

that all water becomes soft and pure by passing through the filters by running down a row, exposed to the action of light and air, however impure it may be at its source. Inside we find the water of all large stations and lakes, pure and free from all deleterious substances. This is considered by all nations, but advanced in civilization, to be the best water to use for daily wants of food. A steady stream is at hand. A population like ours, who have had so steadily to contend with the disease, and to provide for the necessities of life, by a source through limited and generally healthy channels, have had little reason to complain. In these waters are about half a dozen of arsenic, which is useful and proved to be innocuous. The ground is everywhere some feet above sea level. It is almost entirely pure and clear, that the water is fit for such has been found, and that we know as little.

Other towns and cities not so favorably situated for obtaining water have been supplied at an enormous cost in many instances, and we have almost failed our some and looked exclusively upon the great blessing passing our very doors, and here we hold out a hand to ourselves.

What we remain to wish is a positive, well-kept law, that we be enabled to get our good water for us. I shall place each fact before the public, so that all who can read and reason may fully understand the principal features of the proposed undertaking. What county have the inhabitants of this village against the sewage of it? Is it not enough that the rock and the soil should be in the daily use of bad water, without the better condition that they are not for a moment, day or night, safe from this spread disease?

The rich man's property is almost by instance has a great extent, but how is it with the middle and lowly condition. The one man with a pointed line, and the other is totally ruined. The same thing a house or shop worth \$2000 has been all destroyed, but by who has his thousands, is not materially injured—because it is not built. All houses are dependent upon water, that they open the pipe, or wash on the pipe upon the side, and in our case benefit and improve his condition, and all are protected in their person and property. I cannot conceive of any improvement which can be made here, which will so greatly add to the general welfare as the one now proposed.

All the water in the wells and cisterns in the village, does not afford enough to attend the wants of a few of my neighbors. Every town and city in the Union, has but more by than this abundance built for such great works as any of them possess—and here we are, why will you run the risk?

The city of New York had in one night, nearly millions of dollars, nearly twice as much as we should water works have done here. The First Department of the City, last winter with a report from which I make extracts, which show the great amount of property and the revolution of the City of New York, in contrast with the loss of the same year.

The value of property destroyed by fire in New York, for the 27th ending 1st August, 1841, was \$2,000,000. During the previous year, or to be August, 1840, in buildings, furniture and stock, it was \$1,000,000. In comparing these losses with those of former years, previous to the introduction of the German Water, the mind is filled

in Birmingham and elsewhere, Scotland, Wales, is obtained about the end of machinery. It is brought in forced down a distance of ten miles through iron pipes which convey it to the city where it is stored in reservoirs. It is obtained from a number of springs which flow from granite hills, and is filtered through sand, which renders the water entirely pure and fit for the domestic use of all the town. It has a diameter of 24 inches in the city, and is conveyed in a pipe of 12 inches diameter.

WIMBORNE.

The town has been supplied since 1824, and the works are as well a department of engineering talent as any in the world of our extent.

Before the completion of this plan, water was brought from a great distance on carts, for the domestic use of the town, and is a great evil.

The Engineer selected cheap small streams from the high hills, and filled a reservoir of 240 acres in extent, which with other smaller ones, will be enough for the use of mills, manufactures, and domestic purposes. 2,000,000 gallons of water. The amount of the expenditure is more than three hundred and ninety six acres. Each individual is given between gallons daily, besides a supply for machinery of three thousand, one hundred and fifty one in value of gallons yearly, derived from the reservoir, and the falling tank, is within what is used by the inhabitants generally.

LONDON.

The City of London is furnished daily with thirty million gallons of water, which are taken in from the river Thames, and the balance from the new reservoir, which is situated of three eight miles in length. That obtained from the Thames is obtained to the reservoir by seven pipes. The contents of it is that three thousand six hundred and seventy are constantly discharging into this reservoir every all the time from 1,200,000 inhabitants, and three hundred and fifty are constantly supplied by means that 240 million gallons of water, with all these additional sources, situated at the whole of the water is so not and in part in the world, after standing in the reservoir but a few hours; that water having certain well-sounding properties, contains the water of all rivers, when suffered to stand exposed to light and air. The water of the reservoir is quite a softness in appearance, and is settled and rendered pure in the same manner as the water of the Thames. First class of water, for instance, we obtained at about three times the one hundred dollars, in London, and all others proportionally less.

PARIS.

This City is chiefly supplied by a single canal, 20 miles long, and is used for the trade of a rich country, like the Netherlands. The waters are led off the water lake, and I do not think that a pipe, and as already well healthy would be such a matter, in building a better water, we I proved it to be the reservoir, which I have mentioned in the text, and was recently satisfied that the same source, we have secured the same fall some years as the above—and that it affords a superior and not only from the first water in bottom pipe is a clear one, it is placed in the center of air and light.

The works at Marly which supply the city are gardens of Versailles, into the water lake, and the first high, from the river Seine, by water.

1847.

TERRIVOL.

From 1824, 1840 first supply to the bottom, in position 200,000 gallons, and built as shown in plan

2400 ft of 24 inch pipe laid, @ \$1.00, 24,000 \$24,000	
4500 " 6 " do " 1.25, 5,625 \$5,625	
7500 " 6 " do " 1.50, 11,250 \$11,250	
French pipes, & hydrants, 434 \$2	
Lowell's for Machinery, estimated cost, 600 \$0	
Contingents, 2 per cent, 1,428 \$0	

These pipes are calculated to convey 1,000,000 gallons of water every 24 hours from the springs in the reservoir, and being water enough to furnish 100 families each for 24,000 inhabitants.

In the preceding estimate no allowance has been made for the purchase of the water right at the springs, but from three through where leads the water down from the springs in the Black River, in an usual channel. Nothing has been allowed for the cost of overhauling the work to turn the reservoir. These I have estimated as all the money that the completion may be held the enough to pay for the expenditure of the work.

Plan 2.—To take the water from the Black River and elevate it to a reservoir on the highest land in the village, by a three pump, it is worked by water power. A lower one has been made from the top of the Stone near the Union Mills to the high ground but near the First church and the old building building, and the amount fixed to be 124 feet, and 20 feet above the platform of the present but the western side of the public square. Should the reservoir be raised 5 feet above the present level of the ground, there would be a fall from it of 40 feet to the pump, 20 feet to the platform top of the street house, and 10 feet at the corner of Malbone and Adams streets. This ground is nearly on a level level with the highest ground in the western side of the village.

The highest ground near Factory square, is 200 feet above the Stone at Union Mills, and 12 feet above the Stone at the old Factory. The bottom of Church's ditch, where it crosses the street, is 214 above the Stone at Union Mills; both being low land to give a supply from a reservoir in a large portion of the westerly and westerly portions of the village. Many other levels have been run, and measurements made, which cannot affect either of the two plans mentioned here, the results of which are omitted for the present.

MANNER OF BUILDING THE RESERVOIR.

It is proposed to make the reservoir 200 feet square, by excavating the rock to the depth of 12 feet, and above off the earth and loose rock to the distance of 4 feet north of the excavation. To carry up a wall 2 feet thick from the bottom to the surface of the ground, to be laid in water lime. The lower half of wall to be composed of the height of 12 feet walls, to be composed with a wall 2 feet thick, 4 feet in the base, on the surface of the ground, and 2 feet at the top, to be laid in sand and three feet of stone on the planned surface below is presented. The top to be covered with gravel, 4 inches thick, and 1 foot 2 inches wide so as to cast the rain water from the top of the wall and prevent injury to the roof.

The bottom of the reservoir to be laid with a concrete, formed of equal parts of sand and water.

me, should the rock at the bottom be found cracked and covered, so as to render it leaky and unsafe or on such parts it may be found imperious.

COST OF RESERVOIR.

100 feet square excavation—		
7 1/2 ft. deep,	4716	Feet-cu.
400 length of masonry wall, 12x11		
thick wall, 12x11,		
100x100, 3/4 masonry concrete,	1,275	00
1400 feet coping, 12 in. per foot,	144	00
	\$1,217	00

PIPER.

1200 feet 8 inches diameter, \$1.20, laid,	1,440	00
4 stop cocks,	40	00
7 hydrants,	80	00
7 1/2 X 2 brass pipe,	20	00
8 1/2 X 2 "	40	00
7 1/2 inch 21 feet,	80	00
5 packing pump,	50	00
Tools used in pipe laying,	50	00
Pump and wheel,	210	00
One half size pump, for reservoir,	400	00
Wood frame, 11 X 21 feet,	500	00
Chlorine gas, 2 per cent.,	224	12
	\$2,994	12

It is desirable to obtain the highest ground in the village, and if ground can be obtained 10 or 15 feet higher than that I have indicated for the reservoir, the cost may be suggested as \$200, including the whole cost of this plan \$3,200. Should the town pump and wheel be finally rejected, and the pipes laid in near the reservoir, a considerable sum may be saved for water to prepare the cement and mortar in its construction.

The force pump should be 5 inches in diameter, with 3 feet stroke, which, with a suitable water wheel, will raise 200,000 gallons to 24 hours, sufficient to supply 25,000 inhabitants with 10 gallons each daily.

I have estimated the work large enough to employ that number, believing that it is much more economical to build the work large enough at first rather than be compelled in a few years, to rebuild at a great additional cost, as has been the case in many cities and towns I have visited. It is not unreasonable to expect that the population of this village will amount to 50,000 in less than 25 years.

The water wheel may be 12 feet diameter, with 3 feet stroke, should a fall of 8 feet be obtained. The repairs of the pump and wheel will be very light, and the cost of pumping for many years quite small, compared to the interests of the cost of mains from the springs. The same interest may be expended on each plan, (with the exception of the pump, wheel and wheel house) for pipes on the streets, and their various appurtenances.

If the water is raised from the river, the main pipe, which conveys it to the reservoir will be at all times a supply main to customers on its full length. The work, therefore, may be laid out with confidence, and necessary in both plans. The bye drains are so constructed that they can be covered, as in New York, and the water be distributed in the distance of three or four lengths, from the main pipe.

However, upon this, is an adequate security, given at the present high rates, which average about \$12 a foot to \$15 a foot.

The following were the rates, in New York, previous to the introduction of the fire water:

1-story building, 20x25 feet to \$100,	
2 1/2-story " 40x50 " "	\$15
3-story " 60x75 " "	25
4-story " 80x100 " "	40

Making an average fall of more than 50 per cent on an increase above in that rate. If water is Company is willing to insure water from one-half to three-fourths of the value of any property, in any city or town, where there is a deficient supply of water.

In the city of New York the rates of insurance are not considered as high, as they are in New York before it was supplied with water.

The pipes must be laid full 4 feet below the surface of the ground, or their upper ends, to get them out of the reach of frost in this climate.

The cost of laying pipes here will be greatly increased by the rock striking which must be encountered on some of the streets. This evil may be partially avoided on some parts of the streets where an extra covering may be made without injuring the grades. This extra cost has been estimated for.

A pipe of 8 inches diameter will not be too large a few years hence, and it is much cheaper to lay one 4 inch main pipe than two 4 inch ones, which will not convey half as much water, as one of 8 inches. I have never heard of two large pipes being laid, but on every work with which I am acquainted a great many have been laid too small, and extra cost and disappointment have been the consequence, in the long run.

Factory street should have a 6 inch main.

Cost	4	00
Lined	4	00

Most of the other streets 3 and 4 inch and may be laid as soon as the people demand them, after the main work is constructed, and manufactured below.

Cost of 8 inch pipe laid per foot,	\$1.45
" 4 " " " " "	0.75
" 3 " " " " "	0.75
" 2 " " " " "	0.45

These rates include for the cost of pipes, laid in

the springs is deficient in both of these particulars.

The value of property in this village would fall much about two millions of dollars. The saving on interests alone would result in quite equal the interest on the cost of the cheap plan proposed. The saving in various other ways would be equal to that of any other village in the State. There will always be necessity of water power which runs to waste in the Black River, sufficient to raise five times the quantity of water now needed for all purposes. A plan by the people and school houses can be obtained gratis or quite free from cost, and lay water.

By adopting the cheaper plan at first, you are not excluded from the use of the springs at any future time, should they be needed. The cost of obtaining the water from the new pipes will not be greater than for the construction of mains, and the average yearly repairs are but in amount. I am informed that many families are supplied from the river now, at an average of a cost of about 10 to 15 dollars yearly, and there may be no reasonable doubt that they would cheerfully pay as much or something more, for a constant supply the year round.

Finally, there will be a great saving of money, compared to the one indicated in the usually adopted plan. If it is necessary here you against the low cost of your houses and property to give first! Seriously have a work plan without the public papers regarding the best of property in town and cities, as well, or better supplied with water than this. And how long can you expect to escape as great a calamity?

Have you longer doubt it be said, that the beauty of a bath, in the health-promoting and long-lasting element cannot be obtained in Waterbury that the element which the most and savings, the work and character of the work, shall remain a stranger in the place?

Will the books and late daily receive a small share of the blessing, and the vital organs take care of themselves as best they may? Every family should have its bath house, and every one would, were known here, as in many other places, how greatly suffering in pure water, would also be the promotion and preservation of sound health. Why may it not be seen and read in a volume with its public square, with an opening discourse, in "Library and scientific institutions," as far as possible, to the moral and intellectual population, the indispensable water power, at the most desirable residence in the northern part of the United States?

Why be compelled to swallow the large and small manufacturers in the river bank, when they can be constructed, and be quietly conducted in all parts of the village? Why, but that the city and the middle classes have not as yet combined to supply and distribute the ground and clean-out of water's fire pits?

There are individuals in the village who should not neglect such a work, as it would, and in a few years obtain a liberal interest on the money. Nothing that can be done will so truly increase population, and in the health, happiness and wealth of the place as the supply of pure water.

Respectfully submitted by
YERUSH HENRY,
Civil Engineer.

Waterbury, October 18th 1848.

"The water of natural wells in the village, was analyzed in the year 1846, and found to contain the purest limpid water as that from the well spring, both in larger quantities, and available in the same quantities."

"AMERICANS SHANT' HULL TA."

The whig papers for and over, are indignantly protesting against the story that a flag bearing the inscription "Americans don't shut us," was carried by the Catholics in the great Democratic procession that passed through the streets of New York just before the election.

It is true that this flag, which has been made the basis of so many religious paragraphs in the past of the Whig journals was a device of the same—a kind of the same class with the Henry letter. The following letter appeared in the Morning News of Friday last:

To the Editors of the Morning News:

Quartermen—I observed in your paper this morning a notice of a letter on which was inscribed, "Americans don't shut us." Happening to me in an open market last evening I overheard a conversation between two gentlemen in the next lot. "What you saw that banner in the procession yesterday the other night?" "No," was the reply. "Well, I did," remarked the former gentleman; "we got up among ourselves, to congratulate the News and get them in vote for Clay." It was carried by a whig, announced by whigs, and was only raised up as they passed knots of whigs on the corners, sustained by a preconcerted agreement, in order that they might tell their friends, and if necessary, swear that they saw it." I remarked the other gentleman with who it was that pointed the banner, the other said it was made by the name of Christopher, and that his name was Christopher.

You are all liberty to publish this, and I will of my name freely to the truth of it.
Respectfully yours,
DANIEL T. MAINER.

Nov. 15 1848.

