(No Model.) 2 Sheets—Sheet 1.

R. BEDDALL.

MOLD.

No. 585,154. Patented June 22, 1897.

Fig. 1.

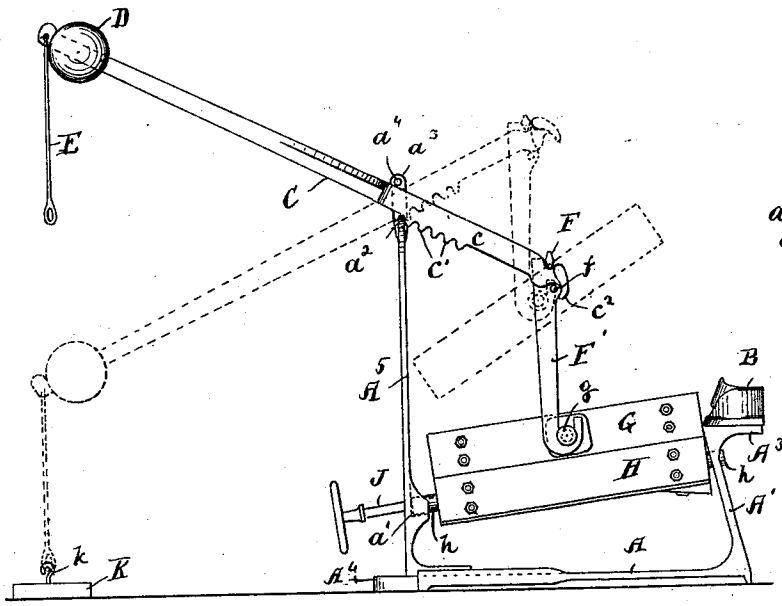


Fig. 2.

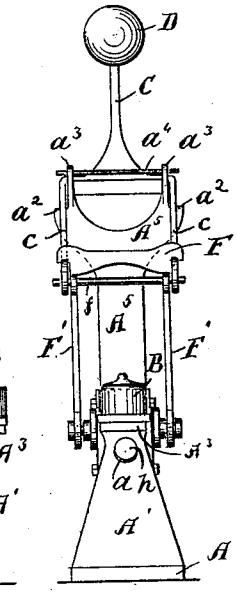


Fig. 3.

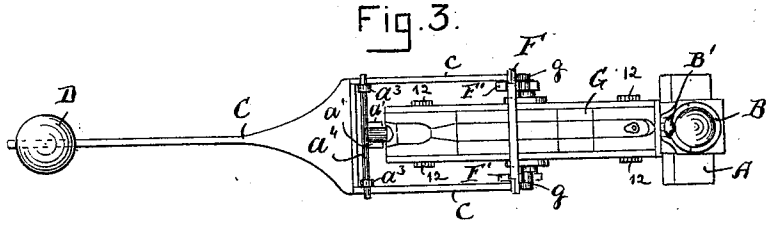


Fig. 4.

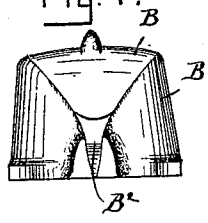


Fig. 5.

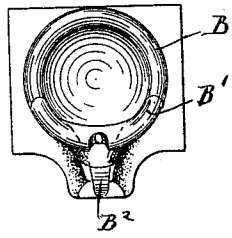
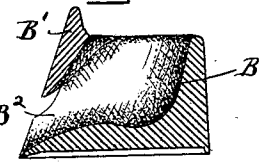


Fig. 6.



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Winfred G. Kerwin.

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Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

(No Model.)

2 Sheets—Sheet 2.

R. BEDDALL.

MOLD.

No. 585,154. Patented June 22, 1897.

Fig. 7.

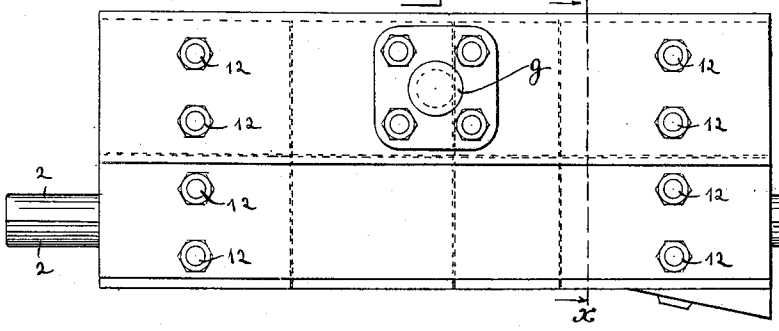


Fig. 8.

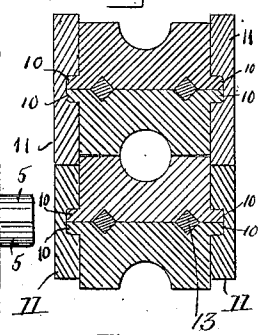


Fig. 9.

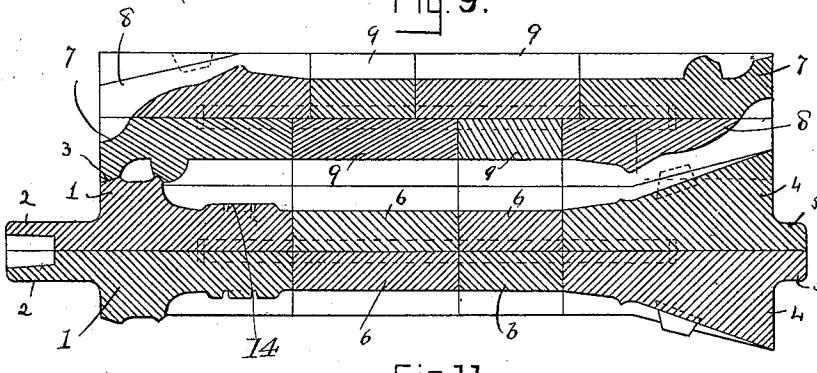


Fig. 10.

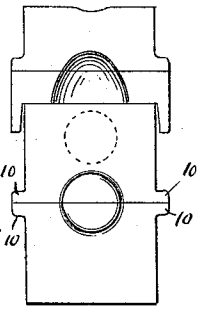


Fig. 11.

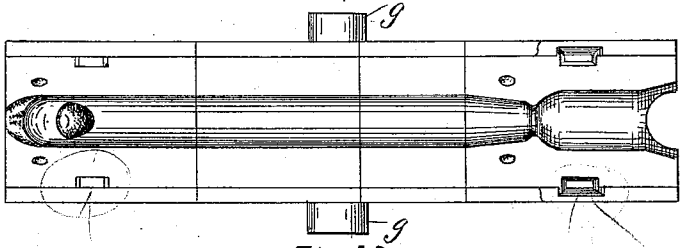


Fig. 14.

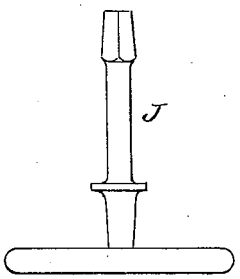


Fig. 12.

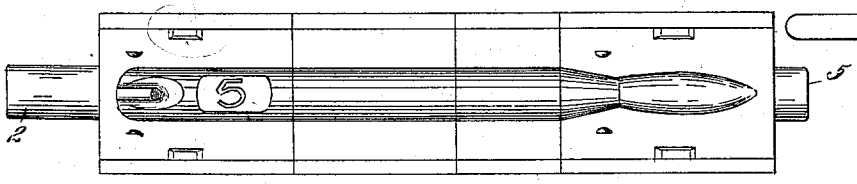
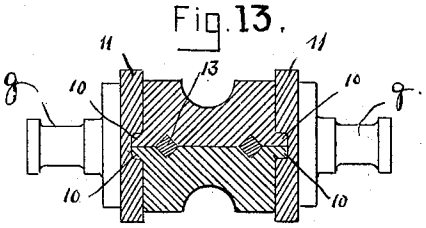


Fig. 13.



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UNITED STATES PATENT OFFICE.

RICHARD BEDDALL, OF CHELSEA, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ROSE E. BEDDALL AND WILLIAM H. TARR, OF SAME PLACE.

MOLD.

SPECIFICATION forming part of Letters Patent No. 585,154, dated June 22, 1897.

Application filed December 21, 1896. Serial No. 616,390. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BEDDALL, a citizen of the United States, and a resident of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Molds for Sash-Weights and other such Like Articles, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to construct molds for casting sash-weights and other such like articles and apparatus for operating same, whereby said molds can be used for an indefinite number of times without being twisted out of shape by the heat of the metal.

The invention consists in the peculiar construction of the molds and the apparatus for operating the same, as hereinafter set forth, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a side view of a mold and apparatus for casting sash-weights embodying my invention. Fig. 2 is an end view, and Fig. 3 is a plan or top view, of same. Fig. 4 is a front view of the pouring-pot; Fig. 5, a plan or top view, and Fig. 6 a vertical section, of same. Fig. 7 is a side view of the molds. Fig. 8 is a vertical section taken on line $x\ x$ of Fig. 7, looking in the direction of the arrow. Fig. 9 is a longitudinal vertical section of the molds. Fig. 10 is a front view of same. Fig. 11 is a plan view looking from the under side of the upper half of the mold. Fig. 12 is a plan or top view of the lower half of the mold. Fig. 13 is a sectional view of the upper portion of the mold, showing the trunnions upon which it turns. Fig. 14 is a view of the key for turning the lower portion of the molds.

A represents the base of a frame, (see Fig. 1,) having at its forward end an upright A′, the upper end of which is provided with a bracket A^3 for supporting a metal-receiver B. At a proper distance below this bracket A^3 is formed a hole a, through which passes the front trunnion of the lower portion of the mold.

To the rear of the base A is fitted a sliding piece A^4, formed with a standard A^5, having a bracket a' at a suitable height to receive the rear trunnion of the lower portion of the mold. At the upper portion of the standard A^5 on each side is a small projection a^2, extending from which are two arms a^3, through which a bar a^4 passes.

C is a forked lever, the two prongs $c\ c$ of which are formed on their under side with teeth c', (see Fig. 1,) adapted to rest upon the projections a^2 of the standard A^5, the front ends of said prongs $c\ c$ being of about the form shown, and the rear end of the lever C is fitted with a weight D and has also a looped rod E attached thereto.

F is a cross-bar adapted to rest upon the front ends of the prongs c, said bar having two depending arms F′ F′ formed at their lower ends with hooks to receive the trunnions of the upper portion of the molds. A bar f is inserted through the arms F′, just under the hooks c^2 of the forks of the lever C, so as to prevent the frame F and arms F′ from becoming detached from said lever C.

G is the upper portion of the molds, to the sides of which are secured trunnions g, that rest in the hooks on the arms F′, and H is the lower portion of the molds, having trunnions $h\ h$, one of which rests in the hole a and the other in the bracket a', as before described.

The metal-receiver B is of circular form, as shown, and has a square base that rests upon the bracket A^3. The front portion of this receiver is open, and the upper part of said open portion is fitted with a piece B′, that rests upon the sides of said opening, as shown, so as to leave a gate B^2 for the metal to run into the mold. By the employment of this receiver the hot metal does not come into direct contact with the mold as it is poured from the ladle. Thus the molds are preserved and will last for a much greater length of time.

The molds consist of two portions, an upper and lower portion, each consisting of a number of blocks or sections secured together. In the drawings (see Sheet 2) I have shown the lower portion, consisting of four end pieces and four middle pieces. The end pieces $l\ l$ are each formed with a projection 2, that when placed together form the rear trunnion, upon which the lower portion of the mold turns, the two faces 3 of these sections being of the shape to form half the eye. They are also formed with a projecting piece 14, upon which is a number indicating

its weight in pounds. The front end pieces 4 4 are also each formed with a projection 5, which when placed together form the front trunnion, upon which this portion of the mold turns, and the front ends of these pieces flare outwardly. The front ends project beyond the center line of the weight, thus forming a gate to run in the metal. The intermediate or filling-in pieces 6 6 are hollowed out in the center of their faces to form a half-round recess, as shown. Thus when the lower portion of the mold is mounted in its bearings in the frame A the contour of both the upper and lower faces will be the same—viz., that of half the form of the weight to be cast—and the said portion can be easily reversed by turning the handle of the key J, the end of which fits into a socket in the trunnion *h*, formed by projections 2 2, the said portion rotating on a longitudinal axis.

The upper portion of the mold is constructed in a similar manner and of a similar number of pieces, its faces being of such contour as to form the other half of the weight when placed upon the lower half of the mold, the eye being completed by the sections 7 7 and the gate completed by the sections 8 8, the filling-in pieces 9 9 being hollowed out to form a half-round recess to complete the body of the weight. The sections are placed together as shown, (see Fig. 9,) so that when the upper half of the mold is turned around on its transverse axis its lower face will register with the face of the lower half of the mold to form a complete weight-mold.

Each of the sections of both the lower and the upper half of the mold is formed with a flange 10, which flanges project and fit into recessed plates 11, which plates are secured to the end sections of the molds by bolts 12. Thus the parts are firmly held together; but, if desired, the sections might be formed with lugs and secured together by bolts, or they may be secured together in any other convenient manner.

If desired, in order to hold the sections of the mold in place and to aid in keeping them straight, angular recesses may be formed in their inner adjacent faces, which, when the sections are placed together, form square openings that extend almost from end to end of the mold, into which recesses are placed square steel bars 13, as shown in Figs. 8 and 13.

The operation is as follows: The sections of the lower half of the mold H having been secured together, their trunnions are mounted in the frame, as described, and the sections of the upper half of the mold having been secured together their trunnions are mounted in the hooks of the arms F′, the upper half of the mold resting upon the lower half. The metal-receiver B is then placed on the bracket A^3, when the apparatus is ready to receive the molten metal, which is poured into the receiver B and guided into the gate of the mold, the piece B′ preventing the molten metal from spattering. The molten metal runs into the mold and a weight is formed. After the metal has set the outer end of the lever C is drawn down and the wire E attached to a hook *k*, secured to a block K in the ground. Thus the upper half of the mold is raised into the position shown in dotted lines in Fig. 1. The key J is then turned and with it the lower portion of the mold, so as to deposit the weight upon the ground and cause this portion of the mold to be reversed. The upper portion is then turned over, the wire released from the hook, and the lever C lowered, so that the upper portion of the mold rests upon the lower portion, thus presenting, as it were, a new mold to cast another weight. By thus reversing the two portions of the mold a different mold is presented for each alternate pouring, and as each of the two portions is made up of a number of sections placed back to back they are kept comparatively cool.

Should it be desired to cast a weight shorter than shown in the drawings, one set of the sections can be easily removed, or if a longer weight is desired an additional set of sections can be as easily inserted. Of course the piece A^4 on standard A^5 would have to be adjusted in the frame A to suit the different lengths of weights, or, if desired, the frame may be formed in one piece and the length of the sections of the lower portion of the mold made to correspond thereto.

Although I have shown and described a mold for casting a single weight at a time, it is obvious that a mold for casting a number of weights at once might be constructed in the same manner.

What I claim is—

1. A mold for sash-weights consisting of a lower and an upper portion, each having two faces in which are formed recesses having the contour of the weight, the lower portion being mounted upon trunnions so as to turn on a longitudinal axis, and the upper portion being mounted upon trunnions so as to turn on a transverse axis, substantially as set forth.

2. A mold for sash-weights consisting of a lower and an upper portion, each made up of two series of sections arranged back to back and having two faces in which are formed recesses having the contour of the weight, each of said portions being mounted upon trunnions, the trunnions of the upper portion at right angles to those of the lower portion so that they can be reversed at right angles to each other, substantially as and for the purpose set forth.

3. In combination with a mold consisting of an upper and lower portion each having two faces in which are formed recesses having the contour of a sash-weight, said upper and lower portions being each provided with trunnions, a frame adapted to receive and support the trunnions of the lower portion of the mold, a forked pivoted weighted lever, and a crossbar suspended therefrom, having depending arms with hooks at their lower ends to receive

the trunnions of the upper portion of the mold, substantially as and for the purposes set forth.

4. In combination with a mold consisting of an upper and lower portion each having two faces in which are formed recesses having the contour of a sash-weight said upper and lower portions being each provided with trunnions, a frame adapted to receive and support the lower portion of the mold in such manner that it can be turned over longitudinally, and means for supporting the upper portion of the mold so that it can be raised and turned over transversely, thus bringing the different faces of the upper and of the lower portions of the mold alternately in contact with each other, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 26th day of December, A. D. 1895.

RICHARD BEDDALL.

Witnesses:
CHAS. STEERE,
EDWIN PLANTA.