J. ILLINGWORTH.

Molds for Ingots.

No. 166,700. Patented Aug. 17, 1875.

Fig. 2.

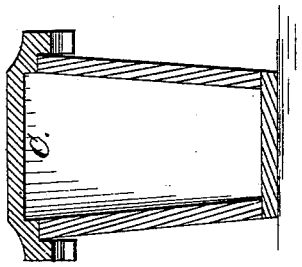


Fig. 4.

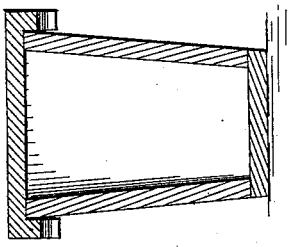


Fig. 1.

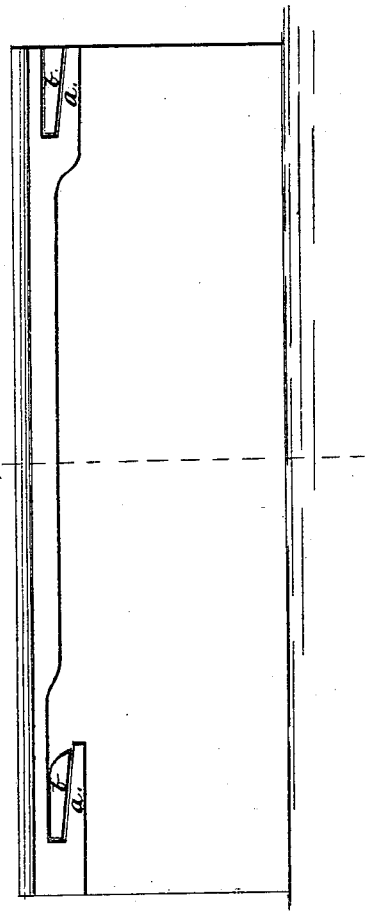
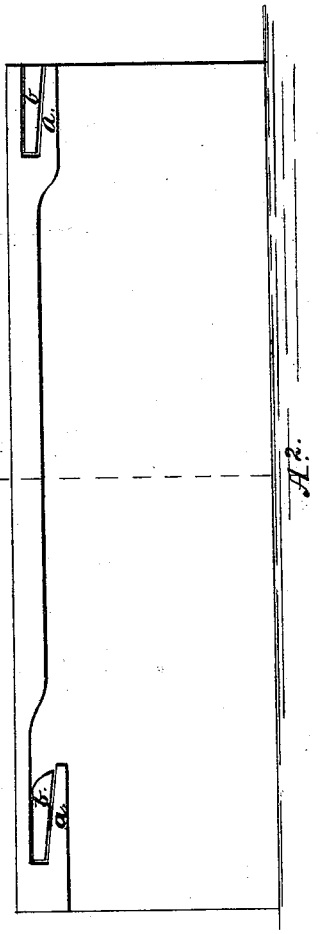


Fig. 3.



Witnesses:

Wm. M. Gooding.
Edward Collver

Inventor:

John Illingworth
per Attor. W. M. Gooding

UNITED STATES PATENT OFFICE.

JOHN ILLINGWORTH, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN MOLDS FOR INGOTS.

Specification forming part of Letters Patent No. **166,700**, dated August 17, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, JOHN ILLINGWORTH, of Newark, State of New Jersey, have invented an Improved Mold for Casting Ingots of combined iron and steel, of which the following is a specification:

The object of the improvement is to facilitate the changes in the form of the mold, in which time is essential to effect the required union of the two metals at the welding heat. The process requires a change in the interior of the mold while the one metal is yet hot, to form a cavity of desired size for the reception of the other and hotter metal.

One side of the mold being open, I provide two covers for the same, one straight or flat on the inside, and the other with the requisite recess therein. By having beveled hooks on the edges of the covers, and corresponding tapering projections on the sides of the mold, either cover is secured by placing it upon the mold; the change of covers can therefore be very expeditiously made. By this mode all the annoyances from shrinking and swelling of loose interior stop-plates are obviated.

In the drawings, Figure 1 is a side view of the mold with the recessed cover. Fig. 2 is a sectional view through the middle of the length of the mold at the dotted line of Fig. 1. Fig. 3 is a side view with a plain cover thereon, and Fig. 4 a sectional view in the middle of the same.

A^1 A^2 are covers. *a* designates the hooks upon the covers, and *b* the projections on the sides of the mold. *c*, in Fig. 2, shows the recess in the cover.

By varied covers any desired proportions in iron and steel can be united in an ingot. In this way all bands and screws that take time in changing are dispensed with.

I claim as my improvement—

In a mold for casting ingots of combined iron and steel, the covers A^1 and A^2, as and for the purpose specified and shown.

JOHN ILLINGWORTH.

Witnesses:
W. M. GOODING,
EDWARD COLLVER.