A. F. ROCKWELL.

APPARATUS FOR CASTING.

APPLICATION FILED JUNE 20, 1912.

1,095,523. Patented May 5, 1914.

Fig. 1.

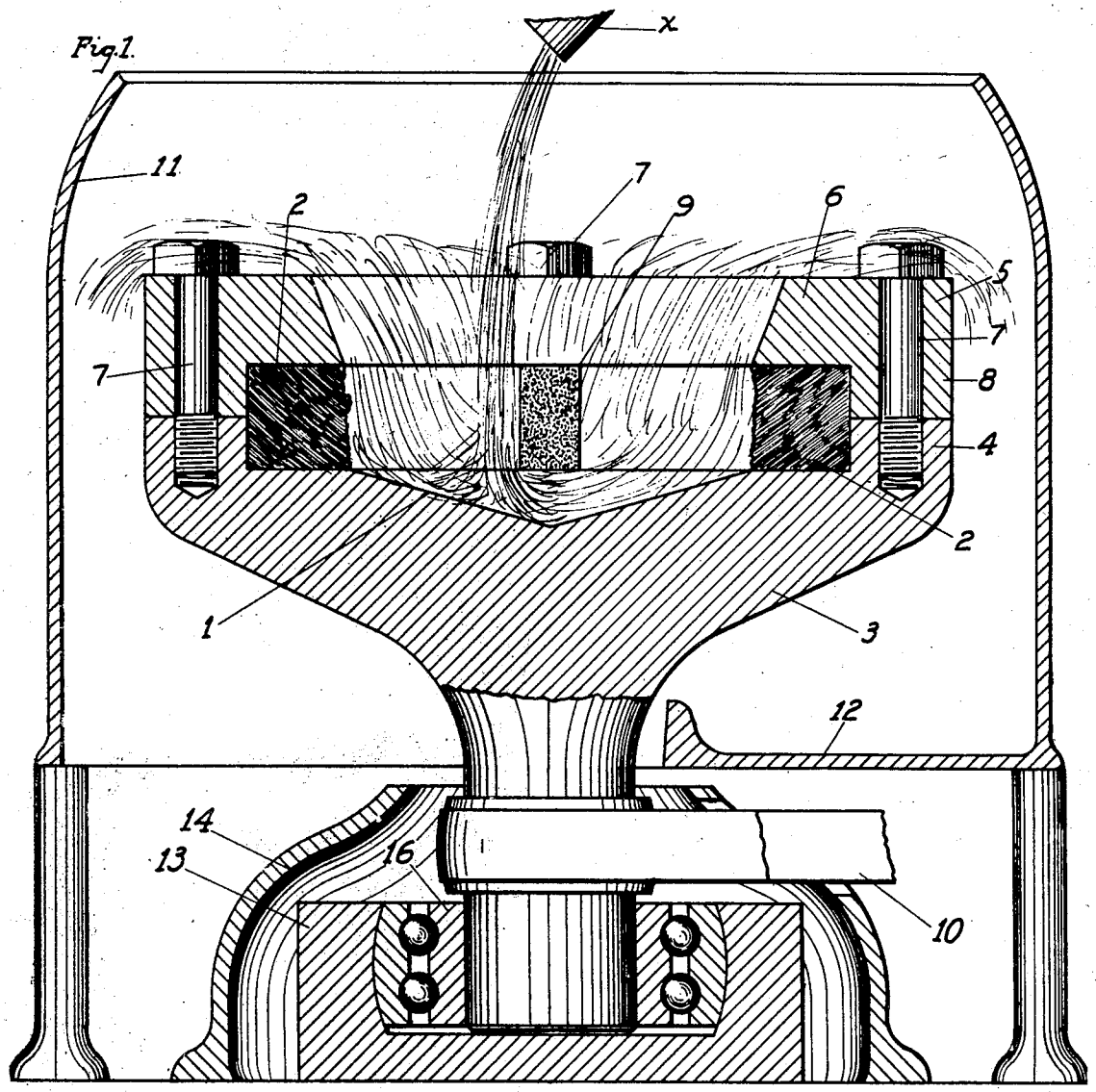
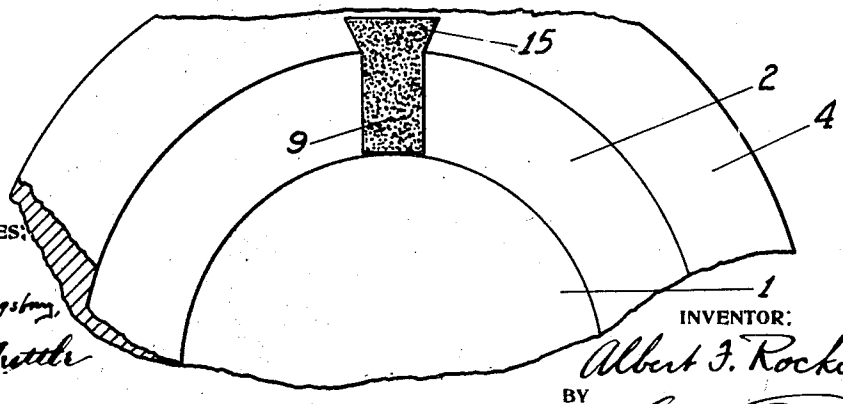


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR CASTING.

1,095,523. Specification of Letters Patent. Patented May 5, 1914.

Original application filed February 25, 1911, Serial No. 610,832. Divided and this application filed June 20, 1912. Serial No. 704,767.

To all whom it may concern:

Be it known that I, ALBERT F. ROCKWELL, a citizen of the United States, residing at Bristol, county of Hartford, State of Connecticut, have invented a certain new and useful Apparatus for Casting, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to apparatus for casting and, although in no wise limited to such use, is particularly adapted for the casting of steel ingots according to the process and method described and claimed in my application, Serial No. 610,832, filed February 25, 1911, and of which this present application is a division.

An object of my invention is to provide an apparatus for use in practising my above referred to process.

A further object is to provide an apparatus for casting split ingots.

A further object is to provide an apparatus for use in the production of annular castings.

To these ends, and also to improve generally upon apparatus of the character indicated, my invention consists in the various matters hereinafter described and claimed.

In the accompanying drawings Figure 1 is an elevation, chiefly in section, of an embodiment of my invention, portions being broken away to economize space; and Fig. 2 is a plan view of a portion of the base member.

In the illustrated embodiment of my invention, there is shown a base member 3 which is preferably formed with what I may term a table 1 in its upper face, such table being here shown as slightly depressed centrally and inclining upwardly and outwardly. Preferably, the base member has a wall formed upon it and such wall is shown as a flange or circumferential ridge 4 about said table and spaced therefrom.

I, preferably, provide a top plate 5 having an extension 6 which overlies the portion of the base member between said table and said flange 4 and coöperates with said base member to produce a pocket or mold 2, which mold may be annular in form and, as shown, this top plate may be removably secured to the base member, as by heavy screws 7 so that it can be easily removed to permit the ready withdrawal of the casting. Preferably, the said flange 4 of the base member is of less height than is the pocket 2, the top plate in such event having, as shown, a coöperating flange or extension 8 so that upon removal of the top plate the casting projects above the flange 4 and can be easily grasped.

I provide means for casting the ingot split, thus avoiding the necessity of subsequently splitting the ring-shaped casting when it is to be rolled. I have illustrated such means as a spacing member 9 extending in a line transverse (preferably radially of) the mold and which may be a fire brick or the like. Suitable provisions may be made for clamping this member in place, it being shown as flared to fit within an irregular shouldered recess or seat 15, preferably dove-tailed as shown, in the flange 4. To provide for easy removal of the spacer 9 the recess extends upward through the flange 4, as indicated in Fig. 1, and the escape of the spacer is normally prevented by member 6 which overlaps and closes the top of the recess. The member 3 is rotatably mounted in any suitable manner, being shown as supported by the antifriction bearing 16. I prefer to provide a guard 11 for deflecting metal from the member 3, such guard being here shown as having a portion 12 for protecting the belt 10. The supporting base and its adjacent parts are preferably protected by the guard 14.

In operation, molten metal, fed to the center of the apparatus, is, by centrifugal force generated by the rapid rotation of the table, thrown into the mold and because of the spacer forms a split ingot.

It will be seen that I have provided a simple, strong and inexpensive apparatus in which ingots (preferably annular) can be cast split and with the aid of which my process may, if desired, be practised.

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

1. An apparatus for casting ingots, said apparatus comprising a rotatable base member provided with a pouring table, and a mold about said table and in communication

therewith but distinct therefrom, the apparatus having means to permit metal to be poured upon said table and to permit overflow of excess metal simultaneously with such pouring; substantially as described.

2. An apparatus for casting ingots, said apparatus comprising a rotatable base member provided with a pouring table, and an open-center mold about the periphery of said table and in communication therewith but distinct therefrom, the apparatus being open above said table to permit metal to be poured thereon and also being open at approximately the inner edge of said mold to permit overflow of excess metal; substantially as described.

3. An apparatus for casting ingots with open centers comprising a rotatable base member provided with an outwardly and upwardly inclined pouring table, and an annular mold about the periphery of said table distinct therefrom and in communication therewith, there being a pouring aperture above said table and of substantially the same area as is said table; substantially as described.

4. An apparatus for centrifugal casting comprising a rotatable pair of separable endless mold-forming members each having its principal plane crosswise of the axis of rotation, and a spacing member clamped between said members and extending into the mold formed by said members; substantially as described.

5. A foundry apparatus for casting ingots comprising a mold having an endless side wall, said wall being formed with a shouldered spacing member seat extending outwardly from the center of said mold, and a correspondingly shouldered spacing member received in said seat and extending inward toward the center of said mold; substantially as described.

6. An apparatus for casting comprising a member formed with a table and a ridge about said table and spaced therefrom to provide a mold portion, said ridge being formed with a spacing member seat extending into the same from the inner side thereof, opening through the top thereof and formed to receive and hold a spacing member; a top plate extending over said space between said table and said ridge and formed with a flange thereabout to provide a mold portion coöperating with said first named mold portion to form a mold, and a spacing member received in said seat and extending into said mold, said flange closing the top opening of said recess and securing said spacing member in place; substantially as described.

7. An apparatus for casting comprising a member having a wall and providing a mold portion, said wall being provided with a spacing member seat opening through the edge thereof, a second member coöperating with said mold portion to provide a mold and received upon said edge, and a spacing member received in said seat, a portion of said second member closing the edge opening of said seat and securing said spacing member in place; substantially as described.

In testimony whereof, I hereunto affix my signature, in the presence of two witnesses.

ALBERT F. ROCKWELL.

Witnesses:
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M. B. THORPE.