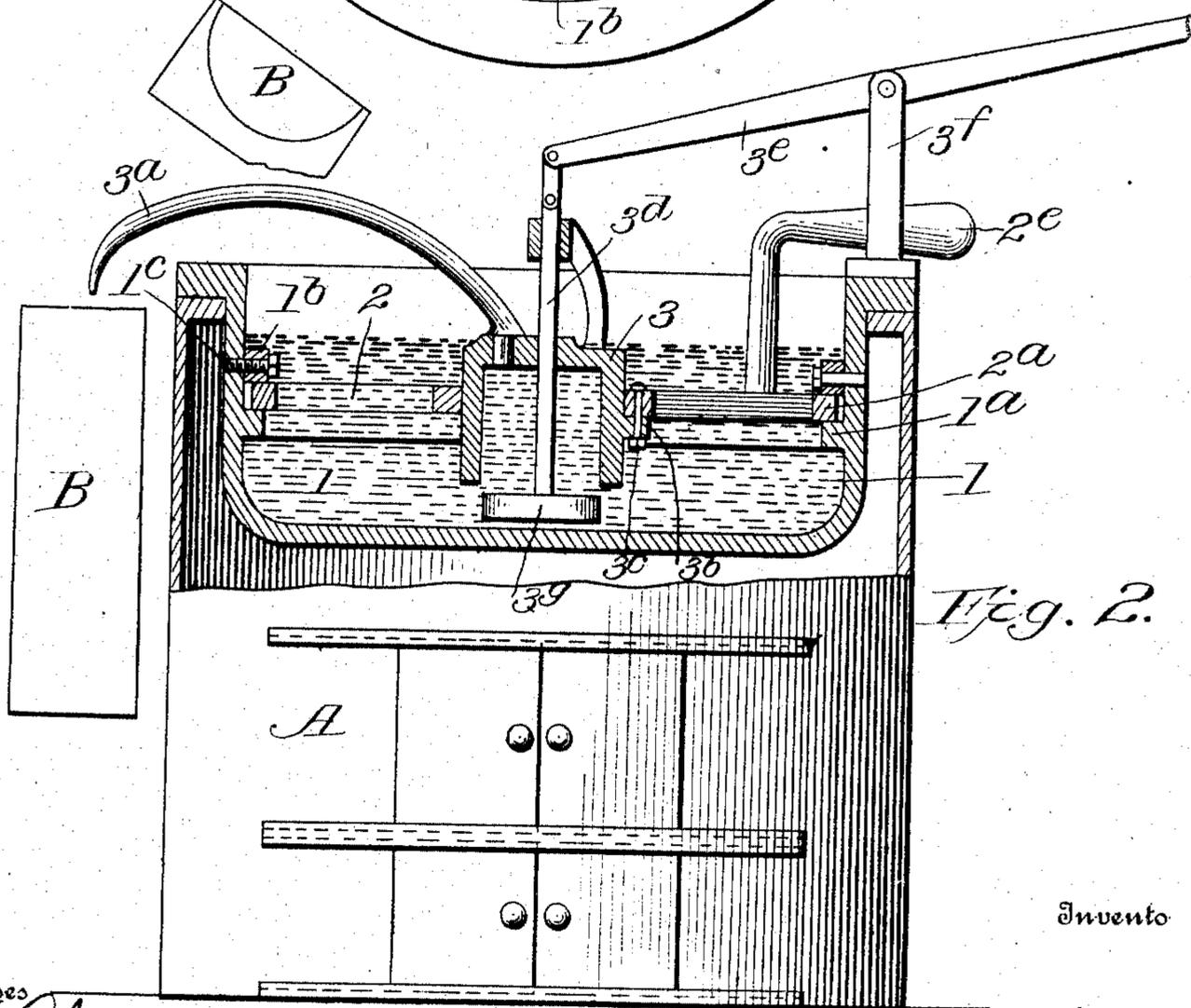
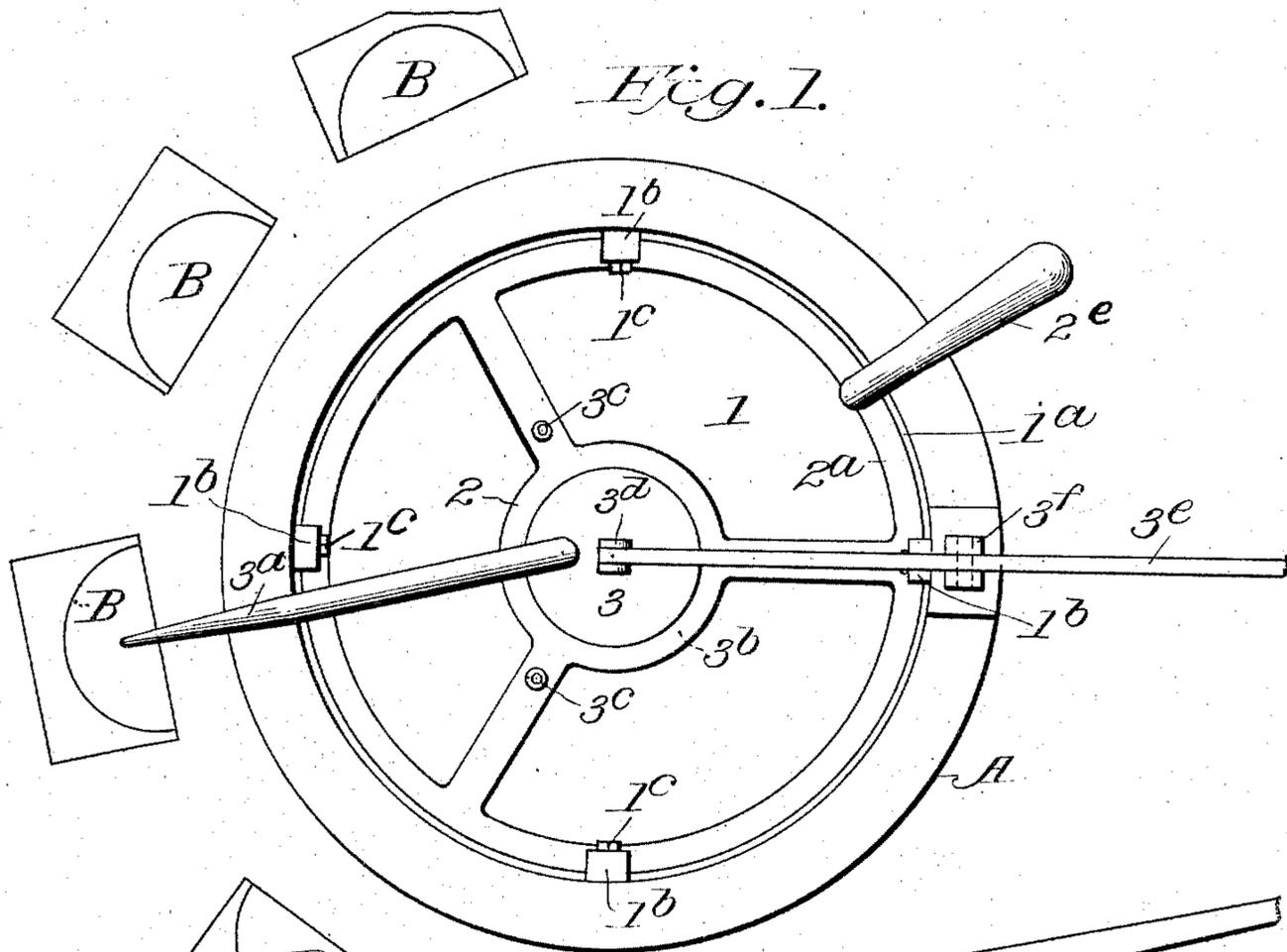


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 STEREOTYPE CASTING APPARATUS.  
 APPLICATION FILED DEC. 8, 1906.

929,747.

Patented Aug. 3, 1909.



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# UNITED STATES PATENT OFFICE.

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## STEREOTYPE-CASTING APPARATUS.

No. 929,747.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed December 8, 1906. Serial No. 346,945.

*To all whom it may concern:*

Be it known that I, HENRY F. BECHMAN, of Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Stereotype-Casting Apparatus; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improved apparatus for melting and delivering type metal to casting boxes, and is particularly designed for use in connection with stereotype casting apparatus, and its object is to enable a single melting pot and pump to supply a series or plurality of casting boxes, the pump being adjustable thereon or with its support, so that it can deliver metal to any of the adjacent casting boxes.

A further object of the invention is to so secure the pump in the melting pot that it will not be displaced by expansion and contraction of the metal, which causes a great deal of trouble and annoyance with the present known apparatus, wherein the pumps are frequently loosened from their fastenings and float around in the pot to the great annoyance of—and sometimes danger to—the operators.

In the present invention the pump is not rigidly connected with the pot and therefore the fastenings are not affected by the expansion and contraction due to the heating and cooling of the metal, and which, in the ordinary melting pot construction, frequently results in actually shearing off the pump fastening bolts and putting the apparatus out of action until the damage is repaired.

The invention will be clearly understood from the following description of the apparatus illustrated in the drawings, in which—

Figure 1 is a plan view of a melting pot and pump, indicating a series of casting boxes adjacent thereto; and Fig. 2 is a vertical central section through the pot and pump, and connections.

The melting pot 1 is mounted in a furnace A, of usual construction, and said melting pot is provided with an interior ring 1<sup>a</sup> which lies below the surface of the metal preferably when the pot is in use. Said ring may be cast with the pot or formed separately and secured thereto. Upon this ring is mounted a pot support 2, which is pref-

erably a spider provided with a peripheral ring-portion 2<sup>a</sup> resting upon ring 1<sup>a</sup>, and it may be held down upon the ring, in any suitable manner, as for example by the blocks 1<sup>b</sup> secured to the pot by bolts 1<sup>c</sup> as shown, so as to permit the spider to rotate if desired in the pot while supported upon the ring 1<sup>a</sup>, or floated upon the molten metal in the pot. The spider may be provided with a handle 2<sup>e</sup> by which it can be turned. It is also provided with a central opening in which is secured the metal pump 3, which is practically of ordinary construction and intended when in use to be submerged in the molten metal in the pot, as is customary in this class of apparatus,—the said pump is provided with a discharge spout 3<sup>a</sup>, which may be of ordinary construction, and extends over the edge of and beyond the pot and is adapted to deliver molten metal into anyone of a series of casting boxes or flasks B which may be of any desired construction, and are preferably arranged around the melting pot so that by turning the pump or spider the spout can be brought into position to deliver metal to any one of the said boxes.

The pump might be formed integral with the spider or support 2, but is preferably formed separately therefrom, and provided with lugs 3<sup>b</sup>, which underlie the spider, as shown, and prevent the pump being floated off of it. The pump, if desired, may be formed with or fixedly attached to the spider by bolts 3<sup>c</sup> tapped through lugs 3<sup>b</sup> into the spider, as shown. If the bolts 3<sup>c</sup> be removed the pump can be rotated with, or independently of, the spider, so that the spout 3<sup>a</sup> can be turned as desired, to any casting box, or the pump can be turned with the spider by manipulating handle 2<sup>e</sup>. The plunger rod 3<sup>d</sup> of the pump is connected to an ordinary hand lever 3<sup>e</sup> as usual, having a fulcrum on a bracket 3<sup>f</sup> which may be attached to any suitable support. As shown, it is mounted upon the edge of the pot.

The pump is preferably situated axially of the pot and spider, so that the plunger 3<sup>d</sup> does not have to rotate with the pump and need merely have a reciprocatory movement and it can operate effectively in all positions of the delivery spout 3<sup>a</sup>.

Some of the advantages of this apparatus are that one pump will serve a number of casting boxes, and while one casting box

is being filled with metal, another may be made ready, or emptied, and so the pumping operations can be carried on substantially continuously and without having to move the pump about from one box to another. Further, the pump fastenings not being rigidly connected to the pot are not injuriously affected by expansion or contraction of the metal; and the pump and its support can be readily removed from the pot, if necessary, to repair the parts at any time, or to cleanse the pot from accumulations of slag.

When the apparatus is in use, the pump and its support practically float in the molten metal in which they are submerged, so that they can be turned readily and easily to the desired position as the weight of the pump and supports is almost, if not entirely, buoyed up by the heavy molten metal.

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

1. The combination of a melting pot, and a pump rotatably supported in the pot, and a discharge spout connected with the pump and movable therewith so as to discharge metal at any desired point.

2. In combination with a melting pot, of a fluid pump rotatably and removably supported in the pot, and a discharge spout connected with the pump and movable therewith so as to discharge metal at any desired point.

3. The combination with a melting pot, of a pump rotatably supported in the pot and adapted to be floated therein by the molten metal, and a discharge spout connected with the pump and movable therewith so as to discharge metal at any desired point.

4. In combination with a melting pot, a fluid pump movably and removably supported in the pot and adapted to be floated therein by the molten metal, and a discharge spout connected with the pump and movable therewith so as to discharge metal at any desired point.

5. In combination with a melting pot, a number of casting boxes adjacent to the melting pot, and a pump rotatably mounted in the pot, and a discharge spout connected with the pot and movable therewith and

adapted to deliver metal to any of the casting boxes.

6. The combination of a melting pot, a pump support rotatably mounted therein, and a metal pump mounted on and rotatable with said support.

7. The combination of a melting pot, a series of casting boxes adjacent to the melting pot, a spider in said melting pot, and a pump on said spider whereby said pump can be turned so as to deliver metal to any casting box.

8. The combination of a melting pot, a spider rotatably supported in said pot, and a metal pump supported on said spider and having a delivery spout projecting out of the pot.

9. The combination of a melting pot, a series of casting boxes adjacent to the melting pot, a pump support loosely confined in said melting pot, and a pump on said support, said pump being turnable so as to deliver metal to any of the casting boxes.

10. The combination of a melting pot having an interior ring, a spider rotatably supported on said ring, and a metal pump supported on said spider having a delivery spout projecting out of the pot.

11. The combination of a furnace, a melting pot therein, a spider rotatably mounted in said pot, a metal-pump attached to said spider, a delivery spout projecting from the pump, a plunger in said pump, an oscillating lever, and a connection between said lever and the pump plunger.

12. The combination of the furnace, a melting pot therein having a ring, a spider rotatably mounted on said ring, a melting pot attached centrally to said spider and having a delivery spout projecting over the edge of the pot, a plunger in said pump, an oscillating lever mounted on the pot, and a connection between said lever and the pump plunger.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

HENRY F. BECHMAN.

Witnesses:

ARTHUR E. DOWELL,  
JOHN L. FLETCHER.