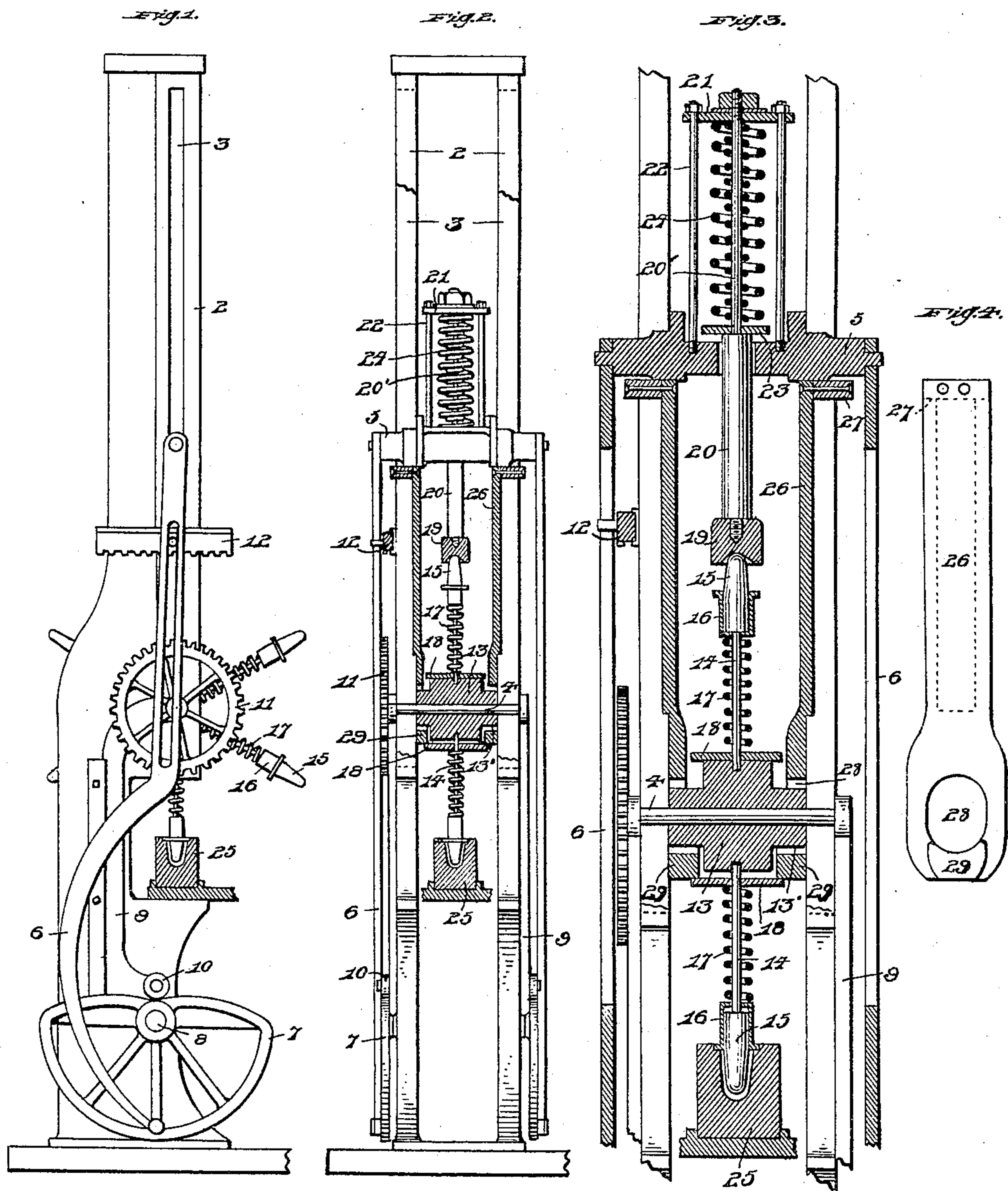


No. 767,310.

PATENTED AUG. 9, 1904.

F. O'NEILL.
GLASS PRESSING MECHANISM.
APPLICATION FILED AUG. 3, 1903.

NO MODEL.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK O'NEILL, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
DAVID A. GORDON, OF WALLACEBURG, CANADA.

GLASS-PRESSING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 767,310, dated August 9, 1904.

Application filed August 3, 1903. Serial No. 168,008. (No model.)

To all whom it may concern:

Be it known that I, FRANK O'NEILL, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have
5 invented certain new and useful Improvements in Glass-Pressing Mechanism, of which the following is a specification, reference being had therein to the accompanying drawings.

Glass-pressing machines operated by other
10 than hand-power are usually provided with means for affording a yielding pressing stroke to compensate for variations in charges of glass placed in the mold. As the mold-cover or spring-plate mechanism is carried by the plun-
15 ger it yields therewith, and hence is less effective in confining the glass within the mold in case of an overcharge than with a right amount. When the excess is not too great, it should be so confined as to prevent overflow or oozing
20 from the mold-top when the pressure is applied, the plunger in such case stopping short of a full stroke and leaving the article with a thick bottom, but otherwise perfect.

The primary object of the present invention
25 is to provide improved means for relieving the mold-cover of the compensating or yielding movement of the plunger, whereby the same is so confined as to prevent overflow and the consequent formation of an article with an
30 imperfect upper end, as is the case whenever the cover is forced from the mold during the pressing operation.

I have illustrated the invention in connection with portions of the pressing mechanism
35 shown in my Patent No. 674,248, May 14, 1901.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 a front view, partly in section, of pressing mechanism embodying the improvements. Fig. 3 is a vertical sectional view, on a larger scale, of the plunger
40 mechanism and actuating means. Fig. 4 is a detail view of one of the spring-depressing bars.

Referring to the drawings, 2 designates the
45 parallel uprights of the machine-frame, which are slotted vertically at 3 to provide ways for the plunger-shaft 4 and plunger-depressing cross-head 5. The latter is operated by crank-arms 6, extending from cams 7, secured to

shaft 8 at the base of the machine, while the
50 plunger-shaft is operated by bars 9, provided with rollers 10, which ride on cams 7, all as fully described in my patent above referred to. Gear 11 and sliding rack 12 operate to shift
55 the plungers, also as fully described in said patent.

Secured on shaft 4 is head 13, and projecting radially therefrom are arms 14, carrying at their outer ends plunger-heads 15.

16 represents the cup-shaped mold-covers, 60 which closely fit and are movable over the inner ends of the plungers, being held normally projected by springs 17, coiled around arms 14. The inner ends of the springs bear against
65 plates 18, which slide on the said arms.

In the present adaptation of the invention two plungers aline through shaft 4, as in my patent above referred to, so that when one plunger is projected downward in operative position another plunger is upright and in line
70 with socket 19 on the lower end of rod 20, depending from cross-head 5, whereby the operative plunger is forced downward for the pressing stroke. Rod 20 is movable through cross-head 5 and is reduced at its upper end at 20', 75 the extremity of this reduced portion being movable through plate 21, secured to cross-head 5 by rods 22. A plate 23 rests on the shoulder of rod 20, formed by reduced portion 20', and confined between this plate and
80 plate 21 are springs 24. With this mechanism it will be understood that the depressing means may be adjusted to afford a yielding or compensating pressing stroke to the operative
85 plunger after the same encounters a given or predetermined resistance occasioned by an excess of glass in mold 25.

In order to hold mold-cover 16 tightly seated on the mold and prevent it from yielding with the plunger, I provide two bars 26 positioned
90 on the inner sides of frame-uprights 2, and at their upper ends provided with lateral projections 27, which are confined in slots 3 and which are positively engaged by and move with cross-head 5. The lower portions of
95 these bars are enlarged and formed with oblong openings 28 to loosely embrace the reduced end portions 13' of head 13. On the

inner sides of the lower extremities of the bars are the rounded projections 29, and as each plunger is turned downward to operative position spring-plate 18 thereof is positioned 5 beneath and positively engaged by said bar projections. Thus a positive connection is had between the spring of the mold-cover and depressing cross-head 5, so that even though the plunger yields slightly and stops short of 10 a full pressing stroke, as shown in Fig. 3, the mold-cover spring is held in the position it would have if the stroke were full. Thus the mold-cover is most positively and strongly held just at the moment the unseating pressure of the glass within the mold is greatest. 15 Escape of the molten glass is thus prevented, and the article is pressed with a perfect upper end.

While the invention is here shown and described in connection with my patented pressing mechanism, it will be understood that the same may be applied to various forms of glass-pressing machines without departing from the spirit or scope of the invention.

25 I claim as my invention—

1. In a glass-pressing machine, a vertically-reciprocating and revoluble plunger, actuating means having yielding connection with the plunger for reciprocating it, mold-cover 30 mechanism constructed and arranged to cooperate with the revoluble plunger when the latter is in operative position, and means for positively reciprocating the mold-cover mechanism.

35 2. In a glass-pressing machine, a vertically-reciprocating and revoluble plunger, actuating means having yielding connection with the plunger for actuating it, mold-cover mechanism revoluble with the plunger and adapted 40 to reciprocate independently thereof, and means for positively reciprocating said mechanism.

3. In a glass-pressing machine, a vertically-reciprocating and revoluble plunger, mold-cover mechanism revoluble with the plunger 45 and adapted to reciprocate independently thereof, and actuating means common to the plunger and said mechanism for reciprocating them and adapted to yieldingly connect with the plunger and positively connect with the 50 mold-cover mechanism.

4. In a glass-pressing machine, a rotatable and vertically-movable plunger-carrying head, plungers projecting therefrom, a depressing-head adapted to impart a yielding 55 downward movement to the plunger-carrying head, bars at opposite sides of the latter and movable independently thereof and adapted to be depressed by the depressing-head, a mold-cover movable over each plunger, a spring for 60 holding each cover normally projected, and means whereby as each spring is brought to pressing position it is engaged by said bars.

5. In a glass-pressing machine, a rotatable and vertically-movable plunger-carrying 65 head, plungers projecting therefrom, a depressing-head adapted to impart a yielding downward movement to the plunger-carrying head, bars at opposite sides of the latter and movable independently thereof and adapted to 70 be depressed by the depressing-head, projections on the inner sides of the bars, a mold-cover movable over each plunger, a spring for holding each cover normally projected, and a 75 plate carried by each spring adapted to be engaged by the said bar projections when the corresponding plunger is in pressing position.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK O'NEILL.

Witnesses:

GUY C. NEARING,
LINNIE MORRISON.