

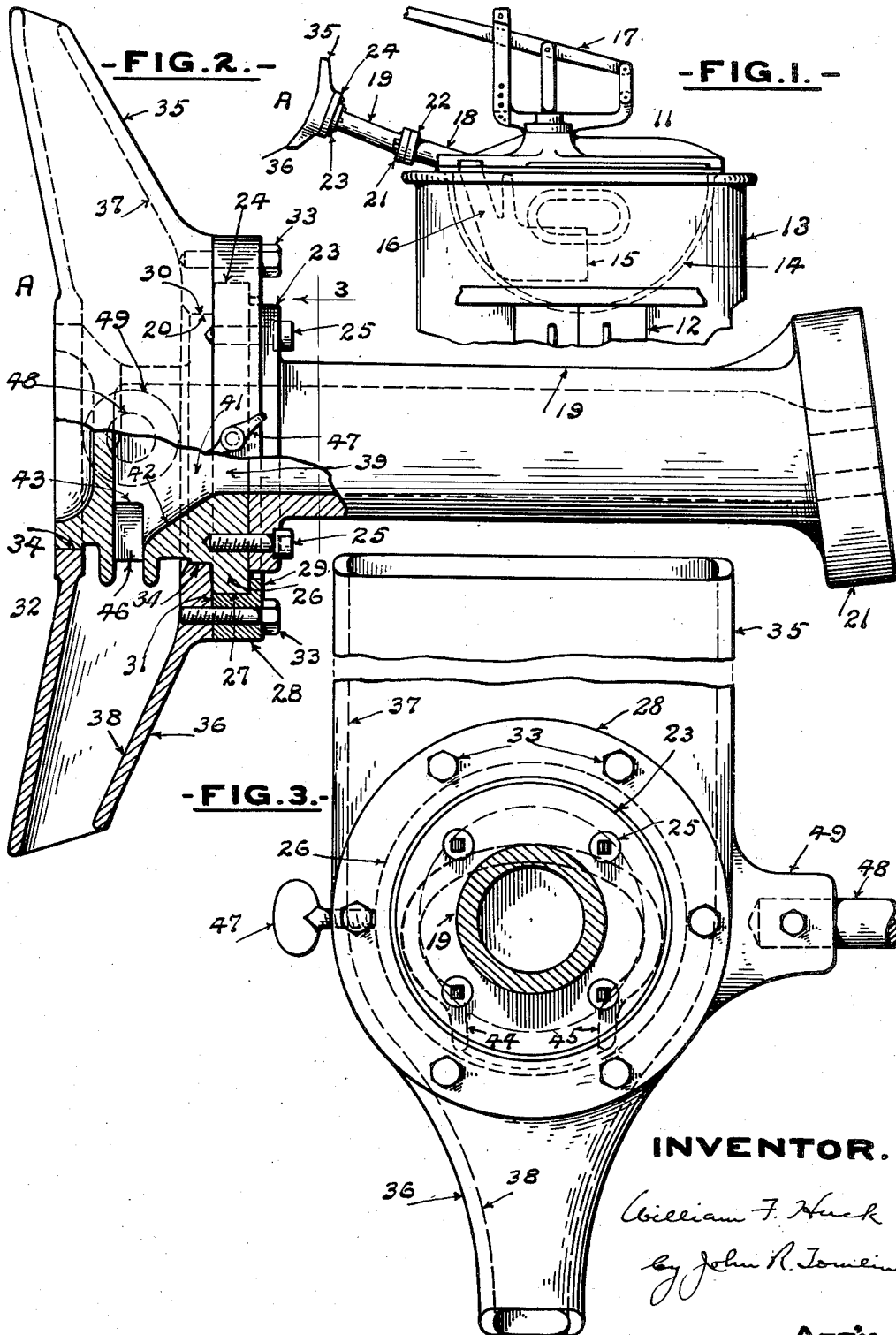
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STEREOTYPE METAL PUMP

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STEREOTYPE METAL PUMP

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This invention in general relates to machines for casting metal used in the making of stereotype printing plates, and more particularly to improved simplified means for adapting a pump of the kind indicated, to deliver molten metal selectively from any one of a plurality of nozzles for appropriate use according to the type, size and shape of the mold in instant use.

Another object is to provide a novel multiple nozzle assembly adapted to be operatively applied to conventional stereotype casting pumps for permitting such a pump to be conveniently used for the casting of stereotype printing plates of the most diverse sizes and shapes.

A further object is the provision of a novel attachment for the spout of a metal casting pump adapting the said pump for use selectively with different sizes and shapes of molds.

Other objects and advantages in the design, construction, arrangement and adaptation of parts will appear more fully in the details hereinafter described and will be best understood when taking in connection with the accompanying drawing in which:—

Figure 1 is a fragmentary elevational view of a casting machine to which an embodiment of my invention has been operatively applied;

Figure 2 is an enlarged elevational view, partly in section, with parts broken away, of a multiple nozzle assembly embodying my invention, detached from the spout of the conventional metal casting machine shown in Figure 1; and

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 2, looking in the direction of the arrow.

While I have illustrated a preferred form of the invention, it will be understood the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

In the drawing, 11 designates a casting pump of conventional design and construction to which a nozzle assembly A embodying my invention has been operatively applied. The casting pump includes the usual frame 12 and a furnace housing 13 in which a melting pot 14 is arranged. The melting pot 14 is provided with a pump cylinder 15 which is adapted to discharge molten metal into an outlet passage 16 connected thereto when an operating handle 17 is manipulated in the usual manner.

The above details form no part of the present invention being common to metal casting pumps

in general, but will suffice to show how my device can be conveniently applied to conventional apparatus of the kind indicated.

The nozzle assembly A embodying my invention hereinafter described may be attached directly to an extending portion 18 of the spout 16 in any suitable manner or may include a pipe 19 having a flange 21 at one end which is bolted or otherwise suitably secured to a flange 22 formed on the exteriorly projecting part 18 of the spout 16. At the other end of the pipe 19, another flange 23 is provided on which latter a hollow nozzle-supporting or spout member 24, forming a part of the nozzle assembly A, is detachably secured by the screw bolts 25. The member 24, as best shown in Figure 2, is formed with an annular projecting portion or flange 26, which is received in an annular groove or pocket 27, provided by an annular member 28, having an inwardly directed lip or flange 29, and by a coaxing rear surface or annular portion 31, of a nozzle-bearing member 32 forming a part of my assembly A. The nozzle-bearing member 32 is formed with a shouldered surface as at 30 which contacts with an inner surface 20 formed on the member 24, the member 32 being secured to the latter and the member 28 in any suitable manner, as by the bolts 33, and is rotatably mounted on the inner or bearing surface 20 of the said member 24, a considerable part of the body portion of which is arranged within a bore 34 formed in the member 32. The member 32 is formed with or has secured thereto a plurality of nozzles, in the present instance two, 35, 36 of different size and configuration, the bores 37, 38 respectively of which are of different capacity and shape and communicate with the bore.

By further inspection of Figure 2, it will be seen the bore of pipe 19 communicates with an opening 39 provided in member 24, the member 24 being formed with an internal pocket 41 having a shelving floor 42, and an outlet or spout 43. Adjacent the outlet 43, which communicates with opening 39, the member 24 is formed with a pair of depending lips 44, 45 which are adapted to extend into the nozzle in immediate use, which in the drawing is nozzle 36, and which serve as a guide for molten metal when issuing from the outlet 43 into the nozzle being used, so that the said molten metal will not run into any interstices between the member 24 and the nozzle-bearing member 32. The outlet 43 is formed by removing or cutting out a portion of the walls, as at 46, of the pocket 41. Either of the nozzles 35, 36 may be brought into use or co-operation with the outlet 43 by unscrewing the wing 55

screw 47 which is threaded in a hole formed in the member 28 and engaged against the said annular flange 26, thereby permitting the annular member 28, which is fastened to the nozzle bearing member 32, to be turned by a handle or element 48 secured to a lug or extension 49 arranged on the body portion of member 32 for the purpose of turning the nozzles 35, 36 secured thereto. When the nozzle selected is in correct depending position and alignment with outlet 43, the wing screw 47 is tightened and the device is again ready for operation.

It will now be obvious that when the operating handle 17 is manipulated, molten metal will be raised in the outlet passage 16 and conveyed into the pocket 41 through opening 39, thence passing through outlet 43 between and out of the lips 44, 45, into the bore 38, of nozzle 36 in instant use at a point below the level of the contacting surfaces of the members 24 and 32, to be discharged thence into the customary molds, which may be done by means of the present invention through the nozzle best adapted for the purpose, by rotating the nozzle-bearing member 32 by handle 48 until the preferred nozzle is in the operative position shown in Figures 1 and 2. In practice, it has been found desirable to pour molten metal into stereotype molds from nozzles of different configurations and sizes, so that the most efficient application of molten metal to the said molds may be made, it being understood that in certain instances, it is preferable to have a wide flattened type of nozzle and again in other cases, a round nozzle may be an advantage. By inspection of Figure 2, it will be observed that the extremities of the lips 44, 45 of the nozzle-supporting member 24 are positioned substantially below the level of the inner or bearing surface 20 of the said member 24 so that molten metal will be prevented from finding its way into the joints or interstices between said nozzle assembly and the hollow nozzle supporting member. The entrance of molten metal into the bearing of the rotatable nozzle-supporting member, it is of course understood, would result in binding it when the metal cools. I have illustrated in the drawing an adjustable nozzle assembly having a pair of nozzles, but if desirable other additional nozzles may be provided as a part of the assembly A.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

What I claim is:

1. As an article of manufacture, a nozzle assembly adapted to be attachably secured on a bearing surface formed as a portion of the spout of a metal casting pump for adapting said pumps to cast printing plates of diverse sizes and shapes, said nozzle assembly including a hollow member attachable to and communicating with said spout, a hollow multiple nozzle member rotatably mountable on and encircling said hollow member, said hollow member having outlet means

positioned substantially below the level of the bearing surface and communicating with any selected nozzle on said multiple nozzle member, and means engaged with the hollow member and nozzle-bearing member for permitting relative motion between the said members and locking same together when desired.

2. An attachment of the character described for a metal casting pump comprising a hollow member detachably securable to a supporting surface forming a part of a spout arranged on said pump, said hollow member having outlet means positioned substantially below said surface, a second member encircling and rotatably mounted on the hollow member, said second member having a plurality of nozzles with each of which said outlet may selectively communicate, a handle fastened to the second member for turning same, and a ring fixed to the second member and rotatably secured on and adjustably lockable to the hollow member whereby molten metal may be discharged at a point substantially below said bearing surface selectively through any one of said plurality of members.

3. A multiple nozzle unit adapted to be detachably secured to a spout of a metal casting pump, said unit including an outer member having a plurality of nozzles radially projecting therefrom, a hollow body mounted on and directly contacting with the spout and having an outlet communicable with all of said nozzles in any desired sequence, a bearing surface arranged between said outer member and said hollow body and manually-operable means exteriorly secured to said outer member for turning same to bring said nozzles into operative alignment with said outlet, said outlet being adapted to deposit molten metal within any one of said plurality of nozzles at a point substantially below said bearing surface.

4. In a device of the character described, a nozzle assembly, outlet spout arranged within the nozzle assembly and having a bearing surface, said nozzle assembly being fitted to turn on said bearing surface and provided with a plurality of openings adapted to be selectively employed by rotating it with respect to the spout; said spout having an orifice adapted to discharge molten metal selectively into any one of said openings at a point sufficiently lower than said bearing surface to prevent said molten metal from coming into contact with the bearing.

5. In a device of the character described, a spout member having a bearing surface, and a nozzle member having a bore fitted to rotate on the said surface and oppositely disposed nozzles differing in configuration, whereby the nozzles may be selectively turned to operating position; said spout member being provided with an outlet positioned below the said bearing surface.

6. In a device of the character described, a spout member having an annular flange, a bearing surface formed on said spout, and a nozzle member rotatably and detachably mounted on said bearing surface, said nozzle member having a plurality of nozzles differing in capacity, said spout member having depending outlet means positioned below the level of the bearing surface.

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