

No. 679,264.

Patented July 23, 1901.

W. E. PEDLEY.
PAPER TUBE.

(Application filed Dec. 26, 1899.)

(No Model.)

Fig. 1.

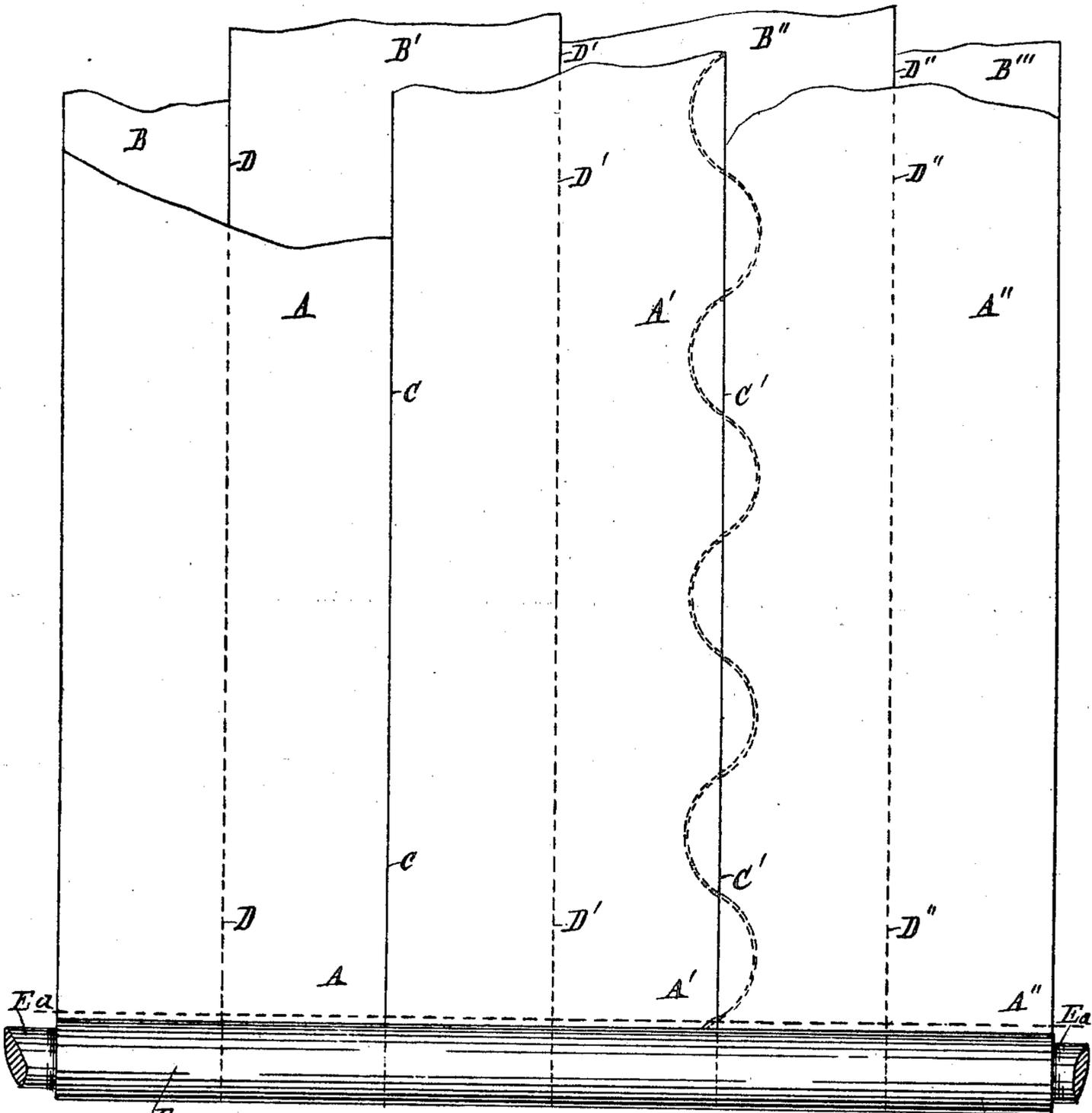


Fig. 2.

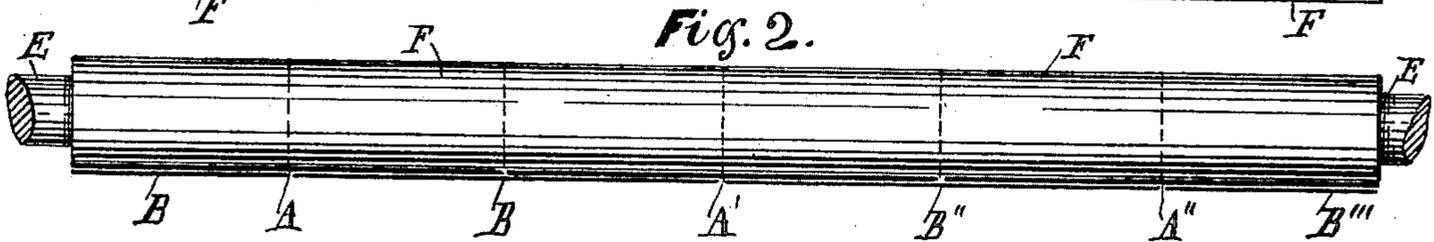


Fig. 3.

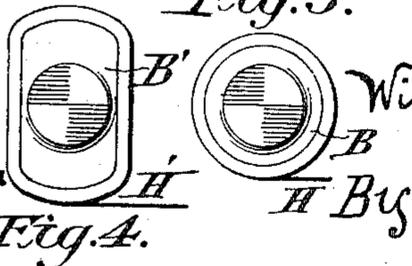


Fig. 4.

Witnesses.

S. O. Hood.
Olin G. McVain

Inventor.

William Everett Pedley.
St. John Day.
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM EVERARD PEDLEY, OF RIVERSIDE, CALIFORNIA.

PAPER TUBE.

SPECIFICATION forming part of Letters Patent No. 679,264, dated July 23, 1901.

Application filed December 26, 1899. Serial No. 741,704. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVERARD PEDLEY, a subject of the Queen of Great Britain and Ireland, residing at the city of Riverside, in the county of Riverside and State of California, have invented certain new and useful Improvements in the Construction of Laminated-Paper Pipe, of which the following is a full, clear, and exact description or specification, reference being had to the annexed sheets of drawings and to the letters marked thereon.

My invention relates to certain improvements in the manufacture of laminated-paper pipe—that is to say, to that class of pipe adapted for the conveyance of water which is constructed of paper and asphaltum, bitumen, or coal-tar rolled up together upon a roller of a rolling-mill having a diameter corresponding to the bore of the pipe to be produced.

In paper pipe of the class referred to as hitherto constructed each length or section of pipe is or has been limited to the width of paper obtainable for such use. As the width of paper obtainable for such use is restricted by the width of the webs of paper as they are produced from existing paper-mills, it follows that such width of paper-mills sets a limit to the width of paper produced by them, and this consequently limits the length of each section of pipe produced.

The principal object of my present invention, then, is to enable lengths or sections of such paper pipe to be produced of much greater length than that corresponding to the width of paper so produced.

In carrying out my present improvements in the manufacture of paper pipe in order to produce greater lengths of such pipe than is obtainable by rolling or winding up a single web or sheet of paper upon a revolving roller or mandrel I use several sheets of paper, after the manner of that known as "breaking joint," so that by means of my present process I am enabled to manufacture or construct pipe of paper and asphaltum, bitumen, or tar in sections of any desired length. This I do effect by using two or more layers of paper, in which the adjacent straight edges of the upper layer are intermediated between the edges of any one sheet or web of paper of the under layer, and in this way are rolled up upon

the mandrel or rollers of the pipe-rolling mill, thereby producing sections of pipe of any desired length.

On the annexed drawings, Figure 1 is a plan of a piece of pipe in the act of being rolled from sheets or webs of paper so arranged in superposition as to produce any desired length of pipe. Fig. 2 is in part an elevation corresponding to Fig. 1 and at the under side of which the arrangement in superposition of the layers or sheets or webs of paper is shown in section upon the line *a a* in Fig. 1. Fig. 3 is an end elevation of a pipe-roll, showing the paper rolled up as a cylindrical tube or pipe. Fig. 4 is an end elevation of a pipe-roll, partly cylindrical and partly having flat sides, showing the paper rolled up thereon.

In Figs. 1 and 2 of the annexed drawings the upper layers or webs of paper are marked *A A' A''*, respectively, and the under layers of paper are marked *B, B', B'', and B'''*, respectively, the two outer webs of the under layer of paper *B* and *B'''* being of one-half the width of the upper layers of paper. As will be seen by Figs. 1 and 2 of the drawings, the joints of any two adjacent sheets of the under layer of paper break joint with the joints of any two adjacent sheets of the upper layers of paper. The joints of the upper layers of paper are marked by the letters *C* and *C'* and the joints of the under layers of paper are marked by the letters *D, D', and D''*. As the sheets or layers or webs of paper so disposed or arranged in superposition roll up upon the roller or mandrel *E* the pipe *F* is produced not only in any desired lengths, according to the number of sheets of paper used adjacent to each other, but also a pipe of continuous thickness throughout and with joints of corresponding strength results. As the roller *E* is rotated by the revolving mechanism (not shown in the drawings because of being so well understood) the sheets or webs of paper, which are drawn through a vat containing liquid asphalt, bitumen, or tar in the manner at present used, become rolled up together upon the roller or mandrel *E* to any desired thickness of pipe, and when the desired thickness of pipe is thus obtained the roller mechanism is stopped and the pipe removed from the mandrel *E*, according to the present practice. In place of the edge of

the sheets of paper being straight they may be scolloped or indented, as shown in dotted lines at Fig. 1.

In Figs. 3 and 4 the sheets or webs of paper being rolled up upon the rollers B and B', respectively, are indicated by the lines H and H', respectively, it being here explained that the paper used may be either wound off from rolls of paper of continuous length carried upon axes, as is well understood, or that sheets of paper operated by hand may be fed to a feeding-table of the roller mechanism for being wound up upon the rolls B or B'.

Having now described the nature of my said invention and the best system, mode, or manner I am at present acquainted with for carrying the same into practical effect, I desire to observe, in conclusion, that what I consider to be novel and original, and therefore claim as the invention to be secured to me by Letters Patent, is as follows:

The process of constructing a laminated

pipe of paper and asphaltum, bitumen or tar, consisting in rolling webs or sheets of paper which have been immersed in liquid or liquefied asphaltum, bitumen or tar, arranged in layers, into a pipe with the adjacent edges of the webs or sheets of paper of each layer all in the same direction, that is to say, parallel, but the meeting edges of any layer in all the layers of such paper placed to "break-joint" in parallel lines or directions with the meeting edges of the webs or sheets of paper of the other layers either above or below, substantially as hereinbefore described.

In testimony whereof I have hereunto set my hand and seal, in the presence of two subscribing witnesses, this 1st day of August, 1899.

WILLIAM EVERARD PEDLEY. [L. s.]

Witnesses:

ST. JOHN DEY,

JOHN SATTERWHITE.