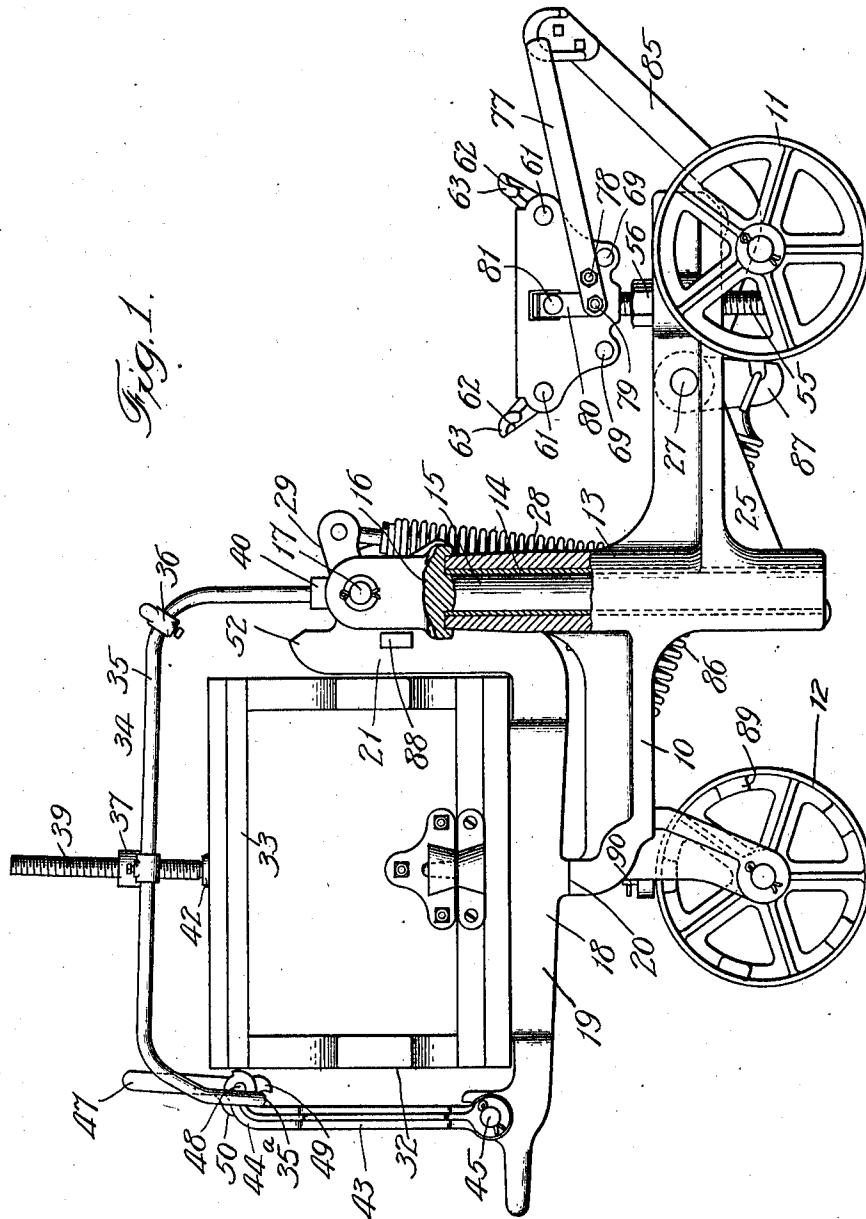


E. A. PRIDMORE.
MOLDING MACHINE.
APPLICATION FILED JUNE 5, 1911.

1,027,066.

Patented May 21, 1912.

4 SHEETS-SHEET 1.



Witnesses:

E. A. Pridmore
Chas. H. Bull.

Inventor:

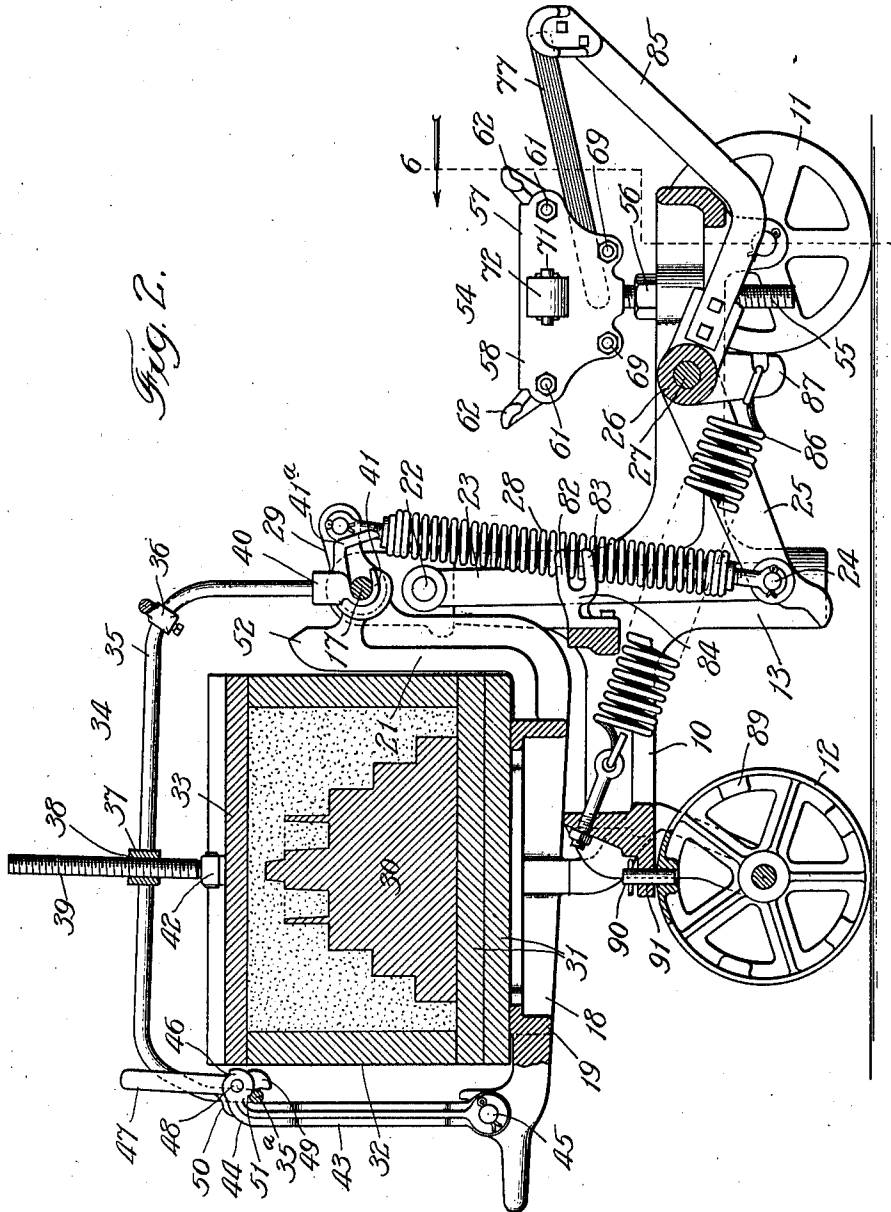
Edward A. Pridmore.
By Dyerforth, Lee, Chittin & Wiles.
Attys.

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4 SHEETS-SHEET 2.



Witnesses:

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Inventor:

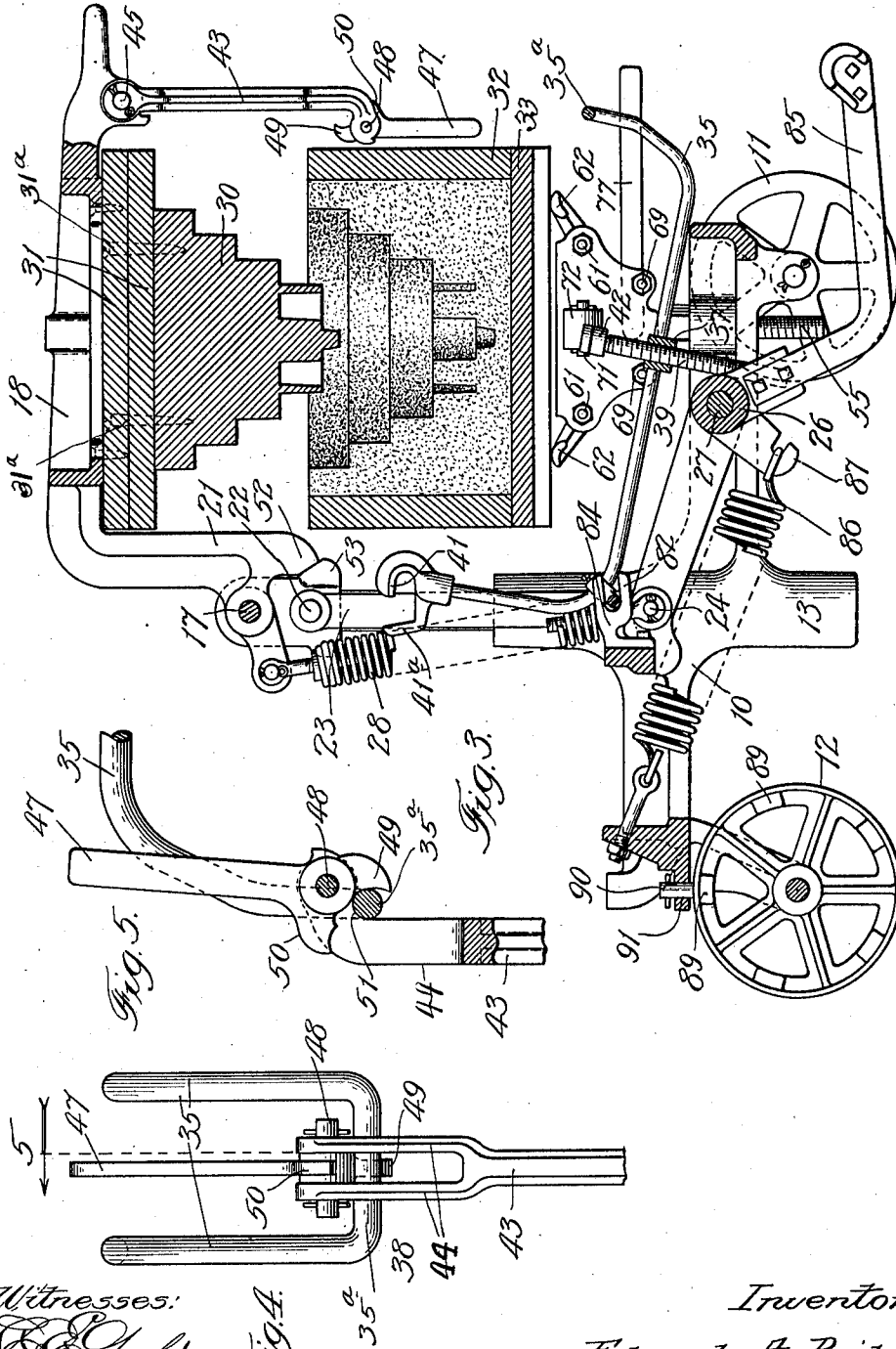
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4 SHEETS—SHEET 3.



Witnesses:
Chas. H. Bull.
Fig. 4.

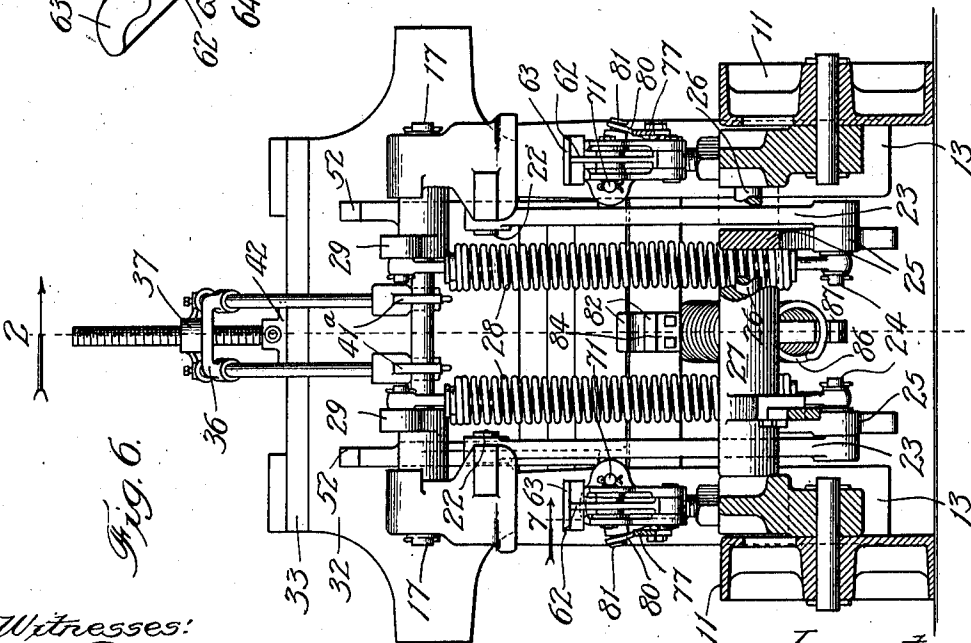
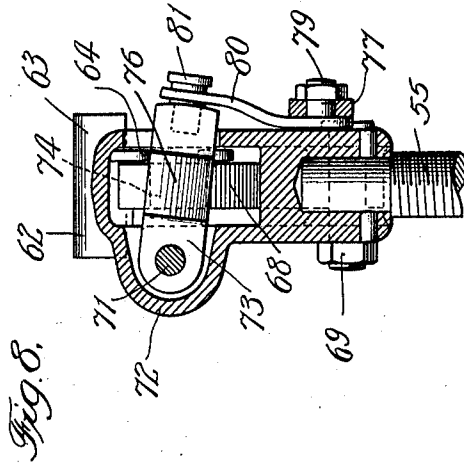
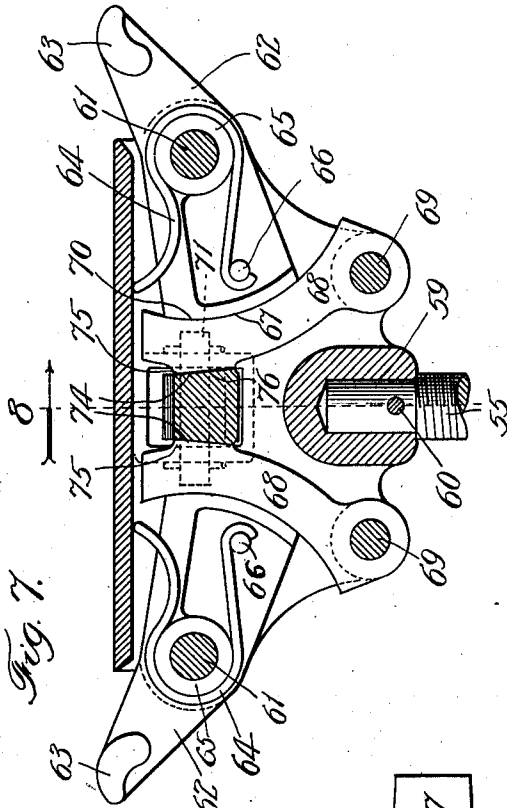
Inventor:
Edward A. Pridmore.
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4 SHEETS—SHEET 4.



Witnesses:

Ed. A. Pridmore.
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Inventor:

Edward A. Pridmore.

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UNITED STATES PATENT OFFICE.

EDWARD A. PRIDMORE, OF LA GRANGE, ILLINOIS.

MOLDING-MACHINE.

1,027,066.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed June 5, 1911. Serial No. 631,292.

To all whom it may concern:

Be it known that I, EDWARD A. PRIDMORE, a citizen of the United States, residing at La Grange, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Molding-Machines, of which the following is a specification.

My invention relates to the type of molding machines comprising, generally stated, a marginally-hinged pattern and flask carrier adapted, when in one position, to support the pattern and flask in inverted position to permit the molding sand to be rammed into the latter for making the mold, and be movable from such position to deliver the flask in upright condition to a support, and means for separating the pattern from the mold; and my objects, generally stated, are to provide improved means in a machine of the type referred to for receiving the flask from the hinged carrier and supporting it in righted condition, to the end of adapting the machine for use with flasks of varying heights; to provide for the withdrawing of the pattern in a manner which will prevent impairment of the mold; to provide means for releasably clamping the flask and bottom board to the pattern-carrier which shall be operable for permitting the withdrawal of the pattern from the mold by lifting the pattern, and which may be readily and repeatedly operated without danger of accidental release or exertion of unequalized forces against the mold and consequent damage to the latter, involving loss of time and expense; and, generally, to improve upon the details of machines of this type as hitherto constructed, to the end of rendering them better adapted for performing the functions which it is intended they perform.

Referring to the accompanying drawings—Figure 1 shows by a view in side elevation, partly sectional, a molding machine constructed in accordance with my invention, this view showing the parts of the machine in the positions they assume preparatory to the operation of swinging the carrier to inverted position for righting the flask before the pattern is withdrawn. Fig. 2 is a vertical longitudinal sectional view of the machine illustrated in Fig. 1, the section be-

ing taken at the line 2 on Fig. 6 and viewed in the direction of the arrow. Fig. 3 is a view like Fig. 2 showing the positions assumed by the parts of the machine during the operation of withdrawing the pattern from the mold. Fig. 4 is an enlarged view in front elevation of one end of the clamping mechanism for releasably securing the flask to the pattern-carrier, this view showing the releasable connection between the clamp and the cooperating link on the carrier. Fig. 5 is a broken section taken at the line 5 on Fig. 6, and viewed in the direction of the arrow. Fig. 6 is a section taken at the irregular line 6 on Fig. 2 and viewed in the direction of the arrow. Fig. 7 is an enlarged sectional view of one of the two similar flask-supporting devices, the section being taken at the line 7 on Fig. 6 and viewed in the direction of the arrow; and Fig. 8, a section taken at the line 8 on Fig. 7 and viewed in the direction of the arrow.

The frame of the machine which forms the support for the operating parts thereof as hereinafter described, is represented at 10 and is shown as supported on three wheels 11 and 12 for facilitating the shifting of the machine from one place to another, the wheels 11 being located at one end of the frame and the wheel 12 at the other end thereof. The frame 10, at its opposite sides and intermediate the wheels 11 and 12, is provided with a pair of vertically-disposed guide-posts 13 containing vertical, preferably lined, bores 14, which form guides for reciprocable rods 15 slidably confined in said bores. The upper ends of the rods 15 are provided with enlarged heads 16 which serve as stops for limiting the downward movement of the rods in the posts 13, these heads being connected together by a shaft 17 journaled therein at its opposite ends. Rigidly connected with the shaft 17 is a pattern and flask carrier 18 formed of a table-section 19, which, in the position of the machine represented in Fig. 1, rests against a stop 20 on the frame 10, and arms 21 rigid with the section 19 and extending upwardly from a side of the latter and rigidly connected at their upper ends with the shaft 17, whereby the carrier 18 is marginally hinged to the upper ends of the rods 15 to

permit the carrier to be swung upon these rods for the purpose hereinafter described. The heads 16 are provided on their inner sides with stub-shafts 22 upon which depending links 23 are pivoted at their upper ends, the lower ends of these links being provided with laterally-projecting stub-shafts 24 at which these links are pivotally connected with the forward ends of spaced levers 25 rigid with a sleeve 26 journaled on a shaft 27 fixed in opposite sides of the frame. The stub-shafts 24 extend beyond the levers 25 and form pivotal connections for the lower ends of coiled springs 28, the upper ends of these springs being secured to lugs 29 rigid with the arms 21 of the carrier 18, but preferably diametrically opposed thereto, the springs 28 being so tensioned that when the carrier 18 is in the position represented in Figs. 1 and 2, they will be under sufficient tension to substantially counterbalance the carrier when loaded, whereby the loaded carrier may be readily swung by hand to inverted condition, for the purpose hereinafter described.

The normal position of the carrier 18 is that illustrated in Figs. 1 and 2, namely that in which its table-section 19 rests against the stop 20 on the frame, and the pattern, such as that represented at 30 and connected with the carrier, is in inverted condition. The pattern 30 is preferably secured to boards 31 and the latter to the section 19 of the carrier to hold these parts rigid, as by means of screws 31^a. To make a mold from the pattern 30, a flask such as that represented at 32 is placed over the pattern and seated against the uppermost board 31. The molding sand is then rammed into the flask according to the usual practice of making molds, and the bottom board 33 is then placed across the upper end of the flask.

After preparing the mold as described, the flask 32 and bottom board 33 are rigidly clamped to the carrier 18 in the positions illustrated in Fig. 2, by means of clamping mechanism, a description of the preferred embodiment of which is as follows: The clamp-proper, which is represented at 34, is formed of a pair of spaced rods 35 of U-shape, which are braced as indicated at 36 and 37, the brace 37 containing a threaded opening 38 in which an adjusting screw 39 operates. The rods 35 at one end are connected together by an integral loop-section 35^a, and at their opposite ends each is provided with a head 40 formed into the hook 41 and equipped with a guide-lug 41^a. The clamp 34 releasably engages at its hooks 40 with the shaft 17 and extends across the upper end of the flask, the head 42 on the clamping-screw 39 bearing against the top surface of the bottom board 33 as represented in Fig. 2. The clamp 34 is releasably held in position for clamping the flask 32

and bottom board 33 to the carrier 18 through the medium of a link 43 which is bifurcated at its upper end to present arms 44 and is pivoted at its lower end to the frame 10 beyond the flask as indicated at 45, the link 43 being adapted to interlock at the offset portions 46 of the arms 44 with the section 35^a of the clamp 34. In order that the clamp 34 may be releasably interlocked with the link 43 as stated and released therefrom as desired, I provide a lever 47 which is located between the offset portions 46 of the arms 44 and is pivoted on a shaft 48 secured in these arms. The lever 47 is provided with lugs 49 and 50 which extend beyond its pivotal connection with the link 43 and through the medium of which lugs the lever 47 serves to either spring the strap-section 35^a of the clamp 34 into interlocking engagement with the offset portions 46 of the arms 44 or disengage it therefrom depending upon the direction in which the lever 47 is operated, the under surfaces of the offset portions 46 of the arms 44 being preferably slightly concaved, as represented at 51, in order that the clamp 34 be held in interlocking engagement with the link 43 against accidental release. In the preferred construction illustrated, the lever 47 merely operates to either spring the strap-section 35^a into interlocking engagement with the link 43, or disengage it therefrom, and does not assist in the holding operation. The screw 39 should be so adjusted in the brace 37 that when the clamp 34 is interlocked with the link 43 as stated, the rods 34 will be placed under relatively great tension for holding the bottom board 33 rigid on the flask 32 and the latter against shifting relative to the board 31 and pattern 30.

After the flask and the bottom board have been clamped to the carrier 18 as stated, the operator swings the loaded carrier to the right in Fig. 2 through one-half of a revolution to a position in which lugs 52 on the carrier 18 abut against stop-lugs 53 carried by the heads 16, the stops 53 serving to support the carrier 18 and the parts carried thereby. In swinging the carrier at its hinge-connection with the rods 15 as stated, the pattern 30 and flask 32 are moved from inverted to upright condition, and the latter is delivered to flask-supports 54 for sustaining the flask during the pattern-drawing operation, a description of the preferred form in which said flask-supports are provided being as follows: Screwing into the frame 10 at its opposite sides are screw-standards 55 which are rendered adjustable up and down by reason of their threaded engagement with the frame 10, lock-nuts 56 screwing upon these standards serving to maintain the latter in adjusted position. Each of the standards 55 carries, at its

upper end, a flask-supporting device 57, each of said devices being formed of a casing 58 open at opposite ends thereof and into sockets 59 in the lower ends of which the upper ends of the respective standards 55 extend, the casings 58 being rigidly connected with these standards as through the medium of pins 60. Pivoted on shafts 61 fixed in opposite sides of each casing 58 and adjacent to its opposite ends are rock-levers 62, the outer ends 63 of which, under the action of leaf-springs 64 partially surrounding bosses 65 on the levers 62 and engaging at their free ends with the under sides of the tops of the casings 58 and with pins 66 on the inner ends of these levers, normally extend in the upwardly-inclined position represented in Fig. 2, in which they project above the casing 58. The inner ends of the levers 62 are of segmental form, and co-operating with the arc-shaped surfaces 67 thereof are shoes 68 which are pivoted at their lower ends on bolts 69 secured in opposed walls of the casings, these shoes presenting arc-shaped surfaces 70 extending adjacent to the surfaces 67 of the levers 62. Pivoted on pins 71 fixed in the walls of extensions 72 of the casings 58 are rock-members 73 which extend transversely of the adjacent shoes 68 and the opposed side-walls of which converge upwardly as represented at 74, whereby the members 73 are rendered wedge-shape in cross-section, the portions of the shoes 68 adjacent to the members 73 being provided with lugs 75 presenting upwardly-converging surfaces 76 which oppose the surfaces 74 on the members 73, whereby when the latter are rocked upwardly on their pivots 73, as hereinafter described, they will force the respective shoes 68 into rigid clamping engagement with the levers 62 and hold the latter against turning on their pivots 61. The levers 77 which are pivoted on the casings 58 as indicated at 78 and are pivotally connected, as indicated at 79, beyond the pivots 78, to upwardly-extending links 80 having pivotal connection at their upper ends with the outer ends of the members 73 as indicated at 81, operate as the medium through which the rock-members 73 are operated for the purpose stated.

As the carrier 18 nears the limit of its turning movement as hereinbefore described, the bottom board 33 engages with the upper ends 63 of the levers 62, and in coming to rest against the stops 53 swings the levers 62 downwardly against the action of the springs 64 to a point at which these levers become automatically adjusted to the position assumed by the bottom board 33. The operator thereupon swings the levers 77 downwardly, thereby swinging the members 73 upwardly and by reason of the wedging action produced against the shoes

68, forcing the latter into clamping engagement with the levers 62, thus locking the latter in rigid condition for securely supporting the flask 32 when the latter is released from the carrier, as hereinafter set forth. After the levers 72 have been set in the positions automatically assumed by them as stated, the operator releases the clamp 34 from engagement with the link 43 by swinging the operating lever 47 to a position in which the lug 50 engages with the strap-section 35^a of the clamp and springs it out of interlocking engagement with the offset portions of the arms 44. The clamp 34 thus released, swings at its hook-portions 41 upon the shaft 17, its brace-bar 36 automatically entering the space between the upper and lower arms 82 and 83 respectively of a fork-member 84 secured to the frame 10, and its opposite free end resting on the frame as indicated in Fig. 3, the hook-portions 41 of the clamp 34, when the latter assumes the position just stated, being withdrawn to a position in which they extend out of the path of upward movement of the shaft 17 as represented in Fig. 3, whereby the shaft 17 and the parts carried thereby may be raised for the purpose hereinafter described, without disturbing the position assumed by the clamp-bar 34 as represented in the last referred to figure. The lugs 41^a by extending in the rear of the shaft 17, operate, upon the release of the clamp 34 as stated, to insure the positioning of the latter as explained. The flask having thus been transferred from the carrier 18 to the flask-supports 54, the next operation is that of withdrawing the pattern 30 from the mold, and this is accomplished by bodily raising the rods 15, and all of the parts carried thereby, through the medium of a foot-lever 85 which is rigidly connected with the sleeve 26 and when depressed operates to swing the levers 25 upwardly, and through the medium of the links 23, elevate the rods 15, springs 28 and carrier 18 to a position in which the pattern 30 is drawn from the mold as represented in Fig. 3, the rods 15 in this operation moving in the posts 13 for guidance. To minimize the power required for elevating the carrier 18 as described, I provide a coiled spring 86 which is secured at one end to the frame of the machine and at its opposite end to a depending lug 87 on the sleeve 26.

It will be noted that in the pattern-drawing operation described, the pattern is moved in a path at a right-angle to the mold which insures the pattern being withdrawn from the latter without impairing the mold.

The springs 28 are preferably so tensioned that they tend to swing the carrier 18 and the pattern 30 to raised position when the mold is released therefrom as described, in which case the operator bears down on the

carrier for maintaining the lugs 52 in engagement with the stops 53 during the operation of bodily raising the carrier and its supports as hereinbefore described. Thus, as soon as the rods 23 have been raised sufficiently far to draw the pattern from the mold, the operator releases his grasp on the carrier and permits the latter to swing upwardly. The operator thereupon removes the pressure from the foot-lever 85, permitting the rods 15 and the parts carried thereby to descend. The mold is then removed from the flask-supports 54 and the carrier 18 swung back to the normal position represented in Figs. 1 and 2 for receiving another flask, the shaft 17 in the lowering movement of the rods 15 as described, descending to a position in which it opposes the hooks 41. The clamp 34 after the newly positioned flask has been filled and the bottom board applied thereto, is moved from the position illustrated in Fig. 3 to clamping position, by the operator grasping the free end of the clamp and lifting it, thereby causing the hooks to be automatically projected over the shaft 17 and swinging upon this shaft as a pivot. It will be understood that preparatory to each operation of delivering a filled flask to the flask-supports 54 as described, the rock-levers 62 are released to permit them to assume normal condition, namely that illustrated in Fig. 2, by operating the levers 77 reversely to that hereinbefore described.

In order to avoid any danger of impairment to the machine should the carrier 18 be swung over the center of its axis when moved from the position in which it extends over the supports 54, I provide stops 88 on the carrier which coöperate with the heads 16 and limit the movement of the carrier.

Through the medium of the screw-standards 55 the supports 54 may be raised or lowered as desired to adjust the machine for use with flasks of varying heights.

As hereinbefore explained, the machine is supported on wheels, as is common, for permitting the machine to be shifted over the floor from one location to another, and in order to hold the machine steady after it is located, I provide openings 89 in the rim of the wheel 12 for receiving a pin 90, which rests in an aperture 91 in the frame. By inserting the lower end of the pin into one of the holes 89 immediately below it in the wheel, the wheel is securely held against rotation and movement of the machine on the floor is prevented.

It will be understood that when the size and weight of the flask is such as to render advisable the use of more than one adjusting screw 39, additional screws to the number desired may be connected with the clamp 34, and that all of such screws will be simultaneously released when the clamp is released.

While I have illustrated a machine of a certain construction, I do not wish to be understood as intending to limit my invention to the details of construction thereof, as various changes and alterations may be made therein, without departing from the spirit of my invention.

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

1. In a molding-machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a device having releasable pivot support on said machine for releasably clamping the flask to said carrier, constructed and arranged when released at its pivot connection to permit said support and carrier to be raised independently of and relative to said device, for the purpose set forth.

2. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a clamp having releasable pivot support on the machine concentrically of the axis upon which said carrier swings for releasably clamping the flask to said carrier, said clamp being constructed and arranged when released at its pivotal connection to permit said support and carrier to be raised independently of and relative to said clamp, for the purpose set forth.

3. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a hook-equipped clamp releasably pivoted at its hook-portion on the machine for releasably clamping the flask to said carrier.

4. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a flask-clamp releasably pivoted on the machine and when in clamping position held against release and when moved from clamping position automatically disengaging at its pivotal connection with the machine, for the purpose set forth.

5. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a flask-clamp releasably pivoted on said support and when in clamping position held against release from said support and when moved from clamping position automatically disengaging from said support, for the purpose set forth.

6. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally

hinged to said support, a flask-receiving support, and a hook-equipped flask-clamp releasably pivoted at its hook-portion on said support and when in clamping position held against release and when moved from clamping position automatically disengaging at its hook-portion from said support, for the purpose set forth.

7. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, a hook-equipped flask-clamp releasably pivoted at its hook-portion on said support and when in clamping position held against release, and means operating when the clamp is released and lowered to engage with the latter and tilt it to a position in which its hook-portion is released from pivotal engagement with said support, for the purpose set forth.

8. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, a hook-equipped flask-clamp releasably pivoted at its hook-portion on said support and when in clamping position held against release, means operating when the clamp is released and lowered to engage with the latter and tilt it to a position in which its hook-portion is released from pivotal engagement with said support, and means for preventing the clamp from becoming displaced while being lowered, for the purpose set forth.

9. In a molding machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, a hook-equipped flask-clamp releasably pivoted at its hook-portion on said support and when in clamping position held against release, means operating when the clamp is released and lowered to engage with the latter and tilt it to a position in which its hook-portion is released from pivotal engagement with said support, and a lug adjacent to said hook for preventing the clamp from becoming displaced while being lowered, for the purpose set forth.

10. In a molding machine, the combination of a frame, a support movable up and down on the frame and formed with a shaft, a pattern-carrier marginally-hinged to said support on the axis of said shaft, a flask-receiving support, and a flask-clamp releasably hinged to said shaft and constructed and arranged when released at its hinged connection with said shaft, to permit said carrier and support to rise relative to said clamp, for the purpose set forth.

11. In a molding machine, the combination of a frame, a support movable up and down on the frame and formed with a

shaft, a pattern-carrier marginally-hinged to said support on the axis of said shaft, a flask-receiving support, and a hook-equipped flask-clamp releasably engaging at its hook-portion with said shaft, for the purpose set forth.

12. In a molding machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine and releasably interlocking with said carrier at its opposite end, and a pivotally-supported lever provided with a lug for engaging with said clamp and forcing it into interlocking engagement with said carrier, for the purpose set forth.

13. In a molding machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine and releasably interlocking with said carrier at its opposite end, and a pivotally-supporting lever provided with a pair of lugs operating respectively to engage with said clamp and force it into and out of interlocking engagement with said carrier, for the purpose set forth.

14. In a molding-machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine, a link pivoted on said carrier and provided with a shoulder, and a lever pivotally supported on said link and provided with a lug for engaging with said clamp and forcing it into interlocking engagement with said carrier, for the purpose set forth.

15. In a molding machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine and formed of a pair of rods with a cross-rod connecting them together at its other end, a link pivotally connected with said carrier and provided with a shoulder, and a lever pivotally-supported on said link and provided with a lug for engaging with said clamp and forcing it at its cross-rod into interlocking engagement with said shoulder, for the purpose set forth.

16. In a molding machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine and formed with a bar-section at its other end, a link pivoted on said carrier and provided with a shoulder having its under-wall recessed, and a lever pivoted on said link and provided with a lug

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operating to engage said bar-section and releasably interlock the latter with said shoulder, for the purpose set forth.

17. In a molding machine, the combination of a support, a pattern-carrier marginally-hinged to said support, and means for releasably clamping a flask to said support comprising a clamp supported at one end on the machine and formed with a bar-section at its other end, a link pivoted on said carrier and provided with a shoulder having its under-wall recessed, and a lever pivoted on said link and provided with lugs operating respectively to engage said bar-section and move the latter into and out of interlocking position, for the purpose set forth.

18. In a machine of the character set forth, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally-hinged to said support, means for receiving and supporting the flask, and spring-means operatively connected at its opposite ends with said carrier and said support respectively, and tending to swing said carrier upwardly, for the purpose set forth.

19. In a machine of the character described, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally-hinged to said support, flask-receiving and supporting means, depending links pivoted on said support, spring-means operatively connected at their lower ends with said links and at their upper ends with said carrier eccentrically of the pivotal connection of the latter with said support, and means connected with the lower ends of said links for elevating them, for the purpose set forth.

20. In a machine of the character described, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally-hinged to said support, flask-receiving and supporting means, depending links pivoted on said support, spring-means operatively connected at their lower ends with said links and at their upper ends with said carrier eccentrically of the pivotal connection of the latter with said support, lever-mechanism pivotally connected with the lower ends of said links, and means for operating said lever-mechanism, for the purpose set forth.

21. In a machine of the character set forth, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally-hinged to said support, means for receiving and supporting the flask, and spring-means operatively connected at its opposite ends with said carrier and said support respectively, and tending to swing said carrier upwardly when the latter is in either normal or pattern-drawing position, for the purpose set forth.

22. In a machine of the character set

forth, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally hinged to said support and provided with a lug extending on the opposite side of the pivotal connection of the carrier with said support, and spring-means connected with said lug and operatively connected with said support and tending to raise the carrier when the latter is in either normal or pattern-drawing positions.

23. In a machine of the character set forth, the combination of a frame, a support movable up and down on the frame, a pattern-carrier marginally-hinged to said support, depending members connected with said support, springs connected at their lower ends with said depending members in substantially vertical line with the hinged connection between said carrier and support and at their upper ends connected with said carrier eccentrically of said hinged connection, and means for elevating said support, for the purpose set forth.

24. In a molding-machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally-hinged to said support, a flask-receiving support, and a clamp releasably supported on the machine for clamping the flask to said carrier constructed and arranged to permit said carrier and support to be raised relative to said clamp when the latter is released.

25. In a molding-machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally-hinged to said support, a flask-receiving support, and a releasably supported clamp for clamping the flask to said carrier, said clamp being automatically releasable upon the act of disengaging said clamp from said flask, to permit said carrier and support to be raised relative to said clamp.

26. In a molding-machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally hinged to said support, a flask-receiving support, and a hook-equipped clamp releasably supported at its hook portion on the machine for releasably clamping the flask to said carrier.

27. In a molding-machine, the combination of a frame, a support movable up and down on said frame, a pattern-carrier marginally-hinged to said support, a flask-receiving support, and a flask-clamp releasably connected with the machine and when in clamping position held against release and when moved from clamping position automatically disengaging at its said releasable connection with the machine, for the purpose set forth.

28. In a molding-machine, the combination of a frame, a pattern-carrier margin-

ally-hinged to said support, a flask-receiving support, a clamp releasably supported on the machine for clamping the flask to said carrier and operating, when moved out of
5 flask-securing position, to become released from the machine to permit said carrier and support to rise relative to said clamp, and means operating when said clamp is re-

leased and lowered, to engage with the latter and tilt it to releasing position, for the 10 purpose set forth.

EDWARD A. PRIDMORE.

In presence of—

A. U. THORIEN,
R. A. SCHAEFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
