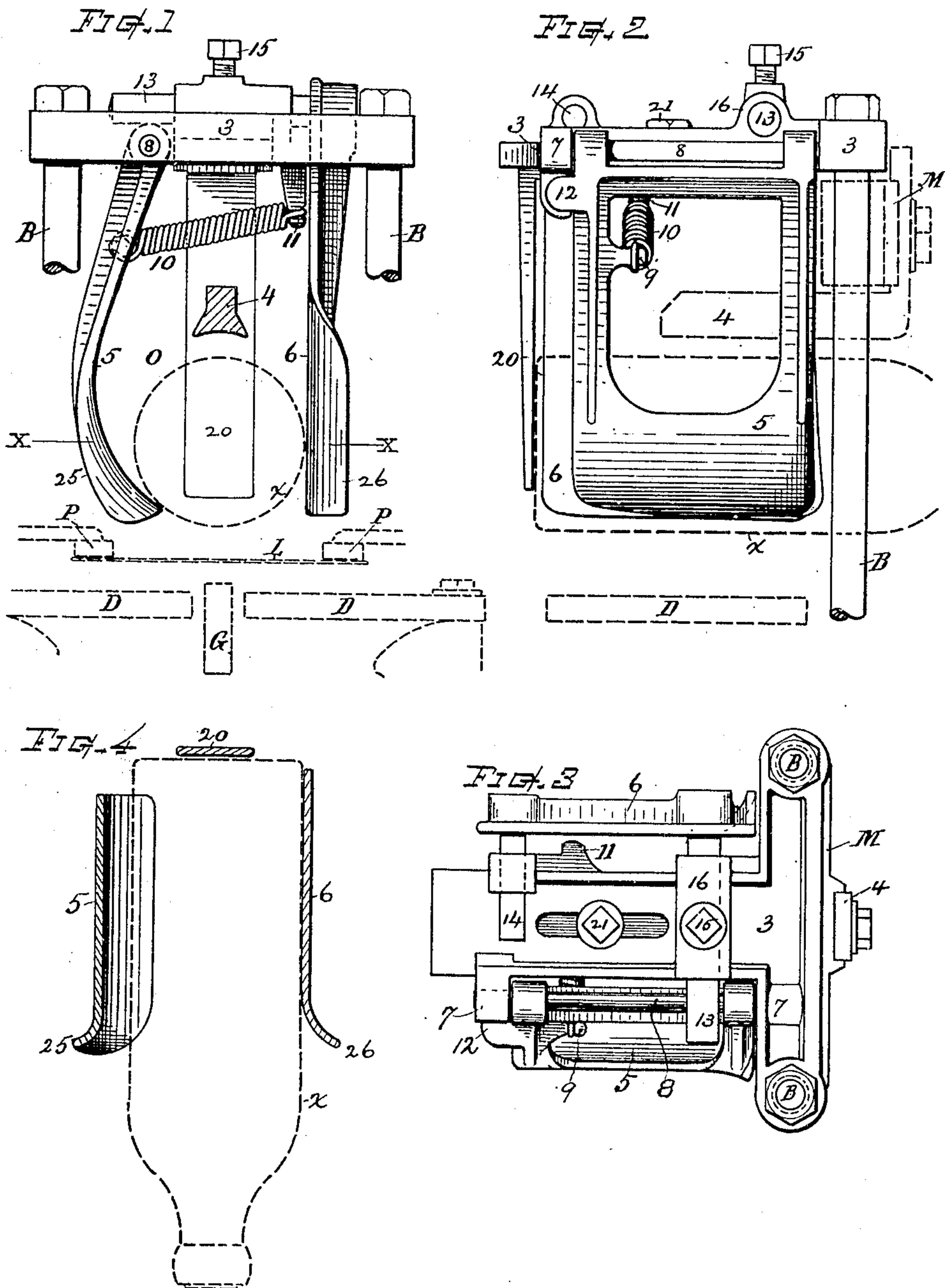


No. 871,794.

PATENTED NOV. 26, 1907.

H. GATES.  
BOTTLE GUIDE FOR LABELING MACHINES.

APPLICATION FILED APR. 24, 1903.



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# UNITED STATES PATENT OFFICE.

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## BOTTLE-GUIDE FOR LABELING-MACHINES.

No. 871,794.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed April 24, 1903. Serial No. 154,181.

*To all whom it may concern:*

Be it known that I, HORATIO GATES, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Bottle-Guides for Labeling-Machines, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The prime object of this invention is to provide an efficient and practically convenient receiving and guiding mechanism, for use in that class of labeling machines wherein the bottle or other article to be labeled is introduced and then passed between suitable wiping-on devices by means of a pushing appliance, the said improved mechanism being designed for properly centering and squaring the bottle in its alinement with the presented label, and for guiding it towards the wipers in a straight and true relation thereto without any especial care and attention on the part of the attendant, beyond his mere introduction of the bottle into the receiving space.

Another object is to provide a bottle guide of the character described, with means for readily effecting an adjustment of the guiding devices for operation with different sizes of bottles or articles to be labeled.

These objects I attain by the mechanism illustrated in the accompanying drawings, wherein

Figure 1 represents a front view of my improved mechanism, with dotted lines indicating the relation of adjacent parts of a labeling-machine with which it is employed. Fig. 2 is a side view; Fig. 3 a top plan view; and Fig. 4 a horizontal section of the guiding jaws at line X X on Fig. 1.

In accordance with my invention the bottle-guide comprises a pair of depending members or jaws, one of which has an approximately straight or vertical guiding face, and is rigidly supported at a stationary position, while the other is curved or turned inward at its lower end and is hingedly supported above on an axis approximately parallel with the plane of the straight jaw, so that said curved jaw can swing laterally to permit the bottle, or article to be labeled, to pass out at the ends of the jaws. A spring is combined with said swinging jaw to draw

its free end towards said stationary jaw with a yieldable pressure; a suitable stop being provided for arresting its inward swing movement at the desired normal closed position. Said jaws are arranged for receiving the bottle within their intervening space above the inwardly turned end of the swing-jaw, and as the bottle comes to rest between the convergent and straight jaw faces, it is thereby caused to assume proper position to receive the label and to be passed to the wiping-on devices, as more fully hereinafter explained.

Referring to the drawings, the part indicated by the numeral 3 represents a portion of the machine frame, or a head-piece supported on the top ends of the upright rods B that stand in the front of a labeling machine for guiding the reciprocating head M which carries the bottle-pushing brace 4, or means whereby the bottle is forced down through the wipers.

The guiding jaws 5 and 6 are attached to and depend from the head-frame 3 in the manner illustrated. The jaw 5 is flexibly attached to said head-frame by suitable ear-lugs 7 and a hinging pin or rod 8 disposed therein parallel with the central vertical plane of the machine, and with the jaw faces; so that the lower end of said jaw 5 can swing towards and from the jaw 6. A contractile spring 10 connects a lug 9 on said jaw with a projection 11 formed on the head-frame, which spring acts to draw the jaw inward with the required degree of force, and a stop 12 is provided for arresting the inward swing at the desired position. The stationary jaw 6 is made with a straight vertical guiding face, and is best supported on the head frame 3 by transverse rods, 13 and 14, that are fitted to slide in bearings 16 formed on the head frame, in a manner to afford rigid support and permit lateral adjustment for the jaw 6, and a holding device or set screw 15 is provided to retain the parts at adjusted position. The face of the jaw 6 stands in a plane that coincides with one side of the bottle when the latter is in proper position for advancement to the label and wipers. The guiding face of said jaw is adapted to afford a side support against which the bottle will lie straight with the axis of the labeling machine, while the jaw 5 is adapted to press the bottle against said guide face in a manner to prevent its rocking thereon while lying between the jaws, as in a cradle, and when



passing down between the ends of the guide jaws under the influence of the pusher. The width of the jaw 6 is made sufficient to afford a rest for the bottle that will cause it to readily assume a position parallel therewith, and to keep it steady in such parallel relation; while the jaw 5 may be of any convenient width for directing and steadying the bottle against the straight jaw face. The jaws are best made with outwardly rounded flanges 25 and 26 at their front edges, so that there will be less liability of striking the bottle on the jaw; and if contacting therewith will readily glide into the intermediate receiving space.

For labeling bottles of very small diameter, the jaw 6 may be inwardly offset between its guide face and its attaching end, in order to bring the straight or vertical guiding face of said jaw nearer to the central axis line of the machine, than could otherwise be done, on account of the width of the support or head-frame; and so that the vertical face will stand at the side-line of such small sized bottles for guiding the same, as above described.

The position of the label L as presented by the pasting pickers P, is indicated by dotted lines; also the wipers at D, and the center-grip device at G, which parts can be of any suitable construction, as may also the pusher-head M and means for imparting motion thereto.

The stop or gage 20, against which the end of the bottle is placed, is adjustably secured to the head frame by the bolt 21, and depends therefrom at the back of the receiving space O between the jaw faces. The position of the bottle or other article to be labeled is shown by dotted lines x.

In the operation, the bottle is introduced endwise into the space O; its end is placed against the gage 20, and it is then allowed to fall into the convergent space between the jaw faces. The curve of the jaw 5 causes it to lie close against the straight face of the jaw 6, which latter regulates its longitudinal alinement and centrality, and the bottle is thus suspended squarely above the label L which is held by the pasting pickers P. When the plunger or push-brace 4 is depressed the bottle is carried along the straight jaw-face, while the jaw 5 swings outward, permitting the bottle to pass down out of the guides to the wipers D, the swinging jaw meanwhile keeping a yielding pressure against it, due to the tension of the spring 10. The straight jaw face being square with the delivery position of the labels, there is no liability of the labels being put on out of true; and the attendant has merely to thrust the bottle into the receiving space and let the guide jaws take care of it as the pusher descends, no care being required on his part to get the bottle parallel with the pusher, or

straight with the label, since the bottle automatically assumes the correct position by falling between the straight and inwardly curved guide faces. With this guide mechanism the attendant can conveniently shift hands on the bottle as it is going through the labeling process; using one hand for placing it in the guide-jaws, and the other hand for removing it from below the wipers; the shifting hands being easily effected while the bottle is cradled in the jaws. (As per dotted line Fig. 1.)

For larger or smaller sized bottles the straight jaw 6 is adjusted, by loosening the screw 15 and sliding the rods 13 and 14 in their bearings, to bring the vertical face of the jaw to a distance from the central vertical plane approximately equal to one half the diameter of a bottle of the style desired to be labeled.

In some instances, if desired, both of the guiding jaws may be connected to the overhanging head-frame 3 by hinging lugs, similar to the jaw 5, and each provided with means for yielding and resilient action.

I am aware that other changes may be made in the construction or form of my invention, by those skilled in the art, without departing from the scope thereof as expressed in the claims; hence I do not wish to be limited to the particular details of construction herein shown and described.

I claim as my invention and desire to secure by Letters Patent,

1. A bottle guide for labeling machines, comprising a pair of depending plate jaws, supported at their upper ends above the position of the bottle and bottle-forcing means, their inner faces adapted for receiving and supporting the bottle, and for directing its presentation to the label delivering devices, means for forcing the bottle from between said jaws, and means for permitting a yielding motion thereof as the bottle passes from the ends of the jaws.

2. The combination, with means for presenting and affixing a label, and a bottle-pushing device; of bottle-guiding jaws depending from an overhead support, one of said jaws having a straight inner face, and the other a curved face between which a bottle can lie suspended parallel with said straight face.

3. A bottle guide independent of the paste-applying devices, and having a directing jaw face, a swinging jaw with an inwardly curved face, a stationary supporting-head on which said jaw is pivoted, and means for yieldingly pressing said swinging jaw toward the bottle.

4. The combination of a stationary head-frame having means for adjustably supporting an end-gage and provided with hinging lugs, an end-gage supported on said head-frame, bottle guides depending from said head-frame and hinging lugs respectively,



their lower ends adapted for embracing the sides of the bottle, and means for affording yielding resilient action of said guide.

5. In a labeling machine guide, the combination, of a vertical faced stationary guide-jaw, and an inwardly curved swinging jaw between which the bottle can lie supported in proper alined relation, and means for yieldably pressing said curved jaw inward towards the stationary guide jaw.

6. A guide for labeling machines, comprising a pair of receiving and guiding jaws, one being a stationary-supported straight-faced jaw, the other a yieldingly-supported jaw inwardly curved at its lower or delivery end; and a spring connected therewith for nominally swinging said curved jaw towards the stationary jaw.

7. A bottle receiving guide for labeling machines, comprising a depending straight faced jaw, means for rigidly supporting the upper end of said jaw, a depending inwardly curved jaw, means for flexibly supporting the upper end of said curved jaw to swing towards and from the fixed jaw, a contractile spring connected therewith for drawing it inward and a limiting stop for the inward swing movement.

8. In a bottle guide for labeling machines, the head-frame, a straight faced directing jaw supported on said head-frame, a swinging opposite jaw hinged to said head-frame, a spring connected with said swinging jaw, and means for effecting lateral adjustment of said directing jaw upon the head-frame, substantially as set forth.

9. In a labeling machine, in combination with a set of wipers, label-delivering devices, and means for pushing a bottle through the space between said wipers; of a bottle-guide comprising a rigid directing member adapted for guiding against one side of the bottle, and a yielding opposing member that sustains the bottle against said directing member, while permitting its ejection from the guide by action of said pushing means.

10. In combination with wiper-devices and means for pasting and presenting a label above said wipers, of a bottle guide comprising a stationary side-guiding jaw, and a swinging side pressure guiding jaw hinged at its upper end on an axis parallel with the plane of said stationary jaw, means for closing said swinging jaw towards its mate, an end gage, and a pushing mechanism for passing the bottle from the guide-jaws through the wipers.

11. The combination, of the head-frame having transverse bearings, and hinging lugs thereon, the straight faced guide jaw provided at its upper end with supporting rods fitted to slide in said bearings, a holding device or set-

screw for rigidly retaining the parts at adjusted position, an opposite inwardly curved jaw hinged at its upper end in said hinging lugs, a spring for yieldingly closing said hinged jaw towards the stationary jaw, and a stop for the inward movement of said swinging jaw, and means for pushing a bottle or similar article from between said jaws by a movement parallel with the face plane of said straight jaw.

12. A bottle-guiding device for the purposes specified, comprising a constant overhead support, a depending guide member carried by said support and having an alining face that coacts with the side of the bottle and positions the bottle in suitable relation to the label for affixment thereon, means for temporarily keeping the bottle against said alining face, and a reciprocating pusher whereby the bottle is impelled along the alining face and from the guide onto the label.

13. In a labeling machine, a bottle-guide comprising a stationary guiding member, its face affording a vertically straight side support for the cylindrical exterior of the bottle and disposed approximately parallel with the axial line of the bottle and the plane of its movement towards the position of the label, and means for maintaining a sidewise contact of the bottle with the guide-face during the movement of the bottle to the position where the label is presented for affixment thereto.

14. A bottle-guide having a straight guiding-surface approximately parallel with the axial line of the bottle and the plane of its movement towards the label, and means for keeping the side of the bottle in contact with said guiding surface while the bottle is moved to the position of affixment of the label; in combination with a label-gripping device that clamps the label to the bottle before its discharge from said guiding surface.

15. In combination, with means for pasting and presenting a label, a reciprocating bottle-pushing device adapted for moving a bottle sidewise across the plane of said presented label, a depending bottle-guide having its guiding face perpendicular to the plane of the label and approximately parallel to the axial line of the bottle, means for keeping the bottle in sidewise contact against the guide surface, and a label-gripping device that clamps the label to the bottle surface while the bottle is controlled by said guide.

Witness my hand this 17th day of April 1903.

HORATIO GATES.

Witnesses:

CHAS. H. BURLEIGH,  
EUGENE A. BEMIS.