

THE

AGRICULTURAL
COLLEGE

HISTORY OF PITTSFIELD,

(BERKSHIRE COUNTY,)

MASSACHUSETTS,

FROM THE YEAR 1800 TO THE YEAR 1876.

COMPILED AND WRITTEN, UNDER THE GENERAL DIRECTION OF A COMMITTEE,

BY

J. E. A. SMITH.

BY AUTHORITY OF THE TOWN.

SPRINGFIELD:
PUBLISHED BY C. W. BRYAN & CO.,
1876.

CHAPTER XXIII.

FIRE-DISTRICT AND WATER-WORKS.

[1795-1875.]

Old fire-department—Organization of fire-district—Purchase of fire-engines—Housatonic and Pontoosuc engine-companies—Greylock hook-and-ladder company—List of engineers—Steam fire-engines—Fires—Early water-works—Ashley water-works—Sidewalks, sewers, and main drains.

PREVIOUS to the year 1844, the only means provided in Pittsfield for protection against fire, were the rude box-engine purchased by subscription in 1812, with two others of a similar character, one owned by Lemuel Pomeroy & Sons, and one by the Pontoosuc Woolen Company; which were stationed at the factories of their owners. All were of small capacity, and neither was supplied with suction-hose. At fires, water was passed in buckets through long lines of citizens, who, when occasion required, were aided by their wives and daughters.

Even this imperfect organization, and these rude appliances, were often of great service; and this early fire-department received many encomiums from the press, and from its official head. In 1844, however, it had become utterly inadequate for the needs of the town. Indeed, for fourteen years before that date, efforts had been annually made to induce the town to purchase a new engine; and as often defeated. As early as 1834, the old machine was reported in town-meeting not to be worth the cost of repairing. Its captain, Edwin Clapp, maintained that he could put it in good order at a small expense, and, being directed to do so, he made it able to do some further service. Nevertheless, it was a superannuated affair after all, and the town frequently suffered for lack of something better.

In 1844, the growth of the central village, and the additional amount of exposed property caused by the opening of the Western railroad, stimulated a renewed and determined effort to pro-

vide an efficient fire-department. And when the annual proposition to purchase a new engine came up in town-meeting, a little more strongly worded than usual, Thomas F. Plunkett, Henry Stearns, Robert Campbell, E. H. Kellogg, and George S. Willis were made a committee to consider the protection of the town against fire. And on the 29th of April, they submitted a report, in which they said:

The committee think it unnecessary to direct the attention of the town to the danger which hangs over its property from year to year, from the want of the necessary means of protection. Fire after fire, and loss after loss, remind us but too often and too painfully of the almost wanton indifference of our citizens to the subject. The committee think that there is not another town in the state, of the size, and whose property is so much exposed as that of Pittsfield, which is guilty of failing to provide itself with security against fire.

The committee, therefore, recommended the organization of a fire-district, under the general statute enacted in the previous March. Under this law the town might establish the district, or it might be organized by its own inhabitants, under a warrant issued by the selectmen, upon the application of seven legal voters; but the second course could not be pursued until a petition for the adoption of the first had been presented and rejected in open town-meeting. For this reason, they appended to their report, a petition for the establishment of the district by the town, which was promptly rejected.

This action seems to have been merely *pro forma*, as a necessary preliminary to the alternative mode of procedure. The other votes of the town show that it indicated no spirit of hostility to the new project.

The committee reported, that while the fire-department would chiefly benefit the district, the whole town would, to a certain extent, enjoy its protection; for all its citizens were joint owners in the churches, town-house, and other public property; and the department would always proceed to any part of the town where it might be needed. And if it could not save buildings in which fires originated, might prevent them from spreading to others. It would, therefore, be only an act of justice for the town to furnish the land requisite for engine-houses, and pay six hundred dollars towards the purchase of apparatus. The town

made the grant of land and money, increasing the amount of the latter to one thousand dollars.

With this encouragement, the center, east, and west center districts, on the 3d of June, 1844, organized as the Pittsfield fire-district.

The territory thus incorporated is about two miles square, the park being nearly in the center. But its boundaries are very irregular, those of the school-districts having been arbitrarily followed, and having been originally fixed on the principle of equalizing and distributing population and property in different districts rather than of centralizing them. Thus, sometimes a man's residence lay just within the borders of one district, while his farm naturally extended far into another; and the land followed its owner. Or, again, for the convenience of a family, their home was set off from the district in which it was originally placed; and often, to aid a poor district, a wealthy farmer's land was set off to it from a richer.

At its first meeting, the fire-district taxed itself twenty-one hundred dollars; the town's grant being on condition that it should raise two thousand. The following committee was appointed to report upon the proper number of officers for the department, and recommend candidates to fill them: Thomas A. Gold, E. H. Kellogg, Phinehas Allen, Lemuel Pomeroy, E. A. Newton, Jabez Peck, Richard C. Coggswell, Nathan Willis, Levi Goodrich, Merrick Ross, Oliver S. Root, Ezekiel R. Colt, H. H. Childs, Robert Campbell, George S. Willis, Jared Ingersoll, and S. H. P. Lee.

On the 8th of June, this committee reported the following nominations, which were confirmed: chief engineer, Levi Goodrich;¹ assistant engineers, Robert Campbell, Jason Clapp, Jared Ingersoll, George S. Willis, Henry Callender, and William G. Backus. Ensign H. Kellogg was afterwards added. Prudential committee, Phinehas Allen, Edward A. Newton, Ezekiel R. Colt.

¹ Levi Goodrich was born at Wethersfield, Conn., in December, 1785, being the son of Josiah Goodrich, a cousin of Capt. Charles Goodrich, the noted early settler of Pittsfield, to which place, when Levi was six years old, his father also removed. In February, 1826, Levi Goodrich married Miss Wealthy Whitney, a daughter of the proprietor of the iron-forge at Taconic. Mr. Goodrich was an energetic and prosperous citizen, and was, throughout his life, after he reached the age of manhood, prominent in town-affairs. He died August 8, 1863.

Under the recommendation of the committee, an engine-house was built, on what is now School street, at a cost of five hundred and forty dollars. It was thirty feet square, and two stories high; containing apartments for the two engines, and the hook-and-ladder cart, as well as rooms for the meetings of the several companies.

Two engines, both made by Henry Waterman of Hudson, and as nearly alike as possible, were purchased at a cost of six hundred and eighty dollars each. The first, which afterwards became the Housatonic, was described as a seven-and-a-quarter-inch hydraulion, complete, with suction-hose, drag-ropes, and the necessary tools. It was at first furnished with three hundred and twenty-eight feet of hose, at a cost of two hundred and twenty-eight dollars.

The Housatonic Engine Company was formed in October, 1844, the following names being signed to the by-laws:

John C. West, foreman; Edwin Clapp, first assistant; Martin Blunt, second assistant; Thomas Colt, clerk; James H. Anderson, Thomas G. Atwood, Julius Bannister, Henry P. Barnes, William W. Barrows, Daniel Bodurtha, Joseph H. Brewster, Henry S. Briggs, Horatio N. Brooks, Crowell Brooks, Leland S. Burlingham, George Burlingham, Matthew Butler, Only Carpenter, Horace Carrier, David Chapman, Joseph B. Cunningham, Henry G. Davis, Daniel J. Dodge, Joseph Gregory, Perry G. Holdridge, E. P. Little, H. M. Millard, Amasa Rice, Cyrus Shaw, Moseley W. Stevens, Frank E. Taylor, William H. Teeling, William M. Walker, William A. Ward, William H. Warren, Charles H. Watrous.

The company thus formed has had a remarkable permanence of organization. Several of the members who first manned its brakes being still actively connected with it; while most of the others were dropped from the rolls either on account of death or removal from town. Mr. West, after serving as foreman eighteen months, declined re-election, and was succeeded by Edwin Clapp, who is still in command. Thomas Colt then became first assistant, which office he held until his temporary removal from town in 1849, when he was succeeded by the present incumbent, William H. Teeling. Daniel Sprong succeeded Mr. Teeling, and remained second assistant until, in 1875, he was appointed to the charge of the district's hose-tower and apparatus.

During all this period, the company has maintained unbroken

internal harmony; and never, in any excitement of active service, public parades, or festive meetings, has offended public decorum; while it has never lacked promptness, spirit, or efficiency, in the discharge of its duties. Its *esprit de corps* has been almost unparalleled even among firemen, and like its other good qualities has been due very much to its singular permanence of organization.

In the fall of 1844, the Western Railroad Corporation sent to Pittsfield the fire-engine "Union," to be stationed near its depot; but it was not formally accepted by the district until after a second machine had been purchased; whence it ranks as number three.

The engine Fame, the mate of the Housatonic, was received in June, 1845, and was equipped like its companion; the hose-carriage being built by Jason Clapp & Son. William H. Power was foreman; but the company was disbanded in 1848, and a new one formed with the following officers: S. W. Morton, foreman; Gordon McKay, first assistant; H. L. Pope, second assistant; Charles Hurlbert, clerk; James D. Colt, 2d, assistant clerk; Newell Bliss, treasurer. The engine and company now took the name of Pontoosuc. Mr. Morton continued foreman until 1855, and was followed in succession by John Lane, Charles Pitt, John E. Dodge, Wesley L. Shepardson, A. H. Munyan, George W. Smith, Edward Dunham, P. E. Morton, and Henry Hurlbert.

Owing to the destruction of the records by fire, it is impossible to give a list of the other officers prior to 1864. Since that date the first assistants have been E. B. Mead, Seymour Gardner, Benjamin Evans, George S. Willis, Jr., and Warner G. Morton. The second assistants,¹ George S. Willis, Jr., Seymour Gardner, David Campbell, Anthony Stewart, Louis Blain.

The company has always been distinguished for dash and enthusiasm; and, in its latter, as well as in many portions of its earlier, history, it has rivaled the Housatonic in the excellence of its discipline.

In 1853, the railroad-company put in place of the old Union a better engine, which was first known as the Eagle, then the Taconic, and afterwards as the S. W. Morton. It is still in active service, and often fills a place which could not be supplied

¹ By the later custom of the department, the second-assistant foreman, instead of the first, is *ex officio* captain of the hose.

by an additional steamer. It has been manned mostly by employés of the railroad, and other mechanics doing business near the depot; so that the company has been subject to frequent changes. The records are preserved only since 1869, since which date the officers longest in service are Foreman Michael Fitzgerald, First-Assistant Terrence McEnany, Second-Assistant Michael Doyle, Treasurer James Mannion, Clerk John Ready.

The Greylock Hook and Ladder Company has always been a valuable portion of the department, and has maintained a high character for discipline. Henry Groot was its foreman for many years, and until his removal from town. The records prior to 1867 are lost. Since that date, the officers have been: foremen, George Burbank, William Leslie, Benjamin Smith, Robert Francis. First assistants, William Leslie, S. D. Milliman, Andrew Palmer, J. W. Fuller, H. H. Smith, R. E. Crandall, C. H. Hopkins. Second assistants, Benjamin Smith, William Leslie, George W. Burbank, J. H. Granger, E. E. Cole, C. H. Hopkins, P. J. Roberts. Clerks, W. H. Coleman, E. E. Cole, F. H. Breckenridge, Charles B. Watkins. Treasurers, S. D. Milliman, E. E. Cole, B. F. Robbins.

The following gentlemen have been

ENGINEERS OF THE PITTSFIELD FIRE-DEPARTMENT.

1844. Chief, Levi Goodrich; assistants, Robert Campbell, George S. Willis, Jason Clapp, Henry Callender, Jared Ingersoll, William G. Backus, E. H. Kellogg.

1845. Chief, Levi Goodrich; assistants, Robert Campbell, George S. Willis, Jason Clapp, Henry Callender, Jared Ingersoll, William G. Backus, Ensign H. Kellogg.

1846. Chief, Robert Campbell, assistants, E. H. Kellogg, George S. Willis, Phinehas Allen, Jr.

1847. Chief, Robert Campbell; assistants, E. H. Kellogg, T. F. Plunkett, Phinehas Allen, Jr.

1848. Chief, Thomas F. Plunkett; assistants, E. H. Kellogg, P. Allen, Jr., John C. West.

1849. Chief, Thomas F. Plunkett; assistants, William H. Power, Phinehas Allen, Jr., John C. West.

1850. Chief, Gordon McKay; assistants, Abraham Burbank, J. C. West, Thomas G. Atwood.

1851. Chief, Gordon McKay; assistants, A. Burbank, J. C. West, T. G. Atwood.

1852. Chief, John C. West ; assistants, A. Burbank, Thomas Colt, David Campbell.

1853. Chief, John C. West ; assistants, A. Burbank, Thomas Colt, David Campbell.

1854. Chief, J. C. West ; assistants, Thomas Colt, David Campbell, Robert Pomeroy.

1855. Chief, J. C. West ; assistants, S. W. Morton, F. E. Taylor, Austin W. Kellogg.

1856. Chief, Seth W. Morton ; assistants, Frank E. Taylor, George S. Willis, J. L. Peck.

1857. Chief, S. W. Morton ; assistants, J. L. Peck, Daniel J. Dodge, C. Burnell.

1858. Chief, S. W. Morton ; assistants, J. L. Peck, William M. Walker, L. Scott.

1859. Chief, Jabez L. Peck ; assistants, William M. Walker, Lebeus Scott, A. Burbank.

1860. Chief, J. L. Peck ; assistants, William M. Walker, L. Scott, Charles M. Whelden.

1861. Chief, J. L. Peck ; assistants, William M. Walker, L. Scott, C. M. Whelden.

1862. Chief, J. L. Peck ; assistants, William M. Walker, L. Scott, William R. Plunkett.

1863. Chief, J. L. Peck ; assistants, Lebeus Scott, William R. Plunkett, John Feeley.

1864. Chief, Lebeus Scott ; assistants, William R. Plunkett, John Feeley, Henry Groot.

1865. Chief, Lebeus Scott ; assistants, William R. Plunkett, John Feeley, F. F. Read.

1866. Chief, A. Burbank ; assistants, John Feeley, F. F. Read, H. Groot.

1867. Chief, Abraham Burbank ; assistants, John Feeley, F. F. Read, Henry Groot.

1868. Chief, A. Burbank ; assistants, John Feeley, F. F. Read, W. H. Murray.

1869. Chief, John Feeley ; assistants, William H. Murray, William C. Gregory, George S. Willis, Jr.

1870. Chief, John Feeley ; assistants, William H. Murray, William C. Gregory, Seth W. Morton.

1871. Chief, John Feeley ; assistants, William H. Murray, H. S. Russell, S. W. Morton.

1872. Chief, John Feeley ; assistants, S. W. Morton, H. S. Russell, George S. Willis, Jr.

1873. Chief, Jabez L. Peck ; assistants, George S. Willis, Jr., H. S. Russell, Seth W. Morton.

For twenty-five years the Pittsfield fire-department, thus organized, maintained a high reputation for efficiency: but the time came when the increase of property exposed to danger rendered it desirable, and the progress of invention made it practicable, to provide more powerful defense against fire. In 1865, Chief-Engineer Lebbeus Scott, recommended the purchase of a steam fire-engine; but no action was taken in the matter. And the same fate befell similar propositions in 1868 and 1870.

It was twenty-seven years since the town had granted a little aid in land and money for its own protection against fire. Meanwhile, the fire-department had rendered valuable service outside of the district. Property beyond the fire-limits had vastly increased, and its safety would be greatly enhanced by steam fire-engines, even if they were located in the neighborhood of the park. It seemed, therefore, no more than just, that the town should contribute something to the expenses of the department: the next effort for the purchase of steam fire-engines, was made in that direction, in the spring of 1871. In that year, when the article relating to this subject was reached in the action of the town-meeting, a letter was read from Assistant-Engineer S. W. Morton, recommending its reference to a committee of leading manufacturers.

This suggestion was adopted, and the committee then appointed, reported at an adjourned meeting, calling attention to the frequent difficulty, at even moderately-protracted fires, of procuring men to work the engines; and stating that one steamer of the fourth class is equal in effect to three of the best manned and best managed hand-engines. They, therefore, recommended the purchase of two steamers of this class. These machines were to be drawn by the firemen; and the only expense anticipated, more than from the use of the hand-machines, was one hundred dollars yearly, for the pay of each engineer, and fifty dollars for the firemen of each machine.¹

The town adopted the report, and appointed Jabez L. Peck, Charles T. Barker, H. S. Russell, John Feeley, George S. Dunbar, H. W. Morton, and Jarvis N. Dunham, a committee to purchase two steamers, with the necessary apparatus, at a cost not exceeding eight thousand dollars.

¹ Finally, the steamers were provided with horses, and the engineers received a salary of one hundred and twenty dollars each, and the firemen eighty.

The Clapp & Jones Manufacturing Company of Hudson, N. Y., sent a fourth-class steamer to Pittsfield, to be used as occasion might require, until the committee should decide in regard to purchasing.

The committee made a very thorough trial of this machine, and in order to compare it with others of different manufacture, visited several cities and had a competitive trial at Pittsfield. The result was the purchase of both the steamers from the Clapp & Jones company: a decision the town has never found cause to regret.

The contract was for two fourth-class steamers, to differ in no particular, except that No. One was to be painted red, and No. Two blue, these being the colors adopted respectively by the companies to whose charge the engines were committed.

On motion of Mr. Morton, the committee voted that No. One should be called the Edwin Clapp; and on motion of J. N. Dunham, the name of Pontoosuc was agreed upon for No. Two. The Pontoosuc company, however, changed its name to the George Y. Learned, in honor of a liberal and popular manufacturer; and, at their request, the committee made a corresponding change in the name of its machine. The Housatonic company, while gratefully accepting the compliment to its foreman, in the designation of its steamer, decided, as an organization, to adhere to the name which was associated with their honorable history.

The steamers were received January 19, 1872, and proved all that had been promised of them. They were immediately transferred to the fire-district, upon which the vote of the town devolved their care and the cost of their maintenance. The expenditures under the town's appropriation were: for the two steamers, with one hundred feet of rubber leading hose for each, six thousand seven hundred and fifty dollars; for three hundred feet of leather leading hose, nine hundred and four dollars and fifty cents; for expenses of the committee, one hundred and forty-six dollars and thirty-three cents; total, seven thousand eight hundred dollars and eighty-three cents. The district afterwards expended seven hundred dollars for the purchase of a hose-carriage for steamer No. Two; to which the company added two hundred and fifty dollars for the addition of ornaments. The No. One had already a handsome carriage, made by George Groot, a Pittsfield carriage-manufacturer.

The first active service of the steamers was at Lanesboro, February 27, 1872, when the coal-sheds of the Briggs Iron Company, containing about three hundred thousand bushels of coal, were consumed. A violent gale blowing from the north-west, at that time, there was great danger that the furnace and the south village would be destroyed, as it is probable they would have been had it not been for the assistance rendered by the two Pittsfield steamers.

The efficiency of the steamers could hardly have been subjected to a more severe test than it was by this fire at Lanesboro. But their value for the protection of home-property was more fully proved by a fire which occurred on the 21st of the following March, on McKay street, which, but for their aid, would have probably destroyed some of the most valuable buildings on North street.

The first fire after the establishment of the fire-district was in September, 1845, and between that date and July, 1875, the department was called out, wholly or in part, by fire or alarms, one hundred and seventy-one times. Seven of these fires were outside of Pittsfield, and ten others were beyond the limits of the fire-district; thirteen occurred in the larger manufactories, or in buildings connected with them.

WATER-WORKS.

The township of Pittsfield, as a whole, is remarkably well watered by lakes, streams and springs, generally of great purity. But the soil of considerable tracts, in the central section, is composed, to a great depth, of sand and gravel, in which it is difficult to obtain water by digging, except where it happens to be underlaid by basins of clay or some other impervious earth, forming what is known, in the New England dialect, as "hard-pan." And where it is so underlaid, the result is often a swamp. In addition to this, in the districts where wells are easily made, the water is often so charged with lime that a thick calcarious deposit soon coats the interior of vessels in which it is boiled; indicating its unfitness for domestic purposes.

This scarcity of pure water, in some sections of the town, while abundant sources of supply lay near, led to a succession of efforts to diffuse it by means of aqueducts.

The first enterprise of the kind was that of Capt. Charles Goodrich.¹ The next projectors of water-works were Simon Larned, John Chandler Williams, William Kittredge, Joshua Danforth, who were incorporated, in 1795, as "The proprietors of the water-works in the middle of the town of Pittsfield." This company contracted, in April, 1795, with Joel Dickinson, and David Blackman, to convey the water to the town in pipes; and, as the contractors were capable men, and gave security for the faithful performance of their work, it was probably done in the following year. But the company soon began to discover the difficulties of their undertaking; for, in 1803, we find them advertising for some person who will contract to repair their works and keep them in order, "for a fixed sum to be paid by each member of the company:" meaning, probably, that he should collect his pay of the water-takers. In 1804, the company had become so disorganized that a special act of the legislature was necessary to authorize any three members to call a meeting, and empowering the officers last previously elected to act until others were chosen.

In the year 1808, Hon. Ashbel Strong conveyed to the company, by deed, the right to take water from the springs upon his farm,—a little north-east of what is now known as the "Spring-side" estate—and about a mile and a half from the park—the consideration being the right to take as much water for his house on South street as was allowed to any member of the company, and also for a watering-trough at the farm. From what source the company obtained its supply, previous to this date, we cannot absolutely determine; but probably Mr. Strong's springs were used under an unrecorded permission. Earthen tile-pipe, in which the water was conveyed and distributed, is frequently dug up on the line from that point, to and through North street, and in the neighborhood of Park square; but nowhere else in a position where it can be supposed to have been used for this purpose.

The insufficient depth, less than four feet, at which the pipes were laid, affords a sufficient explanation of the bursting of the pipe.

The next distinct proposition for water-works in Pittsfield, of

¹ See vol. I., page 142. Later owners of the farms around Wendell square found excellent water, but at a depth of ninety feet.

which we have knowledge, was in 1819; and the only information regarding it is the following advertisement:

NOTICE.

At a meeting of the citizens of Pittsfield, the undersigned were appointed a committee to receive proposals for delivering water at their respective houses, about sixty in number, at an annual rent (or perhaps on contract), east, to Mr. Simeon Brown's house [facing the foot of East street]; north, to Captain Ingersoll's [opposite St. Joseph's church]; south, to Maj. H. C. Brown's [a point below Broad street], and west to Doctor Childs's [opposite the railroad-depot]. As many families will need two outlets, the whole number that will be required may be ninety. Rent shall be required only while the water is furnished; and each occupant shall be under suitable restrictions in the use of it. The water from either the East or the West river will be preferred—whence it is proposed to have it taken by means of a force-pump, and thence conveyed in logs, or taken out and conveyed by a canal. Proposals to be received during all this month.

L. POMEROY,
H. C. BROWN,
T. A. GOLD.

January 11, 1819.

This movement originated in the excitement caused by a fire; but nothing came of it.

In November, 1827, three buildings opposite the Baptist church were burned, in part from the lack of water, and the *Sun* warned the citizens to provide against a similar deficiency in the future. In 1828, John Dickinson and Oren Goodrich undertook to supply this pressing need by an aqueduct fed by a cluster of springs about a mile from the park, and situated upon Captain Dickinson's farm. The natural outlet of these springs fed a reservoir on Onota street.¹ From this reservoir, the water was conveyed in two-inch lead-pipes to a brick distributing-reservoir, near the south corner of North and Melville streets. The fall of the water was only eleven feet, which was not sufficient for the successful working of the aqueduct; and it was soon abandoned. The failure seriously embarrassed both of the enterprising proprietors, and, coming at a crisis in Captain Dickinson's fortunes, was sufficient to turn the scale against him.

¹This reservoir was afterwards the mill-pond which furnished water-power for a button-factory, run by a Mr. Kilbourn, as it now does for the brewery of Gimlech and White.

Until 1855, the locomotives of the Western railroad were supplied with water from the Dickinson springs—the level of the depot being some thirty feet lower than that of North street—but they finally became insufficient for the increasing demand, and resort was had to the town water-works. About 1853, the Ashbel Strong springs, of 1795, were also again called into use by an aqueduct for the supply of Springside—then the residence of Abraham Burbank,—and the Young Ladies' Institute.

These repeated efforts to furnish the Central district with pure water, indicate the popular sense of its great necessity; which was also shown by the suggestion of many unexecuted plans. Among others, Gordon McKay, in 1842, urged various schemes upon the citizens of the town; but, failing to meet with any encouragement, he postponed his efforts to a more favorable season. This seemed to come in the year 1850, when Thomas F. Plunkett called Mr. McKay's attention to the abundant and convenient supply of excellent water in Lake Ashley, a pond of some ninety acres extent, lying upon one of the summits of Washington mountain.

The existence of this lake was, of course, well known, as it was laid down upon the state-map, and was often visited by sportsmen, wood-cutters, and like classes of observers; but little was known accurately of its qualities as a source of water-supply. Mr. McKay was much impressed by Mr. Plunkett's suggestion; and, after visiting the lake, he brought the subject before the newly organized Library Association. The association at once became interested; and, at its request, Mr. McKay, with the aid of John C. Hoadley and Thomas Colt, during the summer of 1850, made careful surveys, and prepared elaborate estimates of the cost of an aqueduct.

A report, drawn up by Mr. Hoadley but embodying the opinions of all the explorers, was submitted to the association on the 19th of September. It strongly recommended the introduction of water from Lake Ashley,¹ which they described as "a beautiful sheet of water lying in a basin of white sand-stone (granular quartz), near the summit of Washington mountain; its elevation, above the surface of the ground in the park, being not less than

¹ So styled upon the state-map, although in accordance with the local custom of changing such names as ownership changed, it was known in Washington as Lanekton pond.

seven hundred feet, and its distance about six and a quarter miles. * * * The outlet is at the westerly end, and runs down the mountain, almost exactly towards our village; so that a point may be selected for taking the water from the stream at a sufficient elevation at about two-thirds the distance of the pond."

No actual analysis of the water had been made; but, from the testimony of families living in the vicinity, and from their own observation, they believed it quite soft, and free from every impurity. Upon the same authority, they believed that the supply would never be less than one million two hundred and fifty thousand gallons of water daily, or sufficient for fifty thousand inhabitants at the rate of twenty-five gallons each, daily. They also decided that a fall of three hundred feet, and a pipe of six inches in diameter, "would best unite the conditions of adequacy, economy, and convenience;" and they believed that iron-pipes of this size would furnish a supply for the wants of the village as long as they should endure: and that, in case of fire, it would be sufficient to keep four hydrants playing with such force as to send the water to the roofs of the highest buildings in town, without interfering with its ordinary use. The cost of the pipes from the reservoir, through Elm and East streets to the east end of the park, and thence through North street to Maplewood; through West street, nearly to the point now occupied by the depot; and through South street, below Broad, would be twenty-seven thousand nine hundred and eighty-two dollars. The cost of distribution through twelve other streets, in four-inch pipes, three-eighths of an inch thick, was placed at nine thousand three hundred and fifty-seven dollars. The total cost of construction, including land-damages, superintendence and incidental expenses, was estimated at thirty-nine thousand eight hundred and thirty-nine dollars; and the committee stated that they had a proposition from responsible parties to contract for the entire work upon this basis.

The whole number of houses which were already built, that might be supplied from the pipe thus distributed, was three hundred and sixteen. The number of hydrants to be put in and supplied was forty-one.

The estimates of probable revenue were: From the Western railroad, three hundred dollars;¹ water-rents, seventeen hundred

¹ The interest of five thousand dollars which the railroad-company offered

dollars; amount properly chargeable to fire-department, eight hundred dollars; total, twenty-eight hundred dollars.

The annual expenses were estimated as follows: Interest on forty thousand dollars, at five per cent., two thousand dollars; cost of superintendence, collection, and repairs, four hundred dollars; total, twenty-four hundred dollars.

The committee believed that the charge of eight hundred dollars to the fire-department, would be fully compensated by the relief from other expenditures, which the water-works would afford; but that the amount would constantly decrease with the growth of the village, and consequent increase of water-takers.

Their plan of carrying out their recommendations was for the fire-district to petition the legislature for the necessary powers, and then to construct the works by a loan, bearing five per cent. interest, and payable in thirty years. In regard to the loan, the committee say:

The constant growth of the population, and the more rapid increase of wealth, would make the burden comparatively light, even if the stock had to be paid at maturity by direct taxation; while the same causes will inevitably insure such an increase of revenue, as to provide for the extinction of the debt by a sinking fund. Nor is it visionary to suppose that the very enterprise here recommended, will aid materially in advancing the growth and prosperity of the town. The great deficiency of water, and the wretched quality of nearly all we have, are serious objections to Pittsfield, either as a place of residence or business—particularly of business requiring steam-power. But fortunately these objections are easily removed. When, to the numberless advantages which nature and art have bestowed in our soil, climate, location, and scenery, our enterprise shall have added the pure and abundant supply of water which Providence seems to have prepared and held in reserve for us, we may safely challenge the most favored towns in the state to hold out greater inducements than our own, for residence or business.

The saving to individuals in the reduction of premiums of insurance, and in diminished risk from fire, would be very great, but wholly unsusceptible of calculation; and the diminution of those diseases which are thought to be induced by the use of impure water, would be an inestimable blessing.

The committee recommended a public meeting, which was held, and appointed the following gentlemen to prepare a petition towards the construction of the works, in consideration of a free supply of water for their locomotives.

regarding the water-works: E. H. Kellogg, Robert Campbell, John C. West, Charles Hurlbert, N. S. Dodge, John C. Hoadley, and George Brown. This committee made their report to a legal town-meeting, January 11, 1851, generally concurring with the opinions expressed by the Library Association's committee, but suggesting that the supply-pipes should be laid by the district, which would involve an additional outlay of seven thousand dollars. Still, they thought fifty thousand dollars would cover the whole cost.

No perfectly unobjectionable boundaries could be fixed; but it was agreed that the fire-district was the most convenient section of the town to undertake the enterprise; it being already a body corporate, with defined limits, for purposes not unlike those which it was proposed to add. The district, however, being a corporation somewhat novel to the laws, and with whose character for responsibility the general public was not familiar, it was proposed that the town should be the nominal borrower, with power to indemnify itself for its liability, by taxing the polls and estates of the district.

The committee appended to their report the form of a statute, embodying their recommendations; and the town instructed the selectmen to petition the legislature for its enactment, whenever they should be requested by the district to do so. And at a meeting of the district, January 1st, a motion that such a request should be made was offered; but met with so strong an opposition, led by Hon. E. A. Newton, that resolutions were substituted, postponing the subject until November, and appointing a committee to make a thorough examination of the quantity and quality of the water of Lake Ashley; and also to inquire concerning other sources of water-supply. This committee consisted of John C. Hoadley, Wellington H. Tyler, Robert Campbell, Thomas F. Plunkett, Walter Laffin, M. H. Baldwin, John Brown, George S. Willis, C. B. Platt, and N. G. Brown. The meeting passed a vote "thanking Messrs. McKay and Hoadley for their public-spirited efforts in behalf of supplying the village with pure water."

In November, the committee reported very strongly in favor of Lake Ashley, both in regard to the quantity and quality of its water. Observations made monthly from January to November, and after every heavy rain or thaw, showed that Ashley brook,

the stream issuing from the lake, was never turbid or discolored; and that five-sixths of its natural flow was derived from springs.

The natural minimum flow of the stream would be sufficient for the ordinary wants of the village; but the committee justly thought "that any system of water-works, to be worth constructing, should be adequate to meet the exigencies of fire, and provide for an increase of population. Recourse must, therefore, be had to a reservoir." Upon this point they say:

Fortunately the lake affords an ample and excellent reservoir, available at a small cost. It appears, by measurement from the map of the state, to contain an area of one hundred and fifty acres; and it was judged by your committee to be of at least that size. A depth of two feet upon one hundred and fifty acres, will contain ninety-eight million and ten thousand, which, at the rate of six hundred and thirty-one thousand gallons in twenty-four hours, would give us a full supply of the capacity of the pipe for one hundred and fifty-five days, without any assistance from the natural flow. A dam which should raise the water one foot, and a slight excavation of the outlet, which should enable us to draw one foot below the present surface, would give an ample supply during the longest drouth, and could be made at a moderate expense, without comprising much land not comprised within the sandy beach of the lake, or laying bare much of the bottom.

Samples of the water of Ashley brook, taken monthly, between January and June, were submitted, for analysis, to Dr. C. T. Jackson, the state-assayer; and the average of all the analyses for the six months, gave the following result: Total solid matter in an imperial gallon, three and eighteen hundredths grains; matter of organic origin, one and forty-four hundredths grains; of mineral nature, one and seventy-four hundredths grains. The mineral ingredients were sulphate of lime, carbonate of lime, carbonate of magnesia, sea-salt, and oxide of iron, with traces of phosphates and sulphates.

Doctor Jackson also examined ten samples of well-water, from different sections of the village. The purest of these samples, which was taken from a well on Fenn street, contained twenty-nine grains of solid matter; fourteen of a vegetable, and fifteen of a mineral character. The most impure specimen was drawn from the well at the residence of Dr. Robert Campbell, on East street; one gallon of which contained no less than fifty-six grains

of solid matter; twenty-four of vegetable origin, and forty-two of a mineral character. The Springside water, brought in lead-pipes to the Young Ladies' Institute, was comparatively pure; yielding only fifteen grains of solid matter, of which eleven were mineral.

The principal mineral-salts in the well-waters were the carbonates of lime and magnesia, the sulphates of soda and potash. Some phosphates were also present in noticeable quantities. In a letter to the committee, Doctor Jackson asked: "Do not your citizens have calculi in the bladder, from the deposits of your very calcarious waters? I do not see what prevents them from forming, if your folks, as I suppose they do, really drink the well-water of the town."

Doctor Jackson's inquiry might have been answered emphatically in the affirmative. Very painful and frequent cases of the disease mentioned, and others of a like character, were directly traceable to the use of these waters; and the collection of calculi, in the cabinet of the Medical College, was startling for the number and size of its specimens.

The report of the committee was submitted to the district, in November, 1851, and the postponed resolution, to request the selectmen to petition the legislature for authority to build the water-works, was warmly pressed by Messrs. Hoadley, McKay, Tyler, and others, and as strongly opposed by Messrs. Newton, Martin, and Laffin. Finally, the opponents of the measure having raised some doubt as to the accuracy of the estimates of cost, the following committee was appointed to re-examine that matter, and also to present a plan for defraying the cost of construction: Gordon McKay, T. F. Plunkett, George W. Campbell, George S. Willis, E. A. Wells, J. C. West, and W. H. Tyler.

This committee reported, January 1, 1852, that the estimates were correct, and recommended a loan to defray the cost of the work. These recommendations were adopted, with an amendment requiring that the charter should only be accepted by a two-thirds vote in both a town and a district meeting.

The desired powers were conferred by the legislature of 1852; those of the district to be exercised during the construction of the works through three commissioners, to be chosen by ballot. To defray the cost of the undertaking, the town was authorized to issue water-scrip, to an amount not exceeding fifty thousand dollars, and payable in not less than thirty years; and to indem-

nify itself by taxing the polls and estates of the district. This scrip was to be delivered to the district, to be disposed of at its discretion, for the purpose for which it was issued.

No vote upon the question of accepting the provisions of this act was reached for nearly three years. But everything connected with the subject was discussed with spirit in the newspapers and in public meetings; so that, when a vote was taken in 1855, the result was a foregone conclusion. In the district, the vote was seventy-five to four in favor of acceptance, and in the town, one hundred and eighty-five to eleven.

On the 26th of February, Ensign H. Kellogg, Thomas F. Plunkett, and John E. Dodge, were elected commissioners; and on the 29th of March, they reported that they had made surveys, ascertained the amount of work and material required, and received proposals from various contractors. The meeting requested them to go on with the work at their own discretion, and they proceeded with vigor. A dam was built at Lake Ashley, sufficiently high to raise the surface four or five feet above its summer-level. A point for a filter and reservoir was selected on Ashley brook, three miles from the Elm-street bridge, at an elevation of one hundred and thirty-six feet above the level of the park.

The question of the best material for pipes was considered by the commissioners a very grave one. Recent experience in this country and Europe, they said, had developed great defects in that generally used, viz., iron; which becomes so encrusted with rust and tubercles, as in many instances to seriously diminish the capacity of the pipes, and in some to destroy it altogether. They determined, therefore, to examine into the merits of Ball's Patent Indestructible Cement Pipe. This pipe, which was made at Jersey City, consists of a thin core of iron coated within and without by a peculiar cement. It had been used in several cities and towns, which were visited by the commissioners, who, after ascertaining proximately the terms which the patentees would offer, reported to the district in favor of its use.

Their recommendation was adopted, and a contract was made with the Jersey City company, who agreed that the works should be completed October, 1855. They were finished before that date; but the person employed in supervising their construction was unfaithful, and in some respects incompetent; and, moreover, in his angry impatience, let the water into the pipes with reckless

haste. A great number of breaks was the result, and the time required to repair them extended so far into the winter, that very little service-pipe was laid till the spring of 1856. The leaks were, however, supposed to be thoroughly repaired, and the contractors readily consented to an allowance of seven hundred and seven dollars for the delay, which the commissioners accepted as just.

The price paid for work and material according to the terms of the contract, with the above deduction, amounted to forty-four thousand four hundred and fifty-two dollars and ninety-two cents. The amount of pipe laid was twenty thousand one hundred and eleven feet of ten-inch diameter; seven hundred and fifty-five feet of eight-inch; one thousand one hundred ninety-six feet of seven-inch; three thousand six hundred and forty-eight feet of six-inch; four thousand seven hundred and eighty-five feet of four-inch; seventeen thousand nine hundred and thirty-seven feet of three-inch. Thirty-one fire-hydrants were provided under the contract, and also the necessary air-vents, gates, and other appurtenances.

The commissioners expressed the utmost confidence in the cement-pipe as the best material for conducting water, then known, and the same opinion is still held by many; but, unfortunately, circumstances prevented a conclusive test of its merits in Pittsfield. Few, if any, persons in 1857 were aware of the extreme depth to which the frost sometimes penetrates the earth in Berkshire; and no one took into consideration that the water, entering the pipes at a temperature approaching the freezing point, helps to chill its bed, and yet further deepen the frost. The contract, therefore, only provided that the pipes should be laid at a depth of four and a half feet, reckoning from their top; while later experience has given some instances of the earth's freezing to the depth of six feet. The first winter after the pipes were laid was severely cold, and the water in many of the distribution-pipes, being unused and motionless, was frozen; but few of them were burst. A still more severe winter followed; a number of the distribution-pipes were again frozen, and a considerable number burst.

These repeated disappointments were extremely vexatious to all parties. Still it was hoped that with the increasing use of the water, and by a liberal provision of waste-pipes, for the severest

weather, freezing would be prevented. No remedy, however, proved sufficient until the pipes were re-laid.

Experience has shown that had iron-pipe been laid at the same depth, it would not have sufficed; and it is equally evident that the cement-pipe, at whatever depth laid, would have been, with the imperfections caused by the faithlessness of the overseer, subject to constant leaks. The commissioners did indeed suppose that the injuries had been thoroughly repaired. But it is a peculiarity of the cement-pipe, that, although when broken by freezing, it is not so completely shattered as iron is, yet it cannot be mended with its own material so as to be at once ready for use, but must be left to harden. When hasty repairs are required, the fracture is first wound with some other substance, over which the cement is laid; and it often happens that when the winding decays, the break re-appears; and this happened frequently in this case. The breaks continued to occur year after year; the patience of successive water-boards was exhausted; and whenever the new pipe was to be laid, iron was employed; and, after a few years' experience, at a greater depth. In 1876, very little cement-pipe remains, except in one of the mains between the village and the reservoir, which, being rarely used, can be effectually repaired when broken.

The act of the legislature empowering the district to build the water-works, provided that after their completion they should be managed by such officers and agents as it might determine upon. On the 13th of April, 1857, therefore, it was voted to commit the works to the charge of three commissioners; the first board to be chosen with members holding office for one, two and three years respectively; their successors for terms of three years. Under this arrangement, the commissioners have been: E. H. Kellogg, 1857-1859; T. F. Plunkett, 1857-1859; Seth W. Morton, 1857-1859; Thomas Colt, 1859; Jabez L. Peck, 1859-1863; George Brown, 1859-1862; Edwin Clapp, 1860-1864; N. G. Brown, 1866-1872; William R. Plunkett, 1864-1876; John Feeley, 1864-1876; Henry Colt, 1864-1865; S. T. Chapel, 1872-1875.

The duties of these later commissioners have by no means been confined to the mere management of the water-works. The large increase of the population of the village has rendered great and costly enlargement necessary; and, lacking the aid of that indispensable teacher, experience, the early committees made

errors, the correction of which has not been without cost. They over-estimated the size of Lake Ashley, and neglected to take into account the evaporation from its surface, which in summer is much larger than would be believed without actual experiment. They underrated, also, the ordinary wastefulness of water-takers, and the great drain necessary in winter to keep the water in such motion as will prevent its freezing in the pipes. A "cold term" does more to exhaust the lake than a "dry spell." They did not anticipate the constant decrease of water in Lake Ashley—which has a very limited water-shed—on account of the destruction of forests around it, nor the diminished flow of Ashley brook, arising from a similar cause. And, yet again, the projectors of the water-works, although they believed the lake capable of supplying a city of fifty thousand inhabitants, did not in their plans for its use count upon the rapid growth of the village, requiring the extension of the pipes until they are several times their original length, and into streets whose existence was not dreamed of in 1855. The cost of the water-works, as they were reported completed in 1857, forms a comparatively small portion of the construction-account as it stood in 1875.

Although the water has never failed, or fallen short of the ordinary wants of the people, there have been several times when economy in its use has been deemed prudent; and liberal measures have been taken to augment the sources of supply, and hold it more largely in reserve. In 1867, the dam at Lake Ashley was raised twenty-eight inches at a cost of two thousand one hundred and eighty-seven dollars. In 1868-9, a reservoir with a capacity of over one million gallons was built near the old reservoir, three miles from the village; and the old dam, which was carried away by a freshet in October of that year, was rebuilt with improvements; the entire expenditure being eleven thousand one hundred and seventy-three dollars.

Sackett brook, which unites with the Ashley below the reservoir, has an ordinary daily flow of nearly one million gallons of water, characterized by that purity which distinguishes all the streams of this silicious slope; and it was long looked upon as likely at sometime to afford a valuable re-enforcement to the water-supply of Pittsfield. No near necessity for its use was anticipated; but in 1873, an opportunity occurring to purchase the Merry mill-privilege, which covered the right to the water of the

brook, it was purchased at a cost of four hundred and fifteen dollars.

Authority to use the brook for the water-supply of Pittsfield, was obtained from the legislature of 1874; and, in reporting the fact to the district, the commissioners said: "The Ashley lake and brook are fully equal to the present wants of the town, unless a very dry summer should be followed by an unusually long and cold winter." And this contingency happened in the years 1874 and 1875, although there were heavy rains in the early summer of the former year. The commissioners did not wait for the succession of unfavorable seasons to be completed; but, in December, 1874, when the price of iron-pipe had fallen from sixty or seventy dollars per ton, to forty, they advised the district to take advantage of the market, and at once connect Sackett brook with the Ashley. This combination, they represented, would furnish a sufficient supply for ordinary seasons; leaving the lake wholly in reserve for exceptionally dry terms. And, even in these, they thought, only a small part of its water need be used.

They proposed to effect this junction by laying a ten-inch iron-pipe from the Merry mill-dam, to a point in the twelve-inch iron-main, five thousand feet below the reservoir; the whole extension being ten thousand eight hundred and fourteen feet; making the distance from the Elm-street bridge to the Merry mill-dam, four miles. At the latter point, they proposed to build a substantial dam of uncemented mountain-stone, the level of which should be forty feet higher than that of the reservoir.

The district adopted the recommendations, and they were carried into execution during the summer of 1875, at a cost of eighteen thousand dollars, being seven thousand dollars less than the estimates.

The winter of 1874-5 was excessively cold; and the frost penetrated the earth deeper than at any other time since the building of the water-works. More pipes than ever before, were burst by freezing; but the commissioners did not attribute this altogether, or chiefly, to the intensity of the cold. The authority to fix the grade of the streets belongs to the town and not to the district; and had been exercised in some instances without regard to the safety of the water-pipes. And to this the commissioners attributed a majority of the cases of freezing; the pipes having been laid sufficiently deep before the reduction of grade. They add,

however, that "the main pipes are generally much deeper than the service-pipes (which are laid by the water-takers); and the mains have not frozen, until the larger share of the service-pipes have frozen and stopped the current of water." It was found necessary to re-lay many of the street-mains, and it was done at an expense of about seven thousand dollars.

The total length of the main and distributing pipe laid in 1875 was nine miles and a quarter. Between that date and 1868, there was an increase of fourteen miles and a half. And every succeeding year has brought a new extension, generally of thousands of feet.

A ten-inch cement-pipe was originally laid from the reservoir to the village; and a new twelve-inch iron-main has since been laid, parallel with it, at a cost of about \$46,000.

These several items of improvement and addition have increased the cost of the water-works, from fifty thousand dollars to one hundred and ninety-three thousand four hundred and seventy dollars and thirty-one cents. The following is an abstract of

THE CONSTRUCTION-ACCOUNT.

Original construction,	\$50,000 00
Expended for re-laying and extending pipe prior to 1866, ¹	14,000 00
Extension of pipes after 1866,	22,917 53
Re-laying street-mains after 1866,	28,772 63
New twelve-inch mains, including land-damages,	45,423 32
Raising dam at Lake Ashley,	2,186 88
Lower reservoir and dam in 1873,	13,172 60
Addition of Sackett brook to water-works,	18,329 94
Total,	\$194,802 90

The following is the

AMOUNT OF WATER-RATES RECEIVED IN DIFFERENT YEARS.

To January 1, 1857,	\$787 81
" 1, 1858,	1,546 98
April 1, 1859,	2,098 56
" 1, 1860, 15 months,	3,242 04
" 1, 1861,	3,098 92
" 1, 1862,	3,150 00

¹ Prior to 1866 no separate account of extension and re-laying was kept.

To April	1, 1863,	.	.	.	.	.	.	.	\$3,450 00
"	1, 1864,	.	.	.	.	.	.	.	3,970 00
"	1, 1865,	.	.	.	.	.	.	.	4,212 10
"	1, 1866,	.	.	.	.	.	.	.	4,788 43
"	1, 1867,	.	.	.	.	.	.	.	4,901 21
"	1, 1868,	.	.	.	.	.	.	.	5,514 02
"	1, 1869,	.	.	.	.	.	.	.	6,165 04
"	1, 1870,	.	.	.	.	.	.	.	8,202 32
"	1, 1871,	.	.	.	.	.	.	.	8,371 21
"	1, 1872,	.	.	.	.	.	.	.	9,354 00
"	1, 1873,	.	.	.	.	.	.	.	10,303 14
"	1, 1874,	.	.	.	.	.	.	.	10,630 48
"	1, 1875,	.	.	.	.	.	.	.	10,801 36
"	1, 1876,	.	.	.	.	.	.	.	13,054 98

The legislature of 1867 authorized the district to choose three commissioners of main-drains, common sewers, and sidewalks, in the same manner and for the same terms as are prescribed in the case of the water-commissioners. Under their direction, in accordance with the votes of the district, an excellent system of drainage has been in part established; and the sidewalks, which were defective in grade and construction, have become uniform and well built, as a rule. The commissioners have been George S. Willis and Charles T. Rathbun, from 1867 to 1875. George W. Foote, from 1867 to 1869. D. C. Munyan, from 1869 to 1875.

Since 1863, the district has appropriated money for lighting the streets, increasing from three hundred dollars in that year to two thousand five hundred in 1867; the whole amount being paid for gas; the posts being provided by individuals, at points approved by a committee of the district.