

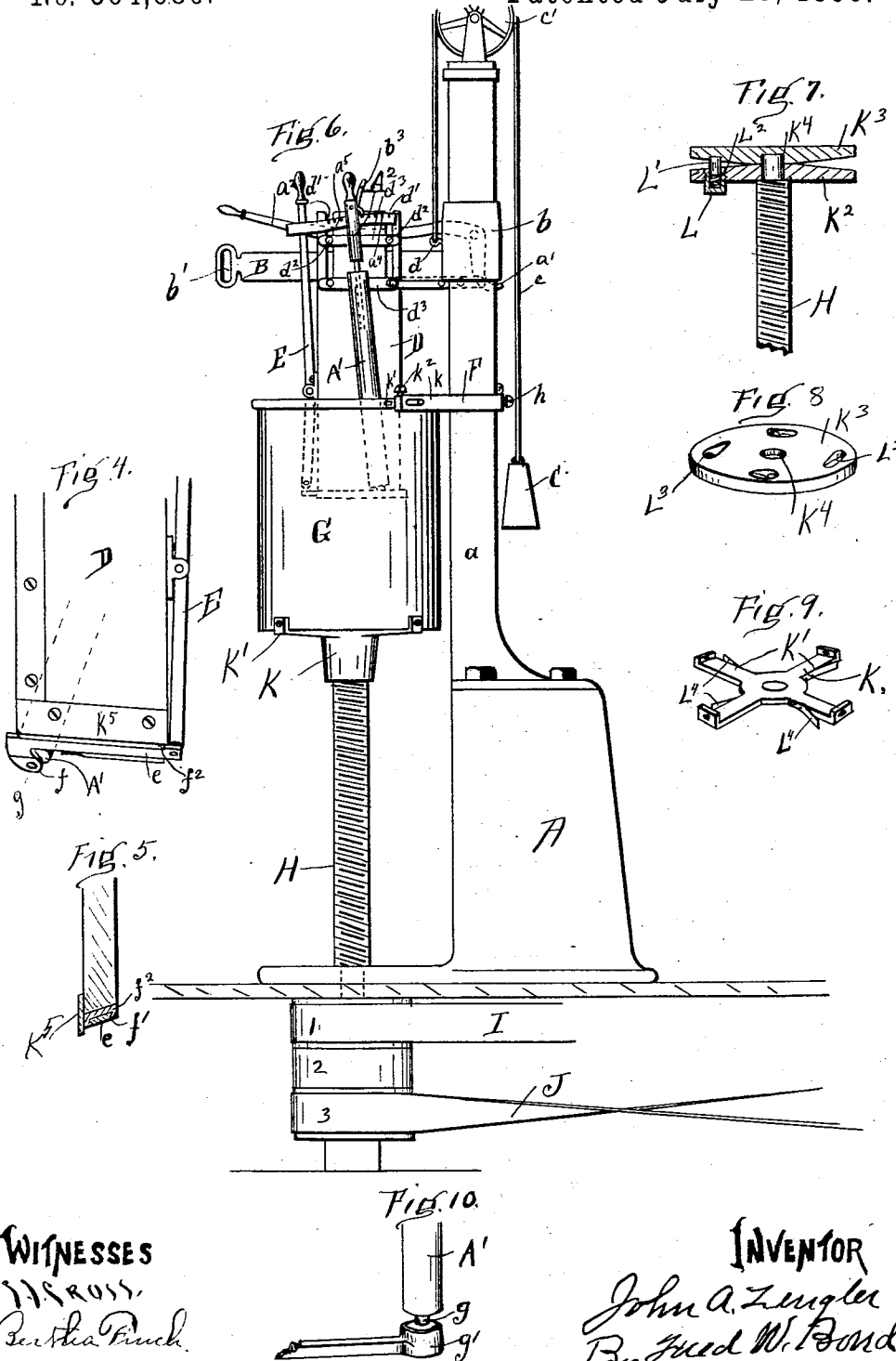
(No Model.)

2 Sheets—Sheet 2.

J. A. ZENGLER.
POTTERY MOLDING MACHINE.

No. 564,680.

Patented July 28, 1896.



WITNESSES
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JOHN A. ZENGLER, OF CANTON, OHIO.

POTTERY-MOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 564,680, dated July 28, 1896.

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To all whom it may concern:

Be it known that I, JOHN A. ZENGLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Pottery-Molding Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a side elevation showing the position of the different parts when placed in position to remove a finished crock. Fig. 2 is a top view of the machine, showing the arrangement and location of the different parts. Fig. 3 is a transverse section of the cylinder and its lining. Fig. 4 is a side elevation of the blade and its bottom plate. Fig. 5 is a longitudinal section of the blade and its bottom plate and sliding bar. Fig. 6 is a side elevation of the machine, showing the cylinder elevated and the blade and its different attachments partially entered into the cylinder or lowered. Fig. 7 is a transverse section of the follower-disks, showing the same properly attached to the top or upper end of the screw-threaded shaft. Fig. 8 is a view showing the bottom or under side of the upper follower-disk. Fig. 9 is a detached view of the spider, to which the cylinder is attached, also showing the springs attached to said spider. Fig. 10 is a detached view of the socket-bearing for the roller-shaft.

The present invention has relation to machines for molding pottery; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the base or bed of the machine, which is securely attached or connected in any convenient and well-known manner to a proper foundation or floor. To the base or bed A is connected or formed integral therewith the post or standard *a*, which post or standard is formed of a height to correspond with the size of the machine designed to be constructed.

To the post or standard *a* is adjustably attached the lateral arm B by means of the sliding collar *b*, which sliding collar is preferably formed integral with the lateral arm. The outer end of the lateral arm B is provided with the handhold *b'*, which handhold is for the purpose of operating the lateral arm, together with its different attachments, as hereinafter described.

For the purpose of providing a counterbalance to the arm B and its different attachments the weight C is provided, to which weight is attached the cord *c*, said cord extending from the weight upward over the pulley *c'* and thence downward and attached to the sliding collar *b*, by means of the eye *d*, or its equivalent.

To the lateral arm B is adjustably attached the blade or bar D, which blade or bar is formed of a length to properly form a crock, as hereinafter described.

For the purpose of providing means for adjusting the blade D, up or down, the slots *d'* are provided, through which slots the clamping-bolts *d''* are passed, and for the purpose of better clamping the blade D the bars *d'''* are provided, which bars are located upon the opposite side of the blade from that of the arm B, thereby rigidly attaching the blade D to the arm B.

To one edge of the blade D is pivotally attached the lever E, which lever is extended upward a sufficient distance to provide a suitable handhold to operate said lever. To the bottom or lower end of the lever E is connected the sliding bar *e'*. The inner end of said bar is provided with the lateral arm or plate *f*, said plate being for the purpose of providing a suitable bearing and support for the bottom or lower end of the roller-shaft *g*. For the purpose of providing a universal joint or bearing the bottom or lower end of the shaft *g* is provided with a ball, which is received or held in the socket *g'*. To the post or standard *a* is adjustably attached the yoke F, which yoke is held at the desired point of adjustment by means of the set-screw *h*, or its equivalent.

It will be understood that the yoke F forms a stop to limit the downward movement of the arm B by reason of the sliding head *b* coming in contact with the top or upper side

of the yoke F. The yoke F is provided with the arms k , which arms are provided upon their inner ends with the rollers k' , said rollers being for the purpose of coming in contact with the cylinder G, thereby providing a rest for the top or upper end of the cylinder when the same is elevated, as illustrated in Fig. 6, thereby preventing the cylinder from tilting or wobbling. For the purpose of providing for properly bracing cylinders, such as G, of different diameters the arm k are adjustably attached to the yoke F, and are held at the desired point of adjustment by means of suitable set-screws k^2 or their equivalents.

The shaft H is located substantially as shown in Figs. 1 and 6, and as shown said shaft is extended downward below the base or bed A, and said lower portion is provided with the pulleys 1, 2, and 3. The two outer pulleys, or pulleys 1 and 3, are loose ones, and the middle one, or pulley 2, is a tight one, said pulleys being for the purpose of providing a means for reversing the motion of the shaft H, as it will be understood that when the open belt I is shifted onto the tight pulley, the shaft will be rotated in one direction, and when the cross-belt J is shifted onto the tight pulley said shaft will be rotated in the opposite direction, and when both belts are upon the loose pulleys the shaft H will remain at rest.

The upper portion, or that part of the shaft H which extends above the lower portion of the base A, is screw-threaded, and for the purpose of providing a machine that is more convenient to operate the screw-threads are formed left handed, or, in other words, a left-handed screw is provided, but I do not desire to be limited by this construction as it is simply a matter of convenience to form the screw left handed. Upon the screw-threaded portion of the shaft H is located the spider-head K, which spider-head is screw-threaded to correspond with the screw-threads upon the shaft. The spider K' is substantially of the form shown, and is securely attached to the bottom or lower end of the cylinder G. To the top or upper end of the shaft H is securely attached the follower-disk K², upon which follower-disk K² is located the follower-disk K³. For the purpose of holding the upper follower-disk in proper position with reference to the screw-threaded shaft H and the follower-disk K², said disk K³ is provided with the recess K⁴, said recess being for the purpose of receiving the extreme upper end of the screw-threaded shaft, as illustrated in Fig. 7. For the purpose of reducing the friction of the follower-disks K² and K³ during the time that the disk K³ is at rest said disks are beveled, as illustrated in Fig. 7.

For the purpose of preventing the plastic clay from adhering to the inner side of the cylinder G said cylinder is provided with the lining G', which lining is preferably formed of paper or like material, and is temporarily

placed in the cylinder G, and is so temporarily placed for the purpose of renewing the lining when it has become worn or destroyed from use.

In use the cylinder G is elevated, as illustrated in Fig. 6, and the blade D lowered into the cylinder to a point so that its bottom plate will be the required distance above the follower K³. Said distance between the plate K⁵ and the follower K³ will equal the thickness of the bottom of the crock. After the blade D has been so adjusted, the hook a' , formed upon the vertical portion of the lever a^2 , is brought under the pin a^3 , thereby preventing the blade D from being elevated during the time a crock is being formed. When the parts have been adjusted as above described, a sufficient amount of plastic clay is placed in the cylinder G to form a crock and the screw-threaded shaft H rotated, which in turn rotates the cylinder.

For the purpose of elevating the clay contained in the cylinder G so as to form the sides of a crock the roller A' is provided, which roller is securely attached to the shaft g . The top or upper end of the shaft g is provided with the sliding tube A², to the top or upper end of which is attached the catch-lever b^3 , which catch-lever is for the purpose of engaging the notches a^4 , formed in the bar a^5 , which bar is securely attached in any convenient and well-known manner to the blade D. It will be understood that as the roller A' is brought into a vertical position it will press the clay against the inner sides of the cylinder G.

For the purpose of regulating or adjusting the bottom or lower end of the roller A' the lever E is provided, thereby providing a means for forcing the bottom or lower end of the roller toward the side of the cylinder G. The bar e , to which the lever E is attached, is held in proper position by means of the groove f' , said groove being formed in the bar f^2 , which bar is attached to the bottom or lower end of the blade D. During the time the crock is being formed it is necessary that the follower-disk K³ rotates with the spider, and for the purpose of causing said follower-disk to rotate the pin L is provided, which pin is securely attached to the follower-disk K². Within the pin L is located the catch-pin L', which catch-pin is located in the socket formed in the pin L, and is held in operative position by means of the spring L². It will be understood that as the shaft H is rotated in one direction the spider will be elevated, carrying with it the cylinder G, and when the spider has been elevated the proper distance the bottom or under side of the follower-disk K² will come in contact or engage the spider K' by reason of the pin L striking one of the spider-arms, which will cause the follower-disk K² to rotate with the spider.

For the purpose of causing the follower-disks K² and K³ to rotate together during the time a crock is being formed the bottom

or under side of the upper follower-disk K^3 is provided with the inclined notches L^3 , which notches receive the pin L' , as illustrated in Fig. 7. After a crock has been formed the

5 screw-threaded shaft H is rotated in the opposite direction, which lowers the cylinder G and frees the follower-disk K^2 from the spider. By providing the inclined notches L^3 the pin L' will be free to move upon the inclined portions of the notches, thereby allowing the upper follower-disk K^3 to remain at rest, together with the cylinder, during the time said cylinder is lowered. For the purpose of removing the jar from the pin L' , when the arms of the spider come in contact with the pin L , the springs L^4 are provided, which springs remove the jar and allow the arms to engage the pin without danger of breaking or injuring said pin L .

20 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the base or bed provided with the post or standard a , having adjustably attached thereto the collar b , the lateral arm B , the counter balance or weight C , connected by means of a cord to the arm B , or its equivalent, the lever a^2 , connected to and moving with the sliding collar b , and provided with the hook a' , the yoke F , adjustably attached to the post or standard a , and provided with the pin a^3 , the screw-threaded shaft H , provided with the follower-disks K^2 and K^3 , the cylinder G , provided with the spider K' , and the blade D , substantially as and for the purpose specified.

2. In a machine for molding crocks, the combination of a vertically-adjustable cylinder and screw-threaded shaft having mounted thereon a spider connected to and moving with the cylinder, the vertical and horizontal adjustable blade, the adjustable arm B ,

carrying the blade, and the follower-disks located upon the top or upper end of the screw-threaded shaft, substantially as and for the purpose specified.

3. In a machine of the class described, the combination of a vertically-moving cylinder, a screw-threaded shaft provided with the fixed follower-disk K^2 , and the loose follower-disk K^3 , the pin L , provided with the catch-pin L' , and the inclined notches L^3 , located in the bottom or under side of the upper follower-disk, and the spider K' , provided with the springs L^4 , substantially as and for the purpose specified.

4. In a machine of the class described, the combination of the base or bed A , provided with the post or standard a , the adjustable yoke F , provided with the adjustable pins k , and the rollers k' , the blade D , provided with the bar f^2 , having a groove f' , the bar e , having journaled thereto the bottom or lower end of the shaft g , the lever E , connected to the bar e , and the roller A' , having attached to said roller-shaft the sliding tube A^2 , provided with the catch-lever b^3 , and the notched arm a^5 , substantially as and for the purpose specified.

5. The combination of a base or bed having secured thereto a post or standard, a screw-threaded shaft provided with the spider, a cylinder connected to the spider, the blade D , provided with the pivoted arm E , the bar e , and the roller A' , substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN A. ZENGLER.

Witnesses:

J. A. JEFFERS,
F. W. BOND.