R. Jobson,

Molding Apparatus.

No 23,375. Patented Mar. 29, 1859.

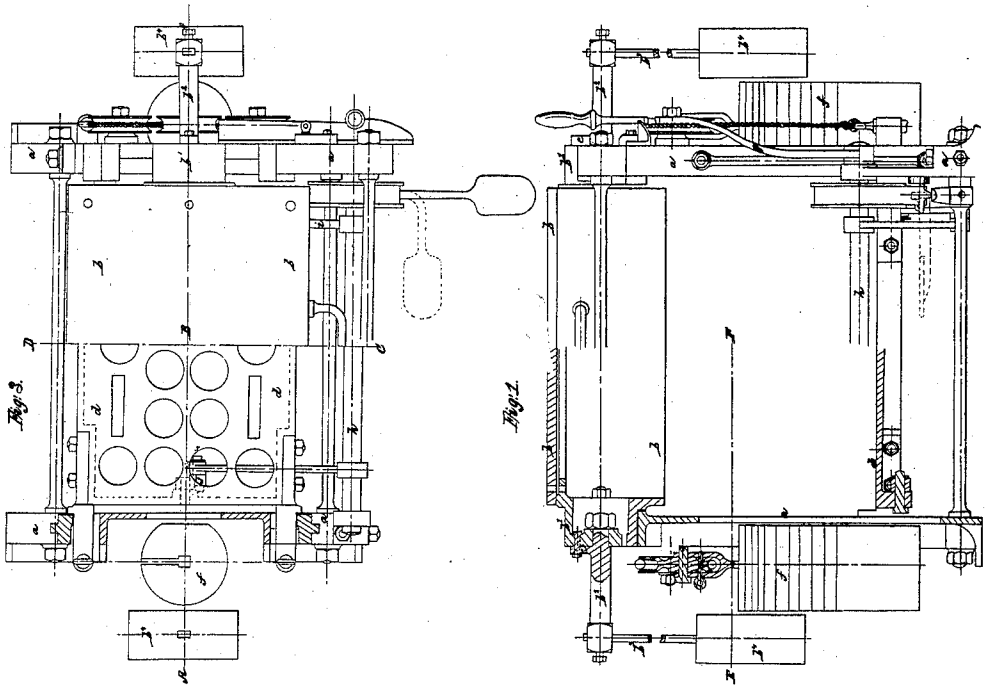

Fig. 3.

Fig. 1.

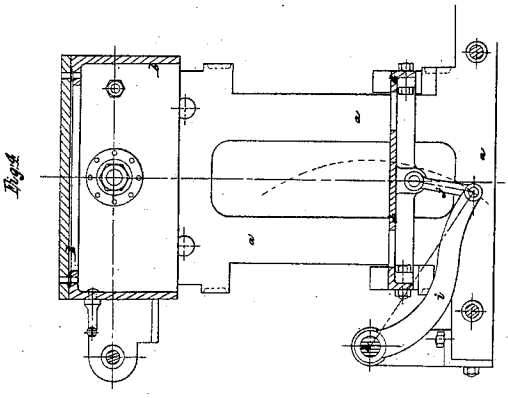

Fig. 4.

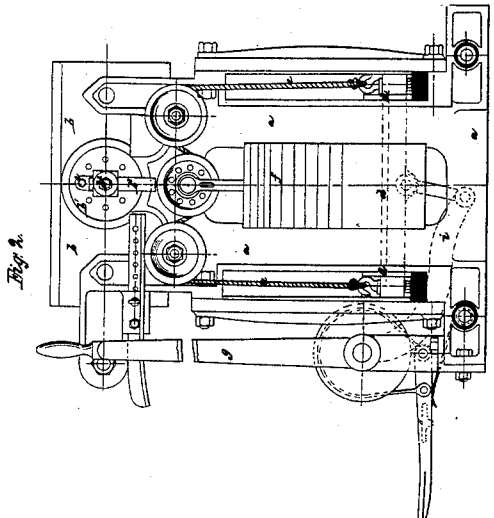

Fig. 2.

Witnesses.
Joseph Howard
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UNITED STATES PATENT OFFICE.

ROBERT JOBSON, OF WORDSLEY, COUNTY OF STAFFORD, ENGLAND.

IMPROVEMENT IN MAKING MOLDS FOR CASTING.

Specification forming part of Letters Patent No. **23,375**, dated March 29, 1859.

To all whom it may concern:

Be it known that I, ROBERT JOBSON, of Wordsley, in the county of Stafford, England, iron-founder, a subject of the Queen of Great Britain, have invented or discovered new and useful Improvements in Apparatus for Making Molds for Casting Metals; and I, the said ROBERT JOBSON, do hereby declare the nature of the said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof—that is to say:

This invention has for its object a peculiar combination of apparatus to facilitate the making of molds for casting metals, with a view to render it unnecessary that the workman should turn over the flasks or boxes by hand. For these purposes the apparatus is so arranged that the flask or box in which a mold is to be made is fixed to a horizontal table, platform, or bed-plate, which is mounted so as to turn on horizontal necks or axes. The box or flask having been fixed to the horizontal table, plate, or platform, the ramming is to be performed in the ordinary manner, and then in place of the workman lifting and turning the flask or box over by hand, which is a very laborious task when the flask or box and pattern are large and heavy, the table, plate, or horizontal platform is caused, by a suitable crank-handle or otherwise, to be turned over, together with the flask, so that the upper surface of the horizontal table, plate, or platform comes undermost. A second plate or platform is then raised so as to come under the flask or box and mold therein. This second platform is then lowered with the flask or box and mold, the pattern either remaining in the mold or else being secured to the rotating platform is retained thereto to have another mold formed thereon.

Having thus stated the nature of my said invention, I will proceed more fully to describe the manner of performing the same.

In the drawings, Figure 1 shows a front elevation of the machinery combined according to my invention. Fig. 2 shows a side elevation, and Fig. 3 a horizontal section.

In each of these figures the same letters of reference are used to indicate the same parts.

a a is the framing of the machine, the nature of which is clearly shown in the drawings. *b* is the platform, table, or plate moving on necks or axes *b' b'*, which turn in suitable bearings, as shown. The axes or necks on which the table or platform turns are shown to be fixed thereto; but it is evident that the axes *b'* may be separate and not rotate, but allow the table or platform to rotate thereon. It is preferred that this bed or table *b* should consist of a rectangular open frame, *b*, with an inner flange all round, to which an upper plate is fixed, and which may be changed according to the work intended for the time being to be performed thereon; but the plate or upper surface of the bed or table *b* may form part with the frame, which is carried by the axes or necks *b'*. On the plate thus fixed to or forming part of the bed or table the pattern of the intended casting is placed, and when desired fixed thereon. The flask or box (in which a mold is to be made) is also placed thereon and retained by suitable latches or holding apparatus. The sand is then rammed in the flask or box in the ordinary manner, and when complete the flask is to be turned over by a half-revolution of the bed, table, or platform *b*, and it is the mounting of the bed, table, or platform *b*, whether formed with a fixed or movable upper plate or not, on or so as to turn with or on necks or axes which constitutes the peculiarity of my invention. And I would state that I am aware that it has heretofore been the practice to have trunnions, necks, or axes on the mold boxes or flasks used, and to turn the same over thereon after the mold has been completed therein, and I mention this fact in order to state that I do not make any claim to the so mounting of flasks or boxes on necks or axes, as the same is an inconvenient arrangement. I would, however, here state that my invention is directed to the remedying of such inconvenience, and which is most effectually accomplished by placing the bed or plate or table *b* (on which the flask or box is placed) on axes or necks, so that when the mold has been made in the flask or box the same may, with the table, plate, or platform *b*, be turned over. The flask or box with the mold therein may then be readily detached from the bed *b* and be received onto a second table or plate below, or be otherwise removed, the pattern remaining fixed to the bed or remaining in the mold, according as the pattern is or is not fixed to the revolving bed, table, or platform *b*. The bed, platform, or table *b* may

be then caused to resume its original position, another box or flask may be placed thereon, and another mold proceeded with.

The arrangement for retaining the revolving bed or plate or table *b* in position, and for turning it over, may be varied; but I prefer to use the machinery shown in the drawings.

c c are two projecting stops—one at each end of the bed *b*. These projections prevent the bed or table *b* going beyond the horizontal position when making the mold thereon, and also when the bed or table *b* is turned over to have the mold and flask detached. The axes or necks *b'* where they turn in their bearings are of comparative large diameter, as shown, and in order to apply counterbalance-weights b^4 b^4 there are projections b^2 at the ends of the axes *b'*, which receive arms b^3, with the counter-balances b^4, as shown.

In order to receive the mold box or flask and mold therein when they are turned over with the bed, table, or platform *b*, I prefer to use a rising platform or plate, *d*, which is guided by the end framing, as shown.

e e are cords or chains having balance-weights *f f* fixed thereto, according to the weight of the boxes or flasks and molds to be received onto the platform or plate *d*. The platform or plate *d* is raised by means of a lever, *g*, on the axes *h*, which, by means of the arms *i i* and links *j j*, raise the plate or platform *d* under the top of the flask or box when it has been turned over. The latches or holding apparatus by which the flask or box is held to the bed or table *b* are then released. The platform or plate *d* is then lowered with the flask thereon, the bed *b* is turned over, and is then again in position to receive another flask or box. The bed or table *b* is turned over by means of a handle fixed to the front of the bed or table *b*, and I generally fix a plate over the top of the flask or box before turning it over to prevent the mold being injured.

I would remark that I make no claim to the use of a rising plate or platform, *d*, and the same may be dispensed with by having the machine arranged in such manner that the bed or table *b*, in addition to being capable of turning on axes or necks, may, when it is turned over, descend toward the ground in order to deposit the flask or box onto the floor or onto a truck placed below to receive it.

Having thus described the nature of my invention, and the manner of performing the same, I would have it understood that I make no claim to the mechanical parts separately; but

What I do claim is—

Constructing the table, platform, or bed *b* so that it may turn on or about necks or axes, substantially as herein described.

ROBERT JOBSON.

Witnesses:

GEO. PITT.

HENRY WILLIAM CARPMAEL.