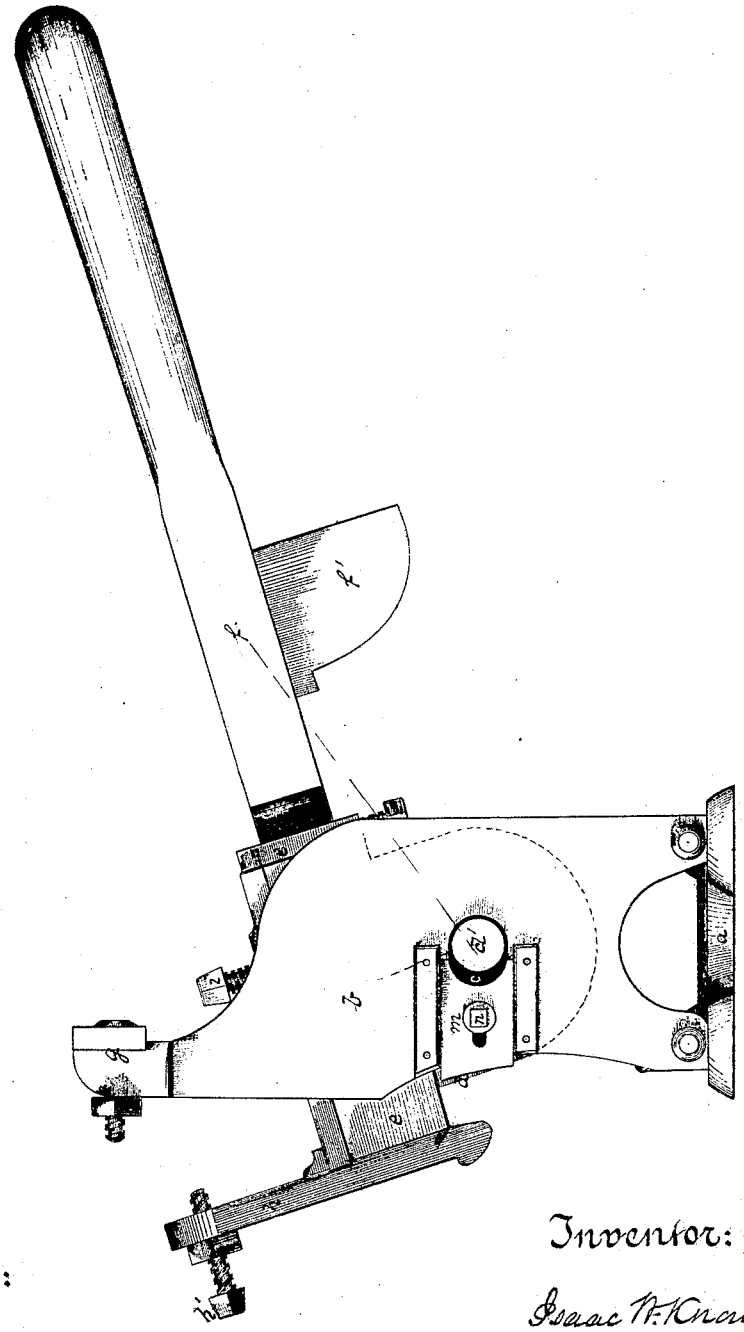
I. W. Knowles,

Pottery Machine;

No. 108,157. Patented Oct. 11. 1870.



Witnesses:

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ISAAC W. KNOWLES, OF EAST LIVERPOOL, OHIO.

Letters Patent No. 108,157, dated October 11, 1870.

IMPROVEMENT IN THE MANUFACTURE OF POTTERY-WARE.

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, ISAAC W. KNOWLES, of East Liverpool, in the county of Columbiana, and State of Ohio, have invented a new and useful Improvement in Machine for Holding and Operating Rib-Handles in Manufacture of Earthen-Ware; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, which represents a side elevation of my improved machine.

In the manufacture of pottery-ware, a rapidly-revolving table or machine called a "jigger," is usually employed, on which is fixed the mold which is to shape the outer surface of the article to be made.

On this mold the plastic material is placed, and the desired inner shape is given by means of interchangeable formers or ribs, attached to a lever or rib-handle, one end of the lever being pivoted, and the other being operated by the workman.

The pivoted end of such rib-handle has also been slotted, so the workman, by pushing the rib-handle and rib from him, could form an outward bulge below the mouth of the article to be made. The labor attending this operation is exceedingly severe.

Such machines are seriously defective, in that they contain no device for regulating the thickness of the article to be made, neither in its bottom or flat part, nor in its raised sides or edges. The result is, that the work produced even by the same workman, is often lacking in uniformity, and much of it is worthless.

The object of my invention is to obviate these defects, and this is accomplished by the use of a socketed head for the insertion of the rib-handle, such head being pivoted in slotted bearings at a point below or outside of the socket into which the rib-handle is to be inserted, and also having a set-screw, or other equivalent adjusting device, to aid in fixing the length of the downward thrust of the rib.

I also provide for lengthening and shortening the length of the slots in which the bearings of the socketed head operate, and thereby the better regulate the length of the backward push or throw of the rib.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and mode of operation.

On any suitable foundation, *a*, I fasten, by bolts or otherwise, two cheek-plates, one of which is shown at *b*, the other, on the opposite side, being in all respects its counterpart.

In each of the cheek-plates *b*, and opposite to each other, is a slotted hole or recess, *c*, of any desired length.

In the slots *c*, the bearings or trunnions *d'* of the head-block *d* are placed.

The head-block *d*, the outline of which is shown by dotted lines in the drawing, operates between the cheek-plates *b*, and carries a socket or box, *e*, fixedly attached thereto, into which is inserted the rib-handle *f*, the handle being held in place therein at the desired point of adjustment, by means of a set-screw, *i*, which bears against a plate of metal interposed between the socket or box *e*, and the rib-handle *f*.

The rib *f'* is attached to the rib-handle *f* in the usual or any known way, the handles and ribs being interchangeable for making different sizes and patterns of ware.

The cheek-plates *b* extend up above the socket or box *e*, as at *b'*, so as to support a stop-block, *g*.

From the rear end of the box *e*, an arm, *h*, extends up back of the stop-block *g*, so as to limit the length of fall or downward thrust of the rib *f'*, and this length of fall call be made variable by means of a set-screw, *h'*, the inner end of which set-screw bears against the stop-block *g*.

The revolving table or "jigger" and mold are arranged under the rib *f'* in the usual way.

I prefer to make the slots *c* inclining downward a very little toward their forward end, though it is not absolutely necessary.

As the workman wishes to work outward, he manipulates the handle *f* so as to cause the bearings *d'* to travel or slide back slowly along the slots *c*, whereby the rib *f'* is also caused to travel outward. The length of this backward motion of the bearings *d'* may be regulated, if so desired, by means of slides *m*, adjustable by set-screws *n*, so arranged that the forward ends of the slides shall practically lengthen or shorten the slots *c*.

It will now be observed that, with the pivoting-point of the head-block *d* arranged as described, that is, below the inside of the box *e*, the machine is of utility in the manufactue of articles which bulge outwardly below the mouth. The bulge is made by giving a backward motion to the rib *f'*, which is done by continuing the downward pressure. The rib can be withdrawn through a comparatively small mouth, since, from its relation to the center of motion, it will pass out almost, if not quite exactly in the axial line of the mouth. Consequently, I am enabled to manufacture articles having a larger bulge, as compared with the diameter of the mouth, than can be made by the machines heretofore in use. I also secure work more perfect and uniform, with less loss from imperfect jobs, and at a greatly reduced cost for skilled labor.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In machines constructed for the manufacture of earthen-ware, the combination of the socket or box *e*,

pivoted below its lower face, as at d', and removable handle f, provided with the operating rib f', substantially as and for the purpose set forth.

2. In combination with the socket of box e, and trunnions d', the slots c and adjustable slides m, for determining the length of such slots, substantially as described.

3. In combination with the socket or box e, pivoted as set forth, the set-screw h', or equivalent adjusting-device, when arranged so as to bear against the frame of the machine, substantially as described, and for the purpose set forth.

In testimony whereof, I, the said ISAAC W. KNOWLES, have hereunto set my hand.

ISAAC W. KNOWLES.

Witnesses:

W. N. PAXTON,

G. H. CHRISTY.