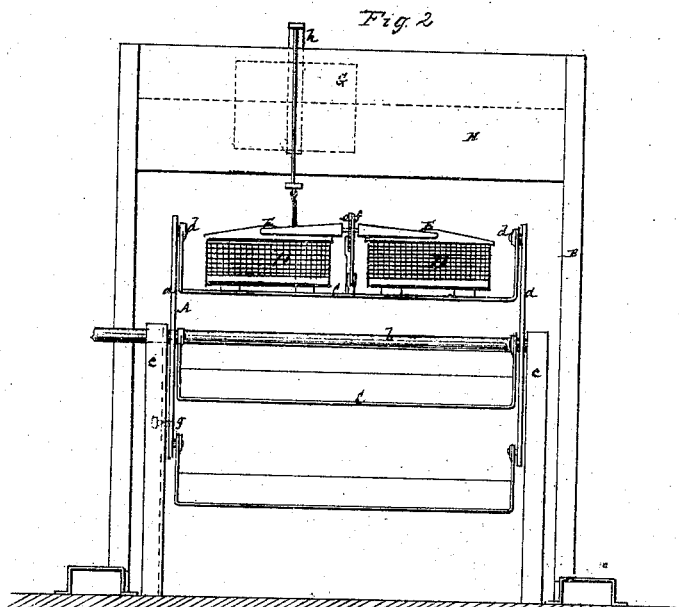
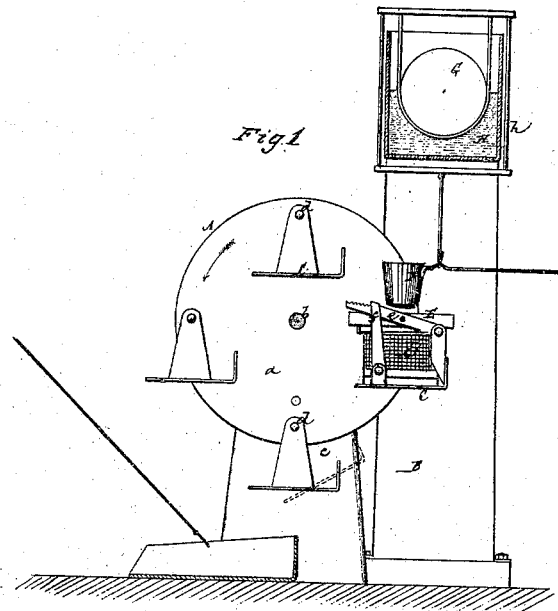


J. P. Broadmeadow,

Casting Metals.

No. 113249.

Patented Apr. 4, 1871.



Witnesses
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JOHN P. BROADMEADOW, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 113,249, dated April 4, 1871.

IMPROVEMENT IN APPARATUS FOR CASTING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN P. BROADMEADOW, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Apparatus for Casting Metals; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a transverse vertical section; and

Figure 2 a front elevation of my improvement.

Similar letters of reference indicate corresponding parts in both figures.

This invention, which is mainly designed to be applied to casting in what are termed snap-molds—that is, molds which have the flasks or boxes removed from around them, to be employed in making other molds, consists, firstly, in a moving bed or beds, with mold-clamps attached, whereby the usual heavy flat weights for securing the molds are dispensed with, and much labor and time are economized in handling the molds; as, for instance, in moving them to and from the press or packing device used in making the molds, according to the invention described in Letters Patent No. 26,321, issued to me November 29, 1859. When the molds are heavy ones, and the distance it is required to convey them to their places on the floor is considerable, the labor and time required in handling them are great, and the posture assumed by the workman, as in setting the molds down on the floor, exerts a straining effect on the body. My invention obviates or materially modifies this, and under one construction or arrangement, the movable bed or beds having clamps attached, are made up of pendulous shelves carried by a revolving drum or reel, which arrangement has certain advantages over others embodying a like principle of action.

The invention also consists in a floating device or apparatus for supporting the ladle of melted metal, and to facilitate or expedite its movements from one mold to another till all are filled, and this, when clamps, as hereinbefore referred to, are employed, without moving the weight ordinarily used to secure the molds.

Referring to the accompanying drawing—

A represents a revolving reel or drum, consisting of end plates *a a* and a central horizontal connecting-shaft, *b*, that is supported in uprights *c c* mounted on the base of a general frame, B, and that is rotated by a handle or crank, either directly or through the intervention of gearing, as desired.

The end plates *a a* have a series consisting of any suitable number of pendulous shelves or beds, C C,

hooked or pivoted to them, as at *d d*, on which beds the snap-molds D D are secured by a clamp or clamps E E, constructed to bear with a regular action or pressure down on the molds by means of a lever, *e*, and locking-hook, *f*, that, combined, connect the clamps with their respective shelves. These clamps dispense with the weight ordinarily used to secure the molds when pouring in the metal, and which is very laborious to move from one mold to the other, while the movable arrangement of the shelves or beds that carry the molds further economizes time and labor in handling or moving the molds about; thus, the revolving series of pendulous shelves may be arranged immediately in front of the molding-machine, and only a few feet from it, and the shelves, after their molds have been filled with metal, be rotated out of the way and to the opposite side of the apparatus, where they may be dumped, by the application of a suitably-shaped lever to discharge the molds from off them, the clamps being previously released for the purpose. This dumping-lever I prefer to make of an angular form, with a notch in its head to clip the raised rear edge of a shelf, and so that said lever may be operated from the rear or filling side of the reel.

The reel which carries the pendulous shelves may be locked or retained in any required stationary position, as, for instance, when putting the molds on the shelves and when pouring in the metal, by means of a stop-pin, *g*, and a suitably-arranged hole or holes in the end of the reel.

The molds, with the castings in them, are preferably dumped from the movable shelves or beds onto an open box of an elevator, connected with a sand-tempering apparatus, which is made the subject of a separate application for patent by me, and whereby the labor of handling or carrying of the molds is further economized.

Fig. 1 of the drawing shows, in dotted lines, a shelf as it is tipped to dump the molds; also, the open box of the elevator ready to receive the latter.

To reduce the labor of pouring the molds, and to expedite and facilitate said operation, I cause the ladle F, which is filled with molten metal from the cupola, to be suspended from a yoke or frame, *h*, connected with a float, G, that is immersed in a water-trough, H, arranged overhead and parallel, or thereabout, with a series of molds, as they are brought around, for instance, by the pendulous shelves to be filled, so that said ladle, which is of a capacity to fill a series of molds, and is consequently heavy, is relieved of weight by its virtually floating on the water in the trough, and may be moved about from one mold to the other with facility and dispatch.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the movable bed or beds *O* with attached clamps *E*, lever *e*, and locking-hook *f*, for carrying and securing the molds, substantially as specified.

2. The combination of the ladle, float, and water-trough, essentially as and for the purposes herein set forth.

3. The arrangement of a ladle, supporting-float, and water-trough, with relation to a movable mold-

bed or beds having attached clamps, substantially as specified.

4. The combination and arrangement, essentially as herein described, of the reel *A*, with its pendulous shelves *O* and attached clamps *E*, the water-trough *H*, and the float *G*, with its ladle-yoke or frame *A*.

JOHN P. BROADMEADOW.

Witnesses:

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