

A. UTARD.
HAND MOLDING MACHINE WITH LIFTING ARRANGEMENT.
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1,144,400.

Patented June 29, 1915.

Fig. 1.

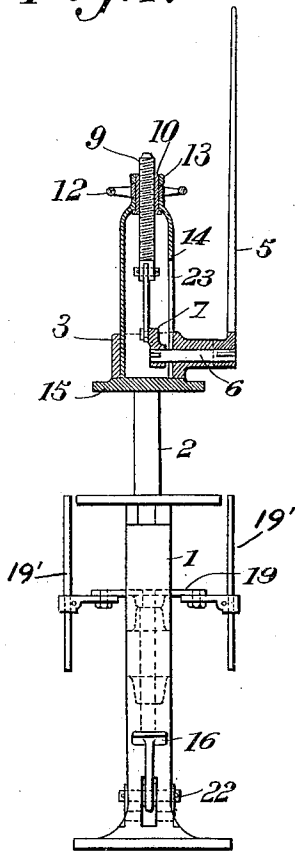
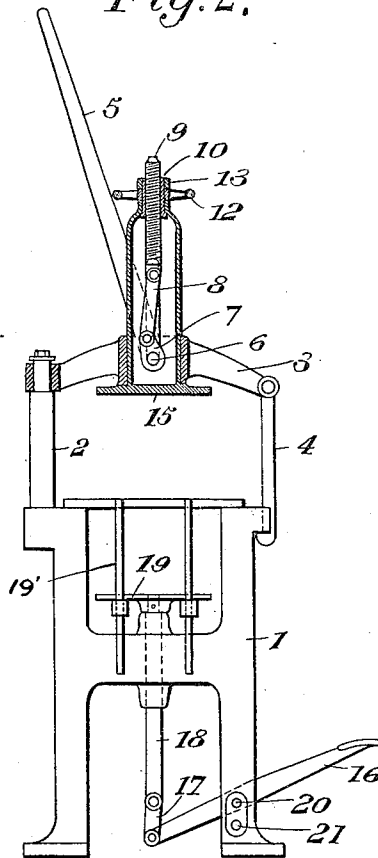


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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HAND MOLDING-MACHINE WITH LIFTING ARRANGEMENT.

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Specification of Letters Patent.

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Application filed June 10, 1914. Serial No. 844,146.

To all whom it may concern:

Be it known that I, ANTOINE UTARD, a citizen of the French Republic, and resident of Longeville, Meuse, France, have invented certain new and useful Improvements in or Relating to Hand Molding-Machines with Lifting Arrangement, of which the following is a specification.

The present invention relates to a hand operated molding machine having its pressing and lifting devices disposed in such a manner that the various operations are made very easy and that pieces of any shape may be molded on any system of pattern plates, the mold boxes being of any shape and size consistent with the dimensions of the machine.

The machine is a universal one, because of the great variety of pieces which can be molded therein, the various pressing and lifting devices being made adjustable.

The invention is shown in the accompanying drawing, in which:

Figure 1 is a front view with partial section of the device. Fig. 2 is a corresponding lateral view partially in section.

The frame 1 is provided with a standard 2 on which pivots the horizontal cross piece 3, receiving the pressure mechanism of the machine. A strong hooked rod 4 pivoted on said cross bar 3 engages a corresponding recess provided on the frame 1 in order to firmly maintain the cross bar 3 in position during the operation of the press.

The pressing device is formed by means of a hand lever 5 which operates the pressing lever or crank 7 by the interposition of the horizontal shaft 6, extending through a sleeve integral with the cross bar.

Crank 7 operates a connecting rod 8 the upper end of which is connected with an adjustably mounted threaded rod 9.

The adjusting of said rod is produced by means of an inwardly threaded sleeve 10 maintained at its lower end by means of a flange and at its upper end by means of the hub of a hand wheel 12 and an upper set ring 13. These various parts are surrounded by a hollow cylinder 14 which serves as a guide and as a pressing piston. The cylinder 14 slides in a bushing of the cross piece 3 and is provided with a longitudinal slot 23 through which extends the shaft 6, whereby the cylinder 14 is prevented from rotating.

At the lower part of cylinder 14 is a disk 15.

The lifting device comprises a pedal 16 one or a pair of connecting rods 17 and a rod 18 on which is secured the lifting plate 19. The rod 18 slides within a guiding bushing integral with the frame. In order to adjust the lifting height, one or more holes 20, 21, disposed in any convenient manner, are provided on the frame. According to the hole in which is engaged the pivot of the pedal, the lifting course varies.

For pressing a mold the cross piece 3 is brought in position above the platform of the frame 1 and a mold box and the hook 4 is engaged in the corresponding recess on the frame. Then the lever 5 is operated. By means of the crank 7, the link 8, the threaded rod 9 and the sleeve 10, the guide piston 14 is forced downward to an extent which may be readily adjusted by means of the hand wheel 12 connected with the threaded sleeve 10 and which produces the upward or downward motion of the threaded rod 9 according to the direction of motion imparted to said hand wheel. After the compressing operation is completed the pedal 16 is depressed and the plate 19, carrying rods 19', is elevated. The rods 19' engage the bottom of the mold box and force same upwardly.

The above described machine works quickly and the essential members of same are adjustable as described.

Having now fully described my said invention, what I claim and desire to secure by Letters Patent, is:

1. A hand molding machine comprising a frame, a platform on top of said frame, for supporting the mold boxes, a standard laterally secured on top of said frame, a cross bar pivotally mounted by one of its ends on said standard, a hooked rod pivotally mounted at the opposite end of said cross bar, said frame being provided with a recess for receiving the hook of said hooked rod in order to firmly secure said cross bar on said frame, a bushing at the middle part of said cross bar, a vertically reciprocating hollow cylinder fitting said bushing, means for operating said cylinder forming the pressure piston of the machine, said means comprising a hand lever, a shaft keyed on said lever and projecting through the bushing of said cross piece and into said cylinder, a crank at the

inner end of said shaft, an adjustable threaded rod adjustably connected with said cylinder, a connecting rod between said crank and said threaded rod, and means for
5 adjusting the position of said threaded rod with respect to said cylinder.

2. A hand molding machine comprising a frame, a platform on top of said frame for supporting the mold boxes, a standard later-
10 ally secured on top of said frame, a cross bar pivotally mounted by one of its ends on said standard, a hooked rod pivotally mounted at the opposite end of said cross bar, said frame being provided with a recess for re-
15 ceiving the hook of said hooked rod in order to firmly secure said cross bar on said frame, a bushing at the middle part of said cross bar, a vertically reciprocating hollow cylinder fitting said bushing, means for operating
20 said cylinder forming the pressure piston of the machine, said means comprising a hand lever, a shaft keyed on said lever and projecting through the bushing of said cross piece and into said cylinder, a crank at the
25 inner end of said shaft, an adjustable threaded rod adjustably connected with said cylinder, a connecting rod between said crank and said threaded rod, and means for ad-
30 justing the position of said threaded rod with respect to said cylinder.

3. A hand molding machine comprising a frame, a platform integral with said frame for supporting the mold boxes, a standard projecting upward from said frame, a cross
35 piece pivotally mounted by one of its ends on said standard, means for rigidly securing said cross piece on said frame during the operation of the machine, a bushing at the middle of said cross piece, a hollow cylinder
40 forming the pressure piston fitting said bushing and reciprocating thereon, a sleeve on said bushing, a horizontal shaft fitting said sleeve and projecting within said hollow cylinder, a hand lever for rotating said shaft,
45 a crank on said shaft, a hand wheel at the upper end of said cylinder, an inwardly threaded sleeve on the hub of said wheel, means for rigidly maintaining said sleeve at the upper part of said hollow cylinder, an
50 axial threaded rod engaging said sleeve, and adjustable on said cylinder by means of said hand wheel and a connecting rod between said threaded rod and said shaft crank.

4. A hand molding machine comprising a
55 frame, a horizontal support pivoted to said frame, said support having a central bearing, means between the support and the frame to lock the support in operative position above the frame, said means when re-

leased permitting of the support being
60 turned on its pivot away from operative position, a hollow compressing member mounted in the bearing, a shaft extending through the bearing and into the hollow compressing
65 member, a handle on the outer end of the shaft, a connection between the inner end of the shaft and the top of the hollow compressing member to cause the latter to be
70 raised or lowered when the handle is operated, means for adjusting the connection to vary the movement of the compressing member, and a mold support on the frame below the hollow compressing member.

5. A hand molding machine comprising a frame provided with a mold support, a hori-
75 zontal bar spaced from the mold support and pivoted above the frame, a latch for securing the horizontal bar in operative position, said horizontal bar having a vertical bearing, a
80 hollow compressing member mounted to operate in the bearing and provided on its under side with a plate, a crank shaft mounted in the bearing and extending into the hollow compressing member, a handle on the
85 outer end of the crank shaft, a screw extending through the upper end of the hollow compressing member, a link between the crank shaft and the screw, and means carried by the hollow compressing member to
90 adjust the screw to vary the movement of the plate toward the mold support.

6. A hand molding machine comprising a frame provided with a mold support, a hori-
95 zontal bar spaced from the mold support and pivoted above the frame, a latch for securing the horizontal bar in operative position, said horizontal bar having a vertical bearing, a hollow compressing member mounted to operate in the bearing and provided on its under side with a plate, a crank
100 shaft mounted in the bearing and extending into the hollow compressing member, a handle on the outer end of the crank shaft, a screw extending through the upper end of the hollow compressing member, a link be-
105 tween the crank shaft and the screw, means carried by the hollow compressing member to adjust the screw to vary the movement of the plate toward the mold support, and means mounted on the frame to lift the mold
110 box from the mold support.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

ANTOINE UTARD.

Witnesses:

J. DÉCORREOUS,
S. BARDEL.