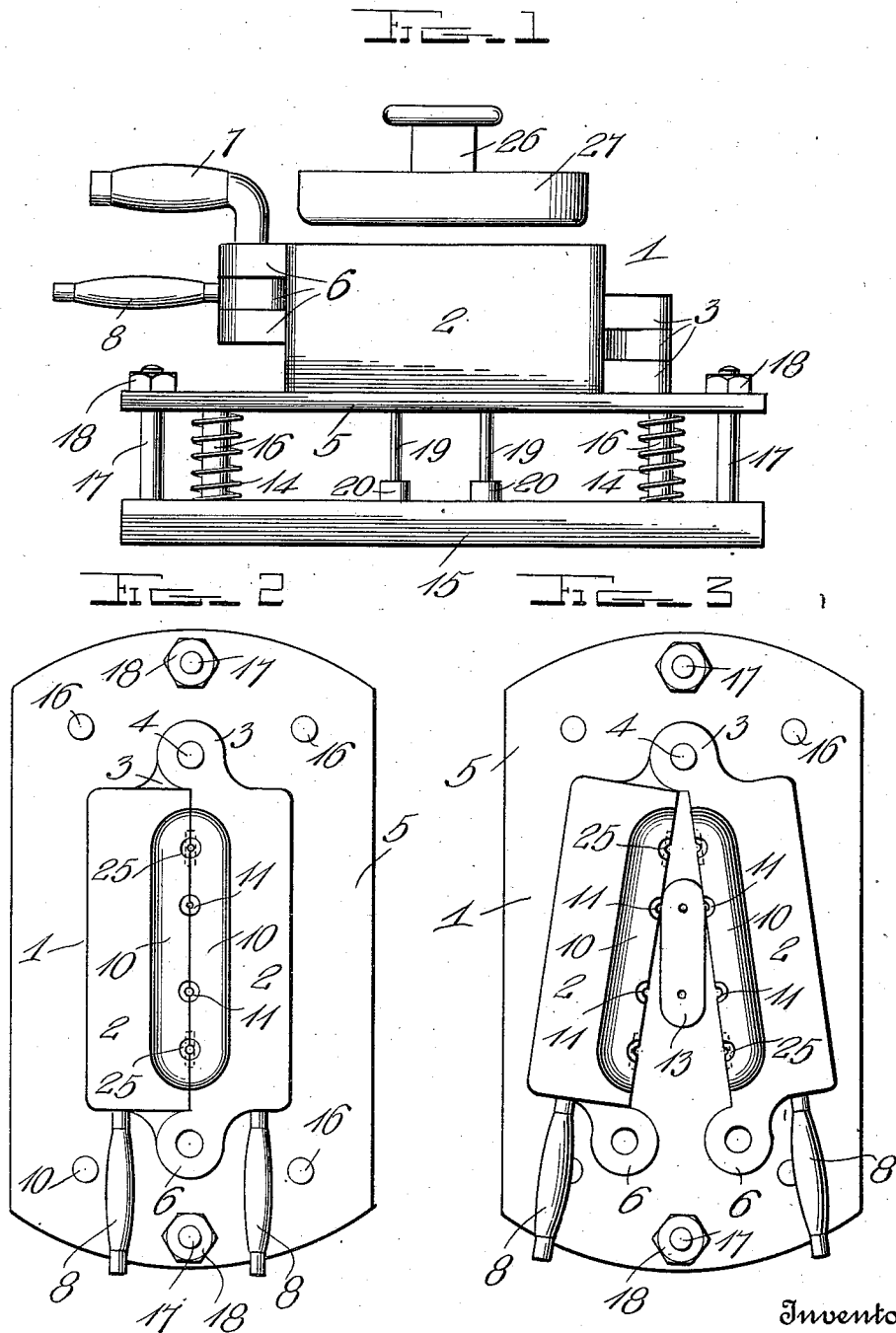


J. HACKETT.
BOTTLE BLANK MOLD.
APPLICATION FILED SEPT. 2, 1910.

1,019,147. Patented Mar. 5, 1912.

3 SHEETS—SHEET 1.



Witnesses

O. B. Hopkins

Inventor
James Hackett

by *A. B. W. S. Co.*
Attorneys

APPLICATION FILED SEPT. 2, 1910.

Patented Mar. 5, 1912.

James Hackett

E. Leventer

O.B. Hopkins

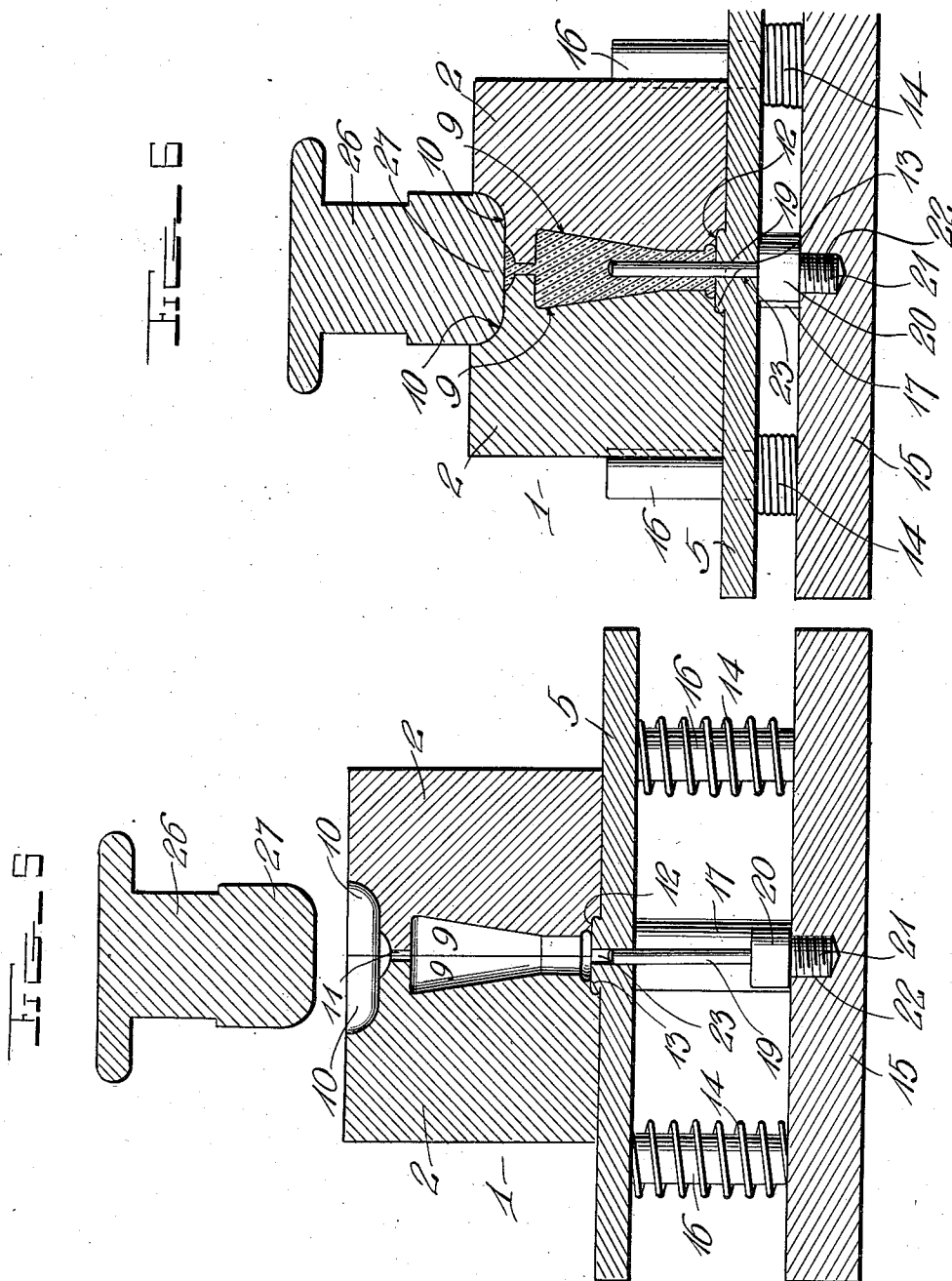
by *A. B. Wilson & Co.*
Attorneys

1,019,147.

J. HACKETT.
BOTTLE BLANK MOLD.
APPLICATION FILED SEPT. 2, 1910.

Patented Mar. 5, 1912.

3 SHEETS—SHEET 3.



Witnesses

W. C. Hopkins

James Hackett

By *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

JAMES HACKETT, OF BELLAIRE, OHIO.

BOTTLE-BLANK MOLD.

1,019,147.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed September 2, 1910. Serial No. 580,144.

To all whom it may concern:

Be it known that I, JAMES HACKETT, a citizen of the United States, residing at Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Bottle-Blank Molds; and I do 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.

This invention relates to improvements in bottle blank molds.

The object of the invention is to provide an improved mold of this character whereby a plurality of bottle blanks and stoppers may be quickly molded and wherein the blanks will have an accurate uniform weight.

Another object is to provide a bottle blank mold having an improved construction and arrangement of plungers and plunger operating mechanism for forming the blowing recesses in the neck and body of the blank.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a side view of my improved mold and plunger operating mechanism; Fig. 2 is a top plan view of the same showing the parts in closed position to receive the glass; Fig. 3 is a similar view showing the parts of the mold swung open to permit the removal of the molded blanks; Fig. 4 is a central vertical longitudinal sectional view of the mold and the plunger operating mechanism; Fig. 5 is a vertical cross sectional view on the line 5—5 of Fig. 4 showing the mold in position to receive the glass; Fig. 6 is a similar view on the same line showing the mold after the glass has been forced therein and the plungers forced into the molded blanks.

Referring more particularly to the drawings, 1 denotes the mold which is formed in two hingedly connected counter-part sections 2 which are adapted to be opened and closed in a horizontal plane as clearly shown in Figs. 2 and 3 of the drawings. The sections 2 of the mold are provided on one end with apertured ears or lugs 3 whereby the same are pivotally engaged with a pivot pin

4 which is secured in the base plate 5 of the mold as shown. On the opposite ends of the sections 2 of the mold are formed apertured lugs 6 which, when the sections of the mold are brought together are adapted to receive a fastening pin 6' having a longitudinally extending handle 7 whereby said pin may be readily engaged with or disengaged from the lugs 6 to fasten or release the sections of the mold. To the free ends of the sections 2 of the mold are secured longitudinally extending operating handles 8 by means of which the mold sections may be readily opened and closed when desired.

The mold sections 2 are here shown and are preferably in the form of oblong rectangular blocks in the inner faces of which are formed recesses 9 having the desired shape for forming the bottle blanks when the sections of the mold are brought together. In the upper surface of the mold sections are also formed longitudinally disposed recesses or depressions 10 which, when the mold sections are brought together, form a receptacle for the glass from which the latter is conducted through ports or passages 11 which connect said receptacle with the recesses for the blanks. The passages 11 are formed by grooves in the opposite surfaces of the mold sections as shown. In the lower side of the mold sections and in line with the lower ends of the recesses 9 is formed a longitudinal recess 12 which communicates with the lower ends of the recesses 9 and is adapted to receive a similarly shaped projection 13 on the upper side of the base plate 5 when the sections of the mold are brought together.

The base plate 5 is yieldingly supported by a series of coiled springs 14 which are arranged between said plate and a plunger supporting and projecting plate 15 which is spaced a suitable distance from the base plate 5 as shown. The springs 14 are held in operative position between the base plate 5 and plunger plate 15 by guide pins 16 which are secured at their lower ends in the plate 15 and have a sliding engagement through suitable apertures formed in the base plate 5. The holding pins 16 and the springs 14 are preferably arranged near the opposite ends of the plates 5 and 15 and adjacent to the opposite sides thereof. The plates 5 and 15 are further held in alinement by stop pins 17 the upper ends of which project through the base plate 5

and are slidably engaged therewith, while the lower ends of said pins are rigidly secured in the plunger plate 15. The projecting upper ends of the pins 17 are threaded and on said threaded ends of the pins are arranged stop nuts 18 whereby the plate 5 is held in position against the tension of the springs 14.

Arranged on the plate 15 are a series of plungers 19, said plungers being disposed below the center of the recesses 9 for forming the double blank. The plungers 19 are provided with enlarged base portions 20 having thereon reduced threaded shanks 21 which are adapted to engage threaded sockets 22 formed in the plunger projecting plate 15. The upper ends of the plungers 19 are adapted to pass through guide passages 23 formed in the base plate 5 when said plate and the mold is forced downwardly, said plungers thus entering the glass which has been previously forced into the recesses 9, thus forming in the center of the blanks a passage or opening into which the compressed air is adapted to be forced in any suitable manner after the blanks have been applied to the blow mold.

In addition to the recesses for molding the bottle blanks the mold sections may also be provided with recesses 24 for forming bottle stoppers, said recesses 24 communicating with the receptacle 10 through suitable glass conducting passages 25 formed in the inner sides of the mold as shown.

Arranged above the receptacle 10 of the mold is a glass pressing plunger 26 having on its lower end a head 27 which conforms to the shape and is adapted to fit into close engagement with the receptacle 10 thereby forcing the glass from the latter through the passages 11 and 25 and into the recesses 9 and 24 thereby forming the bottle blank.

In the operation of the device the molten glass is poured into the receptacle 10 after which power is applied by a press or in any suitable manner to force the glass pressing plunger downwardly into the receptacle, thus forcing the glass from the latter into the recesses in the mold, thus forming the blanks and stoppers whereupon further application of the power will force the plunger 27, mold 1 and the base plate 5 downwardly toward the plunger supporting plate 15 and against the tension of the springs 14. This movement of the parts will project the upper ends of the plungers 19 through the

passages 23 and into the bottle blanks in the recesses 9, thus forming the blow openings in said blanks. After the glass has thus been forced into the mold and the blow openings formed therein the pressure is removed from the mold thereby permitting the springs 14 to again force the same upwardly to a sufficient extent to retract the upper ends of the plungers 19 from the bottle blanks after which the locking pin 6' is removed from the apertured lugs 6 of the mold sections which will permit the latter to be swung apart and the bottle and stopper forms removed therefrom.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim is:

A mold comprising a plunger plate with a base plate arranged above the same, having plunger receiving openings, plungers having their lower ends screwed into the plunger plate and their upper ends entering said openings in the base plate, guide pins secured in the plunger plate and playing freely through the base plate, retaining bolts secured in the plunger plate and projecting through the base plate, adjustable nuts mounted on the upper ends of said bolts to limit the movement of the base plate and detachably connect the same with the plunger plate, mold sections pivoted to each other and to the base plate at one end, the opposite end of the mold being secured together by a handle locking pin, said sections having registering recesses arranged in alinement with the plunger receiving openings in the base plate, and a plunger mounted above the mold section in position to press material into the recesses therein.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES HACKETT.

Witnesses:

D. W. COOPER,
F. C. HACKETT.