

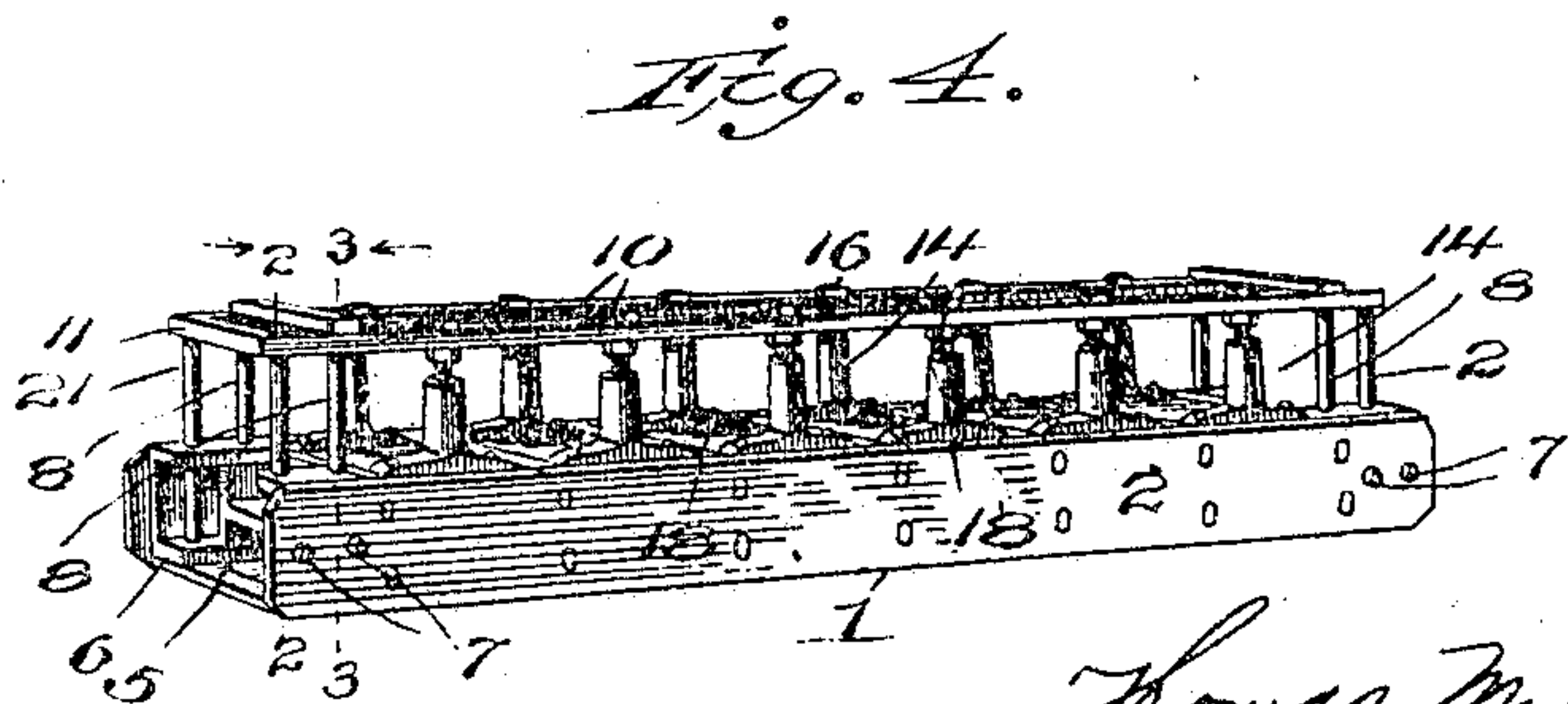
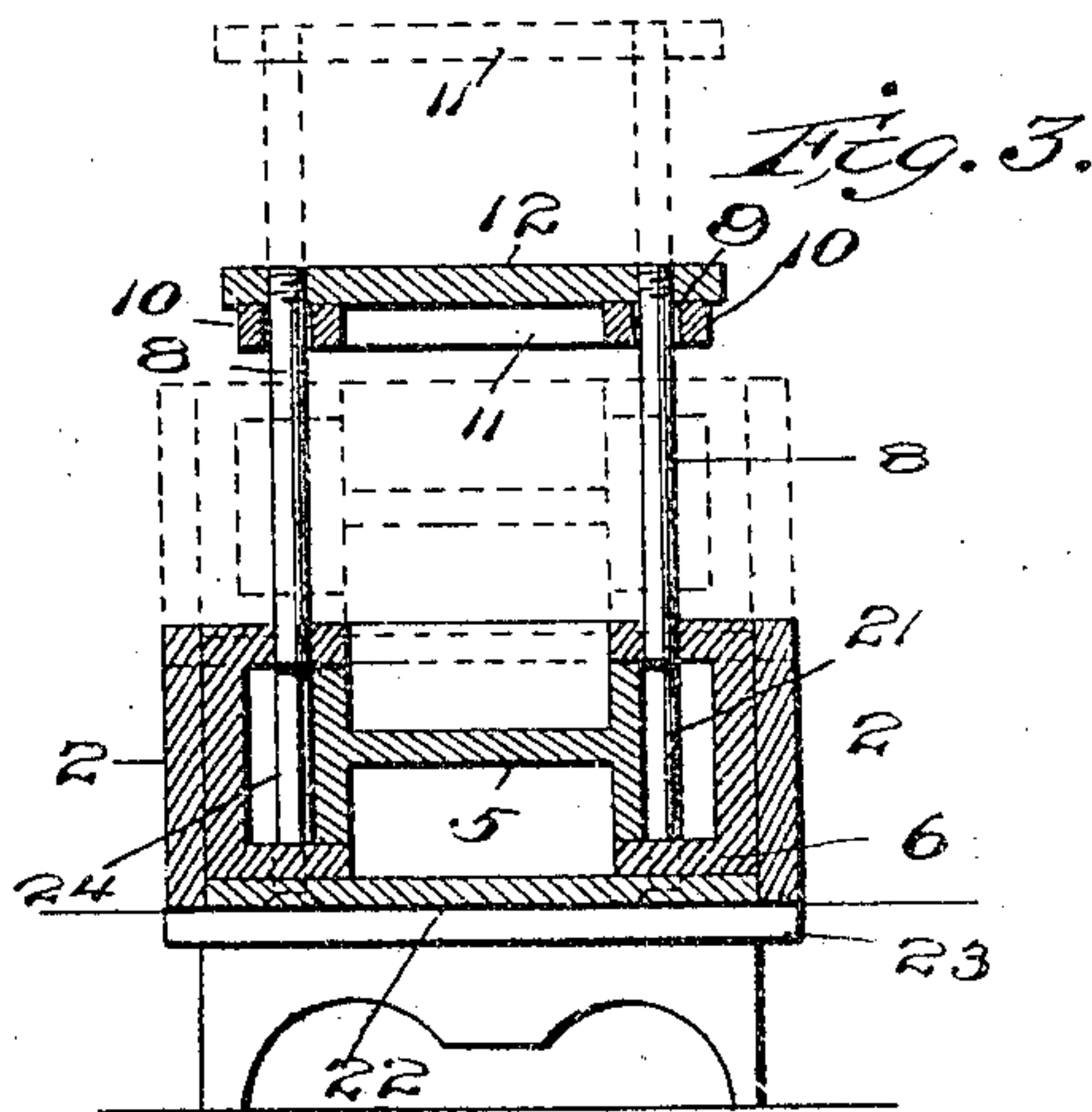
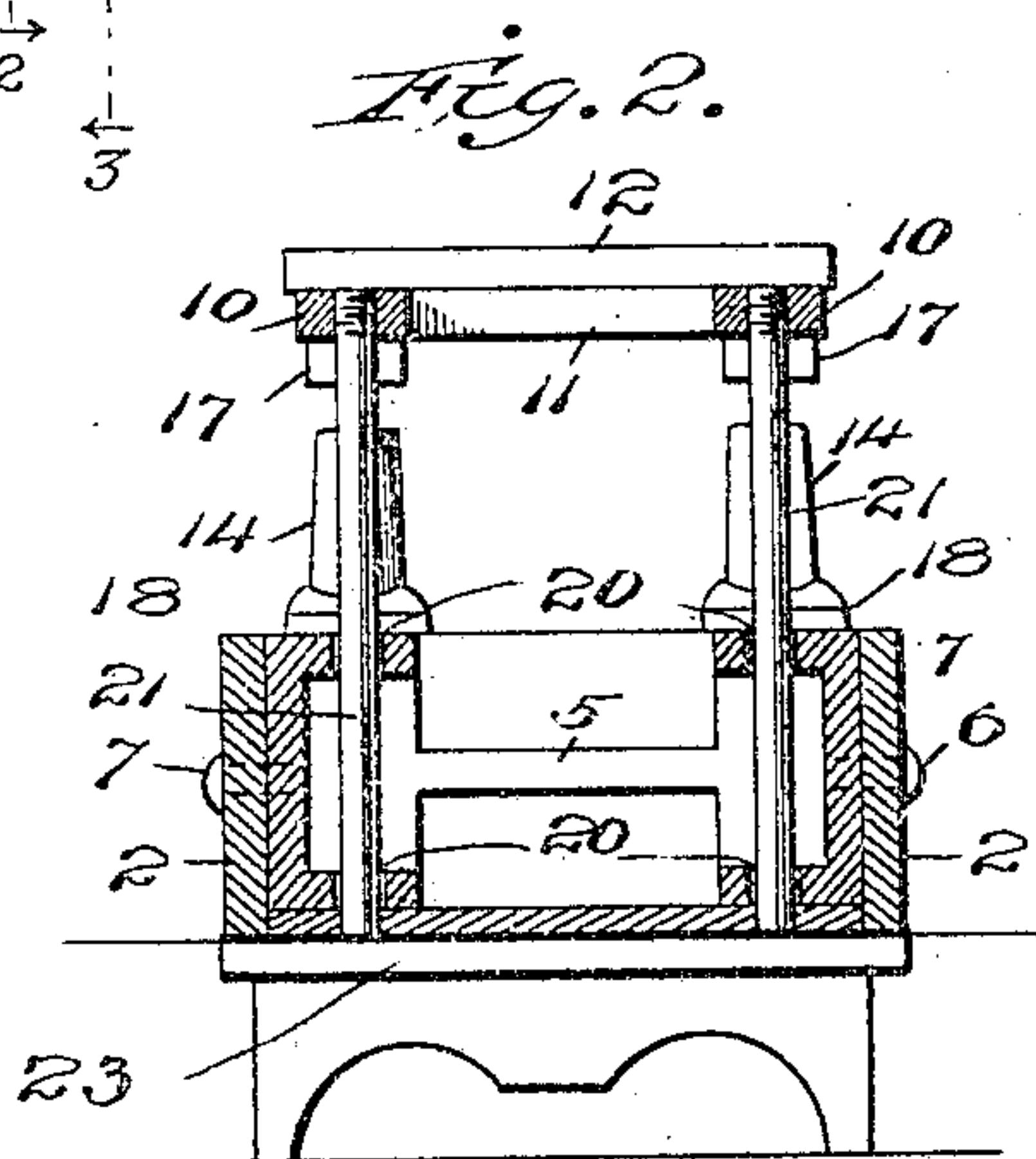
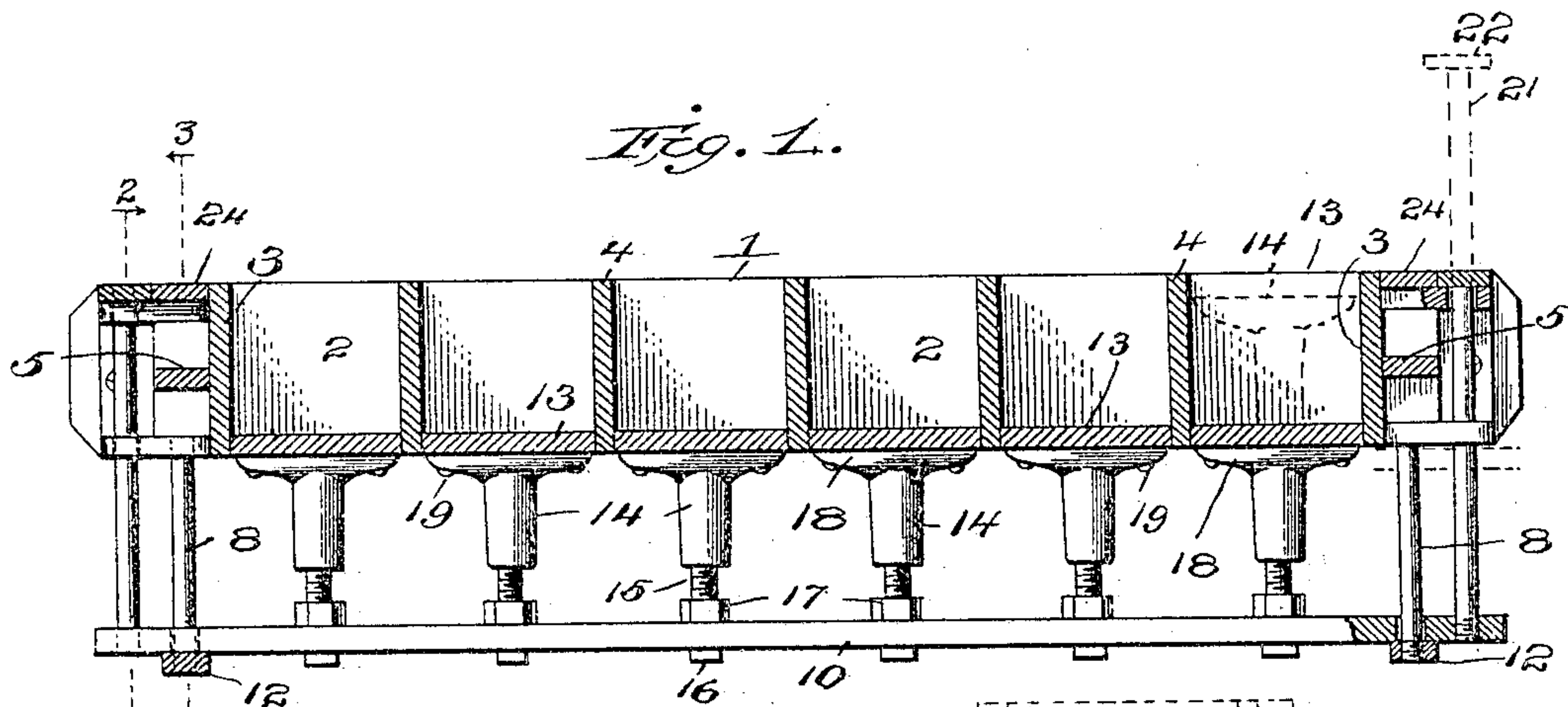
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MOLDING APPARATUS.

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UNITED STATES PATENT OFFICE.

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MOLDING APPARATUS.

No. 801,799.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, THOMAS M. LE HEW and JOHN N. LE HEW, citizens of the United States, residing at Warsaw, in the county of Kosciusko and State of Indiana, have invented certain new and useful Improvements in Molding Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in apparatus for molding bricks and analogous articles.

One of the numerous objects in view is to provide means whereby bricks, particularly cement bricks, may be rapidly, economically, and efficiently molded.

Another object of the invention is to construct a very simple manually-operated device by means of which several bricks or building-blocks may be molded and simultaneously expelled from the molding apparatus without liability of breaking the edges or otherwise injuring them.

A further object of the invention is the construction of a manually-operated molding apparatus which is provided with adjustable means by which the thickness of bricks can be regulated.

While we have specified some of the objects in view, the invention also consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

In the drawings, Figure 1 is a view in side elevation of a molding apparatus constructed in accordance with the present invention, the body thereof being shown in longitudinal section. Fig. 2 is a transverse section taken on lines 2 2 looking in the direction of the arrows, Fig. 4, or the same line looking in the direction of the arrows, Fig. 1, except in Fig. 1 the apparatus is shown in its normal position for receiving the material of which the bricks or building-blocks are made, while in Fig. 4 the mold is shown in an inverted position. Fig. 3 is a transverse sectional view taken on line 3 3 of Fig. 4 looking in the direction of the arrows and showing the parts in broken lines moved to the position for displacing the contents of the mold upon a pallet, the same view also being taken on lines 3 3, Fig. 1, except that in Fig. 1 the apparatus is

in the reversed position to that shown in Fig. 3. Fig. 4 is a perspective view of the apparatus in position for dumping its contents.

Referring to the drawings by numerals, 1 designates the mold-body, which comprises the side and end walls 2 and 3, respectively, and intermediate transverse partitions 4, whereby a plurality of mold-chambers are formed. The upper edge of the mold-body is perfectly flat, so that it will permit the smoothing of the upper face of the bricks. The end walls 3 are inset a slight distance from the ends of the side walls 2, giving space for the handles 5, which are preferably of casting, each end of which is securely fastened to the ends of the side walls by means of substantially U-shaped members 6. The specific structure of the handles 5 is approximately I-shaped, the parallel portions of said handles being secured to the approximately U-shaped members 6, which are positioned within each end of the mold-body 1. The U-shaped members are fastened to the sides by means of bolts 7 or the like. Near each end of the handles 5 and rigidly secured to the members 6, as will be clearly seen in Fig. 3, are rods 8 8, which constitute standards or legs. Each of these rods or standards 8 passes through an opening 9 in a horizontal bar 10. In the construction of our preferred embodiment as depicted in the drawings we employ two of the horizontal bars 10, which are positioned parallel and to which are secured at their ends parallel transverse connecting-bars 11. The rods or standards 8 project beyond the bottom surface of the bars 10 and are connected at their upper end by means of transverse members 12. These transverse members 12 perform the function of legs, for upon referring to Fig. 1 it will be obvious that when the mold is in its normal position to be filled with the material of which the bricks are formed said transverse bars 12 will rest upon the support. The rods or standards 8, together with transverse connecting members 12, are at all times connected rigidly to the body of the apparatus. The parallel horizontal members 10 are slidably mounted upon the rods or standards 8 by reason of the fact that the openings or apertured portions 9 are of greater diameter than the periphery of said rods 8.

The base of the apparatus comprises a plurality of spaced rectangular plates 13, constituting followers, which correspond in length and breadth to the mold-chambers, the space

between them being equal to the thickness of the partitioned walls 4. The plates or followers 13, which have a smooth upper surface, form the bottom of the mold-chambers. Upon the lower side of these plates or followers and near each end of the same is secured a hollow post 14, which extends downwardly. Each of the posts 14 is provided with an internally-screw-threaded portion, which is provided for receiving a threaded bolt 15. The bolt 15 is provided with a squared head 16, which engages the bottom surface of a horizontal bar 10. Each of the bolts 15 is threaded into a post 14. A jam-nut 17 is positioned upon each of the bolts 15 between a horizontal member 10 and one of the posts 14. When it is desired to regulate the thickness of the brick, this can be accomplished by turning the heads 16 of the bolts 15 for adjusting the plates or followers 13. After the desired adjustment of the plates or followers 13 has been attained the jam-nuts 17 can be moved to engagement with the upper surfaces of the parallel horizontal members 10 for securing the followers in their adjusted position. Of course it will be obvious that one or all of the plates or followers 13 may be adjusted. Each plate or follower may be adjusted to different positions. The jam-nut 17 constitutes a locking member for the securing of the followers in an adjusted position for increasing or decreasing the thickness of the bricks which are to be molded in the mold-chambers. The posts 14 are substantially T-shaped. The base 18 of the posts 14 is of the same length as the width of the followers 13. Suitable securing means, as rivets or screws 19, secure the base to the bottom of each follower 13. The base 18 of the posts 14 constitutes reinforcing means for the followers. It will be obvious upon referring to Figs. 1 and 4 that the base 18 of each of the posts 14 extends entirely across a follower, thereby greatly increasing the durability of the structure of each of the followers 13.

Formed near the outer end of the parallel extensions of the substantially U-shaped members 6 are registering apertured portions 20. Within the apertured portions 20 are loosely positioned slidable parallel rods or standards 21. Each of these standards 21 is secured to one of the horizontal members 10. Transverse cross-bars or connecting members 22 are assembled with the standards 21 upon the opposite end from that to which the parallel horizontal members 10 are secured. When the apparatus is dumped, the cross-bars or feet 22 rest against the upper surface of a pallet, as 23, for supporting the weight of the apparatus during the dumping operation.

The mode of operating the apparatus is as follows: The apparatus is placed in an upright position, as illustrated in Fig. 1, and filled with the material of which the bricks or building-blocks are made. The apparatus is then

inverted on a pallet, as 23, and then the operator places the ball of the hand and thumb on the cross-bars 11 and the ends of the fingers around the handles 5, and by closing the hands the body of the mold is lifted, as depicted in Fig. 3, while the thumb on the cross-bars 11 will keep the bottom of the mold-chambers, which are the plates or followers 13, unmoved. When the body of the apparatus has been moved to the position shown in broken lines, Fig. 3, the molded contents thereof will be resting upon the pallet. The upper surface of each of the followers 13 will be still engaging the bricks, as by reason of the structure of the horizontal parallel members 10, rods or standards 21, and the cross-bars 22 the followers 13 are retained in a stationary condition during the movement of the partitions and side and end walls. The cross-bars 22, connecting the slidable rods or standards 21, are also retained in a stationary position upon the pallet. When the walls and partitions are fully removed from the bricks, the apparatus is then lifted from the pallet, leaving the molded contents of the apparatus resting upon the same. In lifting the body of the apparatus, which comprises the partitions and end and side walls, the rods or standards 8, sliding through the openings 9 of the horizontal parallel members 10, raises the cross bars or members 22 accordingly to the position shown in Fig. 3. When the molded contents of the apparatus are dumped, the cross bars or transverse members 22, constituting the feet for the rods or standards 21, are moved to the position shown in broken lines in the right-hand corner of Fig. 1. When the bricks are delivered, the apparatus is again turned over to its normal position, as illustrated in Fig. 1, and placed upon the cross-bars or feet 12 and the follower members moved to their lowest position in the mold-chamber by gravitation. When the followers have moved to their lowest position, as illustrated in Fig. 1, the horizontal parallel members 10 will rest upon the cross-bars 12, and by this positioning of the apparatus the cross-bars 22 will be placed on a level with the upper edge of the partitions and side and end walls and the bottom of the mold-chambers in proper place for receiving the material from which the bricks are made. Secured at each end of the apparatus and between the end wall 3 and cross-bar or transverse member 22 is a transverse plate or member 24, the outer face of which lies in the same horizontal plane in which the edges of the partitions and end and side walls are formed.

From the foregoing description it will be obvious that we have constructed a molding apparatus which comprises a partitioned body portion, an adjustable follower structure for said body portion, said follower structure constituting the bottom of the mold-chambers and said adjustable follower structure provided at each end with connected standards

which constitute a support for the whole apparatus when the molded contents thereof are being removed therefrom. The body portion is also provided with a fixed support for the
 5 same while the body is resting in its normal position or when in operation the mold-chambers are being filled with the material of which the bricks or building-blocks are made. The adjustable standards constituting the sup-
 10 port of the adjustable follower structure are of great importance, for they provide means for resting the entire apparatus upon the pallet, and if it is desired the operator can press upon the cross-bars 22 through the medium
 15 of the rods or standards 21, for preventing any movement of members 22 upon the pallet, thereby obviating any possibility of injury to the molded contents of the apparatus.

While we have described in the foregoing description and illustrated in the accompanying drawings the preferred form of our invention, it will be obvious to one versed in the art to which the invention relates that certain alter-
 20 ations, modifications, and changes may be made, and we therefore reserve the right to make such alterations, modifications, and changes as shall fairly fall within the spirit and scope of the present invention.

What we claim is—

30 1. In an apparatus of the character described, the combination with a partitioned body, said body provided with mold-chambers, of downwardly-extending, connected standards rigidly
 35 of, slidable standards positioned upon each end of said mold-body, parallel longitudinal members connecting said slidable standards, handles formed upon each end of said mold-body, a follower positioned within each of the
 40 chambers of said mold-body, said follower provided with a pair of posts, each post comprising a hollow, threaded body portion provided with a substantially flat base, adjustable threaded bolts positioned upon said longitudi-
 45 nal members and threaded into said posts, each of said bolts provided with an integral, squared portion formed upon its outer end, and a jam-nut positioned upon each of said bolts between said longitudinal members and
 50 posts.

2. In an apparatus of the character described, the combination with a mold-body, said mold-

body provided with partitions, producing mold-chambers, of substantially U-shaped members at each end of said body, a stationary
 55 standard secured to each of said substantially U-shaped members, cross-bars connecting said stationary standards, parallel, longitudinal members movably mounted upon said stand-
 60 ards, a slidable standard positioned upon each of said substantially U-shaped members, said slidable standards connected to said longitudinal members, cross-bars connecting said
 65 slidable standards, a follower positioned within each of said mold-chambers, a substantially T-shaped post secured near each end of said follower, the base of said post secured to the
 70 bottom of said follower and constituting reinforcing means therefor, each of said posts provided with an internally-threaded body portion, a revoluble, threaded bolt positioned
 75 upon each of said longitudinal members, and in engagement with the threaded portion of the posts, each of said bolts provided with a head, and a jam-nut carried by each of said bolts.

3. In a molding apparatus, the combination with a body, of a support carried by said body, a movable member carried by said support, a
 80 follower positioned within said body, a post secured to said follower, and a member carried by said movable member and threaded into said post, being capable of adjusting said follower within the body.

4. In a molding apparatus, the combination
 85 with a body, of a follower adapted to be adjusted within said body, a support secured to said body, a movable member carried by said support, a post carried by said follower, said
 90 post comprising a hollow, threaded body provided with a substantially flat base, an adjustable threaded bolt positioned upon said movable member and threaded into said post, said bolt provided with an integral, squared
 95 portion formed upon its outer end, and a jam-nut positioned upon said bolt between said movable member and post.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS M. LE HEW.

JOHN N. LE HEW.

Witnesses:

SAMUEL D. ANGLIN,
 JOHN MORT.