

No. 647,673.

Patented Apr. 17, 1900.

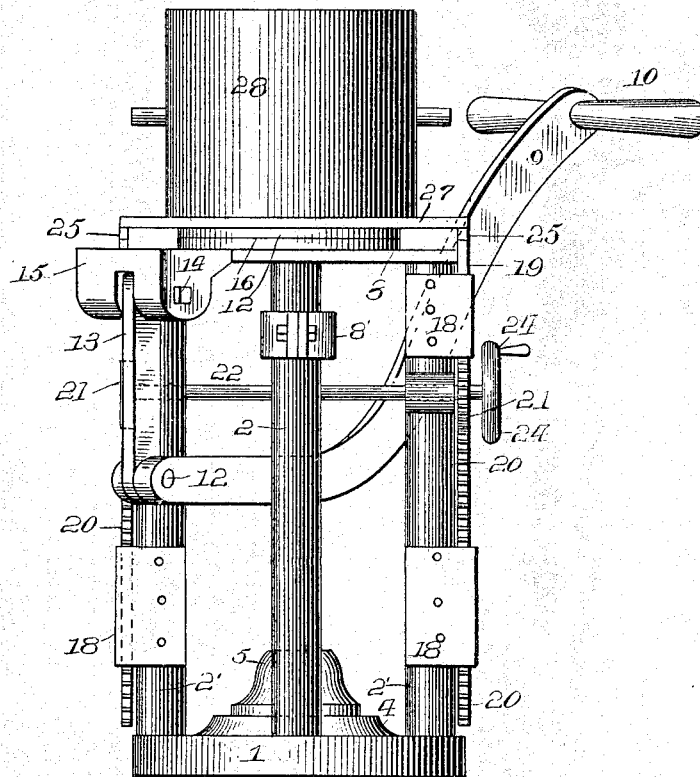
H. C. HERMAN.  
MOLDING MACHINE.

(Application filed June 20, 1899.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



*witnesses:*

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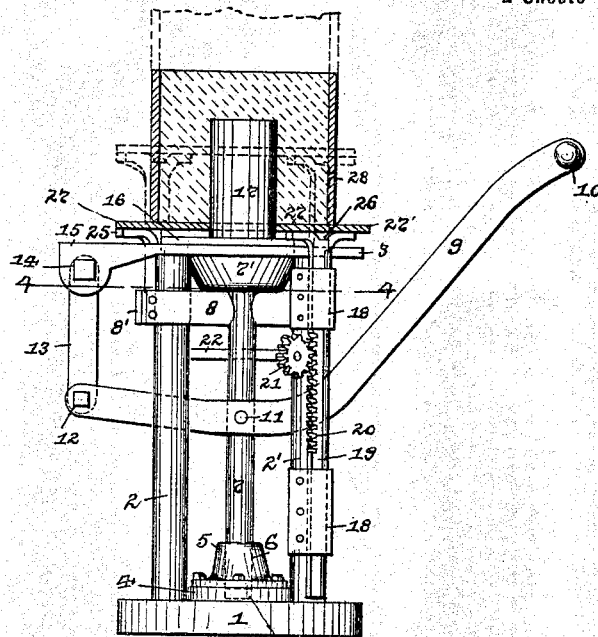


Fig. 2

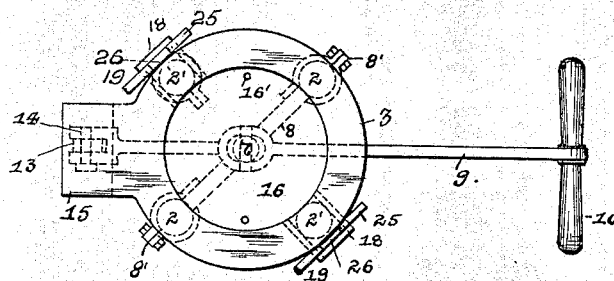


Fig. 3

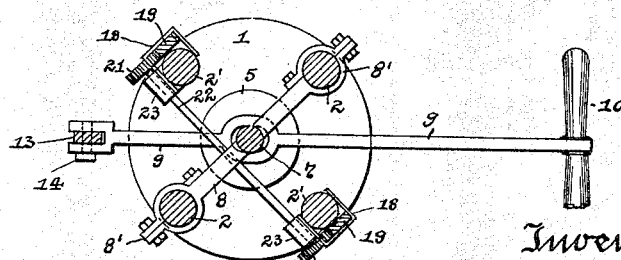


Fig. 4

Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY C. HERMAN, OF ALLEGHENY PENNSYLVANIA.

## MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,673, dated April 17, 1900.

Application filed June 20, 1899. Serial No. 721,193. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. HERMAN, a citizen of the United States, residing at Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Molding-Machines, of which the following is a specification.

My invention relates to sand-molding machines, and has for its object to provide a cheap and simple construction of such machines, whereby the sand may be evenly compacted around the pattern in the flask and the flask containing the mold-cavity easily and quickly raised from around the pattern.

My invention consists, generally stated, in the novel arrangement, combination, and construction of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention relates to construct and use the apparatus, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of my improved machine. Fig. 2 is a like view looking at another side of the machine and showing the flask and stripping-plate in section. Fig. 3 is a top view of the machine with the flask, stripping-plate, and pattern-plate removed. Fig. 4 is a cross-section on the line 4 4 of Fig. 2.

Like symbols of reference indicate like parts in each.

As illustrated in the drawings, my improved molding-machine is supported on a base-plate 1, provided with vertical standards or supports 2 2', upon which is mounted the table or top plate 3. A block 4 is formed or secured on said base-plate 1, having a guide 5 secured thereto, provided with an opening 6 for the reception of the lower end of a post 7, which is adapted to contact with an elastic jarring-block 4', made of rubber or other suitable resilient material set in the block 7. The post 4 extends up between the vertical standards 2 2' and is secured to a cross-head 8, guided by the guides 8', sliding upon the standards 2. A lever 9, having a handle 10, is fulcrumed to the post 7 by means of a pin 11 and is pivoted at 12 to the lower end of a link 13, pivoted at its upper end 14 in a bear-

ing 15 on the top plate 3. The post 7 is provided with an enlargement 7' at its upper end, above which is formed or secured the pattern-plate 16, carrying the pattern 17.

Fitting around the standards 2' are the clamps 18 for supporting and guiding the vertical lifting-bars 19, which are provided with the racks 20, meshing with gear wheels or pinions 21, mounted on a shaft 22, journaled in bearings 23 on the standards 2' and provided with a hand-wheel 24, having a crank 24' for operating the same. The upper ends of the lifting-bars 19 are provided with horizontal extensions 25, having a seat 26 between them adapted to engage with the stripping-plate 27. The stripping-plate 27 fits under a flask 28 and rests upon projections or pins 16' on the pattern-plate 16, so as to support said plate 27 above the plate 16.

The operation of my improved machine is as follows: The operator places the stripping-plate 27 over the pattern 17, secured to the pattern-plate 16, the plate 27 resting on the projections or pins 16' on the pattern-plate. The flask 28 is then placed over and around the pattern 17, with its bottom resting upon the stripping-plate 27, and the same is then filled with sand. The operator now raises the lever 9 and with it the post 7, cross-head 8, pattern-plate 16, pattern 17, and stripping-plate 27, with the flask 28 and sand contained therein, to a sufficient height and permits the whole to drop, the downward movement being arrested by the lower end of the post 7 coming in contact with the elastic jarring-block 4'. This jarring can be repeated as often as desired, the sand being thereby caused to settle and compact itself around the pattern 17. After the sand has been sufficiently compacted in this manner the operator by grasping the crank 24' and turning the wheel 24 on the shaft 22 in the proper direction will cause the vertical lifting-bars 19 to travel upwardly through the medium of the gear-wheels 21 meshing with the racks 20 on the lifting-bars. As the lifting-bars are raised the upper ends or extensions 25 thereof will engage with the bottom of the stripping-plate 27 and will raise said plate 27 and with it the flask 28, containing the sand and mold-cavity formed by the pattern 17, away from

said pattern, the pattern-plate and the pattern remaining stationary during this operation. When the plate 27 and flask 28 have been raised above the top of the pattern 17, the operator can lift them off the bars 19 and carry them to any suitable or desired place, after which the lifting-bars can be lowered to their normal position by revolving the wheel 24 in a direction reverse to that just described.

It will thus be seen that my improved molding-machine is cheap and simple in its construction and operation and that by its use the sand can be easily, quickly, and thoroughly compacted around the pattern to form a perfect mold-cavity, after which the stripping-plate and flask can be easily and rapidly raised from around the pattern.

Various modifications may be resorted to by the skilled artisan without departing from the spirit of the invention or sacrificing any of its advantages.

I claim—

1. In a molding-machine, the combination of a base-plate, standards mounted thereon, a cross-head sliding on said standards, a vertically-movable pattern-plate carrying a pattern, a stripping-plate above the pattern-plate and vertically movable therewith, a flask mounted on the stripping-plate, mechanism for imparting a vertical movement to said cross-head whereby said pattern-plate, stripping-plate and flask are given a vertical movement, lifting-bars below said stripping-plate mounted in guides sliding on standards on said base-plate, gear-racks on the lifting-bars and gear-wheels meshing with said gear-racks for raising the lifting-bars

and the stripping-plate with which they engage independently of the pattern-plate. 40

2. In a molding-machine, the combination of a pattern-plate carrying a pattern, a stripping-plate above said pattern-plate, a base-plate, standards extending from said base-plate, guides mounted and sliding on said standards and carrying vertically-movable lifting-bars for engaging and raising said stripping-plate, and mechanism for imparting a vertical movement to the lifting-bars. 45

3. In a molding-machine, the combination of a pattern-plate carrying a pattern, a stripping-plate above said pattern-plate, a base, standards extending from said base, guides mounted and sliding on said standards and carrying vertically-movable lifting-bars for engaging and raising the stripping-plate, gear-racks on said lifting-bars, and gear-wheels meshing with said racks for moving the lifting-bars. 50

4. In a molding-machine, the combination of a pattern-plate carrying a pattern, a stripping-plate above said pattern-plate, a base, standards extending from said base, guides mounted and sliding on said standards and carrying vertically-moving lifting-bars for engaging and raising the stripping-plate, and mechanism for operating the lifting-bars. 55

In testimony whereof I have hereunto set my hand, at Pittsburg, in the county of Allegheny and State of Pennsylvania, this 31st day of May, A. D. 1899. 60

HENRY C. HERMAN.

Witnesses:

J. N. COOKE,

BERNARD F. McELVEY.