

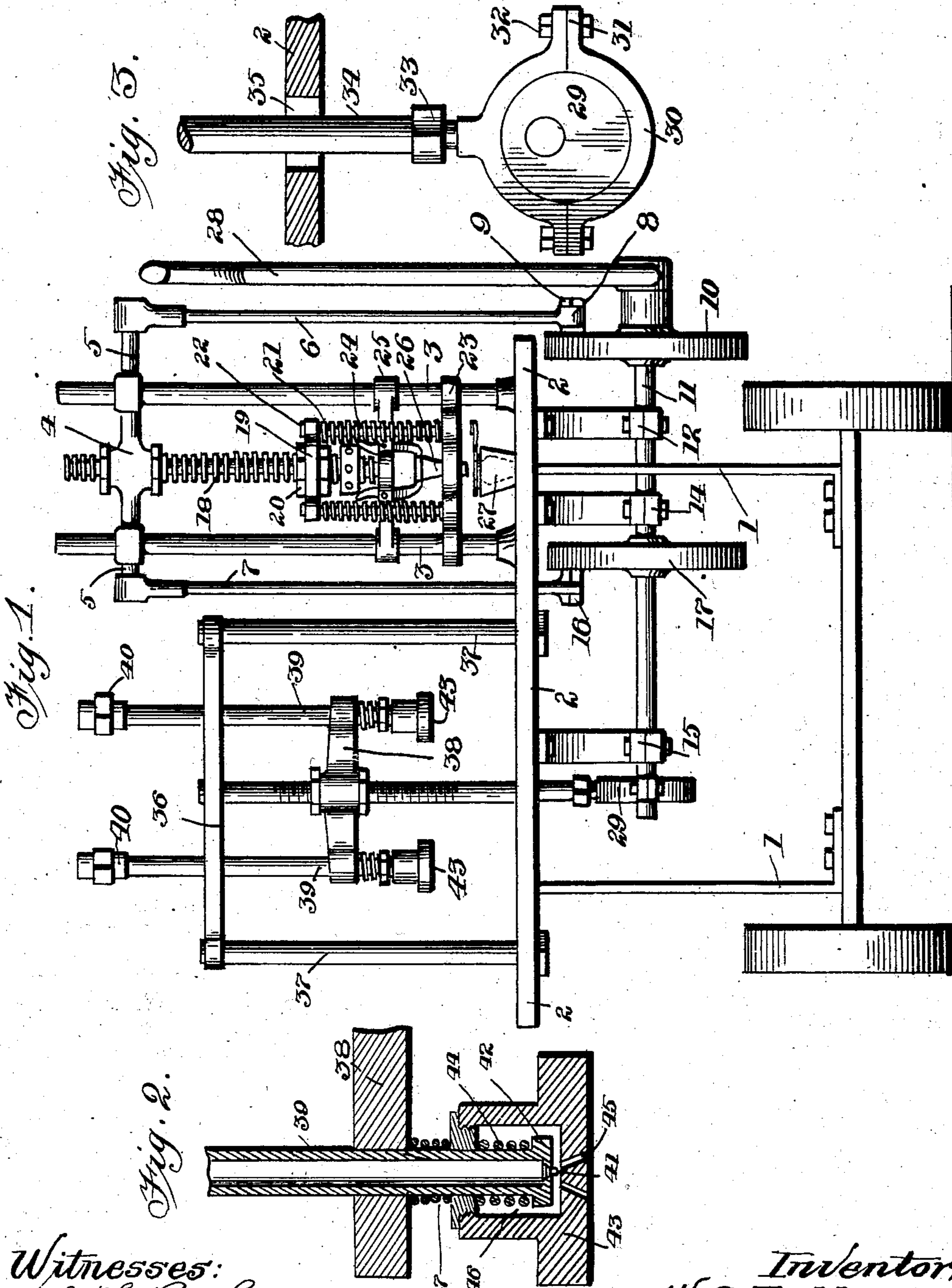
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W. S. TEEPLE & S. C. JOHNSON.
GLASS BLOWING MACHINE.

APPLICATION FILED JAN. 10, 1902. RENEWED NOV. 12, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

WILLIAM S. TEEPLE AND SAMUEL C. JOHNSON, OF WELLSBURG, WEST VIRGINIA.

GLASS-BLOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 726,112, dated April 21, 1903.

Application filed January 10, 1902. Renewed November 12, 1902. Serial No. 131,066. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. TEEPLE and SAMUEL C. JOHNSON, citizens of the United States of America, residing at Wellsburg, in the county of Brooke and State of West Virginia, have invented certain new and useful Improvements in Glass-Blowing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in glass forming and blowing machines, and has for its object the provision of novel means whereby glass is formed in a mold and then blown to the proper shape desired.

Our present invention further contemplates providing a portable mechanism that may be easily operated by hand and wherein the forming and blowing mechanism may be operated simultaneously; furthermore, to provide a machine that will form the glass in a mold and another mold complete the operation of blowing it to the proper shape.

Our invention still further aims to provide a common shaft that may be easily and conveniently operated by a hand-lever and to attach to said shaft such mechanism as will simultaneously lower the plunger into the mold for forming the article and also lower the blowpipes, having arranged therein check-valves that will be automatically opened when lowered to the proper position and admit air-pressure into the vessel to be blown to the proper shape.

The present invention has for its still further object to mount the mechanism upon a portable carriage that may be conveniently placed in one position or another, as desired; furthermore, to provide a mechanism thereon of the above-described character that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its operation.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts, to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings,

forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a front elevation of our improved machine. Fig. 2 is an enlarged vertical sectional view of the lower end of one of the blowpipes, showing the check-valve arranged therein. Fig. 3 is an enlarged side elevation of the eccentric secured to the end of the shaft to operate the blowpipes.

In the drawings the reference-numeral 1 represents the truck or carriage, carrying the table 2. Upon the upper face of this table are mounted standards 3, upon which standards 3 is slidably secured a yoke 4, said yoke 4 having outwardly-extending arms 5 5, to which are secured pitman-rods 6 7. The pitman-rod 6 is pivotally secured at 8 to the pin 9, the latter being eccentrically arranged upon the wheel 10; this wheel 10 being mounted upon a shaft 11, which shaft is journaled in bearings 12, 14, and 15, which are rigidly secured or bolted to the under face of the table 2. The pitman-rod 7 extends through an opening in the table 2 and is likewise secured to a pin 16, eccentrically secured to a wheel 17, which is likewise mounted upon the same shaft as wheel 10. A screw-threaded shaft 18 extends through the yoke 4 and carries a yoke 19, this yoke being secured in position upon said screw-threaded shaft 18 by means of jam-nuts 20. The said yoke has slidably secured therein rods 21, these rods at their upper ends carrying nuts 22 and at their lower ends are rigidly secured to the yoke 23. The said rods 21 are encircled by spiral springs 24. The yoke 23 slides upon the standards 3. A yoke 25 is slidably secured to the standard 3, through which extends a plunger 26 and the screw-threaded shaft 18, the said plunger 26 operating into the mold 27. An operating-lever 28, secured to the outer end of the common shaft 11, serves the purpose of operating the mechanism of the plunger or press. This common shaft 11 carries at its other end an eccentric 29, operating in a split sleeve 30, carrying flanges 31, which are secured together by bolts 32, the said split sleeve being secured at 33 to the reciprocating shaft 34, extending through the opening 35, formed in the table 2. This reciprocating

ing shaft 34 extends upwardly through the guide 36, mounted upon standards 37, which are rigidly secured or bolted to the table 2. The reciprocating shaft 34 carries a cross-head 38, in which are secured blowpipes 39, said blowpipes extending upwardly through the guide 36 and carrying at their upper ends couplings 40 to be secured to the flexible air-pipes leading from the air-pressure tank. (Not shown in the drawings.) In the lower extremity of the blowpipes 39 are arranged check-valves 41, said blowpipes carrying an annular shoulder 42. Upon the lower end of the blowpipes 39 are slidingly secured heads 43, and a spiral spring 44 is secured in said head, encircling the lower end of the blow-pipe and abutting against the annular shoulder 42. Air-ports 45 extend through the lower portion of the head and communicate with the interior air-chamber 46, formed in the head. A buffer-spring 47 also encircles the lower end of the blowpipes, said buffer-springs being interposed between the cross-head 38 and head 43.

The operation of our improved device is as follows: As the operating-lever 28 is lowered or raised movement will be communicated to the wheels 10 19 and eccentric 29, thereby lowering the plunger 26 and air-pipes 39. It will be noted that by this single movement of the lever one vessel will be formed and at the same time another one will be blown.

The many advantages obtained by the use of our improved mechanism will be readily apparent from the foregoing description taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of our invention.

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

1. In a device of the character described, the combination of a table and a pair of standards carried thereby, a yoke slidingly mount-

ed on the standards and carrying outwardly-extending arms with pitmen secured to the arms, a shaft supported on the under side of the table and carrying wheels eccentrically connected to the said pitmen, a screw-threaded shaft extending through the yoke carrying a yoke near its lower portion, a pair of spring-pressed rods slidingly mounted in said last-named yoke, said rods at their lower ends having a yoke rigidly secured thereto slidingly mounted upon the standards, a yoke carried by the lower end of the screw-threaded shaft and movably secured to the standards, a plunger operating through said last-named yoke, a second pair of standards supported by the table and carrying a guide with a shaft carrying a cross-head operating through the guide, a split sleeve carried by the lower end of the shaft, an eccentric mounted on the first-named shaft and engaging in said split sleeve, blowpipes carried by the cross-head and operating through the said guide, substantially as described.

2. In a device of the character described, a table having a pair of standards carried thereby with a guide connecting the standards, a reciprocating shaft operating through the guide and table and carrying a sleeve at its lower end, a shaft supported by the table and carrying an eccentric engaging in said sleeve, a cross-head mounted on the first-named shaft and carrying blowpipes operating through the guide, shoulders on the lower ends of the blowpipes, heads slidingly secured on the blowpipes and having air-ports therein, and springs on the blowpipes interposed between the shoulder and the head and the cross-head and the head, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM S. TEEPLE.
SAMUEL C. JOHNSON.

Witnesses:
JOHN COCHRANE,
W. T. MCCREARY.