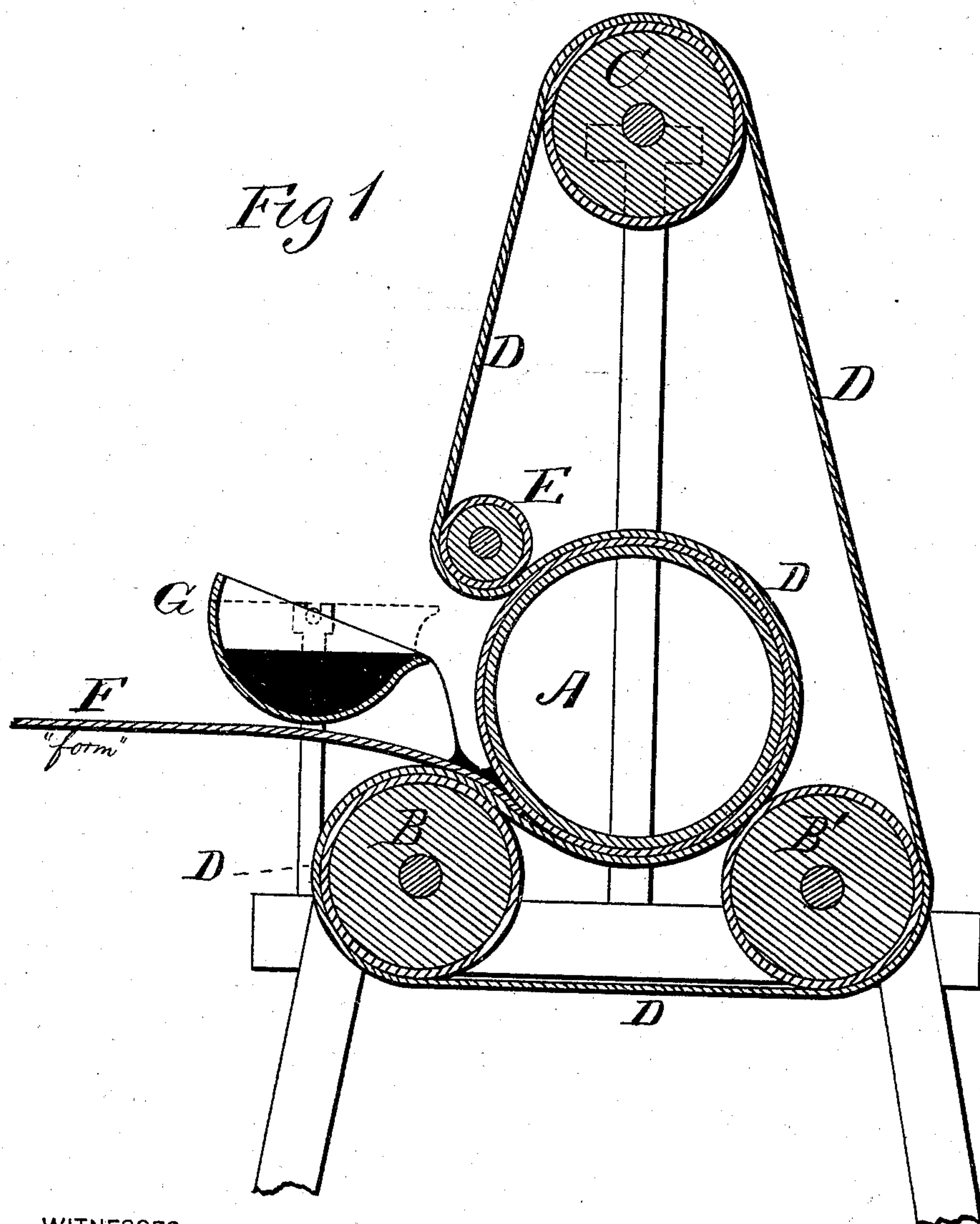


R. M. C. BROAS.
 PROCESS FOR MAKING VENEER PIPE.
 No. 171,346. Patented Dec. 21, 1875.



WITNESSES

Robert Covett
Francis J. Chas.

INVENTOR

Richard M. C. Broas.
Chipman Hosmer &
 ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD M. C. BROAS, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF THREE-FOURTHS HIS RIGHT TO JACOB KOHLBERG AND THADDEUS H. WALSH, OF NEW YORK CITY, AND JOHN P. CULVER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN PROCESSES FOR MAKING VENEER PIPES.

Specification forming part of Letters Patent No. **171,346**, dated December 21, 1875; application filed November 27, 1875.

CASE A.

To all whom it may concern:

Be it known that I, RICHARD M. C. BROAS, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and valuable Improvement in Process for Making Veneer Pipe; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my apparatus.

This invention has relation to improvements in the method of forming pipes of veneers of wood and asphalt, or of wood, asphalt, and cloth or paper; and it consists in the application of asphalt, liquefied by heat, to the upper surface of the pipe "blank or form" while the said blank is being wound around a mandrel, whereby the cementing together of the convolute folds of the pipe is absolutely secured, and the blank itself is made lighter and more pliable, as will be hereinafter more fully set forth and claimed.

In the annexed drawings I have shown a machine, the functions and operation of which have been fully described in an application filed on the same date herewith. I shall, therefore, only state or give such explanation thereof as will be necessary to a correct understanding of my improved process or method of applying the asphalt to the blank.

A represents a mandrel, which is preferably made of metal. B B' are two bearing-rollers, and C is a guiding-roller, arranged above and at a suitable distance from the bearing-rollers. D is an endless belt, which is loosely applied around rollers B B' C, and E is a weighted tension-roller, by means of which the slack of the belt is taken up when the mandrel is thrust against the face of the belt between bearing-roller B and tension-roller E, and is seated between rollers B B', above mentioned. The blank F, which may be made of treated ve-

neers of wood, or of wood and cloth or paper, will be wound around the mandrel by the action of the endless belt, when motion is imparted, either to one of the bearing-rollers B B' or to guide-roller C, by hand or otherwise, if the said blank be inserted so as to be brought within the influence of the endless belt, mandrel, and the bearing and guiding rollers above mentioned. During the winding up of the form a stream of asphaltum, liquefied by heat, will be poured from a tilting trough, G, upon the upper surface of the blank, thereby filling up all interstices or flaws in the blank, and effectually cementing the contacting surfaces of the said blank together as fast as they are brought together in forming the pipe.

The advantages of this process of applying the asphalt to the blank are manifold. In the first place, as above stated, all flaws or cracks in the blank are completely filled, causing the pipe to be rendered strong, compact, and absolutely water-proof; secondly, the surfaces of the blank, as they are brought in contact by the belt and mandrel, are instantly cemented together. A third and very important feature is, that after the veneers have been immersed in the asphaltum-bath, nearly all of this substance thus caused to adhere thereto may be scraped off, and the blank be made lighter and more pliable.

Another very important and valuable advantage attained by the use of liquid asphaltum is, that when poured upon the blank during the formation of the pipe, it gives an extra interior coating to the pipe, and at the same time interposes a cementing layer between each fold composing the same. This coating of asphalt and the interposed layer for cementing the folds of the pipe together will be necessarily of a thickness proportionate to the degree of fluidity of the asphalt. If it be viscous the coating and layer will be thick, and if it be fluid they will be very thin.

It is evident that by varying the temperature, and consequently the fluidity, of the asphaltum, the thickness of the interior coating

and of the cementing layers may be increased or diminished at pleasure.

When flame heat is directly applied to the asphaltum-coated upper or under surfaces of the blank, the action of the flame thereon is to partially scorch both the blank and the endless belt, whereby the former is wound about the mandrel, unless the operation of the belt be such as to expose it but for a short time to the flame. The effect of this scorching is to weaken the form, and consequently to lessen the strength of the pipe.

Moreover, in using gas I am compelled to use that derived from the best qualities of coal. Gas derived from hydrocarbons always deposits a layer or coating of soot upon the surfaces, which will not incorporate perfectly with the asphaltum, and tends to render it soft and sticky. The use of liquid asphaltum is, therefore, more efficacious and less expensive.

In lieu of the tilting trough above described, the liquid asphalt may be poured upon the

blank from spouts, or from a ladle swinging back and forth across the same; but I do not propose to confine myself to any particular method or mechanical means for pouring the asphalt, as I shall adopt that means which in practice will prove most effectual and desirable.

What I claim as new, and desire to secure by Letters Patent, is—

The described improvement in the art of making tubes or pipes, consisting in applying the liquid asphaltum to the blank or form at the point of contact between the form and the mandrel while the former is being wound upon the mandrel.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

RICHARD M. C. BROAS.

Witnesses:

WALTER C. MASI,
ROBERT EVERETT.