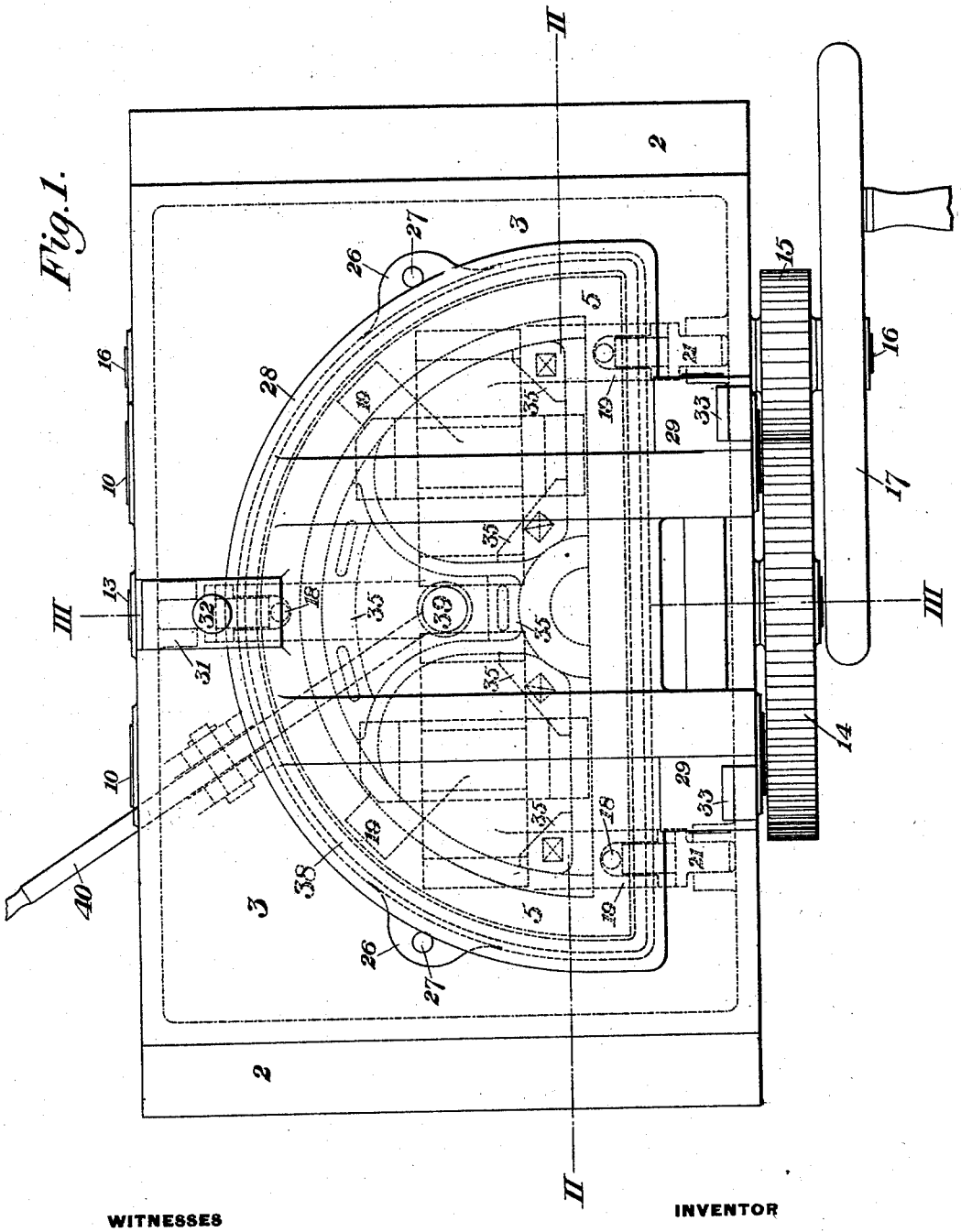
(No Model.) 3 Sheets—Sheet 1.

W. B. STERRIT.

MOLDING MACHINE.

No. 524,492. Patented Aug. 14, 1894.

Fig. 1.



WITNESSES

W. B. Conner

H. M. Conner

INVENTOR

Wm. B. Sterrit

by W. Baxendell & Sons

his Attorneys

(No Model.) 3 Sheets—Sheet 2.

W. B. STERRIT.

MOLDING MACHINE.

No. 524,492. Patented Aug. 14, 1894.

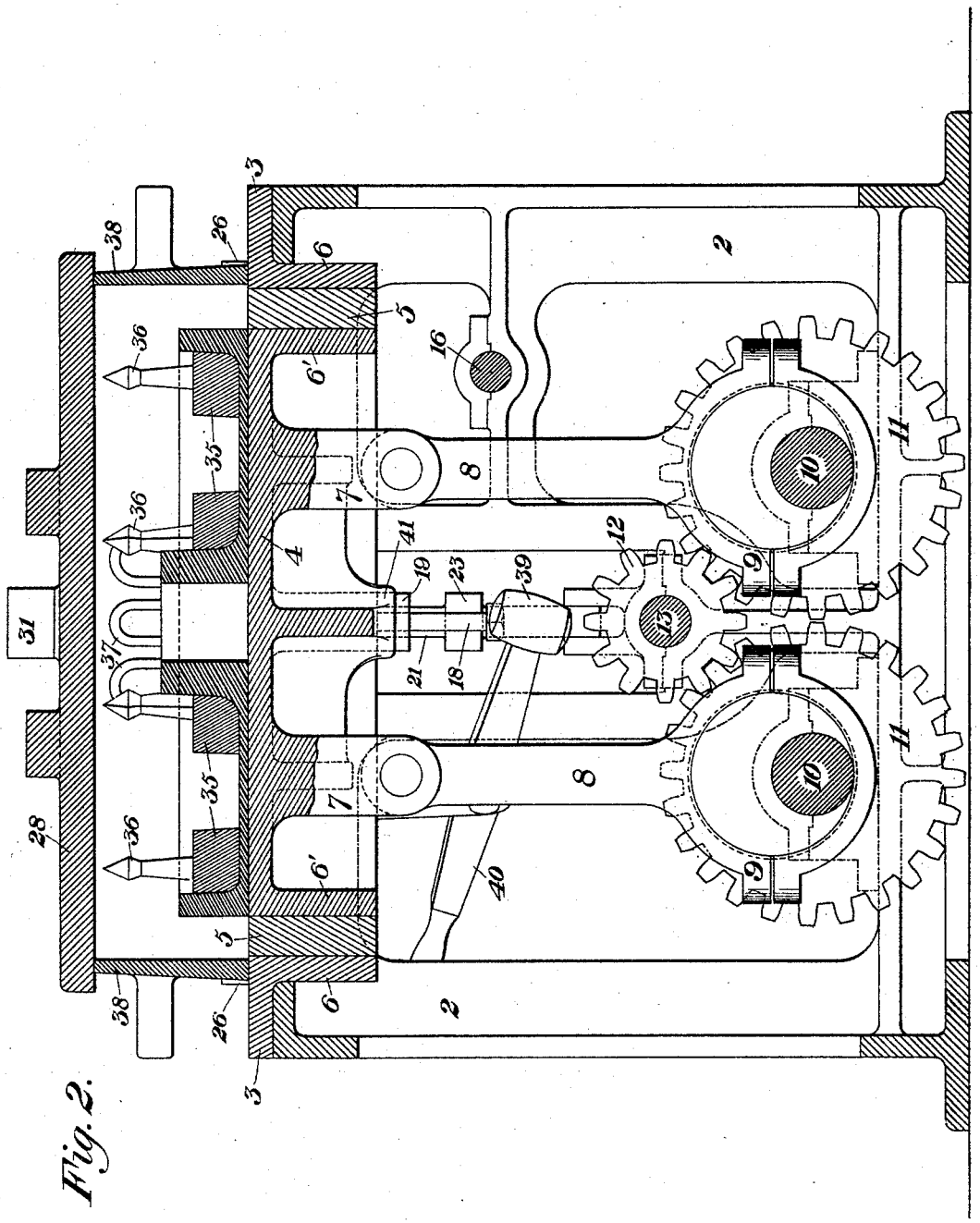


Fig. 2.

WITNESSES

INVENTOR

Wm. B. Sterrit
by his attorney
W. Baxewell & Sons

(No Model.)

3 Sheets—Sheet 3.

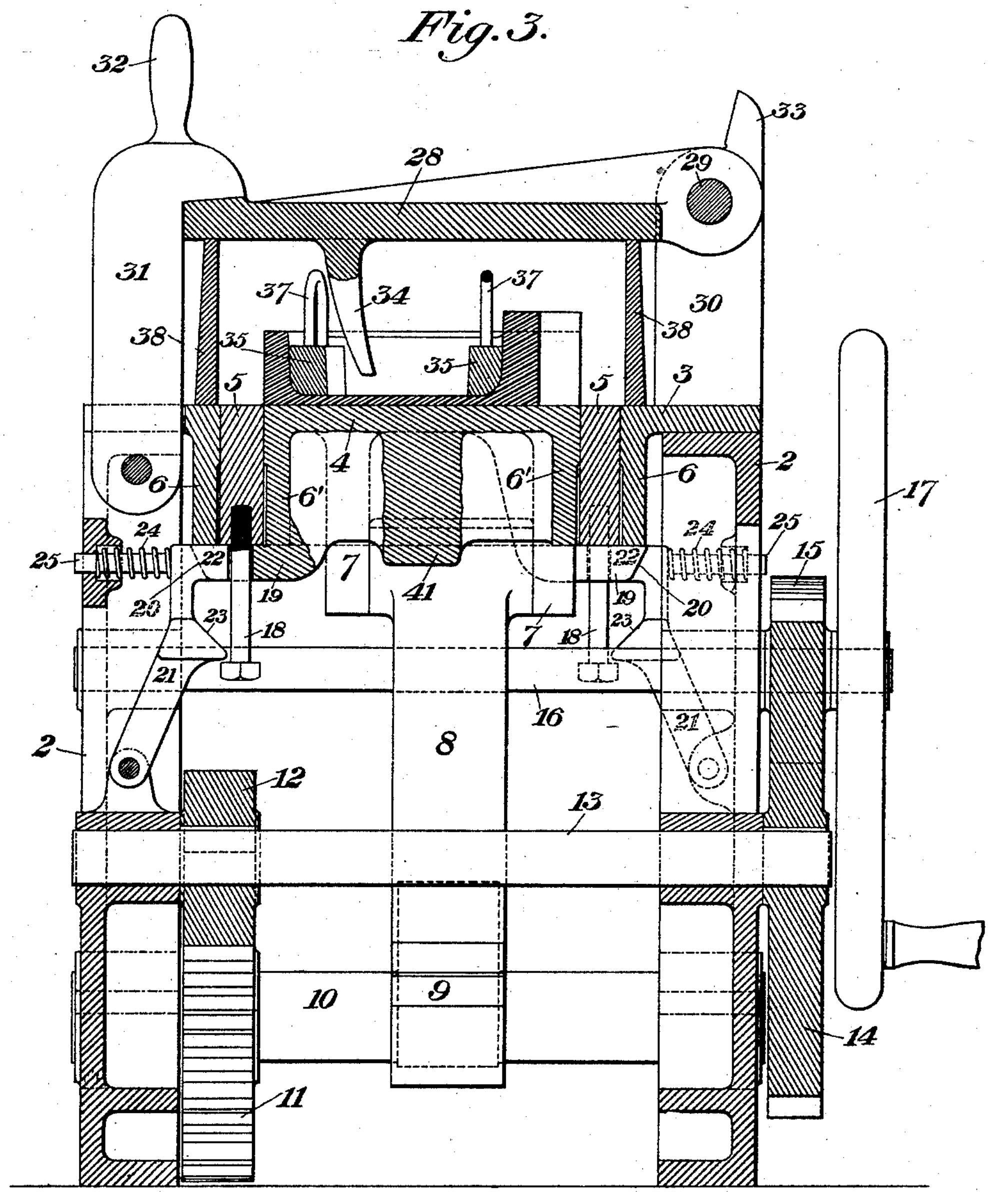
W. B. STERRIT.

MOLDING MACHINE.

No. 524,492.

Patented Aug. 14, 1894.

Fig. 3.



WITNESSES

W. B. Corwin

H. M. Corwin

INVENTOR

Wm. B. Sterrit

by his attorneys

W. Bakewell & Sons.

UNITED STATES PATENT OFFICE.

WILLIAM B. STERRIT, OF PITTSBURG, PENNSYLVANIA.

MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 524,492, dated August 14, 1894.

Application filed January 19, 1894. Serial No. 497,404. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. STERRIT, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Molding-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved molding machine. Fig. 2 is a vertical longitudinal section on the line II—II of Fig. 1; and Fig. 3 is a vertical cross-section on the line III—III of Fig. 1.

My invention relates to the class of machines for making wheel-molds, and is designed to afford a simple and practical machine, which shall turn out more perfect molds than have hitherto been possible, and necessitate little or no skilled labor.

In the drawings, in which similar numerals indicate corresponding parts, 2 represents the frame of my machine, and 3 the molding-table carried thereon. This table is provided with an opening of the same contour as and a larger perimeter than the pattern, and in this opening are located the movable pattern-board 4 and the ring 5, the ring being guided in its vertical reciprocation by the depending flange 6 surrounding it. I prefer to inwardly recess or groove this flange 6 to reduce the friction and the power necessary to raise and lower the pattern and the ring, the depending flange 6′ of the pattern-plate being similarly recessed.

To the downwardly projecting lugs 7 of the pattern-plate are pivoted the arms 8 projecting from eccentric-straps 9 surrounding eccentrics upon shafts 10. The shafts 10 are provided with gear-wheels 11, intermeshing with a pinion 12 upon a shaft 13 carrying a gear-wheel 14 (Figs. 1 and 3) intermeshing with a pinion 15 upon a shaft 16 carrying the hand-wheel 17. By this system of gearing the power is largely increased.

The ring 5 is provided with depending headed bolts or pins 18, about which take the forked lugs 19, projecting outwardly from the pattern-plate and having inwardly beveled outer faces 20. There are five of these forked lugs arranged as shown in Fig. 1, and three of the headed bolts are provided, disposed at about equal distances apart. To support the ring in its elevated position, I provide the swinging latches 21, pivoted to the frame at their lower ends and each provided with an inwardly projecting lug 22, which lies between the forks of the lugs 19, and below this lug with inclined faces 23 adapted to contact with the inclined faces 20 of lugs 19 when the pattern-plate is lowered. These latches are normally held in inward position by springs 24 surrounding pins 25 projecting therefrom and pressing upon their upper ends, the lugs 19 forcing the latches back out of engagement with the ring when the pattern-plate descends, and then drawing down the ring by engagement of the forked lugs with the heads or bolts 18.

The flask 38 is guided into proper position by lugs 26, through holes in which pass pins 27 projecting from the table, and is securely held down by the cover 28, which is hinged at 29 to suitable posts 30, and when swung down upon the flask is secured by the swinging latch 31 pivoted below the table and having the operating handle 32.

The posts 30 are provided with lugs 33, which engage the cover-plate as soon as it is moved backward slightly beyond the vertical and prevent further backward movement thereof. The under side of the cover-plate is provided with a series of venting pins 34, which have downwardly curved and tapered sides so as to move out of the sand without sidewise movement when the cover-plate is lifted.

To rap the mold and loosen the pattern from the sand, I provide a hammer 39 whose handle 40 is suitably pivoted in the frame, and which is arranged to strike against a lug 41 projecting from the bottom face of the pattern-plate.

To prevent the breaking and crumbling away of the corners and sharp edges of the mold when the pattern is withdrawn, I provide a series of metal plates 35, or blocks, which rest upon the pattern-plate and are forced up into the sand forming the corners of the finished mold. These blocks are provided with suitable upwardly projecting holders, which are either in the form of sharpened pins as 36, or loops as 37, the sand being forced inwardly below the enlarged and

sharpened heads of the pins, and through the loops, thus securing the blocks in place.

The advantages of my machine will be apparent to those skilled in the art, since hand manipulation is done away with, and the machine is simple and easily operated.

Many variations in the form, construction and general arrangement of the parts of my machine may be made by the skilled mechanic without departure from my invention, since

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

1. A molding-machine, having a movable pattern-plate, a ring encircling the same, and arranged to enter the flask, supports for the ring in its elevated position, said supports being attached to the machine independently of the pattern plate and means for automatically removing said supports as the pattern-plate is lowered; substantially as described.

2. A molding machine having a movable ring encircling the pattern plate, removable supports for the ring, said supports being attached to the frame and separate from the pattern plate and means upon the pattern-plate for removing said supports as the pattern-plate is lowered; substantially as described.

3. A molding-machine having a movable pattern-plate, a ring encircling the same, pivoted latches arranged to support the ring in elevated position, and means upon the pattern-plate for retracting said latches; substantially as described.

4. A molding machine having a movable pattern-plate, a ring encircling the same, pivoted and spring-pressed latches arranged to support the ring in elevated position, and lugs upon the pattern-plate for retracting said latches; substantially as described.

5. A molding machine having a swinging cover-plate provided with curved venting pins.

6. A molding machine, having a movable pattern-plate provided with depending forked lugs, with inclined faces, a ring encircling the plate and having depending headed bolts about which the lugs take, spring-pressed latches arranged to hold the ring in elevated position, and having inclined faces to coact with the faces upon the forked lugs; substantially as described.

7. A molding machine, having a rapping hammer pivoted thereon, and arranged to swing upwardly and strike the lower face of the pattern-plate; substantially as described.

8. A molding machine having a movable pattern-plate, means for forcing it into the flask, and loose blocks which rest upon the plate said blocks being shaped to penetrate and be held in the sand of the mold upon withdrawal of the pattern-plate; substantially as described.

9. A molding machine, having a movable pattern-plate, means for forcing it into the flask, and loose blocks which rest upon the plate and are provided with means for penetrating and retaining them in the sand of the mold; substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM B. STERRIT.

Witnesses:
W. B. CORWIN,
H. M. CORWIN.