared	27	3,805	28	3,864
Vessels in coast trade and fisheries:				
Entered	1,007	119,355	1,172	141,751
Cleared	1,038	120,527	1,082	140,207
Vessels registered, enrolled, and licensed in district..	77	10,823	74	9,688
Vessels built during the year.....	2	519	None.	None.

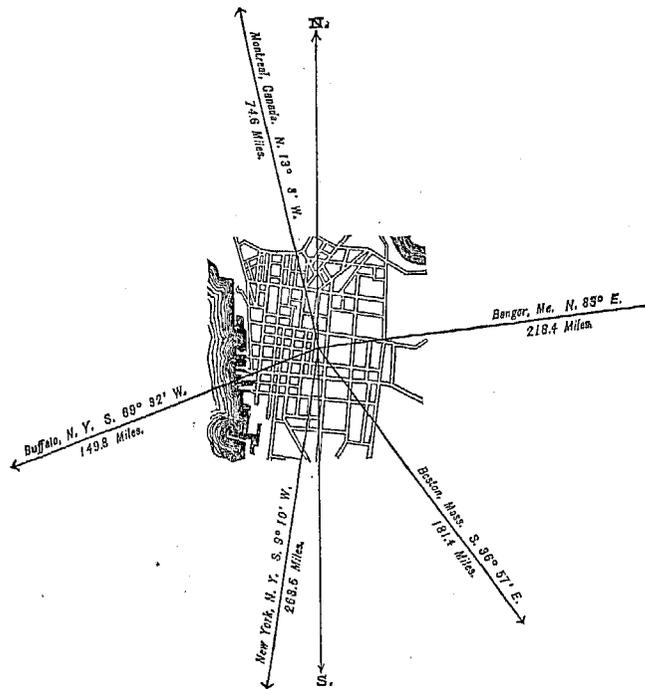
VERMONT.

BURLINGTON,

CHITTENDEN COUNTY, VERMONT.

POPULATION
IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	815
1810.....	1,690
1820.....	2,111
1830.....	3,525
1840.....	4,271
1850.....	7,585
1860.....	7,713
1870.....	14,387
1880.....	11,365



POPULATION
BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	5,445
Female.....	5,920
—	
Native.....	8,633
Foreign-born.....	2,732
—	
White.....	11,249
Colored.....	116

Latitude: 44° 27' North; Longitude: 73° 10' (west from Greenwich); Altitude: 95 to 401 feet.

FINANCIAL CONDITION:

Total Valuation: \$2,921,594; per capita: \$257 00. Net Indebtedness: \$388,427; per capita: \$33 74. Tax on \$100: \$4 01.

HISTORICAL SKETCH.

The history of Burlington may be told in a few words; it is the story of a gradual increase in numbers, wealth, and importance, unbroken by any event great enough to mark an era. The land on which the town is situated was granted by the province of New Hampshire to 66 persons. It included an area of 23,640 acres, bounded by the French or Onion river (now the Winooski), lake Champlain, and a line so drawn as to include in the whole tract 6 miles square. The people were required to reserve all white and other pine trees fit for masting the royal navy, and, among other things, to pay one ear of corn, if lawfully demanded, annually for the space of 10

years, and after that time one shilling yearly, for every 100 acres owned, settled, or possessed. The settlers were further to reserve one share of their lands for the incorporated society for the propagation of the gospel in foreign parts, one share for the glebe of the Church of England, one share for the first settled minister, and one for a school. In all there were 72 shares of 320 acres each. Although this grant was made in 1763, yet it was not until 1772 that the first surveys were made, and another year passed before Felix Powell, the first settler, came to take up his abode on his land.

In 1774 the proprietors held their first meeting at Salisbury, Connecticut. They speak of their property as "a township lately granted under the great seal of the province of New Hampshire, now in the province of New York". The Revolution put a stop to all settlement, for after General Sullivan's retreat from Canada and the evacuation of Ticonderoga the country was open to the enemy, and the settlers left their lands and sought safety farther to the south. The land was, as has been pointed out, granted by New Hampshire, but it was claimed by New York, and the settlers found their titles disputed. In 1777 the country known as the New Hampshire grant declared itself an independent state, under the name of New Connecticut, or Vermont. With the end of the war settlers came to Burlington Bay, as it was then called, and the town's progress became rapid. In 1800 the population was 815. The last meeting of the proprietors of the grant took place in 1798, and from June 16 to June 20 was spent in a division of the lands among themselves and the settlers. This division has never been disturbed, and all titles of to-day now rest upon it. The business of the town was principally in lumber, for the distribution of which it was well located, and to-day this is still the leading industry. The war of 1812 was very unpopular in Burlington, for the non-intercourse act ruined its business. After the war was over the prosperity of the town soon returned. The population increased gradually till 1850, when the railroads first came to Burlington. This at first was an injury to business in the town, these railroads diverting much of the trade to the large cities; but now the railroads are of vast importance; without them the lumber trade would be helpless. Business enterprise has not been confined to the lumber trade. The Winooski Mill Company, which was chartered in 1845, carries on a large manufactory of cotton, and various other enterprises have been started, so that in 1880 the value of articles produced in the city is \$4,819,372. An attempt was made in 1852 and 1853 to obtain a city charter, but the people opposed it and the project fell to the ground. In 1865, however, the people accepted a charter as a city, and are now under a city organization.

BURLINGTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of this city:

LOCATION.

Burlington, a port of entry and the seat of justice of Chittenden county, lies in latitude 44° 27' north, longitude 73° 10' west from Greenwich, on a bay of the same name on the east shore of lake Champlain, and midway the length of the lake. Its average elevation is 202 feet above sea-level, the lowest point being 95 feet at the shores of the lake, and the highest 401 feet a little distance back. The surface of the lake is 90 feet above sea-level.

HARBOR AND WATER-COURSES.

A breakwater 3,000 feet long, built by the general government, extends into the lake, and with the island at the mouth of the bay gives a safe harbor, and one whose capacity is far in excess of the present needs of the city. The draught of water inside the breakwater is from 19 to 25 feet. Lake Champlain has a length of 130 miles, a breadth of from half a mile to 15 miles, and its depth varies from 50 to 280 feet. Besides constant communication with all towns bordering on the lake, Burlington has water communication with the Saint Lawrence river, the great lakes, and Montreal on the north, and with the Erie canal, Hudson river, and New York city on the south. Navigation usually opens in April and continues to December of each year.

RAILROAD COMMUNICATIONS.

The Central Vermont railroad affords to Burlington two routes to Boston and New York, one via Rutland and the other by the way of Montpelier and White River Junction. It also gives a route to Ogdensburg and Montreal, through Saint Albans.

The Burlington and Lamoille railroad, at the latter place, gives communication with Saint Johnsbury, Vermont, and Portland, Maine.

The Delaware and Hudson Canal Company railroad, on the western shore of the lake, reached by steamer from Burlington, gives a third line to New York and a second to Montreal.



TRIBUTARY COUNTRY.

With the exception of Winooski, a thriving manufacturing town across a small stream of the same name, the country immediately tributary to Burlington is agricultural. Dairying is the chief specialty of the farmers, though such fruits as apples, pears, etc., abound in the Champlain valley. The immediate vicinity of the city is less productive than Franklin county on the north or Addison county on the south, but it has fine upland farms as well as rich alluvial meadows along the Winooski river. The retail trade of the city extends some 20 to 30 miles inland, while the wholesale trade reaches through much of northern Vermont. During the summer season a good trade is carried on with the lake towns, steamers making two trips a day. In addition, the large lumber interests of the city, the manufactures, the quarrying and dressing of marble, and the distribution of coal along the railroad lines add much to the local trade.

TOPOGRAPHY.

Burlington lies along the east shores of lake Champlain. The ground on which it is situated is rather low along the borders of the lake, but rises gradually to a crest about a mile back, which has an elevation of some 300 feet above the level of the lake. After passing this crest the slope is toward the Winooski river, a stream separating the city from the town of Winooski, flowing in a northeasterly direction and entering the lake about 5 miles below the city. The city is built on the slope overlooking the lake, to which the natural drainage flows. The soil to the north and east is sandy, while in the south it is a clay or loam. The underlying rock is sandstone, with limestone at the east. The surrounding country is open, and the elevations are about the same as those of the city. The soil, with the exception of the meadow-lands along the river, is either sandy or clay and loam. There are no marshes or ponds within a radius of 5 miles.

CLIMATE.

Highest recorded summer temperature, 100; highest summer temperature in average years, 95°. Lowest recorded winter temperature, -25°; lowest winter temperature in average years, -17°. In the summer of 1844 the mercury did not go above 88°, and in the winter of 1841 and in that of 1846 it did not go below -10°. Fogs are very rare. The proximity of the lake considerably moderates the temperature, the autumn frosts being generally 20 days later than in other portions of the state in the same latitude. The Green mountains, though some 30 miles distant, break the force of easterly winds so that they are but little felt. The prevailing winds in the spring and fall are generally from the south and west.

STREETS.

The total length of streets in the city is 50 miles. Of these 400 feet are paved with cobble-stones, and 1,219 feet with stone blocks; the remainder, excepting 2 miles finished in broken stone and 1.75 mile in gravel, are unpaved. The cost per square yard for broken stone is 50 cents, and for gravel 42 cents. The cost of the cobble-stones and blocks was not obtainable. The stone pavement is the easiest to keep clean, then broken stone, and lastly gravel. The cost of keeping each in good repair or the quality and permanency of each is not given. All the sidewalks in the city, with the exception of 18 miles of stone flags and one-half mile of plank, are of earth. In all streets that are curbed the gutters are laid in cobble-stones. There are some miles of these gutters, however, in streets that have no curb-stones. The practice of planting trees in the streets is almost universal. It is done by private individuals and the trees are set near the curb-line. Most of the construction and repair on the streets is done by day work; only to a slight extent by contract. The annual expense varies from \$12,000 to \$15,000. The city uses a stone-crusher and roller for street work. There are no horse-railroads or omnibus lines in the city.

WATER-WORKS.

The works for the water-supply are owned by the city, and their first cost was \$450,000. The water is taken from lake Champlain and pumped to a reservoir for distribution. The pressure in the mains varies up to 125 pounds to the square inch. The Worthington pump is used, and the average number of gallons pumped each day is 529,685, or 46.6 per capita of the population. The average cost of raising 1,000,000 gallons 1 foot high is 6½ cents; yearly cost of maintenance, aside from cost of pumping, \$2,500, and yearly income from water-rates, \$22,000. For the past year the works have paid \$1,508 98 over all expenses and interest on the cost of construction. There are 36 meters in use, and they are found to lessen the consumption of water by stopping waste, and to increase the receipts.

GAS-WORKS.

The gas-works are owned by a private corporation. The charge per 1,000 cubic feet is \$2 50 to consumers. The city pays \$22 a year each for street-lamps, 80 in number.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, the city hall, Fletcher free library, and city market building. These are of brick, and cost \$75,000. The city hall is owned entirely by the city, and cost \$45,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

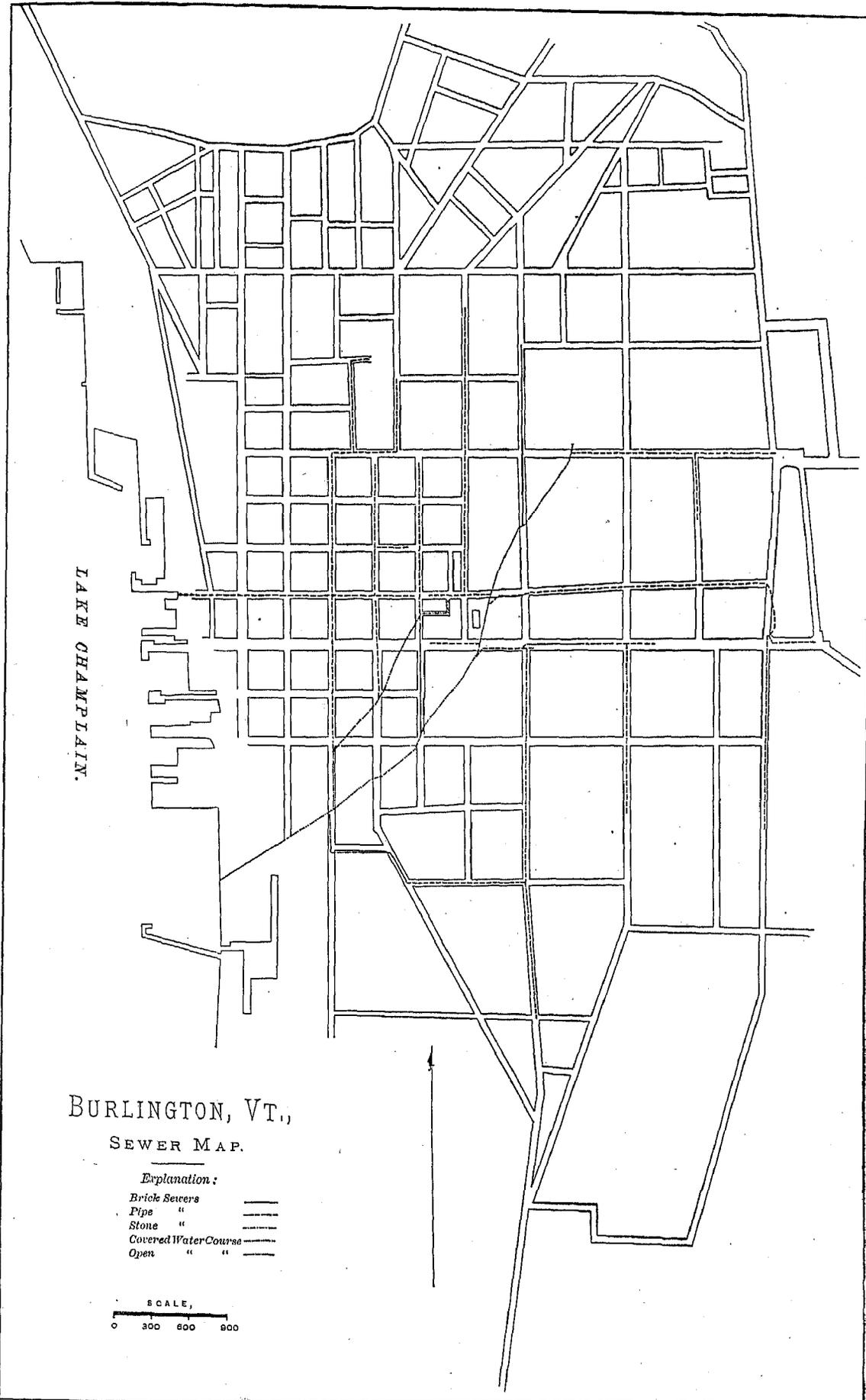
The total area of the public parks is 14.07 acres. There are 3 parks, located as follows: City Hall park, in front of the city hall, area 1.78 acre; Battery park, on North Battery street, between Pearl street and Battery place, area 3.60 acres; and College park, in front of the university, between Main and Pearl streets, area 8.69 acres. The land comprising the parks was given to the city. The annual appropriation for care and maintenance is \$500 for all. The parks are inclosed, planted with trees, and laid out in walks. A committee consisting of 3 aldermen has control of the parks and sees that they are properly cared for.

PLACES OF AMUSEMENT.

There is one theater in Burlington, the Howard opera-house, with a seating capacity of 1,200. It pays no license as a theater, but all shows exhibiting in the city pay a license of from \$5 to \$50. The city-hall lecture-room, seating 600, is used for lectures, balls, etc. In addition to the above, there are some six or seven halls occupied or used by Masons, Odd Fellows, and other organizations for their meetings.

DRAINAGE.

The situation of Burlington, on a steep hill-side facing lake Champlain, is favorable for drainage. A ravine passing through the central part of the city in an oblique direction across streets and lots cuts off all drainage from the southeast, and receives the discharge from nine-tenths of all the sewers yet built. The small stream in this ravine is carried under the streets it crosses in culverts of various shapes and sizes, extending to a considerable distance above and below the cross-streets. In one instance, from College street to Main street, back of the market, the culvert, 5 by 2 feet, extends through from street to street, about 300 feet. In one instance two large culverts are connected by an 18-inch egg-shaped sewer 500 feet long, receiving the discharge from 2,000 feet of sewers in Pearl and Williams streets. Two large culverts, one 5 by 4 feet under Church and Maple streets, and the other 6 by 4 feet under Saint Paul street, are connected by a sewer 2 feet in diameter and about 300 feet long. There are three places, each about 400 feet long, where the flow is through the open water-way of the ravine. A 4-foot culvert extends from Pine to Champlain street, 500 feet, and under them both. From this point to the lake is a brick sewer 6 feet in diameter and 600 feet long. The sewage outfall is into a basin about 600 by 1,000 feet, behind the breakwater of the canal basin, and opening into the lake. Branches from these old culverts extend up the principal streets right and left, and receive the discharge from sewers of more recent construction. The most important of these branches is one built of stone in Pine street, south of the ravine, about 500 feet long, receiving the discharge from a brick sewer 3 feet in diameter in Saint Paul and Spruce streets. Another branch in Pine street, north of the ravine, extends 500 feet to Maple street, and then across streets and lots indefinitely. A system of sewerage, to embrace the whole city, was adopted in 1875, and work done since then has been substantially in conformity to it, though some sewers have been made of smaller sizes than are shown on the plan. Sewers built before the adoption of this general plan are being remodeled or reconstructed as necessity requires. The system adopted provides for three outfalls. One, to be 39 inches in diameter, at the north end of Battery street, is to discharge the drainage from about 7 miles of sewers upon intervalle land at a considerable distance from the lake. No sewers have been built in this district, though it is supplied with city water throughout. Another outfall, to be 36 inches in diameter, is provided to discharge the drainage from 3½ miles of sewers into the slip at the foot of Maple street, connected with the lake. This outlet has not been built, but sewers evidently intended to discharge into it have been extended to the ravine already described, or have been cut off by an 18-inch pipe in College street, extending into the slip at the foot of this street. The other outlet provided for is the one already described in the ravine, and is designed to carry the drainage of about 6½ miles of sewers, besides the storm-water from a large area not sewered. This outlet, already constructed, is a circular brick sewer 6 feet in diameter.



LAKE CHAMPLAIN.

BURLINGTON, VT.,
SEWER MAP.

- Explanation:
- Brick Sewers ————
 - Pipes " - - - - -
 - Stone " - · - · -
 - Covered Water Course - - - - -
 - Open " " - / - / -

SCALE,
0 300 600 900

A.—Table showing statistics of sewerage of Burlington, Vermont, 1880.

Size.	Cement pipe.	Vitrified pipe.	Brick.	Stono.	Total.	Per cent.
Inches.	Feet.	Feet.	Feet.	Feet.	Feet.	
Total	14,410	11,461	4,967	1,600	32,438 = 0.14 miles.	
8	305	925	.....	.....	690	.....
12	9,680	8,599	.....	.....	18,279	56
15	.....	601	.....	.....	601	.....
18	3,840	1,771	905	.....	6,516	21
24	525	105	1,342	.....	2,032	06
30	.....	.....	1,175	.....	1,175	.....
36	.....	.....	820	.....	820	.....
36-48	.....	.....	.....	1,600	1,600	.....
60	.....	.....	125	.....	125	.....
72	.....	.....	600	.....	600	.....
Per cent .	45	35	15	5		

Number of catch-basins, 30.

B.—Table showing cost of sewers built in the year 1880.

Street.	Size.	Length.	COST.				Remarks.
			To city.	To owners.	Total.	Average cost per foot.	
Total		Feet. 3,909	\$1,620 92	\$4,614 03	\$6,235 85	\$1 59	
Saint Paul street.....	12-inch pipe.....	401	460 03	.....	460 03	1 15	Rebuilt.
Bank street.....	12-inch pipe.....	338	.....	394 40	394 40	1 17	
George street.....	12-inch pipe.....	811	.....	905 18	905 18	1 12	
Pern street.....	8-inch pipe.....	110	.....	107 85	107 85	98	
Pearl street.....	18-inch pipe.....	500	} 997 09	2,624 30	3,622 29	2 02	Quicksand caused considerable difficulty and expense.
Pearl street.....	15-inch pipe.....	601					
Pearl street.....	12-inch pipe.....	689½					
William street.....	12-inch pipe.....	458½	102 00	583 20	746 10	1 63	Quicksand and old reservoir.

The average cost of 18-inch egg-shaped brick sewers, heretofore constructed of brick, has been about \$2 50 per linear foot.

Average cost of each inlet-basin and its connection with the sewer, \$100.

Average cost of each manhole, of average depth, \$55.

The statistics of sewers in 1880 are shown in the foregoing table A, from the annual report of the city engineer. This table shows that 45 per cent. of the total length of sewers consists of cement pipe, 35 per cent. of vitrified clay pipe, and the remaining 20 per cent. of brick, from 18 to 72 inches in diameter, except 1,600 feet of stone sewer, 36 by 48 inches. Most of these large sewers are old, and were built before the adoption of a sewerage system. It also shows that nearly 60 per cent. of the total length of sewers consists of 12-inch pipe. This does not indicate short runs of pipe discharging into larger sewers. On account of the rapid rates of fall, 12-inch pipes are extended to a great length; for instance, a 12-inch pipe in Spruce street, with a fall of about 1 in 9, has a length of 2,100 feet, and will probably be extended a considerable distance beyond the present limit. One in Pine street, with a fall of about 1 in 22, has a total length of 4,000 feet. One in College street, with a fall of about 1 in 14, has a total length, including branches, of 4,800 feet.

Sewers are occasionally flushed for the purpose of cleansing them, but deposits of solid matter are formed to little or no extent. No expense is incurred in cleansing sewers except for water used in flushing. The average cost of water thus used is \$20 per year. Sewers are ventilated by holes in the manhole covers. The city engineer, without specific requirement by ordinances, endeavors to have each house-connection ventilated by a pipe on the outside of each building. The mouths of sewers are fully exposed. They deliver into lake Champlain.

The cost of sewers built in 1880 and the average cost of basins and manholes are shown above. It is worthy of note that considerable difficulty was met in constructing sewers on Pearl and William streets on account of quicksand, although these streets are on a steep hill-side, having a surface-slope of about 1 in 20, and are situated only 4,000 feet from the lake and fully 200 feet above its surface. The cost of sewers is borne in part by the city, and the remainder by owners of the adjacent property. Assessments are made according to the judgment of the street commissioners on the basis of benefits.

Property adjacent to a sewer may be drained to it by permission of the city council. If the property to be connected with a public sewer has not already paid its proportionate assessment for constructing the sewer, or if additional buildings have been erected upon it which may increase the sewerage requirements since such assessment was laid, the owner may be required to pay such sum as, in the judgment of the street commissioners, benefit to the property by such drainage would justify. The city council may compel the construction of private drains to a sewer upon the request of the health officer, or whenever in its opinion it is necessary.

CEMETERIES.

There are 5 cemeteries in Burlington, as follows:

Elmwood Avenue Cemetery.—On Elmwood avenue, between Grant and North streets; area, 5 acres.

Green Mount Cemetery.—About $1\frac{1}{4}$ mile northeast of the business center of the city; area, 10 acres.

Lake View Cemetery.— $1\frac{1}{2}$ mile northwest of the business center; area, 30 acres.

Mount Saint Joseph Cemetery (Catholic).—Between Archibald, First, North Willard, and North Prospect streets; area, 8 acres.

Calvary Cemetery (French-Catholic).—Opposite Mount Saint Joseph; area, 3 acres.

Interments are permitted in all of the above, but no additional lots are sold in Elmwood Avenue cemetery. For a long series of years no record was kept of the interments in the several cemeteries, the following being the number so far as known: Lake View, 810; Mount Saint Joseph, 1,552; Calvary, 136; Elmwood Avenue, 19; Green Mount, 46. This record is from 1860 for Mount Saint Joseph; 1868 for Lake View; 1878 for Calvary; and 1879 for the other two. Burial permits are issued by the health officer on the certificate of the attending physician, and, in the Catholic cemeteries, a permit from the priest is required. Green Mount cemetery is the oldest. The lots range in price from 7 to 25 cents per square foot, and vary in size from 100 to 500 square feet. The lots in Lake View cemetery are sold for about the same price.

MARKETS.

At present there are no public or corporation markets in the city. In 1869 a one-story brick market building was erected by the city on market square, on Winooski avenue between College and Main streets. The building was 109 feet long, 50 feet wide, contained 16 stalls, had a cemented cellar, and cost \$5,000. The lot contained $1\frac{1}{2}$ acre, and the portion not covered by the market-house was used as a standing-ground for wagons. After one or two attempts at renting the building as a public market, the city, owing to the opposition developed, abandoned the enterprise and devoted it to other purposes—the open space being now used as a place of sale for all hay, wood, coal, etc., hauled into the city.

SANITARY AUTHORITY—HEALTH OFFICER.

The chief sanitary authority of Burlington is vested in the health officer, who is appointed annually by the city council. He is independent so far as the execution of the duties of his office is concerned, but the council can remove him at any time for cause. His salary varies, being fixed each year by the council, and in addition he receives 25 cents for each certificate of birth and death and each burial permit issued by him. The health officer employs no assistants, neither has he any police powers, but he can call on the police force for any assistance he may need. It is not necessary that the health officer should be a physician, but during the past two years a physician has filled the position. The expenses, in the absence of any declared epidemic (1880), are \$500 for salary, postage, advertising, etc. In case of an epidemic the increase of expense is not limited. In the absence of an epidemic the health officer has authority to make all necessary regulations for the removal of all sources of filth and disease. During the prevalence of an epidemic he has authority to adopt and summarily enforce such measures as he may deem proper. Inspections are generally made only as nuisances are reported, but occasionally they have been made in all parts of the city. When a nuisance is reported the health officer makes an inspection, and, if found to exist, orders its abatement. The same mode of procedure is observed in all cases of defective house-drainage, privy-vaults, cesspools, etc. Street-cleaning is under charge of the street commissioners, subject to the orders of the health officer. The health officer also has control over the conservation of garbage, and, in some parts of the city, over its removal; he also issues all burial permits and keeps the records. A city ordinance prohibits the pollution of streams and harbor, and the health officer sees that the ordinance is not violated.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home, or sent to the pest-house about 2 miles from the city. If the former place is adopted, placards are usually placed on the house stating the fact. Scarlet-fever patients are isolated at home to some extent, not in a compulsory way, but by the advice of the health officer. Children from

infected houses are prohibited from attending schools as long as any danger from contagion exists. Vaccination is not compulsory, and it is done at the public expense when there are cases of small-pox. Physicians are required to report all cases of a contagious nature to the health officer.

REPORTS.

The health officer makes an annual report to the city council, and it is published with the city documents. He also issues a monthly circular of all marriages, births, and deaths.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and by its own regular force. The work is done wholly by hand, no sweeping-machines being used. The streets are cleaned four times during each season, and the work is thoroughly done. No separate account is kept of the cost, it being included in the regular street appropriation. The sweepings are deposited in different places, some being used for manure.

Dead animals.—The carcass of any animal dying within the city limits is required to be removed by the owner and buried. If the owner fails to do it the city performs the work. There does not appear to be any ordinance regarding the matter, nor was the annual cost to the city stated.

Liquid household wastes.—A large portion of the liquid household wastes in Burlington is run into the sewers, and the balance, where sewers do not extend, is thrown into cesspools and privy-vaults, a very small portion only finding its way to the street-gutters. The cesspools are required to be water-tight, are not provided with overflows, in some cases receive the wastes from water-closets, and are cleaned in the same manner as privy-vaults. The street-gutters are flushed when they need it. As the larger portion of the city is supplied with drinking-water from the water-works, no contamination of wells from the escape of the contents either of vaults or of cesspools is reported.

Human excreta.—All houses on the sewer lines, and some off of them, are provided with water-closets—the latter delivering into cesspools—while the rest depend on privy-vaults. The vaults must be at least 20 feet from any occupied dwellings, must be built water-tight, and must not be allowed to become offensive. The time and manner of cleaning them is provided for by the health officer. There are no special regulations as to the ultimate disposal of the night-soil, except that it is not allowed to be used as manure on land within the gathering-ground of the public water-supply. The dry-earth system is used only to a small extent.

POLICE.

The police force is appointed annually by the mayor, and is governed by him. The chief of the police is the executive officer of the force, has general supervision and command of the same, and administers the service in accordance with ordinances making the usual provision. His salary is nominal, being contingent on fees. There are 9 regular patrolmen, at \$2 a day each, and 40 special policemen, who receive the same pay when on duty. The uniform consists of a navy-blue frock-coat, vest, and trousers, with cap and regulation buttons, with the letters "P. C." on them. The men provide their own uniforms. The cost complete is \$35 for the full suit. Each policeman is equipped with a black-leather belt, a 22-inch baton, a police whistle, pistol, etc. The hours of service are all night, the force being divided so as to take alternate nights. The policemen do not have regular beats, but cover all the streets of the city while on duty.

During the past year there were 490 arrests made, the principal causes being for intoxication, selling liquor, larceny, breach of the peace, and violation of the city ordinances. The disposition was either by fines or by commitment to the work-house. No record has been kept of the amount of property lost and stolen and reported to the police, or of how much was recovered and returned to the owners. There were 441 station-house lodgers during the year, as against 414 in 1879. The force is required to co-operate with the fire, health, and building departments. Private watchmen are not appointed by the city, but when called upon for duty are expected to respond. The total cost of the police for the past year was \$3,432 10.

FIRE DEPARTMENT.

The annual report of the chief engineer for the year ending December 31, 1880, gives the following regarding the fire department of Burlington:

The force of the department consists of 306 men, as follows: 1 chief and 3 assistant engineers, 1 engine company of 86 men and 1 of 55 men, 2 hose companies of 32 men each, 1 of 21, and 1 of 20 men, and 1 hook-and-ladder company of 56 men. The apparatus consists of 2 hand-engines, 1 hook-and-ladder truck, and 6 hose-carts. There are 1,840 feet of hose in use, much of which is reported as in poor condition. There is also an independent force, unattached to the city fire department, but responding to all alarms, consisting of 3 hose companies—1 of 47, 1 of

32, and 1 of 25 men, making 104 in all. The fire-alarm telegraph is reported in good order, with 15 street signal-boxes. The average annual appropriation for the department is \$3,000. During the past year insurance to the amount of \$9,305 23 was paid on account of fires in the city.

PUBLIC SCHOOLS.

The report of the superintendent of public schools for the year 1880 shows an aggregate enrollment of 1,067 pupils, the average attendance being 867, or slightly over 81 per cent. Total number of teachers 34, including 1 for drawing; and total annual expense \$9,628 63. The following table gives the school statistics for the past year in detail:

Schools.	WINTER TERM.						SPRING TERM.						FALL TERM.								
	Number enrolled.	Daily average attendance.	Attendance, per cent.	Number of instances of tardiness.	Number of dismissals.	Number of scholars with no absences.	Number of visits received by school.	Number enrolled.	Daily average attendance.	Attendance, per cent.	Number of instances of tardiness.	Number of dismissals.	Number of scholars with no absences.	Number of visits received by school.	Number enrolled.	Daily average attendance.	Attendance, per cent.	Number of instances of tardiness.	Number of dismissals.	Number of scholars with no absences.	Number of visits received by school.
All schools	1,053	879	83	490	82	181	235	982	830	84	472	80	200	230	1,105	892	77	782	143	121	221
High	93	86	92	42	12	26	8	80	73	91	30	18	26	10	91	84	92	64	25	17	18
Grammar	148	133	89	50	8	38	40	131	117	89	65	4	22	23	158	135	88	60	12	33	19
Grammar "annex"															36	30	83	67	9	4	10
Pine Street intermediate	92	81	88	51	3	19	15	84	70	83	17	3	19	20	77	64	83	48	3	8	19
Pomeroy intermediate	96	83	80	25	13	12	17	86	77	89	33	7	15	16	91	76	83	88	10	11	8
Adams intermediate	40	30	84	23	6	8	26	45	38	84	26	17	7	13	47	38	80	20	16	2	17
North and Main Streets intermediate	27	23	85	6	2	3	13	22	20	90	8	7	7	21	33	28	84	17	8	9	8
Pine Street primary	93	82	88	39	8	10	35	121	104	85	37	4	22	44	128	100	78	57	8	14	40
Pomeroy primary	97	78	80	43	9	16	38	114	99	86	22	6	27	29	124	97	78	62	7	6	37
Adams primary	90	77	85	73	1	19	20	112	92	82	100		25	9	114	74	64	122		7	12
North and Main Streets primary	71	60	84	55	5	0	8	99	75	75	48	2	22	21	82	65	79	46	2	8	15
Falls intermediate and primary	59	43	72	19	12	11	12	68	48	70	31	14	9	21	60	30	65	43	15	1	7
North Avenue intermediate and primary	23	20	86	55	3	4	3	20	17	85	46	7	5	3	18	16	88	54	21	1	7
Ungraded day	35	20	57												15	5	33	39			1
Ungraded evening	40	21	52				5								73	34	43				2
Falls evening	43	33	76												28	13	56				1

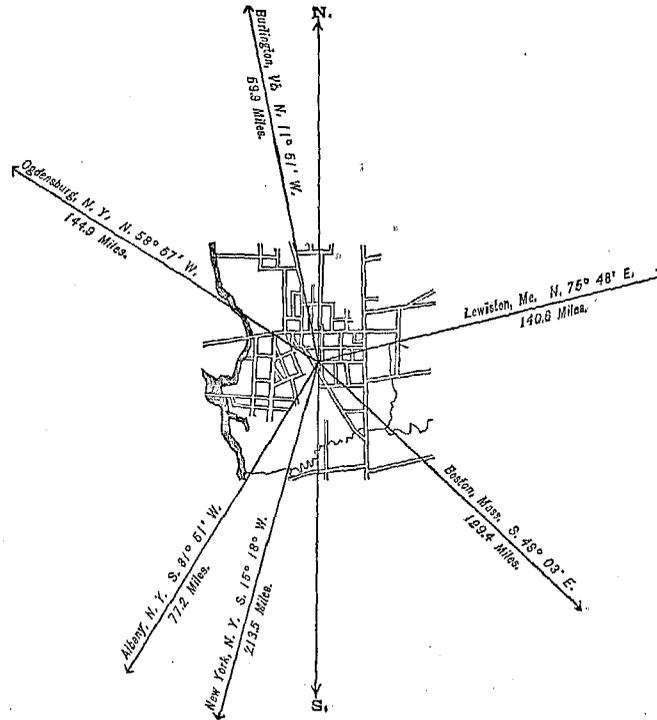
RUTLAND,

RUTLAND COUNTY, VERMONT.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	
1800.....	2,125
1810.....	2,379
1820.....	
1830.....	2,753
1840.....	2,708
1850.....	3,715
1860.....	7,577
1870.....	9,834
1880.....	12,149



POPULATION

BY
SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male.....	6,181
Female.....	5,968
Native.....	9,401
Foreign-born.....	2,748
White.....	12,086
Colored.....	63

Latitude: 43° 37' North; Longitude: 72° 57' (west from Greenwich); Altitude: Average, 500 feet.

FINANCIAL CONDITION:

Total Valuation: \$3,292,183; per capita: \$271 00. Net Indebtedness: \$202,460; per capita: \$16 66. Tax per \$100: \$2 18.

HISTORICAL SKETCH. (a)

Rutland, the shire town of Rutland county, was chartered September 7, 1761, by the governor of the province of New Hampshire. A charter was granted for the same territory under the name of Fairfield by the governor of New York about the same time. The final adjustment of what was known as the "land-title controversy" decided the New Hampshire charter to be the valid one. The records fail to show that any portion of this section of Vermont had been visited by white men prior to 1730; but there is little doubt that for many years previous to this date the line of travel from fort Drummer, in Massachusetts, to Canada, passed this point—Otter creek and Castleton and Cold rivers forming convenient routes. In 1730 one James Coss, who was traveling along Otter creek with a

a The following sketch is taken from Childs' *Rutland City Directory*.

party of Indians, seems to have been struck by the advantages for settlement offered by the surrounding country. In 1759 the old military road from Charleston, New Hampshire, to Ticonderoga and Crown Point, being pushed forward to completion, crossed Otter creek at a point that is now occupied by the center of the town. Ten years later, or eight years after the granting of the charter, the first white man settled in Rutland, and 35 families had had moved in and become permanent settlers by 1774.

During the war of independence the Vermont troops, or, as they were then known, "Green Mountain Boys", built two forts at Rutland capable of holding 100 men each, and they did good service in checking incursions of the enemy, and at the same time in keeping communication open between the eastern part of the state and lake Champlain.

For many years Rutland was strictly a farming community, and no untoward events occurred to break the usual steady progress of an inland New England village, until the development of the marble quarries and the establishment of large manufacturing interests gave it an impetus and rapidly raised it in population and wealth. The marble quarries of Rutland tend in no small degree to its present prosperity.

In the west parish of the township, some 80 rods from the railroad, a low range of hills rises to a height of about 200 feet above the low wet valley. On the western slope and near their base crops out the "Rutland marble". It was here, in 1838, that one William F. Barnes began calcining this marble into quicklime. It soon occurred to him, however, that his "limestone" would work up well into tombstones, and with this end in view he purchased for \$75 the lands on which are now situated quarries that are valued at millions. Just before his death Barnes sold his land for \$130,000.

In the beginning the business was small, as the blocks had to be hauled by team to the nearest shipping point, Whitehall, New York, a distance of 25 miles. The completion of the railroad in 1851 gave better facilities for the marble to reach a market, and the industry rapidly increased; new capital came in, works were enlarged, machinery was improved, and now some 2,000 men find employment in the quarries.

The manufactories of Rutland may be considered as the chief cause of her advancement. Besides the marble-works, and factories for the production of all classes of machinery and tools used in the quarrying and working up of the marble, there are the Howe Scale Company, the Rigby Combination Car Wheel Company, boiler and button factories, lumber-mills, etc. Of these the Howe Scale Company are the largest and most important. They were removed hither from Brandon, Vermont, in 1877, and now occupy some 10 acres of land at the junction of the Central Vermont and the Bennington and Rutland railroads, being built in the form of a triangle. They give constant employment to 500 operatives, and the products are shipped to nearly all parts of the civilized world.

There have been three large fires in this village, one in 1845 that destroyed much property, and one in the following year that swept off several buildings. The amount of money lost in either can not be given. In April, 1868, the largest fire occurred, the amount of property destroyed being estimated at \$50,000. The original population was from New England, and although about one-third of the present population is foreign-born, the descendants of the early settlers are largely in the majority. Rutland is still under a village charter. Its present condition is indicated by the following statistical accounts collected by the Census Office.

RUTLAND IN 1880.

LOCATION.

Rutland lies in latitude 43° 37' north, longitude 72° 57' west from Greenwich, on Otter creek, the principal stream in the state, 67 miles south-southeast from Burlington, and 55 miles south-southwest from Montpelier. The average altitude above mean sea-level is 500 feet. Otter creek is navigable for lake vessels a few miles above its mouth, but not at the town.

RAILROAD COMMUNICATIONS.

Rutland is touched by the following railroads:

The Central Vermont railroad, termini Bellows Falls and Saint John's, gives connection with Montreal on the north and Boston and New York on the south.

The Bennington and Rutland railroad, to the former place.

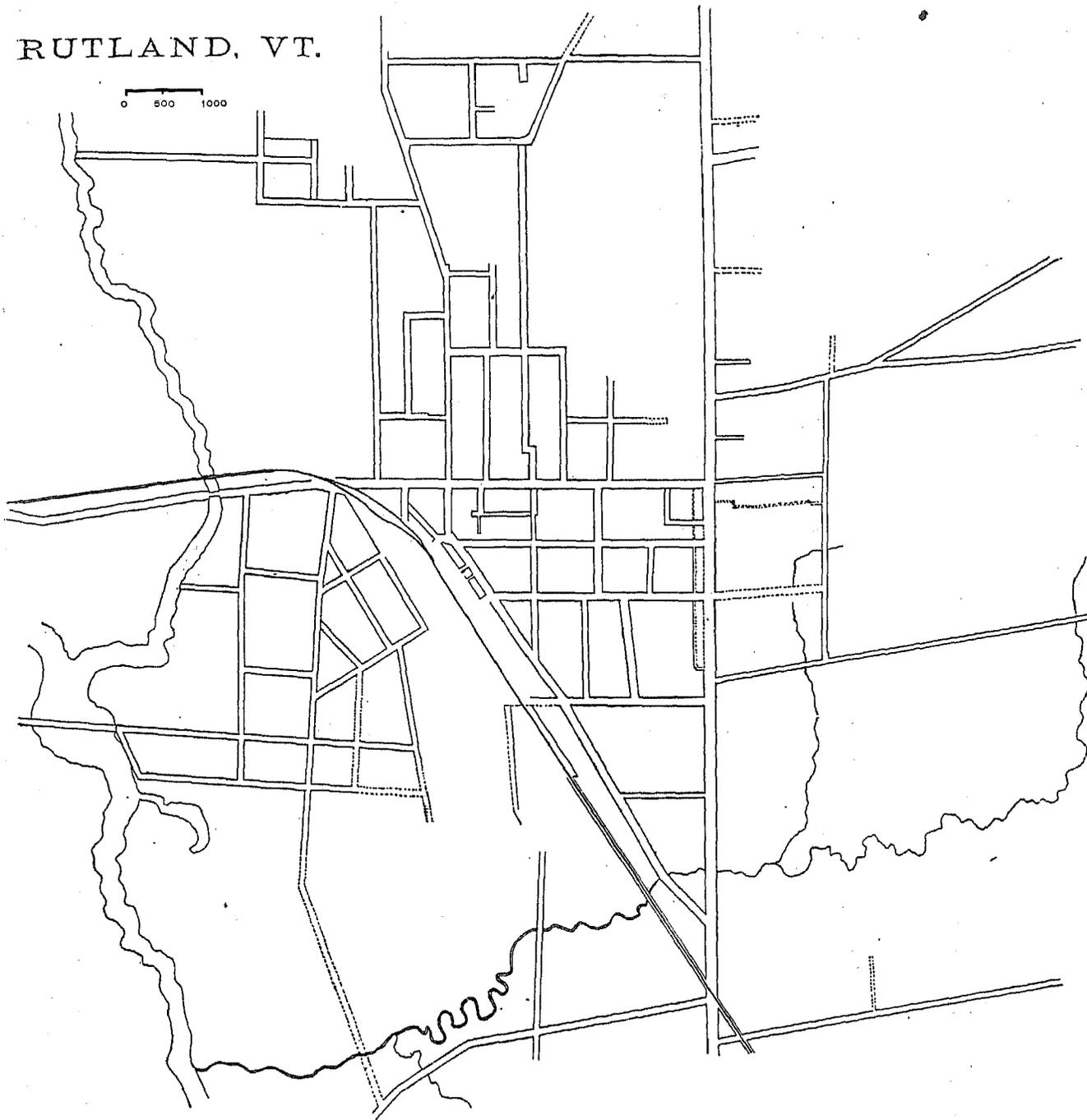
The Delaware and Hudson Canal Company railroad, to Whitehall, New York, connecting there with Troy, Albany, the West, New York, and down the west side of lake Champlain to Montreal.

TRIBUTARY COUNTRY.

The country immediately tributary to Rutland is mainly agricultural. The soil embraces a variety of clay loam and light sand, and is very productive. Hay is the principal crop, while corn, oats, rye, and wheat are produced in considerable quantities. Most of these products are taken for home consumption, though shipments

RUTLAND, VT.

0 500 1000



of potatoes are made to Boston and New York markets. The village has considerable local trade with West Rutland, 4 miles distant, where the marble quarries are situated, with Pellsford and Brandon on the north, Castleton on the west, 10 miles, Clarendon and Wallingford on the south, and Meriden on the east, these last being an farming communities. In addition to the products of the soil, a great deal of lumber comes from Meriden and Shrewsbury.

TOPOGRAPHY.

Rutland has an area of about 26,000 acres, and lies on Otter creek, a stream flowing through the center of the township from south to north and dividing it into two nearly equal parallelograms. The average elevation above mean sea-level is 500 feet, the eastern and southern portions being quite level, while the balance is more or less hilly; in the western portion some of the hills rise 200 feet above the surrounding plains. The valley of Otter creek is a fine level interval of as good farming land as can be found in the state. The soil presents all the varieties from heavy loam to a light sand. Among the useful minerals are found considerable quantities of iron, and superior clay for bricks, and an abundance of lime in almost all its forms. In the west part are the quarries of white and clouded marble. There are but few marshes, and the country is generally open.

CLIMATE.

The highest recorded summer temperature is 93° (July 10, 1880). The lowest recorded winter temperature is -15° (February 2, 1880). The highest summer and the lowest winter temperature in average years was not obtainable. There do not appear to be any unhealthy influences from the few marshes in the vicinity, but in the opinion of some physicians malaria seems to be slowly creeping up Otter creek. The Green mountains break all easterly winds, while the elevation gives purity to the atmosphere.

STREETS.

There are 17 miles of accepted streets in the village proper, and all are made of gravel, at a cost of 75 cents per square yard. Broken stone has just been introduced, and it is the intention to finish the principal streets with this material, but so far not enough has been laid on which to base a report. The sidewalks are of concrete or asphaltum, marble, slate, gravel, and brick. Gutters in the business portion are paved; in the other streets the sides of the roadway are made low enough to form natural gutters. Trees are planted by householders, not only on their own premises, but on the streets, much care and attention being given to setting them out. On most of the streets there are grass-plots, 3 or 4 feet wide, between the walks and the road-bed, and kept trimmed by the abutters, and which, on some of the streets, being nicely kept, present a very pleasing appearance. Repairs to streets, walks, and gutters are attended to by the street commissioner, who is elected annually by the people and receives pay for actual services performed. About \$5,000 a year is expended on the streets for all purposes. Much of the work is done by contract, such as building new streets, etc., but the preference seems to be for day work for the balance. A stone-crusher has been recently purchased, run by a Chicago motor of 8 horse-power, but so far it has not proved satisfactory, and it is believed that a steam-engine of from 15 to 20 horse-power will be required properly to perform the work. There are no street-railroads or omnibus lines in the town. There is one 2-horse public hack that carries passengers to any part of the village for the uniform price of 25 cents each, the total number carried in a year being estimated at 3,000.

WATER-WORKS.

The water-works are owned by the village, and cost \$100,000. Water is taken from East creek, some 3 miles from Rutland, and after first flowing into settling-vats—each 45,000 gallons capacity, where any sediment is precipitated—passes thence into an aqueduct, and is taken to the village by gravitation, the pressure averaging 65 pounds to the square inch. The yearly cost of maintenance is \$2,300; yearly income from water-rents, \$11,500; total number of water-takers, about 900; and average number of gallons used daily, 800,000. There are 12 miles of cast-iron mains, 47 hydrants, 8 fountains, and 7 water-motors in use. Water-meters are not used. In the matter of collecting water-rents, the auditor recommends that payment hereafter be strictly in advance.

GAS-WORKS.

The gas-works are owned by a private corporation. The average daily production is about 12,330 cubic feet. The charge per thousand feet is \$3. The village pays \$10 per annum for each street-lamp, 80 in number. The annual income from meter-rates is given at \$12,000.

PUBLIC BUILDINGS.

The village owns and occupies for municipal uses, wholly or in part, 1 town and village hall, 1 engine- and hose-house, and the school-houses, the total cost being put at \$62,000. The town hall was built by the town and the village, and is owned in common. The total cost was \$10,000, the amount paid by each not being given.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There is one public park, called *Court Square*, which was donated to the village by one of the original settlers. It is fenced in, well shaded with trees, and is much frequented in summer evenings, when music for the people is often provided. It has an area of 10 acres, and the yearly cost for maintenance is merely nominal. No record is kept of the number of persons who annually visit the park.

PLACES OF AMUSEMENT.

There are no regular theaters in the village. The Rutland opera-house, with a seating capacity of 1,000; town hall, with a seating capacity of 800; and Baxter's music hall, with a seating capacity of 500, are used by all traveling companies, and for lectures, meetings, balls, etc. The halls pay no license, but all transient exhibitions are required to pay for each exhibition. The yearly income from this source to the village averages \$150. There are no concert- and beer-gardens.

DRAINAGE.

The sewerage of Rutland seems to be carried out as the needs of the village may require, no regular system being observed. No plan of the village, with existing sewers, contour lines, etc., could be obtained. The first regular laying of sewers began in 1870. Long before this, private drains, constructed according to the fancy or means of the several householders, had been laid, and as early as 1853 the water-courses had begun to be troublesome. Since 1870 sewers have been built, and are now being built, according to the service supposed to be required of them, and up to the present time about one-third of the existing private drains have been connected. The only means of ventilating the sewers are by wells and pipes. The sewers deliver into Otter and East creeks, their mouths being on the water-line, while the discharge is taken off by the currents. So far it has not been found necessary to remove deposits, nor has any flushing of the sewers been resorted to. The water-works have recently been connected with the main sewer, so that in future complete flushing can be obtained when needed. Thus far nearly all the sewers have been paid for from a general appropriation. In some cases the abutters have paid a certain portion of the cost, either by an agreement among themselves or by an assessment based on the value of the property. At present the whole matter of paying for service is under consideration, and some plan satisfactory to all will no doubt be adopted before long. From the last annual report of the trustees it seems that there were several suits pending in the county court against the village in consequence of bad sewerage, and known as the "sewer suits", but, as the sewers are reported to be generally in good condition, the trustees do not apprehend any more trouble. During the past year the total cost of all sewers built was \$9,500. The work was done by contract, but the number of feet laid is not stated. The dimensions are 3 by 4 feet, the bottom being laid with planks 2 and 3 inches thick, the sides built 2 feet with stone, and a brick arch forming the crown, thus giving 4 feet diameter in the center line. The average cost of inlet basins and their connections with the sewers could not be obtained. The average cost of each manhole of average depth is given as about \$20.

CEMETERIES.

There are 10 public cemeteries, 3 of which are very obscure, and 2 private ones, one of which is nearly obliterated, within the limits of the township.

The oldest cemetery is 2 miles from the village, in Center Rutland, is an acre in extent, is well fenced, and has been in use over 100 years. But few interments have been made in it for the past 25 years. It is not full.

The next oldest is the *North Cemetery*, situated half a mile north of the village; area, an acre and 48 rods. It has been in use 97 years, and is not full, but few interments having been made there in the last 50 years.

Another cemetery is situated in West Rutland, and has been in use about 95 years. It is crowded to excess, and the graves are often opened, the remains of an occupant being thrust aside to make room for the new one.

The *West Street Cemetery*, on West street, within the limits of the village, area 3 acres, has been in use 64 years, and is now nearly full. It has three unsightly receiving-tombs, but could be made a beautiful place at small expense.

Evergreen Cemetery, near the center of the township, about 2 miles from the village, is the largest, and has been in use some 20 years.

This and the *West Rutland Catholic Cemetery*, about 4 miles from the village, area 5 acres, are kept in good taste, and stand next to Evergreen in beauty and artificial adornment.

There is also the *West Street Catholic Cemetery*, area 3 acres, near the West Street cemetery.

The locations of the other 4 cemeteries are not given.

Interments are made in all these, except the private one mentioned as nearly obliterated, and the total number to the end of 1880, as nearly as could be ascertained, was: Evergreen, 797; West Street Catholic, 435; West Rutland Catholic, about 600. No record has been kept of the others. No limit of time is required for burial after death. Graves must be 5 feet deep, and no disinterment is allowed in any cemetery without a permit in writing

from the civic authorities. No regulations regarding interments or the management of the cemeteries could be obtained. In Evergreen, the only private corporation cemetery, the lots are sold at a uniform price of 12½ cents per square foot. No fences or hedges are allowed, and roads follow the valleys. The excessive planting of flowers is discouraged; green grass is the basis of ornamentation.

MARKETS.

There are no public or corporation markets in the village.

SANITARY AUTHORITY.

There is no board of health in the town, the trustees performing all duties generally connected with a health organization. The annual expenses, if any, are included in the current expenses of the town, while the ordinances make no provision for an increase in time of an epidemic. In ordinary times the trustees exercise a general supervisory power, and in case of an epidemic would have, under the village charter, full power to enact any ordinances deemed necessary in the matter. There is no general practice regarding inspections; an inspection is made annually, and then nuisances are disposed of as reported from time to time. When a nuisance is reported it is referred to the trustee of the ward or to a special committee which reports to the board, which has power to abate nuisances. There seems to be no fixed custom concerning the inspection and correction of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, etc. The trustees have full power over the conservation and removal of garbage. There are no regulations concerning the burial of the dead, it being under state law and in control of the selectmen of the township.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home or taken to a pest-house situated some miles beyond the village limits, this being regulated by state law. Scarlet-fever patients are quarantined at home generally, there being no regulation respecting the matter. Contagious diseases in the schools are under the direction of the board of education, which, however, cannot control the treatment of the cases. Vaccination is neither compulsory nor done at public expense. The system of registration of births and deaths is prescribed by state law. The clerk of each school-district takes a list of all births and deaths annually, in the month of January, reports them to the town clerk, and the latter sends the list to the secretary of state. The trustees of the village make no reports as a board of health.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the abutters, each one in front of his premises. When they fail to do it the street commissioner does the work with his force. The cleaning is done only when severe storms fill up the wells of the sewers, or ice and snow so clog the gutters that the surface-waters can not run off. No separate account of this work is kept. The refuse is dumped outside the village limits, generally on some low place. It is the intention of the street commissioner to have the streets and sidewalks kept clean hereafter.

Removal of garbage and ashes.—This is done almost entirely by the householders, the village removing only what is thrown into the streets. The conservation of garbage while awaiting removal is unregulated, except that it is not allowed to become a nuisance, and no custom prevails as to its disposal, except that it must not be thrown into the street. No estimate of the cost of removal to the town or householders could be obtained. There is no report of any nuisance or probable injury to health resulting from the improper handling, keeping, removing, or disposing of garbage.

Dead animals are usually buried outside the limits of the village by the owners, but if they fail to do it the trustees have the work performed. No regulations or ordinances have been made on the subject.

Liquid household wastes.—The sewers of Rutland take off about half of the liquid household wastes, the remainder being deposited in cesspools or privy-vaults, none being allowed to go into the gutters. The cesspools are generally porous, generally unprovided with overflows, and no ordinance or regulation governs their construction or cleansing. Street gutters are not flushed, and no contamination of drinking-water results from the underground escape of the cesspools and privy-vaults, as the people depend for water on the water-works and not on wells.

Human excreta.—About 25 per cent. of the houses have water-closets, all of which connect with the sewers, and the remainder depend on privy-vaults. It is not known what proportion of these vaults are nominally water-tight, as, no ordinances regulate the construction, and each householder uses his own system of cleansing. Most of the night-soil is taken beyond the village limits and disposed of, none being allowed to be used as manure on land within the gathering-ground of public water-supply.

Manufacturing wastes.—What little liquid wastes the manufactures of the village produce pass into the sewers.

SOCIAL STATISTICS OF CITIES.

POLICE.

The police force of Rutland is appointed and governed by the board of trustees, and consists of 1 chief of police, who receives fees for all arrests, and \$2 a day when on duty; 4 assistants, with the same pay; and 2 night police, at \$45 a month each. Each man provides his own uniform, which consists of a blue suit and brass buttons, and each one carries a 12-inch sole-leather police club. They are on duty from 6 p. m. to 6 a. m., and each man patrols about 2 miles of street. The number of arrests during 1880 could not be obtained. No property lost or stolen was reported to the police, nor were there any station-house lodgers. The police must co-operate with the fire department at all fires. Special policemen are appointed by the trustees for all holidays when there is liable to be a crowd of strangers. The expense of the force for 1880 is given at "about \$1,000".

FIRE DEPARTMENT.

The department consists of 1 chief and 2 assistant engineers and 248 men, with the following apparatus: 1 steamer, 2 hand-engines, 1 hook-and-ladder truck, and 4 hose-carriages. There are 1,550 feet of hose in use, 500 feet of which is good. There were but three fires in Rutland during the six months ending December 31, 1880. The department is appointed and governed by 7 fire-wardens, one from each ward, elected annually by the people. They appoint the chief engineer, who is the executive officer, and who administers the service according to the ordinary rules and regulations.