(No Model.)

F. GANDY.

PIPE MOLD.

No. 456,141. Patented July 21, 1891.

Fig. 1.

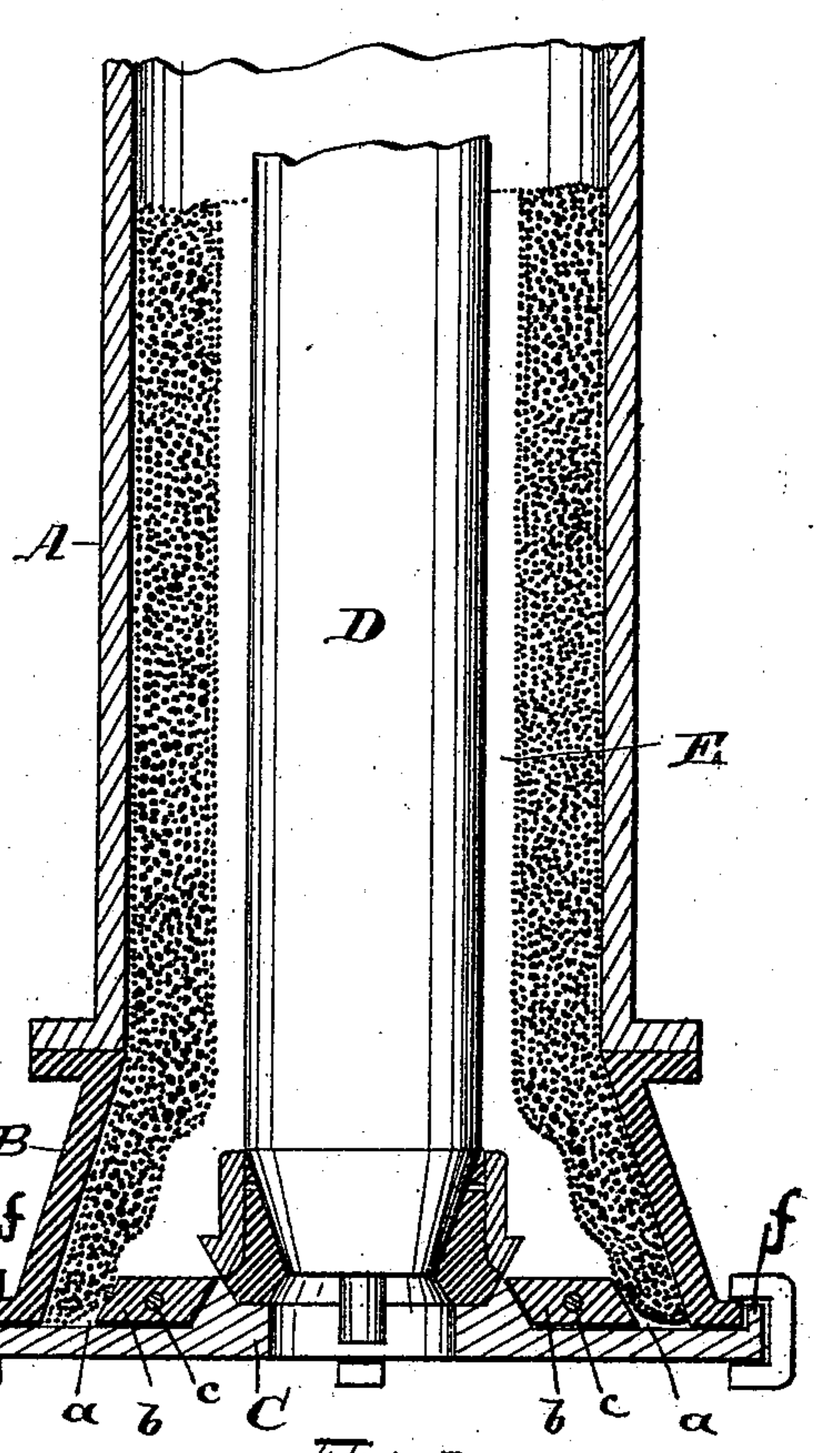
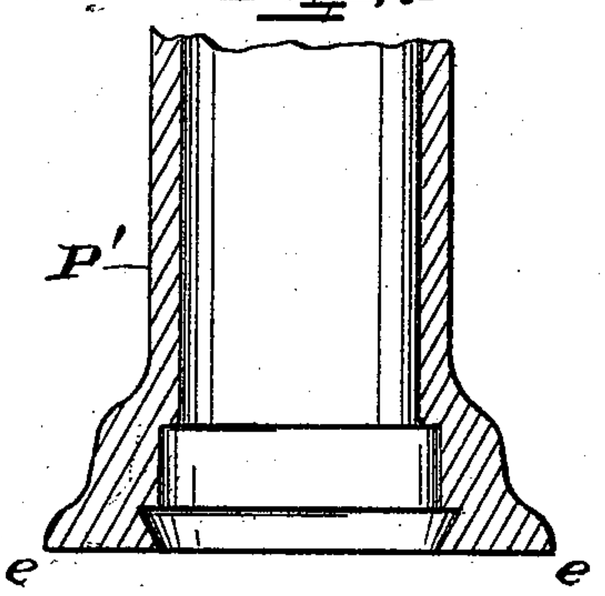


Fig. 2.



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FREDERICK GANDY, OF FERNBANK, OHIO.

PIPE-MOLD.

SPECIFICATION forming part of Letters Patent No. 456,141, dated July 21, 1891.

Application filed March 14, 1890. Serial No. 343,867. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GANDY, a citizen of Great Britain, at present residing at Fernbank, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Molds for Castings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more especially to improvements in molds for casting iron water-pipes and the like, and has for its object to prevent the waste of material and dispense with the extra labor incident to the casting of pipes in molds as ordinarily prepared, and more particularly has relation to the casting of the bell of such pipes, so that a clean sharp outer edge of the bell may be obtained as the pipe is cast.

In the drawings, Figure 1 is a central vertical section of the lower portion of my improved mold. Fig. 2 is a section of the bell of a pipe as cast in my mold.

Like letters indicate identical parts in all the figures.

A is the flask, B the bell-mouth, and C the bottom plate, of the mold, as ordinarily used in the casting of iron water-pipes and the like.

D is the core-bar, which forms the interior surface of the pipe, and E is the mold for the exterior surface of the pipe. The mold is formed by a mandrel-and-socket pattern made to correspond exactly with the exterior size and shape of the pipe and placed and centered within the flask. The proper molding-sand is then rammed around the mandrel and socket and the mold in this way formed. When the socket-pattern is withdrawn, after the outside mold is thus formed, no matter how carefully the pattern may be removed, the sand of the mold at its inner edge *a* is almost inevitably somewhat displaced, and when the bottom plate is clamped to the bell-mouth and flask preparatory to the making of the cast the joint between the plate and mold is not a tight one. As a result of this, when the pipe is cast there is always an external lip at the mouth of the pipe, which lip has to be chipped or turned off, and thus there is waste of material and extra labor required to finish the pipes.

With my improvement, as illustrated in Fig. 1, these difficulties are overcome and the pipe can be cast with a clear and well-defined outer edge, as shown in Fig. 2, P′ being the pipe, and *e* the outer edge. The mold being prepared in the usual way, a cake of loam, clay, or other suitable material *b* is formed annular in shape and with somewhat flaring sides to correspond with the inner surface of the mold at the mouth of the bell, and of a size to come in close contact therewith. This annular cake of clay or loam is preferably held together by the metallic ring *c*, around or upon which it is formed. The cake is then placed upon the bottom plate C, so that its outer edge will come in contact with the face of the mold. The chill-plate has a series of lips *f f* to guide the bell-mouth when the mold is lowered thereon, so that the cake will be central in the mold and be guided to the proper place. The bell-mouth and chill-plate then being clamped together, this brings the surface of the mold and the annular cake of loam in close contact with each other and a tight joint is formed, which will not allow the passage of the molten metal when the cast is made, and the displacement of the sand of the mold at its inner edge when the socket-pattern is removed thus has no effect on the casting.

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

1. In a mold for pipes or other analogous articles, the combination, with the mouth of the mold, of an annular clay or loam cake to enter the end thereof and form a tight joint therewith, substantially as shown and described.

2. In a pipe-mold, the combination, with the bottom plate, of a clay or loam annular cake arranged thereon to be inserted between the bell-mouth and socket to form a tight joint with the mold, substantially as and for the purpose described.

FREDERICK GANDY.

Witnesses:

ALFRED M. ALLEN,

GEORGE HEIDMAN.