No. 694,315. Patented Feb. 25, 1902.

J. J. CARROLL.

MOLD FOR CASTING.

(Application filed Mar. 30, 1901.)

(No Model.)

Fig. 1.

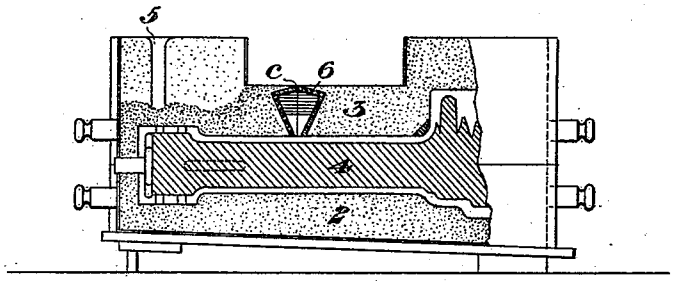


Fig. 2.

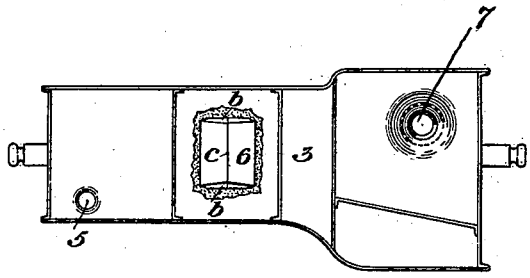


Fig. 3.

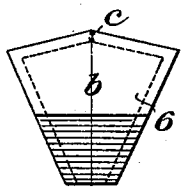
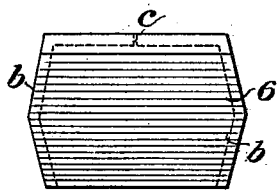


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN J. CARROLL, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

MOLD FOR CASTING.

SPECIFICATION forming part of Letters Patent No. 694,315, dated February 25, 1902.

Application filed March 30, 1901. Serial No. 53,594. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. CARROLL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Mold for Casting, 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 side elevation, partly broken away, showing a mold provided with my improved riser-box. Fig. 2 is a top plan view of the same, also partly broken away; and Figs. 3 and 4 are detail views of the feeder.

My improvement relates to the forming of risers in the manufacture of castings, especially in the casting of draw-bars, where it is desired by the use of risers to prevent the spoiling of the casting by shrinkage of the metal at the shank.

In the drawing, 2 represents the drag, and 3 the cope, of a sand mold.

4 is a draw-bar which is cast in the mold.

5 is the gate through which the metal is poured. At the shank of the casting in order to constitute a riser I place in the sand of the cope a closed box 6, made of baked core-sand or like dry and sufficiently coherent material, and having a narrow opening at the lower end, which communicates with the cavity of the mold. The box is tapering at the lower end and is provided with tapered sides *b b*, which prevent it from rising in the sand when the metal enters it. It has a vent *c* for the displacement of air, but is otherwise closed at the top. When the metal is poured through the pouring-hole 5, it fills the cavity of the mold and rises in and fills the riser-box 6, which provides the necessary body of metal to feed any shrinkage which may occur in the shank of the casting. As the box is closed substantially at the top the metal will be retained, although the pouring-hole is of greater height than the riser-box. When the casting has solidified, it is removed from the mold and the body of metal formed in the box 6 can be readily broken off, leaving a clean fracture, which does not need to be ground with emery-wheels. The cleanness of the fracture is due to the fact that the riser-box is of hard and dense material, so that its edges will not crumble when in contact with the hot metal, and the angle of division between the metal cast therein and the coupler will therefore be sharp and well defined.

7 is an open riser-box which may be employed at the head of the casting.

Within the scope of my broader claims the box 6 when used at the shank of a coupler need not be closed at the top; but in such case it must be made as high as the pouring-hole in order to prevent overflow and waste of the metal.

Changes in the form and dimensions of the parts may be made without departure from my invention, since

What I claim is—

1. A mold for casting, comprising a mold-cavity and pouring-gate, and a riser-box communicating at its lower end with the mold-cavity and closed sufficiently at the top to restrain the escape of metal, and having an air-vent; substantially as described.

2. A mold for casting, comprising a mold-cavity and pouring-gate, and a riser-box contracted at its lower end, communicating at its lower end with the mold-cavity and closed sufficiently at the top to restrain the escape of metal and having an air-vent; substantially as described.

3. A mold for casting draw-bars, comprising a mold-cavity and pouring-gate, an insertible riser-box embedded in the sand of the mold and composed of dry coherent material; said riser-box being distinct from the pouring-gate and reduced in its dimensions at its lower end to a contracted opening which communicates with the shank portion of the mold-cavity; substantially as described.

In testimony whereof I have hereunto set my hand.

JOHN J. CARROLL.

Witnesses:
O. K. BROOKS,
D. W. CALL.