April 21, 1931. J. L. SCHULDT 1,801,574

MOLD HANDLING APPARATUS

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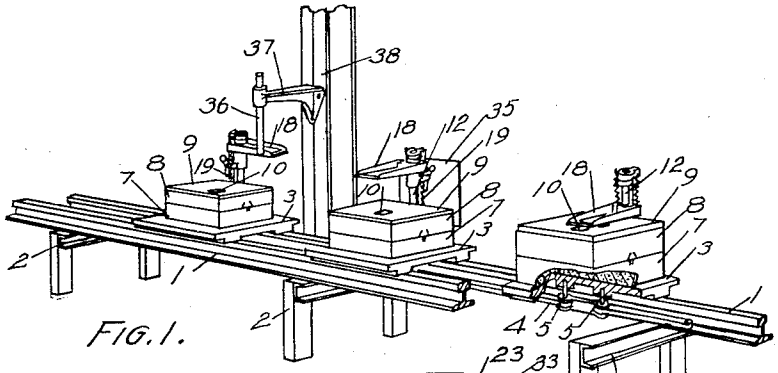


FIG. 1.

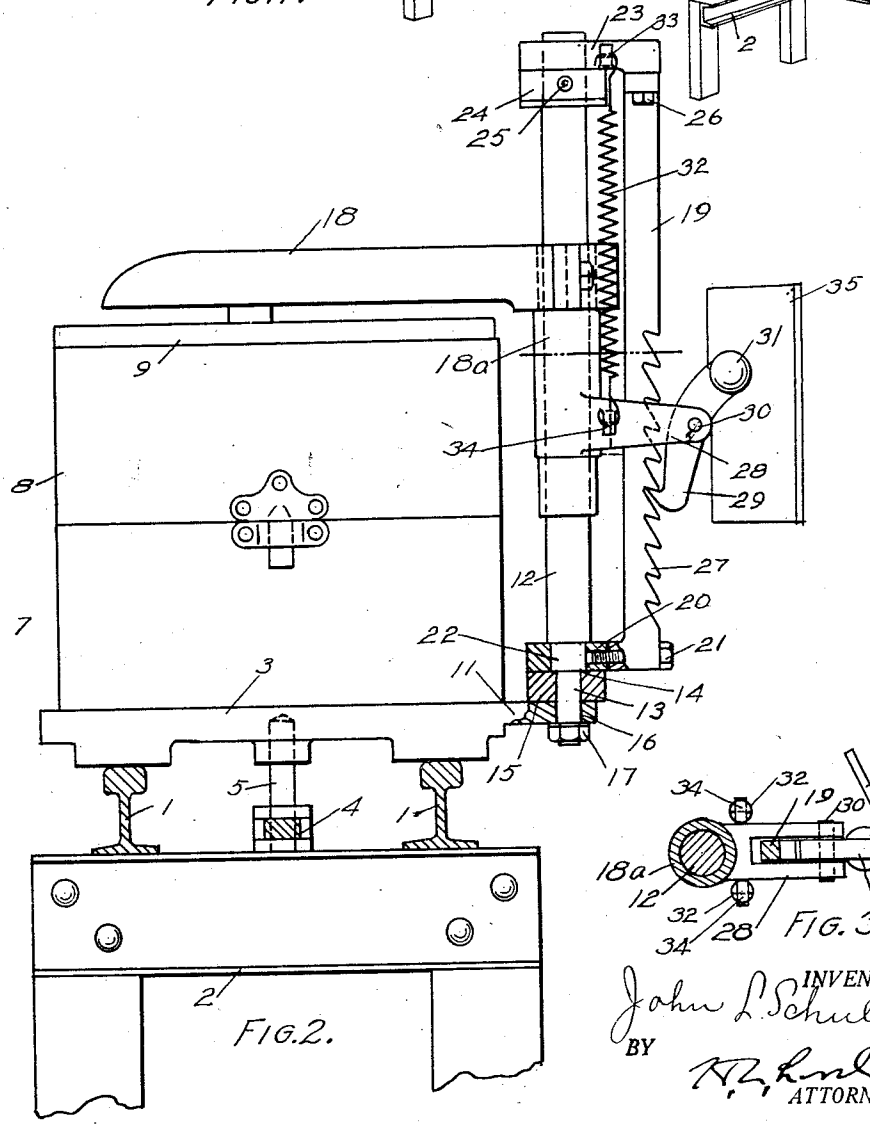


FIG. 2.



FIG. 3.

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# UNITED STATES PATENT OFFICE

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## MOLD-HANDLING APPARATUS

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Mold-handling apparatus now in common use comprises traveling platforms on which the mold flasks may be mounted, the flask being placed on the platform, poured in transit and removed so that there is a continuous operation.

It is desirable in such devices to provide the flask with a down-hold device holding the parts of the flask rigidly in place during the pouring of the mold. The present invention is directed to improvements in this down-hold mechanism. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a perspective view of the apparatus.

Fig. 2 an enlarged end view.

Fig. 3 a section on the line 3—3 in Fig. 2.

1 marks the rails on which the traveling platform moves, 2 supports carrying the rails, 3 a traveling platform, 4 a driving chain for driving the platform; and 5 pins extending from the chains into the platform, there being two pins in each platform so as to aline the same with the track.

Flask sections 7 and 8 are mounted on the platform in the usual manner. A cover plate 9 is placed over the flask and has a pouring opening 10. These parts are of common construction.

The platforms have extensions 11. Posts 12 are secured on the extensions. The post is provided with a projection 13, a shoulder 14 being formed at the upper end of the projection. The projection extends through a clamping plate 15 and through a perforation 16 in the projection 11 and is secured by a nut 17 on the bottom of the projection, the nut clamping the post with the shoulder 14 against the wear plate 15 and on the extension 11.

A down-hold arm 18 is carried by a sleeve 18*a* which is slidingly and rotatably mounted on the post 12. A ratchet bar 19 is secured to a perforated plate 20 by screws 21. The plate 20 is journaled on a reduced portion 22 at the bottom of the post 12 and rests on the wear plate 15. The upper end of the ratchet bar has an inward projection 23 which is journaled on the upper end of the post 12. It rests on a collar 24 and is secured by a set screw 25. The projection 23 may be made in a separate piece from the ratchet bar 19 and if this is the case it is secured to the ratchet bar by screws 26.

Ratchet teeth 27 are arranged on the ratchet bar. Arms 28 extend from the sleeve 18*a* each side of the ratchet bar. A pawl 29 is pivoted between the arms 28 on a pin 30. The pawl is weighted by a weight 31 so that it automatically engages the ratchet teeth when released.

A spring 32 extends from a pin 33 to a pin 34 on the sleeve so that when the pawl is released from the ratchet bar the down-hold sleeve and arm are automatically lifted.

A cam 35 is carried by the track support in the path of the weighted end 31 of the ratchet bar and as the platform carrying a mold passes the cam 35 the pawl is released and the springs lift the arm, as clearly shown in Fig. 1. A further movement of the platform with the down-hold brings the down-hold into contact with a pin 36 which retards the arm 18 swinging it around clear of the mold. The pin 36 is carried by an arm 37 and the arm 37 is carried by a post 38.

In the operation of the device, the flask is put in place on the platform, the hold-down is pushed down as far as it will go and locked by means of the ratchet teeth. The down-hold arm 18 is swung over the plate 8. A small wedge 39 is pushed under the down-hold arm and the plate to take up any slack that the distance between the teeth 27 may provide.

With the parts in this condition, the mold advances to the point of pouring, not shown. The mold is poured, travels the desired distance. The down-hold is automatically released when it reaches the cam 35 and automatically swung out of position over the mold when it reaches the pin 36.

What I claim as new is:—

1. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform

comprising a ratchet mechanism locking the down-hold device on a mold; and means operating automatically with the advance of the platform releasing the down-hold device.

2. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform comprising a ratchet mechanism locking the down-hold device on a mold; and means automatically lifting the device when the ratchet mechanism is released.

3. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform comprising a vertically pivoted mounting permitting the down-hold to be swung over a mold; and means locking the down-hold device on the mold at different heights.

4. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform comprising a vertically pivoted mounting permitting the down-hold to be swung over a mold; means locking the down-hold device on the mold at different heights comprising a ratchet mechanism.

5. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform comprising a pivoted mounting permitting the down-hold to be swung over a mold; means locking the down-hold device on the mold at different heights; and means automatically releasing the down-hold device as the mold is advanced.

6. In a mold-handling apparatus, the combination of a traveling platform; a down-hold device carried with the platform comprising a pivoted mounting permitting the down-hold to be swung over a mold; means locking the down-hold device on the mold at different heights; means automatically releasing the down-hold device as the mold is advanced; and means swinging the down-hold device off the mold.

7. In a mold-handling apparatus, the combination of a traveling platform; a post secured to the platform; a down-hold arm pivotally and slidably mounted on the post; a ratchet bar parallel with the post and pivotally mounted on the post; a ratchet pawl carried with the down-hold arm; and means operating on the pawl releasing the same as a mold advances.

8. In a mold-handling apparatus, the combination of a traveling platform; a post secured to the platform; a down-hold arm pivotally and slidably mounted on the post; a ratchet bar parallel with the post and pivotally mounted on the post; a ratchet pawl carried with the down-hold arm; means operating on the pawl releasing the same as a mold advances; and means lifting the down-hold when released.

9. In a mold-handling apparatus, the combination of a traveling platform; a post secured to the platform; a down-hold arm pivotally and slidably mounted on the post; a ratchet bar parallel with the post and pivotally mounted on the post; a ratchet pawl carried with the down-hold arm; means operating on the pawl releasing the same as a mold advances; means lifting the down-hold when released; and means swinging the down-hold off the mold as the mold advances.

In testimony whereof I have hereunto set my hand.

JOHN L. SCHULDT.