

H. STAKE.

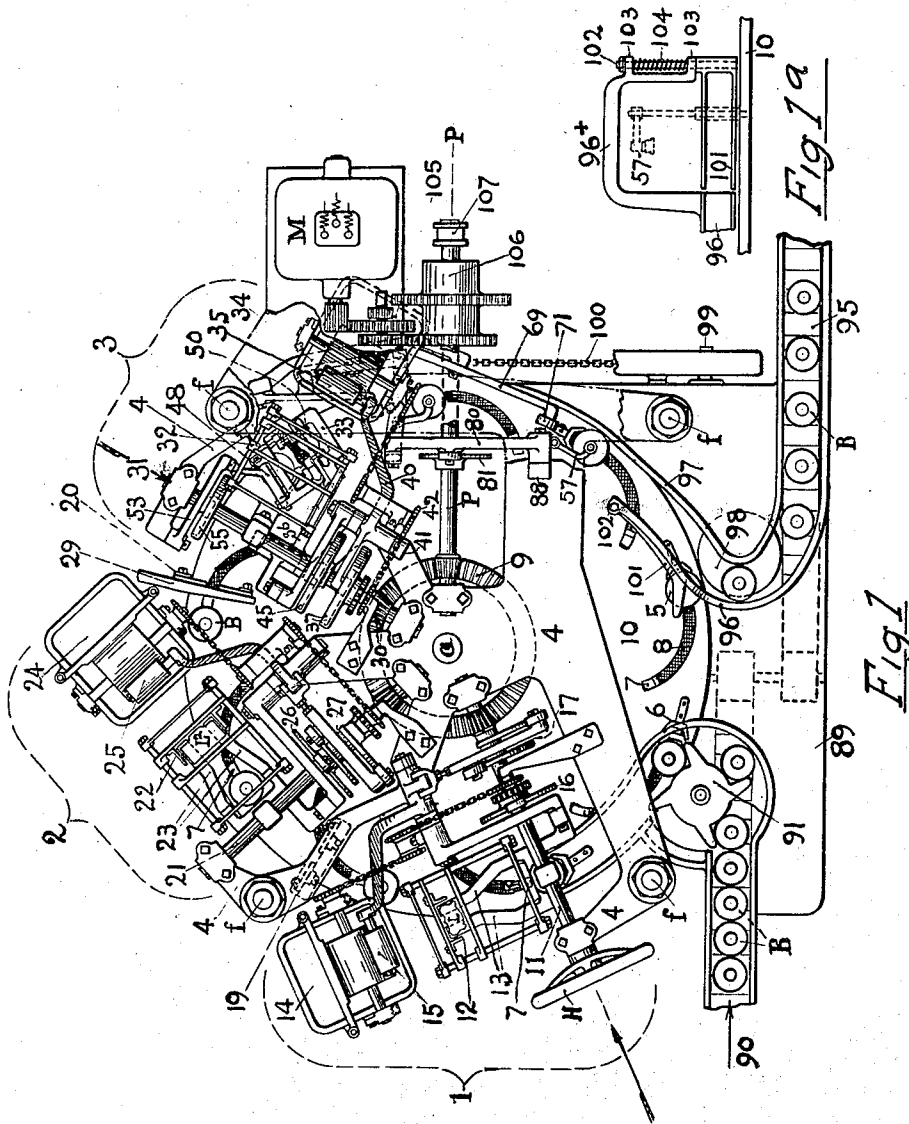
MECHANISM FOR CONTINUOUS LABELING AND AFFIXING SEAL STRIPS ON BOTTLES.

APPLICATION FILED MAR. 6, 1917.

1,246,006.

Patented Nov. 6, 1917.

6 SHEETS—SHEET 1.



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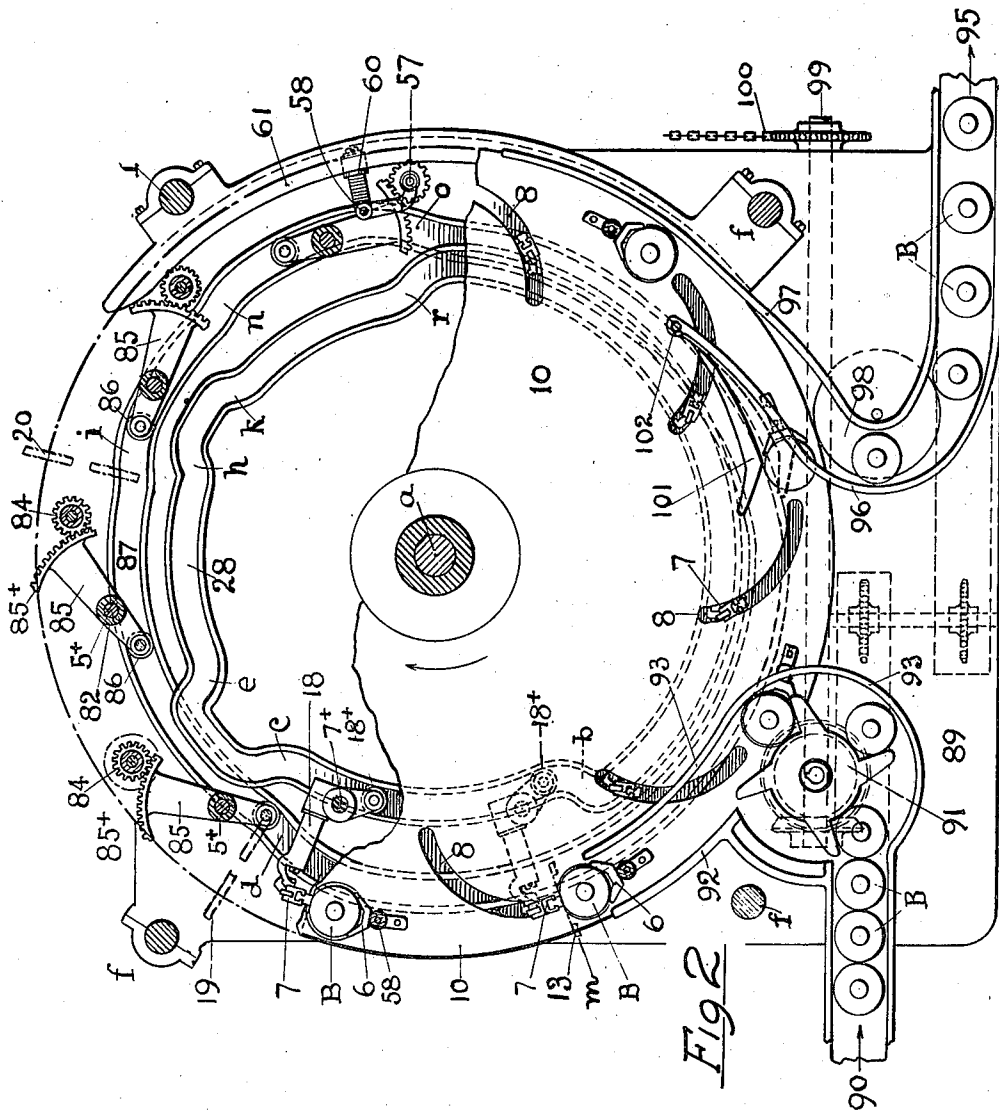
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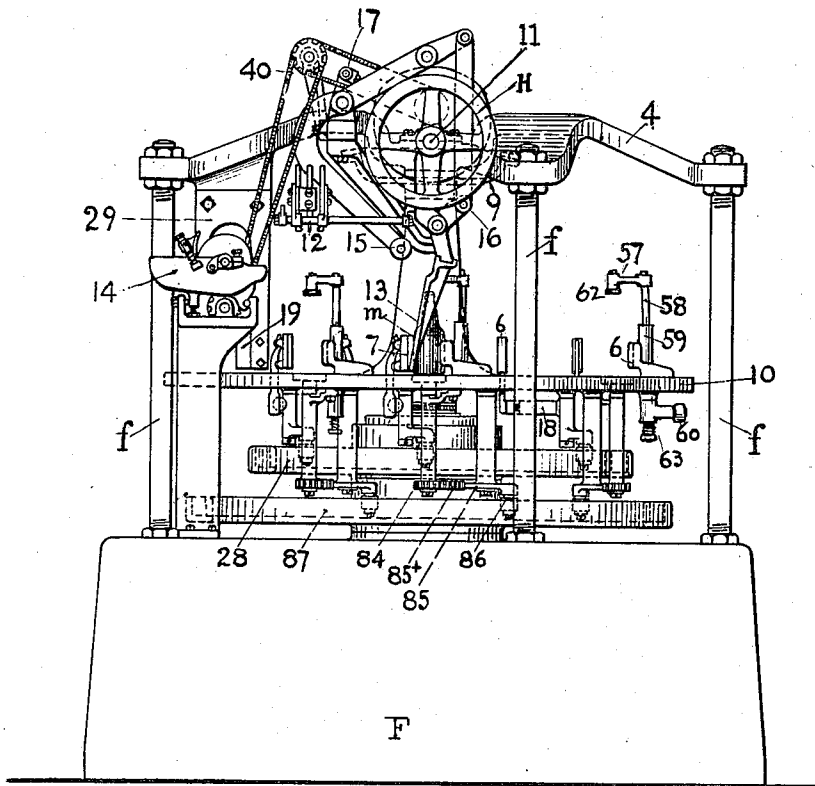


Fig. 3.

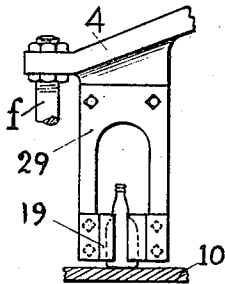


Fig. 4

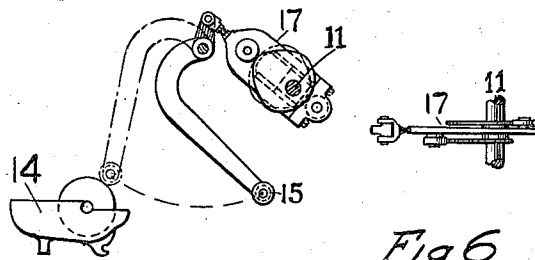


Fig. 5

Fig. 6.

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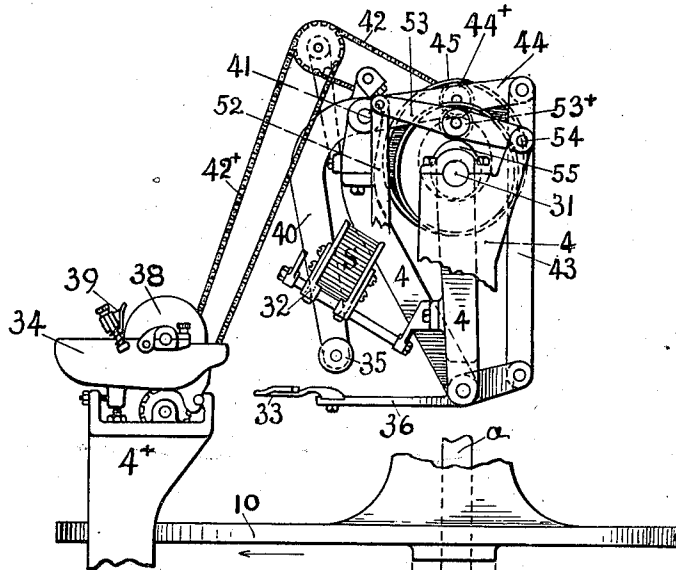


Fig. 7.

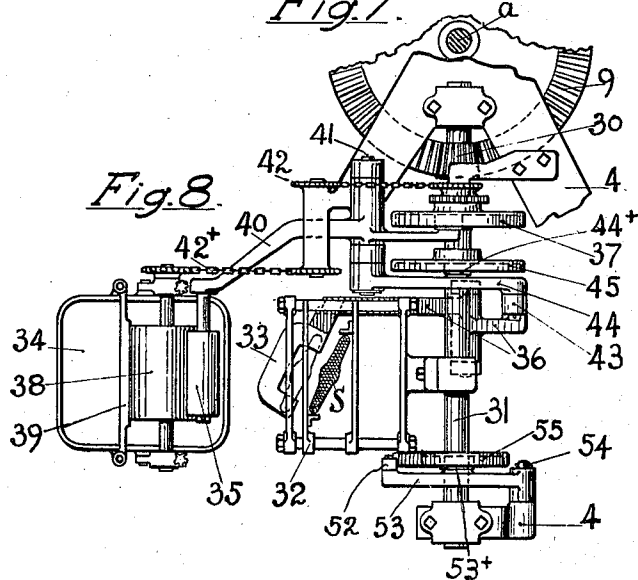


Fig. 8.

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6 SHEETS—SHEET 5.

Fig. 9^b.

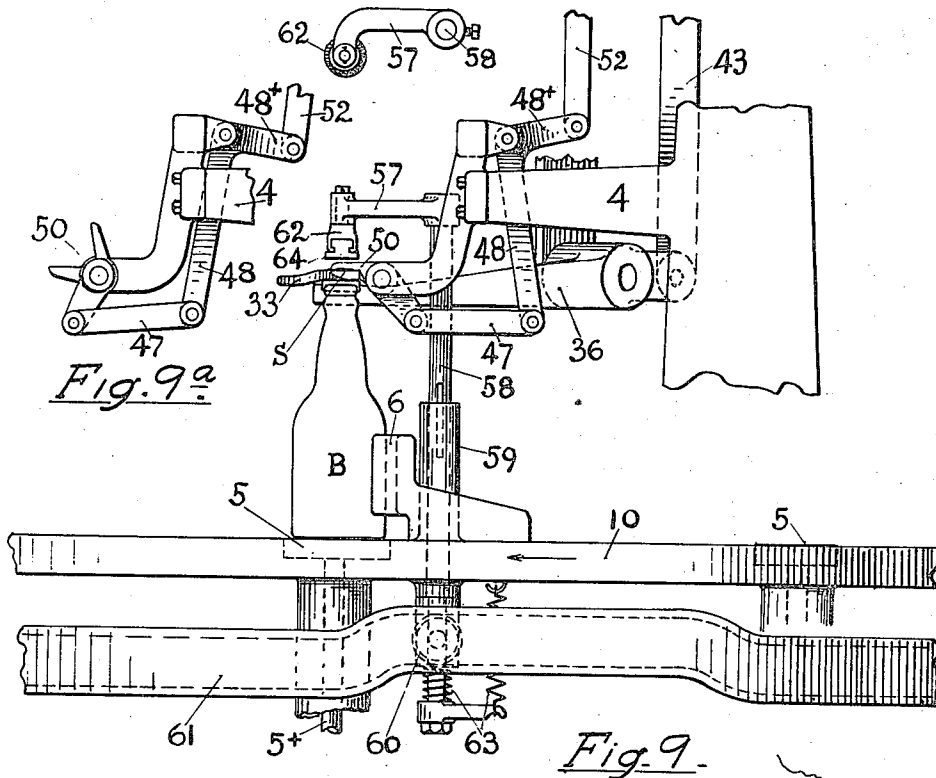


Fig. 9.

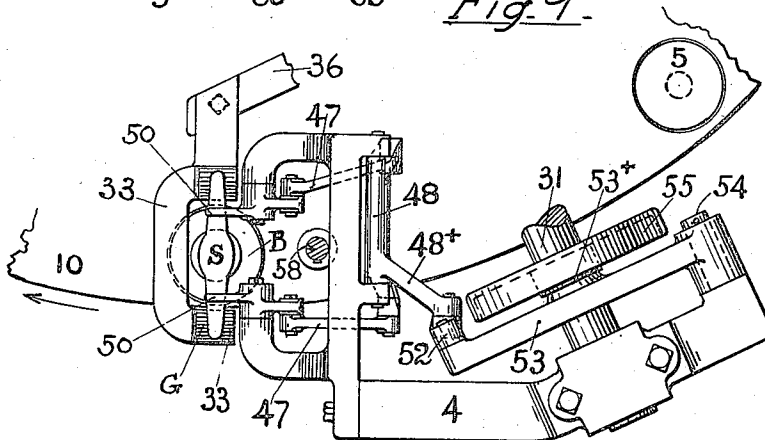


Fig. 10.

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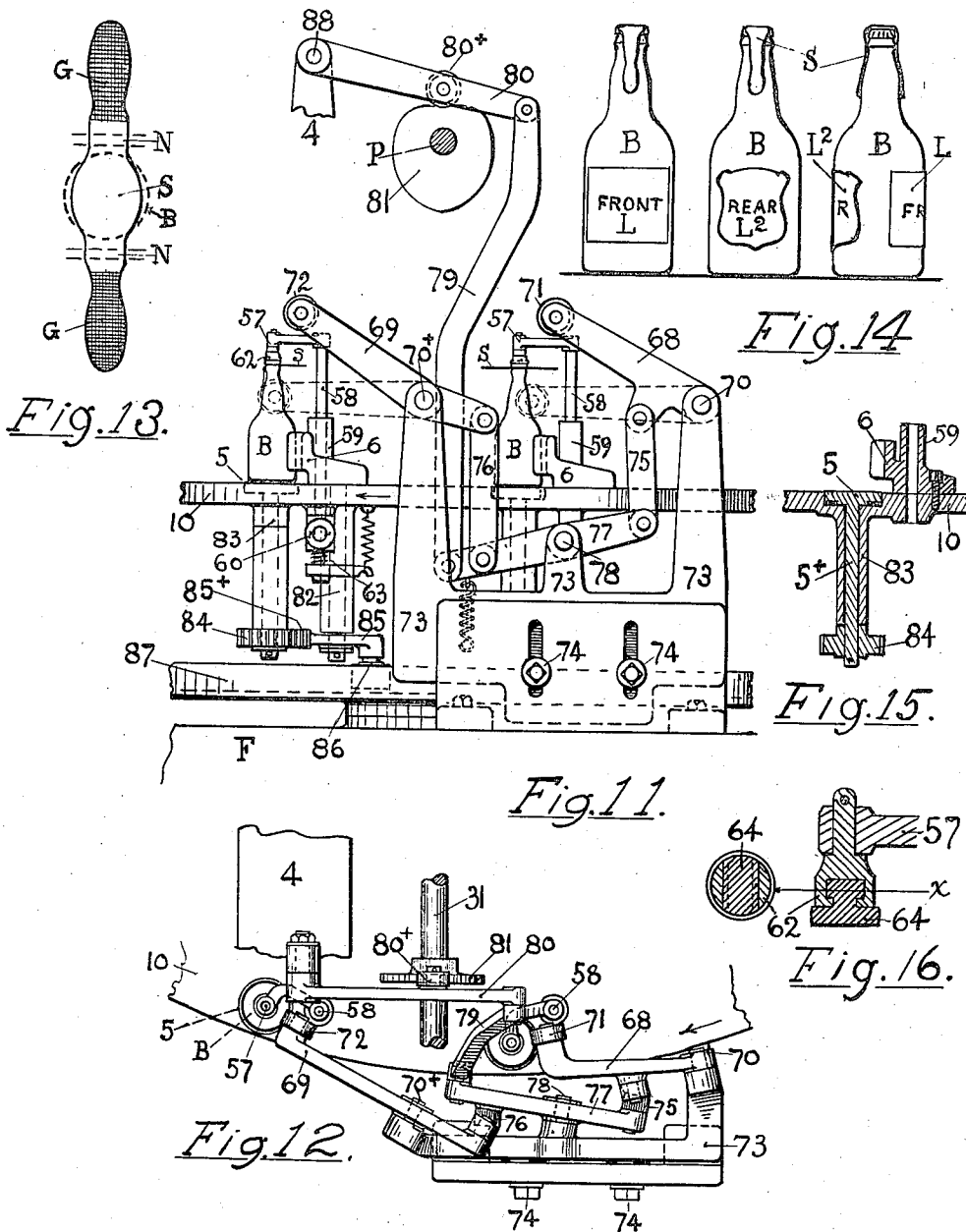
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6 SHEETS—SHEET 6.



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UNITED STATES PATENT OFFICE.

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MECHANISM FOR CONTINUOUS LABELING AND AFFIXING SEAL-STRIPS ON BOTTLES.

1,246,006.

Specification of Letters Patent.

Patented Nov. 6, 1917.

Application filed March 6, 1917. Serial No. 152,468.

To all whom it may concern:

Be it known that HERMAN STAKE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, has invented certain new and useful Improvements in Mechanism for Continuous Labeling and Affixing Seal-Strips on Bottles, of which the following is a specification.

My present invention relates to a novel construction and organization, in automatic labeling machines, of means for synchronally, and in continuous action, applying labels to different or opposite sides of bottles or the like, and to the combination therewith of means for affixing a seal-strip or labels over the top of the bottle; also to the adaptation and mode of operation of the mechanism in its various parts. The prime object of the invention is to provide an efficient, continuously operative machine comprising means for feeding or receiving bottles or the like from a delivering conveyer, means for rapidly applying front and rear labels and seal-strip labels thereto and successively discharging the bottles in full labeled condition.

Another object is to provide a seal-strip affixing mechanism, including a label or strip-supply, and pickers for gumming and presenting the seal-strip; of means for taking said seal-strip from the gumming pickers and supporting it in proper relation to the path of the bottles, and at position to be released and secured to the advancing bottle.

Another object and feature of the invention is the provision, in combination with a moving carrier adapted for advancing the bottles and means for supplying, gumming and affixing labels at different stages in its course through the machine; of means for partially rotating the bottle between different stages while continuously advancing.

Minor objects and features of my invention will be disclosed in the following detailed description; the particular subject matter claimed being hereinafter definitely specified.

In the accompanying drawings, (six sheets,) which illustrate a practical embodiment of my invention, Figure 1 represents a top plan view of a bottle labeling machine organized and operating in accordance therewith; a portion of the top frame being omitted to reveal parts beneath. Fig. 1^a is a fragmentary view showing, in elevation, the swinging gate for the passage of the bottle-pushing rests and grip-devices through the guiding fender or guard. Fig. 2 is a plan view showing in part the top of the rotating carrier table, and in part the cam mechanism beneath the table. Fig. 3 is an elevation view of the primary label-affixing mechanism looking in the direction indicated by the arrow on Fig. 1 toward the end of its operator shaft. Fig. 4 is a separate detail view of a wiper-supporting arch. Fig. 5 is a detached side view of the gum-supply, transfer roll, and actuating cam therefor. Fig. 6 is a detail plan view of the actuating cam for the gum-transfer roll. Fig. 7 represents a fragmentary elevation view of the picker and gumming devices for seal-strips or head labels, looking in the direction indicated on Fig. 1 by the arrow located at the end of the shaft 31. Fig. 8 is a plan view of the devices shown in Fig. 7. Fig. 9 is a detail side view of the seal placing devices. Fig. 9^a represents the seal-seizing nippers opened. Fig. 9^b is a detached plan view of the top of the seal-grip device. Fig. 10 is a detail plan view of the seal-strip placing devices. Fig. 11 is a detail elevation of the seal-strip wiper mechanism. Fig. 12 is a plan view of the seal-strip-wiper mechanism. Fig. 13 represents the under face of a seal-strip label, indicating the portions to which gum is applied. Fig. 14 represents the front, rear and side views of a bottle as fully labeled by a single passage through the machine. Fig. 15 is a central vertical section of the rotatable bottle-supporting seat and a pushing rest, and Fig. 16 shows a central vertical section of the pivoting seal-grip face and a horizontal section of the same at line *x*.

In the embodiment of my invention as

illustrated in the drawings, the machine comprises a frame adapted for supporting the various working parts; a horizontally rotating table or bottle-carrier, preferably having an upwardly projecting body or hub which turns about a central axis, and is provided at its upper end with a horizontally arranged suitable sized bevel gear for the operative connection therewith of various parts of the mechanism, which comprise a primary label-affixing means, a secondary label-affixing means, and a seal-strip-affixing mechanism; together with wipers therefor and other devices, as more fully hereinafter described.

The carrier is provided, near its periphery, with a series of bottle-supporting seats disposed at regular intervals in circular order, each having means for its partial rotation, and the accompaniment of a laterally swinging grip-device, an upright pushing rest, and a top engaging presser or grip appliance. Means is also combined with the labeling mechanisms and rotating carrier for delivering and feeding bottles thereto automatically, and for discharging the same when labeled.

For a more detailed explanation of the essential features of my invention and the mode of operation thereof, as embodied in a machine for coactively affixing front and rear labels and seal-strips to bottles, reference is herein made to the several sheets of drawings; upon the various figures of which like reference characters denote like parts.

The main supporting frame may be of any appropriate form for accommodating the arrangement of the mechanisms. As shown, it consists of a foot or base portion F, upright standards *f* rigidly secured to said base, and an upper frame 4 rigidly secured to the standards, and comprising such brackets, ears and bearings as are suitable and necessary for supporting the acting parts in their organized relation.

Numeral 10 indicates the movable bottle-carrier, rotatable about a vertical axis or shaft *a* supported in the base F, with its upper end fitted in a bearing on the upper frame 4. A horizontally disposed beveled gear 9 is secured upon the upwardly projecting central body or hub of the carrier, which serves for the transmission of power and motion to the mechanisms which are disposed about it, and for receiving power from the driver shaft.

Above the carrier there is provided a plurality of horizontal shafts disposed in radial relation to the central vertical axis, each shaft having thereon a beveled pinion that meshes with the central gear upon the body of the rotating carrier. One of said shafts, P, is the driver shaft; and each of the others is an operating shaft for a given section or

portion of the machine, all of which receive their motion from the central gear 9, and act synchronously.

The proportional size of the pinions to that of the large gear 9 bears the same ratio that the spacings between the bottle stations on the carrier bear to the full circle of the carrier path; so that each of the ancillary mechanisms makes a full action while the carrier moves a distance of one space or section. In the present instance the carrier is shown with nine bottle stations or spacings thereon.

Numeral 5 indicates the bottle seats at the several intervals. Said seats are respectively rotatively fitted in recesses formed in the upper side of the carrier plate, with their top surface approximately flush with the surface of the carrier. Each bottle seat 5 is provided with a downwardly extended spindle or axis pintle 5* having connection with means beneath the carrier for partially rotating the seat, as more fully hereinafter described. Adjacent to each seat there is a pushing rest 6 fixed upon the carrier and adapted for centering and supporting a bottle standing upright upon the seat 5 in approximately concentric relation thereto. At the front of each seat 5, opposite the pushing rest 6, there is a curved slot 8 in which a laterally moving grip-device 7 is arranged to operate substantially as heretofore employed, and by which the delivered labels are temporarily held against the bottles when stripped from the pickers.

Numeral 1 indicates a primary set of label-affixing mechanism operated by the shaft 11; and 2 indicates a second set of label-affixing mechanism operated by the shaft 21. Said primary and secondary labeling mechanisms 1 and 2 are preferably of substantially similar construction, but are arranged in horizontally oblique relation to each other, so as to stand in proper relation in respect to the rotatable carrier. Each of said labeling mechanisms comprises a label-supply holder 12—22; gum-applying pickers 13—23, for taking labels from the holder and presenting the same to the bottles B, a gum-supply reservoir 14—24, having a gum-delivery roll therein; a swinging transfer-roll 15—25 for gumming the faces of the pickers; suitable means or connections 16—26 for imparting motion to the pickers; and cams or devices 17—27 for actuating the transfer roll for spreading gum, or other adhesive substance, upon the picker faces.

The construction and combination of the individual parts in a set of label-affixing mechanism of the character illustrated at 1 and 2, is described in prior Letters Patent No. 1,133,602, therefore I do not herein claim the particular arrangement of said mechanism in detail; but I include such set,

as a labeling means or element, in combination with other elements of my organized machine, as defined in the summary.

The laterally swinging grip-devices 7 correspond in number with the bottle seats 5, and are each supported by a swinging arm or lever 18, one of which is shown on Fig. 2. This lever is fulcrumed on a stud 7⁺ fixed in the under side of the carrier 10, and the rear arm of said lever is furnished with a stud-roller 18⁺ that runs in the groove of a stationary cam 28 by which the grip-devices are caused to move in the slots 8 to and from the bottles in a manner similar to those employed in the prior Letters Patent above referred to; but in the present instance the cam is formed with a series of offsets, as indicated on Fig. 2, for repeatedly applying and releasing the grip 7 at predetermined successive stages in the circuit of actions.

19 indicates a wiper means located adjacent to and for wiping on the labels placed by the primary set 1 of labeling mechanism; and 20 indicates a wiper means located adjacent to and for wiping on the labels placed by the second set 2 of labeling mechanism. Said wiper means may be constructed as shown in Fig. 4, to consist of a stationary arch 29 attached to the machine frame, and having flexible pads secured thereon, between which the bottle is passed by the movement of the carrier 10; or other approved forms of wipers can be employed at the positions indicated.

Suitably positioned in relation to the carrier 10 and labeling mechanisms 1 and 2, I provide mechanism 3 for presenting and affixing seal-strips or top-labels across the tops of bottles. The construction of parts and organization of said seal-strip affixing mechanism, and the combination thereof with other defined elements in a labeling machine, constitute important features of my invention. Numeral 31 indicates the shaft for actuating the seal-strip affixing devices. Said shaft is supported in bearings upon the upper frame 4, and in the present instance is operatively connected by the beveled pinion 30 with the gear 9 on the carrier body, whereby said shaft 31 and the several cams fixed thereon are rotated; the rotation being synchronous with the movement of the carrier a distance equal to the spacing or interval from one bottle-seat to the next in order. In the instance illustrated the speed ratio of the gears would be one to nine, there being nine bottle-seat stations upon the carrier.

Supported upon a member of the frame 4 there is a label-box 32 or holder for containing the supply of seal-strips S. (See Figs. 7 and 8.) The sides of said holder are preferably adjustable for accommodating different sizes of seal-strips. Below the holder 32

I provide a swinging arm or lever 36 carrying a picker 33, which is preferably made of an E or U form with gum-applying faces, approximately as shown in Figs. 8 and 10, that swings up into contact with the ends of the pack of seal-strips S on the holder 32, applying gum to the portions G (see Fig. 13) and then swings down to a position near the path of the bottles, but conveniently above the heads thereof.

A gum-supply box 34, containing a rotatable delivering roll 38, and gage device 39 is removably supported upon the frame, and a transfer roll 35 carried by a swinging lever 40 fulcrumed on the frame at 41 and actuated by a cam 37 upon the shaft 31, is arranged to pass across the face of the pickers for transferring a film of gum or other similar adhesive from the delivering roll 38 to said faces as the pickers swing upward toward the pack of seal-strips S. The gum-delivering roll is rotated by sprockets and chains 42, 42⁺ from the shaft 31.

The picker-lever 36 is connected by the pivotally attached bar 43 with a swinging arm 44 fulcrumed on the frame at 41 and having a stud-roll 44⁺ that engages with a cam 45 on the shaft 31, and by which the picker 33 is actuated.

Adjacent to the position where the seal-strip is presented by the pickers' above the head of the bottle, I provide pairs of nippers 50 (see Figs. 9 and 10) having narrow jaws for seizing the seal-strip S at positions between the picker ends and the head of the bottle. Such positions are indicated at N on Fig. 13. Said nippers are adapted for holding the seal-strip in position while the pickers are released therefrom and move away toward the supply holder 32. The lower jaws of the nippers are preferably made stationary, while their upper jaws are pivoted thereto in a manner to open, as indicated in Fig. 9^a, to admit the seal-strip brought down by the picker. Means for opening and closing said nippers 50 is combined therewith. For this there is shown in the present instance, a connecting link 47 for each movable jaw, pivotally attached to a dual armed rocker 48 having a projecting arm 48⁺ united by a link 52 to one end of a swinging bar 53, the other end of which is fulcrumed upon a pivot-stud 54 fixed in a stationary part of the frame 4; said bar being provided with a stud-roll 53⁺ that engages with a cam 55 fixed on the operating shaft 31, and shaped to give the proper time and movement for the action of the nippers.

A seal-grip device is provided for pressing the strip S upon the top of the bottle, and holding the same in place during the affixing operations. Said device preferably consists of an offset head-member 57 (see Figs. 9 and 9^b) attached to an upright rod or bar 58 ar-

ranged through a guide bearing 59 located upon the rotatable carrier adjacent to the bottle-supporting seat 5; the lower part of the rod being provided with a stud-roll 60 that engages with a stationary circumferential cam 61 beneath the carrier, said cam being shaped with rise and fall offsets for imparting and controlling the up and down movement of the rod 58 and seal-grip-member 57.

The head of the seal-grip device is furnished with a freely rotatable presser-member 62 preferably consisting of a vertically disposed stud journaled in the overhanging end of the head, and having a rubber or elastic face-pad 64 secured thereto, as best shown in Figs. 9 and 16. The rod 58 is splined, or otherwise fitted to prevent rotation in its bearing. A seal-grip device is provided upon the carrier 10 at each of the stations or bottle-seat positions. The seal-grip heads and rods 58 are arranged in approximate alinement with the path of the bottles, so as to pass between the right and left pairs of nippers 50 without interfering therewith. A spring 63, or springs, may be combined with the lower part of the rod to afford yielding pressure of the grip upon the seal strip and for counterbalancing the weight to insure easy action.

For wiping down the respective ends of the seal-strips, I provide upwardly and downwardly moving rollers 71 and 72, preferably mounted upon horizontal axis studs at the ends of swinging levers 68 and 69. (See Figs. 11 and 12.) Said levers are respectively fulcrumed, at 70 and 70⁺, to upstanding members of a frame, plate or brackets 73, in connection with the main frame or base F. Said plate is preferably secured with slots and clamp bolts 74 to be adjustable up or down for varying the relative height of fulcrums 70 and 70⁺ to accord with bottles of different height. The wiper levers 68 and 69 are preferably arranged so that the rollers are individually at different stations, the distance between them being approximately the same as the spacing of the bottle seats on the carrier, more or less. The levers 68 and 69 are connected by pivotally attached links 75 and 76 with a tiltable bar or lever 77 intermediately fulcrumed at 78 to a member of the supporting bracket 73; and said bar is connected by link 79 with an arm 80, fulcrumed at 88 to the frame 4 and having a stud-roll 80⁺ that follows the face of a cam 81 fixed upon the shaft P, and by means of which the motion of the wipers 71 and 72 is imparted and controlled. Said wipers swing down to the positions respectively indicated by dotted lines on Fig. 11, thereby moving or rolling along the side of the neck of the bottle and firmly pressing the gummed end of the seal-strip thereto. The arrangement of the wiper-roll (71 or 72) to move in a forwardly inclined arc, due to the position

and downward swing of its carrying lever, 65 serves to approximately compensate for the advancing movement of the bottle during the instant of time while the wiping down of the seal-strip is being effected.

The several bottle-supporting seats 5 are each provided with means for partially rotating or turning the same; and as all are of similar construction a description of one set will apply to each of the others. The seat consists of a plate or disk 5 arranged within a recess formed in the carrier-table 10 flush with the top surface thereof, and provided with an axis-shaft or spindle 5⁺ that extends down through a bearing 83, on the under side of the carrier, and is provided with a pinion 84 upon its lower part. Fixed on the bottom of the carrier, near the seat spindle 5⁺, there is a boss or bearing 82 having a turner device or swinging lever 85 fulcrumed thereon, one arm of which carries a gear-segment 85⁺ that meshes with the pinion 84 fixed upon the seat-spindle; while its other arm is provided with a stud-roller 86 that engages with a horizontally disposed stationary cam 87 supported on the base or frame beneath the carrier, and shaped, at predetermined portions thereof, for swinging the lever 85, and by action of the gear segment and pinion turning the seat 5, and bottle supported thereon, one way or the other. The cam 87 is shaped to effect the turning of the seat and bottle a half revolution, more or less, while it is passing between the primary wipers 19 and second label affixing set; a quarter revolution as it approaches the seal-strip pickers 33; a quarter revolution while passing from said pickers to the first strip-wiper device 71; and a half revolution while passing between the first strip-wiper device and the second strip-wiper device 72.

A traveling bed or conveyer 90 is connected to one side of the machine for delivering bottles in a continuous succession from any convenient source and a rotary feeding device 91 is combined therewith for passing the bottles from the conveyer to the rotatable carrier 10 in a manner to successively take position upon the respective seats 5 in front of the pushing rests 6. Suitable upright guards or fenders 92 and 93 are provided for inclosing the path in which the bottles travel. A traveling bed or conveyer 95 is also provided for taking away the labeled bottles, which are discharged thereonto through the exit-way included between the reversely curved guards or fenders 96 and 97. A horizontally rotating plate or whirler 98 is preferably arranged in the bottom of the curved exit-way at the position indicated and as heretofore employed.

The traveling conveyer belts or chains 90 and the rotary feeder 91 may be operated by suitable gearing (see dotted lines Fig. 2)

beneath the front table 89; said parts being actuated by the shaft 99 which receives its motion from the driver shaft through the connecting sprockets and chain 100, or in other approved manner.

The inner fender 96 is provided with a spring pressed swinging gate 101 for permitting the grip-devices 57 and rests 6 to pass through. Said gate, as shown in Fig. 1^a, consists of horizontal bars having their head secured to an upright shaft 102 journaled in bearings 103 connected with the stationary part of the fender by an arched portion 96^a of sufficient height to let the seal-grip head 57 pass beneath it (see dotted lines Fig. 1^a) while a torsional coil or other suitable spring 104 is arranged upon the shaft, or combined with the gate and tensioned for normally returning said gate to closed position; the gate being free to be pressed open by the advancing pusher-rest or seat-grip bearing as the bottle is deflected into the exit-way.

The motive power is applied to the driver shaft P preferably from an electric motor M through a train of gears 105, as indicated on Fig. 1. A clutch device 106 of any suitable construction, may be provided for stopping and starting the mechanism without switching the current from the motor; said clutch being operative by any conveniently arranged shipper lever (not shown) engaging with the grooved collar 107 of the clutch, for throwing it into and out of action, as heretofore practised.

The gearing is preferably arranged for change of speeds by shifting the pinions endwise to engage with one or the other of the gears 105 upon the hub or body of the clutch.

The operation of the mechanism is as follows: Assuming that the several holders are supplied with packs of labels and seal-strips, the gum-boxes supplied with the required adhesive substance, and the conveyers and rotatable carrier in motion and running with a continuous uniform movement, a bottle B is passed by the feeder 91 from the conveyer 90 onto one of the bottle-supporting seats 5 of the carrier 10, and is caused to move forward therewith by the pushing-rest 6. The pickers 13 of the primary label set, having been charged with gum and having taken a label L from the label-holder 12, swing down and meet the advancing bottle at the position indicated at *m*, Figs. 2 and 3, presenting the label thereto where it is centrally clamped against the surface by the laterally swinging grip-device 7, while the picker movement is reversed and the label stripped from the gummed picker faces. The bottle then passes between the wipers 19 which smooth down the gummed ends of the label. Immediately thereafter the grip-

device 7 is released by the offset *c* in the cam 28, and the turner device is actuated by the offset *d* of the cam 87, (see Fig. 2) swinging the gear segment lever 85 and causing a partial revolution of the pinion 84, seat 5 and bottle standing thereon, which brings the labeled front of the bottle to the rear and presents the opposite or unlabeled side of the bottle in advance in time to be met by the downwardly swinging pickers 23 of the secondary labeling set 2; and said pickers having been gummed and having taken a label from the holder 22, in similar manner to those of the primary labeling set, present a label L² to the opposite side or back of the bottle (now in advance) and the grip device 7 is returned by the offset *e* of the cam 28 for clamping the second label to the bottle, which is carried between the second set of wipers at 20 which affix the second label to the bottle surface. The grip 7 is then released, by the offset *h*, and the seat 5 and bottle are rotated a quarter revolution by the turner devices and offset *i* of the cam 87. The grip 7 is again restored by offset *k*, and later is finally released by offset *r* of the cam 28.

By the continuous carrier movement the bottle is brought to the place for receiving the seal-strip S. In the mean time the seal-strip picker 33 has been gummed by the roller 35 and has swung up and adhesively taken a seal-strip from the pack on the holder 32; it then swings downward bringing the strip S across the lower jaws of the nippers 50, said jaws having been previously open, as in Fig. 9^a. The nipper jaws then close by action of the cam 55 and connections, and seize the seal-strip S between its gummed ends and central portion, as indicated in Figs. 9, 10 and 13, holding it securely in place while the picker 36 is lifted toward the seal-supply holder 32, thereby stripping the gummed end portions from the picker faces and leaving the seal-strip suspended by the nippers across the path of the advancing bottle and at a height approximately that of the bottle with a convenient amount of clearance. As the advancing bottle passes beneath the suspended seal-strip, the grip-device 57 is, by the cam 61, brought down upon the top of the seal-strip and bottle, clamping the central part of said seal-strip to the head of the bottle; at the same time the nipper jaws 50 are opened to release the strip therefrom and permit it to go forward with the bottle. The seat 5, bottle B and grip-face 62 are then partially rotated by the turner lever 85 and cam contour at *n*, bringing the seal-strip into approximate alinement with the direction in which the bottle is traveling; and as it comes to the wiper 71 the lever 68 is swung

down, by the action of the cam 81 and intermediate connections, causing the roll 71 to descend and wipe or roll one gummed wing of the seal-strip firmly against one side of the neck of the bottle. The seat 5 and bottle B are then turned a half revolution by the contour at *c* of the cam 87 and turner 85, thus bringing the other wing of the seal-strip into rearward position, and as the bottle comes to the wiper 72 said wiper, actuated in similar manner, is caused to wipe or roll down the opposite gummed wing of the seal-strip S. The seal-grip 57 is then lifted by the cam 61 and the bottle shunted out through the exit way onto the discharge conveyer 95. In like manner the series of bottles occupying all the several slots or stations on the carrier are continuously subjected to the operation of labeling and applying seal-strips thereto.

It may be noted that when the machine is in full action the operations of feeding a bottle onto the carrier, applying the front label, applying the second or rear label, delivering the seal-strip or top label, smoothing down the first end of the seal-strip, smoothing down the opposite end of said seal-strip, and effecting the discharge of the labeled bottle, are synchronal, or simultaneously performed; so that the time consumed for the full execution of the triple labeling is only that required for the movement of the carrier for a distance of one of its spaced intervals from one bottle station to the next, and that since the carrier has a continuous movement the dispatch and efficiency of execution is of the highest order.

It may also be noted that the means for delivering and affixing the seal-strips is particularly adapted for handling and applying such strips without liability of injuring or tearing off their narrow wing members.

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

1. In a bottle labeling machine, the combination, of a rotatively moving bottle-carrier having a series of pivotal bottle-supporting seats at stations thereon, means for automatically feeding bottles onto said carrier, a plurality of label-affixing mechanisms positioned at intervals about said carrier, and means for partially rotating the individual supporting seats and bottles intermediate to the respective label - affixing mechanisms, said means being adapted for operating the seats in right and left rotative directions and to greater or less extent, and means for controlling the direction and extent of such rotative action at predetermined intervals.

2. A machine for labeling bottles, including in combination, a rotatable carrier provided with means for supporting and advancing bottles standing thereon, means for automatically feeding bottles onto said carrier, and a series of mechanisms for simul-

taneously affixing front labels, back labels, and seal-strip labels upon the bottles while supported upon and continuously moving with said carrier.

3. A machine for labeling bottles, including the combination of a constantly moving carrier provided with means for supporting and advancing upright bottles, means for affixing a label to the front of the moving bottle, means for turning or reversing the bottle, means for affixing a separate label to the reverse side of the bottle, means for effecting a second partial rotation of the advancing bottle, means for gumming and presenting a seal-strip label across the head of the bottle, a seal grip-device for clamping said seal-strip label upon the top of the bottle, and means for wiping the ends of the seal-strip against the sides of the neck of the bottle, the said mechanism being arranged for operation synchronously upon a series of bottles while moving forward with the carrier.

4. In a machine for labeling bottles, the combination, of means for supporting a series of bottles at successive intervals and advancing the same with a continuous movement, a plurality of labeling mechanisms including a primary set of gumming, label-delivering and label-affixing appliances; a second set of gumming, label-delivering and label-affixing appliances, means for partially rotating the respective bottles about their vertical axes between the primary and second set of labeling mechanisms, means for gumming, delivering and affixing a seal-strip or cap-label to the top of the bottle, and means for severally operating said labeling mechanisms synchronously with the advancement of the bottles in their successive order.

5. In a mechanism for the purpose specified, the combination with a rotatable bottle-carrier provided with turnable bottle-seats, and means for advancing bottles thereon; of means for gumming and delivering a seal-strip label, means for temporarily holding said seal-strip across and adjacently above the path of the advancing bottle, an upwardly and downwardly movable seal-grip device having a rotatable contact member in alinement with the bottle, an endwise movable support for said seal-grip, actuating means beneath the carrier for depressing the seal-grip member upon the seal-strip as the bottle passes beneath it, means for alternately wiping down the respective wings of said strip, and means for turning the seat and bottle intermediate to the wiping actions.

6. In a bottle-labeling mechanism, the combination, with the rotating bottle-carrier, of a rotatable bottle-supporting seat mounted within the face of the carrier and having a downwardly extended axial spindle provided with a pinion fixed thereon, an actua-

tor-lever fulcrumed on the carrier and having a gear-segment that engages said pinion, and a circumferential cam adapted for controlling the action of said actuator-lever, substantially as set forth.

7. In a mechanism of the class described, the combination with a rotary carrier having means for advancing bottles, of a series of independently rotatable bottle-supporting seats fitted in the top face of said carrier, each provided with a downwardly extending spindle having a gear pinion fixed thereon, a corresponding series of levers fulcrumed upon said carrier and respectively provided with gear-segments engaging with said pinions, and having a stud-roll mounted on the lever, a stationary track or cam arranged beneath the carrier and engaging said stud-rolls, said cam formed with positioned offsets for actuating or shifting said gear-segment levers and turning the bottle-supporting seats at predetermined positions in the carrier circuit.

8. In a mechanism for labeling bottles, in combination, with means for supporting and advancing bottles, a label supply and picker devices adapted for gumming and individually delivering seal-strip labels of a nipper mechanism adapted for seizing the respective wings of the seal-strip label, stripping the same from the gummed picker faces, and supporting said seal-strip in position for its assembling with the top of the bottle, means for closing and opening said nippers, and means for affixing the seal-strip to the bottle.

9. In a machine for labeling bottles, the combination, of a rotating carrier having a plurality of pivotally arranged bottle-supporting disks, bottle-pushing rests, and laterally acting label-gripping devices stationed at intervals thereon, means for rotating said carrier, a plurality of label-applying mechanisms and wiper devices disposed at consecutive positions in relation to said carrier, a seal-strip affixing mechanism comprising a supply-holder, gum-supply devices, picker devices for transferring a seal-strip from the supply-holder, nippers for taking the seal-strip from the picker and temporarily supporting it above the path of the advancing bottle, a seal-grip appliance moving with the carrier and depressible upon the head of the bottle, means for actuating said seal-grip appliance, means for closing and releasing the nippers, wiper appliances for smoothing down the ends of the seal-strip, wiper-operating mechanism, and means for effecting and controlling rotative action of said bottle-supporting disks at pre-determined positions in the carrier movement.

10. In a machine for labeling bottles, provided with a movable carrier having rotatable bottle-supporting seats thereon, means for imparting a rotative movement to said

seats, and means for gumming and placing a seal-strip or label across the top of a bottle standing upon one of the seats on said carrier; of a seal-grip device provided with a swiveling presser-member in axial alignment with the bottle-supporting seat, and furnished with an elastic face portion for contact with the seal-strip, said presser-member being free to turn with the seat and bottle, and means for actuating said seal-grip device up and down.

11. In a bottle labeling machine, in combination, with a movable bottle-supporting carrier, a label-supply holder, and means for gumming and delivering individual seal-strip labels, of two pairs of nipper devices each comprising a stationary under jaw and a movable upper jaw, disposed for seizing the seal-strip label between its gummed ends and central portion, means for operating the movable jaws to close upon the delivered label and take it from the delivering devices, and to open said jaws to release the label, a seal-grip element movable to and from the top of the bottle, means for actuating said seal-grip element, and upwardly and downwardly movable wiper devices for smoothing down the respective ends of the seal-strip.

12. In a labeling machine for bottles, a horizontally rotating carrier provided with a series of individually rotatable bottle-seats mounted in said carrier near its periphery, each provided with a downwardly projecting axis pintle, a series of bottle-pushing devices fixed upon said carrier adjacent to said bottle-seats, means for rotating said carrier, means for gumming and presenting a seal-strip label above the path of the moving bottle, a seal-grip device, means for actuating said seal-grip to catch the seal-strip as the bottle is carried beneath it, a pair of individual wing wipers acting at different stations for wiping down the respective wings of the seal-strip, and means for turning the bottle-seat and bottle to bring the respective ends of the seal-strip successively into rearward relation for receiving the action of the respective wipers.

13. In a mechanism for the purpose specified, in combination with means for supporting and continuously advancing a bottle, means for gumming and delivering a seal-strip label upon the top of the bottle, and a grip-device for retaining said seal-strip label central thereon; of a wiper element for wiping down a wing of said seal-strip, said wiper element adapted to move in a forwardly inclined arc or path, the inclination of which approximately compensates for the forward movement of the bottle during the wiping action, and means for operating said wiper element.

14. In a machine for labeling bottles or the like, the combination of a suitable sup-

porting frame, a rotary carrier provided with means for supporting and advancing a series of bottles, said carrier mounted to rotate about a central vertical axis and having
5 a concentric operating gear fixed on its body or hub, a plurality of sets of label-affixing mechanisms disposed for respectively affixing front labels, back labels and seal-strip labels to bottles supported upon and moving
10 with said carrier, the operating shafts of said label-affixing sets, and the prime operating shaft being severally disposed in radial relation to said central axis, and each shaft having a pinion fixed thereon and meshing with said concentric operating gear 15 for effecting synchronous operation of the respective mechanisms.

Witness my hand this 1st day of March, 1917.

HERMAN STAKE.