[67.]

W. D. ALFORD

Method of Moulding Pipe.

Fig. 1.

No. 119,259. Patented Sep. 26, 1871.

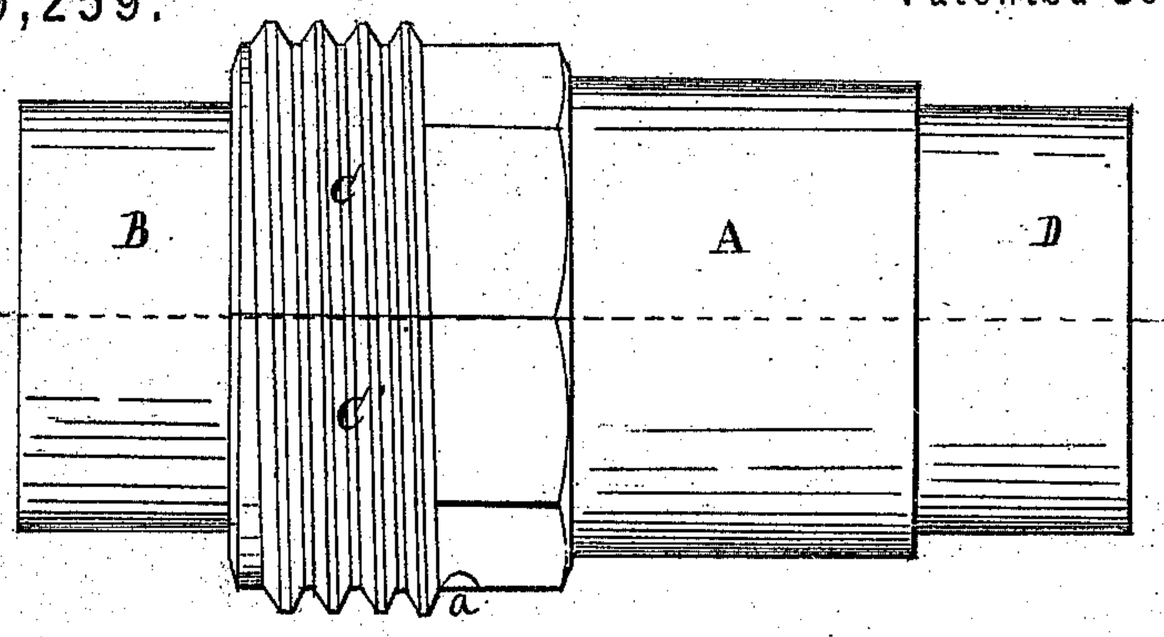


Fig. 2.

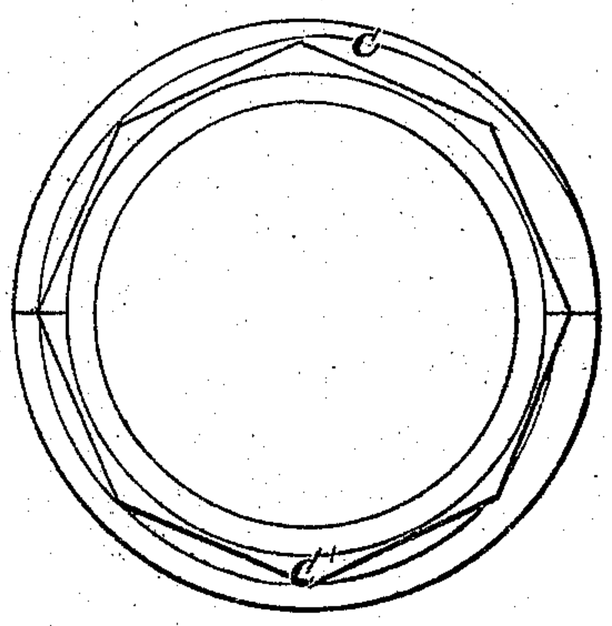
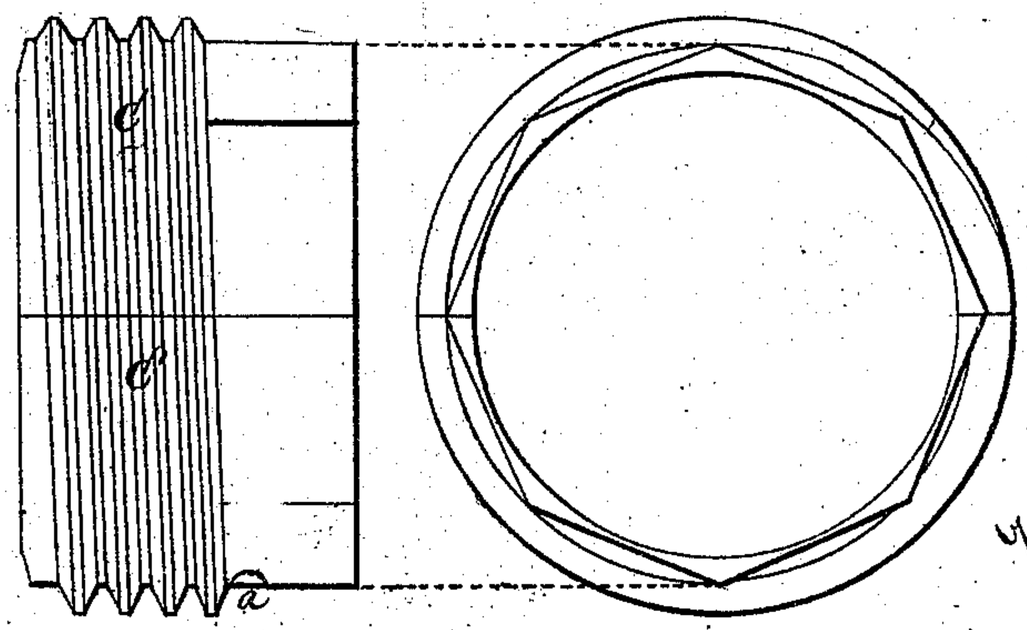


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM D. ALFORD, OF CUYAHOGA FALLS, OHIO.

IMPROVEMENT IN MOLDING PIPES.

Specification forming part of Letters Patent No. 119,259, dated September 26, 1871.

To all whom it may concern:

Be it known that I, WILLIAM D. ALFORD, of Cuyahoga Falls, in the county of Summit and State of Ohio, have invented a certain new and Improved Method of Molding Pipe, of which the following is a description, reference being had to the accompanying drawing making part of this specification.

Figure 1 is a side view of the pipe-pattern. Fig. 2 is an end view. Fig. 3 is a detached section.

Like letters of reference refer to like parts in the different views.

The nature of this invention relates to a pattern for molding pipe; and the object of which is to cast the screw on the end of the pipe in a more true and perfect manner than can be done in the ordinary way, so that said screws shall require no subsequent finishing to fit them for use. Said pattern is made to consist of a solid shaft for the section of pipe, and the screw part of the pattern is attached to it in sections, as hereinafter more fully described.

In the drawing, Fig. 1, A represents the pattern for the body or length of pipe, which may be of any desirable length and capacity. The extreme ends B form the core-print in which to rest the core for making the bore of the pipe, as in the usual way. Said pattern or the part A is of one piece—that is to say, it is not cut longitudinally through the center, making two half-sections, as pipe-patterns usually are. C C′ represent the screw part of the pattern, and which consists of equal sections, each section being one-half transversely of the screw, as shown in Fig. 2. Said sections are not attached to the tubular part A of the pattern in a permanent manner, but are simply laid thereon and temporarily retained by dowel-pins, which admit of the sections being readily taken off or placed therein in the process of molding, which process is as follows: The pattern is let into the follow-board, especially made for that purpose, in the position shown in Fig. 1. The section C′ of the nut is left off at this time. The board indicated by the dotted line is so constructed as to receive one-half of the pattern; hence, but one-half of the diameter of the pattern only will be in the flask above the board, whereas the other or lower half will be in the follow-board. One section of the screw is then put on, which would be the part C. The sand is then thrown in and rammed down in the ordinary manner. This being done, the flask is then turned over and the follow-board removed, thereby bringing the pattern half buried in the sand at the top, with its opposite half above the sand exposed, which, on being dressed in the ordinary way, the section C′ of the screw is then laid on the pattern so as to fit correspondingly the other section in the sand. In the section C′ is a threaded hole, *a*, in which is screwed a rod or anchor, the upper end of which projects above the cope or upper part or the flask, which at this time is put on and to which said rod is made fast; or it may be allowed to remain without being attached to the flask until the sand is filled into the cope, tamped down, and made ready for lifting off. The rod, if need be, can then be secured to the face of the sand or to the cope, or in any way to prevent it from being drawn through the sand on lifting off the cope. It will be obvious that, on lifting off the cope, section C′ of the screw will be lifted therewith, leaving the pattern A and section C of the screw in the sand. The pattern A is now drawn, leaving the screw-section C behind in the sand, it not being attached to the pattern, but, merely laid thereon, and will therefore not draw from the sand with the pattern A. The pattern, or part A of the pattern, being lifted out, the section C of the screw is drawn, and so, also, the section C′ in the cope, the rod holding the screw-section first being loosened to admit of its coming out. The several parts of the pattern now being drawn from the sand, the core for the pipe is laid in the print and the cope replaced upon the flask in the usual manner.

The ordinary way of making this class of pipe is by using a pattern divided longitudinally into two equal parts or halves, and which are fitted to each other by dowel-pins. To each section of the screw, which, with its respective pipe-part of the pattern, forms one piece or half of the entire pattern, one-half of the pattern is then molded in the flask, which, when the flask is turned over, the other half is placed upon that in the sand, and the last half molded in the cope in the same way as is ordinarily done with a two-part pattern. The objection to this way of molding pipe having a screw on one or both ends is that, in consequence of the great length and weight of the pattern, it is very difficult to draw it from the sand without doing more or less injury to the screw, the pecul-

iar shape of which and the closeness of the threads causing said threads to break down or become displaced, and therefore irregular, so that they will not screw into the nut or a corresponding section of pipe without first being finished by hand, in order that they may work freely and easily in the female thread. This objection is avoided by my way of making the pattern and molding the same, for, on drawing the pipe-section of the pattern from the sand the screw or sections thereof are left undisturbed in the sand, so that, in the event the part A of the pattern should be lifted faster at one end than at the other, or in an unsteady manner, it will not disturb the screw part of the pattern, as it is not attached to it, but which, being of small size, can be drawn from the sand in the most careful manner, without doing injury to the thread, but which will remain firm and smooth, and therefore make a true and perfect cast of the thread. Another objection to a two-part pattern is that the sections are liable to spring in consequence of their length, and thereby make a crooked pipe or mold, which, however, is obviated by having the pipe part of the pattern of one entire piece, thereby securing for it double the resistance to all influences that might tend to spring or warp it. The pattern is also much more easily made than the two-part one, and when made is stronger, more durable, and certain in the results of its use.

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

The herein-described pipe-pattern, consisting of the single or one part A, and screw part consisting of the detached sections C C′, when used in connection with the part A, in the manner substantially as set forth, and for the purpose specified.

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Witnesses:

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