No. 728,552. PATENTED MAY 19, 1903.

T. DIXON.

INGOT MOLD.

APPLICATION FILED SEPT. 27, 1902.

NO MODEL.

Fig. 1.

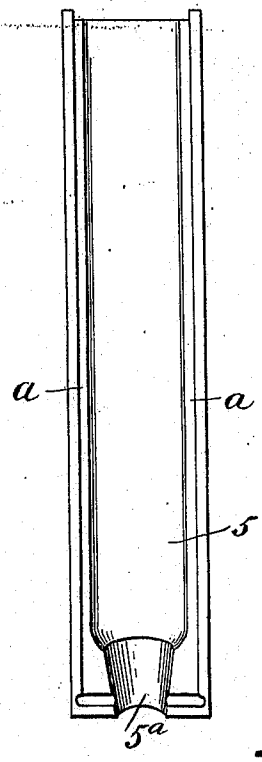

Fig. 2.

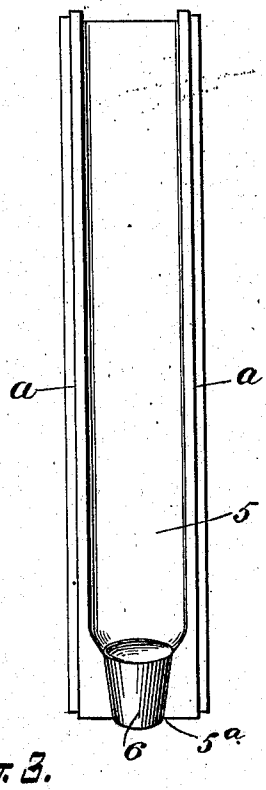

Fig. 3.

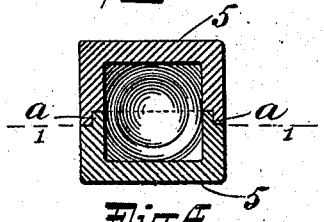

Fig. 4.

WITNESSES:

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No. 728,552. Patented May 19, 1903.

UNITED STATES PATENT OFFICE.

THOMAS DIXON, OF McKEESPORT, PENNSYLVANIA.

INGOT-MOLD.

SPECIFICATION forming part of Letters Patent No. 728,552, dated May 19, 1903.

Application filed September 27, 1902. Serial No. 125,064. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DIXON, a citizen of the United States, and a resident of McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Ingot-Molds, of which the following is a full, clear, and exact description.

This invention relates to separable molds employed for casting into form ingots of steel or other metal, and has for its object to provide novel means for preventing the molten metal from burning out the bottom of the two-part mold when the metal is poured into the mold to be shaped as an ingot.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of one-half of the two-part mold, the line of separation between the mold-sections being indicated at 1 1 in Fig. 3. Fig. 2 is a view similar to Fig. 1, but showing the feature of improvement connected therewith. Fig. 3 is a sectional plan view of the mold, showing its half-sections joined together and the improvement held therein; and Fig. 4 is a sectional side view of the feature of the improvement removed from the ingot-mold.

The molds usually employed for receiving molten metal, such as fine steel that is melted in crucibles and shaped in the mold into billets technically known as "ingots," are for the convenient removal of the cooled casting formed in two half-sections that join on a central longitudinal plane and in service are clamped together by any preferred means. As the bottom wall of an ordinary ingot-mold is in two parts integral with the side walls of the mold, it is found that the high temperature of the molten steel poured therein and the repeated use of the mold burns away the bottom of the mold, beginning at the point between its halves, and this soon renders the mold useless.

To increase the durability of ingot-molds of the character hereinbefore briefly described, I have devised the improvement that comprises the following details.

In the drawings, 5 5 indicate the two half-sections of an ingot-mold, that are rabbeted on their meeting edges, as shown at *a*, whereby said equal portions of the mold are adapted to interlock when the edges *a* are fitted together, as represented in Fig. 3, and form a matrix that is rectangular in cross-section. The bottom wall of the two-part mold 5 5 is considerably thicker than the side walls of the same, and a central aperture is vertically formed therein, the defining wall of said aperture being converged toward its lower end, so as to give a coniform shape thereto, as is indicated at 5^a in Fig. 1, where the bisected wall is shown. A coniform plug 6 is provided to fill the aperture 5^a, wherein it is fitted liquid-tight, the plug being formed of any suitable material adapted to resist intense heat—as, for example, it may be of steel, cast-iron, vitrified clay, or consolidated asbestos.

It will be seen in Figs. 1 and 2 that the corners where the side walls of the mold join the bottom wall are not angular, but concave, and that the upper side of the plug is likewise concaved, this provision adapting the mold to give convex shape to the end of the ingot cast therein and that has contact with the plug 6. Evidently this formation of the mold facilitates the easy removal of the cast ingots and avoids chilling of the corners on the ingots, which is objectionable and liable to occur when the mold has angular bottom corners.

It will be seen that by producing a tapered aperture in the bottom of the two-part mold that converges toward the lower end thereof and filling said hole with a removable heat-resisting plug that has a corresponding taper the bottom of the mold may be removed conveniently by driving the plug upward and out of the coniform aperture 5^a and inserting a new plug which will permit the continued use of the mold until the side walls of the same are burned so as to render the entire mold useless.

As molds for casting ingots of steel such as has been described must be adapted for convenient transfer from one place to another and remain intact, so that filled molds may be moved readily to a proper locality for cool-

ing of the ingots, it will be seen that the provision of an insertible bottom plug that will be held from passing out of the bottom of the mold and yet be convenient for removal renders the improvement practical, useful, and economical, correcting defects found in other ingot-molds.

Having described my invention, I claim as new and desire to secure by Letters Patent—

An ingot-mold comprising two sections jointed together longitudinally, and forming together four side walls that are peripherally rectangular in plan, a bottom wall joining the side walls and having concave corners at said junctions of the sides and bottom, said bottom having a downwardly and laterally converged coniform aperture centrally therein, and a heat-resisting coniform plug fitted into the coniform aperture, and having a concavity in its upper end that conforms with the concavity of the mold corners, and together therewith gives convex shape to an end of an ingot cast in the mold.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS DIXON.

Witnesses:
WILLIAM T. KURTZ,
ERNEST BARTLE.