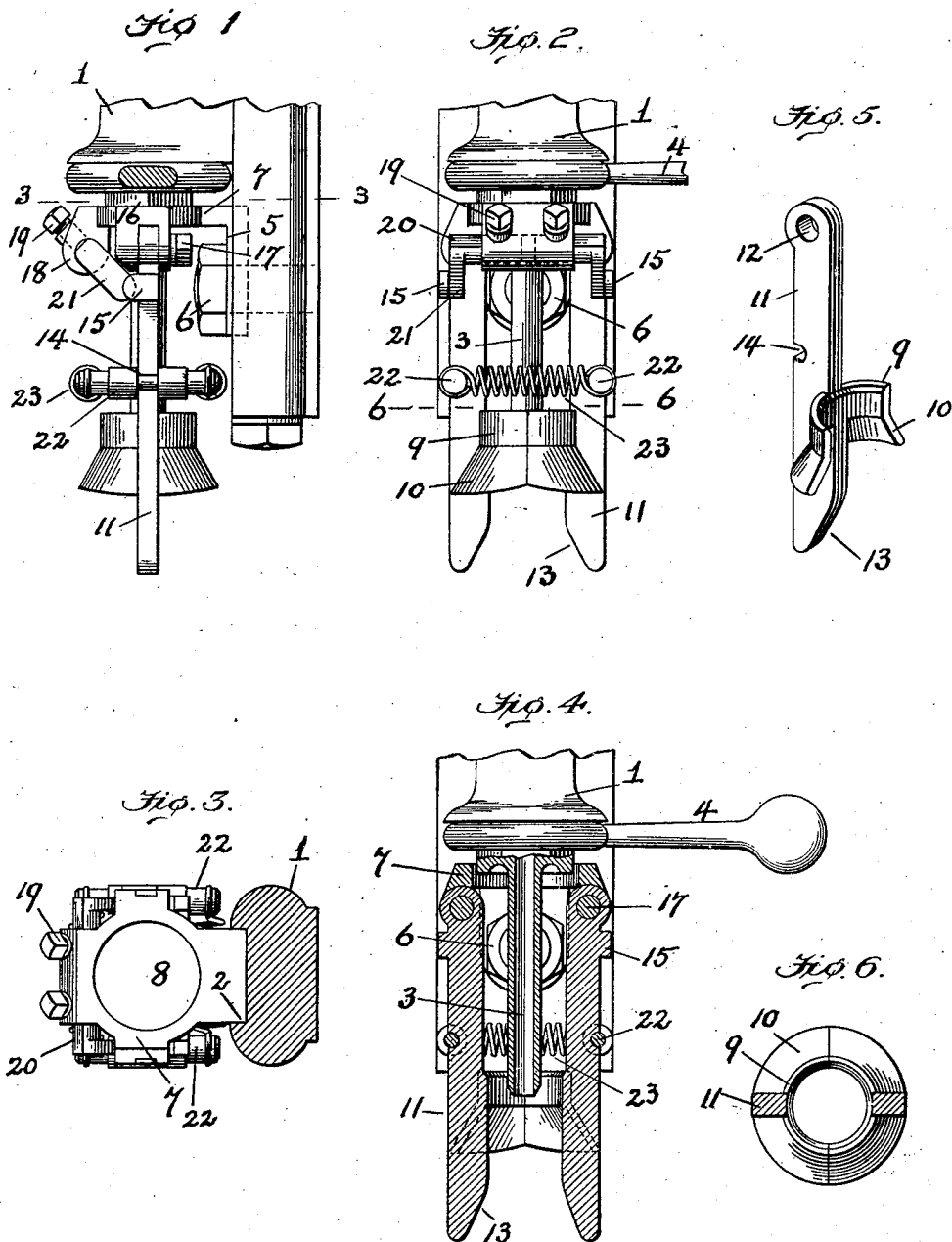


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BOTTLE GUIDE FOR BOTTLE FILLING MACHINES.
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UNITED STATES PATENT OFFICE.

ANDREW F. ZELLER, OF BALTIMORE, MARYLAND.

BOTTLE-GUIDE FOR BOTTLE-FILLING MACHINES.

933,518.

Specification of Letters Patent.

Patented Sept. 7, 1909.

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To all whom it may concern:

Be it known that I, ANDREW F. ZELLER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Guides for Bottle-Filling Machines, of which the following is a specification.

This invention relates to a bottle guide for use in machines for filling liquids into bottles and for applying caps.

In bottling machines which first fill the bottle with liquid and then apply to the bottle a cap or closure, it is usual to employ a head having a filling tube which enters the mouth of the bottle, and also a cap-applying device which seals the bottle after it has been filled. A table or seat on which the empty bottle is placed in position so as to receive the filling tube is also employed, and in addition to these parts means are employed to impart a vertical reciprocating motion either to the head or to the seat in order to bring the filling-tube and bottle-mouth into filling relation.

The object of my invention is to provide for this type of bottling machine, a guide to be attached to the filling head, and which shall control the heads and mouths of the bottles at the time of the movement that brings the filling-tube respectively into filling relation.

The invention is illustrated in the accompanying drawing in which,—

Figure 1 is a side view of my bottle-guide attached to the filling head of a machine. Fig. 2 is a front view of the bottle-guide and filling-head of a machine. Fig. 3 is a top view of the guide and a horizontal section view on the line 3—3 of Fig. 1 of the head-part of the machine. Fig. 4 shows a vertical section of the guide. Fig. 5 is a perspective view of one of the jointed arms that carries a guide-jaw and separated from the other parts of the guide. Fig. 6 is a horizontal section of the guide on the line 6—6 of Fig. 2.

In order that the application of the bottle-guide to the machine may be understood a portion of the filling-head is shown.

The numeral, 1, designates a part of the filling-head of the machine which is provided with a groove, 2; 3, designates the pendent filling-tube that is to enter the mouth of the bottle, and, 4, a hand-lever that controls the flow of the liquid whatever

it may be. The parts just named belong to the machine.

The guide device, which is the subject of the present invention, is intended to control or direct the mouth of the empty bottle so that the pendent filling tube, 3, will enter the mouth and be properly centered therein. The bottle-guide is attached to the head of the machine by a right-angled bracket; the vertical arm, 5, of this bracket fits in the groove, 2, on the filling-head and is adjustable thereon up or down and is held in fixed position by a bolt and nut, 6. The horizontal head, 7, of the bracket has an opening, 8, in the vertical direction that is circular. At opposite sides of the horizontal head are two ears, 16, which serve a purpose to be presently described. The guide-jaws are each semi-circular, and each consists of a half-ring, 9, and an inverted half-funnel, 10, at the under side of the half-ring. When the two guide-jaws are together as seen in Figs. 2 and 6, they form a circular ring which has at its lower side a flaring or funnel-shaped mouth. Each guide-jaw is attached to a pendent arm, 11, whose upper end has a pivot-hole, 12, and whose lower end projects below the guide-jaw and has one side slanted or beveled to its extremity as at, 13. Intermediate of the upper and lower ends the pendent arm on its outer edge has a notch, 14. The two pendent arms are made "rights and lefts," respectively, each arm having near the pivot hole and at its outer edge a lateral lug, 15, and the lugs of the two arms project in the same direction. The upper-end of each pendent arm, 11, fits between the two ears, 16, already mentioned on the horizontal part, 7, of the bracket, and a pivot-bolt, 17, on the ears fits in the pivot hole, 12, in the end of the pendent arm. The horizontal part of the bracket has two pair of ears, 16,—one pair at each of two opposite sides. This construction allows the two arms, which hang down at opposite sides of the head, to swing toward and away from each other.

The horizontal head, 7, of the supporting bracket has four sides (see Fig. 3); to one side the vertical arm, 5, is attached and at the opposite side is a bearing, 18, which projects downward a little and has a horizontal bore extending through it; two set-screws, 19, are in this bearing and the ends of the screws enter said bore and are in position to impinge against the "stop" devices, 20,

therein. Each stop device comprises a right-angled arm; one prong, 20, of this arm enters the said bore in the bearing, 18, and is adjustable therein, and is held by one of the 5 set-screws, 19. The other end, 21, of the right-angled arm projects and inclines downward to a position where it will be contacted by the lateral lug, 15, hereinbefore mentioned, on the pendent arm. This con- 10 tact will stop the pivoted arm, 11, from swinging inward. These stop parts serve to insure that the pivoted arms, 11, with the guide jaws attached, will not swing inward toward the pendent filling tube, 3, which 15 has position between the two arms.

With each pendent arm, 11, is a cross-bar, 22, that fits in the notch, 14, on the outer edge of the arm; the ends of the said two 20 cross-bars, 22, are connected by spiral springs, 23, as shown, and the function of these springs is to draw the two arms, 11, and their guide-jaws toward each other, but to permit either one, or both arms, to be moved in a direction away from the filling 25 tube, 3.

In operation, a bottle is to be placed on the seat (not shown) of a liquid filling machine and with the mouth of the bottle approximately directly under the guide-device. 30 When the vertically moving head, 1, of the machine which carries the filling tube, 3, and the guide-device, moves downward, the flared or beveled ends, 13, of the two pivoted arms will receive the mouth of the bottle 35 between them, and a further movement down will cause the half-funnels, 10, to act on the

bottle-mouth and if the latter is not in accurate position for the filling tube, 3, to enter the mouth, said guide parts will move the mouth and govern it until it takes the 40 accurate position.

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

1. A bottle-guide for bottle-filling ma- 45 chines comprising a horizontal head having a side bearing, 18, provided with set-screws, 19; two vertical arms whose upper ends are pivoted to said head and whose lower extremities have a beveled side, 13; two stop- 50 devices, 20, each projecting from an opposite side of said bearing and adjustable therein and in contact with said pivoted arms; and means to cause said arms to press toward each other. 55

2. A bottle-guide for bottle-filling machines having a pendent filling tube, comprising a horizontal head; two arms pivoted to the head and hanging pendent therefrom one at each side of the filling tube and each 60 arm provided with a lateral lug; and two stop devices attached to the horizontal head and projecting down to a position where each will be contacted by one of the said lateral lugs. 65

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW F. ZELLER.

Witnesses:

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