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ADDRESS OF MAYOR BELKNAP.

GENTLEMEN OF THE CITY COUNCIL :—

In obedience to the expressed wish of the people, we are convened for the purpose of receiving, in due form, from their hands, important trusts to be held during the year, with varied and difficult duties to perform, which affect the present and future prosperity of our young and growing city. The responsibilities which we are about to assume are of such magnitude that their acceptance by us carries with the act the strongest obligations to be faithful, honest, and untiring in our efforts to advance the interests of the city and promote the happiness of its people.

Our fellow-citizens have given us assurance of their esteem and confidence by generously committing to our care these vital interests, and have conferred upon us the honor and distinction which attach to the several positions to which we have been elected.

During the past year the city has been exempt from contagious disease, from destructive conflagrations, and peace has been within her borders; for all these blessings we have reason to render unto Him, "who doeth all things well," our sincere and heartfelt praise.

The inhabitants have borne the general depression which has settled upon the nation with courage, patience, and resignation, which shows that they still retain the elements of success, and their ability to recover their former prosperity whenever an opportunity offers, and to keep pace in the future with other municipalities in all that is essential to the successful conduct of her government.

Custom makes it my duty to give you a brief statement of the present condition of the several departments of the city government, leaving to those in charge of them the work of furnishing such statistical information as you may require, from time to time,

to enable you to gain a more full and comprehensive knowledge of the affairs you are called upon to administer.

The first, and perhaps the most important subject that claims your attention is the financial condition of the city, which may be stated as follows:—

On the 1st of January, 1876, the funded debt was \$1,571,854, the temporary loan, \$295,000; making an aggregate indebtedness of \$1,866,584. Of the funded debt, \$171,000, drawing interest at six and one half and seven per cent, matured in 1876. This portion of the debt has been provided for by paying a sidewalk bond of \$10,000 by taxation, and by renewing \$161,000 at five and one half per cent, for the term of nine to twenty-nine years, according to the nature of the loan.

During the year 1877, there will come due \$175,000 of the funded debt, which has carried interest at six and one half to seven per cent. Of this amount \$165,000 has been anticipated in 1876, by a loan placed at five per cent on a term of eighteen and a half years. These bonds were sold at a handsome premium, which is conclusive evidence that the financial condition of this city is regarded by capitalists as entirely sound.

Until the maturity of that portion of the debt which falls due this year, the \$165,000 takes the form of funded debt, and makes this loan now stand \$1,771,854, to which add temporary loan of \$110,000, and you have an aggregate of \$1,881,854 for the first of January, 1877.

To meet this there are uncollected taxes for 1873,

1874, and 1875, amounting to about . . .	\$69,000 00
Taxes for 1876, amounting to about . . .	187,630 40
Highway betterment assessments, of about . . .	59,461 65
Sidewalk assessments, of about . . .	2,865 92
Real estate liens, of about . . .	8,976 67
Broadway Park assessments, of about . . .	46,256 36
	<hr/>
	\$374,191 00

This amount deducted from the aggregate loan leaves \$1,507,663 to be provided for in the distant future by taxation, unless some of the public property can be disposed of to meet a portion of this amount. The assessments for public improvements are subject to

such abatements as may be made, from time to time, by the Board of Aldermen or by the Courts.

Sufficient money ought to be collected from assessments, between now and the maturity of the \$165,000, to meet this payment. If not, that portion not provided for by collections will again take the form of temporary loan, until money is received from these assests.

A sidewalk bond of \$10,000 comes due this year, which has not been anticipated, and which ought to be paid by taxation.

A loan of \$10,000 for the extension of the Water Works has been negotiated at five and one half per cent, on a term of twenty-nine years ; also, one of \$35,000 for the construction of the trunk sewer to West Somerville, on a term of twenty years at five per cent.

Agreeably to the provisions of the law regulating municipal indebtedness, a Board of Sinking Fund Commissioners has been elected, consisting of Nathan Tufts, John A. Hughes, and Samuel A. Carlton, and they have organized in form.

The first assessment for the sinking fund was made in 1876, amounting to \$45,130, which is in charge of the commissioners, and is in the form of an unnegotiable bond with coupons attached.

The resignation of Samuel A. Carlton as one of the commissioners has been accepted, and Henry F. Woods has been elected to fill the vacancy.

The city of Somerville will not have to appear in the money market as a borrower for permanent loan for two years, unless some new improvements are entered upon on a scale so extended as to exceed the utmost limit of taxation. With a careful and judicious management of the sinking funds, such as may reasonably be expected, judging from the character of the men selected for this important trust, the funded debt, the payment of which must be provided for under the law to regulate and limit municipal indebtedness by annual contributions, raised by taxation to the credit of the sinking fund, will be provided for as it matures.

By negotiating loans to the amount of \$326,000 at five and five and one half per cent, which have drawn six and one half and seven per cent, an item of interest will be saved amounting to about \$6,500 annually.

The assessors have reduced the valuation some four and three fourths millions, which is about as much as it will bear at present.

Radical changes are as unhealthy as stolid conservatism in the conduct of municipal affairs; both should be studiously avoided. Dating back a year, there is a noticeable but not very marked improvement in general business. If this condition of things continues, a stand may be made and successfully maintained at the present valuation.

The rate per cent may be materially reduced this year, unless new enterprises requiring large outlays are urged by the people. The estimates for the current year are made up in the month of March; these are based upon the requirements for running expenses, and the improvements asked for. The current expenses are a known and nearly a fixed quantity, which cannot be materially changed; the improvements are in the hands of the people, and the cost of them may be increased or lessened at their pleasure.

Complaint is frequently made that property is not valued at its selling price. When the market for real estate is steady and uniform, values may be estimated with a tolerable degree of accuracy; but when it is as irregular as it has been the past year, no one can tell at what price property will sell, especially landed property.

By request of the assessors the appointment of a Joint Standing Committee from the City Council to confer with them on all matters relating to taxes is recommended.

SCHOOLS.

The number of pupils in all the schools in December, 3,974, number of schools 79, of teachers 88. Salaries of lady teachers in the Primary and Grammar schools: first year, \$375; second, \$475; third, \$575; fourth and subsequent years, \$650. It will be seen that the salaries are made to conform to the experience which the appointee brings to the position.

The schools are all in a very satisfactory condition; while it will not be claimed that they are superior to those in other cities, they are not inferior.

The question how best to educate the young, is one that has engaged the attention of wise men in all ages, and at this late day is as far from a satisfactory solution as it was centuries ago. It is a question of vast importance, especially in a free country where the permanence of its institutions depends upon the virtue and intelligence of the people. Educated men view this subject from an intellectual, and business men from a more practical, standpoint.

Both parties think themselves right in their views. The young child is taken by the schools and led on, step by step, through the long labyrinth of studies until he is fitted to enter any of the various institutions of learning in the country. So far it entirely meets the wants of a class of pupils who intend to enter professional life.

Of the pupils in the schools less than one in a hundred graduates from the High School annually. Taking a business view of this subject, it would seem as if some plan might be adopted by which the others may be brought up to a point nearer that attained by the graduates.

If a two years' course of study can be introduced into the High School to embrace those studies which are useful in the general management of business, and which are calculated to develop the youthful mind for that occupation, many of the young men who intend to become merchants and who desire to stand at the head of their profession may conclude to pursue this course. And I submit that a young man taking such a course for two years, then spending the two remaining years, that are now spent in the High School, under the tuition of a thorough and successful business man, would, at the expiration of the four years, be further advanced in his calling and better prepared to meet the responsibilities of life than if he had pursued the present four years' English course of study.

Pupils enter this school at a very critical period, when they are forming character for life. They establish a bad precedent when they leave before the prescribed course of study is completed. In entering upon a work, every one ought to have some definite object in view, and then labor for its accomplishment, and not leave nor forsake it until the end is attained. Success strengthens, emboldens, and encourages one to attempt greater and more important undertakings; while failure enfeebles, enervates, and discourages. It were better to attempt half, and succeed, than attempt all and fail, or fall out by the wayside. The School Board is respectfully asked to consider this subject.

There has been a great increase in the expenditure for school books for pupils whose parents neglect to furnish them. In some instances, owners of real estate to a considerable amount have allowed the city to provide their children with books. This inclination to throw upon the city burdens which ought to be borne by

individuals deserves a rebuke which can be most effectually administered through the medium of public opinion. By this means a check may be put upon the abuse of a generous statute made for the relief of the unfortunate.

If additional school accommodations are required this year, the plan, so successful last year, of renting a portion or the whole of some building already erected in the locality where the school is to be organized may be continued without detriment to the school interest.

THE PUBLIC LIBRARY

Is the only department in the city that has not required an appropriation. Through the skilful management of its trustees, the interest in its welfare has been kept up, and its patronage has steadily increased, as appears by the following: Number of books taken out this year, 46,855; last, 43,498; increase over last year, 3,457. Number of books in the library, 5,752.

For the amount of money expended there is probably no other way in which so much general information can be imparted to all classes of citizens as through this medium. Salutary reading instructs the reader, and elevates him socially, morally, and intellectually. It is better for a town or city to furnish books to employ the leisure of its youthful and adult population than to allow them to live in idleness and ignorance, and finally form vicious habits that can only be restrained by the enforcement of penal laws.

HIGHWAYS.

The streets of the city are acknowledged, by many of those who have an opportunity of knowing their condition, to be in the best order that they have been in at any time in the history of the town or city government. They are still susceptible of improvement in many instances; and inasmuch as there are no streets unfinished, or laid out and the work not begun, there will be but little to be done until the opening of spring, when repairs may be made as soon as the frost is out of the ground and the ways settled.

While the present dulness continues, new streets will not be likely to be asked for, and the attention of the committee may be turned to improving those already accepted, to laying crossings where they will accommodate travel, and to paving gutters where there

are quick runs of water that wash the streets and fill the catch basins with sand and gravel.

In the hurry, during the time when great improvements were in progress, streets were finished, but not all properly bounded. Boundary posts ought to be set on all the streets after the lines are run out, so as to prevent disputes in future, when land is more valuable. On macadamized streets the coarse, broken macadam is worked up through the top-dressing by constant wear; these small stones lying upon the surface are a great annoyance to travel, and a fruitful source of injury to the streets. The quicker these are removed after they come to the surface, the better for all interested.

In view of the constant attention which the main thoroughfares require, would it not be well to place on them a few faithful, competent men, whose duty shall be to go over a given portion every day, and make the needed repairs as soon as the surface of the street shows weakness; also, to keep the crossings clear of dust or mud, as the case may be, and to pick off the small stones as fast as they appear upon the surface?

In some of the streets where there are sewers, there is a lack of catch-basins to take off the water; these should be located with reference to the necessity for them, leaving the committee in charge to determine the place for their construction.

The street bridges over the Lowell and Fitchburg Railroad are not in a satisfactory condition. They ought to be made to conform to the lines of the several streets of which they form a part.

The president of the Lowell Railroad has given assurance that the bridges over that road shall be changed when the city is ready to make the necessary street improvements.

The Fitchburg Railroad seems willing enough to receive favors, but has none to give in return.

If you are asked to lay out and grade new streets, no action ought to be taken that will bind the city to grant the request, until all the abutters have given the city a release from all land or grade damages on account of such laying out and grading.

SEWERS.

The extension of the Beacon Street trunk sewer to Davis Square has been contracted for with William Sullivan, of Lawrence, Mass. It was to have been finished on the 1st of December, but the work,

which at first progressed in a satisfactory manner, began to slow in November, and but little has been accomplished in December.

The quality of the work, so far, is good; and it is believed that the back pay is sufficient to defray the expense of finishing the sewer in any event.

The people living in the section of the city where the work is delayed are to be commended for their patience under the great inconvenience to which they have been subjected.

Other small sewers have been constructed where they were most needed, as will appear in the engineer's report, which will be made with the annual report of the several departments.

The Beacon and Elm Street sewer ought to be extended to the culvert on Holland Street, and have an overflow provided at this point, so that the capacity of the sewer may be tested. Lateral sewers will be needed in some of the streets in West Somerville, to enable the people in that section to realize the benefits to be derived from the construction of the trunk sewer.

By an Act of the legislature, General Laws for 1875, Chap. 191, the cities of Cambridge and Somerville are required to extend their main sewer, constructed under the provisions of Chap. 304, of the Acts of 1873, into the deep-water channel of Charles River, the extension to be made within two years after the passage of the Act, which was approved May 8, 1875. This matter will claim early attention.

The Superintendent of Sewers has performed the duties of his position in a prompt and efficient manner. Inasmuch as the small sewers are mostly built by contract, and in view of the fact that the labor of the Engineer's department will be less than in former years, the interest of the city may be best served by uniting the two offices, provided the present Engineer is reappointed and confirmed.

STREET LIGHTS.

The safety and convenience of the public require the streets to be properly lighted. Under the present system, lamp-posts are not always set where they are most needed, but where people are willing to pay for them, and where it is deemed expedient for the city to maintain a light. The system has given general satisfaction, and is, perhaps, as good as can be devised at present.

Twenty posts have been erected this year ; nineteen gas, and one oil or naphtha. Charlestown District has 135 lights, Cambridge, 137 lights, oil lamps, 20. Total in the city, 312.

STATE AID AND SOLDIERS' RELIEF.

The soldiers who so nobly fought against the Rebellion are still with us and remind us of that terrible struggle by their scars, wounds, and disability, all of which appeal strongly to our sympathy, our patriotism, and our love of justice. These men and their families, with the families of those who have gone to their reward, have been made comfortable by the committee in charge of the fund appropriated for that purpose. Their numbers are small, their wants are few, and no excuse should ever be offered in extenuation for neglecting their claims.

THE FIRE DEPARTMENT.

The Fire Department is in good condition, and is well conducted by its faithful and competent chief, whose ever-watchful care often anticipates, and thereby averts or prevents disaster. The assistants and the members of the several companies have always been found ready to respond promptly when an alarm has been sounded. The despatch which, on several occasions, has characterized their movements in the direction of a fire is truly surprising, and meets the most sanguine expectations of eye-witnesses.

The buildings, carriages, horses, and apparatus are in a satisfactory condition. As at present advised, the wants of this department for the current year are confined to the running expenses.

The necessity of having the hydrants placed in charge of the Chief of the Fire Department, instead of being in the care of the Superintendent of the Water Works, is respectfully suggested. The firemen use them, and should be made responsible for their condition, so that, in case of fire, they shall always be ready for immediate service.

The duty of examining buildings in process of erection, to see if they are properly constructed and secured against fire, devolves upon the chief of this department. It is an important trust, that takes a good deal of time, for which no compensation has been provided. Would recommend that his salary be eight hundred

dollars per annum instead of six, as it now is. The losses by fire in 1876, \$13,390. Insurance, \$26,100.

POLICE.

The police force remains the same as it has been for two years past. It consists of a Chief, Captain, Lieutenant, Sergeant, and twenty-four patrolmen. Great care has been exercised in the selection of these men for appointment, that they shall, in the language of the ordinances, be "of good moral character, of temperate and industrious habits, of respectful and orderly manners, and prompt and faithful in the discharge of duties." Officers who do not meet these requirements are liable to removal by the Mayor and Aldermen.

THE POOR DEPARTMENT.

The expenses of the Poor Department have exceeded the appropriation. Great pains has been taken to look up the claims of applicants, but it is very difficult to determine their merits with accuracy. There is so much deception practised that one hardly knows what is right, or whom to believe.

There are a great many State paupers here, very poor, who are still unwilling to accept the provisions made for them by the State, and who have no legal claims upon the city, but whose claims for help appeal very touchingly to the better feelings, and strongly incline one to the side of humanity.

In sickness, the State provides for them where they are until they can be removed. In health they must, so far as the State is concerned, take care of themselves, or go to Tewksbury.

The State laws seem to recognize the constitutionality of pauperism in families, and to have been framed for the purpose of counteracting this tendency by separating the members, and placing them under the stimulating influences of more energetic persons, that shall lift them above their station.

The city poor are provided for at their several homes, which, in many cases, are poor enough. The propriety of building an almshouse has been discussed by the Board. It has its advantages and disadvantages. It would enable the city to make the sick and feeble more comfortable, and those in health would have before them the alternative of providing for themselves or of going there to receive aid. Perhaps the latter class would be stimulated to greater

exertion under the operation of this plan. The great objection urged against it is the expense.

Another plan, and the one most in favor with the overseers, is to have a storehouse, and deliver goods from it on orders, the same as if they were drawn on the stores; this would necessitate the appointment of a storekeeper. If no other plan is adopted by the City Council, the present system must be continued.

Obtaining aid from the city has become an occupation with some families, which they pursue with a persistency that would gain them a living if exercised in some higher calling. These families are so numerous that they form their own social circle, and some of them seem satisfied with their situation. The city cannot furnish continual employment for these people without financial embarrassment. In view of the importance of this subject, and the numerous difficulties that surround it, the appointment of a Joint Standing Committee from the City Council is recommended to confer with the overseers in matters pertaining to this department.

PUBLIC PROPERTY.

The public buildings are all in good repair. The cost of keeping them in a satisfactory condition has exceeded the estimates, but all the expenditures seemed necessary at the time the outlay was made.

The Broadway Park has been finished and opened to the public. Some manifestations of rowdiness have appeared on these grounds; and for the greater security of all who may wish to visit this place of resort, the man in charge of the grounds should be invested with police authority, that he may, at all times, preserve order, and give ample protection to visitors.

Surveys have been made and a plan drawn for the laying out of the grounds on Central Hill; should this plan be adopted by the City Council, future grading may be done as the earth is wanted for city use, and such removals may be made with reference to the levels indicated on the working plan. By this method, the work will be done so gradually and inexpensively as not to add to the burdens of the government.

An addition to the public property has been made by the surrender of a piece of land belonging to the estate of Charles Tufts, known as the "Pit Holes," situated on Oliver Street, containing

65,000 feet, more or less. This land was filled by the city in 1874, under the provisions of the Acts of 1872, Chap. 299; and under the provisions of the same Act, has been surrendered to the city by the trustee of the estate. The price agreed upon is twelve cents a foot, and no pay for filling, which makes the land cost about seventeen cents a foot. The grade of this land is thirteen feet above mean low water, and is some five feet or more below the grade of Oliver Street. It may be filled by depositing on it the coal ashes collected in the vicinity until the grade shall be made suitable for the street.

The possession of this land will enable the city to control its settlement, and may, in this way, prove a benefit to the city generally, and that locality in particular.

WATER.

For a few days in the summer, while the extreme hot weather prevailed, the Mystic water was in a very unsatisfactory condition. The objectionable condition was explained at the time as being the result of the great excess of heat coupled with the drought which reduced the quantity of water in the ponds, and raised the temperature so as to cause the formation of vegetable matter on its surface, which finally floated down to the reservoir and passed off through the water and supply pipes. This vegetable matter was not regarded as detrimental to health, but was offensive to the taste.

Complaint has been made that the tanneries in Woburn drain into this water and contaminate it. The wonderful provision in nature by which water purifies itself is forcibly illustrated in this case, by following the stream from the inlet of the fetid water to the bridge near where the stream enters the pond, and where the water appears to be pure.

An Act was passed by the legislature of 1876, authorizing the city of Boston to build a sewer to take off this sewerage, and deposit it below the dam; but it was so amended on its passage as to render it comparatively worthless for the purpose intended. Assurances have been given that Boston will try to get a bill this winter, and at once enter upon the work of sewerage so much needed. The Mystic Water Board has expended in 1876 about \$7,800. Length of distribution pipe laid, one mile, 1,353 feet. Number of water services put in, 135.

HEALTH.

The city has been free from contagious disease to a degree seldom experienced. The Health Committee has caused to be abated many of the nuisances which usually cause sickness. There are still some places that will need attention this year. The quickest and most effectual mode of abating a nuisance is, after due notice, to prosecute the owner of the property for maintaining the nuisance.

A contract has been made for the removal of the house offal at \$1,700 a year; former contract \$4,500.

TEMPORARY LOAN.

Financially, the city government begins on the first of January, and ends on the last day of December, annually. All the bills contracted each year are, or ought to be, provided for the same year. In February, bills to the amount of \$30,000, more or less, will be incurred to meet the current expenses. To meet these bills the city must borrow on temporary loan in anticipation of taxes, and this process will be repeated monthly until taxes are paid in November.

In March, the City Council will estimate, as near as may be, the amount to be expended during the year. The amount so determined upon is reported to the assessors, with instructions to assess upon the property of the city the sum required. The assessments are laid as of the first of May, and made payable in November. If all the taxes were paid before the first of January, of the following year, the temporary loan would be cancelled with the money received for taxes; but since the taxes are not all paid the year they are levied, this loan holds over into the following year. The same rule applies in the case of betterment and sewer assessments. The office of temporary loan account is to borrow money on the credit of the city, to loan to individual citizens who do not find it convenient to pay their assessments when due.

In 1875 the expenses exceeded the estimates \$11,275.87. In 1876 this deficit was paid, and the estimates exceeded the expenditures about \$15,000. This balance to go into the sinking fund.

Gentlemen of the City Council: —

It is not expected that this address will furnish all the information necessary for the discharge of the varied, complicated, and

important duties that will devolve upon you in the administration of the affairs of the city. You will examine the records, confer with the people, whose representatives you are, with one another, with your predecessors in office, whose knowledge, as well as judgment, will greatly aid you in forming correct conclusions. Bring to this work, if possible, minds unbiassed by personal or local prejudice, so that you may act with unclouded judgment. Be just to all, "the high and the low, the rich and the poor." Let peace, harmony, and good-will prevail in your councils. Be prompt, honest, and faithful in the discharge of your duties, and as economical in the expenditures as is consistent with the honor and dignity of the city.

TREASURER'S
SIXTH ANNUAL REPORT
OF THE
FINANCIAL CONDITION
OF THE
CITY OF SOMERVILLE.
1877.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 12, 1878.

The Report of the City Treasurer and Collector of Taxes for the year 1877 was received, accepted, and referred to the Committee on Finance, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 13, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

IN COMMITTEE ON FINANCE, Feb. 25, 1878.

To the City Council of the City of Somerville: —

The Treasurer's Report for the financial year, ending Dec. 31, 1877, having been referred to the Committee on Finance, they have attended to their duty by making a thorough examination of the same in connection with the Auditor's accounts, and with the vouchers on file, and are gratified to report that they find each in harmony with the other, and correct in every detail; and that the financial transactions for the year are recorded in a faithful and systematic manner, according to the most sound and accurate principles of book-keeping. For such reasons they recommend that the report be accepted.

O. J. DAVIS, *Chairman.*

IN BOARD OF MAYOR AND ALDERMEN, Feb. 26, 1878.

Report accepted and adopted. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 27, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

IN BOARD OF MAYOR AND ALDERMEN, Feb. 26, 1878.

ORDERED: That the Committee on Printing be, and they are hereby authorized to cause to be printed, a suitable number of the Treasurer's Report for the financial year, ending December 31, 1877.

Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 27, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

CITY OF SOMERVILLE,

TREASURER'S OFFICE, February 12, 1878.

To the Honorable, the Mayor, and the City Council of the City of Somerville.

GENTLEMEN:—The undersigned presents herewith his Sixth Annual Report of the financial condition of the city, with a schedule of the public property, a statement of the funded debt, and a detailed exhibit of accounts.

The value of the public property Dec. 30, 1876, as shown by the books at that date, was \$1,514,597.66, and the accessions thereto in 1877, — being additions to the Water Works and to the Public Library, cost of watering-carts, etc., — \$17,645.74; making as the value Dec. 31, 1877, \$1,532,243.40.

The gross amount of the funded debt Dec. 30, 1876, was \$1,771,854, which included the sum of \$165,000 borrowed in that year in anticipation of the bonds to mature in the year following; and as it was so held and applied, it would seem that the net sum of \$1,606,854 should be taken as the amount of the funded debt at that date.

On the 1st of October last, Sidewalk Loan Bond, No. 5, for \$10,000, became due, and having been provided for by taxation, was paid at maturity. Late in the year the sum of \$10,000 was appropriated to the credit of the Water Works account, to cover the expenditures in that department in excess of the amount to the credit of the account at the commencement of the year; and authority having been given by the City Council, two Water Loan Bonds for \$5,000 each were issued and disposed of, leaving the funded debt Dec. 31, 1877, \$1,606,854.

The city government of 1876 left a balance of \$13,039.99 to the credit of Excess and Deficiency account, but left also — an inheritance from its predecessors — several unsettled accounts; two of these accounts — Highways (Broadway Widening) and Highways (Milk Street Widening) — were closed during the past year, and absorbed the above-named sum.

The appropriations for 1877, beside the \$10,000 already noted, amounted to \$425,360.62, and a statement of the same, in detail, may be found under "Appropriations" account in Table C of the Appendix to this report. This amount, and also the State and County taxes, and the sum added for Overlay and Abatement account, made a total of \$471,789.14, and was provided for by a tax levy, on a valuation of \$25,479,400, at \$18.10 on a thousand, and 5,306 polls, at \$2.00 each.

The credit balance of Excess and Deficiency account for the year was \$8,407.16, and this sum is at the disposal of the present City Council, but may be required during the year in the adjustment of the unsettled accounts before mentioned; though successive city governments have been born into and have died out of some of them, despite the celerity of the courts, and still the accounts remain unclosed.

This sum of \$8,407.16 was not, however, a balance saved from the appropriations made, the expenditures to which, in the aggregate, exceeded the amount appropriated; but was acquired from that best abused of all accounts in the municipal ledger, "Interest," the amount to the credit of which, derived from over-due taxes, was \$18,305.40.

The reduction of the rate of interest on taxes by the City Council of 1877, and the inclination toward a more speedy collection of the taxes, will so lessen this credit in the future that the overdrawal of accounts, if permitted, will simply mean increased taxes for the year following; Chap. 209, of the Acts of the legislature of 1875, allowing no alternative.

The indebtedness of the city Dec. 31, 1877, other than the funded debt, was temporary loans \$270,000, to which may be added the sums to the credit of the Water Works, Public Library and Beacon and Elm Streets Sewer accounts, and liable to withdrawal from the treasury, — \$9,820.63, — making a total of \$279,820.63; the assets available for the liquidation of this sum were, taxes \$227,684.62; Highway Betterment, Sewer, Sidewalk, and Water Service Assessments, \$41,668.58; Real Estate liens, \$10,905.32; account against the State for State Aid paid, \$1,223.50; and Cash, \$5,133.96: a total of \$289,615.98, or \$9,795.35 more than the liabilities. These figures do not include the Public Park Betterment Assessments, collected and uncollected, amounting to \$46,932.90, nor do they provide

for the \$12,395.67, excess over appropriation in 1874 for the cost of park.

The largest current expense account (except the school accounts) is Interest; and it is gratifying to know that there is a prospect of a gradual diminution in the sum which will be required each year for this account, the law prohibiting an increase of the debt, and a saving of one and a half and two per cent interest being made on the renewal of the maturing bonds.

Respectfully submitted.

AARON SARGENT,

Treasurer.

APPENDIX TO TREASURER'S REPORT.

Table A.

PUBLIC PROPERTY, DEC. 31, 1877.

Central Hill Land (12 acres, 27,920 feet),		\$175,000 00
City Hall,	\$13,000 00	
Furniture,	4,550 00	
		17,550 00
Public Library,		8,500 00
Steam Fire Engine House,	\$19,500 00	
Furniture,	500 00	
Steam Fire Engine and Apparatus,	6,000 00	
Steam Fire Engine Hose Carriage and Apparatus,	2,000 00	
		28,000 00
High School House,	\$60,000 00	
Furniture,	4,000 00	
Philosophical Apparatus,	500 00	
		64,500 00
Prescott School House Land (21,444 feet) and Building,	\$55,000 00	
Furniture,	3,000 00	
		58,000 00
Luther V. Bell School House Land (23,396 feet) and Building,	\$57,977 71	
Furniture,	3,122 29	
		61,100 00
<i>Amount carried forward,</i>		\$412,650 00

<i>Amount brought forward,</i>		\$412,650 00
Forster School House Land (32,693 feet) and Building,	\$52,500 00	
Furniture,	1,500 00	
	<hr/>	54,000 00
Morse School House Land (29,109 feet) and Building,	\$30,000 00	
Furniture,	1,250 00	
	<hr/>	31,250 00
Lincoln School House Land (13,000 feet) and Building,	\$14,000 00	
Furniture,	1,000 00	
	<hr/>	15,000 00
Prospect Hill School House Land (25,313 ft.) and Building,	\$30,000 00	
Furniture,	600 00	
	<hr/>	30,600 00
Jackson School House Land (11,212 feet) and Building,	\$13,050 00	
Furniture,	500 00	
	<hr/>	13,550 00
Bennett School House Land (20,560 feet) and Building,	\$15,000 00	
Furniture,	500 00	
	<hr/>	15,500 00
Webster School House Land (11,050 feet) and Building,	\$12,000 00	
Furniture,	500 00	
	<hr/>	12,500 00
Union School House Land (9,360 feet) and Building,	\$4,500 00	
Furniture,	100 00	
	<hr/>	4,600 00
Harvard School House Land (9,810 feet) and Building,	\$3,500 00	
Furniture,	200 00	
	<hr/>	3,700 00
<i>Amount carried forward,</i>		<hr/> \$593,350 00

<i>Amount brought forward,</i>		\$593,350 00
Edgerly School House Land (26,428 feet) and Building,	\$35,000 00	.
Furniture,	500 00	
	<hr/>	35,500 00
Brastow School House Land (10,019 feet) and Building,	\$8,000 00	
Furniture,	250 00	
	<hr/>	8,250 00
Franklin School House Land (33,017 feet) and Building,	\$18,000 00	
Furniture,	500 00	
	<hr/>	18,500 00
Beach Street School House Land (6,000 feet) and Building,	\$6,000 00	
Furniture,	500 00	
	<hr/>	6,500 00
Spring Hill School House Land (4,991 feet) and Building,	\$2,500 00	
Furniture,	200 00	
	<hr/>	2,700 00
City Farm Land (10 acres, 12,523 feet)		40,000 00
Cedar Street School House,	\$1,500 00	
Furniture,	100 00	
	<hr/>	1,600 00
City Stables and Dwelling Houses,	\$11,000 00	
Equipments for Highway Repairs,	4,500 00	
Watering Carts and Sheds,	2,300 00	
	<hr/>	17,800 00
No. 1 Hose House Land (4,312 feet) and Building,	\$5,600 00	
Furniture,	400 00	
John E. Wool Hose Carriage and Apparatus,	2,000 00	
	<hr/>	8,000 00
<i>Amount carried forward,</i>		<hr/> \$732,200 00

<i>Amount brought forward,</i>		\$732,200 00
No. 2' Hose House Land (5,400 feet) and Building,	\$12,250 00	
Furniture,	300 00	
Winter Hill Hose Carriage and Apparatus,	2,000 00	
	<hr/>	14,550 00
No. 3 Hose House Land (5,226 feet) and Building,	\$13,000 00	
Furniture,	300 00	
Geo. H. Foster Hose Carriage and Apparatus,	2,000 00	
R. A. Vinal Hook and Ladder Truck and Apparatus,	3,400 00	
Prescott Hook and Ladder Truck and Apparatus,	500 00	
	<hr/>	19,200 00
No. 4 Hose House Land (9,100 feet) and Building,	\$16,000 00	
Furniture,	400 00	
Geo. O. Brastow Hose Car- riage and Apparatus,	2,000 00	
Relief Hose Carriage,	600 00	
	<hr/>	19,000 00
Fire Alarm Telegraph,		16,050 00
Police Station Land (15,232 feet) and Building (Bow Street),	\$49,204 54	
Furniture,	3,595 46	
	<hr/>	52,800 00
Prospect-Street Land (7,918 feet) and Building (old Police Sta- tion),		10,000 00
Public Park,		212,395 67
Joy-Street Land (2,960 feet),		1,000 00
Walnut-Hill Land (10,890 feet),		1,500 00
		<hr/>
<i>Amount carried forward,</i>		\$1,078,695 67

<i>Amount brought forward,</i>		\$1,078,695 67
Ledge Land on Bond St. (39,732 feet),	\$5,000 00	
Holland St. (5 a., 6,806 feet),	25,000 00	
Milk Street (39,456 feet),	7,000 00	
	<hr/>	37,000 00
Gravel Land in Waltham (about 35 acres),		35,000 00
Gravel Land in Wakefield (about 1½ acres),		13,500 00
Gravel Land in Winchester (about 2 acres),		700 00
Somerville Water Works,		341,303 07
Tufts-Street Land (29,584 feet),		14,792 65
Oliver-Street Land (63 069 feet),		11,252 01
		<hr/>
		\$1,532,243 40

Table B.

FUNDED DEBT, DECEMBER 31, 1877, WITH DATES FOR ULTIMATE REDEMPTION, REQUIRED BY THE LAW
TO "REGULATE AND LIMIT MUNICIPAL INDEBTEDNESS."

Date.	Loan.	Numbers of Bonds.	Rate per cent of Interest.	When due.	Denomination.	Amount.	Purpose of Issue.	Date of Redemption.	Amount.
1878. Oct. 1,	City,	31, 32, 34 and 35,	7	1878. Oct. 1,	\$5,000	\$20,000	} Milk-Street Sewer }	1895. April 1,	\$55,000
"	Sidewalk,	33, 6,	"	"	25,000	10,000			
1869. Jan. 1,	Water,	1 to 3,	6½	1879. Jan. 1,	10,000	30,000	Water Works	1905. April 1,	30,000
1874. April 1,	City,	44,	7	April 1,	10,000	10,000	} Milk Street Widening }		
"	"	51, 61,	6½	"	5,000	5,000			
"	"	61,	"	"	10,000	10,000	Milk-Street Widening		
1872. July 1,	"	2,	5½	July 1,	5,454	5,454	Various: in lieu of Town Note re tired	1895. April 1,	69,854
1859. Oct. 1,	"	Town 1,	"	Oct. 1,	14,400	14,400	Various		
1874. Oct. 1,	Sidewalk,	7,	6½	"	10,000	10,000	} Sidewalks }		
"	City,	143, 144,	"	"	3,000	3,000			
"	"	145 and 146,	"	"	2,000	2,000	Land for School house on Tufis Street		
1870. July 1,	"	Town 3,	"	1880. July 1,	55,000	55,000	} Various }	1895. April 1,	86,500
Oct. 1,	"	" 4,	"	Oct. 1,	21,500	21,500			
1874. Oct. 1,	Sidewalk,	8,	"	"	10,000	10,000	Sidewalks		
1870. Oct. 1,	Water,	6,	"	"	40,000	40,000	Water Works	1905. April 1,	40,000
1870. Dec. 31,	"	7,	"	1881. Jan. 1,	20,000	20,000	} Water Works }	"	20,000
"	City,	Town 5, School 2,	"	"	5,000	5,000			
"	"	School 2,	"	"	3,000	3,000	Various	1895. April 1,	68,000
1871. April 1,	"	School 3, 8 to 11,	"	April 1,	60,000	60,000	} High School-house }	1905. April 1,	40,000
Oct. 1,	Water,		"	Oct. 1,	40,000	40,000				Water Works . . . . .

1874.	City,	Town 6,	6	10,000	10,000	} Various } Prescott School House } Sidewalks }	1895. April 1,	105,900
1872.	"	" 7,	2,000	17,500				
1874.	"	" 8,	11,500	10,000				
1874.	"	School 4,	6 1/2	25,000	20,000	} Various: to pay Sundry Town Notes } To pay Water Loan Bond No. 4 . . . } Water Works }	1905. April 1,	90,000
1874.	"	" 9,	10,000	50,000				
1874.	"	" 10,	10,000	40,000				
1874.	"	" 11 & 12,	10,000	5,000	10,000	} Notes } Geo. O. Braslow, Hose House . . . } Sidewalks }	1895. April 1,	45,000
1874.	"	" 10,	10,000	10,000				
1874.	"	" 11,	10,000	10,000				
1874.	"	" 12,	2,000	2,000	2,000	} Fire-Alarm Telegraph } Highland-Avenue Widening . . . } Milk Street Widening }	1895. April 1,	114,000
1874.	"	" 13,	20,000	20,000				
1874.	"	" 14 to 18,	5 1/2	2,000	5,000			
1874.	"	" 13,	6	6,000	6,000	} War: in lieu of Town Notes retired } To pay School Loan Bond No. 1, in } part }	1905. April 1,	15,000
1874.	"	" 14 to 17,	6 1/2	5,000	5,000			
1874.	"	" 18 to 19,	10	40,000	15,000			
1874.	"	" 20 to 23,	10	5,000	5,000	} Milk. Wash-ton, & Beacon-st. Sewer } Water Works }	1905. April 1,	339,500
1874.	"	" 24 to 27,	10	2,500	1,000			
1874.	"	" 28 to 31,	10	1,000	9,000			
1874.	"	" 32 to 35,	10	3,000	1,000	} War: in lieu of Town Notes retired } Gravel land in Waltham } Police Station }	1905. April 1,	339,500
1874.	"	" 36 to 39,	10	5,000	2,000			
1874.	"	" 40 to 43,	10	5,000	2,000			
1874.	"	" 44 to 47,	10	2,500	3,000	} Gravel land in Wakefield } Public Park }	1905. April 1,	339,500
1874.	"	" 48 to 51,	10	1,000	3,000			
1874.	"	" 52 to 55,	10	5,000	5,000			
1874.	"	" 56 to 59,	10	125,000	50,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 60 to 63,	10	5,000	5,000			
1874.	"	" 64 to 67,	10	5,000	5,000			
1874.	"	" 68 to 71,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 72 to 75,	10	5,000	5,000			
1874.	"	" 76 to 79,	10	5,000	5,000			
1874.	"	" 80 to 83,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 84 to 87,	10	5,000	5,000			
1874.	"	" 88 to 91,	10	5,000	5,000			
1874.	"	" 92 to 95,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 96 to 99,	10	5,000	5,000			
1874.	"	" 100 to 103,	10	5,000	5,000			
1874.	"	" 104 to 107,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 108 to 111,	10	5,000	5,000			
1874.	"	" 112 to 115,	10	5,000	5,000			
1874.	"	" 116 to 119,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 120 to 123,	10	5,000	5,000			
1874.	"	" 124 to 127,	10	5,000	5,000			
1874.	"	" 128 to 131,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 132 to 135,	10	5,000	5,000			
1874.	"	" 136 to 139,	10	5,000	5,000			
1874.	"	" 140 to 143,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 144 to 147,	10	5,000	5,000			
1874.	"	" 148 to 151,	10	5,000	5,000			
1874.	"	" 152 to 155,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 156 to 159,	10	5,000	5,000			
1874.	"	" 160 to 163,	10	5,000	5,000			
1874.	"	" 164 to 167,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 168 to 171,	10	5,000	5,000			
1874.	"	" 172 to 175,	10	5,000	5,000			
1874.	"	" 176 to 179,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 180 to 183,	10	5,000	5,000			
1874.	"	" 184 to 187,	10	5,000	5,000			
1874.	"	" 188 to 191,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 192 to 195,	10	5,000	5,000			
1874.	"	" 196 to 199,	10	5,000	5,000			
1874.	"	" 200 to 203,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 204 to 207,	10	5,000	5,000			
1874.	"	" 208 to 211,	10	5,000	5,000			
1874.	"	" 212 to 215,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 216 to 219,	10	5,000	5,000			
1874.	"	" 220 to 223,	10	5,000	5,000			
1874.	"	" 224 to 227,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 228 to 231,	10	5,000	5,000			
1874.	"	" 232 to 235,	10	5,000	5,000			
1874.	"	" 236 to 239,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 240 to 243,	10	5,000	5,000			
1874.	"	" 244 to 247,	10	5,000	5,000			
1874.	"	" 248 to 251,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 252 to 255,	10	5,000	5,000			
1874.	"	" 256 to 259,	10	5,000	5,000			
1874.	"	" 260 to 263,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 264 to 267,	10	5,000	5,000			
1874.	"	" 268 to 271,	10	5,000	5,000			
1874.	"	" 272 to 275,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 276 to 279,	10	5,000	5,000			
1874.	"	" 280 to 283,	10	5,000	5,000			
1874.	"	" 284 to 287,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 288 to 291,	10	5,000	5,000			
1874.	"	" 292 to 295,	10	5,000	5,000			
1874.	"	" 296 to 299,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 300 to 303,	10	5,000	5,000			
1874.	"	" 304 to 307,	10	5,000	5,000			
1874.	"	" 308 to 311,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 312 to 315,	10	5,000	5,000			
1874.	"	" 316 to 319,	10	5,000	5,000			
1874.	"	" 320 to 323,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 324 to 327,	10	5,000	5,000			
1874.	"	" 328 to 331,	10	5,000	5,000			
1874.	"	" 332 to 335,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 336 to 339,	10	5,000	5,000			
1874.	"	" 340 to 343,	10	5,000	5,000			
1874.	"	" 344 to 347,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 348 to 351,	10	5,000	5,000			
1874.	"	" 352 to 355,	10	5,000	5,000			
1874.	"	" 356 to 359,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 360 to 363,	10	5,000	5,000			
1874.	"	" 364 to 367,	10	5,000	5,000			
1874.	"	" 368 to 371,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 372 to 375,	10	5,000	5,000			
1874.	"	" 376 to 379,	10	5,000	5,000			
1874.	"	" 380 to 383,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 384 to 387,	10	5,000	5,000			
1874.	"	" 388 to 391,	10	5,000	5,000			
1874.	"	" 392 to 395,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 396 to 399,	10	5,000	5,000			
1874.	"	" 400 to 403,	10	5,000	5,000			
1874.	"	" 404 to 407,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 408 to 411,	10	5,000	5,000			
1874.	"	" 412 to 415,	10	5,000	5,000			
1874.	"	" 416 to 419,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 420 to 423,	10	5,000	5,000			
1874.	"	" 424 to 427,	10	5,000	5,000			
1874.	"	" 428 to 431,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 432 to 435,	10	5,000	5,000			
1874.	"	" 436 to 439,	10	5,000	5,000			
1874.	"	" 440 to 443,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 444 to 447,	10	5,000	5,000			
1874.	"	" 448 to 451,	10	5,000	5,000			
1874.	"	" 452 to 455,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 456 to 459,	10	5,000	5,000			
1874.	"	" 460 to 463,	10	5,000	5,000			
1874.	"	" 464 to 467,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 468 to 471,	10	5,000	5,000			
1874.	"	" 472 to 475,	10	5,000	5,000			
1874.	"	" 476 to 479,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 480 to 483,	10	5,000	5,000			
1874.	"	" 484 to 487,	10	5,000	5,000			
1874.	"	" 488 to 491,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 492 to 495,	10	5,000	5,000			
1874.	"	" 496 to 499,	10	5,000	5,000			
1874.	"	" 500 to 503,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 504 to 507,	10	5,000	5,000			
1874.	"	" 508 to 511,	10	5,000	5,000			
1874.	"	" 512 to 515,	10	5,000	5,000	} Milk-Street Sewer }	1905. April 1,	339,500
1874.	"	" 516 to 519,	10	5,000	5,000			
1874.	"	" 520 to 523,	10	5,000	5,000			
1874.	"	" 524 to 527,	10	5,000	5,000	} Milk-Street Sewer }	1905. April	

Table B. — Continued.

Date.	Loan.	Numbers of Bonds.	Rates per cent of Interest.	When due.	Denomination.	Amount.	Purpose of Issue.	Date of Redemption.	Amount.
1877. Oct. 1,	<i>Amount brought forward.</i>	32	5	1884. Oct. 1,	5,000	\$1,118,854	Water Works	1907. Oct. 1,	\$5,000
1876. April 1,	Water, City,	188	5½	1885. April 1,	4,500	4,500	To pay Bond No. 45, in part	1895. April 1,	4,500
1875. July 1,	Water, City,	19 to 22	6	1885. July 1,	5,000	20,000	Water Works	1905. April 1,	20,000
"	"	157	"	"	4,000	4,000		1895. April 1,	27,000
"	"	158	"	"	3,000	3,000	{ Winthrop-Avenue Sewer }	1885. July 1,	60,000
"	"	159	"	"	5,000	5,000	{ Milk-Street Sewer }		
"	"	160 to 162	"	"	5,000	15,000	{ Broadway Widening }		
"	"	163 to 174	"	"	5,000	60,000			
1876. April 1,	"	175 to 182	5½	1886. April 1,	5,000	40,000	To pay Bonds Nos. 20 and 21 }	1895. April 1,	61,000
"	"	183 to 185	"	"	5,000	15,000	To pay Bonds Nos. 45 and 48 }		
"	"	186	"	"	5,000	5,000			
"	"	187	"	"	1,000	1,000	{ To pay Bond No. 19 }	1905. April 1,	55,500
"	Water, "	23 to 27	"	"	10,000	50,000	{ To pay Water Loan Bonds Nos. }		
1876. April 1,	"	28	"	"	5,500	5,500	{ 14 and 15, in part }		
Oct. 1,	City,	189	5½	1895. April 1,	35,500	35,500	To pay Bonds Nos. 22 to 30 & 45, in part }	1895. April 1,	200,500
"	"	190 to 194	5	"	5,000	25,000	{ To pay Bonds Nos. 36 to 43, 50, 56, }		
"	"	195 to 334	"	"	1,000	140,000	{ 58, 59, 62 to 65, 68 to 74, 97, 112 to }		
1876. July 1,	Sewer,	1 to 7	"	1896. July 1,	5,000	35,000	{ 115 and 122 }	1896. July 1,	35,000
1877. Oct. 1,	Water,	33	"	1904. Oct. 1,	5,000	5,000	Beacon and Elm-Streets Sewer	1907. Oct. 1,	5,000
1875. April 1,	Water,	29	5½	1905. April 1,	4,500	4,500	Water Works	1905. April 1,	4,500
1876. July 1,	"	30 and 31	5½	1906. July 1,	5,000	10,000	To pay Water Loan Bonds 14 & 15, in part	1906. July 1,	10,000
						<u>\$1,606,854</u>	Water Works		

Table C.

STATEMENT OF ACCOUNTS, SHOWING APPROPRIATIONS,
RECEIPTS, EXPENDITURES, ETC., TO DEC. 31, 1877.

APPROPRIATIONS.

Credit.

TAXES, amount assessed for current expenses,	\$425,360 62
PROPERTY and DEBT BALANCE, balance from 1876, since expended,	175,379 11
Appropriated in 1877,	10,000 00
	<hr/> \$610,739 73

Debit.

BALANCE from 1876,	\$175,379 11
FIRE DEPARTMENT,	23,500 00
HEALTH DEPARTMENT,	3,400 00
HIGHWAYS,	45,000 00
INTEREST,	90,000 00
MISCELLANEOUS,	18 000 00
POLICE,	29,000 00
POLICE STATION INCIDENTALS,	3,000 00
PUBLIC LIBRARY,	1,500 00
PUBLIC PARK MAINTENANCE,	2,500 00
REDUCTION OF FUNDED DEBT,	10,000 00
SALARIES,	19,350 00
SCHOOL CONTINGENT,	11,200 00
SCHOOLHOUSE REPAIRS,	5,330 00
SCHOOL FUEL,	4,000 00
SCHOOL TEACHERS' SALARIES,	68,000 00
SEWERS,	6,000 00
SINKING FUND CONTRIBUTIONS,	46,030 62
SOLDIERS' RELIEF,	800 00
STREET LIGHTS,	9,000 00
SUPPORT OF POOR,	15,000 00
SURVEY OF STREETS,	1,000 00
SOMERVILLE WATER WORKS,	10,000 00
WATER MAINTENANCE,	13,750 00
	<hr/> \$610,739 73

CASH.

	Credit.
COUNTY OF MIDDLESEX,	\$13,577 91
FIRE DEPARTMENT,	26,548 51
FUNDED DEBT,	175,000 00
HEALTH DEPARTMENT,	2,608 34
HIGHWAYS,	47,637 88
HIGHWAYS (BROADWAY WIDENING),	14,976 55
HIGHWAYS (BROADWAY GRADING),	103 33
HIGHWAYS (DAY STREET),	57 10
HIGHWAYS (HIGHLAND AVE. EXTENSION),	6 10
HIGHWAYS (MILK ST. WIDENING),	13,340 73
HIGHWAY BETTERMENT ASSESSMENTS,	1,726 63
INTEREST,	96,238 28
LIQUOR LICENSES,	993 75
MISCELLANEOUS,	11,381 69
MISCELLANEOUS (WATERING STREETS),	2,721 84
POLICE,	30,556 96
POLICE STATION INCIDENTALS,	2,952 05
PUBLIC LIBRARY,	2,661 06
PUBLIC PARK MAINTENANCE,	2,487 43
SALARIES,	19,350 00
SCHOOL CONTINGENT,	10,394 27
SCHOOL TEACHERS' SALARIES,	68,157 93
SCHOOLHOUSE REPAIRS,	8,590 02
SCHOOL FUEL,	2,722 96
SEWERS,	22,574 61
SEWERS (MILK ST. SEWER),	2,772 52
SEWERS (BEACON AND ELM STREET SEWER),	1,898 98
SIDEWALKS,	1,369 88
SINKING FUND CONTRIBUTIONS,	46,030 62
SOLDIERS' RELIEF,	902 73
SOMERVILLE WATER WORKS,	15,538 00
STATE AID,	4,223 50
STATE OF MASSACHUSETTS,	23,160 00
STREET LIGHTS,	7,665 06
<i>Amount carried forward,</i>	\$680,927 22

<i>Amount brought forward,</i>	\$680,927 22
SUNDRY PERSONS,	8,816 28
SUPPORT OF POOR,	17,306 54
SURVEY OF STREETS,	808 04
TAXES,	42 12
TEMPORARY LOANS,	515,000 00
WATER MAINTENANCE,	23,820 37
WATER SERVICES,	2,143 46
	<hr/>
	\$1,248,864 03
BALANCE to debit in account of 1878,	5,133 96
	<hr/>
	\$1,253,997 99

Debit.

BALANCE from 1876,	\$8,203 21
FIRE DEPARTMENT,	113 20
FUNDED DEBT,	10,000 00
HIGHWAYS,	1,359 76
HIGHWAY BETTERMENT ASSESSMENTS,	12,070 51
INCIDENTALS,	6,256 20
INTEREST,	19,041 56
LIQUOR LICENSES,	3,975 00
MISCELLANEOUS,	1,618 19
MISCELLANEOUS (WATERING STREETS),	1,880 05
POLICE,	1,910 89
POLICE STATION INCIDENTALS,	319 35
PUBLIC LIBRARY,	1,568 48
PUBLIC PARK BETTERMENT ASSESSMENTS,	3,421 29
PUBLIC PARK MAINTENANCE,	15 00
REAL ESTATE LIENS,	5,419 88
SCHOOL CONTINGENT,	227 34
SCHOOLHOUSE REPAIRS,	7 90
SEWERS,	267 95
SEWER ASSESSMENTS,	7,528 60
SIDEWALKS,	20 34
SIDEWALK ASSESSMENTS,	2,402 57
SOLDIERS' RELIEF,	60 00
SOMERVILLE WATER WORKS,	1,692 26
STATE OF MASSACHUSETTS, — STATE AID,	4,254 12
STREET LIGHTS,	160 00
	<hr/>
<i>Amount carried forward,</i>	\$93,793 65

<i>Amount brought forward,</i>	\$93,793 65
SUPPORT OF POOR,	3,981 18
TAXES,	467,279 16
TEMPORARY LOANS,	675,000 00
WATER MAINTENANCE,	10,733 90
WATER SERVICES,	31 19
WATER SERVICE ASSESSMENTS,	3,173 91
	<u>\$1,253,997 99</u>

COUNTY OF MIDDLESEX.

Credit.

TAXES, amount assessed for county tax,	\$13,577 91
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Debit.

CASH paid county tax,	<u>13,577 91</u>
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EXCESS AND DEFICIENCY.

Credit.

BALANCE FROM 1876,	\$13,039 99
HEALTH DEPARTMENT, credit balance of account,	791 66
HIGHWAYS, " " "	105 68
INCIDENTALS, " " "	6,256 20
INTEREST, " " "	4,129 69
LIQUOR LICENSES, " " "	2,981 25
MISCELLANEOUS, " " "	1,802 40
POLICE, " " "	353 93
POLICE STATION INCIDENTALS, credit balance of account	367 30
PUBLIC PARK MAINTENANCE, credit balance of account,	27 57
SCHOOL CONTINGENT, credit balance of account,	1,033 07
SCHOOL FUEL, " " "	1,277 04
SUPPORT OF POOR, " " "	1,674 64
STREET LIGHTS, " " "	1,494 94
SURVEY OF STREETS, " " "	191 96
WATER MAINTENANCE, " " "	1,422 58
	<u>\$36,949 90</u>

Debit.

HIGHWAYS (BROADWAY WIDENING), transferred,	\$5,677 99	
HIGHWAYS (MILK STREET WIDENING), transferred,	7,362 00	
FIRE DEPARTMENT, debit balance of ac- count,	2,935 31	
HIGHWAYS (APPLETON St.), debit bal- ance of account,	158 33	
HIGHWAYS (BROADWAY GRADING), debit balance of account,	103 33	
HIGHWAYS (CONCORD AVENUE), debit balance of account,	19 70	
HIGHWAYS (CHURCH STREET), debit bal- ance of account,	36 00	
HIGHWAYS (DAY STREET), debit balance of account,	1,656 39	
HIGHWAYS (HIGHLAND AVENUE EXTEN- SION), debit balance of account,	6 10	
HIGHWAYS (MORRISON STREET), debit balance of account,	274 13	
HIGHWAYS (QUINCY STREET), debit bal- ance of account,	239 85	
HIGHWAYS (WALLACE STREET), debit balance of accounts,	571 08	
HIGHWAYS (WARREN AVENUE), debit balance of accounts,	12 60	
OVERLAY AND ABATEMENT,	6,037 15	
SCHOOL TEACHERS' SALARIES,	157 93	
SCHOOLHOUSE REPAIRS,	3 252 12	
SOLDIERS' RELIEF,	42 73	
BALANCE to credit in account of 1878,	8,407 16	
		<u>\$36,949 90</u>

FIRE DEPARTMENT.

Credit.

APPROPRIATIONS, amount assessed,		\$23,500 00
CASH received of the Chief Engineer,	\$43 70	
Amount received by him for old junk, etc., and for manure,	58 50	
<i>Amounts carried forward,</i>	<u>\$102 20</u>	<u>\$23,500 00</u>

<i>Amounts brought forward,</i>	\$102 20	\$23,500 00
Of sundry persons,	11 00	
	<hr/>	113 20
EXCESS AND DEFICIENCY, balance to debit account,		2,935 31
		<hr/>
		\$26,548 51

Debit.

CASH paid James R. Hopkins, Chief Engineer,	\$999 99
Four Assistant Engineers,	333 32
G. W. Ring, Clerk of Engineers,	20 82
N. C. Barker, Assistant Engineer,	166 67
T. Cunningham, Clerk to Chief Engineer,	29 16
Steamer Engineer,	1,000 00
Substitute Engineer,	15 05
Steamer Fireman,	780 00
Seven Drivers,	5,460 00
Substitute Drivers,	419 78
Steam Engine Co.,	880 00
John E. Wool Hose Co.,	795 00
Winter Hill Hose Co.,	795 00
Geo. H. Foster Hose Co.,	788 42
Geo. O. Brastow Hose Co.,	795 00
R. A. Vinal, H. & L. Co.,	1,629 14
Nathan Tufts & Son, for grain,	650 08
Hunneman & Co., for repairs,	292 25
Cook, Rymes & Co., for repairs,	167 00
J. O. Ryan, for repairs,	127 22
F. Davis, for repairs,	16 10
J. Leland, for repairs,	28 65
Gallishaw & Kennealy, for black- smithing,	23 20
Timothy Brennan, for blacksmith- ing,	14 45
J. G. Harmon, for blacksmithing,	17 50
Seward Dodge, " "	161 51
P. Harrington, " "	55 50
<i>Amount carried forward,</i>	<hr/>
	\$16,460 81

<i>Amount brought forward,</i>	\$16,460 81
A. McGrath, for blacksmithing,	4 00
Chas. Maguire, “ “	35 66
J. W. Gerry, “ “	59 32
S. D. Kelley, for plans,	30 00
D. E. Lovering, for mason-work,	287 60
D. Brooks, for mason-work,	160 54
Joseph Gibbons, for plastering,	12 00
Albert Caswell, for carpenter-work,	21 15
L. Arnold, for carpenter-work,	15 00
J. D. Hills, for carpenter-work,	111 39
Page & Littlefield, for carpenter-work,	82 01
J. B. Walker, for carpenter-work,	15 30
R. A. Melvin, for carpenter-work,	67 16
R. O. Dennett, for carpenter-work,	16 19
J. H. Hollis, for painting and glazing,	94 00
W. S. Walker, for painting and glazing,	17 61
Daniel McDermott, for painting,	43 50
J. C. Dyer, for glazing,	1 20
J. H. Baker, for painting,	46 09
C. H. Tufts, for painting hose-carriage,	5 50
John Hilling, for varnishing Hook & Ladder carriage,	7 00
G. W. Trefren, for carpenter-work,	4 50
J. W. Legallee, for paper-hanging,	50 04
W. L. Snow & Co., for plumbing,	231 21
Sullivan & Co., for plumbing,	5 73
F. H. Eaton, for mattresses, etc.,	30 75
James Hennessey, for battery jars,	3 00
C. Holmes & Son, for hardware, repairs, etc.,	101 15
J. F. Cole & Co., for oil, vitriol, soap, etc.,	308 54
Stephen Day, for veterinary services,	16 00
<i>Amount carried forward,</i>	<u>\$18,343 95</u>

<i>Amount brought forward,</i>	\$18,343 95
Lewis Putnam, for veterinary services,	6 00
Charlestown Gas Co., for gas,	221 94
Cambridge Gas Light Co., for gas,	291 21
L. G. Burnham & Co., for fuel,	410 70
Union Glass Co., for lanterns,	11 97
J. Peck & Sons, for salt,	6 00
H. W. Raymond, for hardware,	9 98
Walworth Manuf. Co., for zinc,	102 67
S. W. Fuller, for lumber,	11 97
E. W. Drake, for plumbing, etc.,	177 74
Sundry persons, for labor,	37 15
Firemen, for services July 3d and 4th,	28 00
Wadsworth Bros. & Howland, for oil,	54 29
James Bartley, for oil,	2 91
T. J. McCormic, for refreshments,	15 00
Mystic Hose Co., for refreshments,	10 00
P. H. Raymond Engine Co., for refreshments,	20 00
Chas. Miller, for repairing hose carriage,	7 75
Murdock Parlor Grate Co., for manger,	2 00
T. W. Littlefield, for stove work, etc.,	35 65
J. A. Durell, for stove work, etc.,	12 10
Charles Horton, for labor on hydrants,	3 00
James Boyd & Sons, for hose,	2,302 50
for fire hats,	33 00
H. A. Winship, for fire hats, etc.,	32 95
H. W. Kimball, for ringing bell,	6 50
J. W. Stover, for wire,	19 92
F. W. Reed, for stationery,	65
A. A. Perry, for medicine, etc.,	1 55
<i>Amount carried forward,</i>	<hr/> \$22,219 05

<i>Amount brought forward,</i>	\$22,219 05
E. R. Richmond, for oil polish,	4 50
R. W. Williams, for postage stamps,	10 00
A. Burnham, for examining engine,	11 00
American Double Hose Co., for hose, etc.,	49 50
F. Ives, for whipsocket,	75
M. D. Jones & Co., for bronze,	2 37
S. Richards, for labor,	10 00
Geo. B. King, for printing,	4 75
J. E. Farwell & Co., for printing,	8 00
Henderson Bros., for pung. runners, repairs, etc.,	358 00
Fletcher & Libby, for shovels and repairing ladders,	25 50
Belt and Leather Stuffing Co. for hose-tester,	65 00
J. W. Inwood, for watching at fire,	2 00
W. M. Hadley, for hay and straw,	317 05
B. F. Tyler, for hay and straw,	31 92
Brine & Clark, for hay,	128 25
J. A. Porter & Co., for hay,	37 13
J. F. Brine, for hay and straw,	77 32
P. T. Clark & Co., for hay,	45 87
Cambridge Engine Co. No. 4, for refreshments,	10 00
Daniel Webster Engine Co., for refreshments,	10 00
Geo. E. Copp, for painting and varnishing,	38 00
J. H. Rouse & Co., for key guides,	16 50
L. W. Dow, for carrots,	26 10
R. A. Vinal, Hook & Ladder Co., for torches,	23 00
J. F. Ham, for hay and straw,	521 48
Mrs. Calvert, for washing,	57 13
Mary Haley, for washing,	19 75
<i>Amount carried forward,</i>	\$24,129 92

<i>Amount brought forward,</i>	\$24,129 92
C. P. Howard, for washing,	19 33
S. H. Stevens, for washing,	13 00
Mary Maguire, for washing,	8 00
T. H. Daly, for washing,	11 00
A. B. McDonald, for harness work,	9 00
J. N. White, for harness work,	23 50
T. B. Wilson, for harness work,	31 08
W. C. Smith, for hitches and collar-hook,	15 00
Chas. Williams, for telegraph materials,	24 00
Gamewell & Co., for signal-box,	250 00
S. J. Wood, for sharpening saws,	1 85
E. J. Brown, for paints,	8 75
O. P. Wiley, for paints,	5 20
B. F. Fish, for paints,	4 10
D. McLenathen, for glazing,	8 75
J. Breck & Sons, for repairing lawn mower,	2 50
B. B. David, for whips,	14 00
J. B. David, for whips,	6 00
E. Castleton, damage to carriage,	2 50
Russell & Fitch, for moving night-soil,	6 00
N. Harding, for badges, etc.,	34 50
J. M. Palmer, jacks,	30 00
E. G. Morrison, for plastering	35 00
C. E. Edlefson for use of pung, etc.,	23 18
W. L. Trickey, for straw,	6 70
Edward Early, for repairing roofs,	17 67
A. H. Dennett, for painting,	22 00
H. A. Carney, for damage to trees,	20 00
J. E. Parsons, for hardware. etc.,	42 63
A. T. Colburn, for harness work,	13 45
George Blackbird, for carpenter work,	3 50
John L. Crafts, for rope, etc.,	59 57
<i>Amount carried forward,</i>	<hr/> \$24,901 68

<i>Amount brought forward,</i>	\$24,901 68
D. W. Cushing, for grate,	1 25
Snow & Chase, for hardware, etc.,	25 98
A. R. Gay & Co., for stationery,	2 75
J. H. Brooks, for bedding,	14 35
J. A. Anderson, for bedding,	9 67
J. O. Hayden & Co., for printing,	40 00
T. Cunningham, for oiling hydrants,	3 00
Thomas Hollis, for drugs and medicine,	26 32
W. J. London, for expressing,	27 70
Bancroft's Express, for expressing,	20
Thorpe's Express, for expressing,	1 10
E. R. Perham, for expressing,	10 68
S. F. Robinson & Son, for express- ing,	50
G. A. Coleman, for expressing,	1 00
Barker & Tibbetts, for expressing,	8 65
Crosby Steam Gauge and Valve Co., for gauges,	46 50
D. E. Owen & Co., for snaps and hitches,	23 00
City of Boston, water for hydrants,	1,176 00
water rates, for buildings,	110 00
Engine Co., for bell pull,	30 00
T. H. Daly, " "	17 65
E. W. Ring, " "	15 58
G. H. Foster Hose Co., bell pull,	10 00
G. O. Brastow, " "	21 61
R. Warner & Co., for brushes, etc.,	16 26
Geo. F. Hughes, for fire services,	7 08
	<hr/>
	\$26,548 51

FUNDED DEBT.

Credit.

BALANCE from 1876,	\$1,771,854 00
CASH received from sale of Bonds Nos. 32 and 33, Water Loan, authorized by the City Council,	10,000 00
	<hr/>
	\$1,781,854 00

Debit.

CASH paid Sidewalk Loan Bond No. 5,	\$10,000 00	
City Loan Bonds Nos. 36 to 43, 50, 56, 58, 59, 62 to 65, 68 to 71, 97, 112 to 115 and 122,	165,000 00	
	<u>\$175,000 00</u>	
BALANCE to credit in account of 1878,	1,606,854 00	
		<u><u>\$1,781,854 00</u></u>

HEALTH DEPARTMENT.

Credit.

APPROPRIATIONS, amount assessed,		\$3,400 00
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Debit.

CASH paid Henry Gray for removing house offal to Dec. 26,	\$1,800 00	
Highways account, for removing ashes to Oct. 28,	508 31	
Sundry persons for burying dead animals.	25 75	
Somerville Citizen, advertising,	27 00	
J. O. Hayden & Co., advertising and printing,	54 35	
S. L. Pratt, carriage hire,	11 00	
P. W. Skinner, for attendance in small-pox cases, and fumigating,	103 00	
C. A. Small, for groceries and provisions,	35 21	
Patrick Russell, for house rent and cleaning,	26 00	
Brine & Clark, for fuel,	7 75	
G. H. Cowdin, for medicine,	2 42	
H. P. Hemenway, medical services,	3 00	
Sturtevant Bros., for sulphur,	3 80	
E. Bugbee & Co., for disinfectant,	75	
	<u>\$2,608 34</u>	
EXCESS AND DEFICIENCY, balance to credit of account,	791 66	
		<u><u>\$3,400 00</u></u>

HIGHWAYS.

Credit.

APPROPRIATIONS, amount assessed,		\$45,000 00
CASH received from : —		
S. C. Darling, amount rec'd by him for earth sold,	\$9 00	
Sundry persons rent of tenements at City farm,	158 25	
G. W. Wyatt, for clay,	81 00	
C. A. Mongan, for stone,	5 00	
Superintendent of streets, amount received by him for gravel,	1 10	
labor,	5 00	
pasturage,	5 00	
old wagon,	10 00	
hay sold,	52 00	
Bean & Willard, for use of gravel land at Waltham,	80 00	
Survey of Streets account for labor,	19 50	
Highways (Broadway Grading) ac- count for grading,	21 95	
Police Station Incidentals account for gravel,	21 50	
Schoolhouse Repairs account for gravel, etc.,	41 38	
Miscellaneous account for labor, etc.,	12 25	
for painting watering-cart sheds,	8 88	
Health Department account for collecting ashes,	508 31	
Sewers account for paving, etc.,	60 70	
Sewers (Beacon and Elm Street Sewer) account for grading,	258 94	
	<hr/>	1,359 76
INTEREST transferred,		1,732 14
		<hr/>
		\$48,091 90

Debit.

CASH paid laborers,	\$23,812 45
Sundry persons for labor-tickets issued to laborers,	5,573 20
T. F. Cummings, for teaming,	392 00
Owen Cunningham, for teaming,	352 00
Christopher Burke, for teaming,	174 00
J. Welch, for teaming,	12 00
James Burke, for teaming,	88 00
John Carr, for teaming,	16 00
John Riley, for teaming,	104 00
Francis Gray, for teaming,	24 00
Henry Gray, for teaming,	190 00
Martin Gill, for teaming,	320 00
James Fitzpatrick, for teaming,	28 00
M. Norton, for teaming,	236 00
Jeremiah McCarty, for teaming,	266 00
John McCauley, for teaming,	68 00
D. McCarty, for teaming,	286 00
J. Murphy, for teaming,	146 00
Dennis Murray, for teaming,	34 00
James McCarroll, for teaming,	98 00
J. Hoar, for teaming,	114 00
Jerry O'Brien, for teaming, for gravel,	3,048 75
Wm. Aylward, for teaming,	40 00
H. J. Foster, for teaming,	284 00
E. A. Foster, for teaming, for cutting grass,	18 00
for brick,	134 25
Elizabeth Shehan, for teaming,	165 00
G. W. Prichard, for teaming, etc.,	375 55
Frank Buttemer, for teaming,	188 50
Seward Dodge, for blacksmithing,	414 72
Gallishaw & Kenneally, for black- smithing,	38 34
J. G. Harmon, for blacksmithing,	155 31
<i>Amount carried forward,</i>	<hr/> \$37,602 07

<i>Amount brought forward,</i>	\$37,602 07
Harmon & McGrath, for blacksmithing,	10 27
A. McGrath, for blacksmithing,	3 50
M. Lynch, for blacksmithing,	42 70
Edward O'Brien, for horse-shoeing,	103 15
Z. Doty, for horse-shoeing,	2 50
Cook, Rymes & Co., for picks and handles,	86 70
J. Leland, for wheelwright work, etc.,	95 10
T. W. Littlefield, for labor,	9 00
G. R. Kelso, services as expert,	25 00
J. S. Daniels, services as expert,	15 00
G. Greenleaf & Co., for screens,	10 00
S. W. Fuller, for lumber,	95 42
J. H. Farris, for burning brands,	2 50
Edward Earley, for repairing roofs,	18 51
George F. Fisher, for paving,	60 00
G. E. Copp, for sign,	2 50
James Forgie, for harness work,	26 50
A. T. Colburn & Co., for harness work,	37 60
T. B. Wilson, for harness work,	25 36
J. N. White, for harness work,	14 00
J. A. Tobey, for repairing shafts,	4 25
Wakefield Rattan Co., for brooms,	2 75
Underhill Brothers, for repairing spade,	50
Sewer account, for labor on watering trough,	1 18
Barker & Tibbetts, for expressing,	4 00
G. A. Coleman, for expressing,	1 00
Barry & Mayo, for coal,	4 00
J. A. Cummings & Co., for printing.	2 50
E. Teel & Co., for handles,	16 00
John Thresher, for brick,	27 23
<i>Amount carried forward,</i>	<u>\$38,350 79</u>

<i>Amount brought forward,</i>	\$38,350 79
G. W. Wyatt, for brick,	2 40
McCarty & Falvey, for brick,	5 20
Jarius Mann, amount paid by him for witness fees,	35 75
Town of Medford, half cost main- taining Middlesex Ave. bridge, in 1876,	340 58
G. H. Mason, for lanterns,	9 00
Amos Nickerson, for stone,	3 10
E. Clement & Co., for pickets,	40
Owen Casey, for stone,	232 00
D. Brooks, for mason work,	4 75
D. E. Lovering, for mason work,	254 31
R. A. Melvin, for carpenter work,	51 75
M. K. Norwood, for carpenter- work,	9 18
Stephens & Scofield, for carpenter- work,	3 75
C. H. Crane, for drugs, etc.,	8 45
Thomas Hollis, for drugs, etc.,	12 15
J. O. Hayden, for tip-cart,	40 00
Hooper, Lewis & Co., for station- ery,	7 37
Henderson Bros., for wagon,	125 00
J. O. Hayden & Co., for advertis- ing and printing,	83 40
C. Holmes & Son, for lanterns, hardware, etc.,	55 61
Benj. Hadley, for hay and cement,	45 32
W. M. Hadley, for hay, cement, coal, etc.,	316 34
J. F. Ham, for hay,	190 35
F. P. Ladd, for hay,	68 89
N. L. Pennock, for harness-work,	32 75
Sabin & Page, for harness-work,	129 18
N. Tufts & Son, for grain,	1,043 63
U. S. Steam Feed Co., for feed,	8 16
<i>Amount carried forward,</i>	<hr/> \$41,469 56

<i>Amount brought forward,</i>	\$41,469 56
H. W. Raymond, for shovels and hardware,	60 37
Parker & Gannett, for shovels, etc.,	52 75
Ames Plow Co., for shovels,	16 20
Ame & Co., for feed,	17 00
James Bartley, for oil,	2 50
C. A. Small, for oil, etc.,	3 12
A. Sargent & E. E. Adams, trustees, rent of land for gravel dump,	66 66
John Turner & Co., for edgestones and paving-stones,	491 25
Snow & Chase, for drain-pipe, etc.,	15 71
J. M. Palmer, for lever-jack,	16 00
W. L. Trickey, for straw,	7 18
W J. Slade & Son, for tub and hose,	72 00
R. Sherburne, for glass,	4 16
C. H. Tufts, for glazing,	3 00
Lewis Putnam, for veterinary services,	22 00
Mrs. A. L. Rich, for gravel,	460 05
P. O. Reardon, for gravel,	44 22
Geo. H. Sampson, for powder,	182 05
T. P. Barnes & Son. for powder,	4 00
City of Boston, for water-rates,	38 00
C. E. Edelfson, for shovels,	33 15
Dodge, Gilbert & Co., for hammers, etc.,	43 96
Davis, Stebbins & Co., for hardware,	3 05
Wm. R. Bradford, for forge,	10 00
R. Burlen, for binding plans,	7 00
J. N. Deveraux, for wagon covers,	10 00
Crowell Bros. & Co., for paints,	25 79
Bridgeman & Peabody, for feed-bags,	8 00
<i>Amount carried forward,</i>	<u>\$43,188 73</u>

<i>Amount brought forward,</i>	\$43,188 73
Brine & Clark, for coal,	2 00
Boyd & McClure, for iron,	7 17
Bishop & Bro., for ladders,	7 47
Est J. C. Cushing, for tool-house,	20 00
J. F. Cole & Co., for shovels, grain, etc ,	341 85
A. C. Sanborn & Co , for water- ing-trough, etc.,	160 00
Douglas Frazar, clerk of Commit- tee on Highways,	400 00
E. F. Prichard, clerk to Superin- tendent of Streets,	100 00
F. Henderson, Supt. of Streets,	56 25
John P. Prichard, Supt of Streets,	1,293 75
J. D. Lovering, labor on drinking- fountain,	5 00
C. C. Allen, for horse,	175 00
John S. Nason, for horses,	575 00
Town of Waltham, taxes on gravel land,	257 04
Town of Winchester, for taxes on gravel land,	8 32
Town of Wakefield, for taxes on gravel land,	22 26
Quincy A. Vinal, trustee, verdict of court for damages in conse- quence of change in grade of Washington Street,	1,018 04
	<hr/>
	\$47,637 88
SIDEWALKS transferred,	348 34
EXCESS AND DEFICIENCY, balance to credit of account,	105 68
	<hr/>
	\$48,091 90
	<hr/> <hr/>

HIGHWAYS (APPLETON STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$158 33
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$158 33
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HIGHWAYS (CHURCH STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$36 00
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$36 00
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HIGHWAYS (CONCORD AVENUE).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$19 70
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$19 70
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HIGHWAYS (BROADWAY WIDENING).

Credit.

BALANCE from 1876,	\$9,298 56
EXCESS AND DEFICIENCY, transferred,	5,677 99
	<u>\$14,976 55</u>

Debit.

CASH paid Chauncy Holt, award of Court, damages for land taken,	\$14,910 10
Clerk of Court, for printing, etc.,	55 25
S. C. Darling, Court fees,	5 20
Horace Partridge, printing,	6 00
	<u>\$14,976 55</u>

HIGHWAYS (BROADWAY GRADING).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$103 33
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Debit.

CASH paid Richard Falvey, labor,	\$8 50	
D. F. Hulsman, carpenter-work,	19 75	
Francis Mongan, grading,	53 13	
Highways account, grading,	21 95	
	<hr/>	\$103 33
		<hr/> <hr/>

HIGHWAYS (DAY STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$1,656 39
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$1,599 29	
CASH refunded on assessment,	57 10	
	<hr/>	\$1,656 39
		<hr/> <hr/>

HIGHWAYS (MILK STREET WIDENING).

Credit.

BALANCE from 1876,	\$16 482 62
EXCESS AND DEFICIENCY, transferred,	7 362 00
MISCELLANEOUS, transferred,	6 365 40
	<hr/>
	\$30,210 02

Debit.

CASH paid Horace Partridge, for printing,	\$6 00	
Chas. Robinson, costs of Court in suit with Tufts,	94 08	
John P. Squire, for land taken,	13,240 65	
	<hr/>	
	\$13,340 73	
HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	16,869 29	
	<hr/>	
		\$30,210 02
		<hr/> <hr/>

HIGHWAYS (HIGHLAND AVENUE EXTENSION).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$6 10
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Debit.

CASH paid Chas. Robinson, Jr., for sheriff's fees in " Dickerman " case,	\$6 10
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HIGHWAYS (MORRISON STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$274 13
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$274 13
--	----------

HIGHWAYS (QUINCY STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$239 85
--	----------

Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$239 85
--	----------

HIGHWAYS (WALLACE STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$571 08
--	----------

Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$571 08
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HIGHWAYS (WARREN AVENUE).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$12 60
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$12 60
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HIGHWAY BETTERMENT ASSESSMENTS.

Credit.

HIGHWAYS (MILK STREET WIDENING), assessments abated,	\$16,869 29
HIGHWAYS (CONCORD AVENUE), assessments abated,	19 70
HIGHWAYS (CHURCH STREET), assessment abated,	36 00
HIGHWAYS (WARREN AVENUE), assessment abated,	12 60
HIGHWAYS (DAY STREET), assessments abated,	1,599 29
HIGHWAYS (QUINCY STREET), assessments abated,	239 85
HIGHWAYS (APPLETON STREET), assessments abated,	158 33
HIGHWAYS (MORRISON STREET), assessments abated,	274 13
HIGHWAYS (WALLACE STREET), assessments abated,	571 08
REAL ESTATE LIENS, titles to the city for non-payment of assessments,	149 90
CASH received of sundry persons, assessments,	12,070 51
BALANCE to debit in account of 1878,	28,988 14
	<hr/>
	\$60,988 82

Debit.

BALANCE from 1876,	\$59,262 19
CASH paid sundry persons, assessments received on Milk Street.	1,726 63
	<hr/>
	\$60,988 82

INCIDENTALS.

Credit.

CASH received of the State Treasurer : —	
Balance on Corporation and Bank Tax for 1876,	\$93 08
On account of Corporation Tax for 1877,	2,349 18
On account of Bank Tax for 1877,	3,813 94
	<hr/>
	\$6,256 20

Debit.

EXCESS AND DEFICIENCY, amount to credit of account,	\$6,256 20
	<hr/> <hr/>

INTEREST.

Credit.

APPROPRIATIONS, amount assessed,		\$90,000 00
CASH, received on deposits in banks,	\$973 78	
On taxes,	17,251 29	
On tax titles released,	404 09	
On betterments,	412 40	
	<hr/>	
	\$19,041 56	
REAL ESTATE LIENS, interest on titles to the City on property deeded for non-payment of taxes and assessments,	1,054 11	
	<hr/>	
		20,095 67
		<hr/>
		\$110,095 67

Debit.

CASH paid on Funded Debt: Coupons of Sidewalk Loan Bonds, Nos. 5 to 10 inclusive; Town Loan Bonds, Nos. 1 and 3 to 8 in- clusive; School Loan Bonds, Nos. 2 to 4 inclusive; City Loan Bonds, Nos. 1 to 17, 31 to 44, 49 to 334, inclusive; and Sewer Loan Bonds, Nos. 1 to 7 inclu- sive: —		
\$35,000, 6 months, at 7 per cent,	\$1,225 00	
\$65,000, 1 year, at 7 per cent,	4,550 00	
\$95,000, 6 months, at 6½ per cent,	3,087 50	
\$796,000, 1 year, at 6½ per cent,	51,740 00	
\$115,000, 1 year, at 6 per cent,	6,900 00	
\$140,854, 1 year, at 5½ per cent,	7,747 00	
\$200,000, 1 year, at 5 per cent,	10,000 00	
	<hr/>	
	\$85,249 50	
	<hr/> <hr/>	

PAID on Temporary Loans : —

Warren Institution for Savings on note for \$50,000, 4 months, at 5 per cent,	\$833 33
and 7 months at $3\frac{7}{8}$ per cent,	1,130 21
on note for \$75,000, 2 months at 4 per cent,	500 00
Boston Five Cents Savings Bank on note for \$200,000, 9 months at $3\frac{7}{8}$ per cent,	5,812 50
on note for \$50,000, 3 months at $3\frac{1}{2}$ per cent, and 27 days at 5 per cent,	625 00
Aaron Sargent, trustee, on note for \$20,000, 4 months at 5 per cent,	333 33
and 8 months at $3\frac{7}{8}$ per cent,	516 66
A. Sargent and E. E. Adams, trustees, on note for \$5,000, 4 months at 5 per cent,	83 33
and 8 months at $3\frac{7}{8}$ per cent,	129 17
Charles Wilson, on note for \$5,000, 4 months at 5 per cent,	83 33
and 8 months and $3\frac{7}{8}$ per cent,	129 17
Commissioners of Sinking Fund, City of Worcester, on note for \$30,000, 4 months 3 days at 5 per cent,	512 50
Commissioners of Sinking Fund, City of Somerville, on \$36,030- .62, 2 months at 5 per cent,	300 25
	<hr/> \$10,988 78 <hr/>
ON FUNDED DEBT,	\$85,249 50
TEMPORARY LOANS,	10,988 78
	<hr/> \$96,238 28 <hr/>
HIGHWAYS, transferred,	1,732 14
SEWERS, transferred,	5,223 04
	<hr/> \$103,193 46 <hr/>
<i>Amount carried forward,</i>	

<i>Amount brought forward,</i>	\$103,193 46	
SEWERS (BEACON AND ELM STREET SEWER), transferred,	2,772 52	
EXCESS AND DEFICIENCY, balance to credit of account,	4,129 69	
	<u> </u>	\$110,095 67

LIQUOR LICENSES.

Credit.

CASH received for : —

Second Class, 2 at \$175 each,	\$350 00	
Third Class, 9 at \$150 each,	1,350 00	
Fourth Class, 19 at \$100 each,	1,900 00	
Fourth Class, 6 at \$50 each,	300 00	
Fifth Class, 1 at	75 00	
	<u> </u>	\$3,975 00

Debit.

CASH paid State Treasurer, one fourth of amount received,	\$993 75	
EXCESS AND DEFICIENCY, balance to credit of account,	2,981 25	
	<u> </u>	\$3,975 00

MISCELLANEOUS.

Credit.

APPROPRIATIONS, amount assessed,		\$18,000 00
REAL ESTATE LIENS, costs on titles to the city, on property deeded for non-payment of taxes and assessments,		773 09
CASH received : —		
Costs on property sold for non- payment of taxes and assess- ments,	\$747 51	
For answers to trustees,	17 50	
Of the city clerk, fees for recording mortgages, etc., and for marriage certificates,	640 70	
and on dog licenses,	116 40	
<i>Amounts carried forward,</i>	\$1,522 11	\$18,773 09

<i>Amounts brought forward,</i>	\$1,522 11	\$18,773 09
Of the truant officer, board of boy in Lowell Reform School,	43 44	
Of sundry persons, for old carpets,	8 00	
Of P. Sherin, for board of boy in State Reform School,	35 64	
Of the City Engineer, amount re- ceived by him for centennial trees on Central Hill land,	7 00	
By letter from an unknown person, being sum therein stated to be due the city,	2 00	
	<hr/>	1,618 19
		<hr/> \$20,391 28

Debit.

CASH paid M. R. Warren, for stationery,	\$331 90
M. L. Whitten, “	29 00
Hooper, Lewis & Co. “	50 50
Cambridge Diary Co. “	20 00
J. E. Farwell & Co., for printing,	331 70
J. A. Cummings & Co. “	26 50
J. O. Hayden & Co., for printing and advertising,	1,495 80
R. M. Pulsifer & Co., for adver- tising,	4 88
Globe Publishing Co., for adver- tising,	2 63
Greenough & Co., for Directories,	10 00
L. A. Dimond, for newspapers,	9 75
Peter J. Gannon, “	1 50
Geo. B. King, for printing,	2 15
W. S. Barnes, paper boxes,	5 00
Engineer's assistants for car fares,	60 56
George A. Kimball, for mainte- nance of team,	200 00
For repairing drawers,	83
<i>Amount carried forward,</i>	<hr/> \$2,582 70

<i>Amount brought forward,</i>	\$2,582 70
H. W. Kimball, for labor, etc.,	151 40
M. J. Lincoln, for washing floors, etc.,	15 75
Jairus Mann, maintenance of team, for washing, etc.,	500 00 21 65
amount paid fees to witnesses, for watching,	22 10 82 50
John Flannagan, for drawers, etc., for assessors' room,	65 25
S. C. Darling, for court fees, etc.,	86 12
Clerk of Courts, for court fees, etc.,	49 65
E. K. Darling, for taking affida- vits in bankruptcy cases,	8 00
C. J. Adams, support of prisoners in House of Correction,	13 29
City of Lowell, board of truants,	226 62
L. G. Burnham & Co., for fuel,	198 45
Cambridge Gas Light Co., for gas,	389 99
Mrs. Barry, for washing,	2 60
Patrick Lally & Co., for watering- carts,	2,074 00
for use of watering-carts,	62 00
Little, Brown & Co., for law re- ports,	55 00
T. O. H. P. Burnham, for law re- ports,	20 00
J. Bancroft, for serving notices,	6 30
H. D. & W. S. Durgin, for ice,	45 60
Charles Davis, for boundary stone,	109 75
Richard Falvey, for setting boun- dary stone,	25 25
A. H. Dennett, for gas fixtures,	25 75
F. A. Titus, for gas fixtures,	4 00
R. O. Dennett, for plumbing,	5 00
Sullivan & Co., for plumbing,	4 75
Somerville Citizen, for advertising,	25 80
Post-office, for stamps, etc.,	89 00
<i>Amount carried forward,</i>	\$6,968 27

<i>Amount brought forward,</i>	\$6,968 27
Henry Shaw, for posting notices,	2 00
Harrison & McLane, for posting notices,	11 00
B. F. Johnson, for posting notices,	3 00
F. D. Daniels, door-keeper for assessors,	16 50
Cook, Rymes & Co., for labor,	60
Geo. H. Cowdin, for sponge,	2 20
A. J. Carter, for furniture,	49 25
Seward Dodge, for blacksmithing,	12 80
W. H. Brine, for services as constable,	50 00
D. Brooks, for mason-work,	12 10
E. S. Bailey, repairing clock,	4 75
Alonzo Bowers, for carpenter-work at Police Station,	300 00
I. B. Walker, for building sheds for watering-carts at City Farm,	250 00
Mark Leighton, for carpenter-work,	51 11
Thomas Long, for carpenter-work,	94 17
G. W. Lawson, for carpenter-work,	31 20
Lewis Hunt, for carpenter-work,	15 27
J. H. Rouse & Co., for carpenter-work,	8 45
Stevens & Scofield, for carpenter-work,	5 65
James Gwynn, for expressing,	1 50
Stilphen & Co., for expressing,	1 85
Bancroft's Express, for expressing,	80
S. R. Burke, for expressing,	3 10
London's Express, for expressing,	19 85
Barker & Tibbetts, for expressing,	25
Bishop & Bros., for ladder,	1 50
G. T. Burnham, for examining building,	20 00
D. E. Lovering, for examining building,	20 00
<i>Amount carried forward,</i>	<hr/> \$7,957 17

<i>Amount brought forward,</i>	\$7,957 17
S. D. Kelley, for examining building,	20 00
J. M. Coburn, Janitor at Ward Room,	4 00
Robert Thompson, Janitor at Ward Room,	4 00
J. C. Davidson, Janitor at Ward Room,	32 50
Wm. Davis, Janitor at Ward Room,	2 00
J. E. Eldredge, for summoning witnesses,	5 75
C. H. Dassance, for lettering order-boxes,	4 00
Chas. W. Dailey, for carriage hire,	16 00
G. H. Buxton, for carriage hire,	5 00
A. L. Sanborn, for carriage hire,	4 00
S. L. Pratt, for carriage hire,	3 00
Hugh Rowe, labor,	1 25
City of Boston, for water rates,	50 00
Hugh A. Carney, for trees,	10 00
J. H. Brooks, for cloth,	1 81
J. Baker & Co., for halyards,	2 83
E. G. Cutler, services as medical expert,	21 60
John Harrington & Co., for soap, brushes, etc.	14 07
H. M. Hutchings & Co., for painting,	338 37
D. M. McDermott, for painting,	1 50
E. G. Morrison, for plastering,	15 00
Middlesex Registry, for recording deeds,	1 35
J. E. Marden, for ringing bell,	3 00
R. R. Perry, for witness fees,	2 50
G. W. Patten, for witness fees,	2 00
F. W. Lincoln & Co., for tape measure,	10 00
<i>Amount carried forward,</i>	<hr/> \$8,532 70

<i>Amount brought forward,</i>	\$8,532 70
J. E. Moody, for adjusting engineer's instruments, etc.	21 50
L.W. Manning, for beating carpets,	47 60
H. Pigeon & Son, for top-mast to flag-staff,	30 00
G. W. Manning, care of flag-staffs, etc.	27 50
Howe & Flint, for hardware,	2 62
Chas. Holmes, for hardware,	14 95
H. W. Raymond, for hardware,	19 47
H. Partridge, for printing,	41 25
Highways account, for labor,	21 13
L. M. Maynard, for labor,	47 00
L. E. Pierce, damages for injuries on highway,	261 73
L. A. Balch, damages for injuries on highway,	333 67
Catherine O'Neil, damages for injuries on highway,	200 00
W. C. Crane, premium of insurance,	144 00
Insurance Co. of North America, premium of insurance,	24 00
John P. Healey, for consultations and advice,	50 00
Post 139, G. A. R., for Memorial Day,	300 00
J. H. Pray & Sons, for carpets,	99 50
G. W. Prichard, for watering streets,	34 40
H. B. Runey, for return of deaths,	31 50
Patrick Rafferty, return of deaths,	27 00
F. G. Williams, return of births,	102 00
Joseph Young, for labor,	30 00
S. J. Wood, for repairing locks, etc.	8 50
<i>Amount carried forward,</i>	<hr/> \$10,452 02

<i>Amount brought forward,</i>	\$10,452 02
Geo. I. Vincent, for taking abstracts from Middlesex Deeds,	200 00
Jesse Simpson, for release of tax title,	40 15
W. S. Stearns, for examining title of Oliver Street land,	140 00
R. A. Trull, for repairing flag,	3 00
J. Q. Twombly, for glazing,	3 80
Stephen Smith & Co., for specie cups,	4 00
John C. Magoun, salary as sealer of weights and measures,	100 00
C. A. Small, salary as pound keeper,	25 00
A. Nowers, for poultry for soldiers' families at Thanksgiving,	153 76
Sturtevant Bros., for poultry for soldiers' families at Thanksgiving,	24 16
G. F. Morgan, for abstracts from mortgages,	28 80
Ward officers,	207 00
	<hr/>
	\$11,381 69

HIGHWAYS (MILK STREET WIDENING), transferred,	6,365 40	
MISCELLANEOUS (WATERING STREETS), cost to the city for watering,	841 79	
EXCESS AND DEFICIENCY, balance to credit of account,	1,802 40	
	<hr/>	\$20,391 28
		<hr/> <hr/>

MISCELLANEOUS (WATERING STREETS).

Credit.

CASH received of sundry persons as their proportional part of the cost of watering,	\$1,880 05
MISCELLANEOUS, for cost to the city for watering,	841 79
	<hr/>
	\$2,721 84

Debit.

CASH paid Edward Cahill, for watering,	\$470 20	
G. W. Prichard, for watering,	340 80	
C. A. Mongan, for watering,	336 60	
Jas. McCarroll, Jr., for watering,	325 89	
Martin Gill, for watering,	325 00	
John McCauley, for watering,	297 50	
City of Boston, for water,	500 00	
Sundry persons, repairs, labor, etc.,	25 85	
John P. Prichard, for superintendence,	100 00	
		<hr/>
		\$2,721 84

OVERLAY AND ABATEMENT.**Credit.**

TAXES, amount added to the amount of the taxes assessed, as fractional divisions, for convenience in the apportionment,	\$9,690 61
EXCESS AND DEFICIENCY, balance to debit of account,	6,037 15
	<hr/>
	\$15,727 76

Debit.

TAXES, for abatement on taxes,	\$15,727 76
	<hr/>
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POLICE.**Credit.**

APPROPRIATIONS, amount assessed,	\$29,000 00
CASH received of Lebbeus Stetson, Clerk of the Court, for officers' fees, etc.,	\$1,893 20
Sewers (Beacon and Elm Streets sewers) account, for lanterns and naphtha,	17 69
	<hr/>
	1,910 89
	<hr/>
	\$30,910 89

Debit.

CASH paid M. C. Parkhurst, Chief,	\$1,500 00
R. R. Perry, Captain,	1,200 00
Samuel R. Dow, Lieutenant,	1,100 00
C. C. Folsom, Sergeant,	1,050 00
S. A. Brown, patrolman,	1,003 75
Geo. W. Bean, “	1,003 75
C. D. Clark, “	1,003 75
N. F. Caswell, “	1,003 75
J. G. Cunningham, patrolman,	1,003 75
Isaac S. Campbell, “	1,003 75
C. C. Cavanaugh, “	1,003 75
Geo. Cullis, “	1,001 00
Albert Fisk, “	1,003 75
J. E. Fuller, “	1,003 75
John Hafford, “	992 75
M. H. Kinsley, “	995 50
Ivan Laighton, “	1,003 75
Howard Lowell, “	1,003 75
John H. McGarr, “	1,003 75
Edward McGarr, “	1,003 75
J. W. Oliver, “	1,003 75
S. C. Rollins, “	1,001 00
F. W. Slade, “	1,003 75
P. W. Skinner, “	962 50
A. L. Staples, “	1,0 3 75
L. H. Snow, “	1,003 75
O. H. Webber, “	660 00
S. H. Whitcomb, “	995 50
J. B. Young, “	335 50
B. F. Sheridan, “ (special),	408 00
Daniel Smith, “ “	12 00
C. B. Taber, “ “	96 00
D. H. Rinn, “ “	127 00
W. H. Brine, “ “	10 00
J. J. Giles, “ “	2 00
Geo. Cunningham, “ “	2 50
<i>Amount carried forward,</i>	<hr/> \$29,515 00

<i>Amount brought forward,</i>	\$29,515 00
M. C. Parkhurst, lock-up keeper,	300 00
telegraphing,	3 72
C. C. Folsom, travelling expenses,	7 03
C. C. Cavanagh, travelling ex- penses,	12 35
J. J. Giles, washing, etc.,	63 31
James Bartley, crackers, cheese, etc.,	143 84
G. H. Cowdin, for drugs, etc.,	17 58
M. Norton, teaming boats,	4 00
H. D. & W S Durgin, ice,	30 00
Scovill Manuf. Co., for buttons,	13 50
Pollard, Alvord & Co., for wreaths,	4 00
Howe & Flint, repairing hose,	3 55
C. Holmes & Son, for dippers, etc.,	5 40
J. O. Hayden & Co., advertising,	18 00
Guild & Delano, repairing badges,	50
C. M. Blake, for newspapers,	14 99
L. A. Dimond, for newspapers,	3 50
J. A. Anderson, for towels,	4 00
Reuben Willis, medical attendance,	3 00
Sanford Hanscom, medical attend- ance,	3 00
C. H. Day, for horse,	175 00
H. A. Winship, for saddle, etc.,	51 55
S. Dodge, horse-shoeing,	6 50
M. C. Parkhurst, board of horse,	67 14
L. H. Brown, carriage hire,	75 50
G. H. Buxton, carriage hire,	6 00
S. Giddings, carriage hire,	1 50
S. L. Pratt, carriage hire,	1 50
G. S. Heaton, carriage hire,	2 00
	<hr/>
	\$30,556 96
EXCESS AND DEFICIENCY, balance to credit of account,	353 93
	<hr/>
	<u>\$30,910 89</u>

POLICE STATION INCIDENTALS.

Credit.

APPROPRIATIONS, amount assessed,		\$3,000 00
CASH received of:—		
The State Treasurer, for armory rent,	\$94 35	
Post 139 G. A. R., for rent of hall,	125 00	
extra use of room,	10 00	
Committee on Public Property, amount received by them for use of Ward Room,	80 00	
Odd Fellows' Encampment, for use of hall,	10 00	
	<hr/>	319 35
		<hr/>
		\$3,319 35

Debit.

CASH paid J. J. Giles, janitor,	\$900 00
for labor, cleaning, washing, etc.,	25 36
for substitute during vacation,	13 11
Cambridge Gas Light Co., for gas,	706 46
L. G. Burnham & Co., for fuel,	458 89
E. H. Brabrook, for carpets and mirrors,	54 95
M. W. Peirce & Co., for repairing heating apparatus,	28 71
T. F. McGann, for repairing heat- ing apparatus,	46 00
Murphy Leavens & Co., for dust- ers,	2 15
City of Boston, water rates,	57 00
Jas. Bartley, for naphtha, etc.,	13 46
Sullivan & Co., plumbing,	4 50
W. G. Preston, services as archi- tect,	184 00
S. D. Kelley, for plan of alter- ations,	35 00
<i>Amount carried forward,</i>	<hr/>
	\$2,529 59

<i>Amount brought forward,</i>	\$2,529 59	
W. C. Crane, insurance premium on boiler,	20 00	
Leonard Arnold, carpenter-work,	102 79	
Albert Caswell, carpenter-work,	10 00	
Seavey & Co., for cuspadores,	10 00	
Dan'l Brooks, mason-work, etc.,	186 12	
J. L. Hammett, for blackboard,	12 30	
J. Q. Twombly, painting,	5 72	
S. Dodge, blacksmithing,	6 25	
H. W. Raymond, hardware,	6 68	
Howe & Flint, oil, etc.,	4 53	
Edw'd Earley, repairing roofs,	12 67	
J. O. Hayden & Co., advertising,	9 90	
O. C. Hanson, expressing,	2 00	
Public Park Maintenance account, for lawn mower,	12 00	
Highway account, for gravel,	21 50	
	<u>\$2,952 05</u>	
EXCESS AND DEFICIENCY, balance to credit of account,	367 30	
	<u> </u>	<u>\$3,319 35</u>

PROPERTY AND DEBT BALANCE.

Credit.

REDUCTION OF FUNDED DEBT, amount of debt paid in 1877,	\$175,000 00
PUBLIC PROPERTY, additional property acquired in 1877,	17,645 74
BALANCE to debit in account of 1878,	64,926 84
	<u>\$257,572 58</u>

Debit.

BALANCE from 1876,	\$72,193 47
APPROPRIATIONS, balance from 1876, and appropriated in 1877,	185,379 11
	<u>\$257,572 58</u>

PUBLIC LIBRARY.

Credit.

BALANCE from 1876,		\$451 30
APPROPRIATIONS, amount assessed,		1,500 00
CASH received of: —		
The County Treasurer, return on dog licenses for 1876,	\$1,362 30	
Of the librarian for fines,	180 43	
Catalogues,	25 75	
	<hr/>	1,568 48
		<hr/>
		\$3,519 78

Debit.

CASH paid Lockwood, Brooks & Co. for books,	\$648 43	
Estes & Lauriat for books,	511 09	
James Campbell for books,	58 25	
A. Williams & Co. for books,	39 41	
W. B. Clarke for books,	16 35	
M. D. Edwards for books,	2 00	
American Library Journal sub- scription,	5 00	
J. A. Cummings & Co., printing,	214 00	
J. O. Hayden & Co., advertising,	7 20	
W. J. London, expressing,	28 35	
G. W. Lawson, carpenter-work,	7 63	
H. A. Adams, librarian,	700 00	
Lizzie Stevens, assistant librarian,	300 00	
Emily G. Coleman, assistant,	62 00	
H. F. Maynard, assistant,	22 95	
C. W. Merritt, assistant,	23 90	
L. A. Manning, assistant,	14 50	
	<hr/>	\$2,661 06
BALANCE to credit in account of 1878,	858 72	
	<hr/>	<hr/>
		\$3,519 78

PUBLIC PROPERTY.

Credit.

BALANCE, amount to debit in account of 1878,	\$1,532,243 40
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Debit.

BALANCE from 1876,	\$1,514,597 66
PROPERTY AND DEBT BALANCE, acquired in 1877,	17,645 74
	<u>\$1,532,243 40</u>

PUBLIC PARK.

Credit.

BALANCE TO DEBIT in account of 1878,	\$12,395 67
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Debit.

BALANCE from 1876,	<u>\$12,395 67</u>
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PUBLIC PARK BETTERMENT ASSESSMENTS.

Credit.

BALANCE from 1876,	\$678 81
CASH received of sundry persons,	3,421 29
	<u>\$4,100 10</u>

Debit.

BALANCE, amount to credit in account of 1878,	<u>\$4,100 10</u>
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PUBLIC PARK MAINTENANCE.

Credit.

APPROPRIATIONS, amount assessed,	\$2,500 00
CASH received of: —	
Police Station Incidentals account,	
for lawn mower,	\$12 00
Maverick Oil Co., for old oil barrels returned,	3 00
	<u>15 00</u>
	\$2,515 00

Debit.

CASH paid M. W. Murphy, labor, etc.,	\$822 36	
Michael Connell, labor,	263 62	
T. Murphy, Jr., labor,	308 62	
P. Connors, labor,	90 37	
Charles Mooney, labor,	50 25	
John Moriarty, labor,	6 75	
Timothy Loring, labor,	15 00	
Gallishaw & Kennealy, black-smithing,	17 00	
Timothy Murphy, for trees, etc.,	420 50	
Timothy F. Crimmings, for loam and labor,	104 40	
G. W. Prichard, for manure, gravel, teaming, etc.,	237 70	
William Denton, police duty,	39 00	
E. R. Perham, expressing,	3 50	
M. W. Peirce & Co., for sewer log,	10 00	
J. A. & W. Bird & Co., for can, etc.,	2 08	
Maverick Oil Co., for naphtha,	7 00	
S. Walker & Co., for naphtha,	7 06	
C. E. Edlefson & Co., for oil, etc.,	3 22	
T. W. Littlefield, for wicking,	75	
J. A. Durell, labor, etc.,	5 95	
Parker & Gannett, for lawn mower, etc.,	38 97	
D. E. Whitton, for lawn mower,	21 60	
Carter Winsor & Co. for naphtha,	6 73	
J. A. Palmer, iron work,	5 00	
	<hr/>	
	\$2,487 43	
EXCESS AND DEFICIENCY, balance to credit of account,	27 57	
	<hr/>	
		\$2,515 00
		<hr/> <hr/>

REDUCTION OF FUNDED DEBT.

	Credit.	
BALANCE from 1876,		\$165,000 00
APPROPRIATIONS, amount assessed,		10,000 00
		<hr/>
		\$175,000 00

Debit.

PROPERTY AND DEBT BALANCE, amount of the funded debt paid in 1877,	\$175,000 00
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REAL ESTATE LIENS.**Credit.**

CASH received of sundry persons for tax titles released,	\$5,419 88
BALANCE to debit in account of 1878,	10,905,32
	<hr/>
	16,325 20

Debit.

BALANCE from 1876,	\$8,976 67
TAXES, titles deeded to the city for non- payment of taxes,	5,117 40
HIGHWAY BETTERMENT ASSESSMENTS, titles deeded to the city for non- payment of assessments,	149 90
SEWER ASSESSMENTS, titles deeded to the city for non-payment of as- sessments,	47 60
SIDEWALK ASSESSMENTS, titles deeded to the city for non-payment of assess- ments,	233 79
INTEREST, on titles deeded to the city,	1,054 11
MISCELLANEOUS, costs on titles deeded to the city,	745 73
	<hr/>
	\$16,325 20

SALARIES.**Credit.**

APPROPRIATIONS, amount assessed,	\$19,350 00
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Debit.

CASH paid Austin Belknap, Mayor,	\$1,000 00
Chas. E. Gilman, City Clerk,	2,000 00
Aaron Sargent, City Treasurer,	2,700 00
Geo. A. Kimball, City Engineer,	2,100 00
S. C. Darling, City Solicitor,	2,300 00
Geo I. Vincent, Clerk to Assess- ors and Committees,	1,200 00
	<hr/>
<i>Amount carried forward,</i>	\$11,300 00

<i>Amount brought forward,</i>	\$11,300 00	
A. H. Carvill, City Physician,	1,000 00	
Jarius Mann, City Messenger,	1,300 00	
Sarah A. Miles, assistant to City Treasurer,	500 00	
E. M. Blaisdell, assistant to City Clerk,	500 00	
Solomon Davis, Auditor,	300 00	
Solomon Davis, Clerk of Common Council,	350 00	
Thos. Cunningham, assessor,	700 00	
F. G. Williams, assessor,	700 00	
G. W. Hadley, assessor,	700 00	
Geo. Smith, assistant assessor,	200 00	
B. F. Thompson, assistant as- sessor,	200 00	
A. Coleman, assistant assessor,	200 00	
L. W. Jones, assistant assessor,	200 00	
Engineer's assistants,	1,000 00	
Aaron Sargent, Treasurer of Com- missioners of Sinking Fund,	200 00	
	<hr/>	\$19,350 00
		<hr/> <hr/>

SCHOOL CONTINGENT.

Credit.

APPROPRIATIONS, amount assessed,		\$11,200 00
CASH received:—		
Of sundry persons, for school- books furnished by the School Committee,	\$27 46	
Of the Superintendent of Schools, amount received by him, and from town of Medford, for tui- tion of non-resident pupils,	115 38	
Of the Committee, amount received by them, and from sundry persons, for use of rooms in schoolhouses,	84 50	
	<hr/>	227 34
		<hr/> <hr/>
		\$11,427 34

Debit.

CASH paid Joshua H. Davis, salary as Superintendent of Schools,	\$2,000 00
for postage stamps, etc.,	5 00
E. A. Smith, salary as truant officer,	900 00
Janitors,	3,380 09
Charlestown Gas Company, for gas,	117 20
Cambridge Gas Light Company, for gas,	328 30
T. Groom & Co., for pens, paper, etc.,	249 00
W. C. Clark, for books, etc.,	242 69
F. E. Studley, for books, etc.,	55 11
A. A. Perry, for books, etc.,	50 16
J. L. Hammett, for books, stationery, etc.,	1,036 51
F. E. Bottomly, for books, etc.,	5 76
W. N. Goddard, for stationery,	139 90
G. A. Southworth, for stationery, etc.,	28 65
Geo. B. King, for books, printing, etc.,	1,012 09
J. E. Farwell & Co., for printing,	82 50
J. O. Hayden & Co., for printing,	27 75
Geo R. Bradford, for stationery,	5 53
N. S. Dearborn, for printing diplomas,	40 00
H. T. Johnson & Co , for stationery,	1 90
Parker & Gannett, for wheelbarrow,	5 00
Jas. Bartley, for sal-soda,	64
J. E. Marden, for window shades,	7 00
Flynn Bros., for window shades,	15 00
N. L. Dayton, for cloth,	1 10
J. F. Cole & Co , for water buckets,	1 20
<i>Amount carried forward,</i>	<u>\$9,738 08</u>

<i>Amount brought forward,</i>	\$9,738 08
O. F. Howe, for brooms and dust- ers,	28 20
Murphy, Leavens & Co., for brushes,	55 44
Carpenter Bros., for brooms,	10 28
G. W. Bartlett, for repairing clock,	3 00
E. S. Bailey, for repairing clock,	6 50
A. W. Berry, for desk backs,	4 00
L. Arnold, carpenter-work,	9 60
J. W. Cook, moving piano,	3 00
Howe & Flint, for coal-hod,	2 00
Wm. Gouch, tuning pianos,	10 00
E. S. Daniels, tuning pianos,	4 00
P. Lynam & Sons, for mats,	45 92
D. H. Rinn, for soap, etc.,	5 00
Rand & Byam, for soap,	5 00
E. Robinson, for keys,	1 87
Jas. Shannon, labor,	5 00
C. Holmes & Son, for hardware, plumbing, etc ,	26 68
J. C. Haynes, for pitch pipes,	5 00
S. L. Pratt, carriage hire,	6 00
John Davidson, for soap, etc.,	4 50
City of Boston, water rates,	348 25
Cambridge Water Board, water rates,	19 00
Barker & Tibbetts, expressing,	17 35
Bancroft's Express, “	40
O. C. Hanson, “	3 00
E. J. Haviland, “	4 00
S. R. Burke, “	5 85
Stilphen & Co., “	11 45
E. R. Perham, “	1 00
G. W. Manning, “	1 00
Thorne's Express, “	1 15
London's Express, “	2 75
	<hr/>
	\$10,394 27
EXCESS AND DEFICIENCY, balance to credit of account,	1.033 04
	<hr/>
	<u>\$11,427 34</u>

SCHOOL TEACHERS' SALARIES.

Credit.

APPROPRIATIONS, amount assessed,	\$68,000 00
EXCESS AND DEFICIENCY, balance to debit of account,	157 93
	<hr/>
	\$68,157 93

Debit.

CASH paid salaries as follows: —	
Principal in High School,	\$2,400 00
First Assistant in High School,	1,800 00
One Assistant,	1,500 00
One Assistant,	1,200 00
Three Assistants, each,	1,000 00
One Grammar School teacher,	2,000 00
Two Grammar School teachers, each,	1,800 00
Two Grammar School teachers, each, from 1,500 to 1,800	00
Assistants in Grammar Schools, and teachers in the Primary Schools, each, from 375 to 700	00
Music teacher,	1,050 00
Aggregate amount paid,	\$68,157 93
	<hr/> <hr/>

SCHOOLHOUSE REPAIRS.

Credit.

APPROPRIATIONS, amount assessed,	\$5,330 00
CASH, received of the Committee on Public Property, amount received for old castings,	7 90
EXCESS AND DEFICIENCY, balance to debit of account,	3,252 12
	<hr/>
	\$8,590 02

Debit.

CASH paid Stevens & Scofield, for carpenter-work,	\$526 99
W. W. Willoughby, for carpenter- work,	99 06
<i>Amount carried forward,</i>	<hr/> \$626 05

<i>Amount brought forward,</i>	\$626 05
Samuel Perry, carpenter-work,	35 75
G. W. Trefren, " "	19 11
I. B. Walker, " "	8 43
J. D. Hills, " "	66 18
Thos. Long, " "	411 18
R. A. Melvin, " "	250 49
Wm. A. Muzzey, " "	228 05
D. McLeod, " "	68 80
John Flannagan, " "	119 23
A. Caswell, " "	36 39
L. Arnold, " "	29 75
Rufus Winn, for mason-work,	100 20
Daniel Brooks, " "	267 44
Fred Davis, " "	21 00
D. E. Lovering, " "	107 25
for paving, etc.,	566 45
Joseph Q. Twombly, glazing, etc.,	59 65
C. H. Tufts, for painting,	3 00
H. Tribble, " "	6 00
J. H. Hollis, for painting and glazing,	13 79
E. J. Lewellyn, for painting and glazing,	18 50
W. H. Denton, for painting and glazing,	14 50
J. C. Dyer, painting and glazing,	212 52
H. C. Roberts, for painting,	48 65
W. S. Walker, for glazing, etc.,	7 43
T. A. Green, for glazing, etc.,	3 00
O. P. Willey, for glazing, etc.,	5 00
W. F. Devine, for repairing roofs,	45 86
Edward Earley, for repairing roofs,	51 40
John Feeney, for repairing roofs,	48 30
F. A. Titus, for plumbing work,	161 53
Sullivan & Co., for plumbing work,	60 05
Joseph Gibbens, for whitewashing, etc.,	7 50
<i>Amount carried forward,</i>	<hr/> \$3,728 43

<i>Amount brought forward,</i>	\$3,728 43
J. Franklin, for whitewashing, etc.,	26 50
E. W. Carlton, for whitewashing, etc.,	8 00
J. McBean, for whitewashing, etc.,	7 25
T. W. Littlefield, for gas fixtures,	3 00
Chas. Pierce, for gas fixtures,	2 30
M. W. Pierce & Co., repairing heating apparatus,	240 76
Snow & Chase, for repairing stoves, etc.,	50 43
W. L. Snow & Co., for repairing stoves, etc.,	196 69
C. Holmes & Son., for repairing heating apparatus,	346 14
J. A. Merrifield, for repairing stoves, etc.,	28 10
W. H. Thomas, for paper hang- ings,	3 73
E. L. and F. S. Rollins, for paper hangings and curtain fixtures,	13 40
J. E. Marden, for curtain fixtures,	5 00
O. Nowell, for hanging bells,	18 25
C. E. Hall & Co., marble work,	67 00
Sewer account, for constructing drain,	82 15
J. A. & W. Bird & Co., for paints and oils,	12 83
J. A. Swasey, for blackboards,	46 00
J. L. Hammett, for blackboards,	45 64
A. G. Whitcomb, for desks, etc.,	417 02
Daniel Pratt's Sons, for clock,	4 00
S. J. Wood, repairing clock,	1 50
E. S. Bailey, repairing clocks,	16 50
Bishop & Bro., for ladder,	4 50
Fletcher & Libby, for ladder,	3 50
J. & J. Dobson, for rug,	5 00
<i>Amount carried forward,</i>	<hr/> \$5,383 62

<i>Amount brought forward,</i>	\$5,383 62
E. H. Brabrook, for carpet,	26 00
S. Dodge, for fire poker, etc.,	2 52
Gale & Wood, for lumber,	48 66
Barker & Tibbetts, for lumber and expressing,	23 79
Bancroft's Express, for expressing,	25
J. Gwynn, for expressing,	3 50
Stilphen & Co., for expressing,	6 25
Highways account, for gravel,	41 38
M. D. Jones & Co., for lawn mower, etc.,	27 50
Howe & Flint, for brushes, etc.,	20 37
Murphy, Leavens & Co., for brushes, etc.,	53 10
J. Breck & Sons, for saws, etc.,	6 75
Bogman & Vinal, for hardware,	2 63
J. P. Williams, for hardware,	5 57
Parker & Gannett, for wheelbar- row,	5 00
Seavey & Co., for dustpan,	1 50
C. Carpenter & Co., for coal-sifter,	2 50
J. M. Coburn, for Janitor at Ward Room,	20 45
Geo. Bemis, for tuning piano,	2 00
S. L. Pratt, for carriage hire,	16 00
C. W. Learned, disinfectant,	8 00
Sundry Insurance Companies, in- surance premiums,	1,888 70
Frank Mattoon, for labor,	42 50
Joseph Young, for labor,	8 35
D. W. Robbins, for labor,	9 00
Sundry persons, for labor,	19 50
W. H. Whitcomb, for manure,	11 00
Russell & Fitch, for removing night soil,	180 00
Wakefield Rattan Company, for mats,	50 00
Estate of Chas. Tufts, for rent,	250 00
<i>Amount carried forward,</i>	\$8,166 39

<i>Amount brought forward,</i>	\$8,166 39	
Daniel Swan, for rent,	203 33	
West Boston Savings Bank, for rent,	200 00	
Boston Elastic Fabric Co., for hose,	4 00	
Boston Belting Company, “	16 30	
	<hr/>	\$8,590 02
SCHOOL FUEL.		
	Credit.	
APPROPRIATIONS, amount assessed,		\$4,000 00
	Debit.	
CASH paid L. G. Burnham & Co., for fuel,	\$2,666 81	
J. F. Brine, for fuel,	6 90	
W. H. Whitcomb, for tan,	1 75	
Edwd. Flanagan, for weighing coal,	34 00	
B. F. Sheridan, for sawing wood,	3 90	
James Shannon, for sawing and splitting wood,	9 60	
	<hr/>	\$2,722 96
EXCESS AND DEFICIENCY, balance to credit of account,	1,277 04	
	<hr/>	\$4,000 00
SEWERS.		
	Credit.	
APPROPRIATIONS, amount assessed,		\$6,000 00
CASH received of the City Solicitor, amo't received by him for defec- tive construction of Medford Street sewer,	\$107 00	
Schoolhouse Repairs, account for constructing drain at Lincoln Schoolhouse,	82 15	
Highways account, labor on drain,	1 18	
Sewers (Milk Street Sewer), for labor,	77 62	
	<hr/>	267 95
SEWER ASSESSMENTS, assessments levied,		11,160 11
INTEREST transferred,		5,223 04
		<hr/>
		\$22,651 10

Debit.

CASH paid laborers,	\$3,095 77
Fiske & Coleman, for pipe,	356 43
M. Day & Co., for pipe and cement,	270 85
Lewis & Willett, for drain pipe,	727 90
Geo. W. Wyatt, for brick,	227 85
John Thresher, for brick,	164 50
Estate of Samuel Littlefield, for brick,	215 12
Portland Stone Ware Co., for pipe,	64 32
J. F. Brine, for cement, etc.,	39 80
Boston Machine Co, for catch-basin covers,	51 35
William R. Bradford, for catch-basin covers,	44 68
J. Leland, for catch-basin covers,	15 50
for wheelbarrow, etc.,	13 30
Stevens & Scofield, for cesspool covers,	3 45
Osgood & Hart, for cesspool covers, etc.,	103 85
Walworth Manufacturing Co., for catch-basin traps,	76 67
Fuller Iron Works, for catch-basin traps,	5 50
D. P. Green & Co., for castings,	112 80
Cook, Rymes & Co., for iron work,	20 17
Seward Dodge, for blacksmithing,	86 08
Charles Davis, for catch-basin stone,	588 00
H. M. Phinney, for ventilators,	73 62
Parker & Gannett, for shovels, etc.,	19 33
James Snow, for blacksmithing,	9 10
H. W. Raymond, for hardware,	26 76
Jeremiah McCarty, for stone,	8 00
C. Holmes & Son, for lanterns, labor, etc.,	18 95
<i>Amount carried forward,</i>	<u>\$6,439 65</u>

<i>Amount brought forward,</i>	\$6,439 65
Howe & Flint, for labor, etc.,	4 56
Lewis Hunt, for labor,	18 75
C. F. Lovejoy, for labor,	10 50
Brigham & Co., for brass checks,	2 44
S. W. Fuller, for lumber,	32 74
Holt & Bugbee, for lumber,	39 09
Hunneman & Co., for hose, etc.,	13 75
Philip Eberle, for rubber boots,	27 25
D. E. Lovering, for mason-work,	25 00
R. A. Melvin, for carpenter-work,	3 58
T. B. Blakie, for carpenter-work,	1 00
J. E. Farwell & Co., for stationery and printing,	55 00
J. O. Hayden & Co., advertising and printing,	38 70
J. A. Cummings & Co., for print- ing,	4 00
Thorpe's Express, for expressing,	35
George B. King, for printing,	2 30
M. Buttimer, for cement,	2 50
D. O'Connell, for drain pipe,	2 52
James Bartley, for oil, etc.,	5 73
Sturtevant Bros., for oil,	1 13
C. L. Stevens, for oil, etc.,	4 65
A. L. Sanborn, for carriage hire,	4 00
L. Schorle, for pails,	7 00
R. W. Williams, for postal cards,	2 00
Engineer's Assistants, for superin- tending construction of sewers,	273 75
D. A. Sanborn, for superintending construction of sewers,	150 00
for carpenter-work,	34 24
Highways account, for paving, labor, gravel, etc.,	60 70
Robert Burlen, for blank books,	6 00
Maurice Buttimer, for construct- ing sewer in Central Street,	197 64
<i>Amount carried forward,</i>	<hr/> \$7,470 52

<i>Amount brought forward,</i>	\$7,470 52	
in Appleton Street,	860 02	
J. M. Burckes, for constructing sewer in Summer Street,	345 95	
McCarty & Falvey, for constructing sewer in Grove Street,	1,824 27	
in Holland Street,	1,591 97	
Francis Mongan, for constructing sewer in Broadway and Sycamore Street,	490 62	
in Chester Street,	1,191 19	
C. A. Mongan, for constructing sewer in Day Street,	1,088 25	
in Highland Avenue,	465 28	
in Hawkins Street and Court,	489 35	
in Irving Street,	1,669 43	
in Somerville Avenue,	1,019 88	
in Wallace Street,	1,620 42	
Dennis O'Connell, for constructing sewer in Broadway and Adams Street,	344 48	
in Morrison Street,	1,923 40	
in Union Street,	179 58	
	<hr/>	
	\$22,574 61	
SEWER ASSESSMENTS, assessments abated,	76 49	
	<hr/>	
		<u>\$22,651 10</u>

SEWER ASSESSMENTS.

Credit.

SEWERS, assessments abated,	\$76 49
SEWERS (BEACON AND ELM STREETS SEWER), assessments abated,	41 29
REAL ESTATE LIENS, title to the city for non-payment of assessment,	47 60
CASH received of sundry persons, as- sessments,	7,528 60
BALANCE to debit in account of 1878,	11,222 23
	<hr/>
	\$18,916 21

	Debit.	
BALANCE from 1876,		\$2,947 93
SEWERS, assessments levied in 1877,		11,160 11
SEWERS (BEACON AND ELM STREETS SEWER), assessments levied,		4,808 17
		<u>\$18,916 21</u>

SEWERS (MILK STREET SEWER).

	Credit.	
INTEREST transferred,		\$2,772 52

	Debit.	
CASH paid city of Cambridge, five ninths of cost of extending sewer under Craigie Bridge,		\$2,694 90
Sewers account, for labor and pipe,		77 62
		<u>\$2,772 52</u>

SEWERS (BEACON AND ELM STREETS SEWER).

	Credit.	
BALANCE, from 1876,		\$5,056 26
SEWER ASSESSMENTS, assessments laid by the Mayor and Aldermen, to defray in part the cost of constructing,		4,808 17
		<u>\$9,864 43</u>

	Debit.	
CASH paid laborers,		\$73 82
Engineer's assistants, labor,		68 25
A. Hodges, surveying,		45 00
C. D. Elliot, surveying,		118 37
Highways account, for grading,		258 94
Somerville Water Works account, for labor on pipe and materials furnished,		1,292 57
Water Service Assessments ac- count, for service pipe,		24 34
Police account, for lantern and naphtha,		17 69
		<u>\$1,898 98</u>
SEWER ASSESSMENTS, assessment abated,		41 29
BALANCE to credit in account of 1878,		7,924 16

\$9,864 43

SIDEWALKS.

Credit.	
BALANCE from 1876,	\$439 36
CASH, received for labor,	20 34
SIDEWALK ASSESSMENTS, assessments levied,	679 95
HIGHWAYS, transferred,	348 34
	<hr/>
	\$1,487 99

Debit.	
CASH paid laborers,	\$249 18
S. W. Fuller, for lumber,	20 53
J. Turner & Co., for edgestones and paving stone,	356 55
E. A. Foster, for brick,	686 40
John Thresher, for brick,	22 27
J. O. Hayden & Co., advertising,	34 95
	<hr/>
	\$1,369 88
SIDEWALK ASSESSMENTS, assessment abated,	118 11
	<hr/>
	\$1,487 99

SIDEWALK ASSESSMENTS.

Credit.	
SIDEWALKS, assessment abated,	\$118 11
REAL ESTATE LIENS, titles to the city for non-payment of assessments,	233 79
CASH received of sundry persons, assessments,	2,402 57
BALANCE to debit in account of 1878,	390 19
	<hr/>
	\$3,144 66

Debit.	
BALANCE from 1876,	\$2,464 71
SIDEWALKS, assessments levied in 1877,	679 95
	<hr/>
	\$3,144 66

SINKING FUND CONTRIBUTIONS.

Credit.	
APPROPRIATIONS, amount assessed,	\$46,030 62
Debit.	
CASH paid Commissioners of the Sinking Funds,	\$46,030 62

SOLDIERS' RELIEF.

Credit.	
APPROPRIATIONS, amount assessed,	\$800 00
CASH received for aid rendered,	60 00
EXCESS AND DEFICIENCY, balance to debit of account,	42 73
	<u>\$902 73</u>
Debit.	
CASH paid L. G. Burnham & Co., for fuel,	\$201 73
Orders of committee on Soldiers' Relief for supplies; to —	
J. F. Cole & Co.,	11 00
P. T. O'Brien,	153 00
Sturtevant Bros.	134 00
Sundry persons on orders of the committee, aid,	403 00
	<u>\$902 73</u>

SOMERVILLE WATER WORKS.

Credit.	
BALANCE from 1876,	\$4,883 49
APPROPRIATIONS, amount borrowed,	10,000 00
CASH received of B. Almy, superintendent for old pipe and iron sold,	\$7 75
First Congregational Society, for pipe laid,	60 20
Massachusetts General Hospital, for pipe laid,	331 74
Sewers (Beacon and Elm Streets sewer) account, for relaying pipes, etc.,	1,292 57
	<u>1,692 26</u>
	<u>\$16,575 75</u>

Debit.

CASH paid laborers,	\$7,964 67
Boston Machine Company, for water-gates, etc.,	745 04
Pattee & Perkins, for hydrants,	995 03
F. B. Austin & Co., for iron,	1,586 89
H. Wellington & Co., for cement,	825 20
J. A. Wellington & Co., for cement,	32 00
J. F. Brine, for cement, etc.,	93 18
Cook, Rymes & Co., for sharpening tools, etc.,	69 60
Seward Dodge, for blacksmithing,	179 93
Fairbanks, Brown & Co., for scales,	22 50
James Bartley, for grain, etc.,	69 66
B. F. Tyler, for grain, etc.,	32 21
C. Holmes & Son, for hardware, drain-pipe, labor, etc.,	125 66
H. W. Raymond, for hardware, etc.,	58 59
F. W. Pierson, for premium of insurance,	37 50
Ward, Curley, & Co., for fittings,	118 55
Walworth Manufacturing Com- pany, for fittings,	79 47
Sewell, Day & Co., for rope,	62 41
Highland Foundry Co., for castings,	174 60
Davis & Farnum Manufacturing Company, for castings,	24 95
Morris, Tasker & Co., for pipe,	11 16
W. R. Bradford, for pipe,	7 35
City of Boston, for pipe,	17 75
Geo. W. Wyatt, for brick,	69 88
M. Pepper, for sand,	76 90
Sullivan & Co., for plumbing,	5 14
Dalton & Ingersoll, for pipe,	1 50
Underhill Brothers, for shears,	1 25
<i>Amount carried forward,</i>	<u>\$13,488 57</u>

<i>Amount brought forward,</i>	\$13,488 57
W. Cathcart & Co., for splicing shaft,	1 00
A. J. Wilkinson & Co., for hardware,	5 99
Fuller, Dana & Fitz, for hardware,	16 27
Hamblin & Mathews, for basin,	1 25
Hunneman & Co., for hose couplings,	24 75
Morrill & Allen, for stand posts,	21 25
Eaton & Dana, for shovels, etc.,	15 48
Sabin & Page, for duck, etc.,	9 85
J. H. Brooks, for duck, etc.,	11 94
Foster, Colburn & Co., for duck,	15 60
L. H. Brown & Co., use of wagon,	16 00
Williams, Page & Co., for cotton waste,	1 25
M. Durant, for hogshead,	1 50
Enoch Robinson, for locks,	6 75
Cambridge Gas Light Co., for gas,	5 51
Dodge, Gilbert & Co., for picks, etc.,	58 15
Boston Lead Co., for lead pipe, etc.,	47 96
G. H. Mason & Co., for lanterns, etc.,	24 58
Union Glass Co., for lanterns, etc.,	23 00
Ames Plow Co., for shovels,	44 15
Johonnot & Saunders, for trowels, etc.,	7 90
J. F. Cole & Co., for oil, etc.,	13 52
J. C. Storey & Co., for oil,	29 84
J. Q. Twombly, for oil,	2 66
Osgood & Hart, for castings, etc.,	189 47
S. N. Gaut, for horse,	200 00
E. A. Goodhue, for teaming,	42 00
T. A. Goodhue, for teaming,	9 00
P. Farrell, for teaming,	3 00
<i>Amount carried forward,</i>	<hr/> \$14,338 19

<i>Amount brought forward,</i>	\$14,338 19
M. Norton, for teaming,	5 49
E. H. Bright, for painting hydrants,	34 30
W. Reed & Son, for powder,	8 35
T. P. Barnes & Son, for powder,	5 25
G. H. Sampson, for powder,	3 95
E. I. Train & Co., for powder,	2 70
J. N. Gibbs, for powder,	1 50
J. Fitzpatrick, for stone,	2 50
D. C. Collins, for stone and labor,	122 27
G. W. Prichard, for stone and sand,	25 45
Hooper, Lewis & Co., for stationery,	9 40
T. Groom & Co, for stationery,	1 75
J. O. Hayden & Co., for stationery,	15 00
John McCarty, for charcoal,	15 00
E. A. Burns, for pipe,	1 33
Boston, Lowell & Nashua R. R. Co., for ties,	1 25
J. C. Warren, for freight and teaming,	63 27
Thos. B. Dill, for dies, etc.,	5 50
T. F. Crimmins, for earth,	73 48
A. H. Dennett, for vise,	12 00
George Sturtevant, for rent of stables,	12 00
Joseph Watts, for rules,	9 00
Stevens & Scofield, for plugs,	4 09
Chas. Maguire, for horse-shoeing,	3 98
W. J. London. for expressing,	1 50
S. M. Fuller, for wood,	1 25
J. A. Durell, for dippers,	1 05
T. B. Wilson, for hydrants, valves, etc.	8 75
S. May & Co., for rivets,	13 60
John Cleary, for lumber,	81 33
<i>Amount carried forward,</i>	<hr/> \$14,884 48

<i>Amount brought forward,</i>	\$14,884 48	
J. E. Paul, for carpenter-work,	425 18	
Albert Caswell, for carpenter-work,	110 00	
S. Richards, for raising shed,	20 00	
James Owens, for mason-work,	10 00	
Fred Davis, for mason-work,	6 00	
Freeman Field, for painting,	53 35	
A. L. Cutler & Co., for varnish,	5 50	
J. E. Marden, for window shades,	13 25	
S. Rhoades & Co., for mouldings,	1 49	
E. Warren, for glazing,	1 25	
G. E. Copp, for lettering sign,	7 50	
	<hr/>	
	\$15,538 00	
BALANCE to credit in account of 1878,	1,037 75	
	<hr/>	
		\$16,575 75
		<hr/> <hr/>

STATE AID.

Credit.

STATE OF MASSACHUSETTS — STATE AID, amount paid in 1877, charged to the State,		\$4,223 50
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Debit.

CASH, paid monthly pay rolls for aid,		\$4,223 50
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STATE OF MASSACHUSETTS. — STATE AID.

Credit.

CASH, received of the State Treasurer, amount paid in 1876,		\$4,254 12
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BALANCE, Dec. 31, 1877, due from the State Dec. 1, 1878, to debit in account of 1878,		4,223 50
		<hr/>
		\$8,477 62

Debit.

BALANCE from 1876,	\$4,254 12	
STATE AID, amount paid in 1877 as per account,	4,223 50	
	<hr/>	
		\$8,477 62
		<hr/> <hr/>

STATE OF MASSACHUSETTS.

Credit.

TAXES, amount assessed for State Tax,	\$23,160 00
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Debit.

CASH, paid State tax,	\$23,160 00
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STREET LIGHTS.

Credit.

APPROPRIATIONS, amount assessed,	\$9,000 00
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CASH, received of Committee on Street Lights, amount received by them for 8 lamp posts,	160 00
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\$9,160 00

Debit.

CASH paid Cambridge Gas Light Com- pany for gas,	\$2,234 19
for labor on pipes, etc.,	109 69
Charlestown Gas Company for gas,	1,603 43
for labor on pipes, etc.,	116 36
Hugh Blackwell, for lighting,	2,812 80
for labor on pipes, etc.,	5 50
Globe Gas Light Company, for lighting,	342 67
for naphtha and lamp,	8 49
National Gas Light Company for lighting,	70 00
D. F. Flagg & Co., for alcohol,	23 00
Wadsworth Bros. & Howland, for alcohol,	4 80
Hills, Turner & Co., for glass,	35 41
Tufts Brothers, for lanterns,	100 85
Wm. H. Blackwell, for repairing lamps, etc.,	55 67
B. P. Bowman, for lantern,	16 75
J. C. Bartlett, for lantern frames,	17 00
H. M. Bird, for lamp posts,	74 50
Carter, Winsor & Co., for naphtha,	2 00
<i>Amount carried forward,</i>	<i>\$7,633 11</i>

<i>Amount brought forward,</i>	\$7,633 11	
Williams & Ashley, for oil,	63	
Fletcher & Libbey, for ladder,	7 95	
Bishop & Brother, for ladder,	2 50	
Crowell Brothers, & Co., for var-		
nish,	1 90	
C. W. Badger, for varnish,	1 35	
T. F. McGann, for opals,	6 00	
S. Dodge, for repairing lamp		
frames,	8 50	
J. Breck, & Sons, for shovels,	3 12	
	<hr/>	
	\$7,665 06	
EXCESS AND DEFICIENCY, balance to		
credit of account,	1,494 94	
	<hr/>	
		\$9,160 00
		<hr/> <hr/>
SUNDRY PERSONS.		
	Credit.	
BALANCE from 1876,		\$8,816 28
	Debit.	
CASH paid sundry persons, sums to		
their credit.		8,816 28
		<hr/> <hr/>
SUPPORT OF POOR.		
	Credit.	
APPROPRIATIONS, amounts assessed,		\$15,000 00
CASH received for support of paupers		
in Charlestown Almshouse,	\$39 00	
Worcester Lunatic Hospital,	12 00	
of State Treasurer,	274 64	
of city of Boston,	1,435 64	
“ Cambridge,	664 46	
“ Chelsea,	31 00	
“ Haverhill,	21 62	
“ Lawrence,	26 12	
“ Lowell,	37 59	
“ Lynn,	27 92	
“ Salem,	92 34	
“ Springfield,	136 87	
	<hr/>	
<i>Amount carried forward,</i>	\$2,799 20	

<i>Amount brought forward,</i>	\$2,799 20	
Town of Abington,	116 44	
“ Canton,	78 35	
“ Dedham,	23 44	
“ Dracut,	85 28	
“ Medford,	28 49	
“ Melrose,	89 50	
“ Natick,	42 26	
“ Nantucket,	85 23	
“ Oakham,	43 51	
“ Sandwich,	25 00	
“ Woburn,	83 30	
Joanna Kinsley, administratrix of estate of Henry Kinsley, for his support in Vermont Asylum,	463 00	
Ansel Lewis, amount received by him for old bbls.,	18 18	
	<hr/>	\$3,981 18
		<hr/>
		\$18,981 18

Debit.

CASH paid Conants & Sanborn, for gro- ceries,	\$856 02
T. N. Snow & Co., for potatoes,	315 30
J. W. Roberts & Co., for provis- ions,	497 36
D. Pulsifer & Co., for provisions,	34 50
Harrison Bird & Co., for provis- ions,	106 00
Dupee, Baldwin & Co., for provis- ions,	75 00
Hathaway & Woods, for flour,	1,045 93
Chas. O'Neil, for soap,	79 68
F. N. Lewis, for crackers,	113 86
D. S. Pottle, for crackers,	15 42
T. A. Shedd, for crackers,	92 79
Benton, Caverly & Co., for cheese,	104 45
Sturtevant Bros., for cheese,	165 11
	<hr/>
<i>Amount carried forward,</i>	\$3,501 43

<i>Amount brought forward,</i>	\$3,501 48
Fowle, Hibbard & Co., for cheese and beans,	66 96
Gass, Doe & Chapin, for cheese,	9 62
J. W. Randall, for beans,	21 45
B. F. Tyler, for meal,	12 65
Somerville Flour Mills, for meal,	20 80
Patrick Rafferty, for undertaker's services,	302 00
Horace Runey, for undertaker's services,	191 25
E. T. O'Neil, for undertaker's ser- vices,	81 00
S. L. Ryan, for milk,	4 48
Thos. Cunningham, for milk,	9 76
D. S. Benjamin, for milk,	5 20
Henry McAvoy, for milk,	4 50
Knowles, Freeman & Co., for fish,	7 50
M. W. Haskins & Bro., for fish,	5 00
Henry Mayo, for fish,	12 00
P. Curtis, for fish,	131 50
G. O. Burnham, for fuel,	3 15
Brine & Clark, for fuel,	3 37
John F. Brine, for fuel,	4 93
L. G. Burnham & Co., for fuel,	3,113 47
Philip Eberle, for boots and shoes,	605 80
Dyer Bros., for boots and shoes,	26 55
John M. Adams, for boots and shoes,	59 22
Excelsior Dry Goods Store, for cloth, etc.,	5 00
J. A. Anderson, for cloth, etc.,	1 50
J. W. Brine & Co., for cloth, etc.,	2 50
J. H. Brooks, for clothing, etc.,	52 41
Union Square M. E. Church, for burial lot,	31 00
H. W. Raymond, for hardware and baskets,	17 53
<i>Amount carried forward,</i>	<u>\$8,313 53</u>

<i>Amount brought forward,</i>	\$8,313 53
G. A. Sanborn & Co., for meals furnished,	2 00
J. J. Giles, for meals furnished and for washing,	26 65
L. H. Brown, for carriage hire,	5 00
Fairbanks, Brown & Co., for scales,	13 60
Elijah Fitch, for carpenter-work,	12 50
L. Arnold, for carpenter-work,	11 85
J. B. Walker, for carpenter-work,	70 36
James Owens, for whitewashing,	5 00
J. A. Merrifield, for repairing stove,	1 25
M. C. Warren, for axes and saws,	11 25
H. P. Hemenway, for medical services,	3 00
W. W. Dow, for medical services,	19 00
E. H. Stevens, for medical services,	3 00
H. Cummings, for medicine,	1 00
Doane & Greenough, for stationery,	7 00
J. E. Farwell & Co., for stationery and printing,	59 25
Geo. B. King, for printing,	21 32
M. R. Warren, for stationery,	1 25
J. Q. Twombly, for painting,	13 00
Thomas Tighe, for rent,	34 70
M. Terry, for rent,	24 00
A. J. Taylor, for rent,	16 00
Patrick Shea, for rent,	44 00
Alexander Wood, for rent,	6 00
W. O. Grover, for rent,	30 00
M. Finnegan, for rent,	40 00
P. A. Cunningham, for rent.	48 00
Patrick Clark, for rent,	4 00
Michael Hanley, for rent,	76 00
B. McCarroll, for rent,	10 00
Chas. Ogden, for rent,	6 00
<i>Amount carried forward,</i>	<hr/> \$8,939 51

<i>Amount brought forward,</i>	\$8,939 51
Patrick Sheridan, for rent,	40 00
Bridget Conlan, for rent,	8 00
T. J. Cox, for rent,	18 00
J. Newhall, for rent,	66 00
Patrick Burke, for rent,	6 00
Mary McLaughlin, for rent,	28 00
Bernard Hagan, for rent,	66 00
Geo. O. Linton, for rent,	67 50
M. G. Steele, for expressing,	10 45
Thorpe's Express, for expressing,	3 55
Cole's Express, for expressing,	4 00
W. J. London, for expressing,	15 85
S. R. Burke, for expressing,	8 00
Edmund Casey, for moving furniture,	1 50
John McKenna, for delivering wood,	20 00
Clark Bennett, premium of insurance,	7 50
H. L. Collamore, for table,	8 00
Margaret Hartness, for washing,	2 00
C. Holmes & Son, for repairing stoves,	12 78
J. H. Harney, transportation of paupers,	10 00
Ansel Lewis, amount paid for transportation of paupers,	33 05
J. F. Ayer, for lumber,	40 85
John McCarty, for board of paupers,	39 00
Mary Sullivan, for board of pauper,	22 00
L. M. Dalton, board of pauper,	32 86
Dora Campbell, for board of pauper,	17 88
V. H. Hollis, board of pauper,	144 00
Louisa O'Neil, for board of pauper,	12 00
J. C. Davidson, for superintending tramps at work,	23 85
<i>Amount carried forward,</i>	<hr/> \$9,708 13

<i>Amount brought forward,</i>	\$9,708 13
City of Boston, support of paupers,	1,005 17
City of Cambridge, support of paupers,	486 36
City of Chelsea, support of paupers,	2 00
City of Haverhill, support of paupers,	5 00
City of Taunton, support of paupers,	53 52
City of Newton, support of paupers,	25 93
City of Lawrence, support of paupers,	44 25
Town of Canton, support of paupers,	139 99
Town of Holliston, support of paupers,	156 00
Town of Malden, support of paupers,	24 62
Town of Peabody, support of paupers,	79 82
State of Massachusetts, support of paupers,	207 50
Worcester Lunatic Asylum, support of paupers,	768 74
Northampton Hospital for the Insane, support of paupers,	96 50
Old Cambridge Baptist Church, for support of paupers,	36 00
Vermont Asylum, support of Bridget Bradburn,	186 76
City of New Bedford, for burial of pauper,	19 25
J. F. Cole & Co., for beef, etc.,	12 60
for groceries, etc.,	239 00
H. W. Burgess, for groceries, etc.,	105 40
Capenter Bros., for groceries, etc.,	129 00
<i>Amount carried forward,</i>	<u>\$13,531 54</u>

<i>Amount brought forward,</i>	\$13,531 54
C. E. Edlefson & Co., for groceries, etc.,	134 00
J. C. Ellis, for groceries, etc.,	4 00
D. Loring & Co., for groceries, etc.,	9 00
P. T. O'Brien, for groceries, etc.,	462 99
Geo. McLaughlin, for groceries, etc.,	23 00
U. R. Penny, for groceries, etc.,	38 00
H. McAvoy, for groceries, etc.,	20 00
W. A. Pierce, for groceries, etc.,	9 00
C. A. Small, for groceries, etc.,	21 00
J. A. Stevens, for groceries, etc.,	691 90
Trainor Bros., for groceries, etc.,	33 00
S. L. Wood & Co., for groceries, etc.,	5 75
S. White, for groceries, etc.,	39 00
James Bartley, for groceries, etc.,	7 00
E. A. Bailey, for groceries, etc.,	3 00
Sturtevant Bros., for groceries, etc.,	633 06
for beef,	138 53
Thomas Cunningham, Overseer of the Poor,	300 00
Ansel Lewis, Overseer of the Poor, as store-keeper,	402 77
Horace Chapin, Overseer of the Poor,	300 00
as Secretary of the Overseers of the Poor,	200 00
	<hr/>
	17,306 54
EXCESS AND DEFICIENCY, balance to credit of account,	1,674 64
	<hr/>
	<u>\$18,981 18</u>

SURVEY OF STREETS.

Credit.

APPROPRIATIONS, amount assessed, \$1,000 00

Debit.

CASH, paid Engineer's assistants, for
 surveying street lines, \$620 60
 A. Parker, stone bounds, 111 22
 Laborers, 52 37
 Highways account, for labor, 19 50
 S. W. Fuller, for lumber, 2 88
 Howe & Flint, for brass rods, 1 47

\$808 04

EXCESS AND DEFICIENCY, balance to
 credit of account, 191 96

\$1,000 00

TAXES.

Credit.

CASH, received taxes, for 1874, \$167 00
 1875, 60,261 86
 1876, 108,286 74
 1877, 298,563 56

\$467,279 16

REAL ESTATE LIENS, titles to the city
 for non-payment of taxes of
 1875, 5,090 04

OVERLAY AND ABATEMENT, abatement
 on taxes, for 1874, 514 00
 1875, 5,196 48
 1876, 2,457 82
 1877, 7,559 46

\$15,727 76

BALANCE to debit in account of 1878,
 being uncollected taxes for 1873, \$384 00
 1874, 330 00
 1875, 1,041 46
 1876, 60,263 04
 1877, 165,666 12

227,684 62

\$715,781 58

	Debit.	
BALANCE from 1876,		\$243 950 32
CASH paid Benj. Hadley, abatement by County Commissioners,	42 12	
APPROPRIATIONS, amount assessed for current expenses,	425,360 62	
STATE OF MASSACHUSETTS, amount as- sessed for State tax,	23,160 00	
COUNTY OF MIDDLESEX, amount as- sessed for county tax,	13,577 91	
OVERLAY AND ABATEMENT, amount added by the assessors,	9,690 61	
	<hr/>	<u>\$715,781 58</u>

TEMPORARY LOANS.

	Credit.	
BALANCE from 1876,		\$110,000 00
CASH borrowed by authority of the city council, on city notes, and of the following named : —		
March 29. — Boston Five Cents Savings Bank,	\$200,000 00	
April 30. — Aaron Sargent, trus- tee,	20,000 00	
April 30. — A. Sargent and E. E. Adams, trustees,	5,000 00	
April 30. — Charles Wilson,	5,000 00	
April 30. — Warren Institution for Savings,	50,000 00	
July 9. — Boston Five Cents Sav- ings Bank,	50,000 00	
Oct. 1 — Warren Institution for Savings,	75,000 00	
Dec. 29. — Boston Five Cents Savings Bank, payable June 29, 1878,	235,000 00	
Dec. 29. — Aaron Sargent, trus- tee, payable June 29, 1878,	20,000 00	
<i>Amounts carried forward,</i>	<hr/>	<u>\$660,000 00</u> <u>\$110,000 00</u>

<i>Amounts brought forward,</i>	\$660,000 00	\$110,000 00
Dec. 29. — A. Sargent and E. E. Adams, trustees, payable June 29, 1878,	10,000 00	
Dec. 29. — Charles Wilson, payable June 29, 1878.	5,000 00	
	<hr/>	\$675,000 00
		<hr/>
		\$785,000 00

Debit.

CASH paid the following named:—

April 30. — Warren Institution for Savings, note dated Dec. 30, 1876,	\$50,000 00
April 30. — Aaron Sargent, trustee, note dated Dec. 30, 1876,	20,000 00
April 30. — A. Sargent and E. E. Adams, note dated Dec. 30, 1876,	5,000 00
April 30. — Charles Wilson, note dated Dec. 30, 1876,	5,000 00
May 3. — Commissioners of Sinking Funds, city of Worcester, note to Brewster, Bassett & Co., dated Dec. 30, 1876,	30,000 00
Nov. 5. — Boston Five Cents Savings Bank, note dated July 9, 1877,	50,000 00
Nov. 30. — Warren Institution for Savings, note dated April 30,	50,000 00
note dated, Oct. 1,	75,000 00
Dec. 29. — Boston Five Cents Savings Bank, note dated March 29,	200,000 00
Dec. 29. — Aaron Sargent, trustee, note dated April 30,	20,000 00
Dec. 29. — A. Sargent and E. E. Adams, trustees, note dated April 30,	5,000 00
<i>Amount carried forward,</i>	<hr/>
	\$510,000 00

<i>Amount brought forward,</i>	\$510,000 00	
Dec. 29. — Charles Wilson, note dated April 30,	5,000 00	
	<hr/>	
	\$515,000 00	
BALANCE, to credit in account of 1878,	270,000 00	
	<hr/>	\$785,000 00
		<hr/>

WATER MAINTENANCE.

Credit.

APPROPRIATIONS, amount assessed,		\$13,750 00
CASH received of the city of Boston, return on water rates : —		
1876. 30 per cent on \$2,908.33,	\$872 59	
1877. 15 per cent on \$20,000,	3,000 00	
20 per cent on \$10,000,	2,000 00	
25 per cent on \$10,000,	2,500 00	
30 per cent on \$7,877.96,	2,363 40	
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	\$10,735 90	
Received for damage to pipe,	3 00	
	<hr/>	\$10,738 90
WATER SERVICES, balance transferred,		754 05
		<hr/>
		\$25,242 95

Debit.

CASH paid interest coupons of Water Loan Bonds, Nos. 1 to 3, 6 to 13, 16 to 28, 30 and 31 : —		
\$235,000 at 6½ per cent,	\$15,275 00	
\$20,000 at 6½ per cent,	1,200 00	
\$70,000 at 5½ per cent,	3,850 00	
	<hr/>	
	\$20,325 00	
Paid laborers,	1,200 64	
B. Almy, Supt. 2 months,	200 00	
N. Dennett, Supt. to Dec. 31,	1,050 00	
Boston Machine Co., for fittings,	23 60	
Hamblin & Matthews, for fittings,	2 63	
Seward Dodge, for blacksmithing,	39 80	
	<hr/>	
<i>Amount carried forward,</i>	\$22,841 67	

<i>Amount brought forward,</i>	\$22,841 67
Gallishaw & Kennealy, for black-smithing,	6 20
City of Boston, for water-rate,	10 00
J. Leland, for repairing wagon,	3 00
C. Holmes & Son, for hardware, etc.	15 50
C. H. North & Co., for salt,	13 93
Chas. Maguire, for horse-shoeing,	22 13
H. W. Raymond, for spikes,	1 05
Underhill Bros., for repairing shears,	45
T. B. Dill, for repairing dies,	3 25
G. E. Copp, for painting,	1 00
Walworth Manuf. Co., for repairing valves, etc.	4 80
A. W. Mitchell & Co., for badge,	2 00
Conants & Sanborn, for soap,	5 78
G. W. Prichard, for edgestones, etc.	38 75
Sewell, Day & Co., for oakum,	4 75
Sabin & Page, for duck,	5 00
J. H. Brooks, for duck,	8 22
Brine & Clark, for fuel,	16 26
Geo. H. Cowdin, for acid,	50
J. Q. Twombly, for painting and glazing,	17 19
J. Fitzpatrick, for teaming,	3 00
L. H. Brown, for use of horse and wagon,	38 50
Caleb Kingman, for repairing pump,	7 68
Cambridge Gas Light Co., for gas,	1 45
John O'Connell, for damage to land,	5 00
Thorpe's Express, for expressing,	5 91
J. H. Hanley, for charcoal,	39 00
James Bartley, for grain,	66 49
<i>Amount carried forward,</i>	<hr/> \$23,188 46

<i>Amount brought forward,</i>	\$23,188 46	
H. Dunn & Co., for harness,	69 00	
J. N. White, for harness-work,	21 62	
T. B. Wilson, for harness-work,	16 35	
S. J. Wood, for filing saws, etc.	1 65	
J. F. Brine, for hay and fuel,	46 02	
H. G. Jameson, for hay,	30 00	
B. F. Tyler, for hay,	106 35	
A. R. Coolidge, for hay,	121 98	
and for oil,	1 50	
E. S. Conant, clerk of water board,	200 00	
Alfred Hale & Co., for rubber boots, etc.,	17 44	
	<hr/>	
	\$23,820 37	
EXCESS AND DEFICIENCY, balance to credit of account,	1,422 58	
	<hr/>	
		\$25,242 95

WATER SERVICES.

Credit.

CASH received of sundry persons for pipe and labor,		\$31 19
WATER SERVICE ASSESSMENTS, cost of service pipes laid,		2,866 32
		<hr/>
		\$2,897 51

Debit.

CASH paid laborers,	\$780 77
Morris, Tasker & Co., for pipe,	398 81
E. A. Burns, for pipe,	1 20
Fuller, Dana & Fitz, for pipe,	10 78
Thos. Cunningham, for pipe,	4 22
Cutler Downer, for pipe,	52 60
Walworth Manufacturing Co., for fittings,	259 70
Geo. Woodman & Co., for fittings,	36 42
Union Water Meter Co., for fittings,	31 20
Ward, Curley & Co., for fittings,	11 94
Howe & Flint, for fittings,	5 96
Hamblin & Mathews, for fittings,	64 62
	<hr/>
<i>Amount carried forward,</i>	\$1,658 22

<i>Amount brought forward,</i>	\$1,658 22
Dalton & Ingersoll, for fittings,	1 35
Highland Foundry Co., for castings,	5 34
Wm. R. Bradford, for castings,	38
Cook, Rymes & Co., for locks, labor, etc.,	172 12
A. J. Wilkinson & Co., for locks, etc.,	40 57
S. Dodge, for blacksmithing,	2 30
D. A. Sanborn, for labor,	4 40
G. W. Trefren, for carpenter-work,	7 50
J. C. Warren, for teaming,	8 88
Stults & Co., for fittings,	29 20
Boston Lead Co., for lead pipe,	54 63
J. A. Cummings & Co., for printing,	7 25
H. A. Hall & Co., for rings,	8 43
J. C. Sullivan, for charcoal,	2 70
John McCarty, for charcoal,	3 75
J. Zane & Co., for bibb,	2 25
Sullivan & Co., for plumbing,	22 27
C. Holmes & Son, for plumbing,	8 87
E. W. Drake, for plumbing,	3 05
Geo. P. Bowers, for gate pipes,	100 00
	<hr/>
	\$2,143 46

WATER MAINTENANCE, credit balance transferred,	754 05
	<hr/>

\$2,897 51

WATER SERVICE ASSESSMENTS.

Credit.

CASH received of sundry persons for water services,	\$3,173 91
BALANCE to debit on account of 1878,	1,068 02
	<hr/>
	\$4,241 93

Debit.

BALANCE from 1876,	\$1,375 61
WATER SERVICES, service pipes laid in 1877,	2,866 32
	<hr/>
	\$4,241 93

Table D.

TRIAL BALANCE, DECEMBER 31, 1877.

Cash,	\$5,133 96	
Excess and Deficiency,		\$8,407 16
Funded Debt,		1,606,854 00
Highway Betterment Assessments,	28,988 14	
Property and Debt Balance,	64,926 84	
Public Library,		858 72
Public Park,	12,395 67	
Public Park Betterment Assessments,		4,100 10
Public Property,	1,532,243 40	
Real Estate Liens,	10,905 32	
Sewers (Beacon and Elm Streets Sewer),		7,924 16
Sewer Assessments,	11,222 23	
Sidewalk Assessments,	390 19	
Somerville Water Works,		1,037 75
State of Massachusetts, State Aid,	4,223 50	
Taxes,	227,684 62	
Temporary Loans,		270,000 00
Water Service Assessments,	1,068 02	
	<u>\$1,899,181 89</u>	<u>\$1,899,181 89</u>

REPORT
OF THE
COMMISSIONERS OF THE SINKING FUND.

IN BOARD OF MAYOR AND ALDERMEN, Jan. 30, 1878.

Referred to Committee on Printing, with instructions to print in the Annual Report. Sent down for concurrence.

CHARLES GILMAN, *Clerk.*

IN COMMON COUNCIL, Jan. 30, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

CITY OF SOMERVILLE.

IN BOARD OF COMMISSIONERS OF THE SINKING FUNDS,
January 28, 1878.

To the Honorable the Mayor, and the City Council of the City of Somerville.

GENTLEMEN, — The undersigned present herewith their second annual report as “Commissioners of the Sinking Funds” of this city.

Contributions by the city, raised by taxation in 1876 and 1877,	\$91,161 24	
Accumulations thereto, being interest on investments and on deposits in savings banks,	2,797 96	
A total of		\$93,959 20
Which has been placed in bonds of the city of Somerville,	\$92,500 00	
Deposited in savings banks,	1,459 20	
Making the total of,		<u>93,959 20</u>

Respectfully submitted.

NATHAN TUFTS,
JOHN A. HUGHES, } *Commissioners.*
HENRY F. WOODS, }

ANNUAL REPORT

OF THE

SCHOOL COMMITTEE

OF THE

CITY OF SOMERVILLE,

AND THE

ANNUAL REPORT OF THE SUPERINTENDENT OF PUBLIC SCHOOLS.

1877.

CITY OF SOMERVILLE.

IN SCHOOL COMMITTEE, Dec. 1, 1877.

The following-named gentlemen were appointed a committee to prepare the Annual Report of the School Committee for the year 1877: Messrs. Henry F. Spencer, Charles S. Lincoln, Enos T. Luce, and Horace Chapin, M. D.

Attest,

J. H. DAVIS, *Secretary.*

IN SCHOOL COMMITTEE, Dec. 29, 1877.

The Superintendent having presented his Annual Report, it was unanimously accepted.

It was voted to request the City Council to print three hundred copies of the reports of the School Committee and of the Superintendent, independent of those printed with other reports.

Attest,

J. H. DAVIS, *Secretary.*

IN SCHOOL COMMITTEE, Jan 5, 1878.

Henry F. Spencer, Esq., Chairman of the Committee appointed Dec 1, having presented the subjoined Report, it was unanimously adopted as the Report of the School Committee.

Attest,

J. H. DAVIS, *Secretary.*

IN BOARD OF MAYOR AND ALDERMEN, Feb. 26, 1878.

Report accepted. Referred to the Committee on Printing with instructions to cause the same to be printed in the Annual Report, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 27, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

SCHOOL COMMITTEE FOR 1877.

HON. AUSTIN BELKNAP, Mayor, *ex officio*.

STILLMAN H. LIBBY, President of Common Council, *ex officio*.

WARD ONE.

SANFORD HANSCOM, M. D.	Term expires	Dec. 31, 1877.
JOHN H. BUTLER	“	“ 1878.
HENRY M. MOORE	“	“ 1879.

WARD TWO.

CHAS. S. LINCOLN	Term expires	Dec. 31, 1877.
MICHAEL F. FARRELL	“	“ 1878.
DANIEL E CHASE	“	“ 1879.

WARD THREE.

HENRY F. SPENCER	Term expires	Dec. 31, 1877.
HENRY F. WOOD	“	“ 1878.
JOSEPH P. WILLIAMS	“	“ 1879.

WARD FOUR.

HORACE CHAPIN, M. D.	Term expires	Dec. 31, 1877.
COL. CHARLES F. KING	“	“ 1878.
WALTER W. COLBURN	“	“ 1879.

Chairman.

Secretary and Superintendent.

HON. AUSTIN BELKNAP.

JOSHUA H. DAVIS.

SUBCOMMITTEES.

On the High School	Messrs.	SPENCER, CHAPIN, LINCOLN, BUTLER, KING.
On Schools in E. Somerville Dist	“	HANSCOM, MOORE, BUTLER.
On Schools in Prospect Hill Dist.	“	CHASE, FARRELL, LINCOLN.
On Schools in Winter Hill Dist.	“	WILLIAMS, SPENCER, WOODS.
On Schools in Spring Hill Dist.	“	KING, CHAPIN, LIBBY.
On Schools in W. Somerville Dist.	“	CHAPIN, KING, COLBURN.
On Evening Schools	“	FARRELL, WILLIAMS, CHAPIN, BUTLER
On Examination of Teachers	“	LINCOLN, BUTLER, COLBURN.
On Text-Books	“	HANSCOM, CHAPIN, KING.
On Repairs and School Furniture	“	MOORE, LIBBY, CHASE, WOOD.
On School Supplies	“	SPENCER, WOOD.
On Fuel	“	FARRELL, WILLIAMS.
On Music	“	KING, HANSCOM, LINCOLN.
On Finance	“	SPENCER, CHASE.
On Heating Apparatus	“	WILLIAMS, MOORE.
On Drawing	“	HANSCOM, LIBBY, COLBURN.

SCHOOL COMMITTEE FOR 1878.

HON. GEORGE A. BRUCE, Mayor, *ex officio*.

LUTHER B. PILLSBURY, President of Common Council, *ex officio*.

WARD ONE.

JOHN H. BUTLER	Term expires Dec. 31, 1878.
HENRY M. MOORE	" " 1879.
SANFORD HANSCOM, M. D.	" " 1880.

WARD TWO.

MICHAEL F. FARRELL	Term expires Dec. 31, 1878.
ENOS T. LUCE	" " 1879.
CHAS. S. LINCOLN	" " 1880.

WARD THREE.

HENRY F. WOODS	Term expires Dec. 31, 1878.
JAMES P. WILLIAMS	" " 1879.
SELWYN Z. BOWMAN	" " 1880.

WARD FOUR.

COL. CHAS. F. KING	Term expires Dec. 31, 1878.
WALTER W. COLBURN	" " 1879.
REV. CHAS. M. SMITH	" " 1880.

Chairman.

Secretary and Superintendent.

HON. GEORGE A. BRUCE.

JOSHUA H. DAVIS.

SUBCOMMITTEES.

On the High School	Messrs. LINCOLN, BUTLER, BOWMAN, SMITH, LUCE, PILLSBURY.
On Schools in E. Somerville Dist.	" BUTLER, MOORE, HANSCOM.
On Schools in Prospect Hill Dist.	" FARRELL, LUCE, LINCOLN.
On Schools in Winter Hill Dist.	" WILLIAMS, WOODS, BOWMAN, PILLSBURY.
On Schools in Spring Hill Dist.	" KING, SMITH, COLBURN.
On Schools in W. Somerville Dist.	" COLBURN, SMITH, KING.
On Evening Schools	" FARRELL, WILLIAMS, BUTLER, COLBURN.
On Examination of Teachers	" LINCOLN, BUTLER, COLBURN.
On Text-Books	" HANSCOM, KING, LINCOLN.
On Repairs and School Furniture	" MOORE, LUCE, WOODS, COL- BURN, PILLSBURY.
On School Supplies	" WOODS, KING.
On Fuel	" WILLIAMS, FARRELL.
On Music	" KING, HANSCOM, LINCOLN.
On Finance	" BUTLER, LUCE.
On Heating Apparatus	" MOORE, BOWMAN.
On Drawing	" HANSCOM, COLBURN, SMITH.

REPORT.

IN accordance with the requirements of law, the School Committee most respectfully submit their sixth annual report of the condition of the several schools of our city. The report of the Superintendent, which is also herewith submitted, is so full in detailed statements and valuable suggestions that we deem it necessary to speak only in general terms.

We think we may safely say that our schools have taken no steps backward during the past year, but have maintained that high position of excellence which they have so long occupied. The teachers have been faithful, painstaking, and earnest in their work. The City Council has been generous in its appropriations, and the interest of our people in school education has not apparently decreased. It is very gratifying to know that the pinching hard times have not very sensibly diminished the numbers in attendance, and that so many children are still sent to school when their labor is greatly needed by so many parents.

Your committee, in view of the continued prostration in the business of the country, have striven to keep the expenses at the lowest possible point consistent with the well-being and efficiency of our schools. Many of the rooms are in need of maps, charts, apparatus, and school appliances, which would be of very great service in imparting instruction, and which we have not purchased, but which should be supplied as soon as the financial condition of our city will permit it to be done. As yet we have not deemed it necessary or wise to reduce the salaries of our teachers, which it is believed are not now higher than the salaries of teachers in other cities maintaining schools of as high a standard as ours. As is the teacher so is the school. The most costly buildings, the most expensive and perfect school appliances, avail us nothing unless we have *teachers*. Good teachers are always in demand, and the best

can be obtained and kept only by paying salaries equal to those paid by other cities.

School education is a progressive science. Our best and most thoughtful educators differ widely in opinion as to the branches which should be taught, the amount of time which should be bestowed upon each, and as to the manner and methods of instruction. Public sentiment upon educational topics also changes from year to year, and new demands are being constantly made upon our schools. These demands for several years have been for more practical studies.

Your committee, also, believing that perfection in school work can only be obtained by examination, investigation, thought, and comparison of views, have had under consideration and are still considering the question whether the course of study and methods of instruction in our grammar schools can be improved. It is claimed by some that too much importance is given to mathematics; that it is made too prominent; that much of the time now spent in arithmetic might be more profitably employed on other studies, especially in view of the fact that a large majority of our children obtain all their school education in those schools.

A recent visit to some of the schools in the city of New York, and inquiry into their workings, convince us that we could adopt some of their ideas to our own advantage, and one of the points is this: the city of New York provides everything for its pupils. It is the experience of the board there that it is economy, on the whole, to do this, as the percentage for books, pencils, rubber, slates, and all the school supplies is so small when put in one's tax as to be practically no great affair after all, and the children actually take better care of books the property of the city than they did when required to furnish them themselves. A child leaving school returns the book, which is immediately issued to a new scholar, and a record of the date and condition of the book is made by the teacher.

We suggest this plan for the consideration of the coming Board of School Committee for the ensuing year.

The purposes of our system of education and the best means of accomplishing them should ever have prominence, not only in the minds of those to whom are intrusted the management of our schools, but also of those who may directly or indirectly partake of its benefits. And this leads to the inquiry as to what those purposes are.

Without undertaking to define the word "education" in its broadest signification, or formulate a comprehensive system, it is safe to say that the principal objects of our school system should be,

First, To furnish to the mass of our pupils such a class of knowledge and education as shall best qualify them to enter upon the various pursuits and duties of life.

Second, To provide such means of culture and discipline as can be made possible in the period allotted to study, without trenching upon the more essential branches.

As a large proportion of our children do not, from one cause or another, avail themselves of all that our public schools afford, it is of prime importance that the course of study and instruction should be so devised that the most can be made of the time which this large number may be able to spend in school. However desirable it may be that pupils shall pass through all the different grades, it is a fact that must not be ignored that of the whole number who enter the primary classes, only one fourth graduate in the grammar, and only one fourteenth in the High School. If this be an evil, it is one that does not suggest an easy solution. It becomes, then, our paramount duty so to adjust our system that the wants of this larger number should be provided for.

To prescribe such a course of study as shall perfectly meet the various wants and conditions of the community as now constituted, would require consummate skill, such, indeed, as few of our most experienced educators possess, and in the discharge of the duties of the Board of School Committee, questions like the following constantly present themselves:—

1. Have we such a course of study and method of instruction as furnish to the pupils the greatest amount of benefit, having regard for their wants in entering upon the practical duties of life?

2. Are the methods of study now required such as assure the best means of acquiring an education?

3. Are our teachers at fault, either from incompetence or neglect of duty?

4. Are we at fault from failing to provide suitable appliances, or to offer proper encouragement to our teachers, or by imposing on them unnecessary rules and restraints?

The course of study pursued in our public schools is similar to that of many of the cities and towns in the commonwealth. The law prescribes the branches in which they shall furnish instruction.

In arranging the order in which those branches shall be pursued, and the methods of instruction and study by which the pupil may be able to master those branches, much time has been spent and much division of opinion exists.

Now, the importance of the different branches may be determined by considering, from a practical standpoint, the uses to which they may be put by the scholar in his intercourse with the world; these must be considered essential.

While we may, like our fathers before us, regard "reading, writing, and arithmetic" as the most important and useful to our youth to aid him to make his way in the world, it is fortunate that there are so few who are compelled to confine themselves to so narrow a standard of education. In this view other sources of knowledge are made attainable, and furnish the means of a broader culture.

The study of language and its uses, in connection with grammar, has received much and deserves still more attention. It is of the first importance in the development of the mind from infancy till our education may be said to be complete. The power of expression in correct language, written or spoken, can be made serviceable in all the walks of life, and implies, not merely knowledge and culture, but intellectual force. Nor is language to be studied by the mere technical rules of grammar, but in connection with any source of knowledge which may be deemed profitable to the pupil, of every grade. In this important study the teacher has his duty to perform, during every hour spent in the school-room, by his own correctness of speech and in directing his pupils in the use of language, and in the reading of such authors as shall tend to establish correct habits of speech, as well as to increase his fund of knowledge. The grammar may be brought to our aid, but without becoming familiar with the language used by our best speakers and writers, and without recurring to the purposes for which the Grammar was intended, the scholar will labor in vain.

Geography has hitherto occupied a prominent place in our grammar schools. It is pursued during the period of six years, mainly by the text-books. This involves a large expenditure of time, during which the mind is taxed by the arbitrary exercise of the memory, in committing facts too meagre in detail to create any degree of interest, or form lasting impressions; and it may be questioned whether the study thus pursued may not frequently be the means of fixing errors in the mind, when the geography of the world is constantly changing.

While the text-book should ever be the companion of the pupil, and while certain principles and facts may be regarded as indispensable, is it wise, either for the purpose of exercising the memory, or the acquisition of dry statistics, to subject the pupil to a task that must become irksome and depressing in its influence?

The same objection may be made to this method in the study of history. As a means of cultivating the memory, and obtaining a knowledge of past events, the results accomplished are too meagre by the present method to compensate for the amount of labor and time expended. There are other objects in this study which demand consideration, viz., the cultivation of the power of narrating events, or presenting statement of facts in a clear and concise manner and in proper language; the inculcation of a love of history; the directing of the pupil in his course of reading, and in advising him what and how he shall read.

The habit established by such a course of instruction must be of incalculable benefit. It cannot be doubted that pupils will exhibit much greater zeal if made to feel that a broader field of knowledge is open to them.

It has been claimed that the system of education established in this commonwealth is so inflexible that it does not give to the teachers sufficient freedom of action, and hence their efforts are hampered and their efficiency weakened. There may be some ground for this complaint. Every teacher of experience has a preference for certain methods of instruction. To be subjected to many restrictions tends to dampen his energies and impair his usefulness. Would it not be better, instead of limiting the amount of work in the various branches, to specify the studies that are to be pursued by the different classes for the year, merely fixing the space within which an examination shall be made? Such a course would seem to stimulate the energies and ambition both of teacher and pupil. The teacher will thus more readily feel his responsibility for the result of his labors, and occupy a more independent position in the practice of his profession.

Every teacher must feel that his experience has more or less qualified him to perform his duties in his chosen profession, and that his judgment is entitled to some special consideration.

It is important that teachers should thoroughly comprehend the particular work which the rules may impose, and keep constantly in view the objects which, by our course of study, are sought to be

accomplished. If, however, they are to be held to the full measure of their responsibility, it is but just that a certain measure of freedom in the selection of methods should be accorded to them. The true test of *ability* should be the *results which are produced*, and by these results are we to determine the confidence to which our instructors are entitled in the community.

HIGH SCHOOL.

The increase in the attendance at the High School, which has now almost reached the point of limit in its accommodations, is exceedingly gratifying to those of us who have watched the growth of the school from its small beginning; and the high rank our graduates have taken in the examinations for Harvard College is a source of pride, as giving evidence that those we have chosen as instructors have been well selected. The question will, notwithstanding, obtrude itself whether our High School does for the scholars all it should do. Feeling that there was a growing sentiment in the community, that for those whose opportunities for culture and knowledge would practically cease on their leaving the school, and that a more intimate acquaintance with business matters and the duties of the counting-room than has heretofore been afforded was desirable, the Board decided upon the "Business Course," which was commenced on the reassembling of the school after the last summer vacation. That it was in some measure to be an experiment, but one which a large majority of our citizens hoped would be successful, is unquestioned. The brief period of its operation affords but slight basis to form an opinion as yet as to its ultimate success, but we believe it entirely practicable, and that it may be made an element of strength to the school, while in no sense will it detract from the efficiency of the instruction in the more advanced departments.

Perhaps a step further in the same direction would be no less desirable, and that is, in making the studies more "elective," especially in the case of the girls in the last year. Many of them do not expect to become teachers, but all should by that time have formed a taste or come to some decision as to what they propose to do, and to many a course of instruction in bookkeeping would be far more valuable than Greek or geometry. We do not wish to be thought as speaking disparagingly of either of the studies

named, but feel that time is sometimes spent on them which might have been more profitably employed.

The plan of confining the instruction in French to one teacher is shown to have been judicious, giving a greater uniformity of pronunciation; and while this reason would not hold good in Latin, we think the best interest of the school would be advanced by adopting the plan as far as possible, and we might enumerate other studies which would come under the same rule, but not in so marked a degree.

We are pleased to note in certain departments the discarding of the text-books, and teaching, not exclusively the letter of the lesson, by having a class recite *verbatim* what is set down in the book, but by familiar example and in the teacher's own language imparting the necessary information. This manner is, to our minds, of greater benefit to the learner than that of following too closely the letter to the detriment of the spirit of instruction. We could wish the plan more fully practised in the grammar schools.

The several members of the High School committee were appointed to specially look after certain studies, by visits from time to time, and marking the results, and they report a good degree of progress in the several departments.

The general good order observable is creditable to both teachers and pupils, and gives evidence of a judicious supervision on the one hand, and a ready compliance with the regulations so necessary to the maintenance of a proper discipline on the other.

We most earnestly urge upon the city authorities early action in the matter of grading and grassing the lot on the sides and rear of the High School building. It has too long remained an eye-sore, and the reasons for further delay heretofore given would seem to be substantially removed now; and the lot should be put in as good condition in all its area as the front approach, which is all that could be desired.

The wisdom of keeping the High School hall for High School purposes is manifest, and we trust that its lease for other than such purposes may be forbidden. The increase of room required for the Business Course obliges one of the lady teachers to go to the room in front of the hall for her recitation-room, and indiscriminate occupation of the hall cannot but be objectionable.

HEALTH OF THE PUPILS.

A strong, well-developed, and healthy body is not only essential to the comfort and happiness of the individual, but also to a high degree of mental development.

The men and women who enjoy life the most, who are successful in their undertakings, and who are consequently the most useful in society, generally possess a good degree of physical endurance and vigor.

As such has ever been, and from the nature of our physical being must ever be the case, it follows that the consideration of plans for the protection of the health, and for the more perfect development of the body, should receive due regard at our hands.

Every observant person can but have been impressed with the apparent difference in the health and bodily development of the young men and women who come here from Europe to settle in our midst, and the natives of our own land.

We know that writers upon health and the development of the bodily powers have attributed this mainly to the difference in climate and food, too often leaving out of consideration what is of equal importance, *daily exercise out of doors*.

Each of these may and probably does contribute to the result. The climate we cannot change; and we have no direct control over the quantity and quality of food eaten by the school children. We can by example and advice only, influence them and their parents in this respect; but in regard to exercise we have control during school hours. Are the children, especially those in our primary schools and in the lower classes of our grammar schools, *allowed* a sufficient amount of exercise? They are by nature, while awake, and in health, constantly in motion. This is a law of their being, which cannot be set aside or trifled with if we would preserve the health of our children.

We know how desirous most teachers are to have the department of the pupils such as to meet the approval of the committee and the community; and how, in order to accomplish this, some of them are obliged to keep the children very quiet all the time, forgetting that really good discipline and success in teaching can only be attained while the requirements in the school are in harmony with nature's laws.

We do not mean by this that the teacher should not have perfect control over the pupils, so that by word or look they will instantly obey, but that he should ever keep in mind the law of their physical being.

Good discipline in school is absolutely necessary to the highest success in teaching, but this can be accomplished by any teacher, who is a good disciplinarian, without subjecting the pupils to rules and regulations injurious to their health. We are happy to bear witness to the thoughtfulness of some of the teachers in this respect, and have in mind one or two schools which are models as regards this matter, and hope that the number will be greatly increased.

Under fourteen years of age, boys and girls are about equal in their capacities for acquiring knowledge, and generally, as the girls up to that age have been allowed the privilege of daily exercise out of doors, the health of both sexes is good. Careful comparisons which have been made in height and weight between school children of this age in England and Germany, and those of the United States, show that the children of our country are equal in size to those of Europe. After this age, the boys continue, as a rule, in as good physical condition as before, and graduate from school in the possession of tolerable health and a fair amount of bodily strength, which may be attributed, in part at least, to base-ball playing, foot-ball matches, or other games which require exercise in the open air. In this way, the boy preserves his health, increases his physical powers, and develops into a symmetrically formed and healthy man.

How is it with his sister, who, when young, enjoyed out-door sports with him, and competed successfully for the honors and prizes of the schools? Does she grow up to womanhood in the possession of good health?

It has often been stated by parents that their children have been overtasked in school, and in consequence they have either left school or been excused by the committee from one or more studies required of the class. This is met with in every grade of school, but more frequently in the advanced classes of the grammar schools and in the High School. The withdrawal from school, or permission to omit certain studies on account of illness, is more frequent with the girls than with the boys. Is this owing to the severe demands made upon them by the requirements of the school, or may there not often have been other and more potent causes at

work to undermine the health? We believe the latter generally to have been the case.

Girls of this age in this country are taught by example and precept that they are too old to indulge in out-of-door sports, that walking to and from school is quite exercise enough for them, and so they relinquish the open air and the health-giving sports of childhood. This, together with the rapid growth and other physical changes which take place at this period of life, probably causes much of the sickness which is attributed to overwork in school. If the pupil is so unfortunate as to have inherited a weakly constitution, it would be better not to attempt a High School course, for to master difficult branches there is a necessity for much mental labor; and to attain a fair standing in the classes, a pretty continuous application to study.

But the young person who inherits ordinary health and fair mental ability, by guarding against excesses, such as late hours for bed, indulgence in much highly seasoned food, and in too many hours of study out of school, will be enabled in almost every instance to take a respectable position in the classes, and to graduate in perfect health; provided that physical exercise be practised daily for one or two hours in the open air through the entire school course.

Those pupils who have a reasonable prospect of availing themselves of the entire school course, ought if possible to "make haste slowly," for the brain does not become fully strengthened so as to be in a condition to perform arduous and continuous work before the individual reaches adult life. This country might profitably follow the example of the Germans in applying the principles of physiology to the selection and arrangement of the branches which are best adapted to the age of the pupil. Their school system, in the arrangement of the studies, is based on the idea of continuing the pupil in school until adult age, rather than of hurrying him through before the brain is sufficiently matured to allow such efforts of mind as are demanded, to grasp and analyze the many difficult problems which meet the advanced student in every department of knowledge; while we, forgetting that the brain does not mature sooner than the other bodily organs, attempt to cram the minds of mere youths with a knowledge of language, ancient and modern history, mathematics, and the sciences, during the time of life that

the brain is being enlarged and strengthened, so as to be fitted for the performance of its highest office.

The result is that very few persons in our country attain so high a point in matters that require the highest mental ability as is easily attained by many German students.

In considering the question thus far, we have presumed that the pupils can avail themselves of all the school privileges that are provided by the city ; and what we have said does not apply therefore to that class of pupils, much the larger of the two, who leave school at an early age. Three fourths of the whole number of pupils do not reach the first classes of the grammar schools.

Is this great falling-off in the attendance to be attributed to the character of our people. or is it due rather to our plan of classification and promotions, which is so strictly enforced? It is undoubtedly due to both.

Very many of the pupils are children of parents who, not having the advantages of early education, do not realize its importance, and are quite satisfied with such limited attainments as a knowledge of reading, penmanship, and the simple principles of arithmetic. This having been accomplished, some of the children leave school to assist their parents in the maintenance of the family ; and others, their associates, whom necessity does not oblige to leave school for this purpose, finding the confinement and work of the school irksome, leave of their own accord. To prevent this we are powerless, beyond enforcing the law of our commonwealth, which requires children between the ages of five and fifteen years to attend school a part of each year.

Children after having been out of school for a term, or more, are usually averse to returning, as they will then be classed with younger pupils.

There is another quite large class of pupils who leave school because they are not promoted with their classes at the end of the year, on account of their failure to attain the required per cent in the various branches at the monthly examinations. Some of these, if they could be persuaded to remain in school, might succeed in taking a high position as scholars, as their failure may have been the result of other causes than mental inability. If the pupil is slow to learn, more time should certainly be given him, and he and his parents should be made, if possible, to understand that another year's drill upon the same lessons would be greatly to his advantage.

If the teachers would interest themselves sufficiently to present the matter in its true light to the pupils and parents, many perhaps might be persuaded to remain in school, who otherwise would leave.

If the pupil is in good physical condition, of sufficient age and mental ability to perform the work of his class, and fails month after month to do so, the teacher should carefully inquire into the causes, and do what is possible to remedy the evil.

It should be a rule with every teacher not to allow repeated failures in any case where the pupil is neither physically nor mentally weak. Any teacher who will allow such pupils to fall below the minimum per cent, month after month, as has sometimes been the case, falls himself far below the requirements of his position.

There is a class of minors scattered throughout the city, who are not attending school, that have received hitherto too little consideration. This is evident from the number of young persons — over two hundred — enrolled as pupils of the Evening School. Many of these have recently come into our city from various places, but finding that, having little or no knowledge of some of the branches taught in our schools, they will be classed with pupils much smaller and younger than themselves, they do not seek admission to our schools. The establishment of one or two ungraded schools, conveniently located, under the charge of devoted and efficient teachers, would greatly benefit the community and this class of persons, by giving them an opportunity to attend school.

There are also pupils in our schools who, from some peculiarity of mental organization, are incapable of learning certain branches, but are in nowise deficient in other respects, who under the present plan are obliged to remain in the lower classes until they leave school. An ungraded school would give them an opportunity to receive proper instruction in the branches which they are capable of understanding, as well as in those they do not easily comprehend.

We would further suggest to our successors such modifications in the plan of the arrangement of the studies as will enable a pupil who has ability to perform more work than is assigned his class, to do so, and to receive promotion whenever he is qualified to enter the next higher class. With these changes, the present plan, we believe, will be suited to the necessities of most of the pupils who attend our public schools.

During the past year the teachers have generally faithfully performed their duty, and the pupils have made the usual progress.

For much valuable and interesting matter in regard to the schools, we refer to the accompanying report of the Superintendent.

HENRY F. SPENCER.
HORACE CHAPIN.
CHAS. S. LINCOLN.
ENOS T. LUCE.

SUPERINTENDENT'S REPORT.

To the School Committee of Somerville :

GENTLEMEN, — In conformity with your rules, I respectfully submit the following report for the year 1877.

SUMMARY OF STATISTICS.

I. POPULATION AND VALUATION.

Population of the city, census of 1875	21,594
School census, May, 1877	4,157
Valuation of the city May 1, 1877	\$25,479,400 00
Personal estate	\$2,280,400 00
Real estate	23,199,000 00
Estimated value of school property	\$437,350 00
Number of dwelling-houses	4,250
Ward One	1,215
Ward Two	1,348
Ward Three	777
Ward Four	910

II. SCHOOLHOUSES.

Number of schoolhouses	18
Number of schoolrooms	76
Number of school-halls	5
Number of rooms hired for school purposes	4
Number of vacant school-rooms	2

TABLE SHOWING THE NAME, LOCATION, CAPACITY, TIME OF CONSTRUCTION, AND ESTIMATED VALUE—INCLUDING LAND AND FURNITURE—OF THE SEVERAL SCHOOL BUILDINGS.

NAME.	LOCATION.	SCHOOL-ROOMS.	WHEN CONSTRUCTED.	ESTIMATED VALUE.
Union	Prospect Street . .	1		\$4,600
Cedar Street . . .	Cedar Street . . .	2	1843	1,600
Franklin	Somerville Ave. . .	4	1846	18,500
Prospect Hill . . .	Washington Street	6	1848	30,600
Spring Hill	Harvard Street . .	1	1850	2,700
Harvard	Beacon Street . . .	1	1851	3,700
Brastow	Medford Street . .	2	1861	8,250
Jackson	Poplar Street . . .	4	1861	13,550
Lincoln	Elm Street	4	1866	15,000
Forster	Sycamore Street . .	8	1866	54,000
Prescott	Pearl Street	12	1867	58,000
Bennett	Joy Street	4	1868	15,500
Webster	Webster Ave.	4	1868	12,500
Morse	Summer Street . . .	4	1869	31,250
High	Highland Ave. . . .	2	1871	64,500
Edgerly	Cross Street	4	1871	35,500
Beech Street . . .	Beech Street	2	*1872	6,500
L. V. Bell	Vinal Ave.	10	1874	61,100

III. SCHOOLS.

Whole number of schools	78
High	1
Grammar	44
Primary	33
Decrease for the year	1

In consequence of the decrease of population in the neighborhood of Cedar Street Schoolhouse, the grammar school in that building

* Purchased.

was discontinued at the beginning of the school year, in September. The pupils were assigned to the Lincoln and Forster Schools, and the teacher was transferred to the Lincoln School.

Four primary schools are occupying rooms which have been hired and prepared, temporarily, for their accommodation, — two in East Somerville, and two in West Somerville.

PRIMARY SCHOOLS.

SCHOOLS.	TEACHERS.	Average whole number.	Average attendance.	Per cent of attendance.	Number of tardinesses.	Number of dismissals.
Forster	Martha H. Pennock . .	44.6	41.5	93.0	73	58
"	Ella F. Lears	45.1	41.2	91.3	138	26
"	Mary E. Wiggin	52.2	45.2	86.6	250	47
Prescott	Sarah E. Pratt	51.3	48.5	94.5	17	23
"	Fannie R. Morse	59.0	54.5	92.3	22	23
"	Mary A. Rice	65.2	60.5	92.8	32	27
Edgerly	Anna L. Prescott	57.3	53.3	93.0	55	27
"	Clara M. Bagley	55.2	52.8	95.6	59	4
Tufts Street	H. V. Hathaway	45.0	41.9	93.1	54	42
"	Ada Cowles	44.6	39.3	88.1	138	15
L. V. Bell	Lizzie Appleton	55.9	51.7	92.5	65	30
"	Augusta M. Houghton	58.2	53.2	91.4	67	22
Prospect Hill	Ida A. Howe	50.8	47.1	92.7	56	27
"	Lillian F. Howe	52.2	48.8	93.5	58	46
"	Charlotte I. Houghton	51.6	46.7	90.5	68	23
Brastow	Lizzie D. Harding	48.5	46.4	95.6	51	21
Bennett	Adeline Sanderson	43.9	40.9	93.2	44	14
"	Mary B. Currier	51.3	47.6	92.8	39	19
"	Emma F. Schuh	49.1	45.3	92.2	21	12
Jackson	Rebecca F. Woodberry	46.7	44.2	94.6	120	60
"	Mary L. Sanderson	48.2	44.5	92.3	81	5
"	Louise A. Brine	48.1	44.2	91.8	48	2
Webster	Annie L. Savage	51.9	48.6	93.6	63	32
"	Nora O'Leary	50.5	47.6	94.2	85	22
Union	Isabella M. Prince	54.5	48.7	89.3	104	27
Beech Street	Marion Damon	56.0	50.8	90.7	95	178
Spring Hill	Louisa M. Wilde	57.0	50.6	88.7	98	47
Franklin	Emeline C. Ruggles	46.9	43.3	92.3	70	6
"	Hattie A. Hills	42.1	39.2	93.1	88	16
Harvard	Annie E. Robinson	54.9	50.0	91.0	110	22
Lincoln	Carrie L. Lacount	57.5	51.5	89.5	47	34
Holland Street	P. Jenette Teele	33.2	30.6	92.2	92	29
Cedar Street	Alice Simpson	44.2	39.9	90.2	71	36
Total . . . .	. . . . .	1672.7	1540.1	92.1	2479	1022

GRAMMAR SCHOOLS.

SCHOOLS.	TEACHERS.	Average whole number.	Average attendance.	Per cent of attendance.	Number of tardinesses.	Number of dismissals.
Forster	Geo. R. Bradford . . .	43 0	42.1	97 9	25	37
	Anna M. Snow	42.8	40.6	94 8	56	34
	Frances M. Guptill . .	51 0	47.8	93.7	84	25
	Alice A. Batchelor . .	42.1	39.5	93.8	90	59
	Helen E. Magoun . . .	45.4	43 2	95.1	40	29
Prescott	G. A. Southworth . . .	45.6	44.7	98.0	1	1
	V. Eunice Hapgood . .	50.4	48.4	96.0	1	21
	Harriet N. Sands . . .	32.3	30.8	95.3	0	13
	Adelaide Reed	32.8	31.6	96 3	3	23
	Annie F. Hills	45.3	43.4	95.8	26	40
	Frank P. Hudson	45.8	43.8	95.6	8	46
	Nancy W. Proctor . . .	52.0	50.1	96.3	9	15
	Catharine T. Brown . .	38.7	36.9	95 3	13	21
	Clara Taylor	44.4	42.4	95 5	10	16
	Edgerly	Augusta M. Cowles . .	46.6	44.6	95.7	35	38
Amelia I. Sears		47.8	45.4	94 9	44	43
L. V. Bell	S. C. Higgins	51.4	49.8	96 9	9	1
	Clara A. Battles	42 3	41.0	96 9	12	19
	Lydia L. Gordon	36 4	34.5	94 7	21	27
	Ellen M. Gooding . . .	37.2	35.2	94.6	23	32
	Caroline S. Plimpton .	43.3	41.3	95.4	34	18
	Abbie C. Hunt	41.4	39.1	94.4	50	65
	Fannie A. Wilder . . .	44.6	41.5	93 0	18	36
	Lydia J. Page	51.7	48.6	94.0	44	31
	Prospect Hill . .	Augusta A. Roberts . .	47.9	44.7	93 3	56	63
Maria Miller		41.6	39 0	93.7	98	74
Hattie M. Sears		46 4	43 6	93.9	65	56
Ellen Ledyard		48.2	45.2	93.8	68	34
Brastow	Sarah E. Pennock . . .	38.0	36 2	95 2	66	53
Bennett	Helen Tincker	43.3	40 9	94.4	47	72
Jackson	Lizzie W. Shelton . . .	38.6	36 4	94 3	67	11
Webster	Ada L. Sanborn	45.3	43.8	96 6	36	10
Morse	Charles C. Hunkins . .	26.7	25.0	93 6	77	66
	Nellie P. Nichols . . .	39.6	38.0	95.9	64	25
	Pauline S. Downes . . .	46.4	45.2	96.9	18	13
	Helen W. Chapin	42.9	39.0	90.9	112	39
	Anna E. Sawyer	43.7	41.7	95.4	82	39
Beech Street . . .	Mary A. Haley	40.7	38 6	94.9	52	47
Franklin	Jane E. Clark	38.7	35 7	92.2	59	110
	Lizzie C. Howe	34 5	32.6	94 5	53	35
Lincoln	George E. Nichols . . .	26.9	24.5	91.1	83	62
	Jennie Colburn	41.7	37 8	90.6	119	61
	Georgiana Cutter . . .	41.8	38.1	91.1	98	85
	Lizzie J. Conwell	46.2	42 9	90.7	69	77
*Cedar Street . .	Lizzie J. Conwell . . .	32.3	29.7	91.7	26	3
Total		1905.7	1804.9	94.7	2071	1725

HIGH SCHOOL.

Whole number of different pupils during the year	302
Largest number at one time	227
Number admitted during the year	89
Number who left school during the year, exclusive of the graduates	45
Number graduated	36
The number of graduates is forty-three per cent of the number of pupils forming the class on entering the school.	
Whole number at the present time	221
Number at the present time over fifteen years of age	172
Number in course preparatory to college	59
In the first class	9
“ second class	19
“ third class	15
“ fourth class	16
Number pursuing the regular course	116
Number pursuing the English course	25
Number pursuing the Commercial course	21
Number of pupils in the first class on entering the school	72
Number at the present time	33
Number of pupils in the second class on entering the school	81
Number at the present time	43
Number of pupils in the third class on entering the school	86
Number at the present time	55
Number of pupils in the fourth class on entering the school	83
Number at the present time	90

It has been the endeavor of successive committees to render the High School as valuable as possible to all classes of the community. Originally there were but two courses of study in the school, the regular course and the classical course, each continuing four years. These courses have been variously modified from time to time, to adapt them to the necessities of the pupils.

○ In 1870 an English course of study, embracing four years, was

introduced for the benefit of those pupils who do not wish to study Latin.

In September of the present year, a commercial course was introduced for the accommodation of those who do not intend to remain in the school more than one or two years, and who wish to pursue such studies only as will be of direct practical use in business. This course is completed in two years.

The regular and classical courses are the same for the first year. Hence, this may be regarded as the *trial year*, the results of which will assist the parent to determine whether or not his son or daughter would probably succeed in the classical course and become prepared to enter college.

Any scholar is allowed at the end of a year to leave the regular or the classical course, and to enter the English course of corresponding grades; also to leave the English course and to enter the regular or the classical course, if he gives satisfactory evidence that he is able to pursue, in the course selected, the studies that he has previously omitted.

In the English course, arithmetic, spelling, English grammar and composition take the place of the Latin of the regular course during the first year; physiology and French (one year earlier than in the regular course) during the second year; civil government and natural history during the third year. The studies in both courses are identical during the last year.

In the classical course, Greek is substituted for physical geography, natural philosophy and chemistry, during the second year. The elements of these omitted branches are studied later in the classical course. During the last two years of the classical course, such studies are taken as are required for admission to college.

Pupils will be entitled to promotion when their average rank in scholarship, during the year, has been sixty-five per cent, and to diplomas when they have completed any one of the four courses of study, without the omission of any branch, and have maintained an average rank in scholarship of sixty-five per cent in the studies of each year.

TWENTY-FIFTH ANNIVERSARY OF THE HIGH SCHOOL,
MONDAY, JULY 2, 1877.

ORDER OF EXERCISES.

- OVERTURE. — "Don Munio." *Buck.*
ORCHESTRA.*
1. SINGING.
Unison Chorus: "Fest Gesang" (antiphonal) (with Brass Band). *Mendelssohn.*
Vocal March (with Orchestration by Henry Hadley). *Veazie.*
2. SALUTATORY IN LATIN. FRANK CLINTON FERNALD.
3. READING. — The Painter of Seville. *Willson.*
GEORGETTE KELLY DOW.
4. ESSAYS — *Obstacles Essential to Glory.* EDWARD COLLINS PORTER.
Whims. NORA FRANCES BYARD
5. READING. — The Taking of the Belen Gate. *Anon.*
MARTHA ADAMS VINAL.
6. GREEK DIALOGUE.
LOUIS BRACKETT CARR. FREDERIC AUGUSTUS FISKE.
7. SINGING. — Selections from "Don Munio" (with Orchestra). *Buck.*
a — Chorus: Ave Maria.
b — Battle Hymn (Male Voices) (accomp. by Wind Instruments).
c — Soprano Solo and Chorus. (Finale.)
8. ESSAYS. — *Humor.* EMMORETTA AMY TAYLOR.
Can the Wrong be Righted? FANNIE GERTRUDE TOMPKINS.
9. READING. — Mother and Poet. *Mrs. Browning.*
CELENE WINKLEY PALMER.
10. ORIGINAL CONTRIBUTIONS. EMMA WARTON KAAH.
MUSIC. — Bolero. *Buck.*
- Recess.*
11. SINGING.
Quintet: "Hie thee, Shallop" (Male Quartet with Soprano Obligato), unaccomp. *Kucken.*
Recit. and Aria: "Don Munio" (with Orchestra). *Buck.*
Semi-Chorus: "Walpurgis Night" (Female Voices). *Mendelssohn.*
12. READING. — New England Weather. *Mark Twain.*
LAURA AMELIA EASTMAN.

* Hadley's Orchestra.

13. POEM. — *Blue Glass and the Telephone.* (Class Poet.)
MARY GRACE WOODWARD.
14. READING. — Kentucky Belle. *Woolson.*
ELLEN LEORA RIPLEY.
15. ESSAYS. — *The Dignity of Labor.* CHAS. HERBERT TENNEY.
Permanent Peace in Europe. CHAS. GALE LEONARD.
16. Le Fils de ma Mère.
ALICE ELIZABETH FURBER. EMMA CAROLINE SAYLES.
GEORGE WARREN HASLET. ROBERT LUCE.
17. SINGING. — Duet: "I heard a voice" (with Flutes). *Glover.*
Quartet: The Savoyard's Return. *Blodgett.*
Chorus: "Hark! the Curfew" (with Glockenspiel Obligato). *Attwood.*
18. READING. — Love and Lunacy. *Hood.*
CHARLES MORRISON HEMENWAY.
19. PROPHECIES. NELLIE AUGUSTA BRADSHAW.
20. VALEDICTORY. ELEANOR ROSE MAYNARD.
21. PRESENTATION OF DIPLOMAS, by MAYOR AUSTIN BELKNAP.
22. PARTING HYMN.

MEMBERS OF THE GRADUATING CLASS.

Sarah Frances Barnard.	Emma Caroline Sayles.
Mary Chesler Batchelder.	Emmoretta Amy Taylor.
May Estelle Berry.	Fannie Gertrude Tompkins.
Nellie Augusta Bradshaw.	Ada Eliza Tower.
Nora Frances Byard.	Nellie Tuttle.
Alice Amelia Cann.	Martha Adams Vinal.
Georgette Kelly Dow.	Mary Grace Woodward.
Laura Amelia Eastman.	
Alice Elizabeth Furber.	John Franklin Bacon.
Emma Warton Kaan.	George Warren Haslet.
Margaret Frances Kirkpatrick.	Arthur Horace Houston.
Georgianna Turner Lears.	Frederic Little Keyes.
Eleanor Rose Maynard.	Charles Plimpton Lincoln.
Celene Winkley Palmer.	Simeon McCausland Metcalf.
Ellen Leora Ripley.	

OF THE COURSE PREPARATORY TO COLLEGE.

Louis Brackett Carr.	Charles Gale Leonard.
Frederic A. P. Fiske.	Robert Luce.
Frank Clinton Fernald.	Edward Collins Porter.
Charles Morrison Hemenway.	Charles Herbert Tenney.

IV. TEACHERS.

Whole number of teachers	88
Male teachers, 9 ; female teachers, 79.	
Number of teachers in the High School	7
Male teachers, 3 ; female teachers, 4.	
Number of teachers in the grammar schools	47
Male teachers, 5 ; female teachers, 42.	
Number of teachers in the primary schools	33
One teacher of vocal music.	

The following named teachers have been elected during the year :—

- Alfred Bunker, Esq., teacher in the High School.
- Chas. C. Hunkins, Esq., principal of the Morse School.
- Geo. E. Nichols, Esq., principal of the Lincoln School.
- Miss Stella M. King, teacher in the Forster School.
- Miss Alice A. Batchelor, teacher in the Forster School.
- Miss Adelaide Reed, teacher in the Prescott School.
- Miss Sarah E. Pratt, teacher in the Prescott School.
- Miss Annie F. Hills, teacher in the Prescott School.
- Miss Elgina M. Plummer, teacher in the Prescott School.
- Miss Frank P. Hudson, teacher in the Prescott School.
- Miss Augusta M Houghton, teacher in the L. V. Bell School.
- Miss Lizzie D. Harding, teacher in the Brastow School.

SCHOOLS AND TEACHERS.

SCHOOLS.	TEACHERS.	SALARY.	FIRST ELECTED.
High	Geo. L. Baxter	\$2,400	1867
	Wm. S. Forrest	1,800	1875
	Alfred Bunker	1,500	1877
	Sarah W. Fox	1,200	1868
	Sarah L. Graves	1,000	1865
	Annette E Long	1,000	1864
	Julia A. Stetson	1,000	1873
Forster	Geo. R. Bradford	1,800	1864
	Stella M. King	650	1877
	Anna M. Snow	650	1866
	Frances M. Guptill	650	1869
	Alice A. Batchelor	650	1877
	Helen E. Magoun	650	1868
	Martha H. Pennock	650	1873
	Ella F. Lears	650	1874
	Mary E. Wiggin	575	1875

SCHOOLS AND TEACHERS. — *Continued.*

SCHOOLS.	TEACHERS.	SALARY.	FIRST ELECTED.
Prescott	G. A. Southworth	\$2,000	1873
	Anna M. Bates	700	1874
	V E. Hapgood	650	1876
	Harriet N. Sands	650	1864
	Adelaide Reed	650	1877
	Annie F Hills	650	1877
	Frank P. Hudson	650	1877
	Nancy W. Proctor	650	1869
	Catharine T. Brown	650	1868
	Clara Taylor	650	1871
	Sarah E. Pratt	650	1877
	Elgina M. Plummer	650	1877
	Mary A. Rice	650	1873
Edgerly	Augusta M. Cowles	700	1865
	Amelia I. Sears	650	1873
	Anna L. Prescott	650	1873
Tufts Street	Clara M. Bagley	650	1873
	H. V. Hathaway	650	1875
Luther V. Bell	Ada Cowles	650	1875
	Simeon C. Higgins	1,800	1876
	Minnie H. Marden	650	1876
	Clara A. Battles	650	1874
	Lydia L. Gordon	650	1869
	Ellen M. Gooding	650	1868
	Caroline S. Plimpton	650	1859
	Abbie C. Hunt	650	1873
	Fannie A. Wilder	650	1874
	Lydia J. Page	650	1869
	Lizzie Appleton	650	1874
	Augusta M. Houghton	375	1877
	Prospect Hill	Augusta A. Roberts	700	1861
Maria Miller		650	1870
Hattie M. Sears		650	1875
Ellen Ledyard		650	1874
Ida A. Howe		650	1875
Lillian F. Howe		650	1876
Charlotte I. Houghton		375	1875
Brastow	Sarah E. Pennock	650	1871
	Lizzie D. Harding	375	1877
Bennett	Helen Tincker	700	1872
	Adeline Sanderson	650	1871
	Mary B. Currier	650	1873
Jackson	Emma F. Schuh	650	1874
	Lizzie W. Shelton	700	1860
	Rebecca F. Woodberry	650	1863
	Mary L. Sanderson	375	1875
Webster	Louise A. Brine	475	1876
	Ada L. Sanborn	700	1869
	Annie L. Savage	650	1873
Union	Nora O'Leary	650	1874
	Isabella M. Prince	575	1876

SCHOOLS AND TEACHERS. — *Continued.*

SCHOOLS.	TEACHERS.	SALARY.	FIRST ELECTED.
Morse	Chas C Hunkins	\$1,600	1877
	Nellie P. Nichols	650	1871
	Pauline S. Downes	650	1872
	Helen W. Chapin	650	1873
	Anna E. Sawyer	650	1873
Beech Street . . .	Mary A. Haley	650	1868
	Marion Damon	650	1875
Spring Hill . . .	Louisa M Wilde	650	1873
Franklin	Jane E Clark	700	1873
	Lizzie C. Howe	650	1868
	Emeline C. Ruggles	650	1876
	Hattie A. Hills	650	1874
Harvard	Annie E. Robinson	575	1876
Lincoln	Geo. E. Nichols	1,500	1877
	Jennie Colburn	650	1875
	Georgiana Cutter	650	1873
	Lizzie J. Conwell	650	1873
	Carrie L. Lacount	650	1875
Holland Street . .	P. Jenette Teele	650	1870
Cedar Street . . .	Alice Simpson	600	1872
Music	S. H. O. Hadley	1,050	1868

Female teachers in the grammar and primary schools receive for the first year \$375 ; for the second year \$475 ; for the third year \$575 ; for the fourth and each succeeding year \$650.

The foregoing table shows that a very large proportion of our teachers have had an experience that entitles them to the highest salary.

The liberal policy of the City Council and the School Board, in regard to compensation, enables us to secure for our schools teachers of superior ability, and removes the necessity for the employment of any except such as have had marked success in their vocation

The wisdom of such a policy is vindicated by the transcendent importance of the interests involved. The momentous consequences dependent upon the proper instruction and right direction of the young during the years of their pupilage, demand the bestowment of such compensation as will secure the highest order of ability and the most efficient service. The influence of teachers in moulding the character and in shaping the destiny of those intrusted to them is beyond computation ; consequently a high standard of qualifica-

tions should be demanded, and corresponding remuneration should be bestowed.

Tillotson says, " It requires great wisdom and industry to advance a considerable estate, much art and contrivance and pains to raise a great and regular building ; but the greatest and noblest work in the world, and an effect of the greatest prudence and care, is to rear and build up a man, and to form and fashion him to piety and justice and temperance, and all kind of honest and worthy actions."

Since the efficiency of the schools depends so largely upon the character of those to whom they are intrusted, we cannot emphasize too strongly the importance of placing over them such teachers, and such only, as bring to their work the highest capabilities. In ordinary business transactions, value is given only in consideration of *equivalent value received*. In a matter of such vital importance as the selection and appointment of teachers, the highest assurance should be obtained that the ability secured is commensurate to the compensation awarded. Great care, therefore, should be exercised by those on whom devolves the duty of applying the appropriations so generously provided.

The thoroughly competent teacher has broad and liberal culture. He is conversant with all subjects he attempts to teach, — has surveyed the entire field to be traversed from an elevated standpoint, and possesses accurate knowledge of each minute portion of it. Like a skilful guide, he is perfectly familiar with all the intricacies and meanderings of the way, and never blindly misleads those committed to his guidance ; but without hesitation, directs them at once and by the shortest route to objects of the greatest interest and importance. He is not content with the rudimentary knowledge contained in the text-books of the schools, but extends his investigations, and gains an acquaintance with all subsidiary and collateral studies, and thereby becomes thoroughly furnished for his work. He is a constant student, and is ever making valuable additions to his intellectual treasures.

The activity of intellect thus induced in the teacher is communicated to his pupils, and manifests itself in the life and enthusiasm of his school.

The successful teacher, in addition to broad and liberal culture and varied and extended attainments, possesses also the ability to communicate to others in a clear, forcible, and attractive manner the knowledge which he has garnered. His familiarity with the

subjects taught enables him to select whatever is of the highest value to those whom he instructs, and thereby saves them from exhausting their energies upon matters of trivial importance. He adapts his instruction to the capabilities and necessities of his pupils; is quick to detect the difficulties existing in their minds, and, by apt illustrations, illumines whatever is dark and difficult to be understood by them. His language is clear but concise. He avoids loquacity. His words are few but fitly spoken, and hence are "like apples of gold in pictures of silver."

But education implies much more than the mere acquisition of knowledge and the cultivation of the intellect. In its true signification it is the training of the man, the harmonious unfolding of the whole being. It has respect to whatever is essential to the right performance of the varied duties of life and to the attainment of the great ends of existence.

In consequence of what the teacher *is*, vastly more than from what he says, there is ever emanating from him an unconscious influence that imperceptibly but surely moulds the character of his pupils. It is of the highest importance, therefore, that he should be a model not only of all that pertains to the proprieties of social life, but the very embodiment of whatever we would have his pupils become. His life should be pure; his example, in all respects, should be worthy of imitation; and his character, such as will inspire the confidence, the respect, and the love of his pupils.

The crowning excellence, therefore, of the true teacher consists in the purity and nobility of personal character

*"Heart merit wanting, mount we ne'er so high,
Our height is but the gibbet of our name."*

V. PUPILS.

The whole number of persons in the city between five and fifteen years of age, on the first day of May last, as ascertained by the Truant Officer, was 4,157

Ward One	1,284
Ward Two	1,499
Ward Three	707
Ward Four	667
Increase for the year	129

Whole number of pupils in all the schools in May last	4,005
Number of pupils over fifteen years of age .	309
Average whole number of pupils in all the schools for the year	3,787.7
High School	209.3
Grammar Schools	1,905.7
Primary Schools	1,672.7
Average attendance in all the schools for the year	3,549.5
High School	204.5
Grammar School	1,804.9
Primary Schools	1,540.1
Per cent of attendance in all the schools for the year	93.7
High School	97.7
Grammar Schools	94.7
Primary Schools	92.1
Number of tardinesses in all the schools for the year	4,667
High School	117
Grammar Schools	2,071
Primary Schools	2,479
Number of dismissals in all the schools for the year	3,008
High School	261
Grammar Schools	1,725
Primary Schools	1,022

TABLE SHOWING THE NUMBER OF PUPILS IN EACH OF THE THIRTEEN CLASSES IN DECEMBER; THE AVERAGE AGE OF PUPILS IN EACH CLASS; THE PER CENT THAT THE NUMBER IN EACH CLASS IS OF THE WHOLE NUMBER.

School.	Class.	Boys.	Girls.	Total.	Average Age.	Per Cent.
High . . .	First .	11	22	33	18 yrs. 2 mos.	.805
	Second	20	23	43	17 yrs. 3 mos.	1.049
	Third .	19	36	55	16 yrs. 4 mos.	1.342
	Fourth	44	46	90	15 yrs. 5 mos.	2.196
Grammar .	First .	66	92	158	14 yrs. 9 mos.	3.855
	Second	81	100	181	13 yrs. 11 mos.	4.417
	Third .	144	137	281	13 yrs. 1 mos.	6.857
	Fourth	230	194	424	12 yrs. 4 mos.	10.347
	Fifth	221	225	446	11 yrs. 3 mos.	10.884
	Sixth .	287	251	538	10 yrs. 2 mos.	13.129
Primary . .	First .	262	242	504	8 yrs. 9 mos.	12.299
	Second	271	281	552	7 yrs. 8 mos.	13.469
	Third .	418	375	793	5 yrs. 9 mos.	19.351
Total		2074	2024	4098	. . . . .	100.000

Number of pupils in all the schools in December,	4,098
Boys	2,074
Girls	2,024
Number over fifteen years of age	328
Number of pupils in the High School	221
Boys	94
Girls	127
Number of pupils in the Grammar Schools	2,028
Boys	1,029
Girls	999
Number of pupils in the Primary Schools	1,849
Boys	951
Girls	898

The High School contained 5.393 per cent, of all the pupils.

The Grammar Schools contained 49.488 per cent of all the pupils.

The Primary Schools contained 45.119 per cent
of all the pupils.

Whole number of pupils registered in all the schools during the year 1877	4,906
Average number of pupils to a teacher, taking as a basis of computation the whole number in attendance in December	46
High School	32
Grammar Schools	43
Primary Schools	56
Number of pupils graduated from the High School	36
Number of pupils graduated from the several Grammar Schools	120
From the Prescott School	40
“ Luther V. Bell School	23
“ Morse School	23
“ Forster School	22
“ Lincoln School	12

Of the 120 graduates from the several grammar schools, 103 applied for admission to the High School, 84 passed a satisfactory examination, 79 entered the school in September.

The following named pupils passed a satisfactory examination for admission to the High School: —

FROM PRESCOTT SCHOOL.

Edwin H. Sawyer.	Bessie R. White.
Geo. A. Snow.	Gertrude Guild.
Theodore V. Enslin.	Mary E. McLaughlin.
Herbert N. Libbey.	Mary L. Howes.
Frederic E. Wallace.	Ella C. Page.
Oren G. Elder.	Ida M. Haynes.
Geo. F. Steele.	Lulu M. Horton.
Chas. Lattemore.	Clara I. Atwood.
H. A. Hopkins.	Ada E. Scott.
Fred L. Fisher.	Hattie A. Crane.
Arthur I. Plaisted.	Susie J. Palmer.
Geo. W. Smith.	Sarah A. Remick.
Herbert S. Littlefield.	Estelle F. Howes.

Flora M. Eastman.
 Eliza M. Rubel.
 Minnie E. Barnes.
 Lillian J. Colson.

Mamie Palmer.
 Lilian M. Totman.
 Lillian W. Dalton.
 Charlotte E. Snow.

LUTHER V. BELL SCHOOL.

S. W. Janes.
 S. J. Riley.
 C. E. Riley.
 I. C. Brooks.
 E. H. Lansing.
 F. A. Bickford.
 T. P. Rowe.
 W. S. Donahue.
 W. E. Raybold.

J. S. Guthrie.
 L. W. Elkins.
 M. E. Harney.
 C. M. Wood.
 M. P. DeFatta.
 C. E. Eldridge.
 A. E. Crimmings.
 M. A. Perry.
 Nola E. Hall.

FORSTER SCHOOL.

Edward F. Woods.
 Fred C. Fitz.
 Chas. A. Pratt.
 Wm. F. Edlefson.
 Fred M. Kimball.
 Chas. E. Brown.

Gertrude Powers.
 Florence A. Withey.
 Nellie R. Winslow.
 Jennie C. L. Locke.
 Sarah S. Lears.
 Jennie L. Crafts.

MORSE SCHOOL.

Frank E. Richards.
 Gardner W. Homer.
 Alexander Foster.
 C. F. Davis.
 R. Heber Hodgdon.
 Jerry J. McGarr.
 G. Fletcher West.

Chas B. Sewall.
 Lucy M. Stone.
 Annie L. Powers.
 Annie Foster.
 Carrie M. Vance.
 Annie H. Lord.
 Katie L. Byard.

LINCOLN SCHOOL.

Edmund Chamberlain.
 Edwin F. Peckham.

Maud Winter.
 Emily Bevins.

Louise H. Bevins.

The following named pupils have been admitted during the year, from schools outside of the city.

FIRST CLASS.

September. Frederic Wm. Shaw, from private school, Brooklyn, N. Y.

SECOND CLASS.

September. Florian Delton Record, from Auburn High School, Maine.

FOURTH CLASS.

January. Minnie G. Gifford, from Woods Holl.
 September. Hattie Devens Turner, from Prescott School, Charlestown.
 “ Frank Vernon Cooke, from Bridgeton High School, Maine.
 “ Harry Swords, from Warren School, Charlestown.
 October. Frank H. Johnson, from Leominster High School.
 “ Hattie P. Burbank, from Salem High School.
 November. Emma M. Apted, from Wells School, Boston.

The following table shows the average of the monthly examinations of the first class in each of the grammar schools, and the result of the examination for admission to the High School.

No.	SCHOOL.	Average Age.	Monthly Examinations.	High School Examinations.	Average.	Arithmetic and Grammar.
34	Prescott . .	14 yrs. 11 mos.	80.0	78.3	79.2	74.1
18	L. V. Bell .	15 yrs. 4 mos.	80.5	75.1	77.7	72.7
13	Forster . .	14 yrs. 9 mos.	76.9	72.9	74.9	69.1
14	Morse . . .	14 yrs. 8 mos.	84.4	75.4	79.9	71.1
5	Lincoln . .	16 yrs. 4 mos.	83.3	71.8	79.7	64.0
84	. . . . .	15 yrs. 0 mos.	80.3	75.9	78.1	72.2

MUSIC.

For many years the schools have been provided with competent and special teachers of vocal music, and much has been accomplished in this useful branch of instruction. Singing has always been an interesting feature in the daily exercises of our schools, and its elevating moral influence upon the pupils is unquestioned.

In September of last year the course of instruction in music was more definitely and systematically arranged than formerly; and as a consequence, the results of the present year have been much more satisfactory than during any previous year.

Much valuable aid is rendered to the special teacher of music by the regular teachers of the several schools. But the knowledge and skill necessary to render one a competent and successful teacher of music require more time for study and practice than the regular teachers can spare from the hours devoted to preparation for ordinary school work. Hence the necessity for the employment of a teacher who makes music a specialty.

DRAWING.

Instruction in drawing is given by the regular teachers. The results in most of the schools are satisfactory.

When drawing was first introduced, and during the time that the regular teachers of the schools were qualifying themselves for the new work required of them, special teachers of this art were a necessity. But drawing has been a legal requirement for several years, and excellent facilities for acquiring the ability to teach it successfully have been accessible to all. At the present time, all teachers employed by the city are expected to teach drawing with the same degree of skill and success that they do penmanship or any other regular branch of instruction.

EVENING SCHOOLS.

The Evening School, which was in operation at the beginning of the year, was continued until March 30, with an average attendance of 37.33. The school was reopened Monday, Nov. 5, and has been in session six evenings each week; the boys meeting three evenings, and the girls three, alternately.

The teachers are : Herbert A. Chapin, principal, B. B. Platner, Sam'l N. Cutler, Annie S. Gage, and Ada I. Howe, assistants.

Whole number registered during the last two months 248
Boys, 218 ; girls, 30.

Average attendance 91
Boys, 79 ; girls, 12.

Entire cost of the school for the year : —

Tuition 95 evenings	\$540 00
Janitors' services	37 59
Books and stationery	46 53
Gas	161 64
Total	\$807 54

MONTHLY REPORTS OF THE TRUANT OFFICER.

1877.	Cases investigated.	Cases of truancy.	Number of Truants.	Arrests.	Absentees placed in school.
January	100	15	7	. . . . .	3
February	94	19	12	. . . . .	1
March	70	25	17		
April	85	38	23		
May	52	14	6		
June	47	28	21		
September	138	55	40		
October	129	46	36		
November	145	39	33	1	
December	113	46	31		
Total	973	325	226	1	4

ELI A. SMITH, *Truant Officer.*

TEXT BOOKS.

At the beginning of the school year, in September, Harper's School Geography was introduced into the fourth class, and his Introductory Geography into the sixth class, these being the only classes requiring new geographies. These books will be introduced whenever new supplies are required, until all the classes are furnished with them.

Hillard's Franklin Readers and Monroe's Readers and Spellers were introduced in September, 1874, in place of Sargent's Readers and Speller, which had been in our schools twenty years.

Greene's Grammar was first introduced in November, 1854. In September, 1874, Swinton's Language Lessons was substituted for it in the third and fourth classes. In September, 1875, Swinton's Grammar was introduced into the first and second classes.

Warren's Geographies were introduced in January, 1867, and Harper's in September, 1877; Walton's Arithmetic in March, 1865; and Greenleaf's in September, 1876; Seavey's Goodrich's History in September, 1868, and Campbell's in September, 1874.

SCHOOL SUPPLIES.

Scholars are furnished with the following articles, for school use, at the expense of the city: — pens, ink, lead pencils for writing in the primary schools, slate pencils, paper for all written exercises, and writing books.

EXPENDITURES FROM JAN. 1, 1877, TO JAN. 1, 1878.

BY THE CITY COUNCIL.

Repairs and permanent improvements,	\$6,047 99	
Insurance	1,888 70	
Rent	653 33	
Fuel	2,722 96	
	<hr/>	\$11,312 98

BY THE SCHOOL COMMITTEE.

Teachers' salaries for day and evening schools	\$68,157 93	
Superintendent's salary	2,000 00	
Janitors' salaries	3,380 09	
Truant officer's salary	900 00	
Water	367 25	
Gas	445 50	
Printing	302 60	
Books for indigent pupils and evening schools	1,131 70	
Writing books	460 00	
Stationery and other school supplies	852 71	
Miscellaneous	554 42	
	<hr/>	78,552 20
Total expenditures		\$89,865 18

RECEIPTS.

Tuition of non-resident pupils	\$115 38	
Rent of school halls	84 50	
Sundries	35 36	
	<hr/>	235 24
Net expenditures		\$89,629 94

CONCLUSION.

It is a well-established and generally accepted truth that the stability of our national institutions and the general prosperity and happiness of communities will be proportionate to the intelligence and morality of the people. For the dissemination of intelligence and the encouragement of morality, public schools accessible to all classes are regarded as indispensable agencies, and hence it is that communities cheerfully acquiesce in systems of taxation for their support.

Our public schools require, annually, for their maintenance, large expenditures of money; their results, therefore, ought to meet the reasonable expectations of those who feel the burden of taxation for their support.

It should occasion no surprise that systems of public instruction are subjected to many criticisms, or that communities are sensitive and solicitous in regard to the character and standing of their schools, inasmuch as each individual has a personal interest in the results secured.

While all censoriousness calculated to weaken public confidence and retard the progress of education is to be deprecated, all intelligent and just criticisms, which tend to excite healthy interest and enhance the efficiency of the schools, should be solicited and encouraged.

In the minds of those who are most deeply interested in the welfare of our schools, the following inquiries naturally arise: Are the large appropriations for school purposes economically and judiciously expended? Are the results attained commensurate to the expense incurred? Are the studies pursued wisely chosen and well apportioned, and are they such as will have a practical bearing upon the lives of our pupils in all their multifarious relations? Are the methods of instruction which have been adopted the best that have been devised, and do they correspond to those employed in cities where schools have the highest reputation? And then in regard to our teachers: Are they, all of them, the best that can be secured for the compensation awarded? Have they that high degree of intelligence and culture, that enthusiasm and devotion to their work, which are essential to the highest success? Are they apt to teach, wise in their selection of what is most important to be taught, and

do they discipline with judgment and discretion? Do they exert a salutary moral influence upon their pupils? Are they thoroughly conscientious in their work, and do they labor incessantly as those who must give account?

We will briefly consider some of these inquiries.

1. *Expenditures.* — Successive committees have regarded it wise economy to keep the school property in good condition, and to furnish all needful appliances for the convenience and comfort of the schools, but in their expenditures for the city, it has been apparent that they have exercised the same degree of prudence that they would in the management of their personal affairs. The liberality of the School Board in supplying pupils with stationery and other essential articles for school use, is vindicated by the results secured.

The largest and most important item of expense is for teachers' salaries.

The education of the young is a matter of vital importance and depends largely upon the character and efficiency of those to whom it is intrusted. Hence the importance of securing teachers of elevated character and ample accomplishments. But thoroughly competent and eminently successful teachers possess a combination of endowments, natural and acquired, rarely found in the same individual, and communities that would avail themselves of the services of such must be content to pay their price; for all labor has a market value corresponding to the importance of the work to be performed, and the intelligence and skill requisite for its successful accomplishment. A reduction of salaries to meet a low average of teachers would be highly detrimental to the interests of education. The only wise and truly economical policy is to be liberal in compensation, but exacting in requirement; to pay such salaries as will secure teachers of the highest qualifications, and to continue in service those only whose results correspond to the compensation awarded.

2. *Character and Standing of our Schools.* — Our schools, with few exceptions, are meeting reasonable expectations. They are fully sustaining the reputation of former years, and are making regular and substantial advances. By visits and an interchange of pupils, we have frequent opportunities to institute comparisons between our schools and those of other cities, and to become assured that they compare favorably with those having the highest reputa-

tion. Scholars leaving our schools and entering schools of similar grade in other cities, find themselves equal to the work demanded of them; and scholars coming to us from other cities are not found to be in advance of their associates in our schools of grades similar to those from which they came. It is also true that as large a proportion of our graduates enter college without conditions as from the best preparatory classical schools.

3. *Discipline.* — School discipline is a fruitful source of anxiety and irritation. Good order, complete subordination, and prompt obedience are indispensable requisites to success, and must be maintained at all times. On teachers rest the responsibility and necessity of their maintenance, and on their ability to secure these essential results their success largely depends. Ordinarily, mild and gentle means are adequate. Most pupils, especially those who are well trained at home, can be influenced by moral motives and the more gentle persuasions of kindness. But in most schools there will occur, occasionally, instances of persistent and determined insubordination which but comparatively few teachers can subdue without recourse to the infliction of physical pain. But the application of the rod is always exceedingly irksome to teachers, and is the cause of irritation, of mortification, and of grief to the parents of offenders, even though they may acknowledge the justice of the act. For these and other important reasons, corporal punishment is inflicted only as the last resort.

The School Committee have clearly indicated their sentiments in this regard by their instructions to teachers, as contained in the general regulations of the public schools.

Teachers are enjoined “to aim at such discipline in their schools as would be exercised by a kind and judicious parent in his family. They are required to avoid corporal punishment in all cases where good order can be maintained by milder means. In no case shall they resort to cruel or unnatural punishment. Blows upon the head, by the hand or rod, are expressly prohibited. Ridicule, provoking sarcasm, and all harsh expressions are to be studiously avoided.”

It gives me pleasure to bear testimony to the earnest desire and endeavor of teachers to conform to these requirements, and to secure good order by gentle means.

Corporal punishment is entirely excluded from the High School, and is rarely inflicted in the upper classes of the grammar schools.

Three teachers of primary schools, and three of grammar schools, report no case of corporal punishment during the year ; one teacher reports one case only ; three teachers report two cases each. In the grammar schools, the average number of punishments to a school during the entire year has been three in four weeks ; and in the primary schools, one in two weeks. Each succeeding year, for the last five years, has shown a marked decrease in the number of cases of corporal punishment.

4. *Courses of Study.* — The courses of study for the several departments of our schools are substantially the same as those adopted by all the cities and leading towns throughout the commonwealth.

In consequence of the wide range of knowledge and the limited time during which many of our pupils attend school, the selection and apportionment of the studies to be pursued by them are matters of unusual interest, especially to those on whom rests the responsibility of giving direction to the education of the young.

The true aim of all study is the acquisition of important knowledge and the cultivation of the intellectual powers ; but mental discipline is best secured by the proper pursuit of knowledge, and just as effectually secured by the acquisition of that kind of knowledge which will be of the highest practical value. We are required, therefore, in accordance with the dictates of our best judgment, to select from the vast range of knowledge such subjects, and such only, as have the most direct bearing upon the essential duties of life, and will impart to those who pursue them the ability to perform aright the duties and meet successfully the responsibilities awaiting them. We are required, also, to give to each subject of our choice that degree of prominence which its relative importance demands.

5. *Methods of Instruction.* — In respect to general methods of instruction most educators are in accord, but in regard to specific methods they are greatly at variance. In view of the numerous theories on educational subjects, and the various and conflicting systems of instruction propagated from the platform and through the press, we do well to follow the sacred injunction, "Prove all things ; hold fast that which is good."

Our general system of instruction is clearly defined and strictly adhered to, but in regard to specific methods of instruction, no inflexible rules can be established. Each individual teacher, after

careful study and comparison and experiment, adopts those methods which, in his judgment, will enable him to secure the best results.

The educational problem is still in process. Its complete solution has baffled the skill of the wisest hitherto. It is not claimed, therefore, that our general system of public instruction is perfect, but it is the best that the wisdom of the past and of the present has been able to devise ; and it must be conceded that it possesses much to commend it to confidence and regard. Any individual, whatever may be his social position, if he will avail himself of the means of education provided for him at public cost, may become qualified to perform any of the ordinary duties of life, and to maintain an honorable independence. The schools are sending forth annually multitudes of young men and women, with qualifications that fit them to fill with acceptance and honor places of trust and emolument, and with characters that adorn social life and bless the communities in which they dwell.

Respectfully submitted.

J. H. DAVIS,
Superintendent of Public Schools.

DECEMBER 29, 1877.

ANNUAL REPORT

OF THE

SOMERVILLE MYSTIC WATER BOARD,

1877.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb 26, 1878.

Report accepted, and referred to the Committee on Printing, with instructions to cause the same to be printed in the Annual Report, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 27, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

CITY OF SOMERVILLE.

IN WATER BOARD, February 1, 1878.

To the City Council of the City of Somerville:

The Somerville Mystic Water Board herewith respectfully submit their report for the year 1877.

At the commencement of the preceding year, certain portions of the city were much in need of additional facilities for their protection against fire.

This fact had long been known to the members of the Board, and their particular attention was early called to it, by frequent complaints and the earnest solicitations of our citizens for better protection.

The frequent and fearful conflagrations in other sections, and the imminent danger to their property, from want of equal facilities afforded to other localities in the city, less densely populated and less liable to conflagration, were some of the reasons urged upon us for immediate action.

With the assistance of Mr. Hopkins, the Chief Engineer of the Fire Department, who cheerfully co-operated with us in the whole matter, we ascertained the particular wants of the different localities and the remedies therefor.

First as to Winter Hill.

The supply of water for this locality was furnished by a six-inch pipe from an eight-inch sub-main at Temple Street, and extended from that point to or near the house formerly occupied by S. A. Carleton, Esq. ; at this point a four-inch pipe was substituted, which then crossing Broadway, was continued up the hill to a point near Central Street, thence again crossing Broadway it continued on the northerly side thereof, beyond the crown of the hill to a dead end. The smallness of this pipe and the irregularity of its course rendered the supply of water wholly inadequate to the requirements in

case of fire, or to the wants of consumers for domestic purposes. To meet the requirements, an eight-inch pipe properly gated was connected with the twenty-four inch main, at Marshall Street, and continued to the crown of the hill at Central Street, there connecting with the sub-main of the same capacity. Nine Holyoke hydrants were also set in connection with this pipe, for use in case of fire. The old pipe was so connected with service pipe, on a portion of its northerly line, that it was deemed advisable, as a matter of economy, to let it remain ; it was, however, connected at Central Street with the new pipe to give the water free circulation.

East Somerville also required very considerable water improvements to afford it proper protection from fires, and to furnish its citizens with pure water.

This portion of the city was furnished almost wholly with pipes but four inches in diameter, totally inadequate to meet the necessary requirements, and which, in those streets where improvements were made, we found to be nearly past service, and in any event would require renewal in a very short time.

To remedy these evils we deemed it indispensably necessary that from twelve to fifteen Holyoke hydrants should be set, and an eight-inch pipe connecting with the thirty-inch main, at the corner of Pearl and Cross Streets, should be laid through Pearl to Mount Vernon Street, there connecting with the sub-main.

Also that another eight-inch pipe connecting with the said main, at the corner of Pearl and Myrtle Streets, should be laid through Myrtle to Perkins Street, through Perkins to Lincoln, and through Lincoln Street from Perkins to Broadway, there connecting with the sub-main. To accomplish these desirable results it was necessary that additional funds should be furnished by the city.

The matter was at once laid before his Honor the Mayor, and upon his approval of the project, and his assurance that the needful supply of money should be forthcoming, the work was commenced and carried to completion. Upon investigation we found the reservoirs in East Somerville could afford but a limited supply of water in case of fire ; we therefore connected the same with the water mains, and with suitable gates we are enabled to obtain any supply that may be required.

Other localities also were very much in need of hydrants of the above description, and we accordingly had them properly supplied.

Among other places rendered safer by these improvements are

Loring Street, Union Square, and Prospect Street. the last of which, we are happy to say, has been instrumental in saving from the flames the glass factory and its valuable contents.

Frequent complaints were made to us during the preceding winter of frozen water pipes. In one instance, parties in Mt. Vernon Street informed us that they had, on that account, been deprived of water for a continuous period of seven weeks. Upon investigation, we found the main in said street so near the surface (in one instance within one foot) that we were obliged to lower it to the extent in length of 365 feet, to protect it and the service pipes from the frost. This occasioned a large outlay, as the whole distance was through a solid ledge. Complaints to the same effect were also made in Morrison Street. We ascertained that in that street, for a distance of more than 1,500 feet, the main was within eighteen inches of the surface. We were therefore under the necessity of lowering said main to protect it from the frost for a distance of more than 400 feet.

The balance of the street was filled in and graded by the city, for the same purpose. In other streets of the city, to an extent of more than 3,500 feet, the mains are laid from one to three and one half feet only below the surface, for the particulars of which we refer you to the superintendent's report.

We would here remark that the water is not forced above the first story of the houses on Winter Hill, and on other high lands, and that there is much dissatisfaction on this account. We are informed that certain of our citizens have consulted with the Boston Water Board, for the purpose of procuring the erection of a stand-pipe on Winter Hill, the advantage of which we fully appreciate, and to which we believe they are entitled by the terms of our contract with the Charlestown Mystic Water Board.

The Boston Water Board have as yet taken no steps to modify the old contract, or to enter into a new one. This has not been the fault of this Board. It is proposed to press the matter urgently upon their consideration, and it is hoped that more equitable terms will be conceded to our city before the close of the present year.

We suggest the expediency of printing, for the accommodation of the public, the contract above referred to.

The care, custody, and control of the fire hydrants having been placed in the hands of the Fire Department, we would respectfully call your attention to the necessity which exists for an appropriation

for said department, to keep the same in repair, and to purchase such other hydrants as they may deem necessary.

The total length of distribution pipe laid in the streets of the city of Somerville to Dec. 31, 1877, is 45 miles 158.9 feet, of which 3,116.5 feet was abandoned or removed during the year last past, leaving in actual use, 44 miles 2,322.4 feet; number of stop gates set, 364; number of hydrants set, 270; of which 1 mile 767 feet of pipe, 24 stop gates, and 32 post hydrants have been laid and set during the year 1877.

There have been laid during the year, 158 new service pipes. Total length of pipe used, 6,939 feet. Total length of trenching, 7,176 feet.

The average cost of each service pipe is \$18.14. Water is now supplied 3,245 dwelling-houses, 4,572 families, 106 shops and stores, 25 manufactories, 518 stables, and nearly all the public buildings; being an increase of 154 dwelling-houses, 154 families, 1 manufactory, and 4 stables during the year 1877.

It is perhaps superfluous for us to state to the City Council that the stable connected with the department, at the time we assumed the duties of office, was sadly out of repair. As a question of strict economy, and also as a matter of absolute necessity to the proper discharge of the duties of the Board, we deemed it our duty to repair and reconstruct the stable on Prospect Street. As you well know, it was unfit for the stabling of horses, insufficient for the storage of hay; and for want of suitable conveniences its granary was open to the depredations of thieves. We have made such improvements only as the exigencies of the case demanded. We have now an excellent cellar under the whole stable, which furnishes suitable storage for manufactured pipe, etc. We have ample conveniences for horses. We have convenient and secure receptacles for grain, and a commodious loft for hay. We have a well-arranged workshop for the manufacture of water-pipe, and another for lining the same, and we also have a convenient tool-room, and room for storage of cement and sand. The raising of the buildings, the filling and grading of the yard, have also afforded us the much-needed facilities for draining the premises. The old police building has, at small expense, been converted into an office for the superintendent, to the great convenience of the public. It also affords a safe storage room for service material, and a repair shop for hydrants, etc., and a convenience for plumbing. The office, repair shop, ser-

vice room, yard, and the entire department premises are kept in excellent condition, and we cheerfully accord to Mr. Nathaniel Dennett, the superintendent, our testimony to his efficiency and fidelity in the discharge of his arduous duties, which require his attention at all hours, day and night.

We have caused, the past year, a map drawn by the city engineer, in accordance with the terms of our contract, with the Charlestown Mystic Water Board, of location of all the pipes, hydrants, stop gates, etc., connected with the Somerville Mystic Water Works, within the city. Our thanks are due Mr. George A. Kimball, our city engineer, for the zeal and efficiency displayed by him in the discharge of his duties connected with this department.

We also cheerfully accord to the police force our thanks for their vigilance and promptitude in reporting cases of leakage, thereby saving the city in many instances from serious loss.

We also tender to the commissioners, registrar, and superintendent of the Charlestown Mystic Water Works our thanks for favors rendered.

The construction account of the Mystic Water Works may be stated as follows:—

Value Dec. 31, 1876	.	.	.	.	.	.	\$327,457 33
Added during year 1877	.	.	.	.	.	.	13 845 74
Total	.	.	.	.	.	.	\$341,303 07

For further information respecting the condition of the Mystic Water Works we respectfully refer the City Council to the reports of the city engineer and the superintendent, herewith submitted.

C. G. ROWELL.
 EDWIN S. CONANT.
 A. R. COOLIDGE.
 EDWARD FOOTE.
 L. W. JONES.

SUPERINTENDENT'S REPORT.

To the Somerville Mystic Water Board:

GENTLEMEN:— The Annual Report of the Superintendent of the Somerville Mystic Water Works is respectfully submitted, comprising a statement of all work performed under my direction from Feb. 16 to Dec. 31, 1877.

Accompanying this report will be found an inventory of the stock, furniture, and tools belonging to the Water Works, and a statement showing location of hydrants.

WATER PIPE LAID, GATES AND HYDRANTS SET IN 1877.

STREET.	PIPE LAID.				GATES SET.			Hydrants set.	Hydrant Pipe.	
	Feet. 12-in.	Feet. 8-in.	Feet. 6-in.	Feet. 4-in.	8-in.	6-in.	4-in.		Feet. 6-in.	Feet. 4-in.
Adams, near Medford								1		12
Arlington, at Lincoln								1		
Berkeley, at School								1		
Broadway, at Marshall	72									
* Broadway Central, to Marshall		1,870			3			7	7	
Central, at Broadway								1		9
Columbus Ave., a 6-in pipe westerly to a dead end			84							
Cutter								1		8
Davis Square, at watering-trough								1		14
Everett, at Webster Ave.								1		
Florence, at Pearl			30					1	15	
Foster, at Tennyson								1		10
Franklin, at Arlington and Pearl Glen, at Pearl				25				3		39
Lincoln, from Broadway to Perkins		614			2			1	9	
Linwood, at Poplar								1		
Loring, from Somerville Ave. to a dead end			312					1	14	
Mt. Pleasant, 400 feet from Broadway Munroe, easterly from a dead end			235					1		10
Myrtle, from Perkins to Pearl		458			2			2	11	10
* Pearl, from Mt. Vernon to Myrtle		747			2			1	10	10
Pearl, from Franklin to Cross		1,090			3			2	20	20
Perkins, from Lincoln to Myrtle		313						3	40	
Pinckney, at Pearl			24					1		
Rush, at Pearl				12				1		
Summit Ave., westerly from a dead end Scamore, at Broadway				161				2	1	12
Union Square, at Bonner and Warren Avenues								2		32
Walnut, at Bonair								1		10
Webster Ave., at Glass House								1		10
Total	72	5,092	685	198	12	5	7	32	198	197

* Cubic yards of ledge.

There has been great complaint of roily water the past year from the people living on Allen, Linden and Merriam Streets. The pipes on these streets have dead ends, and are fed from the six-inch main on Somerville Avenue. There are about 148 water takers on this large section, and only three hydrants, while the controlling gates are on Somerville Avenue, about 2,000 feet distant. If a fire should occur here when the water was shut off on account of accident or burst of pipe, the consequences would be disastrous in the extreme. I would, therefore, recommend two additional hydrants in this section, and the laying of a six-inch pipe on Charlestown Street a distance of 400 feet, to connect with these dead ends, and the changing of the stop gates on Somerville Avenue so as to make three sections.

I would call the attention of the Board to the condition of the water pipes in the following streets, where they are not more than three to three and one half feet below the surface of the ground :

In Moore Street, for a distance of 30 feet, they are one foot under the surface. In Vine Street 450 feet, Nevada Street 330 feet, Hanson Street 325 feet, Kent Court 158 feet, and Warren Avenue 250 feet, making a total of 1,413 feet, they are from two and one half to three feet below the surface.

In Spring Street 300 feet, Wallace Street 250 feet, Concord Avenue 150 feet, Dane Court 450 feet, Allen Street 400 feet, Linden Street 400 feet, Village Street 300 feet, and Springfield Street 200 feet, they are from three to three and one half feet below the surface.

I would call your special attention to Mt. Pleasant Street, no less than four bursts of pipe having occurred on this street during the past year, and the pipes when uncovered having been found to be in a perishing condition. I would recommend the laying of a new pipe on this street as soon as the season will permit.

In answer to the inquiries of your Board respecting the merits of wrought-iron and cement pipe, examination and experience convince me that this pipe is safe under a much greater pressure than that in our works, when faithfully made, and laid where it will not be disturbed ; it is less expensive and in other respects better than cast-iron pipe, as it does not impart any impurity to the water, and is wholly free from liability to become useless by filling up with accretions. With the recent improvements, no form of pipe affords greater facilities for tapping and for the connection of service pipes.

On referring to my record of leaks and their causes, I find that in many cases they are caused by the imperfect manner of making the pipe, and in others by using too much sand with the cement, as cement has the peculiar property of protecting the iron from oxidation. There can be no question that wrought-iron pipes must be carefully riveted and of first-class material and workmanship, so as to prevent buckling or opening of the seams in handling or under pressure. They must also be properly coated, and lined in so perfect a manner that the cement will firmly adhere to the iron shell and be thoroughly compressed and formed.

The pipes are coated externally and internally with what is known as the "Smith Coal Pitch Varnish," which is distilled from coal tar until the naphtha is entirely removed and the material deodorized. The pitch is then carefully heated to a temperature of about 300 degrees, in a tank suitable to receive the pipes to be coated, made under the direction of the president of your Board, in which the pipes are immersed and allowed to remain until they attain the same temperature.

Some of these wrought-iron pipes in siphons are subjected to great pressure, as in the supply main of Virginia City, Nevada, leading water from Marlette Lake. This main is $11\frac{1}{2}$ inches in diameter and 37,100 feet in length, and crosses a deep valley between the lake on one mountain and Virginia City on another. The inlet where the pipe receives the water of the lake is 2,098 feet above the lowest depression of the pipe in the valley, where it passes under the Virginia and Truckee Railroad, and the delivery end is 1,528 feet above the same depression. A portion of the pipe is subjected to a steady static strain of 750 pounds to the square inch. The thickness of this pipe-shell varies according to the pressure it is required to sustain. For instance, the iron used by this city is 14 to 20 Stubbs gauge, standing a pressure of 200 to 330 pounds to the square inch, while the average pressure in our city is 55 pounds to the square inch.

It is only just to state, in recognition of the merits of this pipe, now generally acknowledged, that by its construction, oxidation and tuberculation are rendered impossible, and that consequently the pipe is imperishable.

I would call the attention of the Board to the necessity of setting more stop gates, so that the water may be shut off from any given point without cutting off the supply from an extensive terri-

tory, as pipes are always liable to accident from sewer excavations and overflows, quicksands, floods, and other causes that cannot be foreseen when the pipes are laid. When new hydrants are to be attached, or it is necessary to make large pipe connections or repairs, the water must be shut off, and the necessity of short sections is apparent at such times ; for in a city like Somerville, dependent on its pipes for water and protection against fire, it is absolutely necessary that the supply be maintained, and the result may be disastrous if it fails even for one hour.

The buildings used in connection with the department are in good condition. The one known as the old town stable has been raised three feet, and a cellar constructed for the storage of pipes so as to keep them at an even temperature, and the floor over the stable has been raised about three feet.

The pipe shop has been moved to the front, which gives sufficient light, and makes it more convenient for the making of pipe. A new floor has been laid in the lining room, the machine for lining the pipes has been repaired and improved, a room constructed for the storage of cement, and one for keeping the tools belonging to the works. Three stalls have been put in the stable, the accommodations have been made more ample, good ventilation has been secured, and a large chamber constructed for the storage of hay and grain. The shed extending across the yard has been raised four feet, and a brick wall four and one half feet high has been constructed. The yard has been graded and brought to a level with the street.

In the old police building, which was set apart by the City Council for the use of this department, an office has been fitted up which has been of great convenience to our citizens for leaving orders, and for transient business. A room has been fitted up for the keeping of all service material for the department, also a large room in the rear has been arranged as a work-shop for service work, and for repairs of hydrants and stop-gates, which were formerly sent to South Boston. With the appliances now at our command, all plumbing and repairing of stop-gates, service pipe, and hydrants are done in our own shop, thus saving a large expense to the department.

HYDRANTS.

Thirty-two new post hydrants have been set, 64 have been re-packed in the boxes, 38 have had new standard bolts, 6 have had new tops, 8 have had new caps on outlets, 36 have had new chains to caps, 33 hydrants have been taken out, had new valves and gaskets and been reset, 14 have had the rods shortened so as to open to their full capacity, 4 have had new rods, edgestones have been set in front of eight to prevent accident from teams, 7 have been raised up and brought to present grade, and all have been carefully examined, oiled, painted, and are now in good order.

MOVED AND RESET ON ACCOUNT OF BEING IN THE MIDDLE OF STREET CROSSINGS.

Somerville Avenue and Laurel Street	1
Broadway and Walnut Street	1
Highland Avenue and Medford Street	1
Perkins, near Florence Street	1
Total	4

DISCONTINUED.

Corner Medford and Central Streets	1
On Pearl, near Rush Street	1
On Broadway. Flush	4
On Pearl Street, "	2
Total	8

We are using the Pattee and Perkins pattern, which gives us the least trouble and works to the entire satisfaction of the chief engineer of the fire department, who under proper authority has the locating of all hydrants.

I would recommend to him and to the Water Board that, as fast as the flush hydrants get out of order, they be replaced with post hydrants.

SERVICES.

The whole number of services laid for families and for other purposes during the year was 158.

Total length of pipe used	6,939 feet.
Length of trenching	7,176 feet.

Service pipes taken up and relaid	3
Service pipes lowered on account of laying new mains, on Pearl Street	28
Perkins Street	4
Myrtle Street	4
Lincoln Street	12
Broadway	1
Morrison Street	3
Mt. Vernon Street	4
Total	<hr/> 60

Average cost of each service pipe, \$18.14.

DRINKING FOUNTAINS.

One large stone fountain has been set in Davis Square by the Committee on Highways and connected by us with a supply pipe, overflow, and six-inch Holyoke hydrant, at an expense of \$187.54, making the number now in use 6, located as follows:—

Union Square	2
Highland Avenue, cor. of Walnut Street	1
Medford, cor. School Street	1
Davis Square	1
Broadway, opp. Park	1

STAND-PIPES FOR WATERING STREETS.

One has been set on Beacon Street, opposite Cooney Street, at an expense of \$45; four have had new valves, eight have had new conducting hose, one on the corner of Broadway and Walnut Street has been discontinued, making the whole number now in use 15, located as follows:—

Washington, corner Boston Street	1
Washington, corner of Myrtle Street	1
Washington, near Union Square	1
Summer, near Laurel Street	1
Summer, near Elm Street	1
Somerville Avenue, near Poplar Street	1
Somerville Avenue, near Cambridge line	1
Broadway, near Franklin Street	1
School Street, near Somerville Avenue	1

Spring Street, near Somerville Avenue	1
Beacon Street, near Cooney Street	1
Pinckney Street, near Pearl Street	1
Pearl Street, near Cross Street	1
Thurston Street, near Broadway	1
Highland Avenue, corner Medford Street	1

STOP-GATES.

Twenty stop-gates have been set on new mains, 8 have been dug up and repaired, 22 gate-boxes have been replaced by new ones, 18 have been lengthened and brought to present grade, 116 have been repacked, and 6 four-inch gates have been discontinued, owing to the laying of larger mains; five have been set on old mains, shortening 5 large sections to about one half their former length and breadth, and are located as follows:—

Broadway, junction of George Street	1
Linwood, junction of Poplar Street	1
Arlington, junction of Lincoln Street	1
Berkeley, junction of School Street	1
Everett, junction of Webster Avenue	1

MAINS.

The whole number of feet of mains laid and relaid is 7,831, of which 665 feet were laid through ledge; 97 leaks were repaired, of which 47 were on main and 50 on service pipes. Of those on main pipes, 21 were caused by defective pipe, 4 by picks, 4 by settling of earth, and 18 by rust holes.

On service pipe, 32 were caused by defective soldering, 6 by picks, 8 were burst by frost, and 4 were caused by defective couplings; 14 stoppages of pipes were caused by fish.

We have made for the town of Everett 826 feet of 6-inch pipe, 259 feet of 4-inch pipe, and 158 feet of iron sleeves. For the trustees of the McLean Asylum we have made and laid 151 feet of 6-inch pipe, 66 feet of 3-inch pipe; have set one 6-inch gate, one 3-inch gate, and one 6-inch Holyoke hydrant.

STOCK ACCOUNT JAN. 1, 1878.

MATERIALS ON HAND AT COST.

PIPE LINED.

54½ feet 12 in. at	\$1 00	\$54 50	
13 " 10 "	80	10 40	
238 " 8 "	55	130 90	
244 " 6 "	38	92 72	
70 " 4 "	25	17 50	
14 " 3 "	20	2 80	
		<u> </u>	\$308 82

PIPE NOT LINED.

203 feet 10 in. at	\$0 50	\$101 50	
7 " 8 "	35	2 45	
455 " 6 "	18	81 90	
		<u> </u>	185 85

SLEEVES ON HAND.

5 feet 12 in. at	\$0 15	\$0 75	
20 " 10 "	15	3 00	
25 " 8 "	15	3 75	
21 " 6 "	15	3 15	
17 " 4 "	15	2 55	
11 " 3 "	15	1 65	
		<u> </u>	14 85

GATES ON HAND.

2 feet 4 in.		\$30 60	
2 " 3 "		25 20	
		<u> </u>	55 80

SHEET-IRON BRANCHES LINED.

8 double 4 on 6 at	\$2 25	\$18 00	
2 " 4 " 4 "	2 10	4 20	
3 single 4 " 6 "	2 10	6 30	
2 " 6 " 6 "	2 30	4 60	
2 " 3 " 4 "	2 00	4 00	
1 " 3 " 6 "	2 10	2 10	
		<u> </u>	\$39 20

Amount carried forward,

\$604 52

Amount brought forward,

\$604 52

CAST-IRON PIPE.

16 feet 8 in., 800 lbs. at	\$0 02 $\frac{1}{4}$	\$18 00
15 " 6 " 500 "	2 $\frac{1}{4}$	11 25
12 " 4 " 270 "	2 $\frac{1}{4}$	6 07
1 " 4 " $\frac{1}{4}$ turn 55 lbs.	3	1 65
1 " 4 " special casting,		3 60
1 " 4 " sleeve 19 lbs.	3	57
2 " 6 " " 47 "	3	1 41

42 55

SHEET-IRON ON HAND.

24 by 84 in., 1,040 lbs. at	\$0 04	\$41 60
26 " 84 " 822 "	4	32 88
28 " 84 " 40 "	4	1 60
36 " 84 " 522 "	4	20 88
Assorted pieces 75 "	4	3 00

99 96

GATE COVERS.

5 large gate covers, 400 lbs.	\$14 00
1 " " frames, 100 "	3 50
9 small " covers,	11 25

28 75

CAST-IRON BRANCHES LINED.

4 double 6 on 8 at	\$7 00	\$28 00
1 " 6 " 6 "	6 00	6 00
5 " 4 " 6 "	4 00	20 00
6 " 4 " 4 "	3 75	22 50
2 single 6 " 8 "	4 50	9 00
3 " 4 " 8 "	4 00	12 00
1 " 6 " 6 "	4 50	4 50
4 " 4 " 4 "	3 50	14 00

116 00

HYDRANTS ON HAND.

2 New Haven hydrants,	\$45 00	\$90 00
3 Flush " "	5 00	15 00
3 Bartholomew " "	3 00	9 00

Amounts carried forward,

\$114 00

\$891 78

<i>Amounts brought forward,</i>	\$114 00	\$891 78
6 Flush hydrant covers,	33 00	
2 pieces hose for stand-pipe,	5 00	
	<hr/>	152 00

SUNDRY MATERIALS.

150 feet boards at	\$26 00	\$3 90
250 " " "	26 00	6 50
12½ bbls. cement.	1 40	17 50
30 loads of sand,	90	27 00
30 lbs oakum,	06	1 80
1½ tons coal,		7 50
28 lbs. winding rope,	08	2 24
90 " 30d nails,		4 05
43 " 10d "		1 93
4 yds. enamelled cloth,	50	2 00
14 " cotton cloth,	12	1 68
200 lbs. iron rivets,	13	26 00
12 hydrant valves,	75	9 00
6 " caps, 32 lbs. at	04	1 28
11 lbs. Manila rope,	14½	1 69
1 iron-bound block,		1 25
10 5 inch hydrant gaskets,		2 50
2 barrels of tar,		10 00
24 feet of fuse,		50
13½ lbs. Castile soap,	20	2 70
2 ½ paint brushes,		1 00
1 flat " brush,		50
4 grouting horses,		16 00
10 oil cans,		6 00
1 whitewash brush,		1 00
4 hydrant horses,		2 00
40 bushels charcoal,		16 00
7 new hydrant casings,		35 00
1 bushel coarse salt,		75
3 sledge handles,		75
1 quart measure,		18
9 flat files,	50	4 50
7 stand-pipe collars,	50	3 50
<i>Amounts carried forward,</i>	<hr/>	<hr/>
	\$218 11	\$1,043 78

<i>Amounts brought forward,</i>	\$218 11	\$1,043 78
2 lbs. hemp packing,	1 00	
6 hydrant screws nuts,	4 50	
1 gal. turpentine,	40	
3 lantern boxes,	2 25	
½ ball marline,	75	
1 Fairbanks scales,	10 00	
1 7-inch gong,	4 00	
2 doz. Aladdin burners,	4 00	
27 service box covers, at .15,	4 05	
10 " boxes, at .75,	7 50	
	<hr/>	256 56

TOOLS FOR WATER WORKS.

1 lining stand and fixtures,	\$25 00	
1 punching machine,	250 00	
1 rolling " "	200 00	
6 mandrels,	90 00	
2 " frames,	10 00	
4 sets rollers for forming pipe,	45 00	
6 pr. pipe clamps,	12 00	
6 " " rings,	5 00	
5 rivet sets,	1 50	
1 wire gauge,	1 25	
1 mallet,	25	
5 pr. snips,	5 50	
2 pr. bench shears,	5 00	
2 large square lanterns,	7 00	
44 hand " "	22 00	
2 derricks and 1 tackle,	18 00	
100 feet hand hose,	8 00	
250 " hydrant hose,	50 00	
2 saws,	1 25	
1 bit stock and bits,	1 50	
1 jack plane,	75	
1 oil stone,	50	
11 drills,	22 00	
3 spoons for blasting,	1 00	
<i>Amounts carried forward,</i>	<hr/> \$782 50	<hr/> \$1,300 34

<i>Amounts brought forward,</i>	\$782 50	\$1,300 34
9 striking hammers,	14 50	
5 hydrant wrenches,	4 00	
2 packing box wrenches,	4 25	
2 " tools,		
1 hatchet,	25	
1 carpenter bench,	3 00	
5 cold chisels, at 20c.	1 00	
4 tool boxes,	24 00	
2 pr. rubber mitts,	1 80	
3 sledge hammers,	7 00	
3 iron crow-bars,	5 00	
3 frost wedges,	6 00	
2 sand screens,	5 00	
2 flush hydrant wrenches,	4 00	
2 hose spanners,	25	
7 gate wrenches,	16 00	
5 mending knives,	1 25	
12 water pails, at 25c.	3 00	
3 water tubs,	2 50	
2 water barrels,	2 00	
6 mortar boxes,	25 00	
2 " hods,	1 00	
3 large tool boxes,	17 00	
1 wheelbarrow,	4 00	
36 picks,	36 00	
46 shovels,	1 00	
2 kettles,	1 50	
1 grindstone,	4 00	
2 tape measures,	1 00	
1 cutting bench,	2 50	
5 pr. rubber boots,	7 50	
1 pipe cradle,	1 00	
1 " vise,	5 00	
1 bench vise,	15 00	
1 common vise,	10 00	
3 hot-water furnaces,	1 00	
1 farmer's furnace,	8 00	
<i>Amounts carried forward,</i>	\$1,027 80	\$1,300 34

<i>Amounts brought forward,</i>	\$1,027 80	\$1,300 34
1 pr. hydrant tongs,	30	
1 branding iron (S. W. W.)	30	
1 improved tarring tank,	75 00	
1 plough and points,	5 00	
1 step ladder,	4 00	
1 ratchet and drills,	15 00	
1 set calking irons,	1 00	
3 powder cans,	75	
8 lbs. gunpowder,	2 00	
5 punches,	50	
24 feet fuse,	10	
1 Baxter wrench,	1 25	
1 pr. hose pliers,	75	
1 10-inch bevel square,	1 25	
12 flat drills,	3 00	
1 pr. flat tongs,	75	
3 oilers,	1 50	
1 riveting hammer,	1 25	
4 dippers,	1 75	
1 rake,	75	
2 hoes,	2 00	
3 snow shovels,	2 25	
6 rammers,	9 00	
2 ice chisels,	3 00	
1 claw hammer,	75	
2 funnels tin,	1 00	
3 riveting bars,	80	
5 feet of hydrant chain,	1 00	
1 small hand saw,	80	
3 monkey wrenches,	1 80	
2 Hillson wrenches,	3 00	
1 2-ft. square,	75	
1 wrought-iron ditch pump,	14 00	
1 galvanized iron ditch pump,	10 00	
1 large hydrant wrench,	4 50	
1 horse,	200 00	
1 job wagon,	20 00	
<i>Amounts carried forward,</i>	\$1 418 65	\$1,300 34

<i>Amounts brought forward,</i>	\$1,418 65	\$1,300 34
1 lt. express wagon,	75 00	
1 lt. business wagon,	15 00	
1 pung,	15 00	
1 sleigh,	12 00	
2 blankets,	1 50	
1 buffalo robe,	6 00	
2 surcingles,	1 00	
Hay in bundles,	100 00	
90 $\frac{1}{4}$ bushels oats, .50,	45 12	
1 light business harness,	15 00	
1 old " "	5 00	
1 new harness,	65 00	
	<hr/>	1,774 27

OFFICE FURNITURE.

1 large desk,	\$16 00	
1 small desk,	5 00	
1 book rack,	3 00	
1 water gauge,	25 00	
1 frame and curtains for plan,	30 00	
6 office chairs,	4 00	
1 Stewart stove,	21 00	
1 cylinder stove,	5 00	
1 Directory Somerville,	2 00	
	<hr/>	111 00

WATER SERVICE MATERIALS.

16 $\frac{1}{2}$ feet 1 $\frac{1}{2}$ in. lined to 1 $\frac{1}{4}$ in.	.16	\$2 56
620 " 1 $\frac{1}{4}$ " " 1 in.	.14	86 80
48 " 1 " " $\frac{3}{4}$ in.	.12	5 76
10 " 1 in. iron pipe, not lined,		1 00
112 " $\frac{3}{8}$ " " "		3 36
23 " 1 $\frac{1}{2}$ galvanized iron pipe,		4 14
15 " 1 $\frac{1}{2}$ in. rubber lined "		2 25
356 " $\frac{3}{4}$ " " "		50 40
392 " $\frac{1}{2}$ " " "		47 04
2 1-inch stop and waste, R. W.		3 00
4 1 $\frac{1}{4}$ shut-off cocks,		7 60
	<hr/>	<hr/>
<i>Amounts carried forward,</i>	\$213 91	\$3,185 61

<i>Amounts brought forward,</i>	\$213 91	\$3,185 61
6 $\frac{5}{8}$ shut-off cocks,	6 00	
44 lbs. cast-iron stop-cock handles,	1 76	
1 self-closing faucet,	2 80	
1 2-inch stop and waste R. W.	4 00	
1 1 " peet valve,	2 50	
1 1 $\frac{1}{4}$ " stop and waste R. W.	1 67	
1 $\frac{3}{4}$ " " " "	1 20	
1 $\frac{1}{2}$ " " " spigot,	75	
1 1 " " " R. W.	1 50	
1 2 " stop valve, wheel,	4 50	
1 $\frac{1}{2}$ " bib faucet,	50	
1 $\frac{1}{2}$ " Mall. union,	62	
5 1 " " "	2 50	
5 $\frac{3}{4}$ " " "	2 00	
11 $\frac{1}{2}$ " spigot stop and waste,	9 35	
10 $\frac{3}{4}$ " " "	8 50	
2 $\frac{5}{8}$ " " "	1 70	
1 1 " " " T. handle,	1 00	
1 1 " " " cock,	1 00	
3 $\frac{5}{8}$ " " " T. handle,	2 25	
12 1 $\frac{1}{4}$ " union swivel nipples,	6 60	
31 $\frac{1}{2}$ " solder nipples,	10 85	
5 $\frac{5}{8}$ " " "	2 00	
255 lbs. mall. iron fixtures,	51 00	
77 brass goosenecks,	38 50	
134 union swivel nipples, $\frac{5}{8}$	26 80	
145 1 by $\frac{3}{4}$ inches, brass tees,	65 25	
54 $\frac{5}{8}$ inches stop and wastes,	81 00	
36 $\frac{3}{4}$ " " cocks,	57 60	
4 1 $\frac{1}{4}$ " by 1 inch brass tees,	1 80	
3 1-inch stop and waste nipple,	5 01	
3 brass unions,	1 20	
17 " solder tap nipples,	6 80	
1,850 lbs. cast-iron clamps, 6c.	111 00	
52 brass clamp screws, at 15c.	2 60	
19 $\frac{5}{8}$ -inch stop cocks,	31 73	
2 Ludlow gates on 4-inch clamps,	10 00	
<i>Amounts carried forward,</i>	\$779 75	\$3,185 61

<i>Amounts brought forward,</i>		\$779 75	\$3,185 61
2 Ludlow gates on 6-inch clamps,		10 00	
1 3-inch clamp,		2 25	
8 10 " "	\$2 25	18 00	
12 12 " "	2 25	27 00	
1 1½ auger,		1 25	
		<hr/>	838 25

TOOLS FOR WATER SERVICE.

1 press and cones for lining pipe,		\$40 00	
1½ square feet ½-inch rubber,		75	
86 service shut-off clamps,		51 60	
87½ lbs. old lead, 4c.		3 50	
21 " block tin pipe,		5 25	
289 leather washers,		2 89	
4 force pumps and coup.		12 00	
40½ lbs. solder,		6 48	
2 " kettles,		2 50	
2 " ladles,		60	
7 doz. service locks,		54 60	
2 hammers, small,		1 20	
7 pr. pipe tongs,		10 50	
1 new patent tapping machine, }		14 00	
3 drills for " }			
2 old pattern " }		23 00	
1 hack saw,		1 50	
1 hydrant nut wrench,		3 00	
4 hammers, large,		3 00	
1 oil can and oiler,		80	
3 soldering irons,		2 85	
2 monkey wrenches,		1 20	
1 shave hook, 1 tap borer, 1 tenpin,		1 00	
1 bending iron, 1 pr. flat nose pliers,		1 00	
3 service wrenches,		2 25	
Lead pipe tacks,		90	
2 pipe cutters and wheels,		12 00	
1 pat pipe wrench,		3 50	
1 chain " "		4 50	
<i>Amounts carried forward,</i>		<hr/> \$266 37	\$4,023 86

<i>Amounts brought forward,</i>	\$266 37	\$4,023 86
1 lead saw,	50	
6 trowels,	6 00	
1 No. 1 die plate and dies,	21 00	
1 " 2 " "	12 00	
1 " 3 " "	9 00	
1 set of taps from 1 inch to $\frac{1}{4}$ inch	3 00	
1 work-bench,	12 00	
	<hr/>	329 87
Amount total,		<hr/> <hr/> \$4,353 73

HYDRANTS.

LOCATION OF HYDRANTS.

Streets and Avenues.	Location.	Post
Allston Street	Off Cross and Shawmut Streets, S. E. corner	1
Auburn Avenue	South side, 374 feet from Cross Street	1 " "
Adrian Street	" " off Merrion from Concord Ave	1 " "
Adams Street	East side, 553 feet from Medford Street	1 " "
" "	" " 270 feet north of Medford Street	1 " "
Appleton Street	South side, east corner of Angle	1 " "
Broadway	" " east corner Mt. Vernon Street	1 Flush
"	" " west corner Lincoln Street	1 " "
"	" " west corner Franklin Street	1 " "
"	" " west corner Glen Street	1 Post
"	" " west corner Cross Street	1 " "
"	" " opposite Pond in Park	1 " "
"	" " 32 feet east from Walnut	1 " "
"	" " 21 ft. west from Broadway Place	1 " "
"	" " 21 feet east from Adams Street	1 " "
"	" " 21 feet east from George Street	1 " "
"	North side, 15 ft. E. of west line Marshall	1 " "
"	" " west line School Street	1 Flush
"	South side, west line School Street	1 Post
"	" " west corner of Thurston Street	1 " "
"	" " 204 feet east of Central Street	1 " "
"	" " 463 feet east of Medford Street	1 " "
"	" " west corner of Medford Street	1 " "
"	" " 139 feet west of entrance to City Stables	1 " "
"	South side, east corner Cedar Street	1 " "

Streets and Avenues.	Location.	
Broadway.....	South Side, 340 feet west of Cedar Street.	1 Post
“	“ “ 652 feet east of Curtis Street....	1 “
“	“ “ 226 feet west of Clarendon Ave.	1 “
“	“ “ opposite Holands	1 “
“	“ “ near Arlington line	1 “
Beacon Street	North side, 293 ft. east from Concord Ave.	1 “
“ “	“ “ 250 ft. west from Concord Ave.	1 “
“ “	“ “ 205 ft. west from Cooney Street	1 “
“ “	“ “ 234 ft. east from Washington St.	1 “
“ “	“ “ 253 ft. west from Washington St.	1 “
“ “	“ “ west corner Ivolvo Street	1 “
“ “	“ “ west corner Sacramento Street.	1 “
“ “	“ “ 550 feet east corner F. F. R. Bridge.....	1 “
“ “	North side west from Kent Street.....	1 “
Brooks Street.....	“ “ west corner Rush Street.....	1 “
Bonair Street.....	South side, opposite Antrim Street.....	1 “
“ “	“ “ 52 feet E. of Walnut Street....	1 “
Bond Street.....	“ “ 553 feet west of Temple Street.	1 “
Bow Street.....	“ “ at west end Hill Building.....	1 “
“ “	“ “ opposite M. E. Church.....	1 “
Brastow Avenue	North side, 450 feet from Lowell Street ...	1 “
Belmont Street.....	West side, 423 feet from Somerville Ave..	1 “
Berkly Street.....	North side, 514 feet from School Street....	1 “
Cutter Street.....	West side, 275 feet from Broadway.....	1 Flush
“ “	“ “ Corner Webster Street.....	1 “
“ “	“ “ 300 feet N. from Webster Street.....	1 Post
Concord Avenue	North side, 80 feet E. from junction Newton.	1 “
“ “	“ “ South side, east corner Springfield Street..	1 “
“ “	“ “ Southeast side, 578 feet from Beacon Street	1 “
Clark Street	North side, 196 feet from Newton Street ...	1 “
Church Street.....	East side, 295 feet from Summer Street....	1 “
Craigie Street.....	West side, 390 feet from Elm Street.....	1 “
“ “	“ “ 527 feet from Summer Street....	1 “
Crescent Street.....	“ “ 129 feet south from Pearl Street.	1 “
Canal Street.....	East side, 385 feet north Mystic Avenue....	1 “
Cross Street.....	West side, 107 feet N. from Gilman Street ..	1 “
“ “	“ “ north corner Pearl.....	1 “
“ “	“ “ north corner Otis.....	1 “
Columbus Avenue	South side, 120 feet west of Bonner.....	1 “
Central Street.....	West side, south corner Summer Street. ..	1 “
“ “	“ “ East side, south corner Willowby Street...1	“
“ “	“ “ North corner Vernon Street.....	1 “
“ “	“ “ East side, 162 feet north of Foster Street ..1	“
“ “	“ “ 193 feet south of Broadway.....	1 “
City Stable.....	East side, 800 feet from Broadway.....	1 “

Streets and Avenues.	Location.	
Cedar Street	East side, 22 feet north from Clyde Street.	1 Post
“ “	“ “ north corner Highland Ave	1 “
“ “	“ “ opposite Chestnut Street	1 “
Clyde Street	South side, at angle of Murdock	1 “
Cameron Street	East side, 400 feet from Holland Street.	1 “
Curtis Street	“ “ 467 feet from Broadway, near Cambridge line	1 “
“ “	“ “ East side, 223 feet south of Conwell Ave	1 “
“ “	“ “ 145 feet north of Professors' Row	1 “
Dane Street	West side, north corner Tyler Street	1 “
“ “	“ “ 225 feet from Washington Street	1 “
Dane Court	South side, 481 feet from Dane Street	1 “
Dower Street	East side, north corner Orchard Street	1 “
Day Street	West side, 365 feet from Elm Street	1 “
Durham Street	North side, 383 feet east from Washington St.	1 “
“ “	“ “ Davis Square in centre	1 “
Everett Avenue	North side, 183 feet east from Dana Street	1 “
Evergreen Avenue	South side, corner School	1 “
Elm Street	North side, 105 feet east from Porter Street	1 “
“ “	“ “ east corner Linden Street	1 “
“ “	“ “ North side, west corner Cedar Street	1 “
“ “	“ “ “ “ Cherry Street	1 “
“ “	“ “ 54 feet east Willow Avenue	1 “
“ “	“ “ 79 feet east from Tenney Street, Cambridge	1 “
“ “	“ “ North side, west corner Grove Street	1 “
“ “	“ “ East side, south corner Morrison Street	1 “
Fremont Street	West side, 81 feet from Main Street	1 Flush
Florence Street	West side, 467 feet from Washington Street	1 “
“ “	“ “ East side, 222 feet north from Pearl Street	1 “
Franklin Street	West side, south corner Flint Street	1 “
“ “	“ “ East side, 72 feet north corner Pearl Street	1 “
“ “	“ “ 13 ft. north cor. Arlington Street	1 “
“ “	“ “ West side, 18 feet north corner Palmer Ave.	1 “
“ “	“ “ East side, north corner Perkins Street	1 Flush
Fitchburg Street	North side, 323 feet from Linwood Street	1 Post
Foster Street	North side, 240 feet east from Central Street	1 “
George Street	South side, 374 feet from Mt. Vernon Street	1 “
Glen Street	West side, north corner Brook Street	1 “
“ “	“ “ East side, north corner Flint Street	1 “
Grand View Avenue	North side, 251 feet from Walnut Street	1 “
Gilman Street	North side, 556 feet from Cross Street	1 Post
“ “	“ “ 240 feet from Walnut Street	1 “
Highland Avenue	“ “ corner of Medford Street	1 “
“ “	“ “ east corner of Walnut Street	1 “
“ “	“ “ 82 feet from Vinal Avenue	1 “

Streets and Avenues.	Location.	Post
Highland Avenue.....	North side, 7 feet west from Prescott Street	1 Post
“ “	“ “ 310 feet wide from School Street	1 “
“ “	“ “ 112 feet E. from Sycamore Street	1 “
“ “	“ “ East Central Street	1 “
“ “	“ “ 414 feet east from Cedar Street.	1 “
“ “	“ “ west corner of Grove Street....	1 “
“ “	“ “ 61 feet east from Elm Street...	1 “
Hanson Street	East side, 25 feet north from Skehan Street	1 “
Harvard Street.....	West side, corner of Beach Street	1 “
Heath Street.....	North side, 50 feet from Temple Street....	1 Flush
“ “	“ “ 512 ft. W. from Temple Street.	1 “
“ “	South side, east corner Bond Street	1 “
“ “	“ “ “ “ Brooks Street.....	1 “
Holland Street.....	“ “ 183 feet from Railroad.....	1 Post
“ “	“ “ 100 feet west from Irving Street	1 “
“ “	“ “ 88 feet east from Davis Street..	1 “
“ “	“ “ 114 ft. W. from Cameron Street	1 “
“ “	“ “ 75 feet E. from Newbury Street	1 “
Irving Street	West side, 400 feet north from Holland Street	1 “
“ “	“ “ 284 feet south from Broadway ..	1 “
Joy Street	West side, 518 feet from Washington Street	1 “
Jaques Street	North side, 471 ft. from Temple Street	1 “
Jenny Lind Avenue....	North side, corner of Vernon Street.....	1 “
Kent Court	North side, 263 feet from Kent Square	1 “
Linwood Street.....	West side, 47 feet from Somerville Avenue.	1 “
“ “	“ “ 300 feet north from Poplar St...1	“
“ “	“ “ opposite Dix Place	1 “
“ “	“ “ 400 feet south from Washington	1 “
	Street	1 “
Lincoln Street	East side, opposite Arlington Street.....	1 “
Leland Street	West side, 515 feet from Elm Street.....	1 “
Linden Street	East side, 557 feet from Somerville Avenue	1 “
Line Street	North side, 576 feet from Washington Street	1 “
Main Street	North side, 300 feet from Broadway	1 “
Mystic Avenue.....	South side, west corner of Union Street....	1 “
“ “	“ “ 108 ft. west from Boston Bottle	1 “
	Works	1 “
Medford Street	West side, 137 feet north from Partridge	1 “
	Ave.....	1 “
Medford Street	West side, east corner Sycamore Street....	1 “
“ “	“ “ south corner Greenville Street..	1 “
“ “	“ “ opposite Cross Street.....	1 “
“ “	“ “ 406 ft. east from Washington St.	1 “
“ “	“ “ north corner Somerville Ave...1	“
“ “	“ “ 164 feet north Fitchburg R. R. 1	“
“ “	“ “ 228 feet south “ “ ..1	“

Streets and Avenues.	Location.	Post
Medford Street	West side, north corner South Street	1
" "	North side, at Cambridge line	1
Mt. Benedict St.	North side, 317 feet from Union Street	1
Mt. Vernon Street	East side, north corner Pearl Street	1
Monroe Street	South side, 111 feet west from Boston Street	1
Montrose Street	North side, 397 feet west from School St.	1
Morrison Street	" 30 feet west from Appleton St.	1
Meadham Street	East side, 274 feet north from Orchard St.	1
Marshall Street	" " opposite Howe Street	1
" "	West side, north corner Oakland Ave.	1
Murdock Street	North side, 208 feet east from Cedar Street	1
Moore Street	East side, corner Mead Street	1
Mt. Pleasant Street	West side, 321 feet from Broadway	1
Myrtle Street	East side, 78 feet south from Pearl Street	1
" "	" " 456 ft. N. from Washington St.	1
Newbury Street	" " 550 feet from Holland Street	1
" "	" " 214 feet from Cambridge line	1
Otis Street	North side, east corner Dana Street	1
Oliver Street	" " east corner Glen Street	1
Orchard Street	South side, west corner Russell Street	1
" "	" " east corner Chester Street	1
Pinckney Street	West side, 392 ft. N. from Washington St.	1
Pearl Street	North side, 59 feet east Hillside Avenue	1
" "	" " west corner Myrtle Street	1
" "	" " 6 ft. east corner Pinckney Street	1
" "	" " 420 feet west corner Cross Street	1
" "	" " 9 feet west corner Glen Street	1
Perkins Street	South side, 50 ft east corner Perkins Place	1
" "	" " 83 feet west corner Pinckney St.	1
" "	North side, 133 feet east from Franklin St.	1
Pleasant Avenue	North side, 253 feet from Walnut Street	1
Putnam Avenue	East side, 416 feet from Highland Avenue	1
Prescott Street	West side, 535 feet from Summer Street	1
Prospect Street	" " 259 feet from Somerville Avenue	1
Park Street	East side, 64 feet north Fitchburg R. R.	1
" "	" " 164 feet north Beacon Street	1
Professors' Row	South side, 400 feet east Curtis Street	1
" "	" " 162 feet east from Packard St.	1
" "	" " 538 feet east from " "	1
" "	" " 281 feet west from Coolidge Ave.	1
Porter Street	West side, north corner Williams Court	1
Quincy Street	" " 339 feet from Somerville Ave	1
Sargent Street	East side, 31 feet from Mills Street	1
Sycamore Street	West side, 337 feet from Medford Street	1
" "	" " 360 feet south from Broadway	1
Spring Street	East corner Beach Street	1

Streets and Avenues.	Location.	Post
Springfield Street.....	West side, 12 feet south from Houghton St.	1
Somerville Avenue	North side, 402 feet west Cambridge line...	1
“ “	“ “ 184 feet east F. R. R.....	1
“ “	“ “ 375 feet west from Linwood St..	1
“ “	“ “ 28 feet east from Peplar Street.	1
“ “	“ “ east corner of Merriam.....	1
“ “	“ “ east corner of Prospect.....	1
“ “	“ “ 185 ft. west from Hawkins St...1	“
“ “	“ “ 91 feet east from Church, junction of Bow	1
“ “	“ “ North side, west corner School Street	1
“ “	“ “ west corner Laurel Street	1
“ “	“ “ east corner Central Street	1
“ “	“ “ west corner Spring Street.....	1
“ “	“ “ 26 feet west from Lowell St....1	“
“ “	“ “ 306 ft. east from Mossland St..1	“
“ “	“ “ South side, 44 feet east from Kent Street.	1
Summer Street.....	North side, opposite Church Street.....	1
“ “	“ “ South side, west corner of Hammond Street	1
“ “	“ “ South side, west corner of Spring Street...	1
“ “	“ “ North side, east corner of Lowell Street....1	“
“ “	“ “ North side, east corner of Porter Street....1	“
“ “	“ “ North side, east corner of Cedar Street....1	“
“ “	“ “ North side, east corner of Cherry Street....1	“
“ “	“ “ 225 feet from Cutter Avenue	1
School Street.....	West side, 266 ft. south from Summer St....1	“
“ “	“ “ West side, south corner Avon Street	1
“ “	“ “ East side, 139 feet north from Howe Street.	“
Tenney Court	East side, 300 feet from Mystic Avenue....1	“
Tufts Street	South side, 50 feet from Cross Street	1
Temple Street	East side, 49 feet north from Jaques Street	1
Thurston Street	East side, 663 feet from Medford Street....1	“
Union Square	Opposite Pythian Block	1
Vinal Avenue	East side, south corner Aldersay Street....1	“
Vine Street	East side, south corner Tyler Street	1
Washington Street	North side, west corner Mt. Vernon Street	1
“ “	“ “ “ “ Myrtle Street.....	1
“ “	“ “ “ “ Franklin Street....	1
“ “	“ “ South side, opposite Tufts Street	1
“ “	“ “ North side, east corner Shawmut Street....1	“
“ “	“ “ 84 feet west from Medford St. .	1
“ “	“ “ 464 feet from F. R. R Bridge ..	1
“ “	“ “ east corner Hawkins Street	1
“ “	“ “ South side, east corner Merriam Street	1
“ “	“ “ North side, 162 feet west from Bonner Ave.	1
“ “	“ “ 377 feet east from Dane Street..	1

Streets and Avenues.	Location.		
Washington Street....	North side, 173 feet west from Dane Street	1	Post
Webster Street	South side, east corner Rush Street	1	“
“ “	East side, south corner of Everett Street..	1	“
“ “	“ “ 165 feet south Fitchburg R. R....	1	“
“ “	“ “ 258 feet south of Prospect Street..	1	“
Warren Avenue.....	West side, 72 feet south from Columbus Av.	1	“
Walnut Street.....	East side, opposite Aldersay Street.....	1	“
“ “	“ “ 240 feet north from Pearl Street..	1	“
“ “	West side, 120 feet north from Milk Street..	1	“
Wigglesworth St.....	“ “ opposite north corner Otis.....	1	“
Willow Avenue	East side, north corner of Summer Street..	1	“
“ “	46 feet south from Morrison Street.....	1	“
Wallace Street.....	West side, 163 feet north from Park Avenue..	1	“
“ “	393 feet from Broadway.....	1	“

LOWRY HYDRANTS.

Union Square, 31½ feet east of Pythian Block, and nine feet north of Horse R. R.

Union Square on east line Warren Avenue, and 12 feet north of Horse R. R.

Perkins and Mt. Pleasant Streets, 13 feet east from south line of Perkins Street, and 13 feet east from west line Mt. Pleasant Street.

DISTRIBUTION OF WATER PIPE.

CITY ENGINEER'S OFFICE, SOMERVILLE, January 21, 1878.

COL. C. G. ROWELL,

President of Somerville Mystic Water Board:

DEAR SIR — I have prepared the following statement, which will show all the water pipe laid in the city to January 1, 1878, also the number and size of each connection with the Charlestown Water Works and the Cambridge Water Works. The data has been compiled from former reports and maps, and is believed to be in the main correct.

GEORGE A. KIMBALL, *City Engineer.*

STREET.	FROM	To	Side.	Length.	Size.
Adam,*	Broadway	a 4-in. pipe	East,	†359.0	2 in.
"	Medford	a 6-in. "	"	607.3	4 "
"	Broadway	a 4-in. "	"	399.0	6 "
Adrian	Marion	a dead end	South,	136.0	6 "
Aldersey	Walnut	Vinal Avenue	North,	550.5	4 "
Allen	Somerville Avenue	a dead end	East,	668.4	4 "
Allston	Cross	Shawmut	N. & W.	786.0	4 "
Appleton	Morrison	Willow Avenue	S. & E.	783.4	4 "
Arlington	Franklin	Lincoln	North,	489.4	4 "
Ashland	Summer	a 4 in. pipe	East,	488.5	3 "
"	a 3-in. pipe	a dead end	"	14.0	4 "
Auburn Avenue	Cross	" "	North,	504.6	4 "
Austin	Broadway	" "	West,	376.2	6 "
Autumn	Broadway	Bonair	East,	467.0	3 "
Avon	School	a dead end	North,	633.0	4 "
Bartlett	Washington	" "	"	230.0	3 "
Beacon	Sacramento	a dead end n. Oxford	North,	1456.5	6 "
"	Cambridge line	" " " Kent	"	3801.6	6 "
Beech	Somerville Avenue	Spring	S. & N.	805.5	4 "
Belmont	"	Summer	West,	1272.6	4 "
"	Summer	northerly to a dead end	"	298.0	6 "
Benedict	Austin	Union	North,	641.0	4 "
Berkely	School	a dead end	North,	663.0	4 "
Bonair	Walnut	Cross	South,	1534.1	4 "
Bond	Temple	Heath	S. & E	1342.2	6 "
Bonner Avenue	Washington	Columbus Avenue	East,	499.0	6 "
Boston	Walnut	a dead end	South,	457.7	4 "
"	Washington	" "	West,	570.7	6 "
Bow	Union Square	Somerville Avenue	S. & W.	1228.7	6 "
Bow St. Place	Bow	a dead end	East,	14.0	4 "
"	a 4-in. pipe	" "	"	300.0	3 "
Brst w Avenue	Lowell	" "	North,	432.0	4 "
Broadway	Boston line	Cedar	South,	9592.2	8 "
"	Temple	westerly to a 4-in. pipe	North,	647.0	6 "
"	a 6-in. pipe	Adams	"	1621.0	4 "
"	Packard	Holland	South,	666.0	10 "
"	Holland	westerly to a dead end	"	2519.0	8 "
"	near Rush	"	"	39.0	8 "
"	near Rush	New Cross	North,	230.0	6 "
"	at Marshall	"	South,	72.0	12 "
Broadway Place	Broadway	a 3-in. pipe	East,	145.0	2 "
"	a 2-in. pipe	a dead end	"	70.0	3 "
Brook	Cross	Glen	North,	547.0	4 "
Brooks	Main	Heath	East,	190.0	6 "

* Removed.

† Iron

DISTRIBUTION OF WATER PIPE, — *continued.*

STREET.	FROM	To	Side.	Length.	Size.
Cameron	Holland	a dead end	East,	1077.2	6 in.
Canal	Mystic Avenue	" "	"	427.0	4 "
Cedar	Broadway	an 8-in. pipe	East,	60.0	12 "
"	a 12-in. pipe	a 6-in. pipe	"	8.0	8 "
"	an 8-in. pipe	Elm	"	4298.6	6 "
Central	Medford	Somerville Avenue	"	3704.6	12 "
"	"	Broadway	"	1142.0	6 "
Chandler	Park Avenue	a dead end	West,	330.2	4 "
Charles	Washington	" "	"	198.6	4 "
Chauncey	Broadway	" "	"	628.6	6 "
Cherry	Elm	" "	East,	1879.7	4 "
Chester (East Som.)	Medford	Cross	North,	757.4	4 "
Chester (West Som.)	Elm	Orchard	West,	713.4	4 "
Chestnut	Poplar	a dead end	North,	441.0	4 "
Chestnut Ct. (West)	Harvard	" "	"	192.2	3 "
" " (East)	"	" "	"	210.8	3 "
Church	Somerville Avenue	Summer	East,	691.0	4 "
City Farm	Broadway	a dead end	"	835.2	6 "
Claremont	Holland	Mead	East,	588.0	4 "
Clarendon Avenue	Broadway	a dead end	West,	322.0	6 "
Clark	Newton	" "	North,	400.0	6 "
Clyde	Cedar	" "	South,	818.0	4 "
Columbus Avenue	Bonner Avenue	" "	"	689.7	6 "
Concord Avenue	Webster Avenue	Beacon	N. & E.	2060.0	6 "
Conwell Avenue	Curtis	a dead end	South,	527.0	4 "
Cooney	Beacon	Line	East,	297.0	4 "
Cottage Avenue	Chester	a dead end	North,	227.0	4 "
Craigie	Somerville Avenue	Summer	West,	1333.0	4 "
Crescent*	Washington	a dead end	"	66.0	3 "
"	"	Pearl	"	530.0	4 "
Cross	Tufts	Broadway	West,	2178.6	6 "
"	Shawmut	Chester	East,	300.0	4 "
Curtis	Broadway	Medford line	"	2410.0	6 "
Cutter Avenue	Summer	a dead end	"	443.0	4 "
Cutter	Broadway	Webster	West,	772.6	4 "
Dana	Bonair	Otis	East,	213.5	4 "
"	Otis	Everett Avenue	"	237.0	6 "
Dane Court	Dane	a dead end	South,	575.0	4 "
Dane	Somerville Avenue	Washington	West,	1426.0	6 "
Davis	Holland	a dead end	"	496.0	4 "
Day	Elm	Orchard	"	886.0	4 "
Dover	Elm	"	East,	1015.0	4 "
Durham	Beacon	"	North,	463.0	6 "
Eastman Place	Highland Avenue	a dead end	West,	353.0	4 "
Ellsworth	Cross	Rush	South,	230.0	4 "
Elm Place	Harvard	westerly to a dead end	North,	100.0	3 "
Elm	Somerville Avenue	Morrison	"	5407.2	6 "
Emerson	Everett	a dead end	West,	190.0	4 "
Everett Avenue	Cross	Dana	North,	982.0	4 "
Everett	Prospect	Webster Avenue	South,	463.5	4 "
Evergreen Avenue	Marshall	School	"	492.0	4 "
Fairlee	Cherry	a 3-in. pipe	North,	24.0	4 "
"	a 3-in. pipe	a dead end	"	139.0	3 "
Fitchburg	Linwood	"	West,	425.3	4 "
Flint	Cross	Franklin	"	1092.5	6 "
Florence	Perkins	Pearl	West,	453.0	4 "
"	Washington	"	"	915.2	6 "
Foster	Central	Sycamore	South,	480.4	4 "
Fountain Avenue	Cross	a dead end	North,	352.0	4 "
Franklin Avenue	Washington	" "	East,	555.0	3 "
Franklin	Broadway	Pearl	"	1065.0	8 "
"	Pearl	Washington	"	1311.2	6 "
Frost Avenue	Somerville Avenue	American Tube Works	West,	†350.0	4 "
"	a 4-in. pipe	a dead end	"	25.0	4 "
George	Broadway	George	"	320.0	3 "
"	Mount Vernon	a dead end	"	297.0	4 "
Gilman	Cross	a 6-in. pipe	North,	768.4	4 "
"	a 4 in. pipe	Walnut	"	703.0	6 "
Glen	Pearl	Flint	East,	405.0	4 "
"	Broadway	Webster	West,	790.4	6 "

* Abandoned.

† Iron.

DISTRIBUTION OF WATER PIPE, — *continued.*

STREET.	FROM	To:	Side.	Length.	Size.
Grand View Avenue.	Walnut	Vinal Avenue	North,	578.0	4 in.
Graves	Willow Avenue	a dead end	South,	450.0	4 "
Greenville	Medford	" "	East,	396.0	4 "
Grove	Highland Avenue	Elm	"	447.0	4 "
Hadley Court	Cross	a 3-in. pipe	South,	35.0	4 "
" "	a 3-in. pipe	a dead end	"	110.0	3 "
Hall	Cedar	" "	North,	348.5	4 "
Hamlet	Highland Avenue	" "	East,	463.0	4 "
Hanson	Village	Durham	"	545.0	4 "
Harvard	Summer	Beech	West,	736.1	6 "
Hawkins Court	Hawkins	a 3-in. pipe	North,	396.0	4 "
" "	a 4-in. pipe	a dead end	"	11.0	3 "
Hawkins	Somerville Avenue	a 3-in. pipe	East,	10.0	4 "
" "	a 4-in. pipe	Washington	"	368.0	3 "
Heath	Temple	Brooks	South,	1866.5	3 "
Herbert	Day	Chester	North,	380.0	4 "
Highland Avenue	Central	Medford	"	3305.7	8 "
" "	Elm	easterly to a dead end	"	620.0	10 "
" "	Cedar	" " " "	"	442.0	10 "
" "	at Willow Avenue	" " " "	"	8.0	10 "
Hillside Avenue	Pearl	a dead end	East,	150.0	2 "
Hinckley	Broadway	" "	West,	363.0	6 "
Holland	Elm	Broadway	South,	2350.0	10 "
Homer Square	Bonner Avenue	a dead end	North,	214.0	4 "
Houghton	Springfield	" "	"	230.0	4 "
Howe	Marshall	School	"	489.0	4 "
Irving	Holland	a dead end	West,	1251.0	6 "
Ivaloo	Park	a 4-in. pipe	South,	483.0	2 "
" "	Beacon	a 2-in. pipe	East,	216.2	4 "
Jaques	Temple	a dead end	North,	535.5	4 "
Jenny Lind Avenue	Medford	Vernon	West,	946.3	4 "
Joy	Washington	Poplar	North,	1184.5	4 "
Kent Court	Kent	a dead end	"	283.0	4 "
Kent	Beacon	" "	West,	371.0	6 "
Laurel	Summer	Somerville Avenue	East,	1026.0	4 "
Leland	Elm	Summer	West,	1130.0	4 "
Leon	Concord Avenue	a 3-in. pipe	North,	14.0	4 "
" "	a 4-in. pipe	a dead end	"	104.0	3 "
Lincoln*	Broadway	Perkins	East,	605.0	4 "
" "	" "	" "	"	614.0	8 "
" "	" "	" "	"	647.2	6 "
Linden	Somerville Avenue	a dead end	"	647.2	6 "
Line	Washington	Cooney	North,	1116.0	4 "
Linwood	Washington	Somerville Avenue	South,	2159.9	6 "
London	Linwood	a dead end	East,	389.7	4 "
Loring	Somerville Avenue	" "	West,	312.0	6 "
Lowell	Summer	northerly to a dead end	"	237.0	6 "
Main	Broadway	Brooks	North,	640.0	6 "
" "	Brooks	a dead end	"	10.0	4 "
Maple Avenue	School	" "	"	333.0	3 "
Maple	Poplar	Medford	South,	748.5	4 "
Marion	Concord Avenue	Adrian	East,	265.0	6 "
Marshall	Broadway	Pearl	"	1669.0	6 "
Meacham	Orchard	northerly to a dead end	"	596.0	4 "
Mead	Moore	easterly to a dead end	North,	252.0	4 "
Medford	Broadway	Central	South,	2182.0	12 "
" "	Highland Avenue	Cambridge line	"	4303.0	8 "
" "	Central	easterly to a dead end	"	921.8	6 "
Merriam	Somerville Avenue	a dead end	West,	551.8	4 "
Middlesex	Broadway	" "	"	256.0	4 "
Mills	Walnut	Sargent Avenue	South,	551.6	4 "
Mondamon Court	Ivaloo	a dead end	"	292.4	4 "
Montrose	School	" "	"	885.0	6 "
Moore	Holland	" "	East,	216.0	4 "
" "	Mead	northerly to a dead end	"	356.0	4 "
Morrison	Elm	Willow Avenue	North,	1747.1	4 "
Mortimer Place	Marshall	Mills	"	258.0	4 "
Mossland	Somerville Avenue	Elm	West,	457.7	4 "
Mt. Pleasant Avenue	Curtis	a dead end	South,	158.0	4 "
Mt. Pleasant	Broadway	Perkins	West,	630.0	6 "
Mt. Vernon	Washington	" "	"	1118.4	6 "

* Abandoned.

DISTRIBUTION OF WATER PIPE, — *continued.*

STREET.	FROM	To	Side.	Length.	Size.
Mt. Vernon	Perkins	Broadway	West,	625.0	4 in.
Munroe	Boston	a dead end	South,	389.2	6 "
"	Walnut	" "	"	451.0	6 "
Murdock	Cedar	" "	North,	671.5	6 "
Murray	Washington	" "	"	222.0	3 "
Myrtle*	Perkins	Pearl	East,	435.5	4 "
"	Pearl	Washington	"	977.8	8 "
"	Perkins	Pearl	"	458.5	8 "
Mystic Avenue	Union	easterly to a dead end	"	310.7	4 "
"	"	westerly to a dead end	"	140.0	6 "
"	Temple	" " " "	South,	2012.2	6 "
Nevada	Village	Hanson	North,	256.5	3 "
Newbury	Holland	a dead end	East,	1283.0	6 "
New Cross	Broadway	" "	"	247.0	6 "
Newton	Webster Avenue	Concord Avenue	West,	728.5	4 "
Oakland Avenue	Marshall	a dead end	"	400.0	2 "
Oliver	Cross	a 6 in. pipe	North,	371.0	4 "
"	Franklin	a 4-in. pipe	"	745.0	6 "
Orchard	Meacham	easterly to a dead end	South,	1513.7	4 "
Otis	Cross	Wigglesworth	North,	1246.0	4 "
Oxford	School	a dead end	"	825.3	4 "
Packard	Charlestown main	Broadway	East,	2596.0	12 "
Park Avenue	Elm	Wallace	North,	529.0	4 "
Park	Beacon	Somerville Avenue	East,	1316.9	6 "
Peirce Court	Sacramento	a dead end	North,	145.0	4 "
Pembroke	Central	" "	South,	411.0	4 "
Pearl*	Cross	Franklin	North,	1095.0	4 "
Pearl	"	a dead end	"	441.0	4 "
Pearl*	Florence	Pinckney	"	223.0	4 "
"	Mt. Vernon	Crescent	"	329.0	4 "
"	Franklin	Myrtle	"	220.0	8 "
"	Cross	Franklin	"	1090.0	8 "
"	Myrtle	Mt. Vernon	"	747.0	8 "
Perkinst	Franklin	Boston line	South,	1351.0	6 "
"	Lincoln	Myrtle	"	313.0	8 "
Pinckney	Perkins	Washington	West,	1245.2	6 "
Pieman	Spring	Beech	South,	426.0	4 "
Pleasant Avenue	Walnut	Vinal Avenue	North,	582.2	4 "
Poplar	Somerville Avenue	Joy	East,	710.6	4 "
Porter	Elm	Summer	West,	1246.5	4 "
Prescott	Highland Avenue	"	"	1154.6	6 "
Professors' Row	Curtis	a dead end	South,	944.0	6 "
Prospect	Somerville Avenue	" "	West,	453.8	6 "
Putnam	Highland Avenue	Summer	East,	1321.3	4 "
Quincy	Somerville Avenue	"	West,	832.0	4 "
Rush	Broadway	Flint	"	1485.5	4 "
Sacramento	Beacon	Somerville Avenue	West,	471.0	6 "
"	"	Cambridge line	"	167.0	6 "
Sargent Avenue	Broadway	Mills	East,	580.0	4 "
School	Somerville Avenue	a dead end n. B. L.&N.R.R.	West,	2458.2	4 "
"	Evergreen Avenue	Medford	East,	921.5	6 "
Shawmut	Washington	Cross	South,	641.0	4 "
Skehan	Dane	Hanson	"	337.0	4 "
Smith Avenue	Beacon	Line	West,	266.0	3 "
Somerville Avenue	Washington	a dead end (east)	North,	3912.4	6 "
"	"	a 6-in. pipe n. Beech	"	3442.5	8 "
"	an 8-in. pipe	Elm	"	1512.5	6 "
"	Elm	Mossland	North,	1172.5	4 "
Spring	Summer	Somerville Avenue	"	1311.6	4 "
Springfield	Concord Avenue	a dead end	West,	766.0	4 "
Summer	Cherry	a dead end east of Laurel	North,	4063.3	6 "
"	Bow	School	"	1227.6	6 "
"	Elm	Willow Avenue	"	1017.0	6 "
Summit Avenue	Walnut	a dead end	South,	529.0	4 "
Sycamore	Broadway	Medford	West,	1312.9	4 "
Temple	"	Mystic Avenue	"	1670.9	8 "
Tenney Court	Mystic Avenue	a dead end	East,	439.5	4 "
Thorp Place	Highland Avenue	" "	West,	467.0	3 "
Thurston	Medford	Broadway	East,	1444.0	6 "
Tiger Court	Beacon	a dead end	West,	225.0	4 "

* Abandoned.

† 313 feet abandoned.

DISTRIBUTION OF WATER PIPE, — *continued.*

STREET.	FROM	To	Side.	Length.	Size.
Tower Court	Tyler	a dead end	East,	168.0	4 in.
Tufts	Washington	Cross	South,	1034.5	6 "
Tyler	Dane	Vine	North,	433.4	4 "
Union	Broadway	Mystic Avenue	East,	460.5	4 "
Veazie	Walnut	a dead end	North,	223.5	6 "
Vernon	Central	Jenny Lind Avenue	"	813.0	4 "
Villa Avenue	Winslow Avenue	Elm Court	West,	256.0	3 "
Village	Dane	Hanson	South,	422.0	4 "
Vinal Avenue	Highland Avenue	Summer	East,	1482.7	6 "
Vine	Beacon	Hanson	"	667.5	6 "
"	Tyler	southerly to a dead end	"	160.0	6 "
Wallace	Holland	a dead end	West,	1340.0	6 "
Walnut	Broadway	Gilman	"	1691.5	6 "
"	Highland Avenue	Bow	East,	1736.7	4 "
Warren Avenue	Bow	Columbus Avenue	West,	716.2	6 "
Washington Avenue,	Washington	a dead end	East,	365.0	3 "
Washington	Boston line	Somerville Avenue	North,	4476.5	8 "
"	Webster Avenue	a dead end	"	436.4	4 "
"	a dead end	Beacon	"	1646.4	6 "
"	Beacon	westerly to a dead end	"	251.5	4 "
Waverly	Washington	a dead end	West,	210.0	2 "
Webster Avenue	"	" "	East,	1406.0	6 "
Webster	Franklin	Glen	"	566.5	4 "
"	Glen	Cross	South,	532.5	6 "
Wiglesworth	Bonair	a dead end	West,	357.5	4 "
Williams Court	Porter	" "	South,	157.0	3 "
Willow Avenue	Elm	" "	East,	2145.5	6 "
Winslow Avenue	"	" "	South,	318.0	4 "
Winter	"	Holland	North,	461.0	4 "
Winthrop	Broadway	through Park	West,	448.0	4 "
Wyatt	Concord Avenue	a dead end	East,	207.0	4 "

SUMMARY OF DISTRIBUTION WATER PIPE LAID IN SOMERVILLE TO JANUARY 1, 1878.

	Feet. 12-inch.	Feet. 10-inch.	Feet. 8-inch.	Feet. 6-inch.	Feet. 4-inch.	Feet. 3-inch.	Feet. 2-inch.	Total in miles and feet.	
								Miles.	Feet.
Laid previous to 1877..	8,542.6	4,586.0	29,749.6	91,340.7	84,768.3	7,920.	1,747.0	43	1,614.7
Hydrant pipe, etc., previous to 1873.....	.....	.....	.....	.....	2,238.7	.....	.....	....	2,238.7
Total reported previous to 1877.....	8,542.6	4,586.0	29,749.6	91,340.7	87,007.0	7,920.5	1,747.0	43	3,853.4
Hydrant pipe since 1873	.....	.....	.....	198.0	620.5	.....	.....	....	818.5
Laid in 1877	72.0	.....	5,092.0	685.0	198.0	.....	.....	1	767.0
Total laid to January 1, 1878.....	8,614.6	4,586.0	34,841.6	93,223.7	87,825.5	7,920.5	1,747.0	45	158.9
Abandoned or removed	.....	.....	.....	313.0	2,378.5	66.0	359.0	....	3,116.5
Total	8,614.6	4,586.0	34,841.6	92,910.7	85,447.0	7,854.5	1,388.0	44	2,322.4

The city of Somerville has connections with the Charlestown Water Works as follows :—

One 12-inch in Packard Street.	
One 12-inch at junction of Broadway and Cedar Street, from	30
One 12-inch at junction of Pearl and Cross Streets, from	30
One 12-inch at junction of Medford and Main Streets in Medford, from	24
One 10-inch at Broadway, near Temple Street, from	24
One 8-inch at junction of Pearl and Myrtle Streets, from	30
One 8-inch at junction of Broadway and Medford Street, from	30
One 8-inch at Boston line on Broadway, from	24
One 8-inch at Boston line on Washington Street, from	8
One 6-inch at junction of Pearl and Myrtle Streets, from	30
Two 6-inch at junction of Pearl and Walnut Streets, from	30
One 6-inch at junction of Pearl and Marshall Streets, from	30
One 6-inch at junction of Medford and School Streets, from	30
One 6-inch at junction of Medford and Central Streets, from	30
One 4-inch at Heath Street, between West and Bond Streets, from	24

The city has also a 6-inch connection with the Cambridge Water Works, on Sacramento Street, at the Cambridge line, to be used in case of accident.

Respectfully submitted.

NATHANIEL DENNETT, *Supt.*

FINAL REPORT
OF THE
COMMITTEE ON HIGHWAYS

For the Year 1877.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Dec. 31, 1877.

Accepted, and sent down for concurrence

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Jan. 3, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

CITY OF SOMERVILLE.

IN COMMITTEE ON HIGHWAYS, Dec. 28, 1877.

To the City Council of the City of Somerville.

The Committee on Highways respectfully submit the following report, showing briefly what has been accomplished during the current year

Early in the year frequent and severe snow-storms compelled your committee to keep in employment a large force of laborers for the purpose of removing ice and snow ; the cost of same being estimated at about \$4,000. In compliance with an order from the City Council in reference to the employment of the needy poor, your committee expended from their appropriation the sum of \$10,534.02, and for this expenditure the city has had the benefit of 7,361 cubic yards of cracked blue stone, at an average cost of \$1.43 per cubic yard.

After deducting the above extraordinary expenditures, amounting to \$14,534, the small sum of \$30,466 remained for the legitimate expenses of the department of highways for the current year.

Your committee have used all due economy in the disbursement of this sum, and present herewith some of the more important items.

STREET IMPROVEMENTS.

Names.	From	To	How Improved.	Approx. length in feet.
Broadway . . .	Boston line .	Cutter Street	Gravelled . .	1,650
Broadway . . .	Bartlett Street	Willow Bridge	Gravelled and macadamized	3,000
Broadway . . .	Curtis Street .	Elwife Brook	Gravelled and macadamized	2,265
Broadway . . .	Russell's . .	Elwife Brook	Macadamized .	1,000
Curtis Street . .	Broadway . .	Medford line	Graded	2,355
Elm Street . .	Cherry Street	Holland St. .	Gravelled and macadamized	3,168
Gilman Street .	. . . . .	. . . . .	Gravelled . .	700
Joy Street . . .	. . . . .	. . . . .	Gravelled and macadamized	100
Leland Street .	Elm Street . .	Summer St. .	Gravelled . .	1,075
Medford Street .	Cambridge line	Somerville Av	Gravelled and macadamized	1,555
Mossland Street	Elm Street . .	Somerville Av	Gravelled . .	375
Morrison Street	Elm Street . .	Willow Ave.	Gravelled and macadamized	1,695
School Street .	Highland Ave.	Medford St. .	Gravelled . .	865
Somerville Ave.	Cambridge line	Poplar Street	Gravelled . .	2,095
Summer Street .	Howard Street	Central Street	Gravelled . .	500
Webster Avenue	Cambridge line	Prospect St. .	Gravelled and macadamized	1,200
Washington St.	Union Square	Bridge Street	Gravelled and macadamized	570

Street signs erected,	18
Durgen signs erected,	4
Plank culverts sidewalks,	26
Street crossings constructed,	9
Edgestones set (city),	693 feet.
Edgestones set (private),	1,414 "
Gutters paved (cobble stones),	335 yards.
Crossings paved, " "	462 "
" " granite blocks,	520 feet.
Drivers' square, asphalt,	60 yards.
Driveways, block stone,	92 feet.
" cobble,	35 yards.
Sidewalks, bricks (city),	1,367 "
" " (private),	125 "
" " gravel,	over one mile.

The *débris* has been removed from twenty sewers, and with this material a great many places that have been complained of as nuisances, to the Board of Health, have been filled up.

The committee has held 52 regular meetings, 4 hearings, 8 regular road meetings, and numerous examinations of estates and highways by subcommittees, has had referred to it 54 petitions, 15 orders, and 5 communications, and has made 74 reports and recorded 101 votes.

J. A. CUMMINGS,
Chairman pro tem.

FOURTH
ANNUAL REPORT
OF THE
CITY ENGINEER OF SOMERVILLE,
1877.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 5, 1878.

Referred to the Committee on Printing, with instructions to print in the Annual Report of 1877, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 6, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

CITY OF SOMERVILLE.

CITY ENGINEER'S OFFICE, Jan. 15, 1878.

To his Honor the Mayor and City Council of the City of Somerville :

GENTLEMEN : — The City Engineer respectfully presents the following report for the year 1877.

SEWERS.

In February, the Committee on Sewers discharged the Superintendent, thereby making it incumbent on the City Engineer to take charge of the details of the construction, repairs, and maintenance of the sewers ; this work has materially increased the duties of the City Engineer's department. In the construction of sewers by contract, inspectors from this office have been employed by the sewer department to inspect the work, keep a daily record of the progress, locate branches for private drains, furnish lines and grades, and take general charge of the work. The department commenced this year with a systematic method of keeping their accounts. Daily reports were made by the City Engineer, of men employed, time of each on each item of work, and the materials purchased and used ; and from these reports the several accounts were compiled, which will show, at a glance, the cost of each sewer, catch-basin, etc.

Sewers have been built by the city during the year, as follows : brick, 11460.1 feet ; pipe, 1544.3 feet. In these were built 48 man-holes and 818 inlets. The following tabular statement will show the cost, assessment, length, size, etc., of each sewer.

TABULAR STATEMENT OF SEWERS BUILT IN 1877.

LOCATION.			CONSTRUCTION.					COST.					
Name of Street.	From	To	Built by	Materials.	Size in inches.	M ⁿ -holes.	Inlets.	Average cut.	Length in feet.	Cost per foot.	Total cost.	Assessment.	Cost to city.
1 Appleton St.	Morrison Street.	near Willow Ave.	Dennis O'Connell.	Brick.	20 X 13 ¹ / ₂	3	29	10.1	710.5	\$1 26	\$893 77	\$670 58	\$223 19
Adams Street.	Broadway.	Southerly.	Dennis O'Connell.	Akron Pipe.	12	1	14	10.0	278.6	1 14	631 09	460 56	170 53
Broadway.	Central Street.	Adams Street.	Dennis O'Connell.	"	12	1	17	7.9	273.4	1 14	732 00	7 711 34	7 257 38
2 Central Street	Sycamore Street.	Central Street.	Francis Mongan.	"	15	1	23	10.6	510.5	1 43	348 90	217 91	130 90
Chester Street.	Broadway.	Southerly.	Maurice Butimer	"	12	1	14	7.7	281.8	1 24	1,214 44	912 95	301 49
Day Street.	Elm Street.	Camb. Line.	Francis Mongan.	Brick.	24 X 17	4	72	7.0	1014.2	1 20	1,095 05	851 24	243 81
Elm Street.	Elm Street.	Camb. Line.	Chas. A. Mongan.	"	24 X 17	3	77	7.0	968.0	1 13	Special appropriation.		
Elm Street.	Willow Avenue.	angle r. Tenny St.	William Sullivan	"	42	1	14		595.0	Special appropriation.			
Grove Street.	Elm Street.	Morrison Street.	McCarty & Falvey	"	28 X 24	4	66		1037.0	1 81	1,875 19	983 50	891 69
Hawkins Court	Hawkins Street.	Westerly.	Chas. A. Mongan	"	24 X 17	1	31	9.1	335.0	1 03	524 65	394 93	129 72
Hawkins Street	Washington St.	Hawkins Court.	Chas. A. Mongan	"	24 X 17	1	13		172.0				
Herbert Street	Chester Street.	near Day Street.	Chas. A. Mongan	Cement Pipe	12	0	15	4.5	387 3	1 24	479 78	361 20	118 55
Highland Ave.	Walnut Street.	Westerly.	Chas. A. Mongan	Brick.	18	1	15	11.0	864.0	1 86	1,612 72	779 7	833 02
Holland Street	Dover Street.	Irving Street.	McCarty & Falvey	"	36	4	56	11.7	538.0	1 86	1,612 72	779 7	833 02
Irving Street.	Holland Street.	near Broadway.	Chas. A. Mongan	"	24 X 17	4	70	10.2	533.0	1 60	1,711 10	1,284 38	426 72
Irving Street.	Holland Street.	near Broadway.	Chas. A. Mongan	"	15								
Loring Street	Somerville Ave.	Northerly.	Richard Falvey	Vitrified Pipe	10	0	7		516.0				
Morrison St.	Grove Street.	near Elm Street.	Dennis O'Connell	Brick.	24 X 17	6	132	9.2	1085.0	1 23	1,968 16	1,479 80	488 36
Somerville Av.	Elm Street.	near Willow Ave.	Dennis O'Connell	"	26 X 17	4	40	8.6	922.5	1 13	1,032 23	388 70	643 53
Summer Street	near Harvard Street.	near Mossland St.	Chas. A. Mongan	"	20 X 13 ¹ / ₂	4	22	9.8	25.0	1 40	350 19	262 37	87 82
2 Summer Street	near Harvard Street.	near Harvard Street.	Jas. M. Burekes & Son	"	18	1	22		223.0				
Sycamore Street	End of old sewer	Broadway.	Francis Mongan.	Akron Pipe.	15	1	13	8.5	154.0	1 17	236 72	Included in Broadway.	
2 Union Street.	Benedict Street.	Southerly.	Dennis O'Connell.	Brick.	15	1	98	8.2	155.0	1 17	182 46	97 56	84 90
Wallace Street	Holland Street.	near Broadway.	Chas. A. Mongan	"	26 X 17	4	98		172.0				
Wallace Street	Holland Street.	near Broadway.	Chas. A. Mongan	"	15	1	1		1077.0	1 31	1,634 02	1,226 87	407 15
Walnut Street.	Broadway	Southerly.	City	"	18	1	1		118.6				
Walnut Street.	18 in. sewer west	erly to old sewer	City	"	15	1	1		10.0				
Walnut Street.	15 in. sewer west	erly to old drains	City	"	15	1	1		20.0				
Walnut Street.	18 in. sewer west	erly to catch-basin	City	Cement Pipe	12				16.0				
				"	10								
						48	818		13,004.4		\$16,766 83	\$11,083 62	\$5,683 21

7 Including assessment and cost to city of Sycamore Street sewer.

4 29 cubic yards ledge.
5 151.5 cubic yards ledge.

114.9 cubic yards of ledge.
2 1 cubic yard of ledge.
3 221.1 cubic yards of ledge.

Total length of sewers built previous to Jan. 1, 1877 113,945.6 feet
Total length of sewers built during the year 1877 13,004.4 "

Total 126,950.0 feet, or 24.4 miles.

BEACON AND ELM STREETS SEWER.

This sewer was commenced in 1876; the brick work was finished the last of January; the refilling of the trench and replacing the street was not completed until April. The building of this sewer provides for the drainage of a large portion of West Somerville, and the owners of real estate in that vicinity have shown their appreciation of the fact by asking for a large number of lateral sewers.

HERBERT STREET SEWER.

This sewer, 224 feet in length, was built by the owners of abutting estates, under the supervision of the City Engineer.

LORING STREET SEWER.

The sewer in Loring Street, 315 feet in length, connecting with the Somerville Avenue sewer near Dane Street, was also built at the expense of the abutters.

SYCAMORE STREET AND BROADWAY SEWER.

This sewer was commenced in 1876, and finished in March of the present year.

MAN-HOLES.

Two man-holes were built on the Marshall Street sewer, and two on the Somerville Avenue sewer; those on the Somerville Avenue sewer were provided with arrangements for flushing. Three man-holes were provided with new iron covers, in place of the wooden covers. I would renew the suggestion made in my report for 1876, in relation to the necessity of more man-holes on the sewers already constructed.

FLUSHING.

The new man-holes on Somerville Avenue at Central Street, and at a point near Hawkins Street, were each provided with brass eye bolts for the attachment of a gate for flushing. A portable gate was constructed and used in each man-hole. The result was very satisfactory; a further trial will show the comparative expense of flushing and cleaning by hand labor. A flushing and ventilating chamber was built on Grove Street sewer, which will give an opportunity to flush the main sewer in Elm Street; the situation of

this chamber in reference to the low lands on the easterly side of Grove Street and on the northerly side of the Middlesex Central Railroad will give ample means for the present of storing of water for flushing purposes.

VENTILATION.

In November, a ventilating flue was constructed from the flushing and ventilating chamber on the Grove Street sewer to the upper portion of the tower of the hose house, corner of Highland Avenue and Grove Street; thus far its working has been satisfactory, there being a strong upward draught, but we have yet to ascertain its working in the summer, when the temperature of the internal air of the sewer is lower than that of the external atmosphere.

With a view to a partial ventilation of the sewers, I would recommend the purchase of a quantity of perforated cast-iron man-hole covers, to be placed on such manholes as are remote from dwellings, and where the escaping gases would be likely to do little injury. This is the most economical method of ventilation, and has been found in many cities to be sufficient; if at any point, complaint is made, the perforated covers can be replaced by the pattern now in use.

SEWER OUTLETS.

I desire to call the attention of the City Council to the condition of many of our sewer outlets.

The sewer in Waverly Street, near the Boston line, now discharges into a creek, and thence into the Mill Pond in the Charlestown District, between Canal Street and the Eastern Railroad; if the improvements now contemplated in this vicinity are carried out, it will be necessary to extend the Waverly Street sewer into deep water.

The Winthrop Avenue sewer discharges on the northerly side of Mystic Avenue into an open ditch, thence through a wooden culvert under Middlesex Avenue to Mystic River; the grade of this sewer is lower than the culvert, thereby preventing the sewer from emptying, and causing an accumulation of solid matter in the sewer to the depth of eighteen inches or more. I would respectfully recommend that the culvert under Middlesex Avenue be rebuilt at such grade as will give the sewer a proper means of discharging.

The outlet of Mystic Avenue sewer has been repaired.

None of the above-mentioned sewers have proper outlets, all being on private property and discharging into open ditches, where the volume of water is small and the current slight, causing an accumulation of sewage along the banks which will soon become a nuisance.

CRAIGIE BRIDGE OUTLET.

The sewer outlet at this point was extended a distance of about one hundred feet, according to the plan prepared by W. S. Barbour, City Engineer of Cambridge, by laying below mean low-water six wrought-iron enamelled pipes, fourteen inches in diameter, manufactured by the National Tube Works Company. These pipes will take the ordinary flow in the sewer, and a flap-gate is provided to relieve the sewer in case of a heavy flow of storm water. The pipes have been in use for about six months and are working well.

The ventilating pipe from the sewer, connecting with the high chimney at the Lowell Railroad machine shop, was removed from the flue of the chimney and carried up its outer side to a height of about fifty feet.

PRIVATE DRAINS.

One hundred and ninety-five permits were issued for the connection of private drains with the sewers.

Four persons were licensed by the mayor and aldermen as drain layers. One licensed in 1876 has deceased, making the present number of drain layers sixteen.

I venture to renew my suggestion of last year in regard to ventilation, and would recommend that builders, in the construction of new houses, be required to provide proper ventilation of drains.

CATCH BASINS.

Thirty-five catch basins were constructed during the year, twenty-nine of which were built at an average cost of \$61.54; the remaining number cost more on account of longer outlets, ledges encountered, connections for surface drainage, etc., the average cost being \$87.08.

Several catch-basins were rebuilt, and a large number repaired.

Fifty-seven old and decayed wooden covers were replaced by nineteen cast-iron gratings and thirty-eight new oak covers. Fourteen hundred and forty-nine loads of deposit were removed from

the catch-basins at a cost of fifty-seven and three tenths cents per load.

DEFECTIVE SEWERS.

The grade of the sewer in Cedar Street, between Summer and Hall Streets, is imperfect; the sewer should be rebuilt. In its present condition, it will not drain the houses on the street, and is causing considerable annoyance. The annual expense of cleaning and repairing the sewer (325 feet in length), is about \$100.

The sewer in Medford Street, between Somerville Avenue and Jackson Street, was not properly constructed; the grade is imperfect, and the sewer should be rebuilt.

EXPENSES OF THE SEWER DEPARTMENT.

The total expenditures of the sewer department was \$14,102 56, the details of which will be found in the report of the Committee on Sewers.

HIGHWAYS.

The following table will show the principal street improvements during the year: —

NAME.	FROM	TO	HOW IMPROVED.	Approx. length in feet.
Broadway . . .	Boston line .	Cutter Street	Gravelled . . .	1,650
Broadway . . .	Bartlett Street	Willow Bridge	Macadamized .	3,000
Broadway . . .	Curtis Street .	Holland's . .	Gravelled . . .	1,240
Broadway . . .	Holland's . .	Alewife Brook	Macadamized .	1,000
Curtis Street .	Broadway . .	Medford line	Graded	2,350
Elm Street . .	Cherry Street	Holland St. .	Macadamized .	3,170
Grove Street . .	Highland Ave.	Morrison St.	Graded	540
Gilman Street .	Cross Street .	Angle	Gravelled . . .	700
Joy Street . . .	Poplar Street	Northerly . .	Macadamized .	100
Leland Street .	Elm Street . .	Summer St. .	Gravelled . . .	1,075
Medford Street	Cambridge line	Somerville Av	Macadamized .	1,555
Mossland Street	Elm Street . .	Somerville Av	Gravelled . . .	375
Morrison Street	Elm Street . .	Willow Ave.	Macadamized .	1,695
School Street .	Highland Ave.	Medford St .	Gravelled . . .	865
Somerville Ave.	E. Camb. line	Poplar Street	Gravelled . . .	2,095
Summer Street .	Harvard Street	Central Street	Gravelled . . .	500
Webster Ave. .	Cambridge line	Prospect St.	Macadamized .	1,200
Washington St.	Union Square	F. R. R. Bridge	Macadamized .	570

SIDEWALKS.

The following table will show the sidewalk improvements during the year.

Street.	Side.	From	To	Materials.	Approx. length of walk.	Cost.
Laurel	Westerly	Somerville Ave.	Summer Street	Brick .	985	\$533 78
Lincoln	Easterly .	Corner Perkins Street		Brick .	35	26 47
Lincoln	Easterly .	In front of estate of J. R. May .		Brick .	20	15 55
Union Square .	Southerly	In front of estate of G.A.Sanborn		Brick .	35	23 64
Union Square .	Southerly	In front of estate of M. E. Vinal.		Brick .	60	42 80
Warren Ave. .	Easterly .	Bow Street . . .	Columbus Ave.	Brick and edgestone	630	712 66

The city has assessed one half of the cost of the above-named sidewalks on the abutters.

SURVEY OF STREETS.

An appropriation of \$1,000 was made for the survey of streets. The following table will show in detail the streets surveyed.

STREETS SURVEYED IN 1877.

Name.	From	To	Approx. length.
Appleton	Morrison	Willow Avenue	750
Arlington	Lincoln	Franklin	490
Beacon	Sacramento	Somerville Avenue	1,680
Broadway	Willow Avenue	North Street	5,640
Brook	Cross	Glen	500
Chandler	Park Avenue	Northerly	370
Cherry	Elm	Summer	850
Chester	Elm	Cambridge line	880
College Avenue	Broadway	Medford line	1,800
Cross	Pearl	Broadway	1,000
Curtis	Broadway	Medford line	2,370
Cutter	Webster	Broadway	740
Dana	Bonair	Everett Avenue	420
Day	Elm	Cambridge line	930
Dover	Holland	Cambridge line	980
Ellsworth	Cross	Rush	240
Elm Court	Villa Avenue	Westerly	100
Elm	Mossland	Medford line	6,580
Franklin	Broadway	Webster	730
Grove	Elm	Morrison	1,000
Hawkins Court	Hawkins	Westerly	380
Herbert	Chester	Dover	380
Highland Avenue	Willow Avenue	Elm	1,660
Holland	Dover	Broadway	2,740
Irving	Holland	Broadway	1,290
Morrison	Elm	Willow Avenue	1,700
Mossland	Elm	Somerville Avenue	375
Orchard	Cambridge line	Meacham	1,570
Otis	Cross	Dana	850
Park Avenue	Elm	Wallace	460
Pearl	Franklin	Mt. Vernon	950
Perkins	Franklin	Boston line	1,300
Professors' Row	Curtis	College Avenue	2,030
Rush	Broadway	Pearl	1,080
Somerville Avenue	Elm	Mossland	1,070
Villa Avenue	Winslow Avenue	Middlesex Central R.R	200
Wallace	Holland	Broadway	1,330
Winslow Avenue	Elm	Grove	520
Winter	Holland	Elm	400

STREETS PARTIALLY SURVEYED IN 1877.

Name.	From	To
Adams	Medford	Broadway.
Benedict	Austin	Union.
Bonair	Cross	Dana.
Bonner Avenue	Washington	Columbus Avenue.
Broadway	Sycamore	Adams.
Columbus Avenue	Bonner Avenue	Warren Avenue.
Conwell Avenue	Curtis	Westerly.
Church	Somerville Avenue	Summer.
Cottage Avenue	Chester	Russell.
Cutter Avenue	Russell Square	Highland Avenue.
Elm	Somerville Avenue	Mossland.
Everett Avenue	Cross	Dana.
Florence	Perkins	Washington.
Franklin	Broadway	Washington.
Glen	Broadway	Pearl.
Graves	Willow Avenue	Westerly.
Hawkins	Washington	Somerville Avenue.
Lincoln	Broadway	Perkins.
Linwood	Washington	Somerville Avenue.
Meacham	Cambridge line	Middlesex Central R. R.
Mt. Pleasant Avenue	Curtis	Westerly.
Mt. Pleasant Street	Broadway	Perkins
Mt. Vernon Street	Washington	Broadway.
Myrtle	Perkins	Washington.
Oakland Avenue	School	Marshall.
Pearl	Franklin	Cross.
Pinckney	Perkins	Washington.
Poplar	Linwood	Joy.
Prescott	Highland Avenue	Summer Street.
Putnam	Highland Avenue	Summer Street.
Quincy	Somerville Avenue	Summer.
Russell	Elm	Cambridge line.
Somerville Avenue	Mossland	North Cambridge line.
Somerville Avenue	Elm	Prospect.
Summer	Elm	Willow Avenue.
Sycamore	Medford	Broadway.
Union	Broadway	Mystic Avenue.
Vernon	Central	Jenny Lind Avenue.
Warren Avenue	Bow	Columbus Avenue.
Washington	Boston line	Linwood.
Washington	Fitchburg R. R.	Hanson.
Webster	Cross	Franklin.
Willow Avenue	Elm	Broadway.

STONE BOUNDS SET IN 1877

- Adams Street East side, at angle.
 Appleton North side, at angle.
 Benedict South side, at east side of Austin.
 Benedict South side, at west side of Union
 Bonner Avenue..... West side, at north side of Washington.
 “ “ West side, at south side of Columbus Avenue.
 Broadway..... South side, at east side of Irving.
 “ South side, at east side of Wallace.
 “ South side, at east side of Willow Avenue.
 “ South side, at angle near Willow Avenue.
 “ South side, at west line of Lowell Railroad.
 “ South side, at east side of Adams.
 “ South side, at west side of Sycamore.
 “ North side, at angle between Main and Bond.
 “ North side, at west side of Bond.
 “ South side, at east side of Walnut.
 “ South side, at west side of Mt Vernon.
 Cedar West side, at south side of Middlesex Central R.R.
 Chester..... West side, at south side of Herbert.
 “ West side, at north side of Orchard.
 “ West side, at Cambridge line.
 Day..... East side, at south side of Herbert.
 “ West side, at Cambridge line.
 Dover West side, at angle.
 “ West side, at Cambridge line.
 Elm North side, at point curve near Davis Square.
 “ South side, at east side of Chester.
 “ North side, at west side of Grove.
 “ South side, at angle in Russell Square.
 “ South side, at west side of Russell.
 “ North side, at angle near Tenny.
 “ North side, at angle near Willow Avenue.
 “ South side at angle near Beech.
 “ North side, at west side of Willow Avenue.
 “ North side, at angle east of Willow Avenue.
 “ North side, at angle near White.
 “ North side, at west side of Cherry.
 “ South side, at angle near Cherry.
 “ South side, at angle near Mossland.
 “ South side, at east side of Mossland
 “ North side, at east side of Cutter Avenue.
 Florence..... West side, at angle nearest Washington.
 Highland Avenue..... North side, at east side of Grove.
 “ “ North side, at angle near Putnam
 “ “ North side, at south side of Medford.

- Holland.....North side, at east side of Irving.
 “North side, at west side of Wallace.
 “South side, at west side of Dover.
 “South side, at west side of Day.
 Medford.....North side, at east side of Adams.
 “North side, at east side of Sycamore.
 “North side, at west side of Thurston.
 Morrison.....South side, at east side of Grove.
 “North side, at east side of Appleton.
 Orchard.....South side, at angle west of Day.
 “North side, at Cambridge line near Russell.
 PearlSouth side, at east side of Franklin.
 “North side, at east side of Myrtle
 “North side, at west side of Florence.
 “North side, at west side of Pinckney.
 “North side, at west side of Mt. Vernon.
 PerkinsNorth side, at east side of Franklin.
 “North side, at west side of Mt. Vernon.
 “South side, at east side of Mt. Vernon.
 Prospect HillMass. Harbor Commissioners' Survey Point.
 Somerville Avenue....North side, at east side of Mossland.
 “ “South side, at east side of Beacon.
 “ “South side, at angle near Elm.
 “ “South side, at point curve near Sacramento.
 “ “South side, at point curve near U. R. R. Stables.
 “ “North side, at west side of Central.
 “ “South side, at west side of Park.
 “ “North side, at east side of Laurel.
 “ “North side, at angle near Taylors'.
 “ “North side, at east side of Quincy.
 “ “North side, at west side of Church.
 “ “North side, at point curve, junction of Bow.
 “ “South side, at angle near Bow.
 Summer.....North side, at west side of Cutter Avenue.
 “South side, at east side of Quincy.
 “South side, at west side of Church.
 Union square.....North side, near Pythian Block.
 VernonFour on North side, at angles between Central and
 Jenny Lind Avenue.
 Wallace.....East side, at angle.
 “East side, at summit of hill.
 WalnutEast side, at angle near Broadway (copper bolt).
 Warren AvenueWest side, at north side of Bow.
 “ “West side, at south side of Columbus Avenue.
 Washington.....North side, at east side of Mt. Vernon.
 “North side, at west side of Pinckney.
 “North side, at east side of Florence.

Washington	North side, at east side of Myrtle.
“	Four on curves, west of Fitchburg Railroad.
Willow Avenue.	East side (copper bolt), at angle north of Appleton.
“ “	West side, at south side of Appleton.
“ “	West side, at south side of Morrison.
“ “	East side, at south side of Middlesex Central R. R.
“ “	East side, at north side of Highland Avenue.
“ “	East side, at south side of Highland Avenue.
“ “	West side, at north side of Summer.

The fences and structures on forty-six estates were found to encroach on the street, and have been reported to the City Council. Orders of notice to remove have been issued to each. Eleven of these have complied, and a large number have signified their intention to remove the encroachments in the spring.

The expenses incurred in the survey of streets and setting stone bounds were as follows: —

Salaries of assistants,	\$620 60
Labor in digging for old and setting new bounds,	65 62
Bound stones,	111 22
Stone cutter,	6 25
Signals,	2 88
Brass, lead, etc., for setting copper bolts,	1 47
	<hr/>
Total expenses,	\$808 04
Unexpended balance,	191 96
	<hr/>
Total appropriation,	\$1,000 00

BRIDGES.

The stone arch bridge at Alewife Brook was examined by your engineer at the request of the mayor, and was reported to the City Council as in an unsafe condition on account of the excavation made in the water-way under the bridge by the city of Cambridge. The mayor communicated with the authorities of the city of Cambridge, who authorized your engineer to properly repair the bridge, at the expense of the said city. The work was completed in December, and it is believed that the bridge is now in a safe condition.

STREET NUMBERING.

Eleven streets have been numbered, and the owners of houses notified. The numbers are properly recorded on the plans of the

several streets. There is an urgent call from residents on other streets that this work may be continued.

WATER WORKS.

Plans were made for laying the new eight-inch main on Broadway, between Marshall and Central Streets, also for the new eight-inch mains in Pearl, Myrtle, Perkins, and Lincoln Streets. Street lines and grades were furnished for laying pipe, setting hydrants, etc. A summary, showing in detail all the distribution pipe in the city, was prepared, to accompany the report of the Somerville Mystic Water Board. A new map is now nearly completed, showing the system of water distribution, also gates, hydrants, etc. All the water-gates in the city were located and properly recorded.

PERAMBULATION OF CITY LINES.

The lines between Medford and Somerville were perambulated by a committee from the Board of Aldermen, and the City Engineer, in connection with a committee from the Selectmen of Medford. Five new stone bounds were set, and nearly all the old bounds were re-set and re-marked.

MAP OF THE CITY.

The notes taken in Survey of Streets will be valuable data for a new map of the city, the need of which was mentioned in my last annual report.

ENGINEERING EXPENSES FOR 1877.

Salary of City Engineer,	\$2,100 00
Salaries of assistants,	1,000 00
Appropriation for team,	200 00
Drawing instruments, stationery, spikes, tools, etc.,	147 85
	<hr/>
	\$3,447 85

Survey of streets, special appropriation, see p. 22.

Respectfully submitted.

GEORGE A. KIMBALL,
City Engineer.

FINAL REPORT
OF THE
COMMITTEE ON SEWERS.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Jan. 3, 1877.

Accepted. Referred to next city government, to be printed with the City Reports, for the year 1877.

GEO. I. VINCENT, *Clerk pro tem.*

CITY OF SOMERVILLE.

JANUARY 3, 1878.

The Committee on Sewers submit the following statement of the appropriation for sewers for the year 1877, and the manner in which it has been expended:—

The City Council on the 4th of April made an appropriation for sewers of	\$6,000 00
On the 13th of March, Mr. John T. Bamrick paid into the city treasury to the credit of Sewers account, for the cost of repairing a sewer in Medford St. built by him,	107 00
The Committee on Finance, in their report of appropriations, recommended that the further sum of	10,000 00
be borrowed and placed to the credit of Sewers account, which recommendation was adopted by the City Council, thus making the aggregate sum which this committee was authorized to expend	\$16,107 00
Of this additional \$10,000, your committee have expended but \$7,995.56, which sum has been transferred to the credit of Sewers account from other accounts, thus obviating the necessity of increasing the city debt on account of common sewers.	
The said sum of	7995 56
Added to the amount of the appropriation,	6,000 00
And the sum received from John T. Bamrick,	107 00
Gives the aggregate of expenditures	<div style="border-top: 1px solid black; border-bottom: 3px double black;">\$14,102 56</div>
Which sum is	\$2,004 44
Less than the sum awhich the committee was authorized to expend.	

The following is a list of the expenditures : —

For 17 sewers as per accompanying schedule,	\$16,766 83	
Less amount of assessments	11,083 62	
	<hr/>	
Net cost to the city,		\$5,683 21
For $\frac{5}{8}$ of the cost of extending the outlet of the Trunk Sewer under Craigie Bridge, as re- quired by an Act of the Legislature,		2,772 52
“ 35 catch-basins (averaging \$66.21),		2,317 25
“ 2 man-holes and dirt-catchers, Somerville Avenue,		224 39
“ 2 man-holes, Marshall Street,		78 37
“ relaying pipe-sewer, Poplar Street,		110 18
“ ventilating flue at Grove Street sewer,		81 26
“ tide gate in culvert under Middlesex Avenue,		39 82
“ flushing gate for Somerville Avenue sewer,		49 32
“ tools and personal property,		113 92
“ books and stationery (including plan-books, rec- ord and account books and assessment bills),		74 20
“ rebuilding 3 catch-basins,		110 71
“ repairing catch-basins,		450 65
“ repairing man-holes,		53 96
“ repairing sewers and drains,		84 15
“ connecting catch-basins on Elm Street, built in 1876, with the sewer,		26 63
“ building tops of man-holes to new grades of streets,		57 05
“ cleaning catch-basins,		831 25
“ clearing mouths of catch-basins,		79 72
“ cleaning dirt-catchers,		202 89
“ cleaning sewers,		182 98
“ examining sewers,		28 32
“ fitting up basement of Geo. H. Foster Hose House,		44 32
“ Superintendent's salary in January and February,		133 33
“ Superintendent's team in January and February,		16 67
“ sundry small expenses.		39 68
“ setting edge-stones and paving,		50 70
“ repairing tools and personal property,		48 61
“ materials now on hand,		116 50
Aggregate of expenditures as above,		<hr/> \$14,102 56

Herewith are presented a schedule of sewers built in 1877, a schedule of materials now on hand, and a schedule of tools and personal property.

In the early part of the year the Beacon and Elm Streets sewer was completed, the quantity of sewer built being shown in the accompanying schedule.

There have been seventy-seven meetings of the committee during the year.

W. C. TALLMAN.

Chairman.

SEWERS BUILT IN 1877.

Street.	From	To	Materials.	Size.	Man-holes.	Inlets.	Length.	Total cost.	Assessment.	Cost to city.
Appleton Street . . .	Morrison Street . . .	40 ft. w. of Willow Ave.	Brick	20 × 13½	3	29	710.5	\$893 77	\$670 58	\$223 19
Adams Street . . .	Broadway	278 ft. southerly . . .	Pipe	12	1	14	278.0	631 09	460 56	170 53
Broadway	Central Street . . .	Adams Street	"	12	1	17	273.4			
Central Street . . .	Sycamore Street . . .	Central Street	"	15	1	23	510.5	732 00	† 711 34	† 237 38
Broadway	Broadway	281 ft. southerly . . .	"	12	1	14	348.8	348 90	217 91	130 99
Chester Street . . .	Broadway	Cambridge line	Brick	24 × 17	4	72	1,014.2	1,214 44	912 95	301 49
Day Street	Elm Street	Cambridge line	"	24 × 17	3	77	968.0	1,095 05	851 24	243 81
Grove Street	Elm Street	Morrison Street	"	28 × 24	4	66	1,037.0	1,875 19	983 50	891 09
Hawkins Court . . .	Elm Street	335 feet westerly . . .	"	24 × 17	1	31	335.0	524 65	394 93	129 72
Highland Avenue . .	Hawkins Street . . .	Hawkins Court	"	24 × 17	1	13	172.0	479 78	361 23	118 55
Holland Street . . .	Washington Street . .	387 feet westerly . . .	"	18	1	15	387.3	1,612 72	779 70	833 02
Irving Street	Walnut Street	Irving Street	"	36	4	56	864.0			
	Holland Street	142 feet south from Broadway	"	24 × 17	4	70	538.0	1,711 10	1,284 38	426 72
Irving Street		Broadway	"	15			533.0			
Morrison Street . . .	Grove Street	32 ft. east of Elm St. .	"	24 × 17	6	132	516.0	1,968 16	1,479 80	488 36
Morrison Street . . .	Grove Street	65 ft. w. of Willow Ave.	"	26 × 17			1,085.0	1,032 23	388 70	643 53
Somerville Avenue . .	Elm Street	164 feet e. of Mosstand	"	20 × 13½	4	40	922.5	350 19	262 37	87 82
Summer Street	Elm Street	Harvard Street	"	18		22	25.0			
Summer Street	Elm Street	Harvard Street	"	22 × 15	1		225.0	236 72	† Included in Broadway.	
* Sycamore Street . . .	End of old sewer . . .	Broadway	Pipe	15	1	13	164.0	182 46	97 56	84 90
Union Street	Benedict Street	100 feet southerly . . .	Brick	15	1	2	155.0	244 36		244 36
Walnut Street	Broadway	118 feet southerly . . .	"	18	1		118.0			
Wallace Street	Holland Street	134 feet south from Broadway	"	26 × 17	4	98	1,172.0	1,634 02	1,226 87	407 15
Wallace Street		Broadway	"	15			1,077.0			
					47	804	12,563.4	\$16,766 83	\$11,083 62	\$5,683 21

* Built in 1876. Cost changed to appropriation of 1877.
 Elm Street (part of Beacon and Elm Streets Sewers), 595 feet of 42-inch brick, sewer with one man-hole and fourteen inlets.

CITY ENGINEER'S OFFICE, Dec. 31, 1877.

To the Committee on Sewers:

GENTLEMEN, — The following materials are on hand in the Sewer Department.

Lumber, 222 feet of hemlock boards,	\$3 79	
“ 1,200 feet of spruce plank,	10 00	
“ 50 feet of oak plank, 3 inch,	3 00	
“ 200 feet of braces,	1 00	
	<hr/>	\$17 79
Cement, 1½ barrels Portland,	\$7 12	
“ 1½ barrels American,	1 65	
	<hr/>	8 77
Drain pipe, 18 ft. 12 in. Akron at .44,	\$7 92	
“ “ 12 feet 10 inch Akron at .35,	4 90	
“ “ 30 feet 8 inch Akron at .22,	6 60	
“ “ 7 feet 8 inch slants at .37,	2 59	
“ “ 6 feet 10 inch cement at .15½,	93	
“ “ 1 ft. 8 by 6 inch Portland branch T,	85	
	<hr/>	23 79
Brick, 1,212 feet at \$7.00 per M,		8 49
Man-hole ring and cover,		10 00
Catch-basin covers, 1 at hose house, 1 at Davis's stone yard, Cambridgeport,		4 60
Catch-basins trap,		1 85
Catch-basins grating 2 feet 24 inches at \$4.23,		8 46
Catch-basins stone,		3 00
Nails and spikes, 24 lbs. at .05,		1 20
Sand,		71 57
		<hr/>
		\$159 52

GEORGE A. KIMBALL,

City Engineer.

GENTLEMEN, — I herewith submit the following schedule of tools and personal property on hand in the Sewer Department: —

Sand screen,	\$7 00
Ladder, 14 feet,	2 00
Rubber hose, 1 inch 100 feet,	2 00
Rubber hose, 50 feet no value,	
Pump,	4 00
Derrick,	4 00
Blocks, and 50 feet of rope,	5 00
Blocks and no rope,	1 00
Rope, $\frac{3}{8}$ inch, 300 feet,	1 00
Rope $1\frac{1}{4}$ inch, 25 feet,	50
Chains and ropes attached, 3,	1 50
Water dippers large, 3,	2 00
“ “ “ 2, no value.	
Boats for cleaning sewers, 3,	3 00
Boats for cleaning sewers, 1, new,	5 00
Mason's level, new,	2 25
Manure puller,	1 00
Ice hook,	75
Hatchet,	50
Saw,	1 50
Square, iron,	50
Hammer, small, broken, no value.	
Rule, 2 foot,	25
Monkey wrench,	1 50
Points, 3 ; chisels, 2 ; drill, 1,	1 50
Reducing coupling for hose,	2 00
Oil cans, 1 good ; 1 no value,	25
Lanterns, 7,	6 00
Wheelbarrow,	8 00
Sewer scraper,	25
Sand bucket,	9 00
Shovel, 12 foot handle,	1 50
“ long handled, round point, 5,	5 00
“ short handled, round point, 6,	6 00
“ short handled, round point, 18,	1 00
Shovels, long handled, round point 6,	50
<i>Amount carried forward,</i>	<u>\$87 25</u>

<i>Amount brought forward,</i>		\$87 25
Picks, 14,		21 00
Broom, 1,		25
Rammers, 1 paving, 1 long handled,		4 00
Iron bars, 3,		6 00
Sledges, 2,		4 00
Mauls, 2,		1 00
Hoes, 2 (1 good, 1 fair),		50
Spoon, 1,		1 25
Tamping iron, 3 feet long,		25
Chain, heavy, 12 feet long,		3 00
Water tubs, 2,		2 00
Mortar beds, 2,		3 00
Tool chests, 2,		15 00
Brand "S. S. Dept."		1 50
Line, 25 feet,		10
Hammer, small stone,		1 50
Flushing gate (Somerville Ave. sewer),		50 00
Sewer forms, 3, 18 in. ; 2, 24 in.		75
Sewer half rounds, 1, 15 in. ; 1, 18 in. ; 1, 20 in. ; 2, 22 in. ; 1, 28 in. ; and 1, 36 in.		1 00
Centres, 1, 18 in. short ; 1, 15 in. short ; each 2½ feet long,		1 00
" 1, 15 in. 9 feet ; 2, 18 in. 9 feet,		3 00
" 1, 24 in. 8 feet ; 1, 30 in. 8 feet ; 1, 36 in. 5 feet,		3 00
Rubber boots, 3 pair, at \$3,		9 00
" " 8 pair, no value.		
Hoisting tubs, 4 at \$1,		4 00
Sewer pails (6 poor irons, worth),		25
" " 6 fair,		25
" " 6 good,		6 00
Water pail,		18
		<hr/>
		\$231 25
Sounding rod,	} <i>at the City Engineer's office,</i>	15 25
Cement tester,		1 80
Rope ladder,		2 00
		<hr/>
		\$250 30

GEORGE A. KIMBALL,
City Engineer.

REPORT

OF THE

TRUSTEES OF THE PUBLIC LIBRARY.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, March 12, 1878.

Accepted and referred to the Committee on Printing, with instructions to print in the Annual Report, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Mar. 13, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

THE FREE PUBLIC LIBRARY.

FIFTH ANNUAL REPORT.

GENTLEMEN OF THE CITY COUNCIL: — It is our privilege, in submitting our Fifth Annual Report, to congratulate you upon a prosperous year in the history of the public library. Your liberal policy has enabled us to make valuable additions to our list of books, and to increase the general facilities of the institution in various ways. That there is a genuine and a growing interest on the part of the public in this experiment of the city government, the annual statement of the librarian abundantly shows. At the beginning of the year there were only 5,752 books in the library; nevertheless, it appears that the loans for the current year have amounted to 57,862, an increase of 11,000 volumes over the number given out in 1876, and of 20,000 over the number given out in 1875. As many as 6,309 have been loaned in a single month. These facts certainly indicate a remarkable activity in the circulation of books; and no better evidence, it seems to us, could be had of the capabilities of the institution as a dispenser of information and refinement.

It is estimated that the whole number of books now on the shelves of the library is 6,696. Several hundred additional volumes have been ordered and are already on their way. The various acquisitions of the year have made a considerable extension of shelving imperative. This, happily, we have been able to effect without materially encroaching upon the already too limited floor-space. Some innovations touching the internal arrangements and service of the library have been made with a view to the convenience of patrons, and in every way we have aimed to make its resources inviting and accessible to all. Under the vigilant administration of Miss H. A. Adams, who was unanimously re-elected librarian, the routine of the library has been orderly and efficient, and we have no loss of consequence to report, either through accident or

through failure to recover books loaned. The reading-table has been regularly supplied to the fullest extent of its capacity with newspapers and the best periodicals of the day. Many have availed themselves of its privileges, notwithstanding the overcrowding of the apartment and the general inconveniences of the place.

You will remember that at the beginning of the year a special appropriation of \$1,500 was asked for. This sum was devoted to a somewhat special purpose, and has been expended with unusual care. It had become evident to us that the library had grown disproportionately in certain directions. The newer literature of such departments as Fiction, Popular Science, and Belles-lettres was found to be well represented, while there was a notable lack of the older and standard works in all departments. Indeed, there were important branches of human knowledge scarcely represented at all. This condition of affairs was in no wise due to a mistaken or short-sighted policy of earlier officials. It was rather a necessary result of the peculiar conditions under which the library has grown up. Beginning with a small endowment, and dependent for its growth on small annual appropriations, it was of course impossible to realize anything like an ideal proportion and completeness. About all that could be done, and under the circumstances the wisest thing to do, was to meet the always pressing demand for books of the day. This demand must still, we suppose, engage the major part of our annual appropriation, but we felt that the time had come for us to begin to make good the most serious of the deficiencies to which we have referred, and to aim henceforth at a certain completeness and symmetry in the growth of the library.

We had come to feel, moreover, that while the claims of the general reader were undoubtedly paramount, the more advanced students in our midst — the teachers, editors, lawyers, physicians, and clergymen of Somerville — have a right in the library, and might fairly look to it for certain special aids, such, for example, as are afforded by the standard works of reference and the acknowledged classics in their several departments of inquiry. The office of a public library is in fact complex. To many it is simply a source of entertainment, to others it is a kind of higher school; to still others it should be an instrument, an ally for enlarging the bounds of human knowledge and promoting the higher welfare of society. Assured of views like these, we have aimed to administer our trust in a large and enlightened way; and we are persuaded that the

library has grown during the year, not merely in extent, but in point of proportion and quality.

The financial statement for the year 1877 is as follows:—

Credit balance from 1876,	\$451 30
Appropriation for 1877,	1,500 00
Amount of dog-license,	1,362 30
From catalogues and fines,	206 18
	<hr/>
	\$3,519 78

Expenses for 1877:—

For purchase of books,	\$1,280 53
For salaries,	1,123 35
For incidentals,	257 18
	<hr/>
	\$2,661 06

Balance to new account, \$858.72.

We should add, perhaps, that this balance is somewhat fictitious, inasmuch as orders amounting to \$500 or upwards have been given for books not yet received.

Respectfully submitted.

W. G. TOUSEY.
 HENRY H. BARBER.
 ALBERT M. ROBINSON.
 WILLIAM VEAZIE.
 ROSWELL C. DOWNER.
 WILLIAM H. BRINE.
 FRANCIS H. RAYMOMD.
 THOMAS J. BUFFUM.
 EDWIN S. CONANT.

ANNUAL REPORT
OF THE
OVERSEERS OF THE POOR,
FOR THE
Year ending Dec. 31, 1877.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 26, 1878.

Report accepted, referred to Committee on Printing, with instructions to cause the same to be printed in the Annual Report, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 27, 1878.

Concurred in.

SOLOMON DAVIS, *Clerk.*

REPORT.

To his Honor the Mayor, and the City Council :

GENTLEMEN, — We would respectfully submit a brief account of the work of the Board of Overseers of the Poor, for the year 1877. a statement of some of the results, and a few suggestions in regard to plans for the future.

The poor have generally been assisted at their own homes, being supplied with food, fuel, and such other necessaries as were required to relieve their destitution.

To do this properly requires much time and great care, that the deserving may be provided for, while the undeserving may be unsuccessful in any attempts to obtain aid from the city.

As a means of obtaining a careful history of every applicant for aid, we require answers to the following list of questions. Each list is numbered, indexed, and kept for future reference.

From the answers to these questions, we usually obtain pretty correct information in regard to the immediate necessities of the applicant, to the ability of his relatives to assist him, to the causes which led to his destitution, and to the nature and place of his settlement. If we do not obtain all the information that is necessary, we get that which will guide us in subsequent investigations of the case.

OVERSEERS OF THE POOR.

QUESTIONS IN REGARD TO APPLICANTS.

1. Name?
2. Number in family?
3. Color, sex, age?
4. Date and place of birth?
5. Residence, Street and No.?
6. Residence previously?
7. When and how came to State?
8. When and how to Somerville?
9. Lived here since, and how long?
10. Occupation?

11. Condition, int. ins. id.?
 12. Natur'd? P'd taxes or assessed?
 13. When and how long?
 14. Where and on what?
 15. Owned real estate?
 16. What, where, and when?
 17. Held office, what, how }
long, and where? }
 18. Apprenticed, and to whom?
 19. Prop. and means? Money }
in bank? State Aid? }
Pensions? Family in }
Army or Navy? Rela- }
tives able? }
 20. When and where before }
aided, and ceased to be }
aided? }
 21. By what town and }
where then residing? }
- Husband or Wife. Ancestors * of Husband or Wife.*
22. When and where married?
 23. Name and age?
 24. Date and place of birth?
 25. Occupation?
 26. Residence and settlement?
 27. Date and place of death and age then?
 28. Natur'd? P'd taxes or assessed?
 29. When, where, how long? }
and on what? }
 30. Real and per. est. means?
 31. Name and age? *Descendants * of Applicant.*
 32. Residence?
 33. Occupation?
 34. Natur'd? Paid taxes, etc.?
 35. Property and means?
 36. Name and age? *Ancestors * of Applicant.*
 37. Date and place of birth?
 38. Occupation?
 39. Residence and settlement?
 40. Date of death, and age then?
 41. Natur'd? P'd taxes or as'd?
 42. Property and means?

* Write ages after names, and other matter relating to each person under the names. Indicate children by *c.*, grandchildren by *g. c.*, father and mother by *f.* and *m.*, grandparents by *g. f.* and *g. m.*, and prefix *p.* or *m.* to indicate paternal or maternal grandparents.

We have often been told that we have aided undeserving persons, that many of them are in no sense destitute, and that in some instances the recipients of public charity own houses and lands, and have money in the savings banks. In every instance where our informant has given the name of the supposed impostor, we have found that he, and not ourselves, had been misinformed. Still, we probably have assisted some who could have done without the aid, and we would thank any one for information that will help us in the better discharge of our duty.

ALMSHOUSE.

We have had but two persons in the almshouse during the year. One of them, a woman, an inmate for many years, is partially insane. The other, a man fifty years of age, formerly a resident of this city but latterly of Boston, then in easy circumstances, but now penniless, after having partially recovered from an attack of erysipelas at the Boston City Hospital, was sent by the Overseers of Public Institutions of that city to the almshouse in the Charlestown District. We found him there, much weakened by his recent sickness, but on the highway to a speedy recovery. We gave him permission to remain until he had sufficiently recovered to be able to maintain himself by manual labor. But when that time came he was not disposed to relinquish his comfortable quarters and easy life, giving as an excuse the impossibility of obtaining employment, and not till we had directed him to work under our Superintendent of Streets did he leave the almshouse, and not then to work upon the streets, for he quickly found employment elsewhere. The above is one of many illustrations that might be given of the tenacity manifested by some to continue recipients of public charity.

STATE POOR.

The law of the Commonwealth requires the overseers of the poor to assist every one found within the limits of the city in a destitute condition, and it permits the overseers to remove those who have no settlement in the State to the State Almshouse. This law has been in operation many years, without relieving the cities and large towns from the burdens incident to a large foreign population.

Another law, which took effect during the past year, we believe

will more effectually protect our city in providing for the poor of this class of persons. Its object is to reimburse cities and towns for aid granted State paupers during any four weeks, provided the applicants can afterwards maintain themselves.

This law requires that the Board of State Charities shall be notified in every case, and if it is found by that Board that the chances are that the family will be self-supporting at the end of the four weeks, the aid granted by the city for that time will be reimbursed by the State.

We have carefully complied with the requirements of the law in such cases as the law appeared to us to be applicable, and hope to have the expenses of this department diminished somewhat by this means.

There is another law that applies to the State sick-poor. By this law, the city is partially reimbursed for aid granted to the State sick-poor during the time they are unable to be removed to the State Almshouse.

By the conditions of the law, we must give immediate notice to the Board of State Charities. In this notice it is necessary to give the name and residence of the pauper, the name of the disease, and facts tending to show that he has no settlement in this State. It is highly important in such cases that the city physicians should immediately notify the secretary of this board, after having ascertained all necessary facts in regard to the case, that the latter officer may comply with the essential requirements of the law.

CITY STORE.

Since the 27th of March the poor have been principally supplied with groceries, provisions, etc., from a store entirely under the control of this Board.

The goods are purchased at the lowest wholesale prices, and delivered to the poor at such an advance as will cover the expenses of the salary of the storekeeper, and the cost of the transportation of the goods to the store.

As we have no almshouse, and therefore provide for many persons at their homes, who would otherwise be supported in an almshouse, there are some families who depend entirely upon the city for all their provisions and groceries.

The principal articles at the store are flour, Indian meal, oat meal, rice, potatoes, white beans, salt fish, herrings, corned beef, salt pork, kerosene oil, sugar, and tea.

From the above list of articles the poor are supplied by the storekeeper upon the presentation of orders from the Overseers of the Poor, and with the exceptions of sugar and tea, supplied with the quantity they name, provided it does not exceed the amount granted in the orders.

The Board believing it economy to purchase good articles, have directed the storekeeper to have regard to quality as well as price.

The store has been in operation for nine months at a cost to the city of \$3,766.54. During the corresponding months of 1876, the entire amount of the grocery and provision bills was \$6,219.20, and for the same months in 1875 it was \$4,154.39.

The store has been in operation sufficiently long to show that by careful and judicious management, there will be quite a saving to the city, and the poor will be better provided for than under the old system of giving orders on the different stores in the city.

WOOD.

The City Council granted the petition of this Board, to erect in the yard, in the rear of the police building, a shed suitable for storing wood and sheltering the men employed to saw and split it, under direction and control of the Overseers of the Poor.

The shed was built in the month of November, and the first wood was sawed and split on the morning of November 23d, by ten tramps, who had received their night's lodging and breakfast at the police station. Since then, on nearly every week-day morning, an average of seven tramps has worked for two hours in sawing and splitting wood, under the charge of a superintendent employed by the Board. There has not been an instance of refusal to work, nor do they manifest a disposition to shirk, but on the contrary, work smartly for the two hours. They have done the city a good service, and we believe have fully paid in this way for all expenses on their account. We have also obliged men whose settlements are in our city, who solicit aid for themselves and families, to work at the wood-pile at \$1 per day until they have paid for the aid to be granted them. We grant no more aid to this class of persons than we should have done had we no wood; but after having decided to give the supplies, we require work of the applicant. This has had the effect to cause some persons to seek for and obtain employment elsewhere, who otherwise would have importuned us for aid under the plea that it was impossible to find employment.

We believe that the two classes last mentioned, the tramps and

resident applicants for aid, will be equal not only to sawing and splitting wood for the poor, but to preparing all that is necessary for the schools and for other public purposes.

COAL.

There have so often been complaints of the delay in filling the orders for coal, that we are of the opinion that the interests of the poor and the city would both be better secured by having the delivery of the wood and coal under the immediate supervision of this Board. Such an arrangement would necessitate the erection of another shed of sufficient dimensions to contain a year's supply of coal.

BURIAL-GROUND.

For several years, in the annual reports and other communications to the City Council, the importance of having a burial-ground under the control of the city, not only as a place for the burial of paupers, but for the use of other persons, has been urged by the Board. We would again call your attention to the fact that we are still without a burial-place. We do not desire a large outlay for this purpose, but it seems to us not only fit but necessary for a city of nearly 22,000 inhabitants to possess at least one burial-place.

EXPENSES.

The net expense for the support of the poor, as will be seen by an appended statement, has been considerably less than the previous year, and quite within the sum appropriated by the City Council.

This diminution in the expense is undoubtedly the result of several causes, but we believe it has been mainly owing to the fact that the orders for supplies have not only been granted, but have been filled under the supervision of the Board. It does not follow because we have been enabled to reduce the expenses \$3,000 in one year, that we can continue the reduction in the same ratio. There are many matters connected with this department over which we have little or no control. For instance, the bills for the maintenance of the inmates at the hospitals for the insane must be paid. The same is true in regard to the expenses of the inmates of the State Reform School and of those in the State or county prisons or reformatory institutions.

While it has been and will continue to be our aim to keep the expenses of this department as small as is consistent with the obligations that the community owe to those in want, we feel that

neither the City Council nor the tax-payers desire us to go one whit beyond this point.

We would respectfully call your attention to the appended table.

ANSEL LEWIS,
THOMAS CUNNINGHAM,
HORACE CHAPIN,
Overseers of the Poor.

EXPENSES OF THE DEPARTMENT.

House rents,	\$650 20
Groceries and provisions,	6,687 72
Fuel,	3,144 32
Boots and shoes,	691 47
Dry goods and clothing,	61 41
Furniture,	12 75
Aid to paupers residing elsewhere,	1,741 17
Board of paupers in private families,	303 74
Board and nursing in insane asylums,	1,068 50
Board in Charlestown Almshouse,	317 74
Board of paupers at Reform Schools,	174 00
Medical examinations and medicines,	26 00
Burial expenses of paupers,	605 25
Food for lodgers,	327 44
Transportation, expressing, etc.	98 39
Books, stationery, and printing,	81 82
Expenses of the store,	153 63
Expenses of the wood-shed,	90 20
Salaries of overseers,	900 00
Salary of clerk,	200 00
Laundering,	2 00
	<hr/>
	\$17,337 75

RECEIVED.

For barrels sold by storekeeper,	\$18 18
For board of pauper at Brattleboro' Insane Asylum,	463 00
From State,	274 64
For board of pauper at Charlestown,	51 00
From cities and towns,	3,174 36
	<hr/>
	\$3,981 18
Net expense,	\$13,356 57

REPORT
OF
COMMITTEE ON HEALTH.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Jan. 3, 1878.

Accepted, referred to next city government, to be printed with the
City Reports for the year 1877.

GEO. I. VINCENT, *Clerk pro tem.*

CITY OF SOMERVILLE.

THE Committee on Health have disposed of all the business referred to them during the past year.

The appropriation for Health Department, made April 4, 1877, was		\$3,400 00
The committee have expended :		
To Henry Gray, contractor for collecting house offal,	\$1,800 00	
To Highway Department for collecting ashes,	508 31	
For all other expenses, including the caring for small-pox cases, fumigating houses, burying animals, and printing,	300 03	
Aggregate of expenditures,		<u>\$2,608 34</u>
Leaving an unexpended balance of		<u><u>\$791 66</u></u>

GEO. C. SKILTON,
Chairman.

ANNUAL REPORT OF THE CITY CLERK.

STATISTICS OF BIRTHS, MARRIAGES, AND DEATHS IN 1877.

THE statistics of births, marriages, and deaths in the city of Somerville, for the year 1877, are as follows:—

BIRTHS.

Number of births registered in Somerville in 1877,	639
More than last year, 3.	
Males, 316. Females, 323.	
Number of cases of twins, 4.	
Born American parents,	255
Born foreign parents,	284
Born American male and foreign female,	35
Born foreign male and American female,	49
Unknown,	16
	—
	639

MARRIAGES.

Number of intentions issued in 1877,	186
More than last year,	23
Marriages registered,	167

NATIONALITY OF THOSE REGISTERED.

Both parties American,	113
Both parties foreign,	33
American groom and foreign bride,	10
Foreign groom and American bride,	7
Unknown,	4
	—
	167

First marriage of	293
Second marriage of	36
Third marriage of	4
Fourth marriage of	1
	<hr/>
	334=167 couples.

Oldest persons married,	66
Yonngest person married,	17

DEATHS.

Number of deaths in Somerville in 1877,	443
Less than last year,	1

Ages.	Males.	Females.	Totals.
Under 10 years,	114	122	236
Between 10 and 20,	9	12	21
“ 20 “ 30,	11	23	34
“ 30 “ 40,	15	21	36
“ 40 “ 50,	19	12	31
“ 50 “ 60,	10	12	22
“ 60 “ 70,	11	9	20
“ 70 “ 80,	13	16	29
“ 80 “ 90,	3	8	11
“ 90 “ 100,	1	2	3
	<hr/>	<hr/>	<hr/>
	206	237	443

Oldest person deceased, male, 95 years.

NATIONALITY.

Born in Somerville,	177
Other places in United States,	179
Of foreign birth,	81
Unknown,	6
	<hr/>
Total,	443

CHARLES E. GILMAN.

City Clerk.

CITY GOVERNMENT FOR 1877.

MAYOR.

AUSTIN BELKNAP.

House, Central Street; Office, City Hall.

ALDERMEN.

WARD ONE.

RICHARD E. NICKERSON	. . .	Pearl Street.
JOHN F. COLE	. . .	Perkins Street.

WARD TWO.

JAMES LONG	. . . . .	School Street.
WM. C. TALLMAN	. . . . .	Washington Street.

WARD THREE.

GEORGE C. SKILTON	. . . . .	Mills Street.
JOHN R. CONANT	. . . . .	Marshall Street.

WARD FOUR.

JAMES B. DAVID	. . . . .	Belmont Street.
J. A. CUMMINGS	Wallace Street.

COMMON COUNCIL.

STILLMAN H. LIBBY, <i>President</i> ,	. . .	Elm Street.
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WARD ONE.

OLIVER J. DAVIS	Pearl Street.
J. P. LOVERING	Benedict Avenue.
GEORGE H. CROSBY	Perkins Street.
ALONZO BOWERS	. . . . .	Franklin Street.

WARD TWO.

THEODORE D. DENNETT	. . . . .	Emerson Street.
SEWARD DODGE	. . . . .	Union Square.
ALLEN O. RILEY	. . . . .	Prospect Street.
ELIJAH WALKER	. . . . .	Pleasant Avenue.

WARD THREE.

ROLLIN M. BALDWIN	Albion Street.
E. G. WOODWARD	Oakland Avenue.
S. T. LITTLEFIELD	Broadway.
LUTHER B. PILLSBURY	Mills Street.

WARD FOUR.

STILLMAN H. LIBBY	Elm Street.
ASA DURGIN	Broadway.
M. W. CARR	Craige Street.
M. S. ANDREWS	Appleton Street.

CITY CLERK.

CHARLES E. GILMAN, Office, City Hall.

CITY TREASURER.

AARON SARGENT, Office, City Hall.

CITY MESSENGER.

JARIUS MANN, Office, City Hall.

CITY ENGINEER.

GEORGE A. KIMBALL, Office, City Hall.

CITY SOLICITOR.

SAMUEL C. DARLING.

CITY PHYSICIAN.

A. H. CARVILL, Office, Bow Street.

CLERK OF COMMON COUNCIL.

SOLOMON DAVIS, Webster Street.

CHIEF OF POLICE.

M. C. PARKHURST, Office, Police Station.

SUPERINTENDENT OF STREETS.

JOHN P. PRICHARD, 10 Cutter Street.

CHIEF ENGINEER OF FIRE DEPARTMENT.

JAMES R. HOPKINS Wigglesworth Street.

WATER BOARD.

C. G. ROWELL, *Chairman* . . . Pearl Street.
 E. S. CONANT, *Clerk* . . . Pearl Street.
 EDWARD FOOTE Broadway.
 AARON R. COOLIDGE Columbus Avenue.
 LOREN W. JONES Appleton Street.

SUPERINTENDENT OF WATER WORKS.

NATHANIEL DENNETT, Office, Prospect Street.

OVERSEERS OF POOR.

AUSTIN BELKNAP, *Mayor, Chairman, ex officio.*

Central Street, Office, City Hall.

HORACE CHAPIN, *Secretary* . . . Office, Union Square.
 THOMAS CUNNINGHAM Oak Street.
 ANSEL LEWIS Webster Street.

ASSESSORS.

THOMAS CUNNINGHAM, *Chairman* . . . Oak Street
 FRANK G. WILLIAMS Albion Street.
 GEORGE W. HADLEY Perkins Street
 GEORGE I. VINCENT, *Clerk* Cherry Street.

SCHOOL COMMITTEE 1877.

HON. AUSTIN BELKNAP, *Mayor, ex officio.*

STILLMAN H. LIBBY, *President of Common Council, ex officio.*

WARD ONE.

JOHN H. BUTLER Benedict Street.
 SANFORD HANSCOM, M. D. Perkins Street.
 HENRY M. MOORE Myrtle Street.

WARD TWO.

CHARLES S. LINCOLN Laurel Street.
 MICHAEL F. FARRELL Grand View Avenue.
 E. T. LUCE Pleasant Avenue.

WARD THREE.

HENRY F. WOODS	.	.	.	.	Forster Street.
JOSEPH P. WILLIAMS	.	.	.	.	Adams Street.
HENRY F. SPENCER	.	.	.	.	Sycamore Street.

WARD FOUR.

COL. CHARLES F. KING	.	.	.	.	Summer Street.
HORACE CHAPIN	.	.	.	.	Beach Street.
WALTER W. COLBURN	.	.	.	.	Grove Street.

Chairman, HON. AUSTIN BELKNAP.

Secretary and Superintendent, JOSHUA H. DAVIS

JOINT STANDING COMMITTEES OF THE CITY COUNCIL FOR 1877.

ACCOUNTS. — Aldermen Skilton and Cole; Councilmen Davis, Carr, and Woodward.

BURIAL-GROUNDS. — Aldermen Long and Nickerson; Councilmen Bowers, Dodge, and Durgin.

CLAIMS. — Mayor and Alderman Conant; President of Council; Councilmen Davis and Dennett.

FINANCE. — Mayor, Aldermen Cole and David; President of Council; Councilmen Bowers, Woodward, Carr, and O'Riley.

FUEL AND LIGHTS. — Aldermen Conant and Tallman; Councilmen Bowers, Walker, and Andrews.

FIRE DEPARTMENT. — Aldermen David and Cole; Councilmen Dennett, Crosby, and Baldwin.

HIGHWAYS — Aldermen Cole and Cummings; Councilmen Crosby, Dodge, and Littlefield.

ORDINANCES. — Aldermen David and Skilton; Councilmen Pillsbury, Durgin, and O'Riley.

PUBLIC PROPERTY. — Aldermen Nickerson and Long; Councilmen Lovering, Durgin, and Baldwin.

PRINTING. — Alderman David; Councilmen Pillsbury and Walker.

STATE AID AND SOLDIERS' RELIEF. — Aldermen Conant and Tallman; Councilmen O'Riley, Pillsbury, and Andrews.

WATER. — Aldermen Long and Skilton; President of Council; Councilmen Woodward and Davis.

STANDING COMMITTEES OF THE BOARD OF ALDERMEN FOR 1877.

SEWERS. — Aldermen Tallman, Skilton, and Cummings.

ELECTIONS. — Aldermen Tallman and Cummings.

ENROLLED ORDINANCES. — Aldermen Cummings and Conant.

LICENSES. — Aldermen Tallman and Cummings.

HEALTH. — Aldermen Skilton, Nickerson, and Long.

POLICE. — Aldermen Nickerson and David.

COMMITTEES OF COMMON COUNCIL.

ELECTIONS AND RETURNS. — Councilmen Littlefield, Lovering, and Carr.

ENROLLED ORDINANCES AND RESOLUTIONS.— Councilmen Andrews, Crosby, and Dennett.



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