PROCEEDINGS

OF

THE COMMON COUNCIL

OF THE

CITY OF ROCHESTER,

FOR

1871-2.

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ROCHESTER, N. Y.
DAILY EXPRESS BOOK AND JOB PRINTING HOUSE, 23 BUFFALO STREET.
1871.

citizens at large ought to determine whether or not the Holly system should be applied by us, so the question of compensation upon one plan or the other may be examined and a result arrived at. I beg leave to suggest that the proper action be taken by your honorable body either by the appointment of a committee or otherwise, as may be most agreeable to you, so that a contract may be entered into by us with the city for the completion of the water works and the delivery of water to your city, at a time to be fixed, and our terms which shall be mutually satisfactory and advantageous.

Very respectfully and truly yours,
LUCIEN BIRDSEYE.

On motion of Ald. Stone—ordered received, filed and published.

By Ald. Rogers—Bills of John Kane, A. Bronson, G. W. & C. T. Crouch, Henry Averill, J. Talman, Smith & Poppy, Loos & Zimmer, B. F. Blackall, H. H. Babcock and J. R. Chamberlain. Fire Department Committee.

Ald. Rogers, from the New City Hall Building Committee, presented elevation plans for the new City Hall drawn by J. R. Thomas and architects and moved the adoption of the plans drawn by J. R. Thomas. Carried.

By Ald. Caring—Bills of A. B. McConnell and McConnell & Co. Sewer Committee.

Ald. Caring, from the Sewer Committee, reported in favor of the bills of A. B. McConnell and McConnell & Co. Finance Committee.

At this stage of the proceedings President Parsons called Ald. Pond to preside.

Ald. Pond presiding.

By Ald. McConnell—Petition of John Hunt for permission to erect a wood building on his lot No. 1 situate on corner West Main and Francis streets. Wood Building Committee with power to act.

Ald. McConnell, from the Committee on Public Parks, presented the following:

ANNUAL REPORT OF THE PARK COMMITTEE.

ROCHESTER, March 26, 1872.

To the Honorable Common Council of the city of Rochester:

GENTLEMEN—We herewith submit the annual report of the Committee on Public Parks:

Amount of appropriation		$2,200 00
Expended for trees	$ 83 25	
Expended for lawn mower	86 00	
Repairing lawn mower	19 25	
Horse and man on mower	407 50	
Repairing gates	28 50	
Labor on trees and walks	1,049 91	
Gravel at the bank	47 10	
Teams drawing gravel and ashes	373 25	
Paid last year's bills	52 43	
		$2,147 19
Balance in Fund		52 81
Bill of D. R. Barton & Co., audited, not called for		16 25
Amount in hands of Treasurer		$ 69 06

Your Committee beg leave further to report that during the past year they have caused to be reset 1,650 lineal feet of curbstone around Jones Square, and to be constructed 1,552 lineal feet of cinder walk 8 feet wide.

ROBERT Y. MCCONNELL,
JAMES H. KELLY,
JOHN MAUDER,
Committee.

Ordered received, filed and published.

By Ald. Stone—Petition of John Cawtra and others for a change of the name of South York street to Briggs street. Table.

Ald. Stone presented the following:

ROCHESTER, Feb. 10, 1872.

The Rochester Pipe and Package Company have just made a test of the strength of their pipe in the presence of several citizens of Rochester. The specimen tested was six inches in internal diameter and the aggregate thickness of the lamina was one-half inch. It sustained a pressure of two hundred pounds to the square inch without change.

This pipe is made of lamina of oak or elm timber, coated and filled with melted asphaltum, and can be fully relied upon for strength, durability and tightness.

DANIEL MARSH,
Chief Engineer of Rochester Water Works.
DANIEL RICHMOND,
Division Engineer N. Y. State Canals.
J. NELSON TUBBS,
Division Engineer N. Y State Canals.

CHEMICAL LABORATORY,
UNIVERSITY OF ROCHESTER,
ROCHESTER, March 20th, 1872.

The demand for a pipe suitable for conveying water and gas, which shall be, at the same time less expensive, and more durable than any in common use, has long been recognized. This demand has stimulated inventive genius to devise numerous improvements. A variety of materials have been employed. Iron, which has been chiefly used hitherto, is costly; it oxydises rapidly, especially when laid in soils containing decomposing organic matter; and it is not easily protected by the application of resinous or bituminous varnishes on account of their imperfect adhesion. Earthenware is brittle and hence constantly liable to injury; the sections are necessarily short and the joints consequently numerous.

The cheapness of wood, its lightness, its elasticity, and the facility with which it may be wrought into pipes of any convenient diameter or length, has often attracted the attention of the inventor. The principal objection to its use are its porosity and its perishable character when subjected to the conditions required. Exposed to the action of air and moisture together or alternately, it undergoes various alterations, terminating in its disintegration. These changes take place more or less rapidly according to the kind of wood employed, and the conditions to which it is exposed. These destructive processes are of two classes. On the one hand, in certain conditions of temperature and moisture, and with a very limited access of air, a series of changes, closely analogous to fermentation, slowly takes place in the albuminious constituents of the woody fiber. On the other hand, when wood is freely exposed to the air in the presence of abundant moisture, a very different destructive process occurs which is a true oxidation or slow combustion. In either case the structure of the wood is broken up, it loses its tenacity and strength and finally crumbles.

The protection of wood from these destructive agencies by means of an impervious film, such as a layer of varnish or paint, which excludes the air and moisture, has been universally practiced. Efficacious as is this protection when applied to all wooden structures above the surface or the earth, it fails when the wood is immersed in the water, or buried in moist earth. Here the conditions of fermentative changes exist. Although the surface may be protected by an impervious coating, the pro-

cess of decomposition may still take place w th-in, and gradually extend itself throughout the whole mass. It is true that means of arresting or preventing this result have long been known and used. Many metallic salts and resinous or bituminious substances possess this property in an eminent degree, but the great obstacle to their economical employment is found in the difficulty of forcing them to penetrate thoroughly the mass of the wood. Treatment in air-tight iron chambers, at high temperatures, and under great pressure, is necessarily very expensive. The application of metalic salts to the preservation of water pipes is wholly impracticable, since the salts being soluble would soon be removed, and also prove a source of contamination to the water. This objection does not apply to bituminous preservatives, but with them the difficulty of saturating the interior of the wood is still greater, indeed, impossible, if the thickness is considerable. Such are some of the difficulties encountered in the attempt to employ wood in the construction of water and gas mains.

Let us now consider the methods by which the inventor of the Laminated Wood Pipe has sought to overcome these difficulties. This may be most readily done perhaps by a rapid sketch of the process of manufacture. Thin layers, or lamina of wood, four inches wide and about one tenth of an inch thick, are stitched end to end by a sewing machine, thus forming a wooden band or ribbon of any desired length. This band is wound upon a real and from this the body of the pipe is built up. This lamina is drawn through a long iron vat or bath filled with West India Asphaltum, which is kept in a state of fusion at a high temperature by means of a furnace undeaneath. By this treatment the moisture and air contained in the wood are completely expelled, and as it emerges from the hot bath, thoroughly coated, into the cooler air, the atmospheric pressure causes the still fluid asphaltum to replace the air and moisture, and thus penetrate and saturate the thin lamina to its innermost tissues. The lamina thus saturated passes immediately from the bath to one end of a form or mandrel, which, by an ingeniously contrived machine is made to revolve with a progressive motion in the direction of its axis, so that the band of wood is wound upon it spirally. So soon as the form is covered by one layer of wood its motion is reversed and the second layer is wound spirally, but in the opposite direction—the seams or joints crossing each other at an obtuse angle. This process is continued until any desired thickness is obtained; It is obvious that a pipe of any size or length can be produced, the dimensions depending simply upon the form upon which the lamina is wound. As the form revolves, a heavy iron roller, kept at a high temperature, presses upon the layer of wood as it takes its place, expels the air and completely glues it down to the lower layers, thus forming a perfectly solid shell.

The choice of asphaltum as a preservative material will commend itself at once. Its perfect insolubility and consequently inalterability under the influence of natural agencies are attested by the existing relics of Assyria and Egypt (mummies) many of which owe their preservation to the peculiar properties of this mineral; and it is quite remarkable that modern civilization has been so slow to avail itself of a substance so abundant and so valuable. Not only is it admirably adapted to preserve wood by excluding the action of air and moisture, but, in addition, it posses remarkable antiseptic properties which prevent the discomposition which would otherwise spontaneously take place within the mass. Of the numerous experiments on record it must suffice to quote a single one from the Bulletin of the Royal Belgian Academy for 1865. M. Melsen, who had been occupied since 1845 in studying various modes of preserving wood, reports that he had found the most efficacious mode of preservation—that of injecting it with asphalatum, or bituminous matter simply by the aid of heat. Large blocks thus treated, after exposure for twenty years to the most unfavorable conditions, were found in a state of perfect preservation.

The principal meritous peculiarities of the Laminated Wood Pipe may be summed up as follows:

1. It economises material to a remarkable degree; securing the maxim of strength with the minimum amount of material. Hence it is comparatively cheap and light, easily handled, cheaply transported.

2. It cannot crack or split, because of the alternating direction of the woody fibers. Should an imperfection exist in one layer it would inevitably be covered and sealed up by the next.

3. By the simple but ingenious device of dividing the wood into very thin layers, previous to treating it with hot asphaltum a perfect injection and saturation is effected, which has not been attained by other and far more expensive methods. The wood is not simply coated superficially, but the minute fibers are placed beyond the reach of both air and moisture—hermetically sealed up. Thus protected, the lamina are cemented together in such a way as to produce a pipe of greater strength than can be produced from the same quantity of wood in any other form.

4. The use of a preservative material which is one of the most indistructible substances known. In fact, this pipe may be considered either as an asphaltum pipe, strengthened by a framework or substratum of wood; or as a wooden pipe imbued with imperishable qualities of asphaltum. It is indeed a happy combination of all the valuable qualities of both these substances.

S. A. LATTIMORE.
Professor of Chemistry.

ROCHESTER, N. Y., March 25, 1872.

I have carefully examined the Laminated Wood Pipe and its mode of manufacture, and fully concur in the favorable opinion expressed by Prof. Lattimore with reference to it.

For durability and cheapness it is unequalled, and for the same diameter and thickness of shell, it is much stronger than cast-iron pipe.

I unhesitatingly recommond its use for conveying water, gas, and for other purposes.

I. F. Quinby,
Professor of Mathimatics and Natural Philosophy.

UNIVERSITY OF ROCHESTER
ROCHESTER, March 25, 1872.

I have seen the pipe referred to above and though I feel myself incompetent to give an independent estimate of the value of the invention, I have great confidence in the justness of the favorable estimate given by my colleagues, Professors Lattimore & Quinby.

M. B. ANDERSON.