No. 752,474. PATENTED FEB. 16, 1904.

E. SEMPLE.

PIPE.

APPLICATION FILED APR. 21, 1903.

NO MODEL.

Fig. 1.

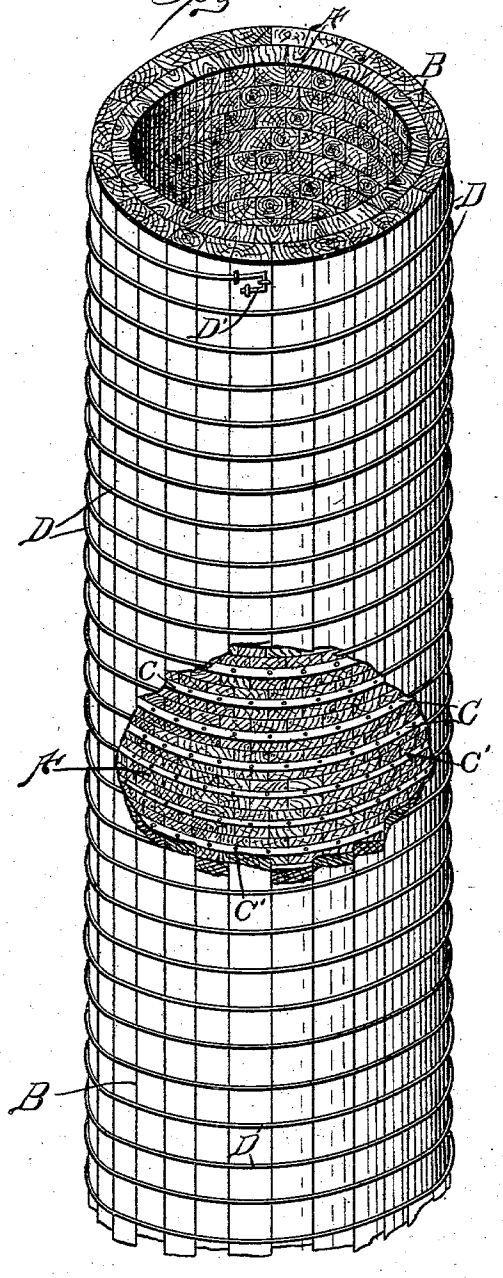
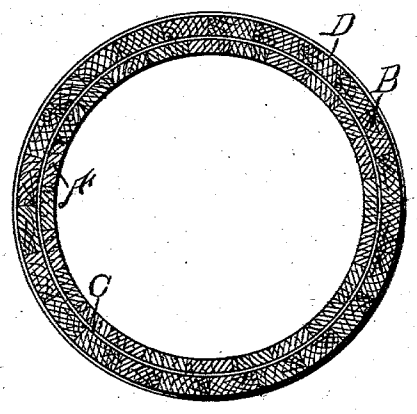


Fig. 2.



WITNESSES:

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No. 752,474. Patented February 16, 1904.

UNITED STATES PATENT OFFICE.

EUGENE SEMPLE, OF SEATTLE, WASHINGTON.

PIPE.

SPECIFICATION forming part of Letters Patent No. 752,474, dated February 16, 1904.

Application filed April 21, 1903. Serial No. 153,633. (No model.)

To all whom it may concern:

Be it known that I, EUGENE SEMPLE, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have made certain new and useful Improvements in Pipes, of which the following is a specification.

My invention is an improvement in pipes, and particularly in pipes for use in carrying sand, gravel, and other material from dredgers, hydraulics, or other excavating devices, the pipe being particularly designed for use as a dredger delivery-pipe; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view, partly broken away, of a section of pipe embodying my invention; and Fig. 2 is a cross-sectional view of the pipe.

As shown, the pipe is constructed with an inner layer of wooden blocks A, an outer layer of wooden strips B, surrounding the blocks A, hoops C, surrounding each circle of blocks A and secured thereto at C′, said hoops fitting within the outer layer B, and a binding wire or rod D, wound spirally around the strips B, the wire D being secured at its ends, as shown at D′, or in other suitable manner as may be desired. The strips B extend longitudinally of the pipe and constitute a casing, and while I prefer the form of casing shown it will be understood I do not desire to be limited in the broad features of my invention thereto.

The blocks A are of wood, are arranged in circular series, as will be understood from Figs. 1 and 2, each circle of blocks being secured by its hoop C, the latter being secured to each block at C′, as described, and the blocks are arranged to present the grain of the wood endwise at the inner faces of the block or with the grain of the wood extending practically in a radial direction, as will be understood from Figs. 1 and 2 of the drawings. The purpose of this is to secure the greatest amount of wear from the blocks, and when tough dense wood is employed the device will be found comparatively durable.

It will be understood that pipes used for carrying sand, gravel, and other material are worn out very rapidly by the grinding of the material as it passes through the pipe.

As described, the blocks A are arranged in circular series, with the blocks of each series within a hoop, so the circles of blocks may be inserted in the pipe or casing and abut each other until the pipe is protected throughout its length. When the blocks are worn out or so roughened as to produce serious friction, they may be removed and others inserted, this result being facilitated by arranging the blocks in circular series, each circle being retained within its binding-hoop, as shown and described.

By arranging the blocks in independent circular series they may be so placed within the casing as to break joints between the blocks of the adjacent series, as shown in Fig. 1.

It will be understood that the wooden lining of blocks on end, with the hoops to hold the blocks in place, is designed for the lining of any pipe, the object being to increase the life of all sorts of pipes used in dredging and hydraulic operations where the wear is so great that ordinary pipe is worn out in a few months.

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

1. The improvement in pipes herein described comprising a casing consisting of longitudinal strips, the binding wire or rod wound spirally around the casing, the inner blocks arranged in circular series with the grain extending in practically a radial direction, said blocks being arranged in a plurality of circular series and the hoops passed around the circular series of blocks whereby the blocks and hoops form series of rings fitting against each other within the casing substantially as set forth.

2. A pipe comprising a casing, lining-blocks arranged in circular series and hoops encircling the blocks and forming therewith a series of rings adapted to fit within the casing substantially as set forth.

3. A pipe having a lining composed of a series of blocks of wood, presenting the grain of the wood endwise at the inner faces of the blocks, and a casing substantially as set forth.

4. A pipe having a lining consisting of blocks arranged with the grain extending in practically a radial direction whereby the end of the grain will be presented at the inner faces of the blocks substantially as set forth.

5. A pipe consisting of the casing, the wire or rod wound spirally on the casing, the blocks arranged within the casing and the hoops encircling the series of blocks and arranged between the same and the casing substantially as set forth.

6. A pipe comprising a casing, blocks arranged in circular series with the grain extending practically in a radial direction, and the hoops encircling the circular series of blocks substantially as set forth.

7. A pipe consisting of the blocks arranged in circular series, the hoops encircling the circular series, and the casing receiving the blocks and consisting of the longitudinal strips and the binder substantially as set forth.

8. A pipe for use in carrying sand, gravel, and other material from dredgers, hydraulic, or other excavating devices, having its interior composed of blocks of wood arranged in circular series, and presenting the grain of the wood endwise at the inner faces of the blocks.

9. A pipe having a lining consisting of blocks arranged in circular series with the grain extending in practically a radial direction, and a casing consisting of a circular series of longitudinal strips encircling the lining of blocks and extending over the joints between the adjacent circular series of said blocks substantially as set forth.

10. A pipe having a lining composed of a plurality of circular series of blocks, the adjacent series abutting each other and the blocks having the grain extending in practically a radial direction substantially as set forth.

EUGENE SEMPLE.

Witnesses:
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