(No Model.) 2 Sheets—Sheet 1.

T. COLEMAN, Jr. & C. RUNYON.

GLASS MOLD DIPPING AND OPENING APPARATUS.

No. 560,974. Patented May 26, 1896.

Fig. 1.

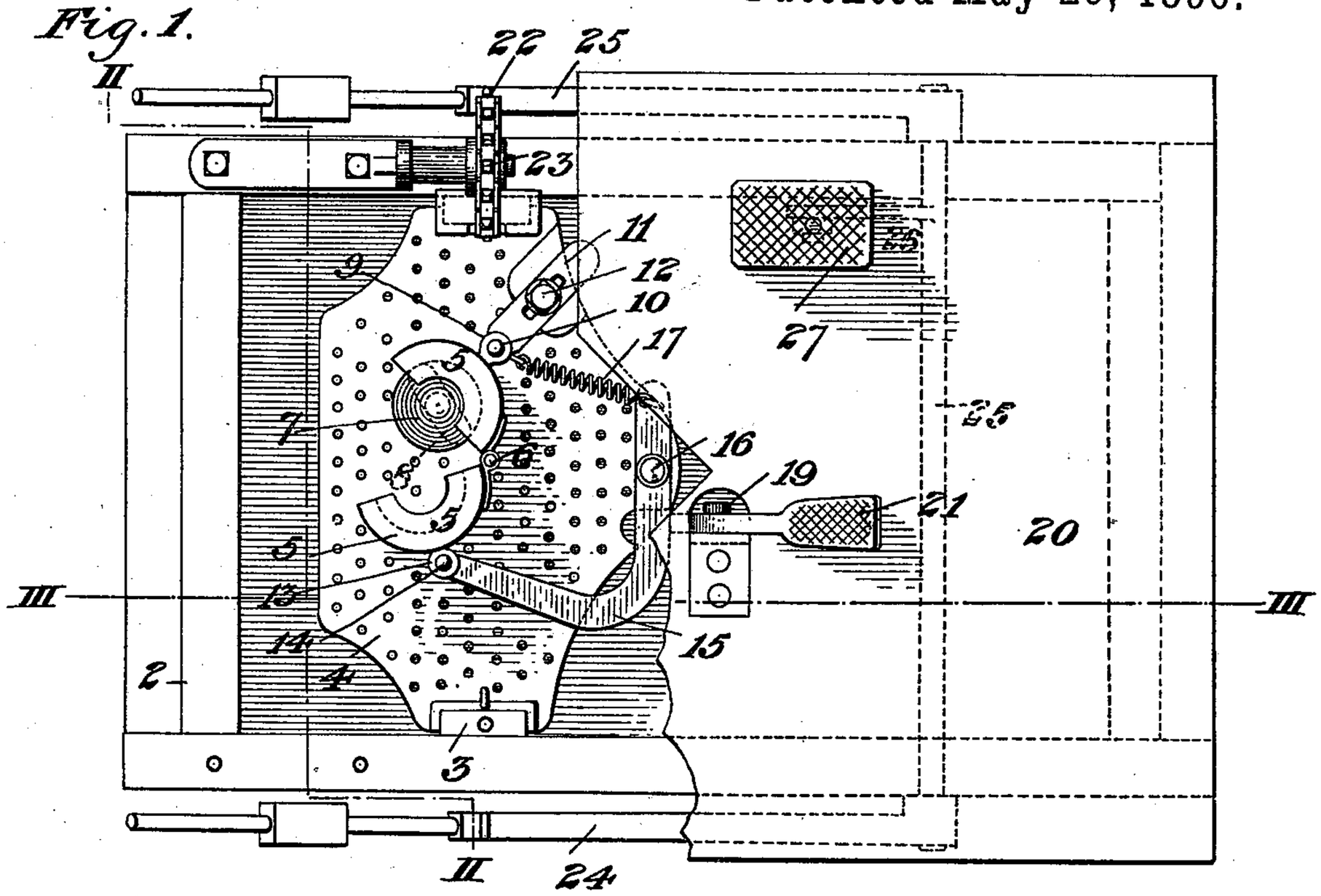
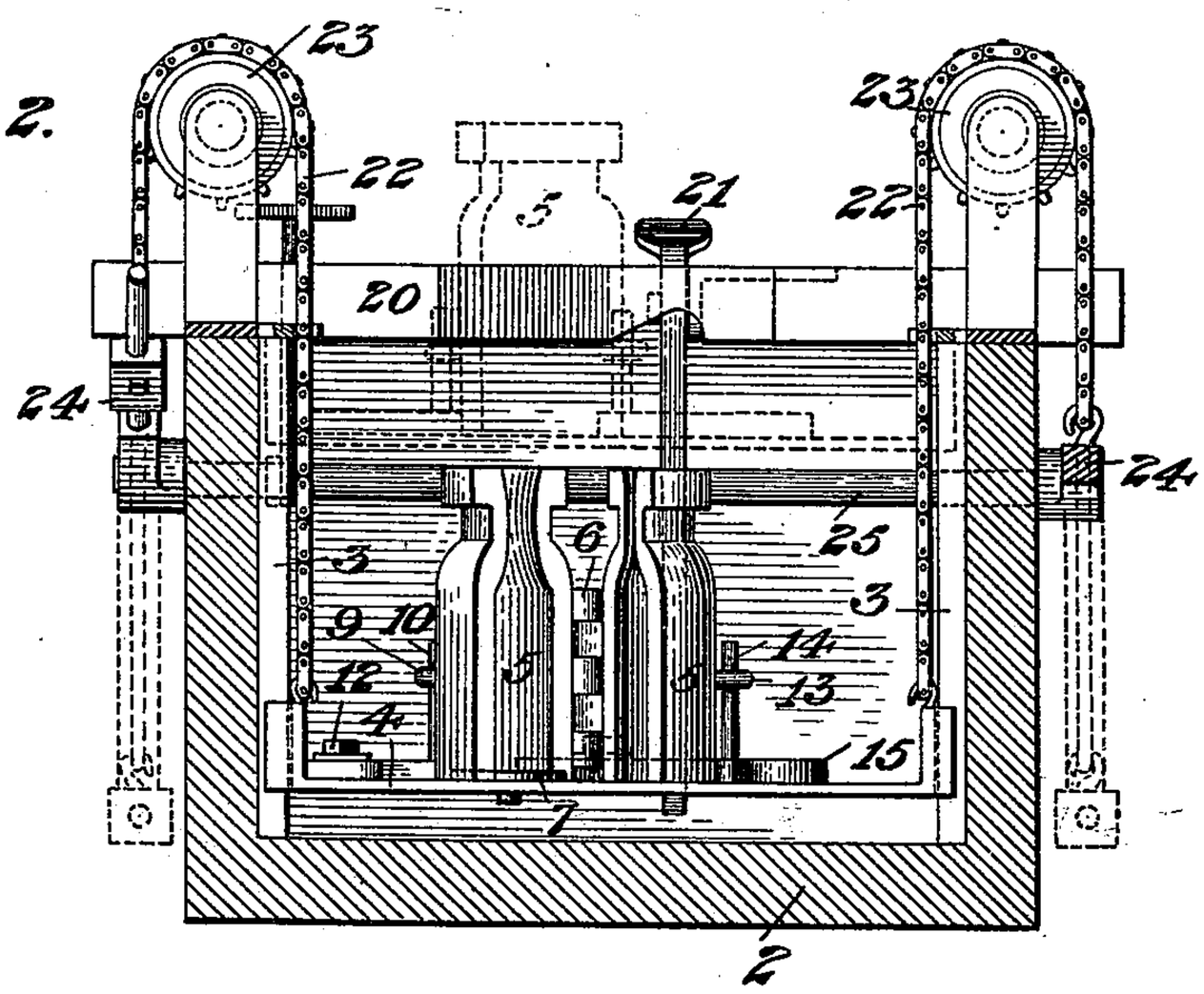


Fig. 2.



WITNESSES

INVENTORS

Thomas Coleman Jr. and Charles Runyon
by Bakewell & Bakewell
their Attorneys.

(No Model.) 2 Sheets—Shee. 2.

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Fig. 3.

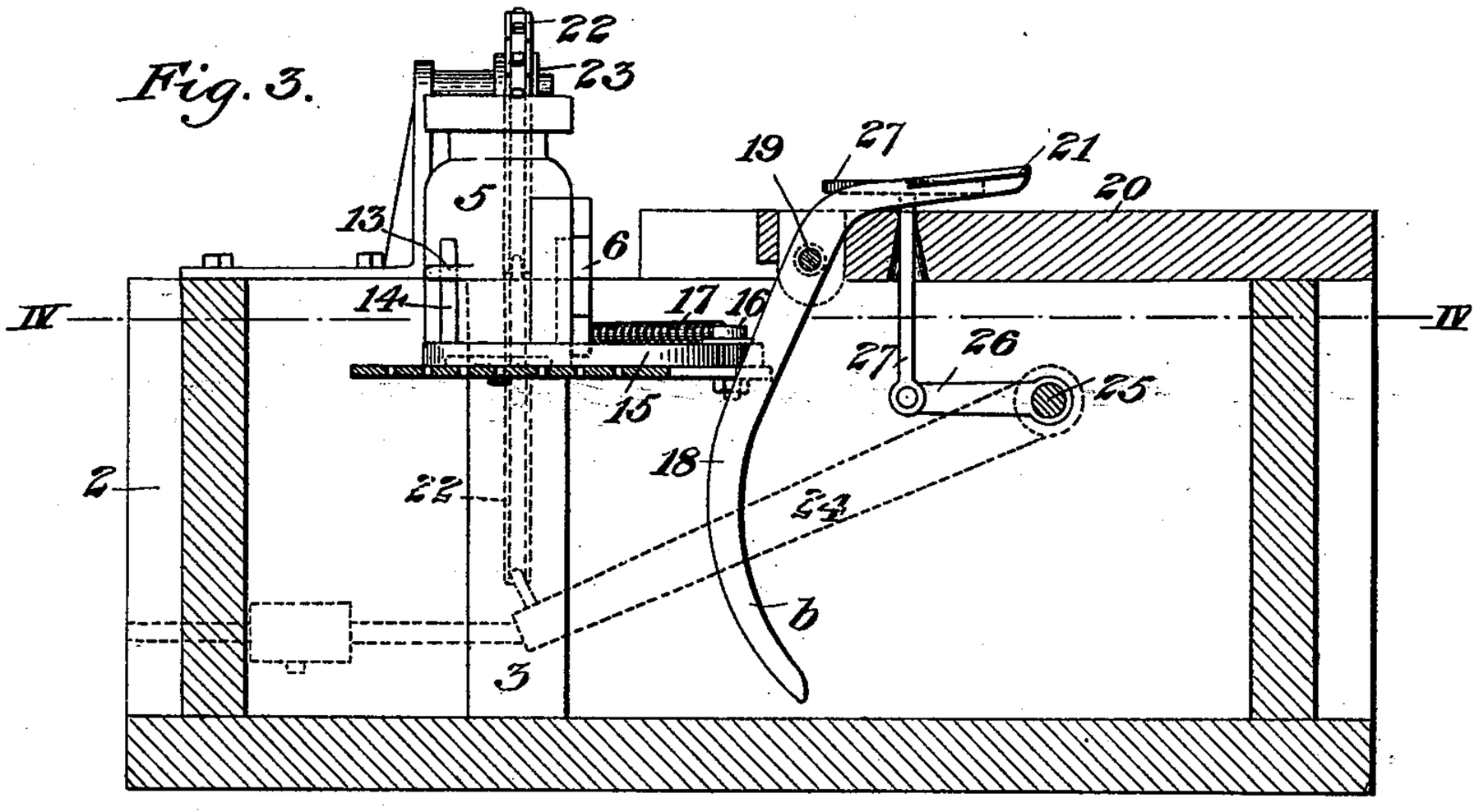
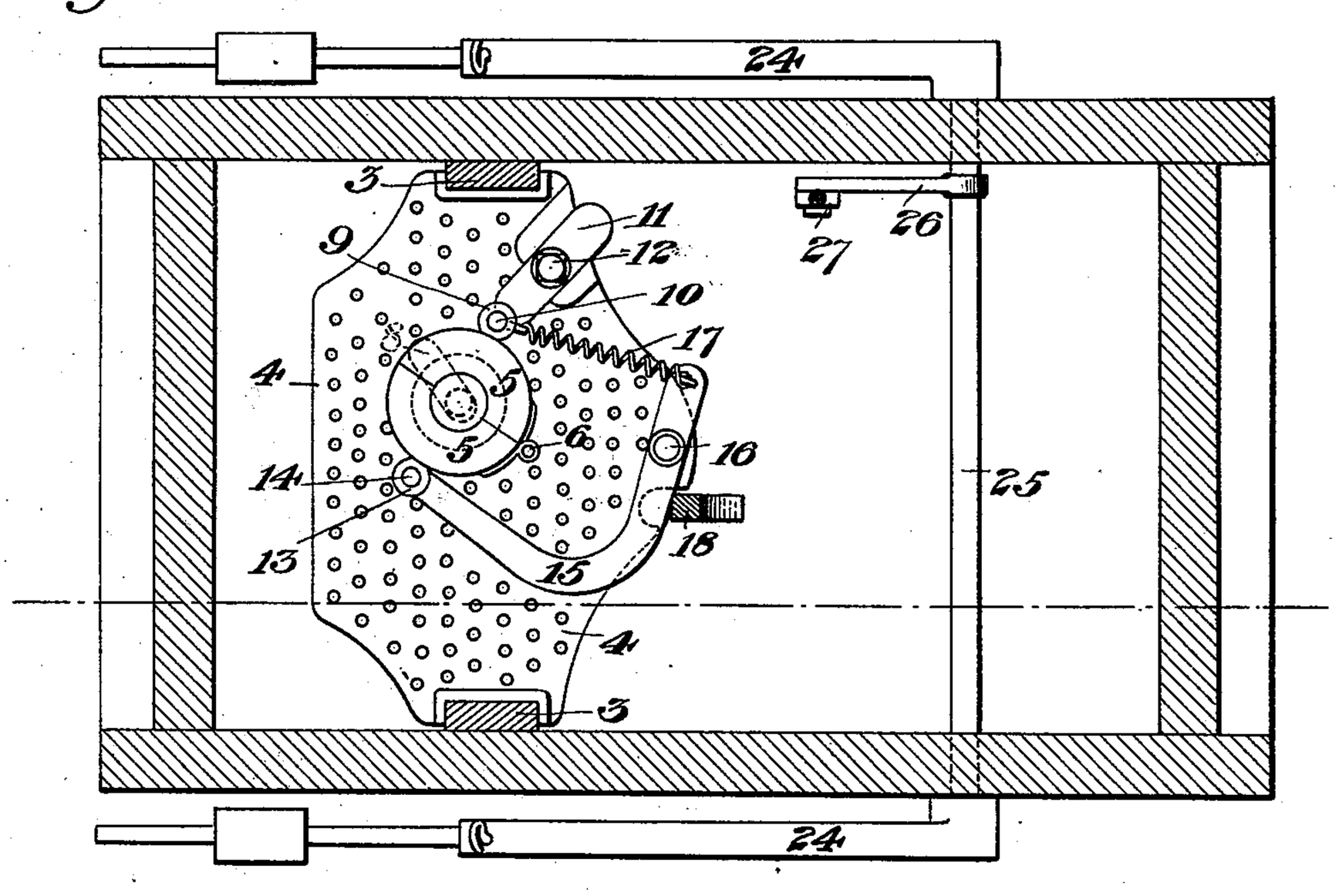


Fig. 4.



WITNESSES

INVENTORS.

Thomas Coleman Jr.
Charles Runyon
by Bakewell & Bakewell
their Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS COLEMAN, JR., AND CHARLES RUNYON, OF ROCHESTER, PENNSYLVANIA.

GLASS-MOLD DIPPING AND OPENING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 560,974, dated May 26, 1896.

Application filed September 10, 1895. Serial No. 562,058. (No model.)

To all whom it may concern:

Be it known that we, THOMAS COLEMAN, Jr., and CHARLES RUNYON, of Rochester, in the county of Beaver and State of Pennsylvania, have invented a new and useful Improvement in Mold Dipping and Opening Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 shows in plan view an apparatus constructed in accordance with our invention. Fig. 2 is a vertical cross-section on the line II II of Fig. 1. Fig. 3 is a vertical longitudinal section on the line III III of Fig. 1. Fig. 4 is a horizontal section on the line IV IV of Fig. 3.

The object of our invention is to provide means by which the glass-blower in charge of a paste-coated glass-mold may open and close the mold, as desired, and may immerse it in a water-bath as the glass articles are blown therein without the necessity for employing mold-boys for such work.

In the drawings, 2 represents a tank or vessel adapted to contain water and having vertical guide-posts 3 3, between which is mounted a vertically-movable plate 4, preferably perforated, as shown, in order to facilitate the discharge of water.

The mold, which is composed of two parts 5 5, hinged together at 6, is set on the table 4 and has a bottom piece 7, also set on the table and confined and guided by a slot 8. The bottom piece is of such form and size that when the mold-sections are closed together it shall be contained between them and shall constitute the bottom mold-surface on which the glass article is blown. One of the sections of the mold is pivotally connected by a lateral eye 9 to a pin 10, which projects from an adjustable holder 11, fixed by a bolt 12 or otherwise to the table 4. The other mold-section is not pivoted to the table, but is pivotally connected by an eye 13 to a pin 14 at the end of a horizontal lever 15, which is pivoted to the table at 16 and the free end of which is connected by a spring 17 to the holder 11. This spring normally tends to pull the lever 15, so as to separate the mold-sections on their hinge 6. To close the sections, we employ a lever 18, which is pivoted at 19 to a platform 20 at the upper part of the tank and has a downwardly-extending arm *b*, which extends within the tank and passes close to the horizontal lever 15. It has also a foot-piece or pedal 21, upon which the blower may press his foot, so as to move the arm *b* of the lever forward against the lever 15, thereby moving the lever in opposition to the tension of the spring and closing the mold-sections.

To move the table 4 vertically within the tank 2 and between the slides 3, we employ flexible connections, such as chains 22, which are connected to the table and extend vertically therefrom over sheaves 23 at the top of the tank to counterweighted lever-arms 24, projecting from a rock-shaft 25. This rock-shaft extends horizontally through the tank and is provided with a crank-arm 26 and pedal 27. When the blower presses upon the pedal, the shaft 25 is turned, the levers 24 move downwardly, and the table 4 is raised, so as to lift the mold from the water in the tank up to the level of the platform 20, at which the blower stands. When the blower moves his foot from the pedal, the table descends within the tank and immerses the mold in the water.

The operation of the apparatus when thus constructed is as follows: Mold-sections of suitable size and form are placed upon the table 4. This is easily done because the manner of setting and hinging these sections, above described, renders them easily movable and adjustable. To blow a glass article in the mold, the workman depresses the pedal 27, and thus raises the mold to the level of the platform, then depresses the pedal 21, and thereby, as above explained, closes the mold-sections together. The glass article is then blown in the mold in the usual way, the pedal 21 is released, and thereupon the spring 17 opens the mold-sections automatically on their hinge, the glass article is removed from the mold, and the workman, removing his foot from the pedal 27, permits the table to descend within the tank and to immerse the hot mold in the water. These operations are or may be conducted quickly, and as they

are effected solely by the blower, without the assistance of mold-boys, a considerable saving of labor is effected.

Our device is simpler and more efficient than other apparatus heretofore suggested and used for a like purpose.

We claim—

1. The combination of a water-tank, a vertically-movable table therein, a mold carried upon the table, a lever also mounted on the table and arranged to open and close the mold, and a second lever, mounted in stationary bearings independently of the table, and arranged to actuate the table-lever in different positions of the table; substantially as described.

2. The combination of a water-tank, a vertically-movable table set between guides in the tank, and normally lowered therein, flexible connections extending upwardly from the table, sheaves over which said connections pass, and mechanism connecting the same with a foot-lever, substantially as described.

3. The combination of a water vessel, a vertically-movable table therein, a mold carried by the table, a foot-lever arranged to raise the table, and a second lever adjacent thereto and a mold opening and closing lever on the movable table, adapted to be engaged by said second lever, substantially as described.

4. The combination with a water-tank having a platform partially covering the same, of a vertically-movable table set between vertical guides in the tank and having a mold thereon, weights arranged to partially counterbalance the table but allow it to normally remain in lowered position, a foot-lever projecting through the platform and arranged to positively raise the table, and a second foot-lever adjacent to the first and arranged to open the mold; substantially as described.

In testimony whereof we have hereunto set our hands.

THOMAS COLEMAN, JR.
CHARLES RUNYON.

Witnesses:
J. F. TORRENCE,
S. M. HERVEY.