

J. A. MOHR & F. H. N. GERWIG.
MOLD FOR CASTING MACHINES.
APPLICATION FILED APR. 30, 1909.

932,047.

Patented Aug. 24, 1909.

Fig. 1.

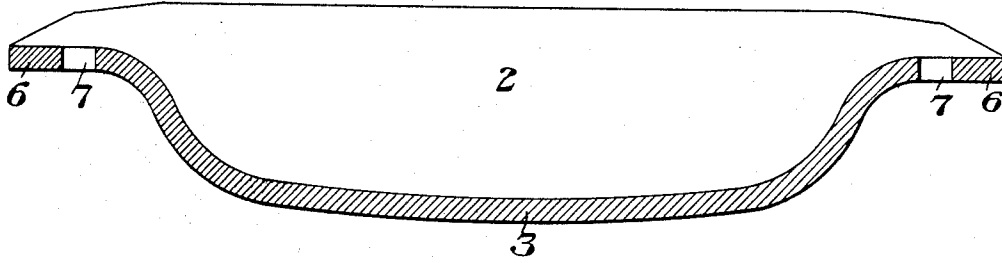


Fig. 2.

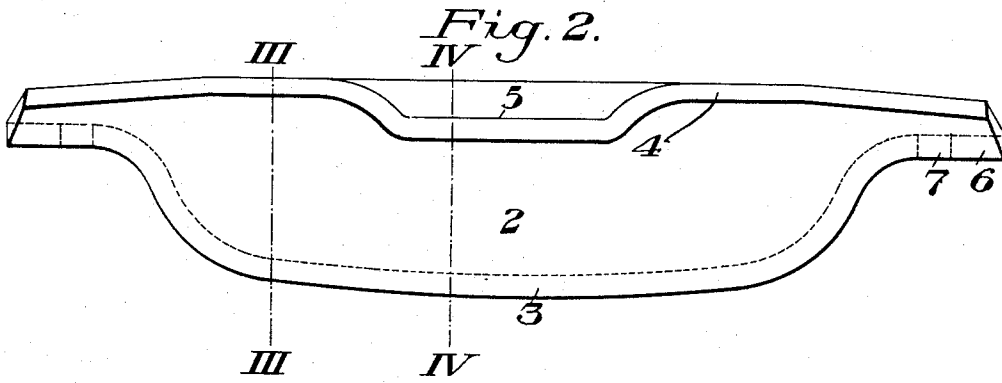


Fig. 3.

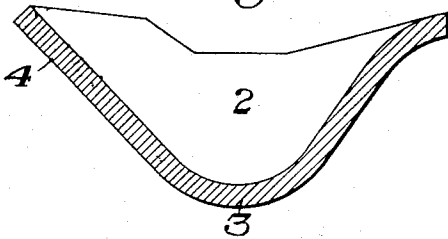


Fig. 4.

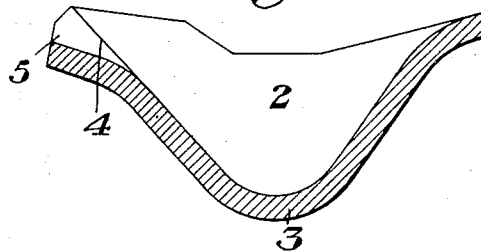
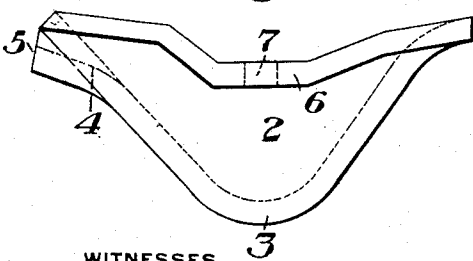
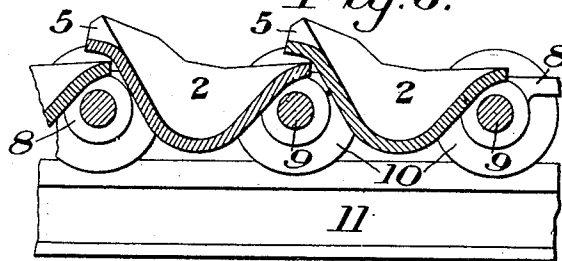


Fig. 5.



WITNESSES

Fig. 6.



INVENTORS

R. A. Balderson.
G. L. Winters.

J. A. Mohr
F. H. N. Gerwig
by Pauline Myers & Sonnette
their attys

UNITED STATES PATENT OFFICE.

JACOB A. MOHR, OF BRADDOCK, AND FREDERICK H. N. GERWIG, OF WILKINSBURG,
PENNSYLVANIA.

MOLD FOR CASTING-MACHINES.

932,047.

Specification of Letters Patent.

Patented Aug. 24, 1909.

Application filed April 30, 1909. Serial No. 493,169.

To all whom it may concern:

Be it known that we, JACOB A. MOHR, of Braddock, and FREDERICK H. N. GERWIG, of Wilkinsburg, Allegheny county, and State of Pennsylvania, have invented a new and useful Mold for Casting-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal sectional elevation showing a mold constructed and arranged in accordance with our invention; Fig. 2 is a longitudinal side elevation of the same showing the lip or depression formed in one marginal edge of the side of the mold; Fig. 3 is a transverse section on the line III—III of Fig. 2; Fig. 4 is a similar section on the line IV—IV of Fig. 2; Fig. 5 is an end elevation of the mold shown in Figs. 1 and 4; Fig. 6 is a sectional elevation showing the molds as assembled together in forming the endless string of molds of a casting machine.

Our invention relates to the construction of molds for casting apparatus employed in casting a body of molten materials into a plurality of relatively small pieces and it more particularly relates to the molds used on pig casting machines for forming molten cast iron into what is known commercially as pig iron.

The object of our invention is to provide a mold of improved construction having means by which warping or distortion of the molds is overcome and the life of such molds is thereby increased while the capacity of the molds is not reduced during the use of the apparatus.

Another object of the invention is to provide a mold having improved means by which loss of molten metal during the casting operation is lessened and is overcome and by which the formation of scrap is reduced and loss or waste of the molten metal is prevented.

Heretofore the top marginal edge portion of such molds have had straight marginal edges and in some cases flat marginal surfaces. The molten iron on striking these straight or flat surfaces while the molds were passing beneath a stream of metal flowing from the ladle into the molds would spatter and run in very much the same manner that drops of water will run when put on the top of a hot stove. On this account a large

amount of metal would fall from the molds and would be collected below the casting apparatus in the form of scrap. This entails an expense in removing periodically the scrap so formed, this removal being necessary in order to keep the apparatus in working condition.

In the drawings, 2 represents one of the series of molds forming a pig casting machine, the molds as shown being formed by stamping or tracing from a plate of iron or steel into the shape shown. The bottom portion 3 of the mold is curved transversely and is also curved lengthwise from its center toward its ends as is clearly shown in Figs. 1 and 2. The marginal top portions of the molds are inclined inwardly and downwardly at all points and one longitudinal edge portion 4 of the mold is provided with a depression 5 which also inclines inwardly and forms a lip, this lip overlapping the opposite side on the adjacent mold when the molds are in assembled places as shown in Fig. 6. The end portions 6 of the molds are provided with holes 7 through which bolts extend in securing the molds in place on the links 8 forming the endless chains of the casting machine. The links 8 are provided with rods or shafts 9 on the ends of which track wheels 10 are mounted. These wheels travel on the track rails 11 of the apparatus in the usual manner.

In the use of casting apparatus equipped with our improved molds the chain of molds travels away from the ladle from which a stream of molten iron or other material is poured. The stream of iron will strike the lip portion 5 and will be directed into the mold where it mingles with and forms part of the pig being formed. In this way a large amount of metal which heretofore would roll from the mold and which would be lost is directed into the mold where it is collected and saved.

In the molds of such casting machines as heretofore constructed, the bottom portion was straight lengthwise from the center toward its end. By reason of the action of the heat in the molten metal together with the weight of the metal, the bottom of such molds would quickly become arched, the bottom raising upwardly so as to very materially lessen the capacity of the molds. This required the molds being changed frequently in order to keep the apparatus in operative

condition. By curving the bottom of the mold longitudinally from its center toward its ends, as shown in Figs. 1 and 2, and by curving the top portions of the longitudinal marginal edges, the molds are greatly stiffened and distortion and warping of the molds is thereby largely prevented. This results in very greatly increasing the life of the molds while preventing the capacity of the molds from being cut down and lessens the expense of maintaining the apparatus.

The advantages of our invention are many and will be appreciated by those skilled in the art.

15 Modifications in the construction and arrangement of the molds may be made without departing from our invention. The molds may be cast instead of being formed of wrought metal as shown. The form and shape of the lip on the overlapping edge of the molds may be changed. The degree of curvature of the bottom portion may be modified and other changes may be made within the scope of the claims.

25 We claim:

1. In a casting machine, a mold having inwardly sloping side portions converging into a curved bottom portion, the bottom portion curving longitudinally and transversely from the center toward the ends and sides of the mold; substantially as described.

2. In a casting machine, a mold having inwardly sloping side portions converging into a bottom portion, curved longitudinally and transversely one side being arranged to

overlap the opposite side of its adjacent mold, the overlapping side of the mold having a central marginal depression forming a lip and sloping downwardly and inwardly into the mold; substantially as described. 40

3. In a casting machine, a mold having inwardly sloping side portions converging into a curved bottom portion, the bottom portion curving longitudinally from the center toward the ends of the mold, the top marginal edge on one side of the molds being arranged to overlap the opposite side of its adjacent mold, the overlapping side of the molds having a central marginal depression forming a lip and sloping downwardly into the mold; substantially as described. 45 50

4. In a casting machine a mold formed from a sheet of wrought metal having inwardly sloping sides converging into a curved bottom, the bottom curving longitudinally from the center toward the end of the mold, at least one upper marginal edge portion having a depression forming a lip therein arranged to overlap the adjoining edge of the adjacent mold when the molds are assembled in place on the casting machine; substantially as described. 55 60

In testimony whereof, we have hereunto set our hands.

JACOB A. MOHR.

FREDERICK H. N. GERWIG.

Witnesses:

SAMUEL CAMPBELL,

THOMAS J. O'BRIEN.