

(No Model.)

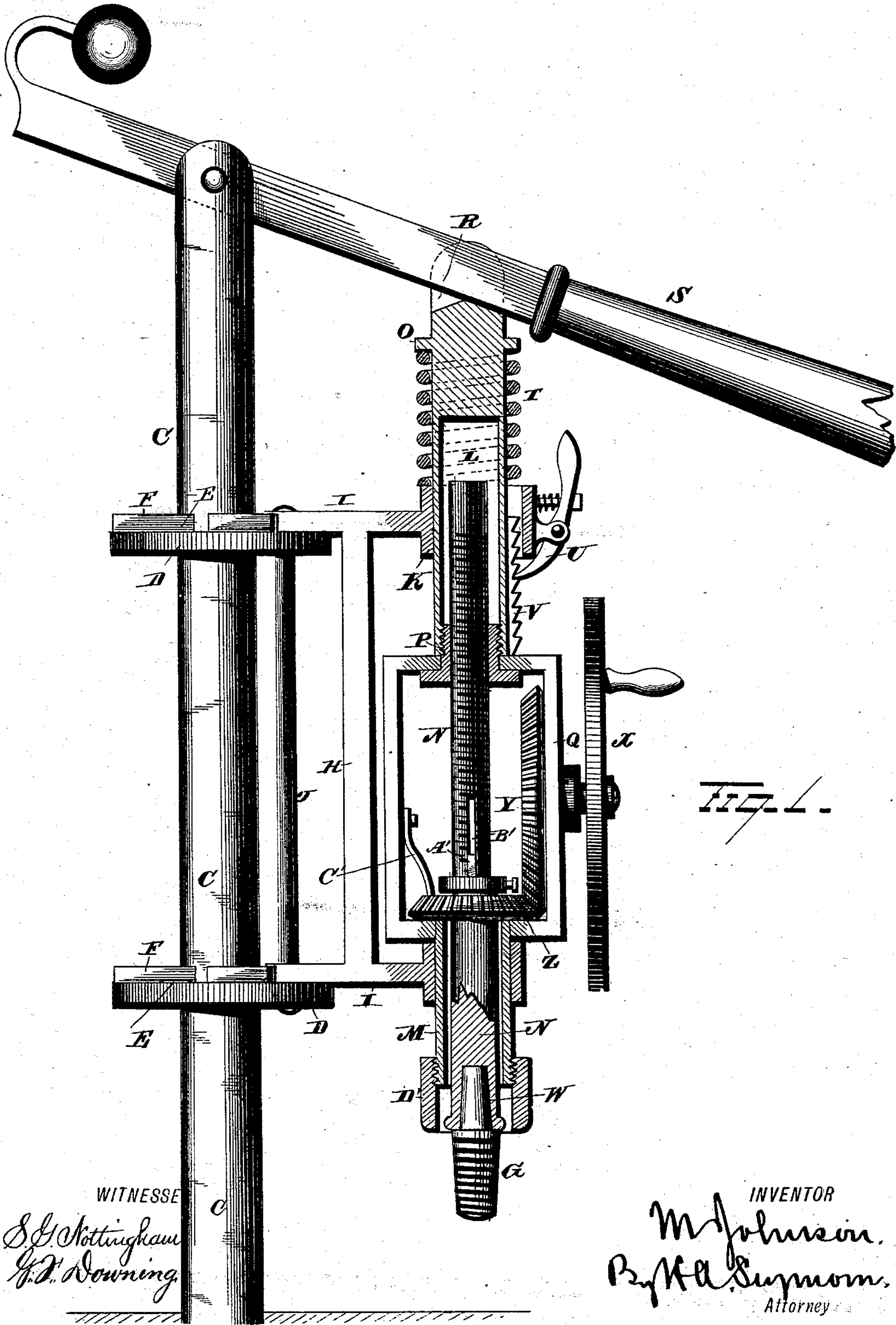
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APPARATUS FOR MAKING GLASS INSULATORS.

No. 282,989.

Patented Aug. 14, 1883.



WITNESSE

*S. G. Nottingham*  
*G. J. Downing*

INVENTOR

*M. Johnson*  
*By H. A. Symon*  
Attorney

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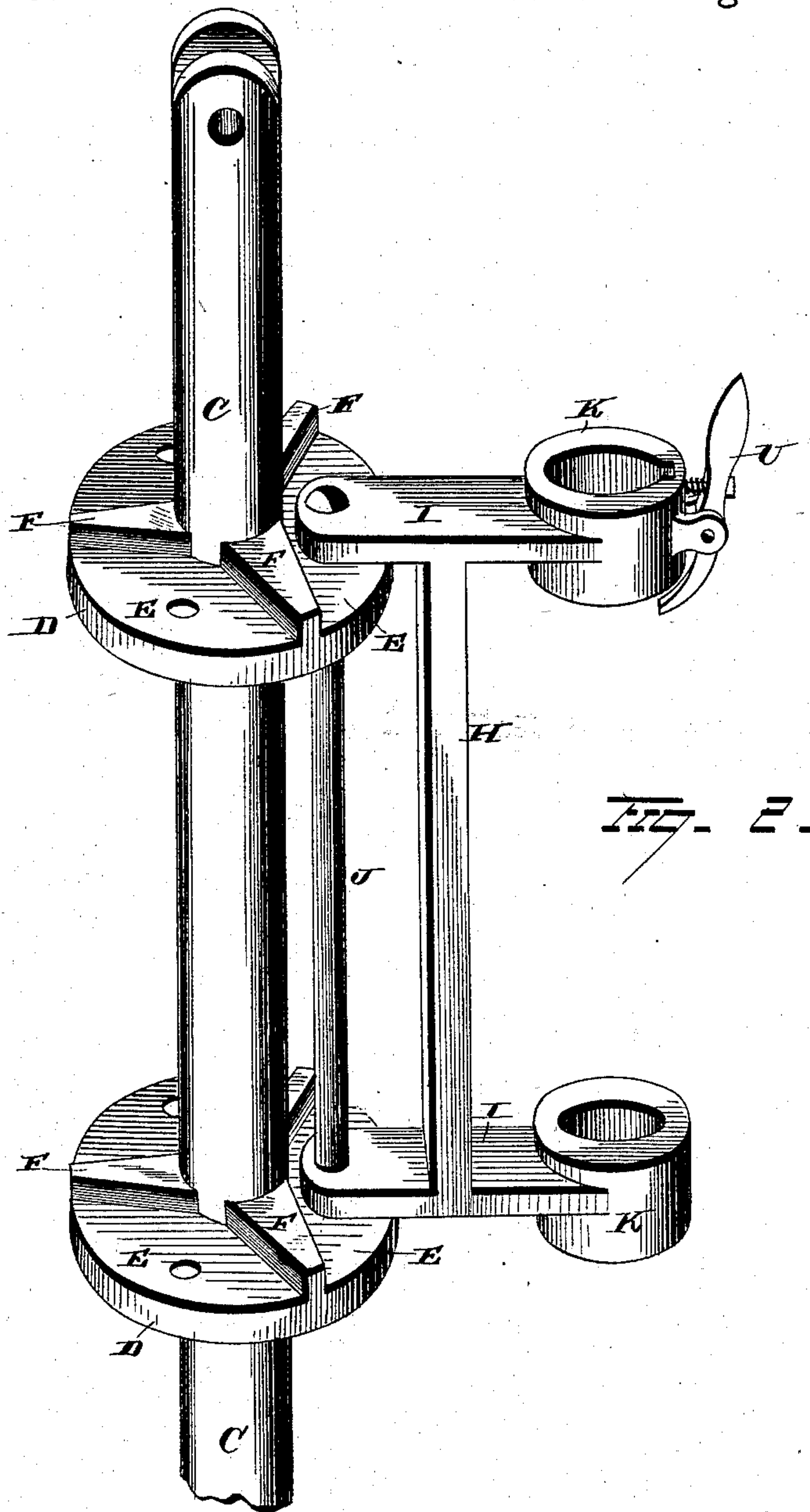
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WITNESSES

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INVENTOR

*M. Johnson.*  
*B. H. Symons.*  
Attorney



# UNITED STATES PATENT OFFICE.

MATHEW JOHNSON, OF ELLENVILLE, NEW YORK.

## APPARATUS FOR MAKING GLASS INSULATORS.

SPECIFICATION forming part of Letters Patent No. 282,989, dated August 14, 1883.

Application filed May 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, MATHEW JOHNSON, of Ellenville, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Apparatus for Making Glass Insulators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in presses for molding articles of glass, and more particularly to that class of presses employed in the fabrication of glass insulators for telegraph, telephone, and other similar purposes, the object of the invention being to produce a press which shall have a large capacity for production, and which shall combine simplicity and cheapness of construction with durability and efficiency in use.

With these objects in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in vertical section of a machine constructed in accordance with my invention, and Fig. 2 is a view in perspective of the upright standard and its revolving collars.

The turn-table A, upon which the glass-molds are located, is suitably mounted upon a table, B, of any desired construction. A standard, C, rising centrally within the turn-table and rigidly secured to the table B aforesaid, is provided with two revolving collars, D, which are journaled upon it in any desired manner. Each collar is divided into three equal segmental sections, E, by means of radial shoulders F, which define the swinging movements of the frames supporting the combination-shafts to which the plungers G are secured, only one of the said frames being shown in the drawings. The said frame consists of an upright, H, having cross-bars I attached to or formed integral with its upper and lower ends. It is attached to the collars aforesaid by a rod, J, which extends through perforations formed in the centers of the sections E thereof and in the inner ends of the cross-bars I. Bearings K, located on the outer ends of the bars I, are adapted to receive the upper

and lower sections of the combination-shaft, which consists of hollow upper and lower sections, L and M, and of a central section or screw, N, which extends up into the upper section, L, and entirely through the lower section, M. The upper end of the section L is provided with a cross-piece, O, while its lower end is secured to an internally-threaded collar, P, located in the upper frame-piece of the rectangular frame Q. The said cross-piece is provided with a recess, R, to receive the operating-lever S, which is fulcrumed in the bifurcated upper end of the standard C, and which is employed to depress the combination-shafts of the three frames secured to the standard C as they are brought in range by the rotation of the collars. A heavy spiral spring, T, encircling the section L of the shaft, and interposed between the cross-piece O and the bearing K thereof, is designed to maintain the combination-shaft in a normally elevated position. When depressed for the introduction of the plunger G into the molds, the shaft is held in place by a spring-actuated pawl, U, the same being mounted on the bearing K and arranged to be automatically engaged with the teeth of a ratchet, V, associated with the lower end of the section L. The central section or screw, N, extends up into the section L through the internally-threaded collar P, aforesaid, while its lower end, which is provided with a recess, W, to receive the plunger G, extends through the hollow section M. The said central section, N, is adapted to be elevated and depressed independently of the other sections by means of a hand-wheel, X, and pinions Y and Z, the same being mounted in the frame Q. The said central section passes through and plays freely in the pinion Z, deriving motion therefrom through a feather, A', secured to it. A vertical slot, B', formed in the shaft and arranged to receive the feather A', permits the shaft to be elevated and depressed without disturbing the pinion Z aforesaid, which is held in place by a spring-arm, C', secured to one of the side pieces of the frame Q. The upper end of the section M is attached to the lower cross-piece of the frame Q, while its lower end is externally threaded for the adjustable attachment of the cup-former D'.

In operating the press, the plungers are



forced into the molten glass in the molds by depressing the combination-shafts by means of the operating-lever, the shafts being retained in their depressed positions by virtue of the engagement of the pawls U with the ratchets V. As soon as the glass is set the plungers are withdrawn in spiral ascent by means of the hand-wheel and pinions connected with the central section or screw. As soon as the plungers have been withdrawn the pawls are disengaged from the ratchets, thereby permitting the spiral spring to elevate the entire combination-shafts, and thus remove the cup-formers from the molds. Before being used again the plungers are restored to their normal positions with respect to the cup-formers.

In virtue of the construction which permits the frames supporting the plungers to be moved from side to side, each plunger may be used in connection with two molds, the capacity of the press being doubled by this adaptation.

As before described, the collars are rotated on the standard to bring the respective frames supporting the plungers in range of the operating-lever.

It is to be noted that the glass within the mold, being confined by the cup-former, is forced into intimate contact with the plunger with the effect of forming a very perfect screw-thread within the insulator. If desired, a thin sheet of metal struck up to form a screw-thread may be mounted upon the plunger previous to its introduction into the mold, the shell being left in the insulator when the plunger is withdrawn.

I would have it understood that I do not confine myself to the exact arrangement and construction of parts herein shown, but consider myself at liberty to make such slight

changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a glass-press, the combination, with an upright standard, of collars journaled thereupon, frames pivoted to said collars, a combination-shaft mounted in each frame and provided with a section supporting a screw-threaded plunger, springs to elevate the shafts, pawl and ratchet devices respectively associated with the frames and shafts and arranged to hold the latter in their depressed positions, and means for elevating and depressing the plunger-supporting sections of the shafts independently of the other sections thereof, substantially as set forth.

2. In a glass-press, the combination, with a stationary standard, of collars journaled thereupon and divided into equal segmental sections by radial shoulders, frames pivoted to the respective sections of the collars, a combination-shaft mounted in each frame and provided with a section supporting a screw-threaded plunger, means for depressing the shafts, for elevating them, and for holding them in their depressed positions, and means for elevating and depressing the plunger-supporting sections of the shafts independently of the other sections thereof, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MATHEW JOHNSON.

Witnesses:

M. E. DEYO,  
JAMES E. CASE.