No. 853,754. PATENTED MAY 14, 1907.

H. F. BECHMAN.

STEREOTYPING AND TYPE METAL FOUNDING APPARATUS.

APPLICATION FILED DEC. 8, 1906.

Fig. 1.

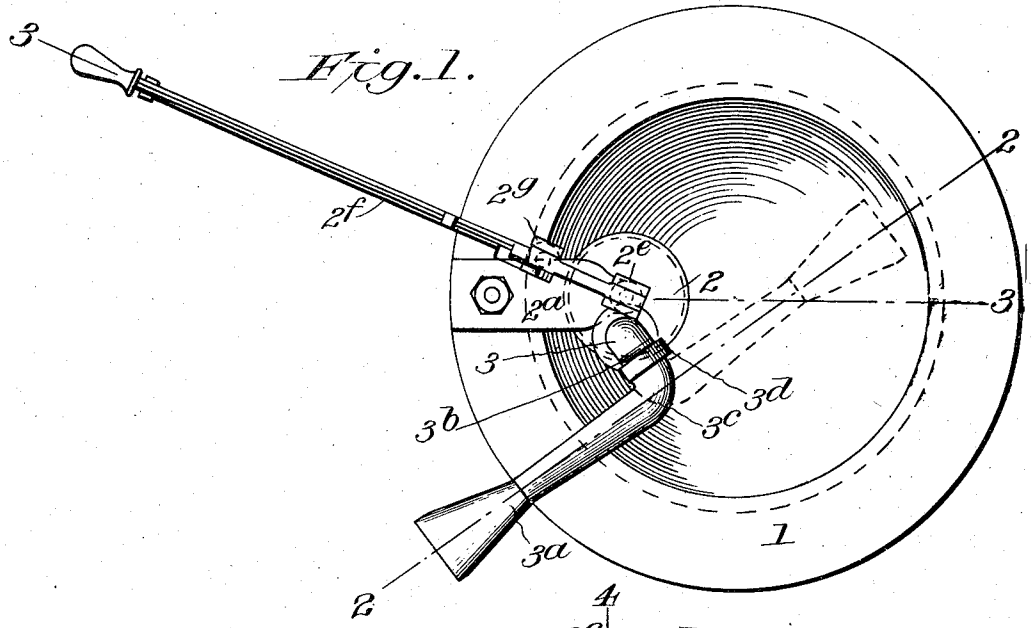

Fig. 2.

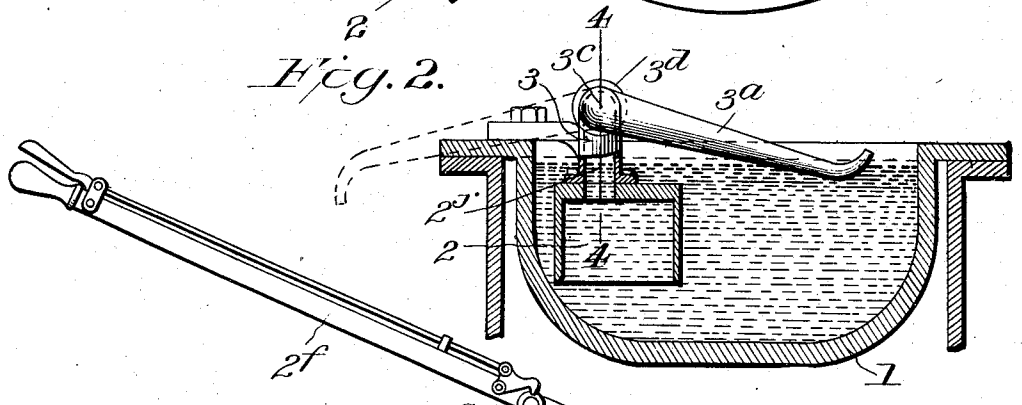

Fig. 4.

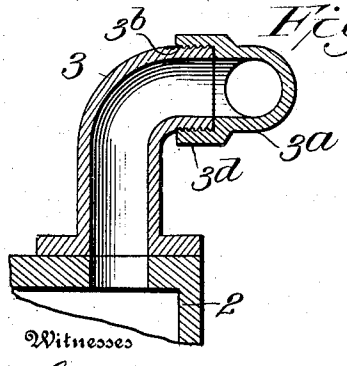

Fig. 3.

Witnesses

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STEREOTYPING AND TYPE-METAL-FOUNDING APPARATUS.

No. 853,754. Specification of Letters Patent. Patented May 14, 1907.

Application filed December 8, 1906. Serial No. 346,946.

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 Stereotyping and Type-Metal-Founding 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 improvement in stereotyping and type-metal founding apparatus, and relates particularly to the means for delivering the hot metal from the melting pot to the molds.

The object of the invention is to provide the metal pump with a discharge spout having an adjustable or turnable nozzle that can be swung back into the pot and heated by the molten metal therein before the casting operations begin, and which, between casting operations, can be turned back into the melting pot so as to be kept hot and in condition for instant use.

In the present known apparatus the pump spouts or nozzles chill the metal passing therethrough, and thus retard or stop the casting operation by the accumulation of chilled metal on the walls of the spout; by my present invention the metal cannot chill in the spout or nozzle, inasmuch as the latter can be thoroughly heated to the temperature of the molten metal before it is brought to operative position and the metal started through it.

In my invention, when the nozzle is thrown into discharging position, it is ready for operation and no dripping from the nozzle will occur after the pump piston has finished its stroke, because the nozzle is so thoroughly heated that no metal is chilled therein; while in the ordinary devices the metal drips because the nozzle is not heated enough to keep the metal lively and consequently much metal will chill therein.

It has been frequently necessary in the old apparatus to heat the nozzle by gas jets in order to remove the chilled metal, and this of course retards the operations, and causes great annoyance and loss of time, sometimes when time is of the utmost importance.

In my device if the nozzle should be left in discharging position until chilled, it can be quickly heated by turning it over into the pot, and any metal chilled therein would be rapidly melted out of it.

The invention therefore consists in the novel construction and combination of parts hereinafter claimed, and the accompanying drawings illustrate a practical embodiment of the invention.

In said drawings—Figure 1 is a plan view of the melting pot with pump and nozzle embodying my improvements. Fig. 2 is a sectional view on line 2—2, Fig. 1. Fig. 3 is a section on line 3—3, Fig. 1. Fig. 4 is a detail section on line 4—4, Fig. 2.

The melting pot 1 may be of any desired construction. Within this pot is a submerged metal-pump comprising a cylinder 2 suspended from a bracket 2^a attached to the side of the pot, and closed at its upper end but open at bottom. The cylinder piston 2^b is connected to a rod 2^c, extending through the upper end of the pump and connected by link 2^e to the inner end of the pump-operating lever 2^f, pivoted at 2^g on a bracket 2^h attached to the side of the pot as shown.

The pump has an outlet 2^j in its upper end, communicating with the discharge pipe which is composed of an elbow portion 3, fixedly attached to the top of pump, and a nozzle portion 3^a rotatably connected to the upper end of part 3 as shown, so that the nozzle 3^a can be swung into either position shown in Figs. 1 or 2. A convenient mode of connecting the nozzle and elbow is to have the upper end of the elbow 3 externally threaded as at 3^b and to form the nozzle with a right angled bend 3^c at its base, and with an internally threaded flange 3^d on its inner end, and screw the flange onto the elbow 3 as shown,—thus allowing the nozzle to be swung upon the elbow as a pivot, and at the same time always maintaining a close joint therebetween,—and this construction prevents lateral wabbling or unsteady movements of the nozzle. As customary, the pot 1 is to be kept filled with molten metal, to about the level indicated in the drawings, and before the casting operations are begun the nozzle should be turned into the position shown in full lines in Fig. 2, so that it lies upon and is partly submerged in the molten metal, and thus becomes heated to the temperature of the metal. Then when the casting operation is to be performed the nozzle is turned to the position shown in full lines in

Fig. 1, and the molten metal forced therethrough by operating the pump piston, as usual. After the casting operations are over, or in the intervals between such operations, the nozzle can be turned back into the pot as shown in Fig. 2 and kept hot until another casting operation is to be performed. If the nozzle should be left in the delivering position until cold, or if for any reason some of the metal should chill therein at any time, it can be quickly cleared by turning it back into the molten metal as shown in Fig. 2, until it is reheated.

The advantages, utility and simplicity of this invention will be readily appreciated by those skilled in the art.

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

1. In combination, a melting-pot, a metal pump therein, and a discharge nozzle connected with the pump, and adapted to be turned into the hot metal in the pot to be heated thereby, substantially as described.

2. In combination, a metal melting-pot, a metal pump therein, and a discharge pipe, comprising a section fixedly attached to the outlet of the pump, and a nozzle section connected to the fixed section and adapted to be turned into the hot metal in the pot to be heated, or over the edge of the pot to discharge the metal.

3. In a stereotype casting apparatus, the combination of a metal melting-pot, a metal pump therein, and a discharge pipe, comprising a section attached to the outlet of the pump, and a nozzle section rotatably connected to the first section and adapted to be turned into the hot metal in the pot or over the edge of the pot, substantially as described.

4. In a casting apparatus, the combination of a melting pot, a metal pump suspended therein, a pipe elbow connected to the outlet of the pump at one end and having its other end threaded, a nozzle having its inner end threaded to engage the threaded end of the elbow whereby said nozzle can be turned either into the metal in the pot to be heated, or outwardly to project over the edge of the pot, substantially as described.

5. In a stereotype casting apparatus, the combination of a melting-pot, a metal pump suspended therein, a pipe elbow connected to the outlet of the pump at one end and having its other end threaded, and a nozzle having a bend on its inner end provided with an internally threaded flange screwed onto the threaded end of the elbow whereby said nozzle can be turned either into the metal in the pot to be heated, or outwardly over the edge of the pot to deliver the metal, substantially as described.

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

HENRY F. BECHMAN.

Witnesses:

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