

No. 671,702.

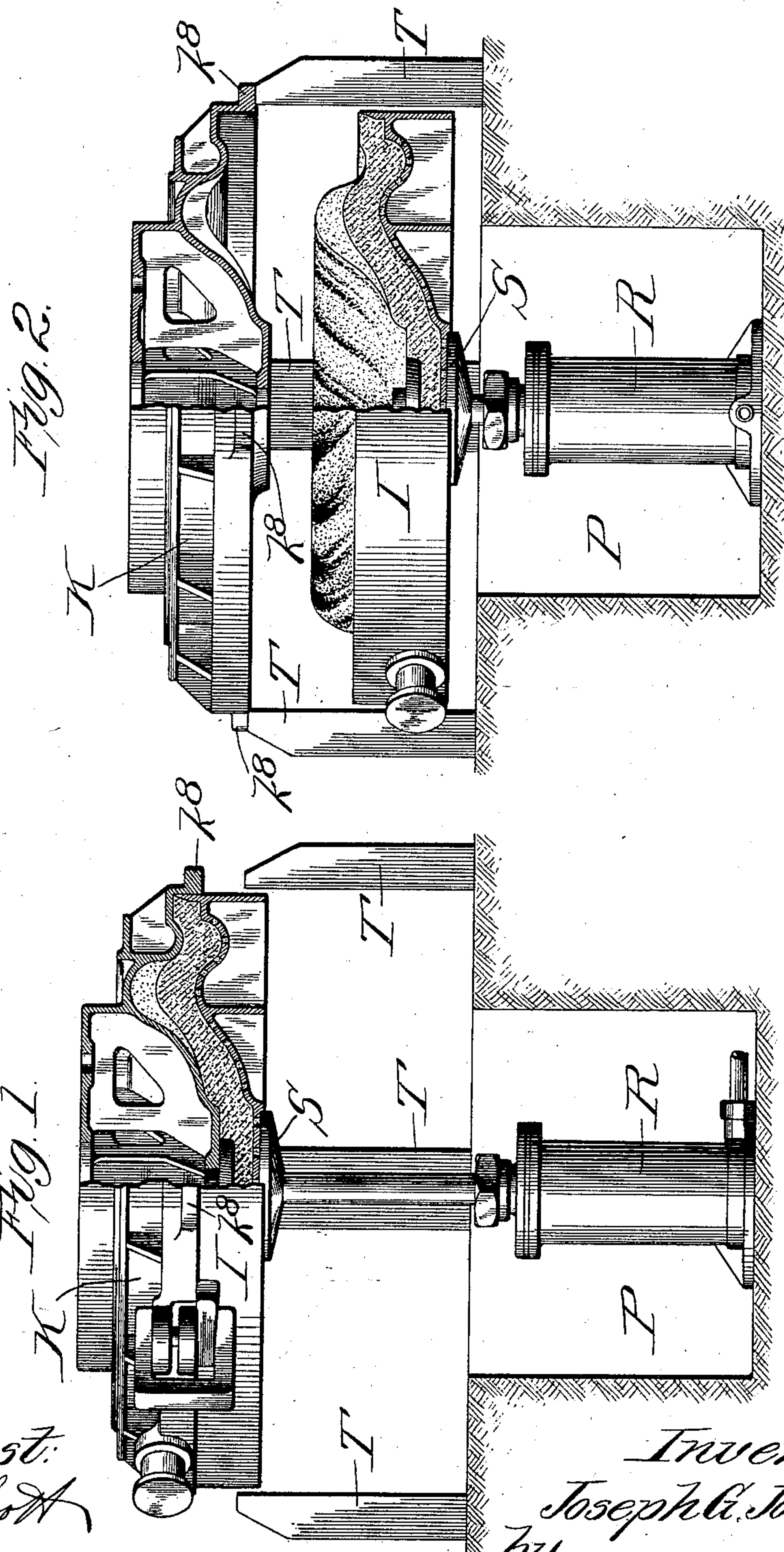
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J. G. JOHNSTON.

APPARATUS FOR DRAWING PATTERNS FROM FLASKS.

(Application filed Dec. 13, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR DRAWING PATTERNS FROM FLASKS.

SPECIFICATION forming part of Letters Patent No. 671,702, dated April 9, 1901.

Application filed December 13, 1900. Serial No. 39,692. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH G. JOHNSTON, a citizen of the United States, residing at the city of Detroit, in the county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Apparatus for Drawing Patterns from Flasks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful apparatus for drawing patterns from a flask, and has for its object to provide a device of that character which is simply constructed, effective in its operation, and is particularly adapted for use in connection with my improved patterns and flasks which form the subject-matter of applications filed by me of even date herewith and serially numbered 39,691 and 39,693.

I attain the object to which I have above referred by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a side elevational view of my improved apparatus, partly in section, wherein the drag pattern and flask are in position preparatory to being unclamped and separated; and Fig. 2 is a similar view illustrating the pattern and flask separated.

In the drawings, P represents a pit, in the center of which is arranged a pneumatic, hydraulic, or other fluid-operated cylinder R. The upper end of the piston-rod of this cylinder carries a plate or disk S, which being in the position shown in Fig. 1 is elevated and ready to receive the drag pattern and flask and their carried sand matrix, which are clamped together as they are received from a molding-machine or other device which has compressed them and their carried sand.

The object sought is to remove the pattern from the flask, allowing the latter to retain the sand matrix. Consequently it is desirable to have the flask, which I will designate as I, underneath the pattern K, whereby when

the parts are separated the sand matrix will remain face up in its flask.

T represents a plurality of standards preferably arranged around and extending a suitable distance above the pit P and designed to arrest the downward movement of the pattern, as will hereinafter be explained.

When the pattern and flask are in the position shown in Fig. 1 upon the plate S of the cylinder, lugs  $k^8$ , formed on the pattern K, are directly above the standards T, and when the clamps which hold the pattern and flask together are removed and pressure is released from beneath the piston in cylinder R the weight of the pattern and flask causes the same and the piston to descend, the pattern traveling until the lugs  $k^8$  contact with the standards T, which arrests further downward movement of the same, while the flask and its carried sand matrix continue to descend until the piston has reached its lowermost position in the cylinder. The pattern can then be removed from the standards and the flask taken from the plate S.

While I have shown and described my invention as being constructed in connection with the pit P and have specified and illustrated the standards T, I do not wish to limit myself to these specific features, as it is obvious that any suitable structure or frame could as well be employed without in the least departing from the nature and principle of my invention.

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

In an apparatus of the character described, the combination with a plurality of fixed supports, of a centrally-arranged cylinder, a piston in said cylinder, a rod attached to the piston, a plate or disk arranged on the upper end of the piston-rod, the stroke of said piston being such as to carry said plate or disk above the fixed supports, a flask and pattern arranged on the plate in its highest position, the pattern being uppermost, and projections on said pattern in line with the fixed supports, whereby, when the plate or disk de-

scends from its elevated position, the flask  
passes the fixed supports, and the projections  
on the pattern engage said fixed supports and  
arrest the downward movement of the pat-  
5 tern, causing a separation therebetween and  
the descending flask; substantially as de-  
scribed.

In testimony whereof I hereunto affix my  
signature, in the presence of two witnesses,  
this 4th day of December, 1900.

JOSEPH G. JOHNSTON.

Witnesses:

DAVID W. HAWKSWORTH,  
JOHN STEVENSON, Jr.