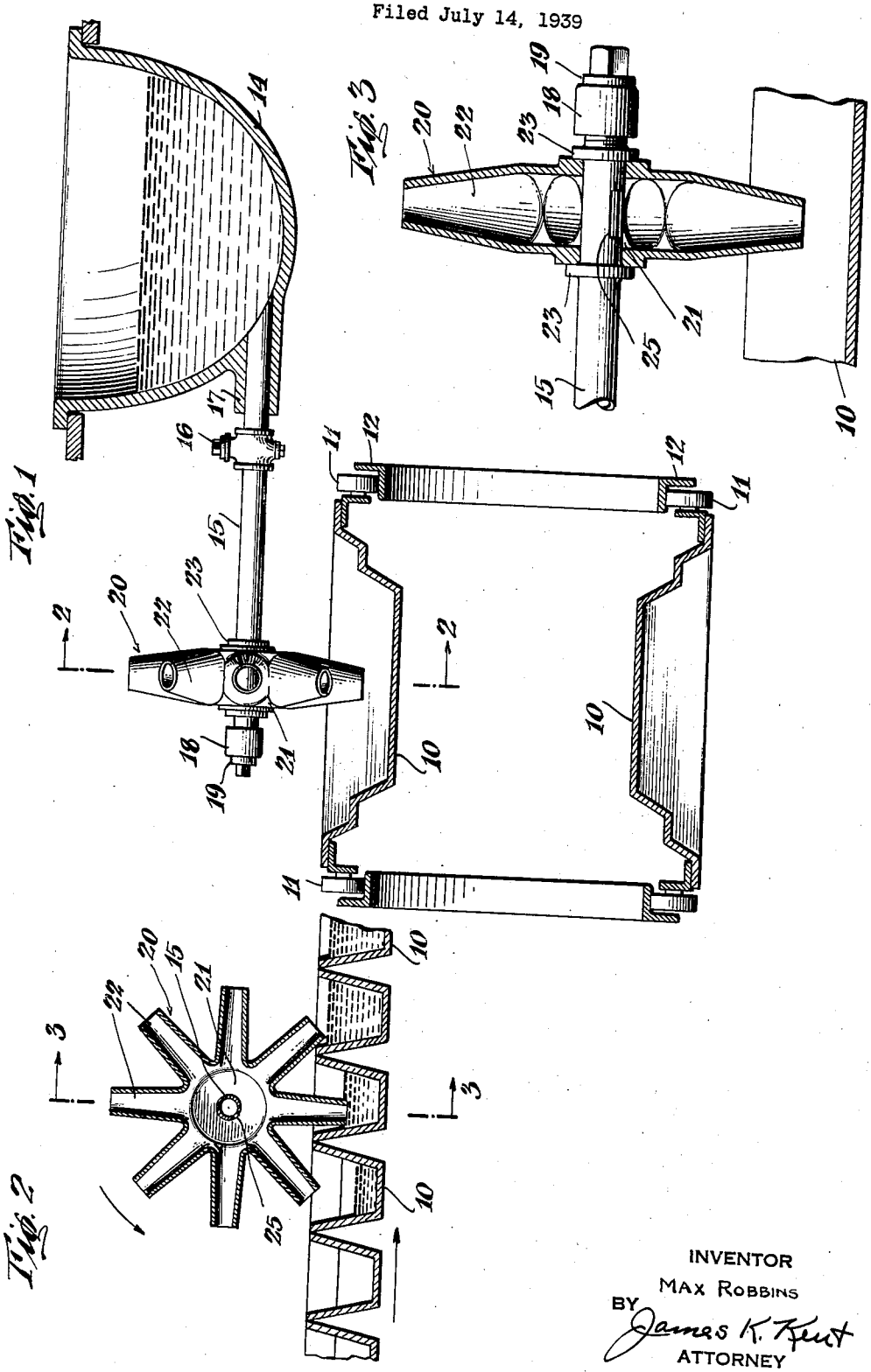
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CASTING APPARATUS

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CASTING APPARATUS

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1 Claim. (Cl. 22—79)

This invention relates to casting apparatus and more particularly to an apparatus for filling molds as same are continuously advanced on a travelling conveyor.

An object of the invention is to provide a novel and improved apparatus of the type above indicated.

Another object is to provide a simple and automatic filling means which does not require the services of an attendant for transferring the filling spout from one mold to the next as the successive molds are filled.

Another object is to provide a mechanism of the type above indicated in which the quantity of liquid supplied to the various molds may be readily adjusted and accurately maintained.

Another object is to provide a casting mechanism which is capable of operating with a minimum of supervision.

Various other objects and advantages will be apparent as the nature of the invention is more fully disclosed.

Although the novel features which are believed to be characteristic of this invention will be pointed out more particularly in the claim appended hereto, the invention itself will be better understood by referring to the following description, taken in connection with the accompanying drawing, in which a specific embodiment thereof has been set forth for purposes of illustration.

In the drawing,

Fig. 1 is a transverse section through a portion of a casting machine embodying the present invention,

Fig. 2 is a section taken on the line 2—2 of Fig. 1, and

Fig. 3 is an enlarged section taken on the line 3—3 of Fig. 2.

Referring to the embodiment of the invention illustrated in the drawing, the invention is shown as applied to a series of molds 10 which are of any suitable form or shape and are continuously driven by suitable means such as a travelling conveyor, not shown. The molds 10 are shown in Fig. 1 as mounted on rollers 11 riding on rails 12. It is to be understood that the molds may be connected and driven by any suitable means so as to cause the molds to successively pass the filling station and, after allowing a sufficient time for the casting to harden, the molds may be tilted by suitable mechanism, not shown, for removing the casting. Only so much of the casting mechanism has been shown as is necessary to an understanding of the present invention.

The filling mechanism for supplying molten metal, for example, lead, to the molds is shown as comprising a pot or kettle 14 which is heated by any conventional means for maintaining metal in the molten state. The metal is supplied to the pot 14 in any convenient manner and provision may be made to maintain a constant liquid level therein. The liquid metal is discharged through a supply pipe 15 controlled by a valve 16. The supply pipe 15 extends from a boss 17 formed in the pot 14 to a position over the molds 10. The free end of the pipe 15 is supported by suitable means, not shown. The end of the supply pipe 15 is closed by a plug 19 which is removable for cleaning purposes.

Mounted upon the supply pipe 15 is a pouring wheel 20 having a hub portion 21 and a plurality of radially extending spouts 22 which communicate with said hub portion. Suitable bearings 23 are provided for mounting the pouring wheel on the supply pipe 15. The spouts 22 are so arranged, as illustrated in Fig. 2, that each spout registers with an individual mold 10 as the molds are advanced past the pouring wheel. The pouring wheel 20 is driven by the travelling molds.

The supply pipe 15 is provided with a discharge orifice 25 which, in the embodiment shown, is in the form of an elongated slot located within the hub portion 21 of the pouring wheel 20. The orifice 25 is displaced from the bottom of the pipe in the direction from which the molds advance so that the metal flowing through the discharge orifice tends to pass through the descending spouts for filling the advancing molds. In this way the metal is largely prevented from entering the ascending spouts after the molds have been filled, thereby eliminating the tendency of the spouts to drip. It will be noted that the spouts are of such length that the free ends of the spouts are located directly over the advancing mold at all times while the spout is in a pouring position.

In the operation of this apparatus, the molds 10 are advanced continuously by any convenient means. A bath of molten metal is maintained in the pot 14. This molten metal is discharged through the orifice 25 of the supply pipe at a rate determined by the head of metal within the pot 14 and the condition of adjustment of the valve 16. The metal accordingly discharges from the orifice 25 in a continuous stream which is directed by the spouts 22 into successive advanc-

ing molds. It will be noted that the pouring begins as the mold advances toward the rotating pouring wheel and that each mold is filled to the desired level before the associated pouring spout is advanced to a point at which the supply of metal is cut off. By displacing the discharge orifice in the direction of the empty molds, as illustrated in Fig. 2, the molds may be substantially filled before they have advanced to a position such that the pouring spout is removed therefrom. The discharge orifice can, of course, be otherwise positioned, depending upon the particular metal or material being poured, the size and contour of the molds, etc., if desired.

It will be noted that the above described mechanism provides means for individually filling successive molds without requiring the addition of an operator for changing the pouring spout as each mold is filled. The pouring wheel is automatically shifted as the molds come into pouring position. The quantity of liquid supplied to the pouring wheel is dependent upon the rate of flow through the orifice 25 which, in turn may be controlled by adjustment of the valve 16; also the amount of metal supplied to each individual mold is readily controlled by the speed at which the travelling conveyor is driven. When the desired adjustment is once made the molds will thereafter all be automatically filled to the desired level without further attention.

While specific terms have been used herein for convenience in referring to various details of the apparatus illustrating the invention, it will be apparent that same is capable of different uses and that various changes and modifications may be made therein within the scope of the appended claim.

What is claimed is:

Metal casting apparatus comprising a plurality of travelling molds mounted to successively pass a pouring station, a supply pipe for liquid metal to be cast extending transversely over said molds at said pouring station, said pipe having a discharge orifice, a hollow casting wheel journalled on said pipe and having a hollow hub member forming a chamber to receive liquid metal from said discharge orifice, said casting wheel having a plurality of spouts arranged to successively cooperate with successive molds as the molds are advanced to and past the pouring station, said wheel being driven by the advancing molds whereby, as each mold reaches the pouring station, liquid metal is directed into the mold by means of a cooperating spout and as the mold advances beyond the pouring station, the spout ascends thereby cutting off the supply of liquid metal to the mold.

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