(No Model.)

M. J. OWENS.

APPARATUS FOR MECHANICALLY OPERATING PASTE GLASS MOLDS.

No. 489,543. Patented Jan. 10, 1893.

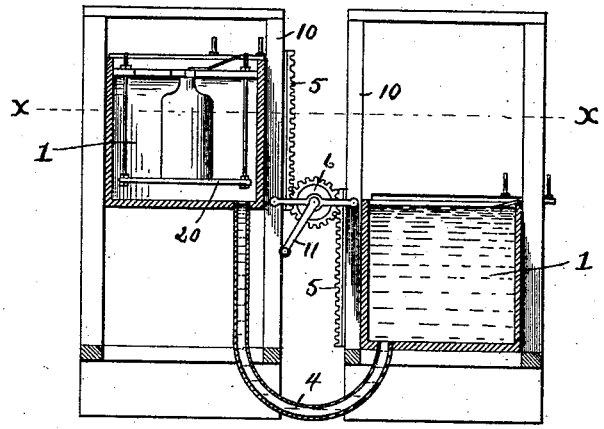

Fig. 1.

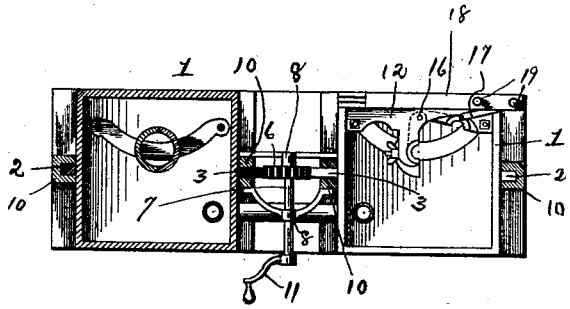

Fig. 2.

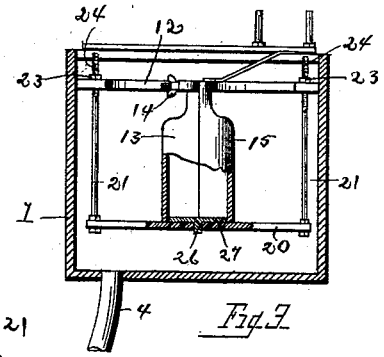

Fig. 3.

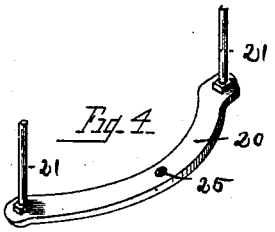

Fig. 4.

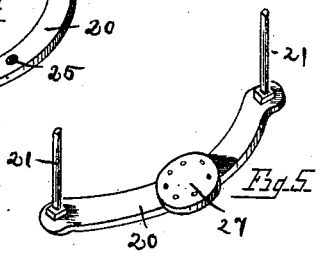

Fig. 5.

WITNESSES.

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APPARATUS FOR MECHANICALLY OPERATING PASTE-GLASS MOLDS.

SPECIFICATION forming part of Letters Patent No. 489,543, dated January 10, 1893.

Application filed May 12, 1892. Serial No. 432,723. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. OWENS, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in an Apparatus for Mechanically Operating Paste-Glass Molds; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to an apparatus for mechanically operating paste glass molds, such as are used to mold fine glass ware and require wetting before each operation of molding.

The object of this invention is to provide means for mechanically wetting the molds by placing them in tanks the raising or lowering of the tank placing the same either above or below the water level, either emptying or filling the tank with water, and consequently placing the mold in condition for use or wetting the same previous to use.

Another object is to form a track or adjustable support for the mold to support the same as it is opened or closed.

Another object is to provide means for molding open end glassware, as contradistinguished from bulbware, by providing in combination with the adjustable support for the molds, an insertible bottom for the ware, which is removable to adapt the same to different forms and shapes of ware being formed.

The invention consists in the parts and combination of parts as shown in the drawings, described in the specification, and pointed out in the claims.

In the drawings: Figure 1 is a side elevation of a complete apparatus the back sides of the tanks and connections being broken away to disclose the operation to empty and fill the same. Fig. 2 is a sectional plan view of Fig. 1 on lines *x*—*x*. Fig. 3 is a transverse sectional view of the tanks, illustrating more particularly the adjustable support for the sections of mold. Fig. 4 is a detail view of the adjustable support and, Fig. 5 is a like view with the insertible bottom attached thereto.

1 designates the tanks, in which the mold is secured, said tanks being formed with guides 2 and 3 one on each side and are connected by means of the flexible conduit 4 which is preferably a rubber hose. On guides 3 of each tank, are secured the rack bars 5, there being a pinion 6 meshing therewith, which is secured on shaft 7 journaled in boxes 8 secured to the guiding posts 10 in which slide the guides 2 and 3.

11 designates a crank on shaft 7 by which to revolve the shaft and consequently the pinion, as will be hereinafter described.

12 designates a plate or integral casting secured to the tank to which is secured the stationary section of mold 13 by means of thumb screw 14, and 15 designates the movable section of mold which is hinged to the stationary section by means of hinge 16, shown in dotted lines Fig. 2. To the movable section is pivotally secured a rod 17, the outer end of the rod being secured to the sliding plate 18 which is moved sidewise to open or close the movable section by means of the foot of the operator contacting with standards 19, the mechanism and manner of opening and closing the mold however, not being a subject matter of this invention, and, as no claim is laid thereto, *per. se.*, a detailed description is not necessary.

20 designates a track or support for the molds which is suspended beneath the same by means of rods 21 at each end, said rods passing through the plate 12 and taking a nut 23 on the threaded end 24 of the same to adjust the same vertically and consequently the track or support 20 against the lower end of the molds, against the lower end of the stationary section to support and steady the same, and against the lower end of the movable section to form a track for the same as it revolves to open, which also removes the strain from the hinge connection 16. It will be seen that by having the support and track adjustable vertically it can be adapted for any size and consequently length of mold.

25 designates a perforation formed in the track or support in which is inserted the projection 26 on the lower side of the insertible

bottom piece 27. The bottom pieces resting on the adjustable track are surrounded by the mold when the sections are assembled, and are made insertible and removable to accommodate different sizes and shapes to correspond to the size and shape of the bottom of the mold used.

The operation will be apparent, to present the wet mold to the operator, an operative revolves crank 11, which is at the rear of the tanks, when the lowered tank will rise and the upper tank will lower, the flexible conduit allowing the water to hold its level in both tanks until the lower tank is raised until the water level will be at the bottom or below the bottom, in the conduit, the upper tank being lowered the level of the water being at the top of the tank as seen in Fig. 1. I prefer the tanks so placed to reduce the distance of travel of the same to fill either one or the other, although one may be raised some distance above the other without in the least departing from the spirit of my invention, also I may employ a large feeding tank, and convert several smaller molding tanks provided with flexible conduits in communication with the feeding tanks although I prefer the other form as it is under the control of the blower whereby by having several tanks operated by one supply tank all the operators must operate in unison.

It will be readily seen that by the use of the two tanks and mechanisms for wetting the same, the tanks being represented to the blower alternately different styles of molds may be used in each tank, this being convenient when an order for two styles or more are to be filled and delivered as soon as a partial supply is finished, doing away with a loss of time as would be the case at the present time.

What I claim is:—

1. A plurality of oppositely vertically movable tanks adapted to contain water, a mold arranged in each tank and a flexible conduit connecting the oppositely moving tanks whereby as one is elevated the water will flow into the lowered one.

2. In an apparatus for operating paste glass molds a plurality of vertical movable tanks each carrying a mold, and a flexible conduit between the tanks, in combination with means for raising and lowering the tanks alternately.

3. In an apparatus for mechanically operating paste glass molds, a plurality of vertically movable tanks each carrying a mold, and a flexible conduit between the tanks, rack bars attached to the tanks and a pinion engaging the rack bars for raising one tank and lowering the other.

4. In an apparatus for operating paste glass molds, the combination with a tank adapted to receive water, a mold arranged in the tank and an adjustable track or support for securing the mold in the tank.

5. In an apparatus for operating paste glass molds, the combination with a tank adapted to receive water at stated times, of a sectional mold arranged therein, and a track or support adjustable with relation to the tank for holding the molds in place.

6. In combination with a sectional paste glass mold a mold, a tank, and means for wetting the mold in the tank, a support for the mold and an insertible bottom for the mold carried by the support.

7. In combination with a sectional paste mold, a tank in which the mold is secured, a support for the mold and an insertible bottom for the mold carried by the support.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

MICHAEL J. OWENS.

Witnesses:
E. B. SOUTHARD,
CARROLL J. WEBSTER.