Sept. 1, 1925. 1,551,838

F. B. MYERS

CASTING DEVICE FOR TYPE METAL

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Fig. 1.

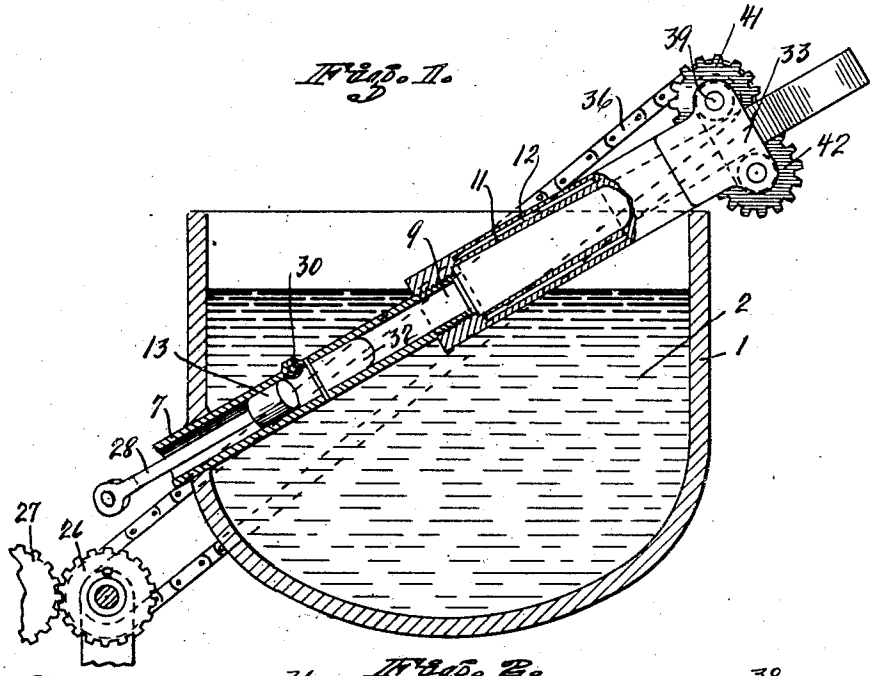
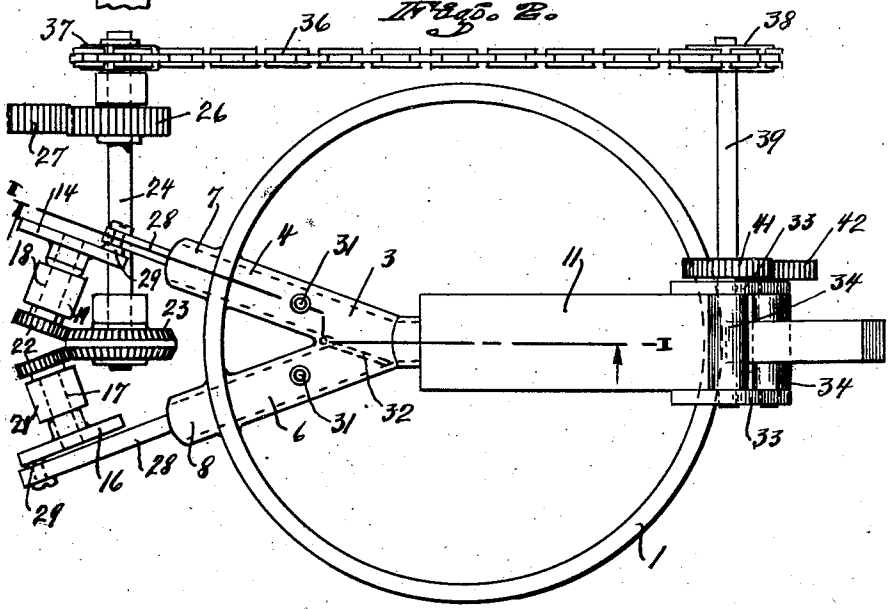


Fig. 2.



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CASTING DEVICE FOR TYPE METAL.

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To all whom it may concern:

Be it known that I, FRANK B. MYERS, a citizen of the United States, and a resident of Oakland, county of Alameda, State of California, have invented a new and useful Casting Device for Type Metal, of which the following is a specification.

The present invention relates to improvements in means for casting type metal such as slugs, leads and rules. The particular object of the invention is to provide means whereby type metal of any desired cross-section can be cast in a continuous process. A further object of the invention is to provide a device for this purpose that is extremely simple in construction and requires very little attention on the part of the operator. Further objects and advantages of my invention will appear as the specification proceeds.

The preferred form of my invention is illustrated in the accompanying drawing, in which Figure 1 shows a side elevation of my device, with certain parts being shown in section, and Figure 2 a top plan view of the same. While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the claims attached hereto without departing from the spirit of the invention.

In its present form my invention comprises a vessel (1) adapted to be filled with molten lead (2) having a V-shaped cylinder (3) supported therein in such a manner that its legs (4) and (6) project beyond the wall of the container as shown at (7) and (8) while the whole cylinder is slantingly supported so that its mouth (9) is substantially on a level with the top of the liquid metal. A mold (11) cored to present a cross-section of the desired form threadedly engages the upper end of the cylinder so that the larger part of the mold is disposed above the liquid metal. A water jacket (12) is provided for the mold allowing liquid metal forced through the same to cool off rapidly.

Each of the two legs (4) and (6) of the cylinder has a piston (13) reciprocating therein and the pistons are actuated by any suitable means in such a manner that they always move in opposite directions. This result may be obtained for instance by the mechanism shown in the drawing comprising two discs (14) and (16) fixed to two shafts (17) and (18) supported in bearings (19) and (21) which two discs receive rotary motion through beveled pinions (22) engaging a beveled gear (23) supported on a shaft (24). The latter shaft may be rotated in any suitable manner as for instance by means of the two gears (26) and (27). The two discs (14) and (16) are arranged parallel to the two piston rods (28) extending from the two pistons and engage the said piston rods by means of studs (29) rising eccentrically from the faces of the discs.

Each leg of the cylinder is provided with an intake port (31) having a check valve (30) therein, below the level of the liquid metal, and a flap valve (32) is provided where the legs join to prevent back flow of the liquid metal on the rearward stroke of each piston.

At the upper end of the mold are supported, in suitable brackets (33), two rollers (34) adapted to engage the solid metal leaving the mold from opposite sides and to pull the same forward. The rollers may be actuated from the shaft (24) by means of a chain (36) engaging sprockets (37) and (38) on the shafts (24) and (39) respectively, the latter shaft forming an integral part of one of the rollers (34). The other roller receives rotary motion from the shaft (39) through the two gear wheels (41) and (42).

The operation of the device may be described as follows: When the shaft (24) is rotated, the two pistons (13) are reciprocated in their respective cylinder legs in opposite directions. As one of the pistons moves rearwardly it draws the flap valve (32) toward its side and creates a vacum which causes the liquid metal to enter through the port (31) of said leg. During the same stroke the other piston moves forwardly and pushes a previously collected amount of liquid metal into the mold. On the next stroke the first piston moves forwardly and pushes the amount of liquid metal received during the rearward stroke into the mold while the other piston draws a new supply. In this manner the two pistons cooperate in continuously feeding a supply of molten metal into the mold. While passing through the mold the metal cools, becomes solid, and is finally ejected from the other end of the

mold in finished form. After reaching the two rollers (34) the solid metal is engaged by the same and the rotation of the rollers forces the metal forward, thus assisting the action of the pistons.

I claim:

1. Means for casting type metal or the like, comprising a vessel having molten metal therein, a V-shaped cylinder submerged in the metal having a mold communicating with its base and having its two legs projecting beyond the outside of the cylinder and pumping means associated with each leg for causing a continuous flow of metal from the vessel into the mold.

2. Means for casting type metal or the like, comprising a vessel having molten metal therein, a V-shaped cylinder submerged in the metal having a mold communicating with its base and having its two legs projecting beyond the outside of the cylinder and pumping means associated with each leg for causing a continuous flow of metal from the vessel into the mold, consisting of pistons reciprocating in the legs in opposite directions.

3. Means for casting type metal or the like comprising a vessel having molten metal therein, a mold supported so as to dip into the surface of the metal and pumping means associated with the mold adapted to feed molten metal from the vessel into the mold.

4. Means for casting type metal or the like comprising a vessel having molten metal therein, a mold slantingly supported relative to the surface of the metal with its lower end dipping thereinto and pumping means associated with the mold adapted to feed molten metal from the vessel into the mold.

5. Means for casting type metal or the like comprising a vessel having molten metal therein, a pump mechanism supported in the wall of the vessel and made to draw on the metal and having an upwardly slanting discharge barrel and a mold secured to the end of the latter allowing molten metal to discharge thereinto.

FRANK B. MYERS.