

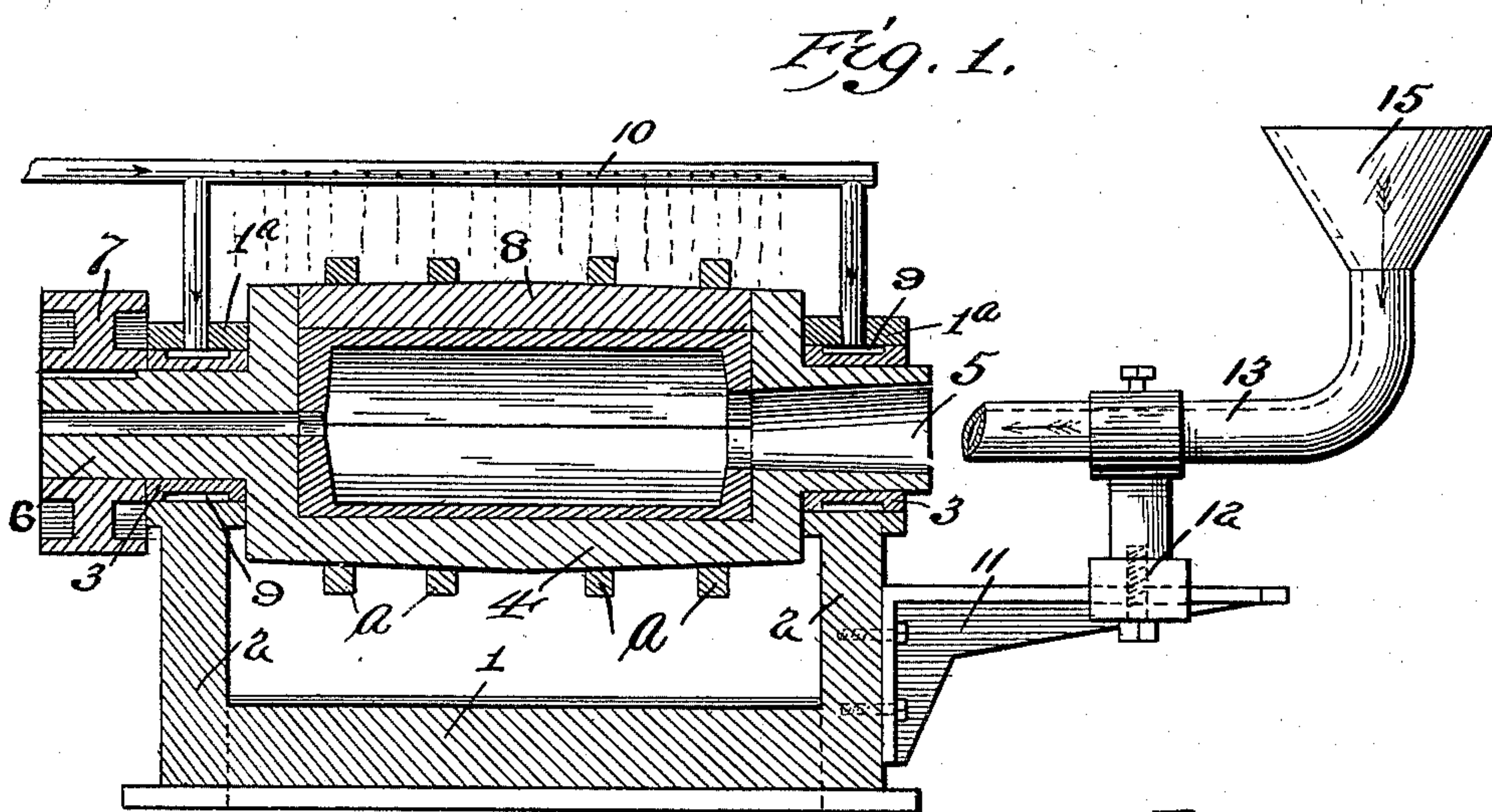
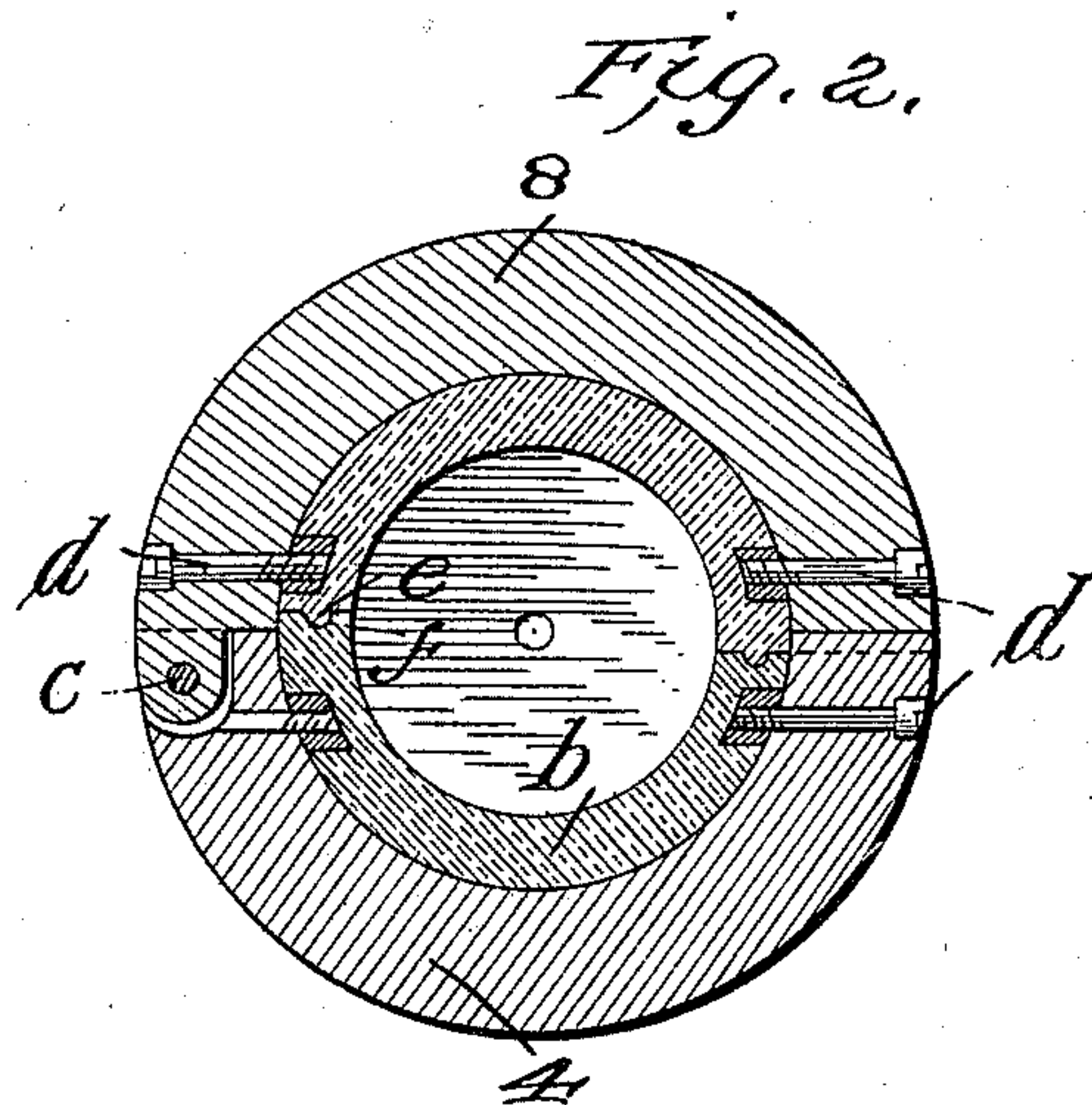
No. 644,926.

Patented Mar. 6, 1900.

J. KELLING & C. C. ALLEN.
APPARATUS FOR MAKING CASTINGS.

(Application filed Aug. 10, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOHN KELLING AND CHARLES C. ALLEN, OF SHELBY, OHIO.

APPARATUS FOR MAKING CASTINGS.

SPECIFICATION forming part of Letters Patent No. 644,926, dated March 6, 1900.

Application filed August 10, 1899. Serial No. 726,839. (No model.)

To all whom it may concern:

Be it known that we, JOHN KELLING and CHARLES C. ALLEN, citizens of the United States, residing at Shelby, Ohio, have invented certain new and useful Improvements in Apparatus for Making Castings, of which the following is a specification.

Our invention relates to an improved apparatus for forming castings with central round openings extending therethrough, or tubular, without the use of mandrels or sand cores.

To this end the invention includes a cylindrical mold horizontally mounted, with means for rotating the same, and an opening leading into one end of said mold for the introduction of the molten metal to be cast.

The invention further includes the details of construction hereinafter described, and particularly pointed out in the claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a central longitudinal sectional view of the apparatus, and Fig. 2 a cross-sectional view of the mold.

The apparatus is supported upon a base 1, from the opposite ends of which vertical standards extend, having at their upper ends enlarged heads 1^a, with central alining openings through the same, which receive the bearing-rings 3, to be hereinafter referred to.

The mold proper, which is of cylindrical shape, is formed of two sections, the main or bottom section 4, having ends with trunnions 5 6 projecting outwardly from the same, journaled in said rings 3. Both trunnions are hollow, the opening in the trunnion 5 being tapered from the interior of the mold outward, while the opening in the trunnion 6 is of greatly-less diameter, said trunnion projecting outside of its bearing and having a drive-pulley 7 keyed thereto.

The upper or cap section 8 of the mold is hinged to the bottom section at one side at C, and the exterior periphery of the entire mold tapers from the middle of the same toward the ends thereof.

A suitable lining *b* is provided for each section of the mold, the meeting edges of the same having interlocking tongues and grooves *e f*. The lining *b* is held to each section by bolts *d*. The joint thus formed breaks joint with the meeting edges of the main walls.

The bearing-rings 3 have grooves 9 in their outer peripheries, and the caps of the heads 1^a are provided with openings leading through the same from above these grooves, to which branches from a spray-pipe 10 are connected. This pipe 10 is located above the mold, and through a plurality of perforations therein water is sprayed upon the exterior periphery of the mold to cool the same.

A bracket 11 is bolted to one of the end standards 2, the bed of which receives an adjustable support 12, which carries a horizontal pipe 13, leading from a hopper 15. The mouth of the pipe 13 is adapted to be fitted in the opening in the trunnion 5, the support being slid along the base until the edge of said mouth is flush with the inner periphery of the end wall of said mold. The metal to be cast is poured in a molten state into the hopper and runs therefrom through the pipe into the mold, which is rapidly rotated. The centrifugal action will throw the metal against the periphery of the lining, leaving a round hole through the casting. The exterior shape of the latter will conform to the interior of the mold, which need not necessarily be cylindrical, although the central hole formed in the casting will be of this shape. Water or air may be injected through the opening in the trunnion 6 through the central hole of the casting.

The two parts of the mold are held together by a series of rings *a*, which are slipped over the ends of the mold and pushed up the tapering sides thereof until they fit the same tightly. After the casting has been completed the rings are knocked off, the top section swung back, and the casting discharged from the lower section.

We claim as our invention—

1. In combination, a horizontally-arranged mold formed in two sections hinged together, one of said sections being without end walls, the other section having end walls adapted to close the open ends of the first section when the parts are clamped together, hollow trunnions extending from said ends, means for feeding the metal through one of said trunnions and means for rotating said mold.

2. In combination, the two-part mold, trunnions extending therefrom, means for rotating the mold, bearing-rings for said trun-

nions having grooves in their peripheries, and a spray-pipe running above said mold having branches communicating with said grooves, substantially as described.

5 3. In combination the mold formed in two sections, having the exterior of the same tapering from the central point thereof toward each of its ends, and a series of rings adapted to fit said mold to hold said sections together,
10 substantially as described.

4. In combination, the mold formed of two sections hinged together, linings for said sec-

tions having their meeting edges tongued and grooved, the meeting edges of the lining breaking joint with the meeting edges of the 15 outer part of said sections, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN KELLING.

CHARLES C. ALLEN.

Witnesses:

FRANK L. ANWAY,

ROBERT ROSS.