

(No Model.)

3 Sheets—Sheet 1.

P. O'CONNOR & J. F. McNAMARA.

MOLDING MACHINE.

No. 472,312.

Patented Apr. 5, 1892.

Fig. 1.

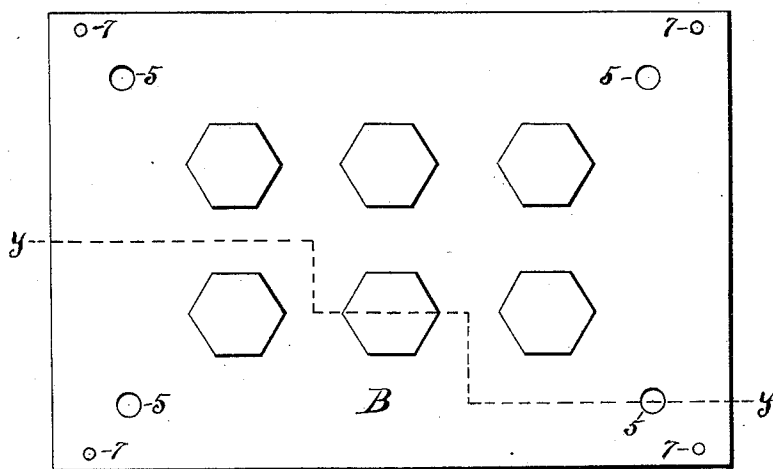
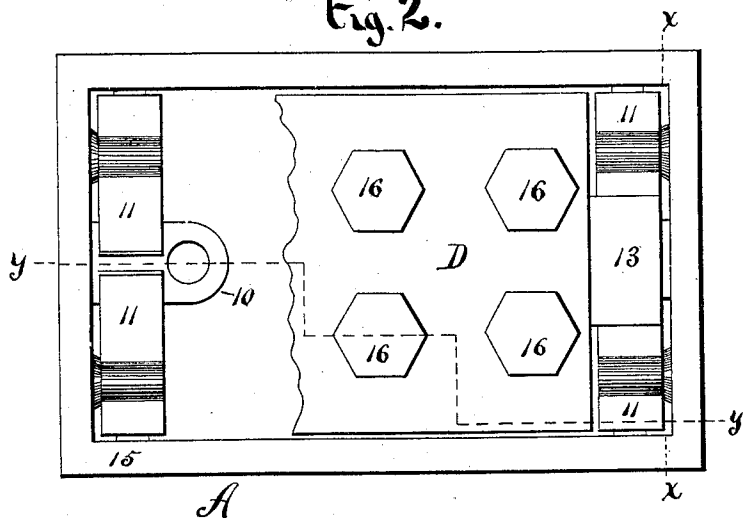


Fig. 2.



Witnesses.

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Inventors.

Patrick O'Connor
and John F. McNamara.

By James Shepard
Atty.

(No Model.)

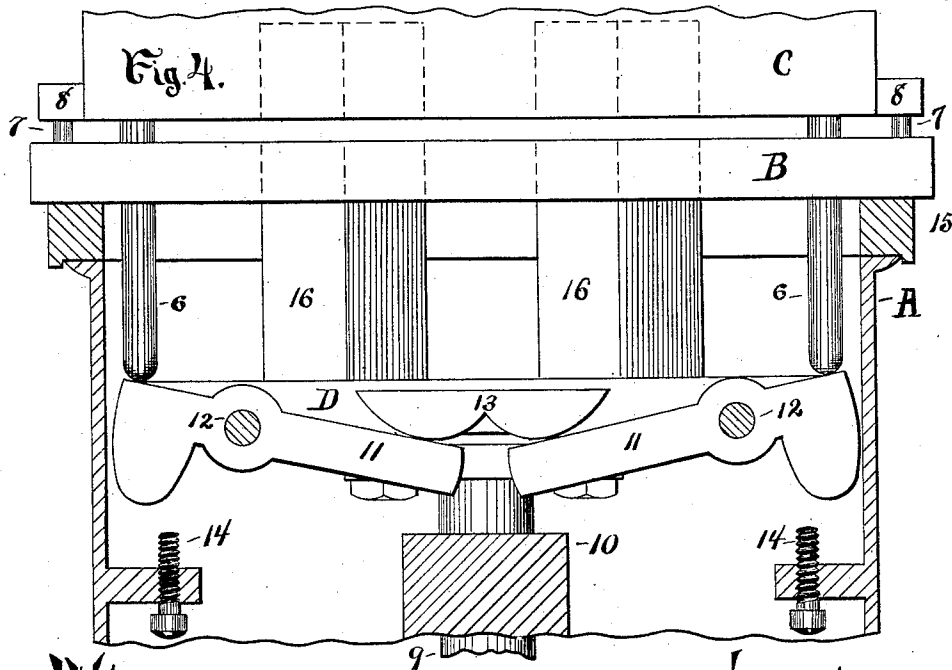
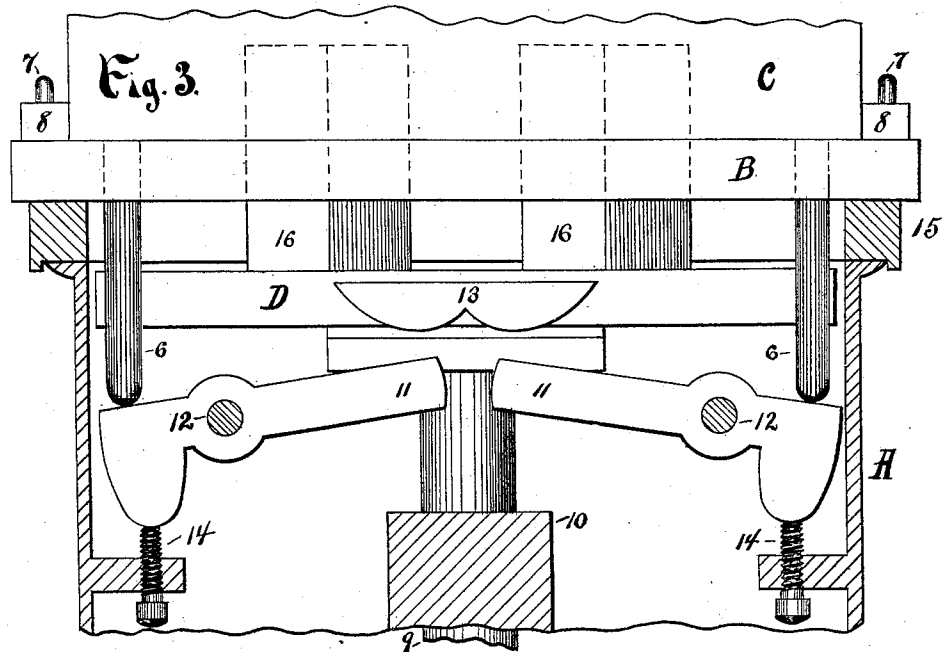
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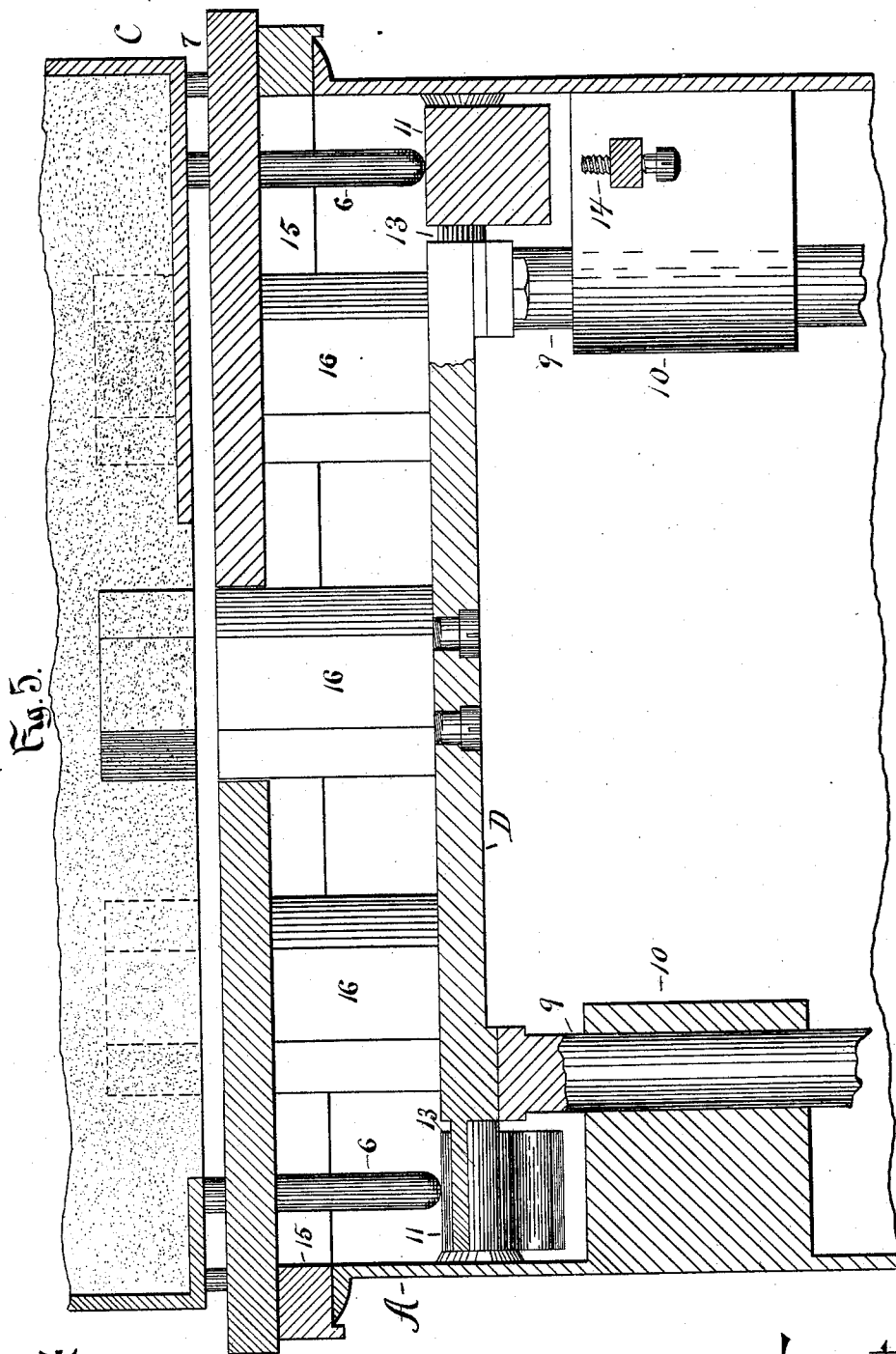
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UNITED STATES PATENT OFFICE.

PATRICK O'CONNOR AND JOHN F. McNAMARA, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO THE JAMES REYNOLDS MANUFACTURING COMPANY, OF SAME PLACE.

MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,312, dated April 5, 1892.

Application filed October 27, 1891. Serial No. 410,034. (No model.)

To all whom it may concern.

Be it known that we, PATRICK O'CONNOR and JOHN F. McNAMARA, citizens of the United States, residing in the city of New Haven, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Molding Machines, of which the following is a specification.

Our invention relates to improvements in molding-machines; and the object of our improvements is to provide a cheap, simple, and efficient mechanism for use in molding-machines.

In the accompanying drawings, Figure 1 is a plan view of the bed-board or stripping-plate of our molding-machine. Fig. 2 is a plan view of parts of our machine with said bed-board removed and with one end of the slide or pattern-carrier broken off in order to better show the other parts. Fig. 3 is a vertical section on the line *x x* of Fig. 2, looking toward the left, the same being on an enlarged scale. Fig. 4 is a like view with the parts in a different position; and Fig. 5 is a vertical section, partly in elevation, on the line *y y* of Figs. 1 and 2, the parts being in the same position as in Fig. 4.

A designates the frame of the machine, which has in general a box-like form. Its height is somewhat extended by means of a rim 15, having the same general form of the frame A, of which it constitutes a part; but whether the frame is made in one or more parts is immaterial to our invention. It is surmounted by a bed-board or stripping-plate B, the same having its middle portion perforated to conform to the patterns 16 to be used therewith, as in other molding-machines, and also provided with four holes 5 for the lifting-pins 6 and with dowel-pins 7 for engagement with the ordinary ears 8 of the flask C for properly seating said flask on said bed-board in the ordinary manner.

The pattern-carrier on slide D is supported on suitable rods 9, which are received in lugs 10 on the frame A. This pattern carrier or slide may be raised and lowered by any proper mechanism, as in various known molding-machines, the particular means for so doing not being essential to our invention. An ex-

ample of suitable means for raising and lowering the pattern carrier or slide may be seen in the patent to Patrick O'Connor, dated November 3, 1891.

At each end of the frame, on the inside, we have two levers 11 on bolts or pins 12, the short end of said levers being weighted. The lifting-pins 6, before referred to, rest loosely upon the top of said levers at their short ends and pass loosely through the holes 5 in the bed-board, as shown in Figs. 3 and 4. At each end of the pattern carrier or slide are lugs 13, with their under faces rounded. The long ends of said levers are under said lugs. Under the short end of each lever is an adjustable stop-screw 14, supported in lugs or brackets on the frame. When the pattern carrier or slide is raised, as shown in Fig. 3, the short ends of the levers 11 and the lifting-pins 6 fall down by gravity until the levers are stopped by the stop-screws 14. When the pattern carrier or slide is brought down to withdraw the patterns, the lugs 13 descend with it, and after moving a proper distance said lugs engage the long ends of the levers 11 and force the lifting-pins 6 up against the lower edge of the flask to lift it, thereby changing the parts from the position shown in Fig. 3 to that shown in Figs. 4 and 5. The drop of the levers may be regulated by the adjusting stop-screws 14, so that the pattern carrier or slide may be lowered sufficiently to practically withdraw the patterns from the sand before the lugs 13 act on the levers 11 to lift the flask. Lifting-pins of different lengths may be used with different patterns.

It is of course evident that the precise details of construction shown in the lugs 13 and levers 11 are not essential, as after having disclosed an operative form for said levers and pattern-carrier, so that said levers are moved to force up the lifting-pins through the movement of the pattern carrier or slide itself, various changes of construction in the same combination will readily occur to other mechanics.

By our improvement the flask is easily and smoothly lifted through the pattern carrier or slide during its ordinary movement and without the employment of rock-shafts and cams.

We claim as our invention—

1. In a molding-machine having a suitable
frame and mold-support, the combination of
the levers 11, lifting-pins 6 resting thereon,
and the pattern carrier or slide having a part
5 for acting upon said levers, all operating to-
gether to force up the lifting-pins for raising
the flask a short distance through the down-
ward movement of the pattern-carrier, sub-
stantially as described, and for the purpose
10 specified.

2. In a molding-machine having a suitable
frame and mold-support, the combination of
the levers, loose pins resting thereon, the pat-
tern-carrier having a part for acting upon said

levers, and the stop-screws, all operating to- 15
gether to force up the lifting-pins for raising
the flask through the downward movement of
the pattern-carrier, while the stop-screws limit
the descent of one end of said levers when
said pattern-carrier is lifted from said levers, 20
substantially as described, and for the pur-
pose specified.

PATRICK O'CONNOR.
JOHN F. McNAMARA.

Witnesses:

CHRISTOPHER FAGAN,
WILLIAM McNAMARA.