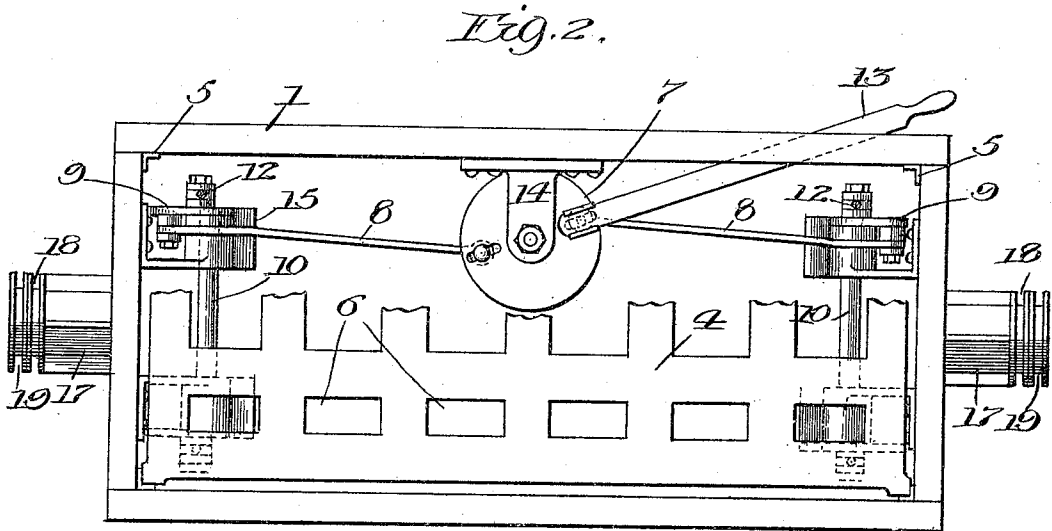
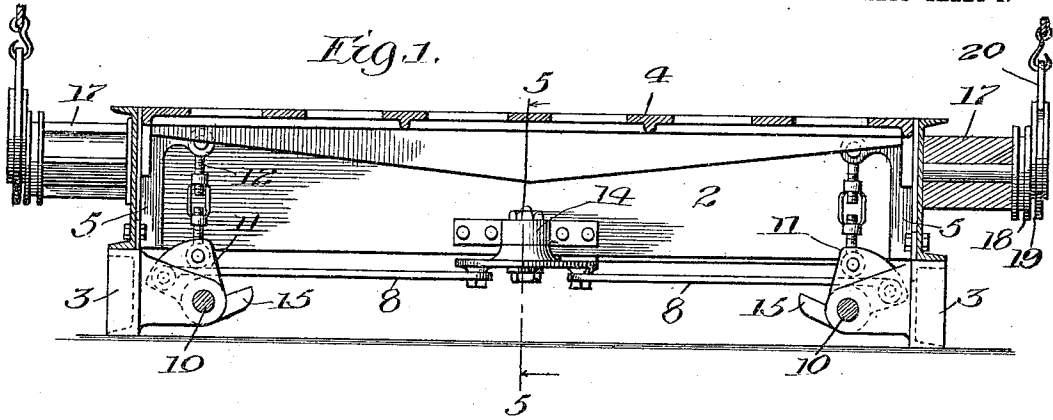


K. NELSON.
MOLDING MACHINE.
APPLICATION FILED FEB. 4, 1907.

960,380.

Patented June 7, 1910.

2 SHEETS—SHEET 1.



Witnesses:
C. W. Merrill
J. C. Lee

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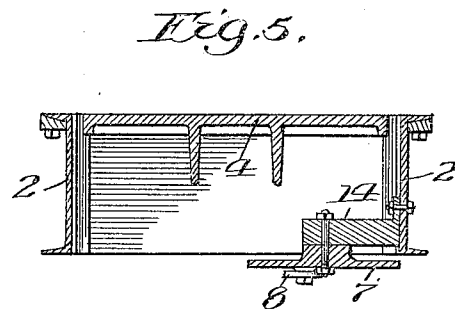
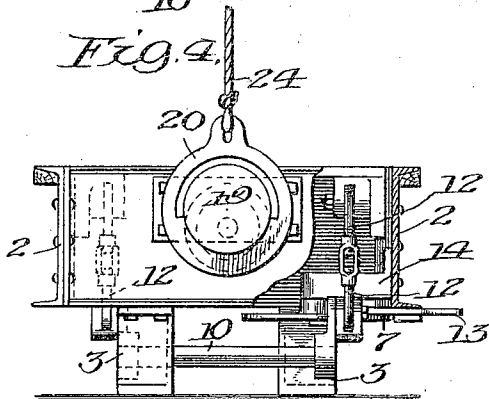
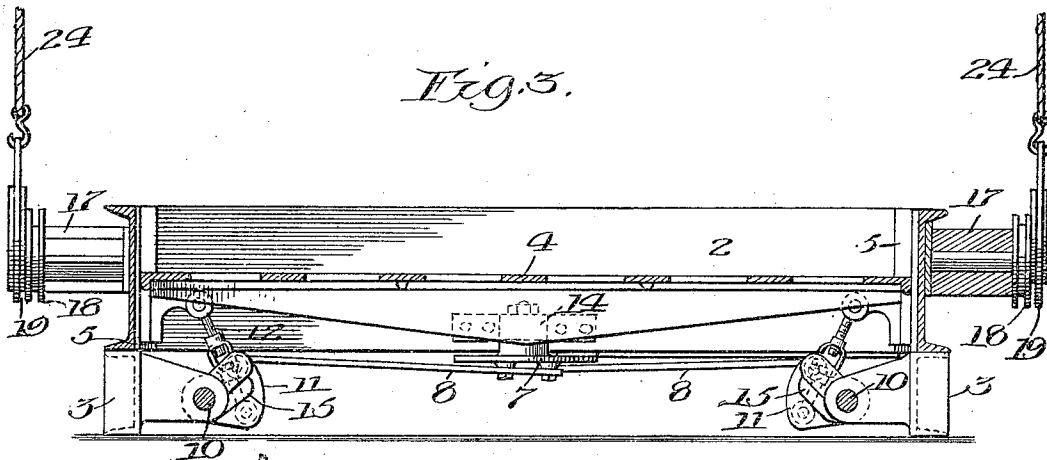


Fig. 6.

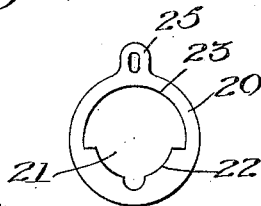
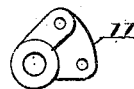


Fig. 7.



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UNITED STATES PATENT OFFICE.

KNUTE NELSON, OF CHICAGO, ILLINOIS.

MOLDING-MACHINE.

960,380.

Specification of Letters Patent.

Patented June 7, 1910.

Application filed February 4, 1907. Serial No. 355,547.

To all whom it may concern:

Be it known that I, KNUTE NELSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Molding-Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to molding machines which are intended to carry the molding flask, and are adapted to permit the pattern to be dropped from the same after the mold has been made.

The principal object of the invention is to provide a molding machine which will permit the flask to be reversed and its pattern pulled, as well as to allow the pattern to be dropped therefrom.

Other objects of the invention are, to provide simple, practical and inexpensive mechanism for carrying out the invention.

In accordance with my invention, I provide a molding machine having a body frame and a table which is capable of being depressed relatively to said frame, and to such end is provided with suitable mechanism for raising and lowering it. Thus the flask can be set on the frame with the table in its upper or normal position and then the pattern laid and fastened upon the table and the sand filled in and pounded, after which the table can be depressed to withdraw or drop the pattern. The machine is also provided with means by which the frame and table can be turned up-side-down with the flask in position. This allows the flask to be placed in reversed position and dropped or pulled away from the pattern.

In the accompanying drawings, Figure 1 is a cross section of a molding machine embodying my invention; Fig. 2 is a bottom view of the same; Fig. 3 is a vertical section with the table in a depressed position; Fig. 4 is an end view of the machine; Fig. 5 is a view taken on line 5-5 in Fig. 1; Figs. 6 and 7 are views of details of construction.

Referring to the drawings, I show a frame 1 conveniently of rectangular form, composed of channel bars 2, 2 as shown in Figs. 4 and 5. This frame 1 rests upon end base pieces 3, 3. A table 4 is arranged within the frame 1 and adapted to move up and down relatively to the frame, the latter to such end being provided with guideways 5,

5 at its corners. The table 4 is conveniently made flat with apertures 6, 6. As an arrangement for raising and lowering the table, I have shown a rotary disk 7 connected by links 8, 8 with cranks 9, 9 on rock shafts 10, 10, and these rock shafts 10, 10 provided with other cranks 11, 11 which are connected by adjustable links 12, 12 with the table 4. The disk 7 is provided with a handle 13 by which it can be turned, and said disk is supported by a bearing 14 (Fig. 5) secured to the sides of the frame 2. Stops 15, 15 are provided to limit the downward movement of the cranks 11, 11. Thus by operating the lever 13, the disk 7 can be turned and the rods 8, 8 drawn in so that the cranks 11 will be drawn down and the links 12, 12 lowered so as to depress the table 4. If a flask is resting upon the frame 1, it with the sand will be maintained in an elevated position while the pattern will descend with the table 4. The flask can then be removed without the pattern.

The ends of the frame 1 are provided with hubs 17, 17 whose outer ends are provided with two eccentrically mounted disks or wheels 18, 19. One of the disks 19 is above the other 18, and the two are secured firmly together to the hub 17. A hanger 20 (Fig. 4) is adapted to engage either one of the disks 18, 19. It is constructed in the form of a sheet metal disk as shown in Fig. 6, with an opening 21, the lower end 22 of which is adapted to accommodate the inner periphery of the disks 18 and 19, but whose upper edge 23 is at least as large as the larger peripheries of said disk. The hangers 20 are provided with ropes 24, 24 connected with eyelets 25 on said hangers. Thus the entire molding machine can be hoisted and transported by the hangers 20, 20 and ropes 24, 24, the hangers engaging either the disks 19, 19 or 18, 18. If the molding machine is without a flask, it can be suspended by having the hangers 20 engage the lower disks 18, but if the machine is provided with a flask, the hangers 20 are placed in engagement with the outer and upper disks 19. Without a flask the center of gravity of the molding machine is so located that the machine will be balanced by being supported by the lower disks 18, but with a flask the center of gravity is elevated so that it is necessary to support the machine by the upper disks 19. In either event, however, the machine can be turned up-side-down by

simply rotating it on its pivotal bearings. When a flask is in position with the pattern in it, the whole machine can be turned upside-down so that the flask will be placed in a reversed condition and its pattern drawn. The hanger 20 can be placed in engagement with either disk 18 or 19 by lowering it slightly so as to permit it to be removed from the disk it is engaging and placed in engagement with the other.

It will be understood that changes and modifications can be made without departing from the spirit of the invention.

What I claim is:—

1. A molding machine comprising a frame provided at its base with supporting means upon which it can stand, a table depressible relatively to said frame, means for raising and lowering said table, and means for permitting the inversion of the frame with its table.

2. A molding machine comprising a frame formed by vertically disposed side and end walls, base pieces secured to the lower edges of said walls and forming supporting means for said frame, a depressible table arranged within the walls of said frame, and adapted to be raised and lowered within the same, links 12, 12 pivotally connected with the bottom of said table, rock shafts 10, 10 mounted upon the base pieces supporting said frame, cranks 11, 11 secured to said rock shafts 10, 10 the links 12, 12 being pivotally connected with said cranks 11, 11, rods 8, 8 pivotally connected with said cranks and extended inwardly from the same toward the middle of the table, a rotary member 7 supported below the table, said rods 8, 8 being pivotally connected with said rotary member; and means for turning said rotary member to effect the raising and lowering of the depressible table.

3. A molding machine comprising a frame, a table arranged to work within said frame, and means for raising and lowering said table, comprising rock shafts having concentrically connected links connected with the table, and means for rocking said rock shafts, the machine being provided with means whereby it can be bodily raised and

transported, and being so constructed as to permit it to be inverted when raised.

4. A molding machine comprising a frame, a table arranged to work within said frame, and means for raising and lowering said table, comprising rock shafts having eccentrically connected links connected with the table, a rotary disk link-connected with said rock shafts, and a handle for turning said disk, the machine being provided with means whereby it can be bodily raised and transported and being so constructed that it can be inverted when raised.

5. A molding machine comprising a frame consisting of vertically disposed side and end walls, supporting members to which said frame is secured, means for raising and lowering said table comprising a rotary member arranged below the table and having bell crank connection with the same, and means for permitting the frame to be inverted, said means comprising hubs secured to the ends of said frame and hangers adapted to engage said hubs.

6. A molding machine, comprising a frame, a depressible table, means for raising and lowering said table, hubs secured to said frame and provided with eccentrically mounted disks, and hangers for engaging said disks.

7. A molding machine, comprising a rectangular frame composed of channel iron, a depressible table arranged to work up and down in said frame, means for raising and lowering said table, comprising rock shafts eccentrically connected with links attached to said table, and a disk link-connected with said rock shafts for rocking the same, hubs secured to the ends of said table and provided with upper and lower disks, and hangers adapted to engage said disks and to be placed in engagement with one or the other of the same.

In witness whereof, I hereunto subscribe my name this 30th day of January A. D., 1907.

KNUTE NELSON.

Witnesses:

A. M. BELFIELD,
I. C. LEE.