T. H. WALSH.
Asphaltum-Pipe.

No. 221,130. Patented Oct. 28, 1879.

Fig. 1.

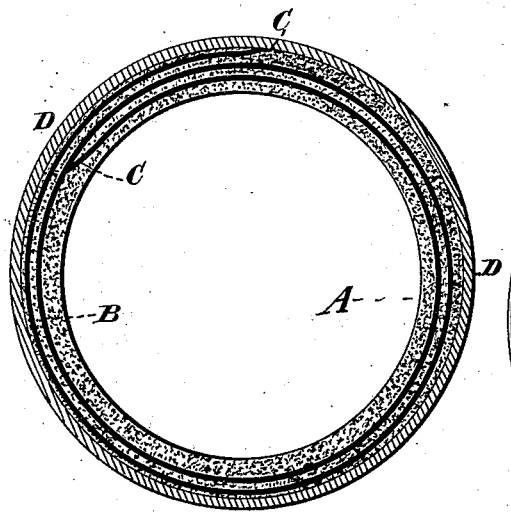


Fig. 2.

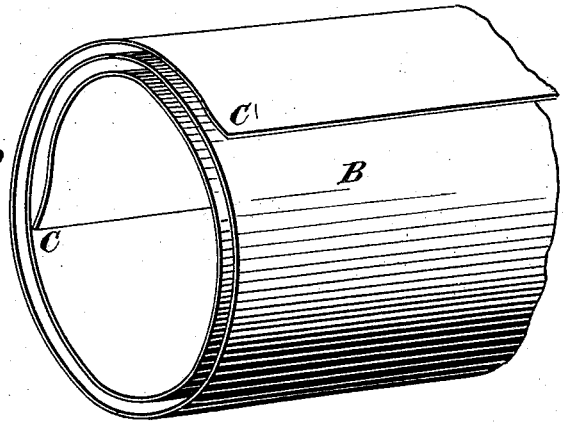
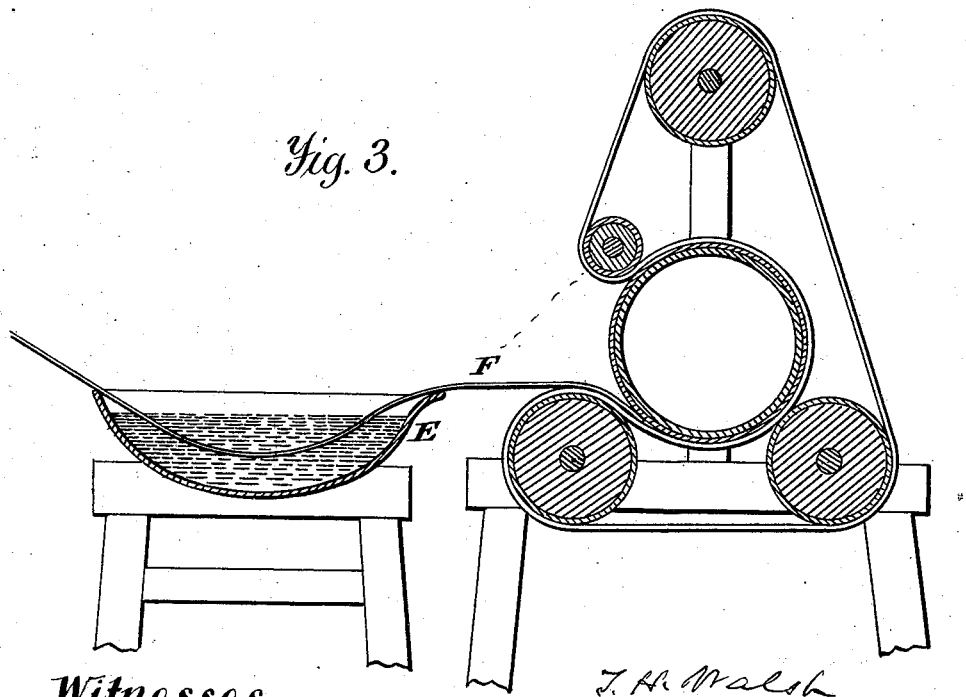


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

THADDEUS H. WALSH, OF NEW YORK, N. Y.

IMPROVEMENT IN ASPHALTUM PIPES.

Specification forming part of Letters Patent No. **221,130**, dated October 28, 1879; application filed August 29, 1879.

To all whom it may concern:

Be it known that I, THADDEUS H. WALSH, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Asphaltum Pipes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a transverse sectional view of my improved pipe, showing the internal coating of asphaltum, the sheet metal embedded in the body of the pipe, and the external coating. Fig. 2 is a perspective view of a portion of a sheet of metal designed to be placed in a section of pipe showing the lap of such metal; and Fig. 3 is a sectional elevation of a machine capable of making pipe of my improved style, but which forms no part of my invention.

Corresponding letters denote like parts in all of the figures.

This invention relates to pipes for conveying water, gas, and other substances, and which are composed of sheet metal coated with asphaltum.

Heretofore pipes have been made of sheet metal which has been perforated with a series of holes for the purpose, as claimed, of causing the asphaltum or other substances to adhere to it; but this practice of perforating the metal has been found objectionable for the reason that it causes the coating to be of unequal thickness in its parts, and to increase its liability to crack when it becomes cold, and especially when subjected to strain in use.

It has also been customary to form pipes of a corrugated cylinder of sheet metal covered with various kinds of substances. This, however, is objectionable on account of the fact that when under pressure too much strain is put upon the coating, which is then rendered liable to crack and break.

The object of my invention is to produce a pipe which shall be free from the above-recited objections; and to this end it consists in forming upon an internal cylinder of suitable material, preferably of asphaltum mixed with some earthy substance for the purpose of giving it solidity and strength, a covering of sheet metal, which, previous to its being incorporated into the pipe, has been passed through a tank or pan containing melted asphaltum, and thus thoroughly coated therewith on both of its sides.

In constructing pipes in accordance with my improved method, I form upon a mandrel or cylinder of iron, or any other suitable material, a cylinder of some suitably-solid substance, such as asphaltum mixed with sand or other substance that will give it the requisite solidity and strength. This cylinder A is formed under pressure, and is then placed in a machine, such as is represented by Fig. 3 of the drawings, or of any other suitable form, when the end C of a sheet of iron or other metal, B, is secured to it in any suitable manner, it having first been passed through the melted asphaltum and coated therewith. The machine is then put in motion, when the outer portion of the sheet B is caused to pass through the pan containing the melted material, care being taken to have said pan placed at such a distance from the machine that no water from the belt F can, by any possibility, be thrown upon it, as it is absolutely essential that the metal should be perfectly dry when it enters the pan, as, if it is not, the material will not adhere to it. The motion of the machine is continued until the requisite number of layers or rings of metal have been wound upon the central cylinder to give the pipe the required strength, each layer or ring being coated upon each of its sides with the asphaltum. When the requisite number of layers of iron and asphaltum have been wound upon the cylinder A the machine is stopped, care being taken to have the outer end, C′, of the sheet as nearly as possible upon that portion of the cylinder which is opposite to where its other end is placed, or at least to have it lap over such point far enough to prevent the pipe from being forced out of a true circle by internal pressure. In completing the operation, an outer coating or cylinder of some suitable material, D, is formed upon and made to cover the outer layer or ring of metal.

I am aware that a patent was granted to M. Allen on the 21st of May, 1878, No. 203,869,

in which is shown a pipe composed of outer and inner cylinders, the intermediate parts of which consist of perforated sheets of metal embedded in asphaltum. This I do not claim, as it differs from mine in the important feature herein previously named.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

A pipe for conveying water, gas, and other substances, consisting of an external and an internal cylinder of any suitable substance, substantially such as is herein described, and an intervening layer or layers of asphaltum and smooth-surfaced sheet metal, the ends of such metal being made to lap past each other, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THADDEUS H. WALSH.

Witnesses:
D. P. HOLLOWAY,
A. MOORE.