

(No Model.)

2 Sheets—Sheet 1.

E. ROBINSON.

DIPPING APPARATUS FOR PASTE GLASS MOLDS.

No. 570,735.

Patented Nov. 3, 1896.

FIG. 1.

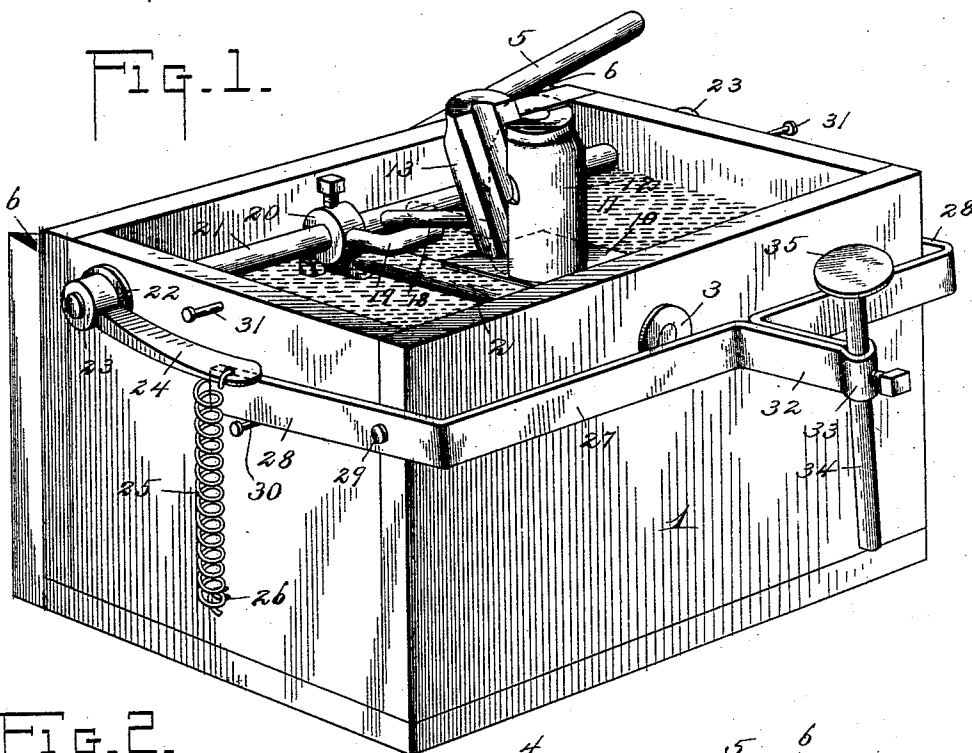
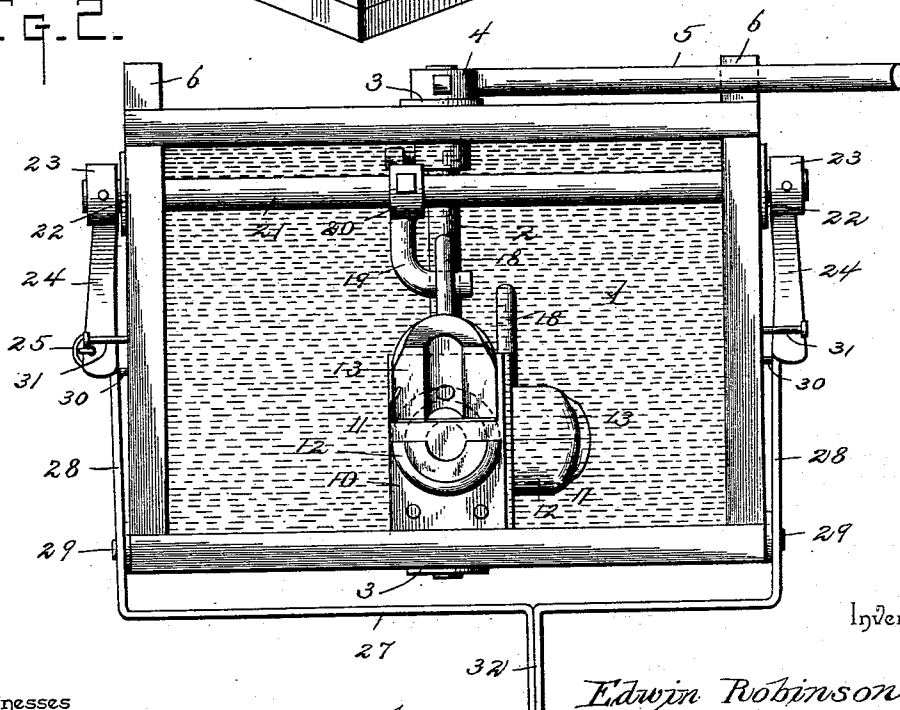


FIG. 2.



Inventor

Witnesses

Harry L. Amer.
S. C. Thompson

By his Attorneys.

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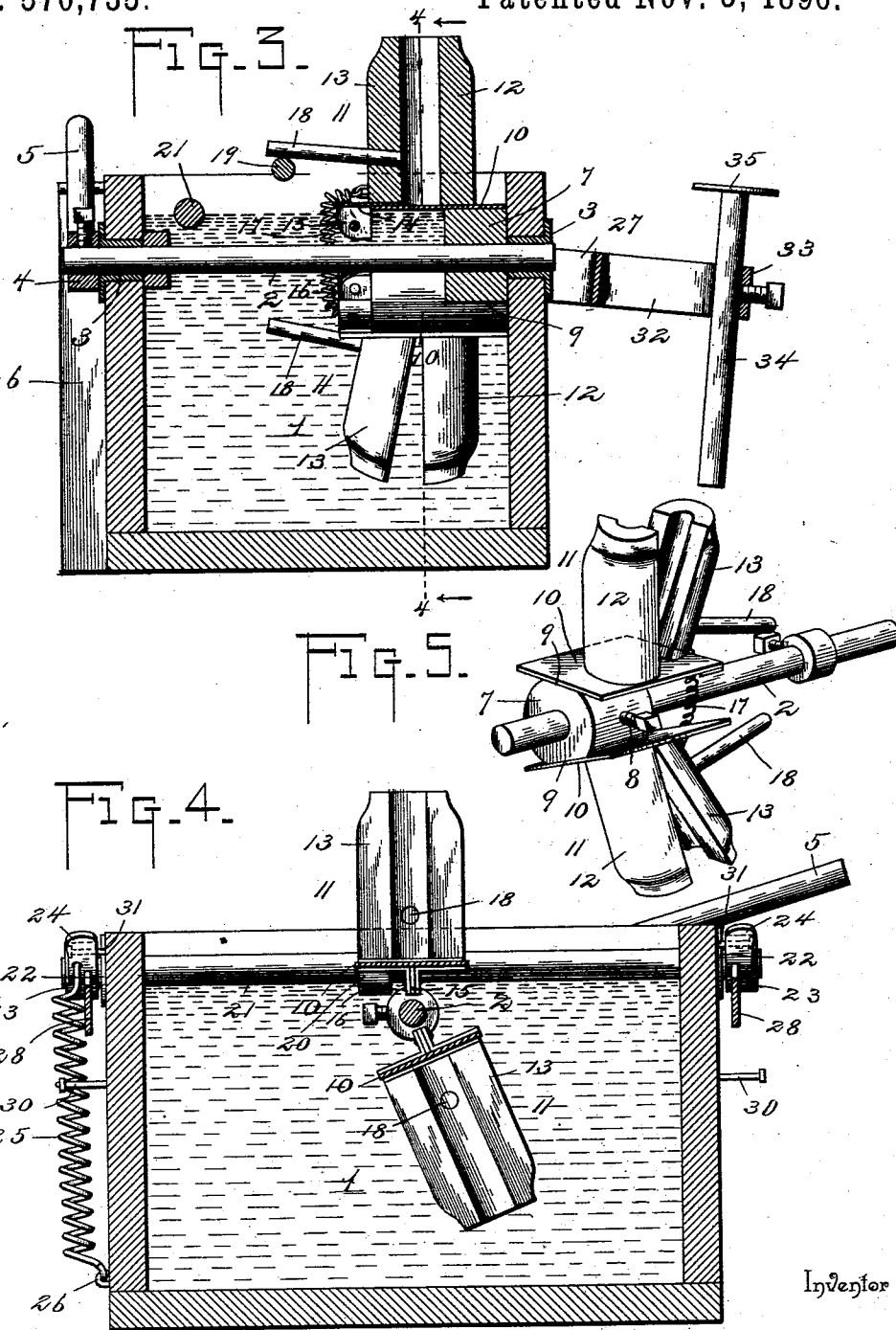
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UNITED STATES PATENT OFFICE.

EDWIN ROBINSON, OF ZANESVILLE, OHIO.

DIPPING APPARATUS FOR PASTE GLASS-MOLDS.

SPECIFICATION forming part of Letters Patent No. 570,735, dated November 3, 1896.

Application filed June 25, 1896. Serial No. 596,881. (No model.)

To all whom it may concern:

Be it known that I, EDWIN ROBINSON, a citizen of the United States, residing at Zanesville, in the county of Muskingum and State of Ohio, have invented a new and useful Dipping Apparatus for Paste Glass-Molds, of which the following is a specification.

This invention relates to dipping apparatus for paste glass-molds, and it has for its object to provide a new and useful apparatus of this character for mechanically operating paste glass-molds to open, close, and cool the same without manual handling by the attendant or operator.

In the use of paste glass-molds it has heretofore been customary for the operator to open and close the molds, and also to dip them in water for the purposes of cooling before every operation, and also to wet the composition or paste employed in connection with the molds, and while this work has also been accomplished by certain mechanical means to effect the desired results the present invention contemplates an apparatus so constructed as to provide for mechanically operating a pair of molds to positively insure the complete cooling of each mold before being used, and at the same time rendering it possible to mold more glassware in a given length of time than is possible in connection with other mechanically-operated paste molds now in existence.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangements of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a mold-operating apparatus constructed in accordance with this invention. Fig. 2 is a top plan view thereof. Fig. 3 is a central transverse sectional view. Fig. 4 is a vertical sectional view on the line 4 4 of Fig. 3. Fig. 5 is a detail in perspective of the mold-carrying shaft with a pair of paste molds supported thereby.

Referring to the drawings, the numeral 1 designates a cooling tank or box of a substantially rectangular shape and open at the top. The rectangular tank 1 is designed to be nearly filled with water and has arranged

transversely therein near the top the transverse mold-carrying rock-shaft 2. The transverse mold-carrying rock-shaft 2 is arranged centrally between the opposite ends of the tank and is journaled at its opposite ends in suitable bearings 3, fitted in opposite sides of the tank near the opposite edges of such sides, and one of the extremities of the shaft 2 has fitted thereto, outside of the tank, the collar 4 at one end of the swinging hand-lever 5, adapted to be swung toward either end of the tank for the purpose of rocking the shaft 2 and designed to rest on the stop projections 6, arranged at one side and opposite ends of the tank, as clearly illustrated in the drawings.

The central transverse rock-shaft 2 has secured fast thereon within the tank 1 and at one side thereof the supporting-collar 7, secured on the shaft 2 by the set-screw 8 and provided with oppositely-disposed inclined flattened faces 9, on which flattened faces are securely fastened the mold-supporting plates 10. The mold-supporting plates 10 are extended at one side of the collar 7, and each of said plates supports thereon a two-part paste glass-mold 11 of an ordinary form. The paste glass-mold 11 essentially comprises a fixed and movable mold-section 12 and 13, respectively, adapted to register together to complete the mold, and the movable section 13 of each mold is provided at one end with a hinge-plate 14, having an ear 15, pivotally mounted between a pair of hinge-lugs 16, projected inwardly from one end of the plate, supporting the mold and completing a hinge connection for the movable section of the mold, whereby the same can be readily opened and closed, as required.

The movable sections 13 of the oppositely-located molds 11 have respectively connected therewith in any suitable manner the opposite ends of a retractile spring 17, the tension of which spring is sufficiently strong to normally open the movable sections of both molds, and thereby allowing the glass in the mold above water to be placed in and taken out without requiring the attendant to open and close the mold, as has heretofore been the custom. By reason of the inclination of the oppositely-disposed flattened faces 9 of the supporting-collar 7 the oppositely-dis-

posed molds 11 are disposed at an obtuse angle to each other, so that the mold which is disposed below the rock-shaft 2 and within the water acts as a weight to hold the uppermost mold out of the water in a proper position for molding the glassware, and it will also be observed that while the uppermost mold is being used for molding the lowermost mold remains in the water and becomes thoroughly cooled and wetted, ready for use when the ware has been removed from the upper mold. After the uppermost mold has been allowed to open under the influence of the spring 17 and the molded ware removed therefrom the hand-lever 5 is swung over to the opposite end of the tank, thereby rocking the shaft 2 and reversing the positions of the molds, so as to bring the cooled mold to an upright position ready for use, while at the same time dipping or submerging the mold just used in the water.

The movable sections 13 of the molds 11 are provided with offstanding trip-pins 18, which, when the molds are disposed above the rock-shaft, are designed to be engaged by an angled tappet-arm 19, having a collar 20, secured fast on the mold-closing shaft 21, arranged longitudinally within the tank near one side and the top thereof and having its opposite ends journaled in suitable bearings 22, fitted to opposite ends of the tank. The opposite extremities 21 of the shaft, outside of the tank 1, have fitted thereon the collars 23 at one end of the short rock-arms 24, one of which has connected thereto the upper end of a retractile spring 25, the lower end of which spring is secured to a fixed point of attachment 26 at the end of the tank. The spring 25 normally draws the arms 24 downward to depress the angled tappet-arm 19 to its lowermost position, and said tappet-arm is elevated by the movement of the U-shaped yoke-lever 27.

The U-shaped yoke-lever 27 embraces one side of the tank and has its opposite parallel side portions 28 pivotally mounted on the pivot-studs 29, projected from opposite ends of the tank, and the extremities of said side portions 28 are arranged to play under the free ends of the rock-arms 24 and are limited in their downward movement by the stop-pins 30, projected from the ends of the tank below said side portions 28 of the yoke-lever. The upward movement of the rock-arms 24, under the influence of said yoke-lever, is limited by stop-pins 31, projected from the ends of the tank near the top thereof and in the path of movement of said rock-arms. The pivotally-mounted yoke-lever 27 is provided at a point intermediate of its side portions with the offstanding lever-arm 32, having at its outer end a collar 33, slidably and adjustably receiving therein the tread-post 34, provided at its upper end with a foot-piece 35, on which the operator places his foot for the purpose of elevating the rock-arms 24 and rocking the shaft 21 in the direction to ele-

vate the tappet-arm 19 against the adjacent trip-pin 18 to close the movable section of the uppermost mold, as will be readily understood by those skilled in the art. When the operator releases the pressure from the tread-post, the spring 25 rocks the shaft 21 in a direction to lower the tappet-arm 19, thereby allowing the spring 17 to automatically reopen the uppermost mold to allow the ware to be removed preparatory to dipping the said mold into the water and bringing the cooled mold into an upright position ready for use.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described apparatus will be readily apparent without further description, and it will be readily understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a dipping apparatus for glass-molds, an open cooling-tank, a horizontal rock-shaft journaled transversely within the tank and carrying oppositely-located mold-supports, a pair of molds arranged respectively on the oppositely-located mold-supports, and means for oscillating the shaft to carry the molds singly in and out of the liquid within the tank, substantially as set forth.

2. In an apparatus of the class described, an open cooling-tank, a horizontal shaft supported by the tank and carrying a pair of molds having normally open movable sections, means for rocking said shaft, to carry the molds singly in and out of the liquid within the tank, and means for closing the movable section of the uppermost mold, substantially as set forth.

3. In an apparatus of the class described, an open cooling-tank, a horizontal rock-shaft journaled transversely within the tank, means for rocking said shaft, and a pair of molds supported by the shaft and disposed at an obtuse angle to each other whereby the lowermost mold acts in the capacity of a weight to hold the uppermost mold in a proper upright position, substantially as set forth.

4. In an apparatus of the class described, an open cooling-tank, a horizontal rock-shaft journaled centrally and transversely within the tank near the top and carrying a supporting-collar, a pair of oppositely-disposed mold-supporting plates fitted on said collar, glass-molds mounted on said plates and each having a movable section hinged directly to the supporting-plate, a spring connection with the movable sections of both molds to hold the same normally open, and means for closing the movable or hinged section of the uppermost molds, substantially as set forth.

5. In an apparatus of the class described, an open cooling-tank; a horizontal rock-shaft journaled within the tank and carrying a pair

of obliquely-disposed molds, each having a hinge-section provided with an offstanding trip-pin, a spring connection with the hinged sections of both molds to hold the same normally open, a mold-closing shaft journaled within the tank and carrying a tappet-arm working under the trip-pin of the uppermost mold, normally spring-depressed rock-arms attached at one end to the extremities of the mold-closing shaft, a U-shaped yoke-lever pivotally embracing one side of the tank and having the terminals of its opposite side por-

tions working under the free ends of said rock-arms, and a tread-post adjustably fitted to the outer portion of said yoke-lever, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWIN ROBINSON.

Witnesses:

FRANK EVANS,
THOMAS J. McDERMOTT.