H. Knight,

Tile Machine.

No. 105,954. Patented Aug. 2. 1870.

Fig. 2

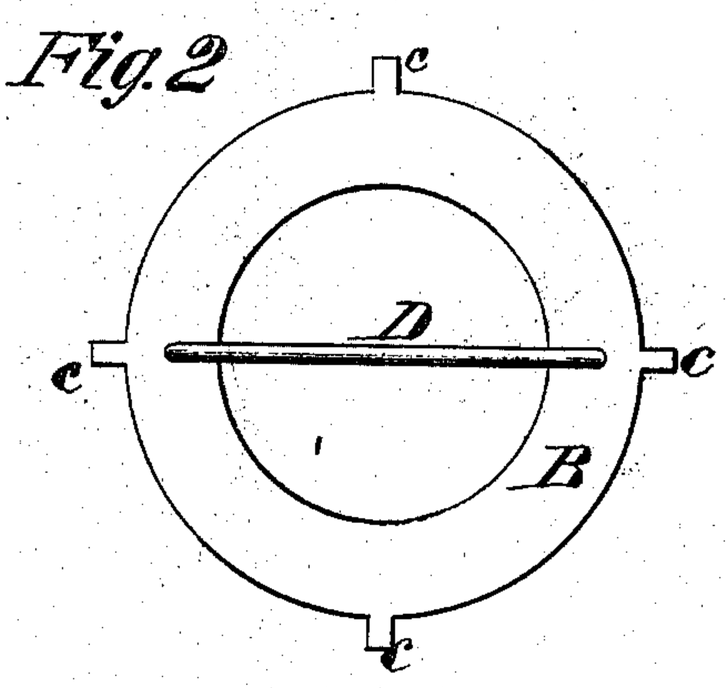


Fig. 1

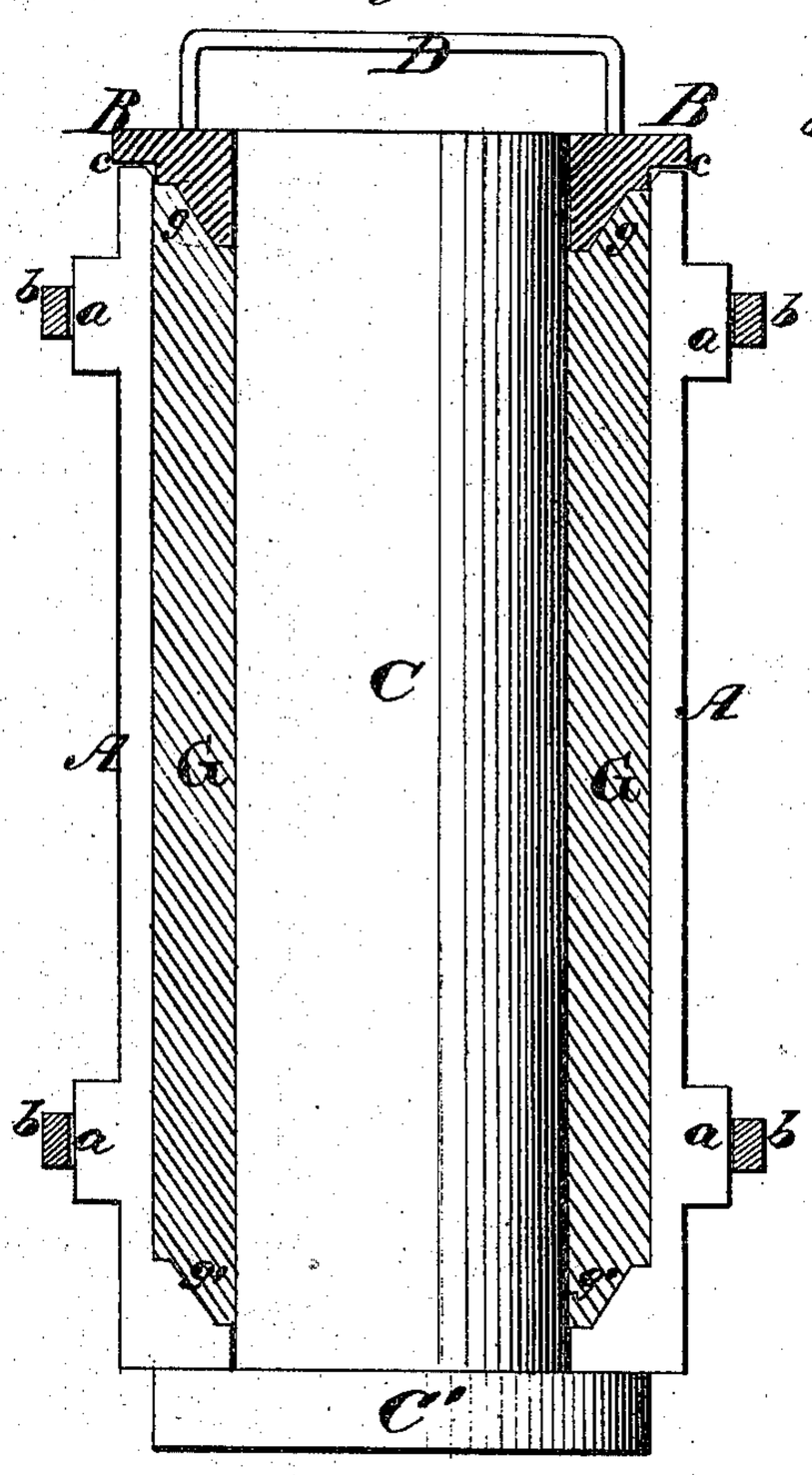


Fig. 3

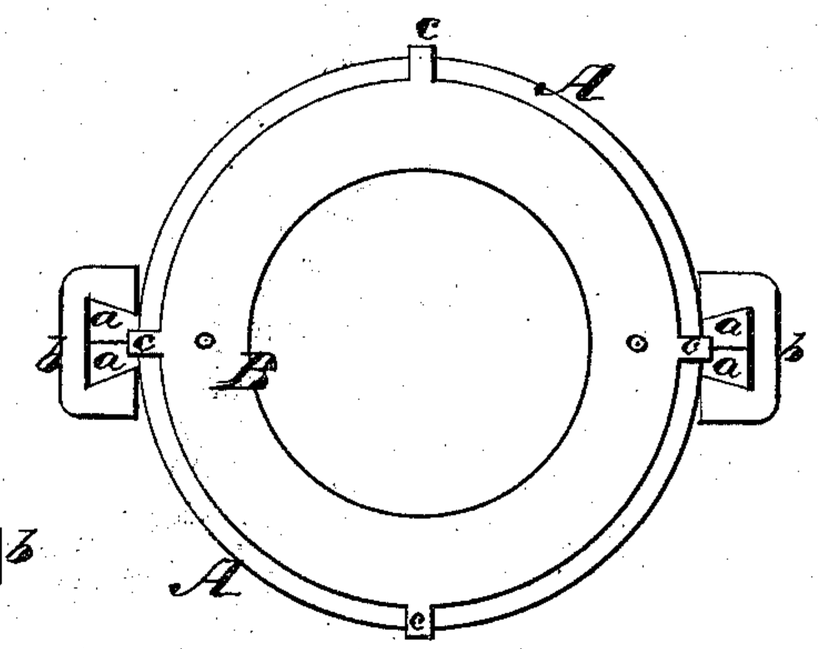
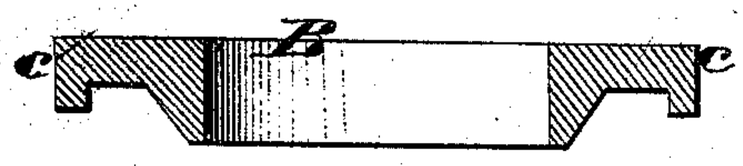


Fig. 4



Witnesses.
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Inventor
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by
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United States Patent Office.

HENRY KNIGHT, OF BROOKLYN, NEW YORK.

Letters Patent No. 105,954, *dated August* 2, 1870.

IMPROVED WATER-PIPE MOLD.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY KNIGHT, of Brooklyn, in the county of Kings and State of New York, have invented a new Mode of Molding Pipes of cement and other plastic material; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a vertical diametrical section, showing a pipe complete in its mold.

Figure 2 is a top view of one of the collars or beveled rings.

Figure 3 is a top view of the mold, the beveled ring, and the core.

Figure 4 is a section through a beveled ring which differs slightly from the ring shown in figs. 1, 2, and 3.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improved mode of making cement pipes, which have beveled male and female ends adapted to fit one into the other, and form flush joints, externally as well as internally.

Hitherto, cement pipes, which were adapted to be jointed together, as above stated, have been produced by forming the female ends at the lower end of and within the mold, and by forming the male ends around a central core, above the upper end of the mold.

One great objection to this method of forming the male ends is, that the material of which the pipes are formed requires to be so dry to do this that the process is very difficult and slow, and a perfect end cannot be made without great labor.

The nature of my invention consists in a mold composed of a central core, a flanged base, an internally shouldered shell, and a ring or collar; the said parts being so constructed and applied that, while the whole pipe is molded within the shell, the male coupling-end of the pipe is formed in the lower end of the same, and the female coupling-end is formed in the upper end thereof, all as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing—

A represents the body of the improved pipe-mold, which is made of two longitudinal halves, and provided with lugs *a a*, for receiving clamps *b b*, that hold the halves together.

The body A, shown in the drawing, is cylindrical, but other forms may be adopted, according to the form of the pipes which it is desired to make.

The body of the mold is made somewhat longer than the pipes which it is designed for making; and the interior of the lower end of this body or shell A is contracted by the formation of an annular beveled surface, *g'*, terminating above and below in annular shoulders, as shown in fig. 1.

These surfaces correspond to and produce the beveled surfaces and shoulders that constitute the male ends of the pipes G.

C represents the core, and C' its enlarged base, on which latter the body of the mold rests when the core is in place, as shown in fig. 1. The core C extends up to or above the upper end of the body A, and leaves a space between it and the latter, which is equal in thickness to the thickness required of the pipes. I do not mean to be understood as limiting myself to the precise mode of constructing the core shown in the drawing, as other equivalent modes may be adopted.

B is a ring, which is adapted to slip over the upper end of the core, and extend partially within the space between it and the body A.

The superior surface of this ring is flat, and provided with a bail or handle, D; the inferior surface is beveled at *g*, and otherwise shaped so as to correspond precisely with the female ends of the pipes, which are counterparts of the male ends, as shown in fig. 1.

The circumference of this ring is provided with three or more lugs, *c*, which rest on the upper end of the body A when the ring is forced home. The upper end of the body of the mold is slightly beveled, for the purpose of allowing the ring to drop down more freely.

The beveled ring B, shown in fig. 4, does not differ substantially from the ring B of figs. 1, 2, and 3.

The operation of producing pipes with the mold above described is as follows:

The shell or body A and core C having been put together, and the space between them filled with plastic material, the ring B is slipped over the upper end of the core C, and forced down in place, thus producing the socket or female end of the pipe at the upper end of the mold, and within the body or shell thereof, as shown in fig. 1.

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

The arrangement of the loose collar B, constructed as described, stationary core C, flanged collar C', and mold-shell A, the several parts being combined and operated in such a manner that the female coupling-end *g* of a pipe, without a collar, is formed entirely within the mold, and at the upper end of the same, while the male end *g'* of the pipe is formed within the mold-shell, and at the lower end of the same, all as shown and described.

HENRY KNIGHT.

Witnesses:

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