

FOR THE COMMERCIAL ADVERTISER.

[The subject of supplying water to this city being of public interest, and the ways and means depending on public opinion, on request, we publish a compressed copy of a petition now before the Councils, as it seems to present this matter in its present aspects.]

The Petition of JOHN L. SULLIVAN and LEVI DISBROW respectfully represents—

That a supply of pure water to the City of New York has, from recent events, become, in public opinion, of more importance than ever; and as the mechanical means of a very early supply is in their hands as inventors and patentees, they ask leave to state their claims to this usefulness, and remove a supposed impediment, and lay their plan of carrying their privilege into effect before your honorable Council, for your approbation and aid.

And they ask leave first to bring to recollection that this city being built on a deep sand, it was early perceived that the well water became contaminated, hard, and unwholesome. And about the year 1790 or 91, the Common Council (if we are rightly informed) availing of the opportunity of the services of Mr. Weston (an eminent Civil Engineer from England), a survey was made to ascertain the practicability of bringing water from the streams or rivers of West Chester; and it was followed by an application to the Legislature by capitalists, citizens of N. York, for leave to bring in water by an aqueduct; and thereupon an act was passed to incorporate the Manhattan Company for that purpose; and to which end a complete and exclusive control over those waters was given. But local circumstances of great difficulty and expense appear to have hitherto prevented that work, and instead thereof wells have been formed and used, whence water has been raised to a reservoir, and thence distributed. But in 1828 an application of the city (if we are correctly informed) was made to the Legislature, and a law was passed to authorize the city to purchase or obtain a release of the control of these streams; but this negotiation does not appear to have been effected; while estimates made from actual surveys by experienced engineers appear so high as to indicate the probable reason why the work has not hitherto been attempted; hence the supply of pure water is yet to be obtained.

And thus the City, not yet being vested with the requisite power, nor the Manhattan Company with sufficient capital, there appears to exist an *intermediate occasion*, in which the practical improvements of your petitioners may be acceptably useful to the community, without interfering with the legal rights of those parties, or the ultimate plans of the city authorities, who, as political economists, may hereby possibly save several millions of dollars.

That in this posture of this interesting public concern, the improvements of your petitioners in the art which relates to the supply of cities with water from the subterraneous rock have, since the year 1825, been progressing towards maturity, and have become systematized, and their usefulness manifested in the States of New Jersey, Pennsylvania, Maryland, Virginia, Rhode Island, Massachusetts and New York, in numerous instances, and in several in this city, known to your honorable Councils.

That here their useful effect is peculiarly great, as this island is well known to be a part of a range of primitive rock whose strata dip westward, and although appearing above ground a mile or two north of the City Hall, it is from thence depressed gradually to more than one hundred feet below the surface of the sands whereon most of the city is built.

That to make deep wells in this loose sand was both too expensive and uncertain, and was rarely if ever attempted; but by one of our said instruments your petitioners are able to penetrate and open this sand (more than one hundred feet) down to the rock, and insert an iron tube, tight jointed, and connect it with the rock; and having thus access to it, to bore it, and if need be to settle the pipe down into the rock also, in order to bring up the pure water uncontaminated.

That thus manufactories, breweries, public baths, hotels, and hospitals, requiring much water, are enabled to draw it pure from the rock beneath the spot where they are situated, and thus the great natural disadvantage under which this city has always labored in respect to its water, has, in fact, been subdued by these mechanical means, and N. York has become capable of being the best watered city in the United States. But the expense attending the operation of boring for water deep into the primitive rock being too great for each house, economy has been given to this system of supply, by means which make one perforation yield water enough for perhaps more than one thousand families, when economically distributed.

That the specific object of this machinery is to penetrate the hardest rock to any depth with perfect accuracy, and perpendicularly, employing steam power in the labor, as well for expedition as economy;

To bring up the pure soft water uncontaminated;

To enlarge the bore in order to increase the quantity of water derived;

To relieve the boxes from excessive stress, when the full power of an engine is applied to lift the water as fast as it will flow in (at the bottom orifice opened into the vein) when unresisted, thus drawing the greatest quantity that the perforation will afford.

And although in a number of instances the water has overflowed at the top of the perforation, yet every one is made capable of yielding most by the process of deep pumping, or drawing as fast as the effective head of the source will cause the water to flow in; for example, at the Botanic Garden (on nearly the highest ground on the island), where the boring is to the depth of 112 feet from the surface, the water stands 94 feet deep.

So also in the boring in Bleecker street, near Broadway, the water stands 418 feet deep, about 20 feet above tide, and 30 feet below the surface of the ground, affording 44000 gallons in 24 hours, with a six horse engine, water enough for 1100 families.

So also in another on Perry street, Greenwich, 202 feet deep, wherein the water stands 170 feet deep, and yields constantly 26000 gallons a day, enough for six hundred families.

And it is worthy of special remark as regards domestic uses of this water, that it is invariably soft, and free from all mineral and saline taint or infusion.

That the distribution of these perforations and reservoirs through the city, will lessen materially the expense of the aqueducts, as the pipes are not required to be so large when the distance is moderate, and the head elevated;—that two or three methods are each eligible. First—to lay pipes under ground in the manner of the Philadelphia aqueduct; or, cisterns may be sunk along the streets with pumps therein for the neighbourhood, as at Hudson; or, for still greater economy, perhaps, (in quarters where the novelty of the appearance is not regarded,) elevated tubes may be used in a peculiar manner—and the water may often be distributed conveniently around the interior of squares.

And thus there may be an ample supply of pure water for the present extent and population of the city, without preventing measures ultimately to introduce the waters of West Chester, if required.

Moreover, if your Honorable Councils should approve of this plan, perhaps there can be no better division of the city than that of the present wards, especially as each has within it high ground suitable for a Reservoir, whence the slope is favorable to the periodical or continual washing of the streets, when properly paved.

And this partition of this great work might effectually encourage the inhabitants, especially owners of real estate, to associate to supply themselves with rock-water; and thus relieve the city from the necessity of obtaining loans of money to the amount of several millions, and of laying taxes to pay the interest; and there would then probably be awakened a useful emulation among the wards to have the most complete supply. Nor is it to be doubted, that those tenants, who may not be stockholders, and receive the water, (as well as those who are,) will be willing to pay a liberal price per annum, for so great an accommodation and comfort as purity in that element which enters so largely into their daily food, and on which, health, and the recovery of health, so much depends.

Nor would the City Councils be excluded from a due and proper influence in the direction of these works, as, besides all reasonable reservations, the city might take part in the stock on the same terms these patentees may make with private individuals who may form watering Companies; and in that case, the capital employed must be first recompensed with interest before the patentees are, as such, profited.

And here it may be proper to remark, that although it is commonly understood that the Manhattan Company claim, and have, no doubt, an exclusive control over the streams and rivers, that were the object mainly, if not wholly, of their charter, and the powers of the Company were accordingly adapted to that purpose, yet no authority is thereby given over wells. Indeed it was the general badness of the well-water that had originated the Company, and it is hardly to be supposed that there was intended to be concealed in the charter, a power to perpetuate the very evil it was ostensibly to remedy. It is indeed true, that if this highly respectable Company, holding its charter in perpetuity, actually held the entire control of all the sources of pure water in and near the city of New-York, it would be an institution which the inhabitants would necessarily feel much interest in sustaining and cherishing, as the medium, or instrument, of the supply of this necessary of life, now more than ever essential to the public health, and consequent commercial prosperity of this community; and no amount of capital, nor privilege essential to this end would be too much for the legislature to authorize, or the inhabitants of this city to desire to have employed, till fully effectuated.

But it is evident that the city does not in law, or in nature, depend for these essential supplies alone on the Manhattan Company—nor does it appear by their charter that they have any exclusive right to use the streets as the medium of supply. Indeed, to have any right there, the pipes must convey pure and wholesome water.

As regards their own right as patentees, your Petitioners conceive that a privilege derived from the laws of the United States is paramount, and that they can proceed independently of said Company to work on this foundation, and would ask, with propriety, the countenance of your Honorable Body, the aid of the people, and equal privileges of the Legislature. For your Petitioners deem it a public duty to persevere in the exercise of their privilege till it be effectual; for, by some means, the city must have an ample supply of the rock water.

Nor do your petitioners perceive that the use of this immediate resource need to prevent the ultimate introduction of the streams of West Chester, if found necessary to be brought in for purposes of public cleanliness, and the watering of the numerous horses here employed. And in that case it is undoubtedly practicable to cross the valley of

Harlem River on columns, elevated like those of the Ellmers canal, over the River Dee, in North Wales, sustaining an iron aqueduct bridge, more than one hundred feet high; perhaps a better mode than to raise the water from Harlem Valley, by forcing pumps, to a high reservoir on this side. But, is this great work so early necessary? The New River was also brought thirty-nine miles to London, from higher ground than the borders of the city, and with no such formidable valley to cross, and it required five years to execute the work; and although that city was then (in the reign of James 1st.) larger than New York now is, yet that very costly work was seventeen years unprofitable—at length the city grew to it, and it became exceedingly valuable property, being founded on an indispensable want of the community—and five or six other companies now raise and distribute water profitably there.

And these companies show that the use of machinery and elemental force may be relied on quite as confidently against interruption as a long line of open aqueduct; and although a canal may often break without producing distress, an aqueduct to a large city can never be interrupted without great disturbance of the domestic economy of families depending on it. But when their dependance is on pipes, (placed beyond reach of frost) leading from immediate sources, and the steam engines are in duplicate arrangement, the liability to interruption may be considered as effectually guarded against; and then if the proposed ward aqueducts should at different points be connected for mutual succor, or occasional co-operation, there will be scarcely a possibility of interruption; and this temporary connection would allow them to apply their whole waters to the extinguishment of fires, or the thorough cleansing of infected quarters; and there would be ten or twelve reservoirs on Broadway and the Bowery, sending off pipes east and west.

Still, however great the want of good water is felt to be, it is not equally pressing on every part of the city; the southern and middle wards feel it most. But let public sentiment on this subject have opportunity to express itself by subscription to the stock of ward companies, and it may be strong enough, at least in those, to produce these associations.

And should the operation of boring, contrary to experience, in so many instances, not be effectual, then the judicious measures which the city councils may have, meanwhile, steadily taken to mature a plan of supply, ultimately, from the rivers of West Chester, will be sustained necessarily by public opinion. Otherwise, it may be to leave behind a certainty within limits of moderate expense, to seek or reach a distant source at great expense, and to put off to a distant day a supply of a necessary of life, urgently demanded at the present time; for, it is in the sanguine confidence of your petitioners judging from past practical results, that the city of New York may be supplied five years earlier by perforations of the rock, than from the streams of West Chester, were the right of control already acquired, the plan matured, and the funds ready. And how many lives may not the delay of five years be the cause of losing?

Besides, there is one point of comparison in which Philadelphia has the advantage over New York: her command of water has made that the healthiest city, which was once the most liable to, and afflicted with pestilence,—and now, by her public works, she is drawing to herself the internal commerce of the north, the south, and the west.

To maintain our commercial ascendancy, can New York be less energetic, less united in her measures of improvement? It is the public works of cities and countries that become the monuments of the public spirit of successive generations—And when of a kind to perpetuate the accommodation they originated, posterity will pay a willing tribute of gratitude and interest.

Your petitioners, therefore respectfully pray, that an ordinance of councils may be passed to authorize them, and the watering Companies they may form—to bore the rock beneath the city and raise water therefrom, to distribute the water throughout the ward or wards by aqueduct pipes laid down in the usual manner in the streets beneath the pavement, and in any other mode which the city authorities may approve under such restrictions as the occasion may require, and be compatible with the just expectations of the stockholders.

J. L. SULLIVAN,
New York, 15th Oct. 1832. LEVI DISBROW.