No. 679,983 Patented Aug. 6, 1901.

C. E. O'NEIL.

DECORATING MACHINE.

(Application filed Nov. 28, 1900.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

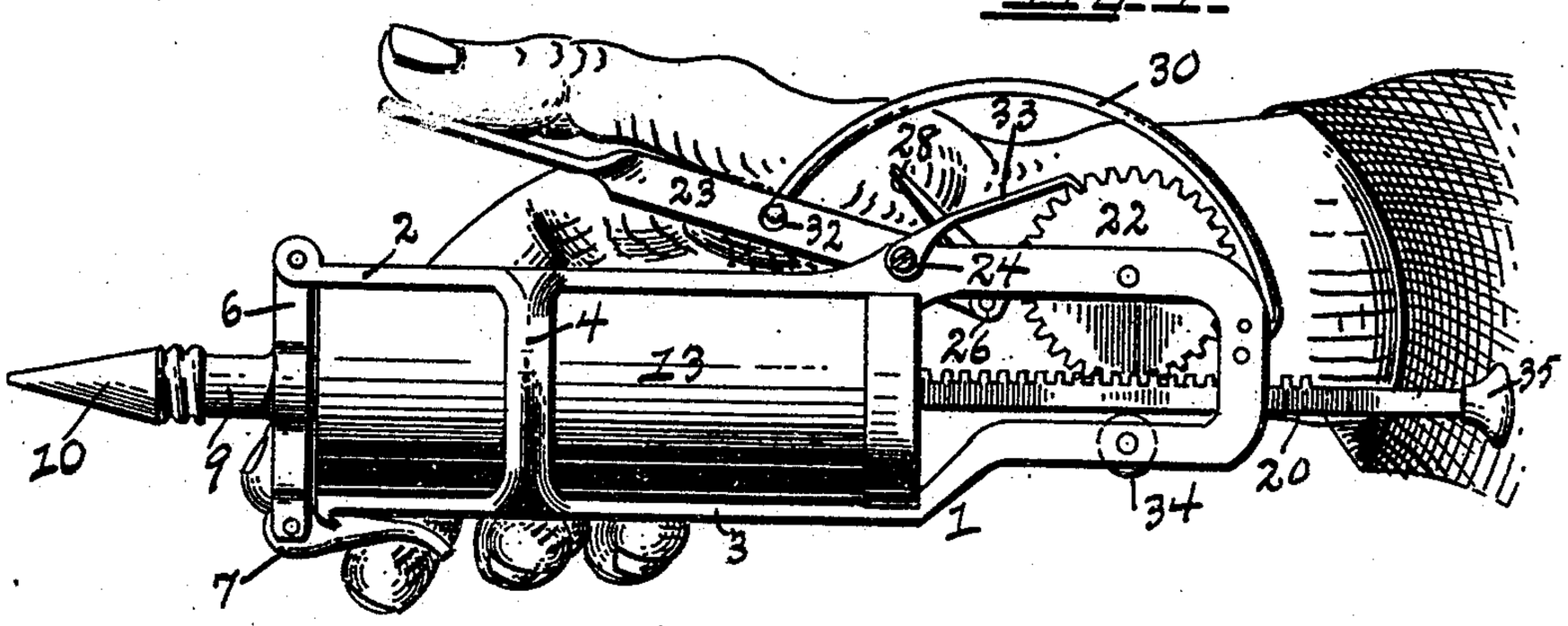


FIG. 2.

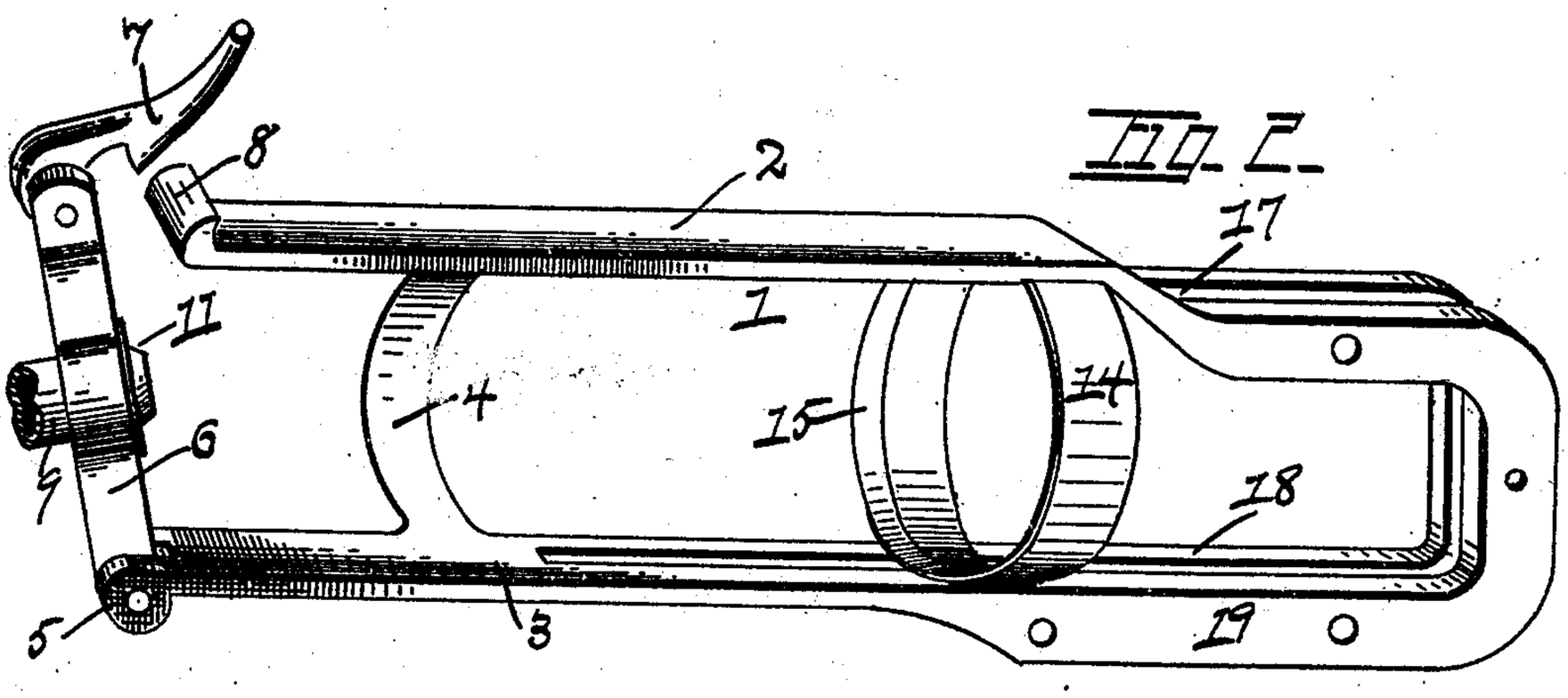
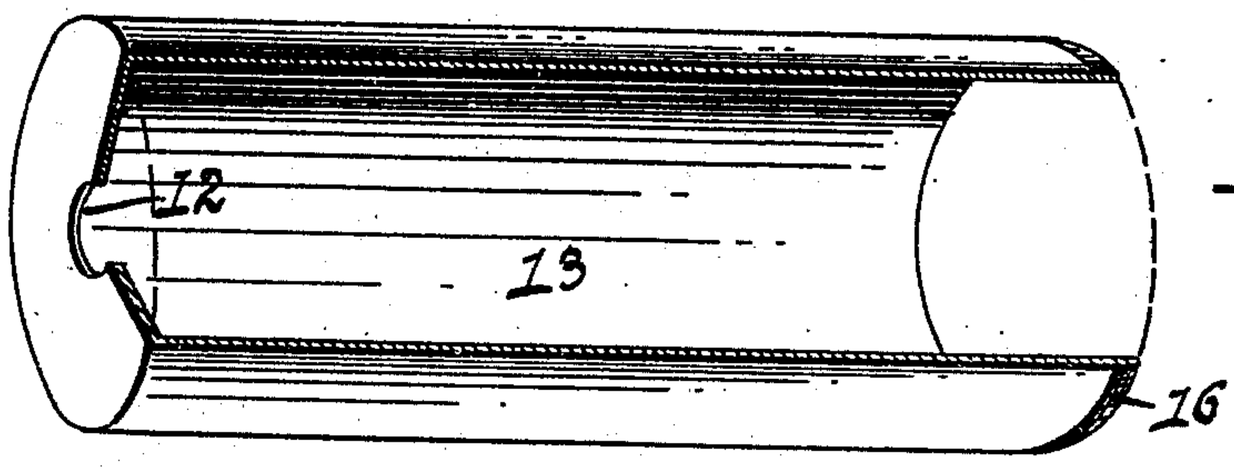


FIG. 3.



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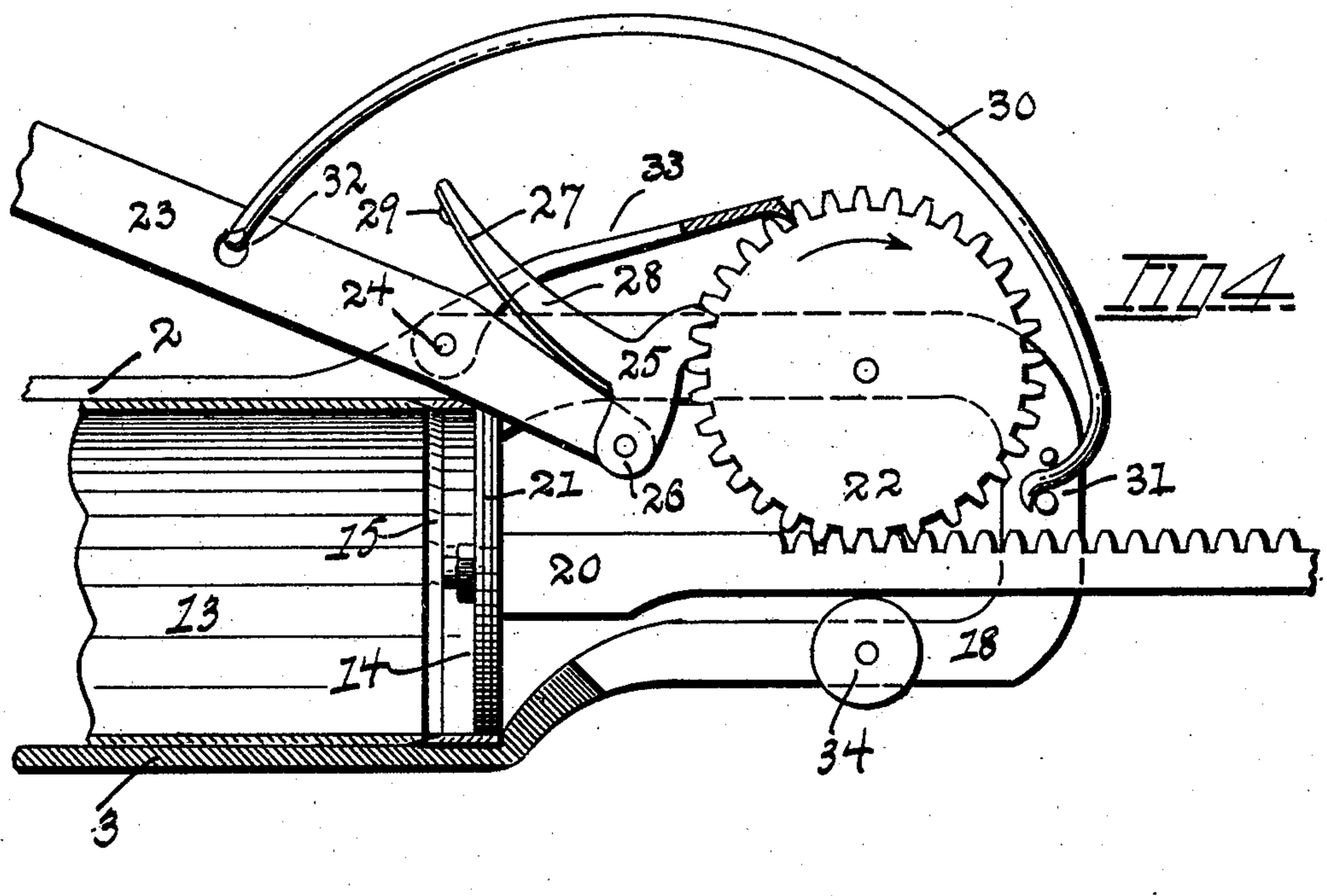

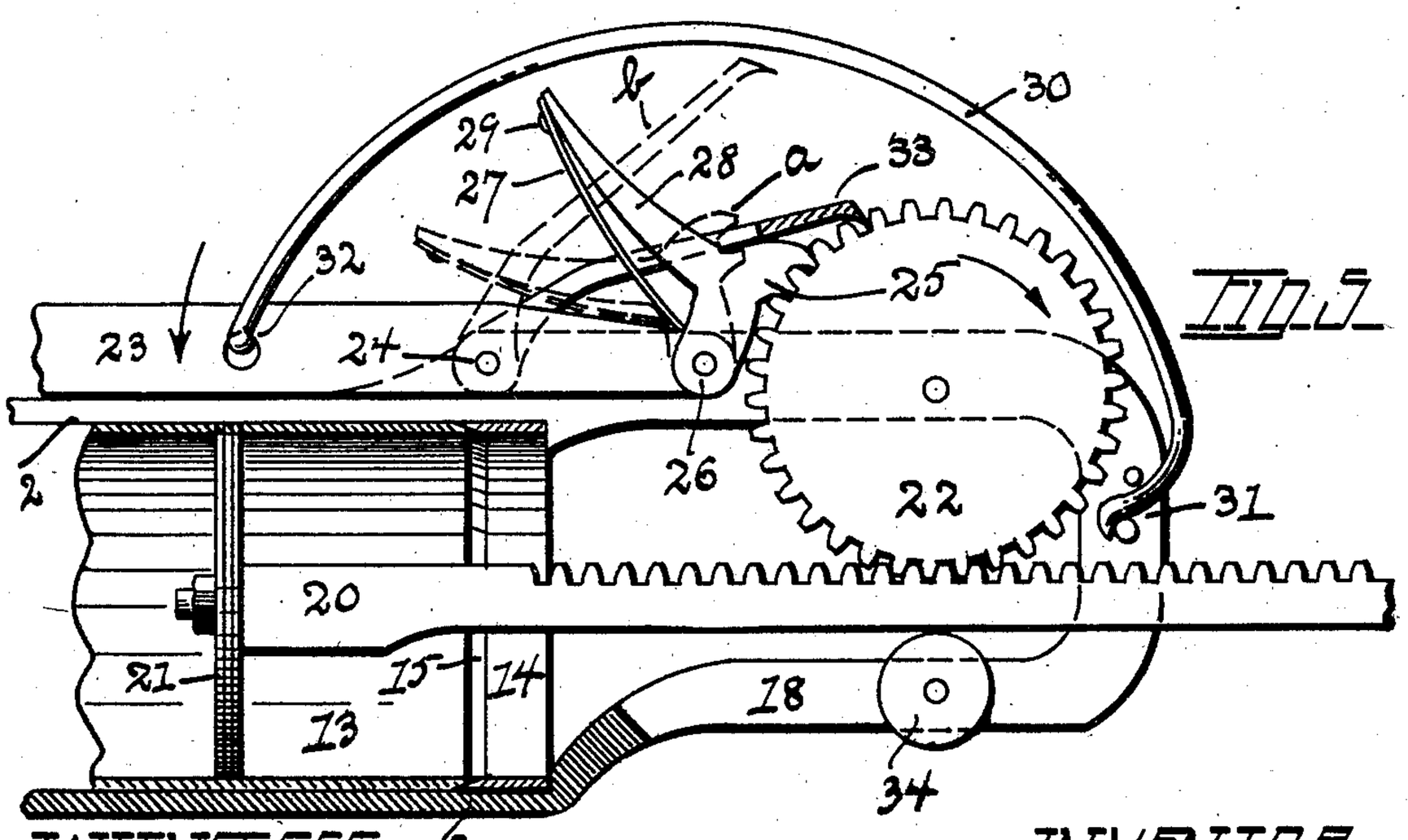

WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES E. O'NEIL, OF TOLEDO, OHIO.

DECORATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 679,983, dated August 6, 1901.

Application filed November 28, 1900. Serial No. 37,997. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. O'NEIL, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Decorating-Machines; 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 has reference to decorating-machines, and is designed to be employed in the production of what is variously known as "relief-work," "gunwork," &c.

The object of my invention is to provide a device for the production of relief-work in a more perfect and uniform manner and with greater rapidity than has heretofore been done. In the present state of the art to which my invention relates there are employed for this purpose various devices, among others a rubber bulb having a nozzle or ejecting-tube attached thereto, through which the plastic material previously placed in the bulb is forced, and there is also in extensive use a device known as a "gun," consisting of a cylinder having thereon a nozzle and containing a piston, to which is attached a rod having on the end thereof a handle, by which the device is operated. In this device the cylinder is held in the left hand, while the right operates the piston and forces the plastic material out of the cylinder through the nozzle. All of these devices have proven unsatisfactory in their operation. In using the last-mentioned device (the gun) the great objection has been that the right hand is employed to operate the piston, while the left hand, which holds the cylinder, traces the design. This has naturally resulted in imperfect work, due to the imperfect control of the left hand. My invention overcomes these objections and provides certain novel features of construction hereinafter shown, described, and claimed.

In the drawings, Figure 1 is a view of my machine, showing the manner of holding the same during operation. Fig. 2 is a perspective view of the frame of my machine, the working parts being removed therefrom. The clamp for holding the cylinder in position is shown released. Fig. 3 is a view of the cylinder removed from the machine, showing a section cut therefrom to disclose the interior. Figs. 4 and 5, respectively, are sectional views showing the operation of the mechanism of the machine.

Referring to the drawings, 1 is the frame of the machine, having the parallel sections 2 and 3 connected by a semicircular section 4. Section 3 is formed with a hinge connection on the end thereof at 5 for the attachment of a clamp 6, having a clasp 7 adapted to engage a hook 8 on the end of section 2. Clamp 6 has a tube 9 passing centrally therethrough, on the end of which is secured the ejecting-tube 10. Tube 9 is preferably tapered, as shown at 11, to enter an opening 12 in cylinder 13. Between the sections 2 and 3 is secured the annular member 14, having the beveled edge 15, into which the beveled end 16 of cylinder 13 is designed to enter. The annular member 14 has the same inside diameter as the cylinder 13, so that when the cylinder is placed in the frame 1 and securely clamped down, as shown in Fig. 1, member 14 is practically an extension of cylinder 13. Frame 1 is divided at 17 into two sections 18 and 19, occupying parallel planes, between which are secured the working parts of the machine.

20 is a rack-bar, to the end of which is secured in any suitable manner a piston 21, which snugly fits the inside of cylinder 13, and consequently member 14. Meshing with the rack-bar 20 is the pinion 22, to which motion is imparted by a lever 23, fulcrumed at 24 and having on the end thereof a pawl 25, hinged thereto at 26 and held normally in contact with pinion 22 by a spring 27.

28 is an extension of the pawl 25, to which the spring 27 is attached at 29, the other end of the spring being in contact with the lever 23.

30 is a spring secured to the frame at 31, the other end thereof being hooked into an opening 32 in lever 23. Lever 23 is extended so as to bring the end thereof in proximity to the nozzle end of cylinder 13.

33 is a pawl to prevent back motion of pinion 22.

34 is a guide-wheel for rack-bar 20.

35 is a knob which serves as a handle on the end of the rack-bar.

In operation the piston 21 is made to occupy the position shown in Fig. 4. The clamp 6 is released, as shown in Fig. 2. The cylinder 13, having then been filled with decorating composition, is placed in the machine and secured therein by the clamp 6, the tapered end 11 of the tube 9 entering the opening 12 in cylinder 13. The machine is then grasped in the hand, with the thumb resting upon the lever 23, Fig. 1. The position of the mechanism at the beginning of the operation is shown in Fig 4. The lever 23 is then depressed, which will cause the pinion 22 to advance in the direction of the arrow because of engagement with the pawl 25. The movement thereof will, however, be limited by the arc of rotation of the short end of lever 23. As the pinion 22 advances, the rack-bar 20, meshing therewith, and consequently piston 21 on the end of the rack-bar, will advance in cylinder 13 and force the composition contained in the cylinder through the nozzle 10. The lever 23 is then released by raising the thumb and will again assume the position shown in Fig. 4, because of spring 30, connected therewith. As the lever 23 is depressed at successive intervals, the cylinder 13 is entirely emptied of its contents. To prevent back motion of the rack-bar 20 and pinion 22, because of the reaction of the material in the cylinder, I provide the pawl 33. After the cylinder is empty the machine is held upside down in the left hand, with the little finger resting upon the extension 28 of pawl 25 and the other fingers depressing lever 23. Pawl 25 will then be in the position shown in dotted lines *a* and pawl 33 in the position *b*, also shown in dotted lines, falling to this position through the force of gravity, Fig. 5. Since the pawls have now been detached from the pinion, the rack and piston are easily drawn back to the position with which the operation commenced. Clamp 6 is then released and the empty cylinder removed from the machine and replaced by another cylinder which has been filled with the composition. By employing two or more cylinders no time is lost in filling the machine. While the operator is working the machine his helper is cleaning the empty cylinders and filling the same with the composition.

From the foregoing description the improved operation, construction, and advantages will be apparent.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a decorating-machine, the combination with the frame, of cylinder, removable therefrom, the clamp for holding the cylinder in position, the piston movable in the cylinder, and means for actuating the piston, substantially as shown and for the purpose specified.

2. In a decorating-machine the removable cylinder secured in the frame and held in position by a clamp, an opening in the end of the cylinder to register with an ejecting-tube integral with the clamp, the piston and rack movable in the cylinder, the pinion meshing with the rack, the lever having the pawl on the end thereof to actuate the pinion, rack, and piston, the spring to return said lever to its normally raised position, the pawl in engagement with the aforesaid pinion to prevent back motion of the piston, substantially as described and for the purpose specified.

3. In combination the frame, the removable cylinder, the nozzle registering with an opening in the end of the cylinder, the rack and piston movable in said cylinder, the pinion meshing with the rack, the lever with the pawl on the end thereof to normally engage the pinion, and extension on the pawl, for disengagement of the pinion, a spring having one end thereof attached to the frame and the other end attached to the aforesaid lever to raise the same when released, and a pawl normally in engagement with the aforesaid pinion, to prevent back movement of the piston, and adapted to fall by gravity when the machine is inverted and thereby disengage the pinion substantially as described and for the purpose specified.

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

CHARLES E. O'NEIL.

Witnesses:
CARL H. KELLER,
ALBERT H. LEAF.