

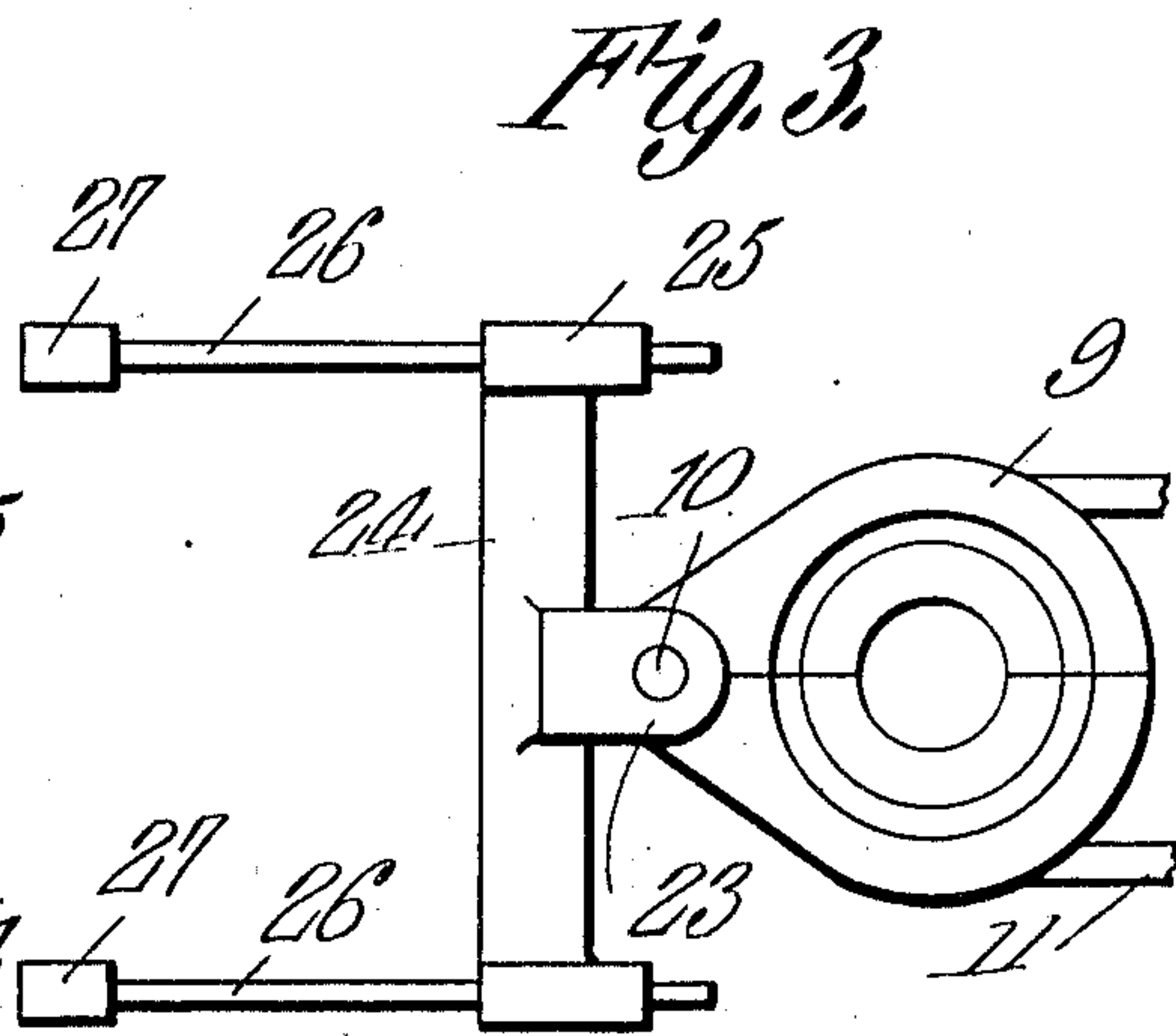
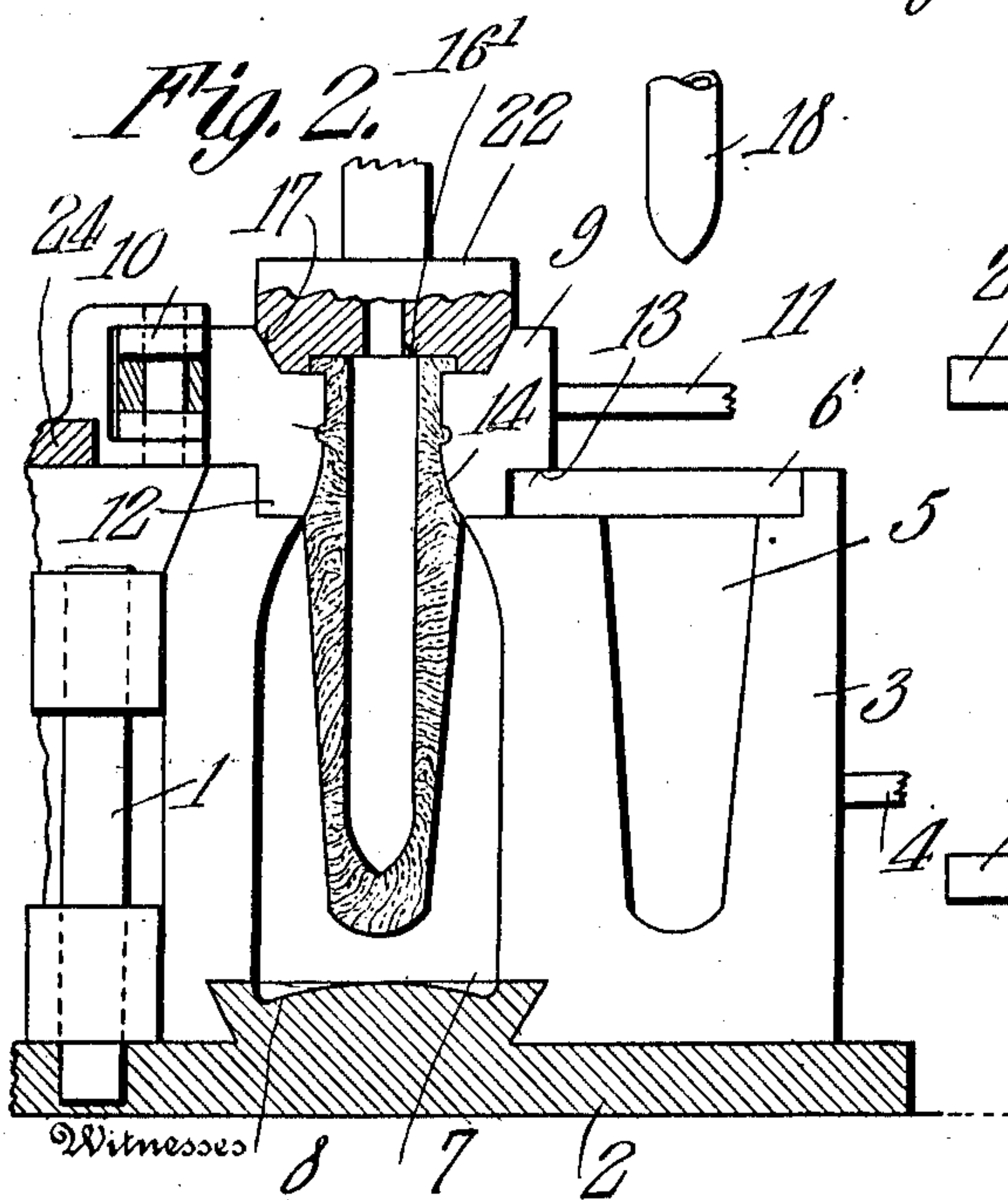
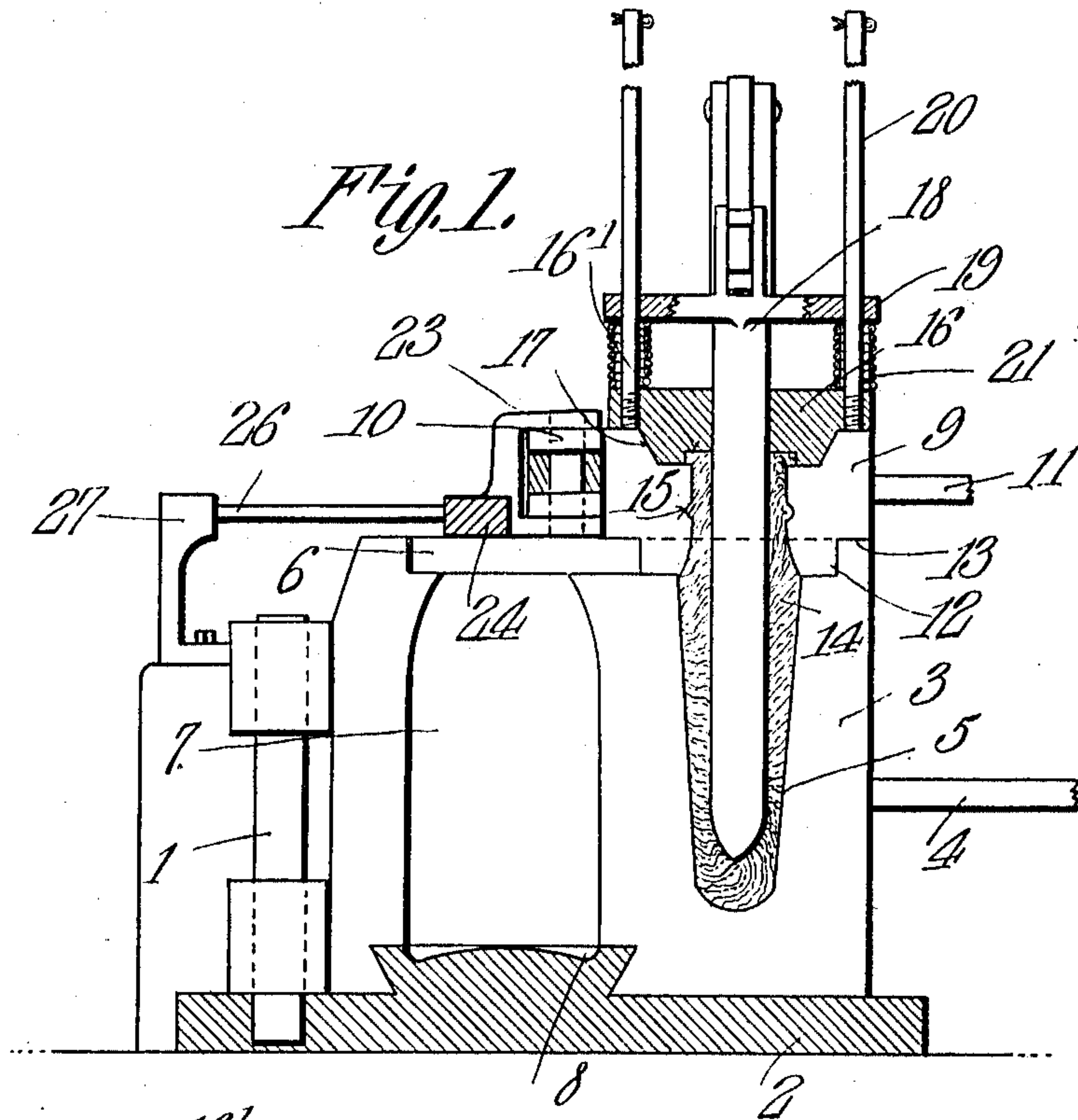
G. C. DAGER.

MOLD.

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970,426.

Patented Sept. 13, 1910



Witnesses
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UNITED STATES PATENT OFFICE.

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MOLD.

970,426.

Specification of Letters Patent. Patented Sept. 13, 1910.

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To all whom it may concern:

Be it known that I, GEORGE C. DAGER, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented a new and useful Mold, of which the following is a specification.

This invention relates to improvements in molds for forming pressed and blown bottles, and the particular object of the invention is to provide a mold in which both the pressing and blowing operations may be performed.

A further object of the invention is to provide a neck ring which will be so constructed as to be capable of sliding upon and within a recess in the top of the mold to be brought into position over either the blank cavity or the blowing cavity whereby the formation of the bottle may be rapidly and easily accomplished.

The foregoing and such other incidental objects as will hereinafter appear are attained by the use of the device illustrated in the accompanying drawings, and the invention consists in certain novel features of the same as will be hereinafter first fully described and then particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a mold embodying my invention arranged to press the glass and shape the bottle necks. Fig. 2 is a similar view showing the apparatus arranged for the blowing operation. Fig. 3 is a plan view of the neck ring and its support.

In carrying out my invention, I employ a mold which is constructed of two members hinged together in the usual manner by means of a hinge pin 1 and adapted to stand vertically upon a base plate 2, as shown, and as will be readily understood. One member or half of the mold is shown in the drawings and designated by the reference numeral 3 and it will be observed that the said member is provided with a forwardly projecting handle 4, the co-acting member being provided with a similar handle (not shown) whereby the two members may be swung upon their hinged connection so as to be caused to open or close in the usual manner. Near the forward ends of the mold members, I provide a blank cavity 5 the upper open end of which merges into an

elongated recess 6 formed in the top of the mold, while near the rear or hinged end of the mold I provide a blowing cavity 7 which is of the proper shape to give the desired form to the finished bottle and registers, when the mold is closed, with a shallow recess 8 in the base plate which is of the proper shape to give the desired form to the bottom of the bottle. A neck ring 9 is provided, formed in two members hinged together as indicated at 10, and having forwardly projecting handles 11 by means of which it may be opened or closed or moved forward or backward upon the upper end or side of the mold. This neck ring is provided on its under side with a depending off-set 12 whereby a shoulder 13 is formed, the said shoulder resting upon the upper edge of the mold and the off-set 12 fitting within the recess 6 so as to support the neck ring upon the mold and center it thereupon so as to prevent lateral movement of the same during the pressing or blowing operations. This neck ring is provided with a central cavity, the lower end of which is slightly flared, as indicated at 14, whereby it will register with the open upper ends of the cavities in the mold and will partly shape the neck of the bottle. This central cavity is, furthermore, provided with an annular groove 15 whereby the bead on the neck of the bottle will be formed.

The hinge 10 of the neck ring fits between lugs 23 formed at the top and bottom of a cross head 24 and is secured thereto by the hinge pin. The ends of the cross head are formed into sleeves 25 which slidably engage guide rods 26 extending forward at the opposite sides of the mold from brackets 27 secured to any convenient support fixed in rear of the hinge pin 1.

In the use of the invention, a batch of glass is dropped into the blank cavity 5 from the usual gathering rod and the neck ring is then brought into position over the said blank cavity with the central opening in the neck ring registering with the said cavity and the ring and the mold closed, as will be readily understood. A plunger ring 16 is then placed in position upon the neck ring and is seated in a recess 17 in the upper side of the same so as to be firmly held in its proper position, and a plunger 18 is then forced downward through the said plunger ring 16 and the neck ring into the blank

cavity so that a portion of the hot glass within the cavity will be forced up into the central opening of the neck ring and into a recess 16' in the bottom of the plunger ring and consequently form the bottle neck, the recess 16' shaping the mouth of the bottle and preventing the glass flowing out of the neck ring. This plunger may be depressed by any convenient mechanism and I have shown it as being operated by an ordinary cam lever. On the upper end of the plunger is provided a cross bar 19 which fits upon standards 20 rising from the plunger ring and held normally elevated by springs 21 coiled around the standards 20 between the cross bar 19 and the ring 16, as shown and as will be readily understood. The glass within the blank cavity having been pressed to the desired extent, the plunger is withdrawn and the plunger ring is removed after which the mold is opened so as to remove its members from around the hanging batch of glass, and the neck ring is then slid backward in the elongated recess 6 so as to engage the rear wall thereof and rest upon the upper side of the mold at the rear end of the same with the batch of glass depending from its under side within the blowing cavity of the mold. The members of the mold are then again closed around the glass so as to inclose the same within the blowing cavity and a blowing head or ring 22 is seated over the upper recess 17 in the neck ring after which compressed air is admitted through the said blowing ring or head into the mold so as to act upon the interior of the batch of hot glass and force the same against the sides of the blowing cavity and thereby finish the bottle. The mold and the neck ring may be then removed from around the bottle.

It will be observed that I have provided an exceedingly simple device by which the formation of the bottle may be expeditiously accomplished without the necessity of employing a large number of molds and without liability of the bottles being damaged by reason of the glass cooling before the bottle is finished. The neck ring is supported upon the mold so that it will not shift laterally out of alinement with the

cavity over which it is placed. A portion of the shoulder of the bottle will be shaped in the neck ring and consequently the shoulder will be made somewhat thicker and therefore stronger than in the bottles as generally made by the apparatus and methods heretofore known.

Having thus described my invention, what I claim is:

1. The combination with a mold comprising a base, a hinge pin rising therefrom, and two members pivoted on said pin and when brought together completing a blowing cavity near the pin, a blank cavity remote therefrom, and an elongated recess in their upper ends extending over both cavities; of a neck ring in two members having depending off-sets adapted when they are brought together to fit laterally within said recess so that the ring can be slid longitudinally therein, a pivot between said members, and means for guiding the pivot parallel with the length of the recess.

2. The combination with a mold comprising a base, a hinge pin rising therefrom, and two members pivoted on said pin and when brought together completing a blowing cavity near the pin, a blank cavity remote therefrom, and an elongated recess in their upper ends extending over both cavities; of a neck ring in two members having depending off-sets adapted when they are brought together to fit laterally within said recess so that the ring can be slid longitudinally therein, a pivot between said members, and means for guiding the pivot parallel with the length of the recess, said means comprising a cross head having lugs engaging said pivot and parallel sleeves at its extremities, guide rods on which said sleeves slide, and brackets supporting the rods and fixed at a point in rear of said hinge pin between the mold members.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE C. DAGER.

Witnesses:

ONA B. SUTHERLAND,
T. H. SUTHERLAND.