C. S. WEEKS.

LABELING MACHINE.

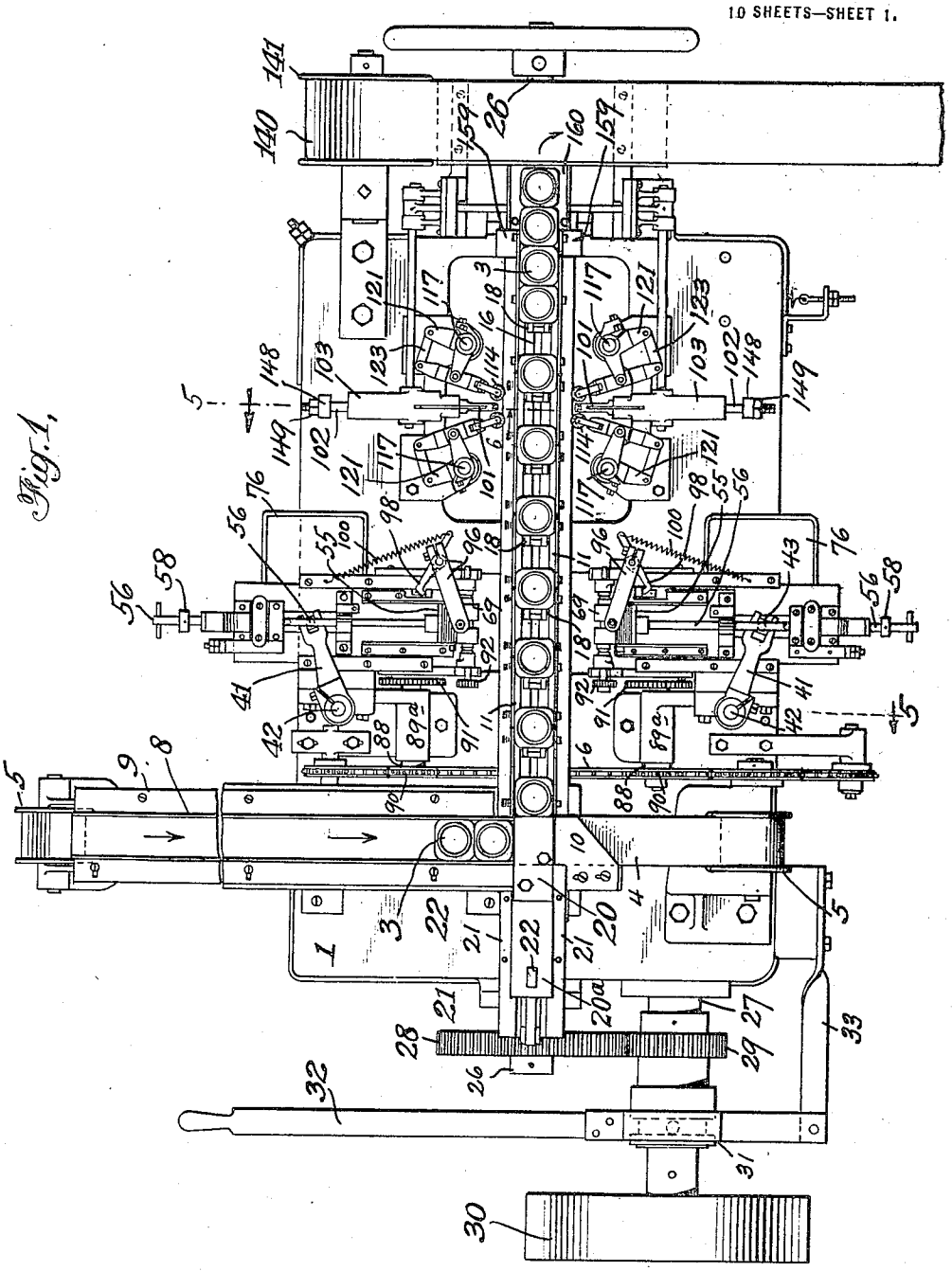
APPLICATION FILED SEPT. 14, 1921.

1,425,351.

Patented Aug. 8, 1922.

10 SHEETS—SHEET 1.

Fig. 1.



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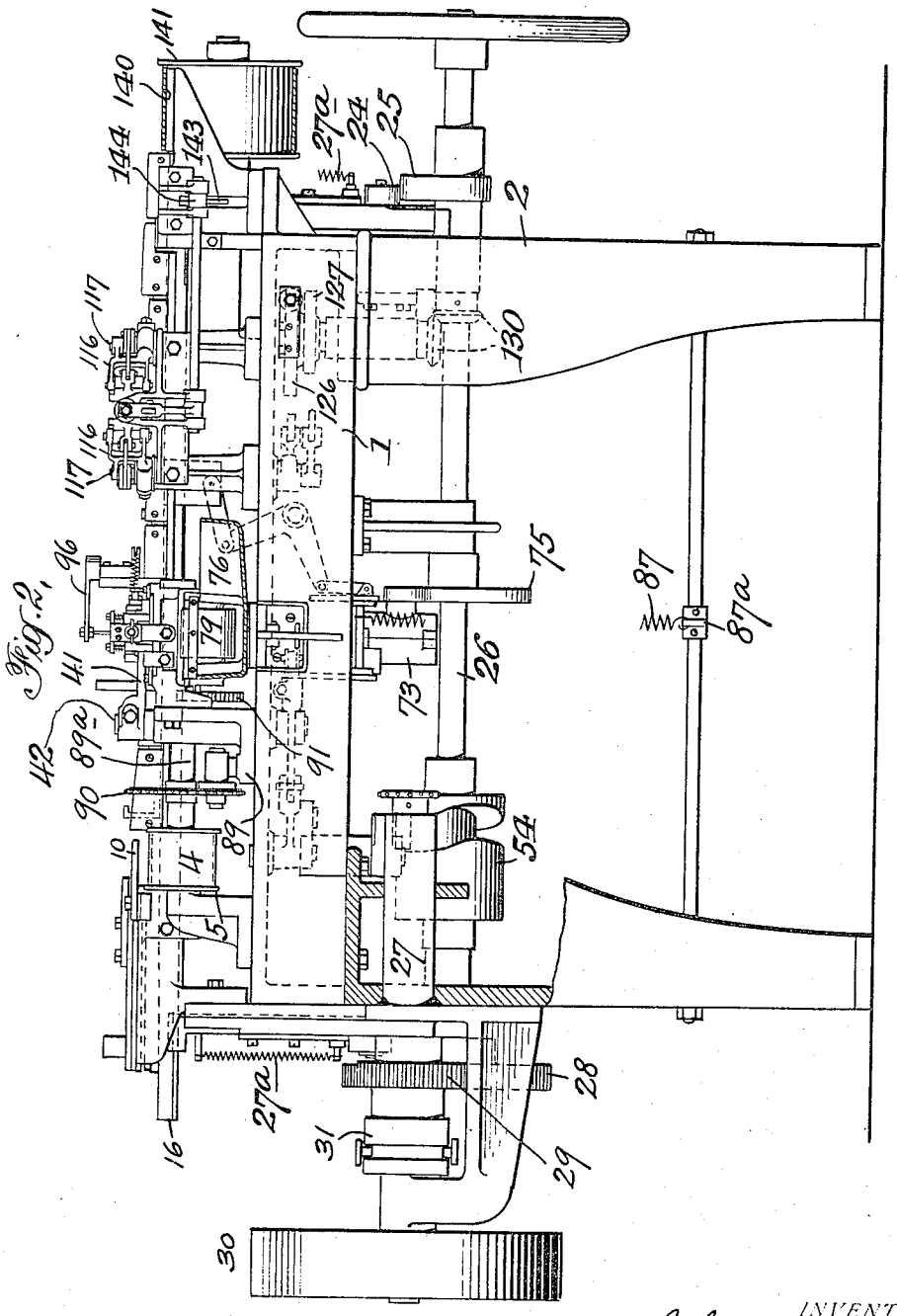


Fig. 2.

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10 SHEETS—SHEET 3.

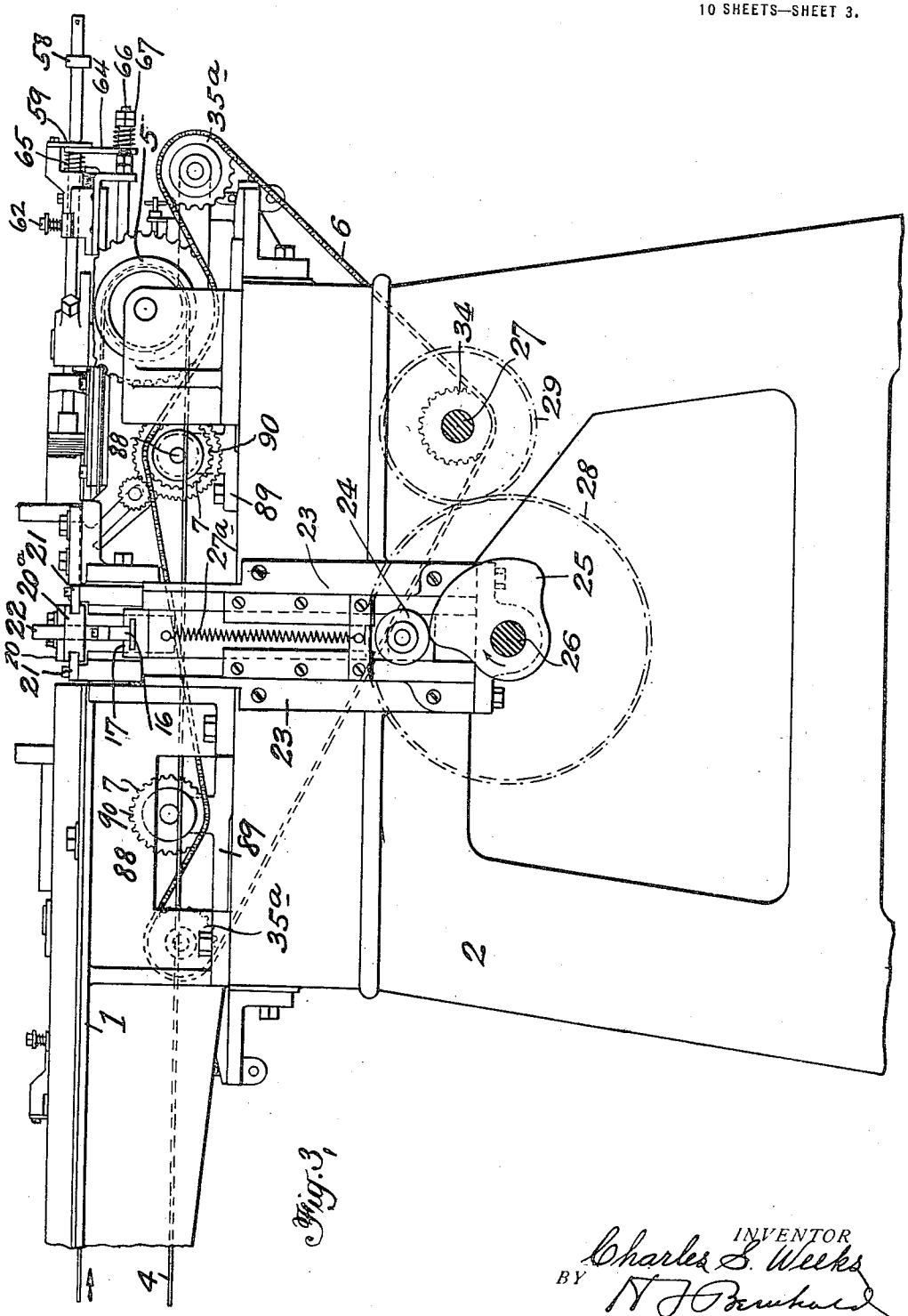


Fig. 3.

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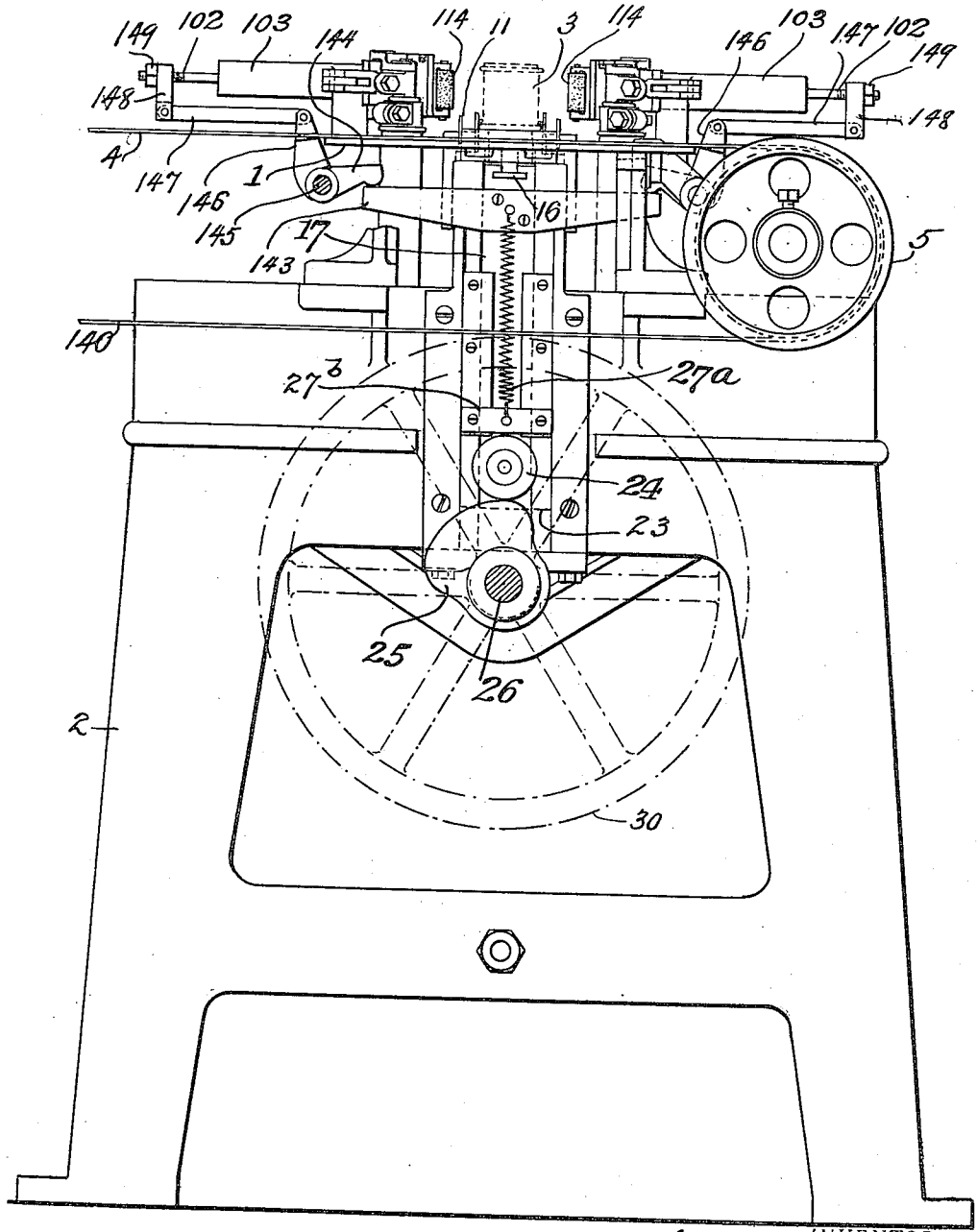
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10 SHEETS—SHEET 4.

Fig. 4.



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10 SHEETS—SHEET 5.

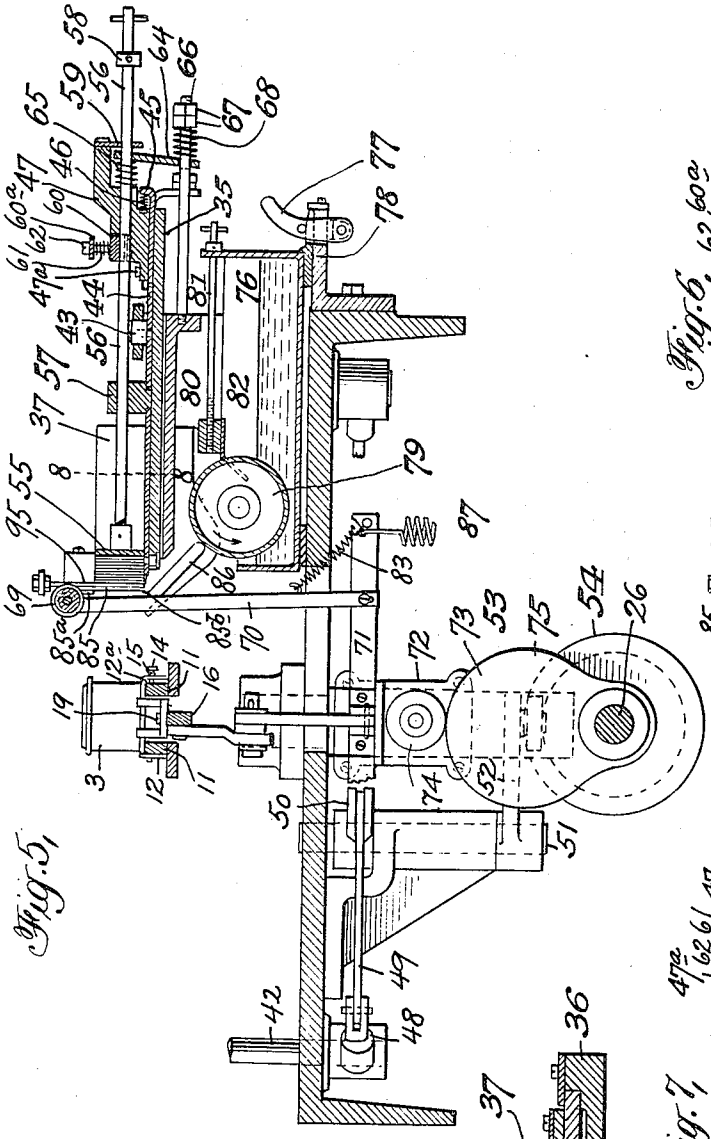


Fig. 5.

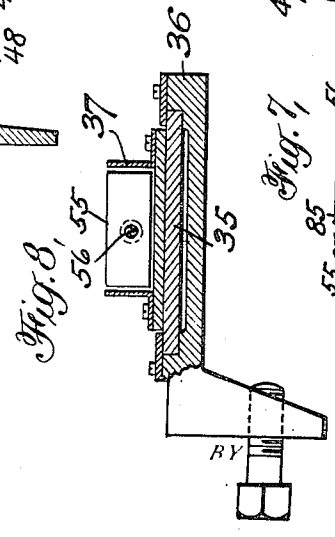


Fig. 8.

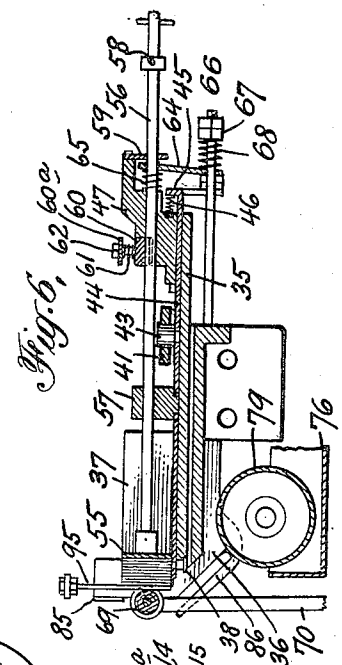


Fig. 6.

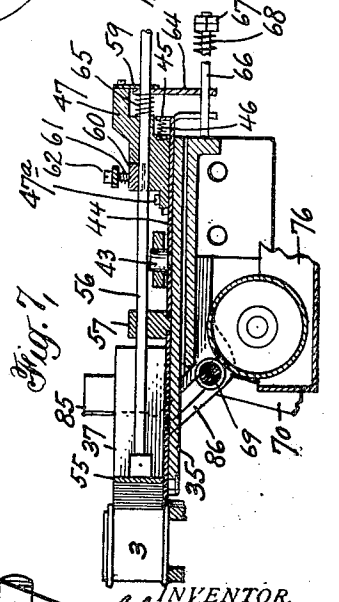


Fig. 7.

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10 SHEETS—SHEET 6.

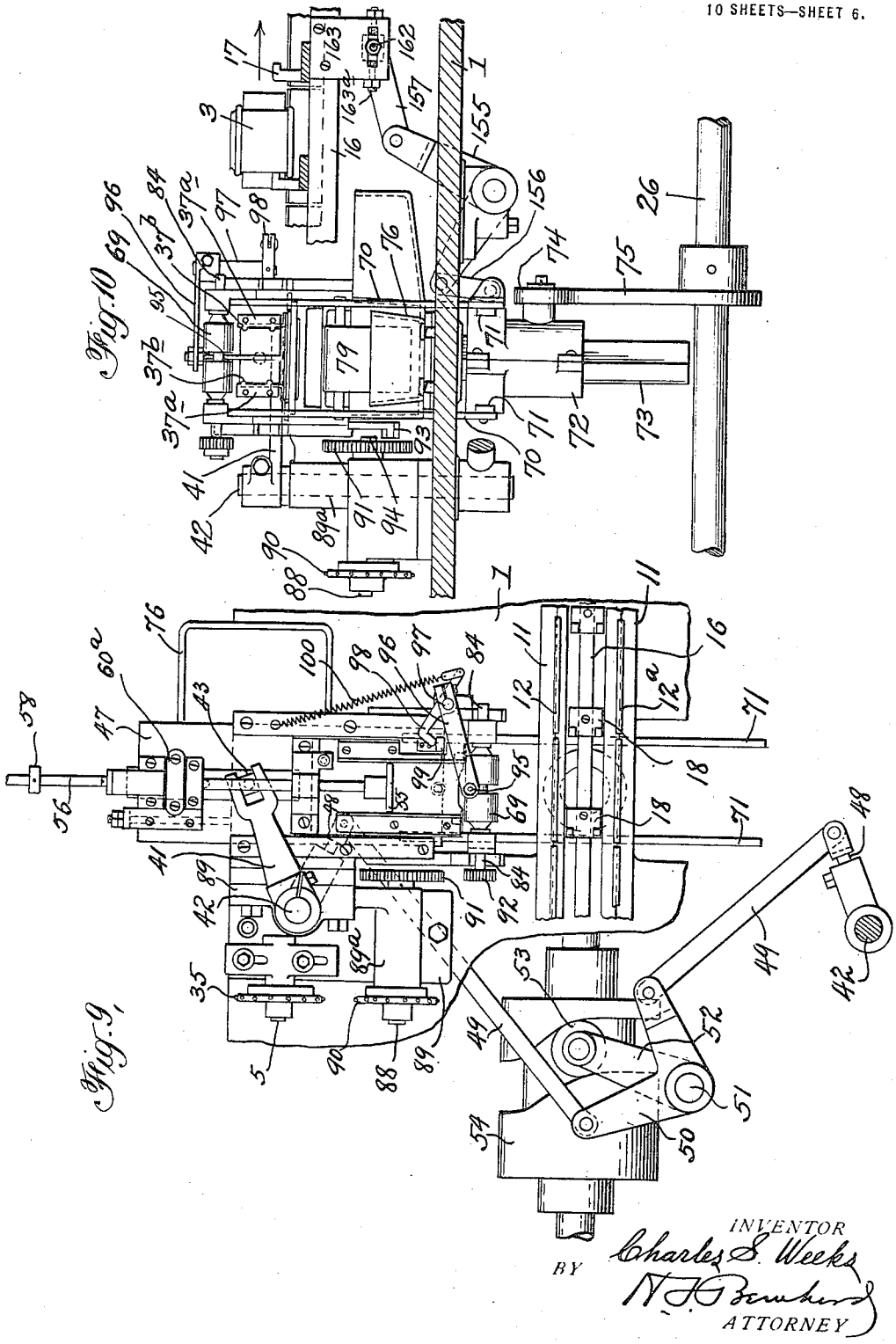


Fig. 9.

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Patented Aug. 8, 1922.

10 SHEETS—SHEET 7.

Fig. 12,

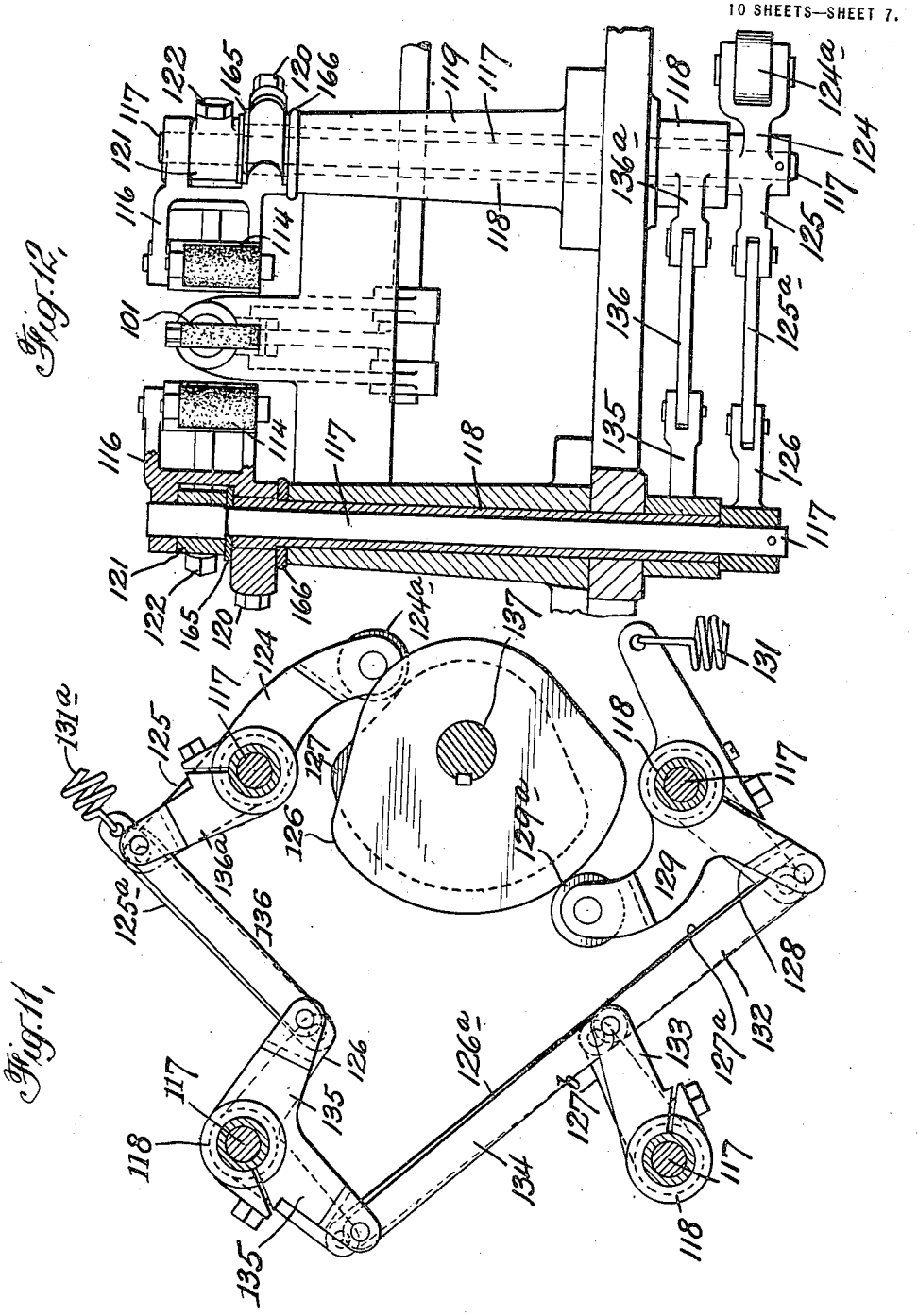


Fig. 11,

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APPLICATION FILED SEPT. 14, 1921.

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Patented Aug. 8, 1922.

10 SHEETS—SHEET 8.

Fig. 13,

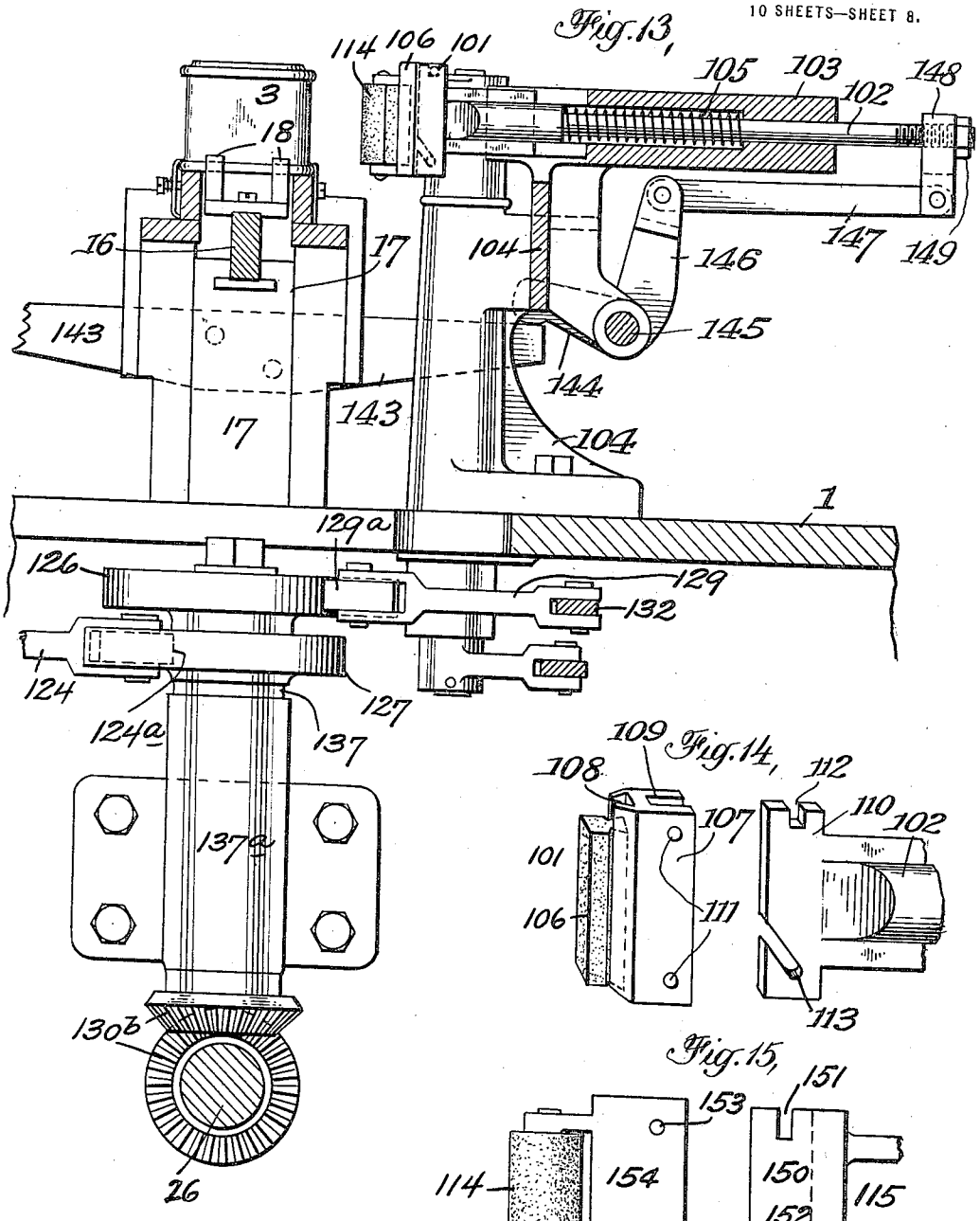


Fig. 14,

Fig. 15,

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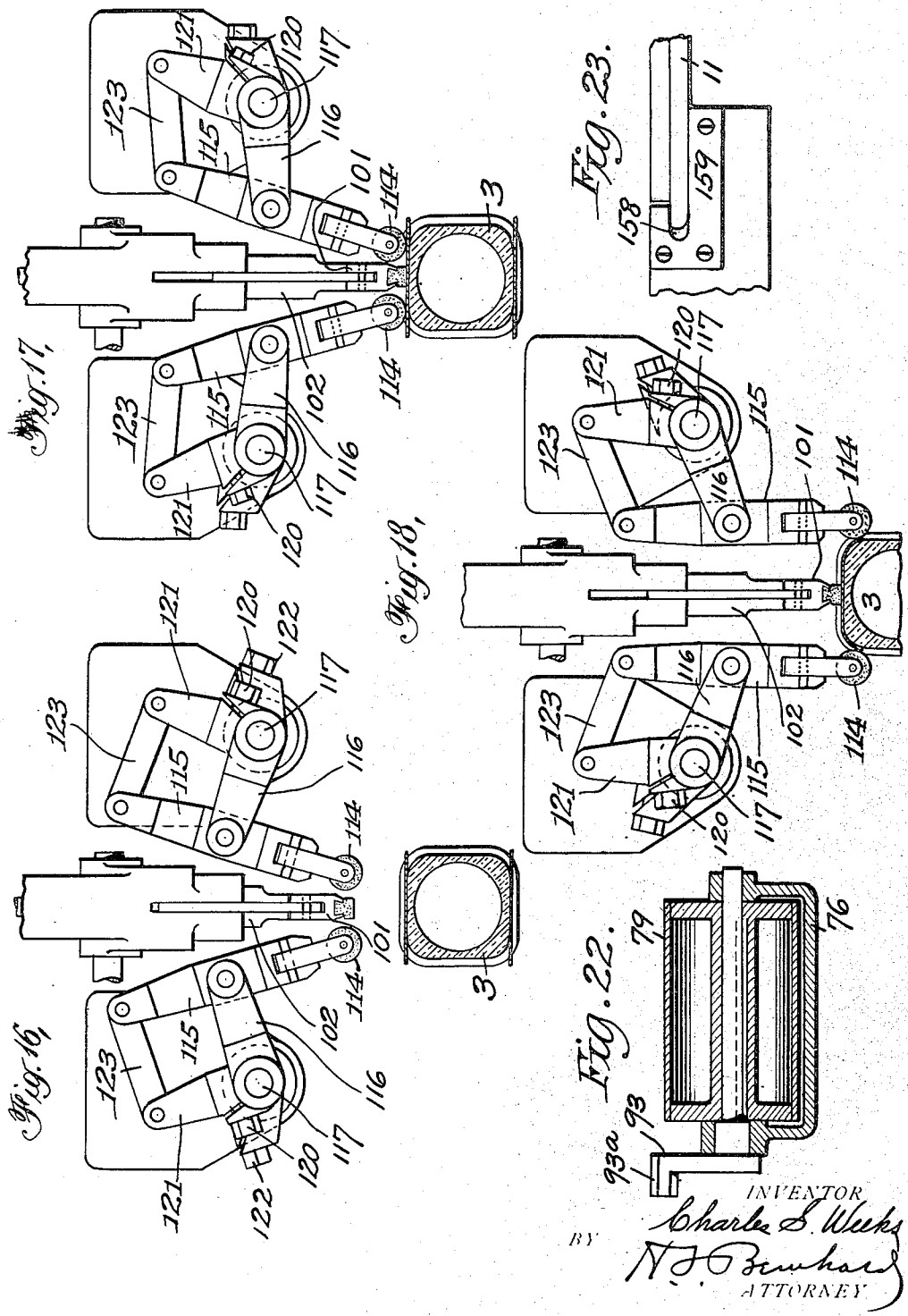
LABELING MACHINE.

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10 SHEETS—SHEET 9.



C. S. WEEKS.

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APPLICATION FILED SEPT. 14, 1921.

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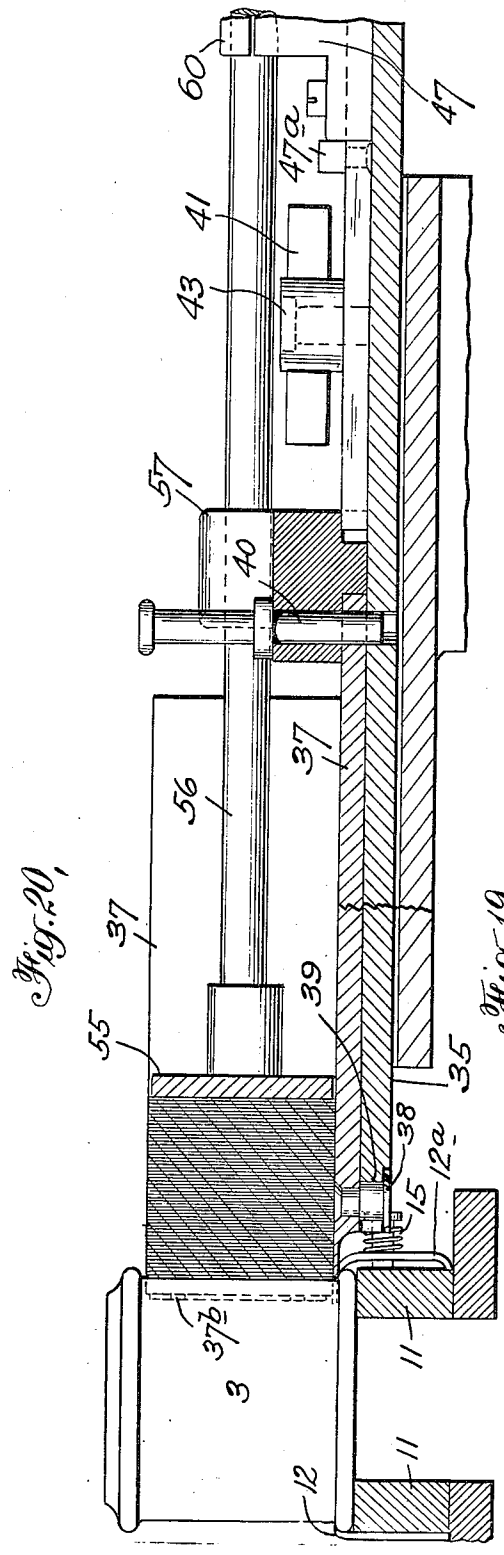


Fig. 20.

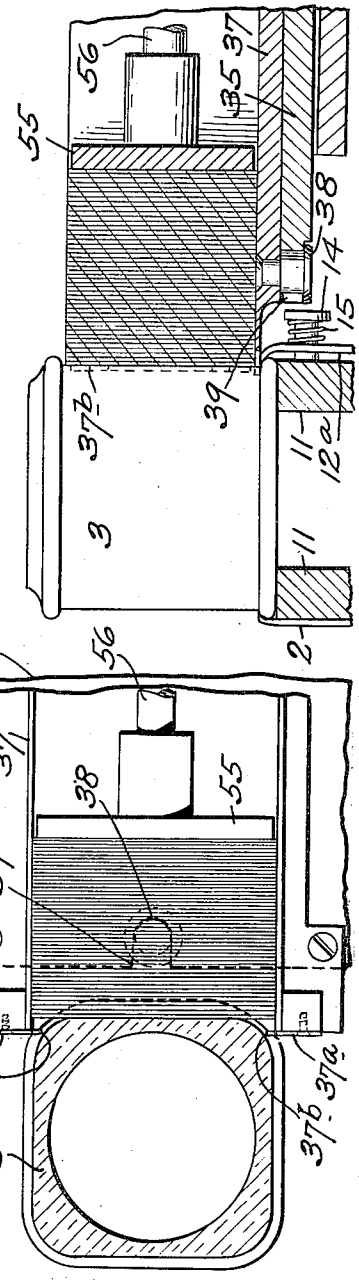


Fig. 21.

Fig. 19.

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UNITED STATES PATENT OFFICE.

CHARLES S. WEEKS, OF SOUTH ORANGE, NEW JERSEY.

LABELING MACHINE.

1,425,351. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed September 14, 1921. Serial No. 500,564.

To all whom it may concern:

Be it known that I, CHARLES S. WEEKS, a citizen of the United States, residing at South Orange, county of Essex, and State of New Jersey, have invented a new and useful Labeling Machine, of which the following is a specification.

My invention is a labeling machine operating to affix labels with precision and accuracy to articles which vary in size within certain limits and which vary in transverse cross section within wide limits, the labels being so securely affixed that there is no tendency to drop off the articles, nor is there any tendency to tear the labels during the applying or wiping thereof, and a minimum quantity of adhesive being employed for the labels, such adhesive being applied in a thin film to the labels and distributed uniformly over the surfaces thereof.

The machine specifically disclosed in this application is designed with particular reference to effect the affixing of two labels to the opposite sides of each article, and to affix such labels to an article in an accurate position intermediate certain beads adjacent the bottom and the tops of said article; but it is to be understood that the invention, in a broad aspect, is not restricted to the application of two labels to a single article, nor to the application of labels to beaded articles, for the reason that the invention may be used in the affixing of single labels to articles devoid of beads.

Broadly stated, the invention includes means for feeding articles in a definite path, and with precision, relatively to a label-applying mechanism and to a label-wiping mechanism, said label-applying mechanism and the label-wiping mechanism being independent of each other and operating at different stations in the machine for the performance automatically of the distinct functions of presenting labels into contact with the articles and subsequently thereto wiping the labels into intimate contact with the surface of the articles, provision being made for spreading a thin film of paste uniformly over the surface of each label prior to the contact of such label with the article.

The article feeding means of the present machine includes the following elements: a runway extending adjacent the label-applying mechanism and the label-wiping mechanism and upon which runway the articles are adapted to rest and along which runway the articles are adapted to be advanced by the intermittent feed movement; a feeding member in the form of a bar ranging lengthwise of the runway and provided with means, such as fingers, positioned for contact with the articles for pushing the latter along the runway for definite distances; means for imparting to the feeding bar a four direction motion whereby the bar is lifted for the fingers to contact with the articles, moved in one direction to advance all the articles for a definite distance, lowered relatively to the articles for withdrawing the fingers from contact therewith, and then moved in an opposite direction so as to position the fingers below the articles to take fresh hold thereof upon the next lift of the succeeding cycle; carrier means upon which the articles are deposited, as by manual operation, and the motion of which carrier means presents the articles successively into contact with a stopping device; a pusher element operated by the motion of the feeding finger-carrying bar for displacing articles from the carrier means and pushing said articles upon the runway, and delivery means for transferring the labeled articles from the delivery end of the machine.

It may be stated that the feeding bar constitutes a desirable element in this machine for moving a number of articles simultaneously along the runway and with precision relatively to the label applying mechanism and to the label-wiping mechanism, but the special utility of the bar operating as described is to leave the articles free from contact with the fingers at the stations where the label is applied and wiped, whereby the fingers are withdrawn from the articles at the applying and wiping stations so that there is no obstruction to the action of the wipers or the applying mechanism.

The label applying mechanism includes a label box or magazine mounted and operated in a manner peculiar to my invention for effecting the application of labels directly from the label box to the surfaces of the article or articles, whereby I am enabled to simplify the label-applying means by the omission of any and all forms of transfer devices operating to carry the labels from a magazine and to position the same into contact with the articles. Said label box

is provided at its delivery end with retainers usually in the form of lips, and said label box is mounted on a reciprocating member, such as a slide, positioned for movement in a path transversely to the line of feed of the articles upon the runway, it being preferred to detachably position the label box upon the slide and to interlock said box to the slide, whereby the label box may be dismounted at will and with facility and to be replaced with other label boxes in case it is desired to substitute other labels of a different size and character.

Within the label box is a follower provided with a stem, the latter being retained in an operative relation to the label box by a cramping device so that the mass of labels are held or gripped between the follower and the retainers of the label box to such an extent that the foremost label of the mass will not be displaced out of position within said label box during the traversing movement of the paste roll for applying the adhesive to the exposed surface of said foremost label. The label box and its contained parts are moved inward toward the runway by the motion of the label-box slide, and during this inward movement of said parts, the pasted label is pressed into contact with the surface of the article so as to be affixed thereto. At this stage, the motion of the mass of labels with the follower and the stem is arrested by the resistance of the article, but the label box is capable of a continued bodily movement in the inward direction under the action of the actuating means for the label box slide, the effect of which inward movement is to carry the retainers of the label box inwardly beyond the foremost label, thus relieving the labels from the gripping action obtained normally by the co-operation of the retainers and the follower, whereby the foremost label is pressed into intimate contact with the article and it is free to slip out of the label box. Upon the outward movement of the label box, the foremost label remains affixed to the article, but the retainers of the label box reengage with the next label in the mass and all the parts recede with the box and the slide so as to be withdrawn away from the path of the articles. Co-operating with the follower rod or stem is a cramping device by which a relative movement is obtained between the follower and the label box so as to compensate for the space vacated by the removal of the labels, as well as the looseness occasioned by the application of the label, said cramping device being in the form of a cramp plate hung on the follower rod and co-operating with a cushion spring by suitable means in the path of the free end of said cramp plate, whereby on the outward movement of the slide and the label box said cramp plate contacts with the spring and is shifted to an inclined position and binds on the follower stem, the effect of which is to retard the rod and the follower relatively to the outwardly moving label box and to grip the remaining labels firmly between the retainers and the follower.

It is preferred, for simplicity of construction, to associate a paste roll with the label box for the purpose of applying an adhesive to the exposed face of the foremost label. Said paste roll is mounted for traversing movement across the delivery end of the label box, and it is so guided or directed that said roll will contact with the surface of the label for practically the full width and length thereof, the roll being directed in a path which precludes the application of the adhesive to the edges of the labels confined within said box whereby the adhesive is so applied that the labels will not adhere one to the other.

In my machine for the application of two labels to each article, the label-applying mechanism is of duplex form, i. e. two similar mechanisms positioned in opposing relation and operating synchronously and with equal or substantially equal pressure upon an intermediately positioned article resting primarily upon the runway, whereby the opposing label applying devices coact in supporting the intermediately placed article so far as concerns displacement of such article relatively to the runway. It will be understood, accordingly, that said duplex label-applying mechanism includes at least two label boxes or magazines carried by slides together with complemental parts heretofore mentioned, which label boxes and slides are positioned at the respective sides of the runway and are simultaneously movable toward each other for effecting the application of the labels and are movable simultaneously outward or away from each other in order to withdraw the label boxes from the path of articles at the period of the feed motion given to the articles by the action thereon of the finger-carrying feed bar. Means are provided for imparting reciprocating motion to the label-box slides, which means includes rocker arms connected with the slides indirectly by preferably yieldable means and a power-driven cam, the said actuating means imparting motion simultaneously to the slides and the label boxes so as to move the parts of the duplex mechanism to an equal extent inwardly toward the runway and to press the labels confined in the two label boxes with equal pressure into contact with opposite sides of the article.

The means for wiping the labels is effective subsequently to the application of such labels to the articles, the wiping operation being performed at a different station in the machine and such wiping operation being conducted while the adhesive is still in a

relatively moist condition, it being understood that the article is moved by the feed mechanism from the label applying station to the wiping station. The wiping means includes, as an essential element, a wiping roll mounted for free rotation on a carrier, and with the roll is associated spring mechanism acting to apply pressure to the roll, whereby the roll is presented for contact with the label so as to be free to turn in sweeping over and in contact with the label and such contact is obtained under the pressure of the spring mechanism in a manner for the roll to wipe the label into contact with the article with an action similar to, or identical with, the squeegee action of rolls on photographic prints, the effect of which is to apply the label smoothly to the surface of the article and to affix the label so securely to the article that the label cannot become displaced even though a very thin film of adhesive is used for affixing the label to the article.

An essentially novel feature of the wiping mechanism is a means for mounting each wiping roll for yieldable movement in a path conforming to the external contour of the article, whereby said wiping mechanism is adapted for operation upon articles which vary in sizes within certain limits as well as upon articles the cross sectional contour of which may and does vary within wide limits. In fact, the wiping mechanism operates with equal facility upon articles which are round, oval, square, or other form in cross section. Furthermore, the wiping roll performs the important function of wiping a label the length of which exceeds the width of the article, so that the roll operates with the desired squeegee action upon the label in a manner to wipe it around the corner or corners of the article as well as across the face thereof, it being noted that the wiping action of the roll is performed without the possibility of tearing the label, thus effecting economy in the application of labels for the reason that they are not mutilated or torn, are affixed so securely as to be incapable of detachment, and a minimum of adhesive is used in the aggregate for affixing labels in large numbers.

Each wiping roll is supported by carrying means capable of pantographic action, whereby it is made possible to wipe labels around the corners of articles the walls of which are at an angle and pressure is applied equally to all parts of the label including the end portions thereof. Said pantograph means includes a member in which the roll is journaled, which member is pivotally connected to a rocker arm which is made fast with a sleeve, so that the roll-carrying member is capable of partaking of the motion of the rocker arm and is capable, also, of a pivotal movement independently of the rocker arm. Means are provided for imparting such independent pivotal movement to the roll-carrying member, said movement imparting means being a shaft provided with an arm which is linked to the roll-carrying member. The shaft and the sleeve are concentric one to the other so as to turn on an axis common to both of said parts (the sleeve and the shaft), and with the sleeve and the shaft are associated cam-actuated means and spring mechanism acting conjointly in a novel manner to apply pressure to the wiping roll and for imparting movement to said wiping roll so as to traverse the faces of the article and the corners thereof in order to wipe the label against the surfaces and corners of the article.

The wiping mechanism is of duplex formation, there being wiping units of such duplex mechanism positioned at opposite sides of the runway, and the said wiping units acting upon the separate labels applied to the opposite surfaces of the article as described. The units of the duplex wiping mechanism operate at the same time upon the said article on the respective sides of the latter, and such opposed wiping units act with equal force upon and simultaneously against the article so as to support the latter by the action of the wiping unit, i. e. the opposed wiping units preclude displacement of the article relatively to the runway at the period of wiping the label into contact with the article.

Each unit of the duplex wiping mechanism embodies a plurality of wiping rolls mounted separately on pantographic carrier means and a pressure member positioned intermediate said wiping rolls, combined with cam-actuated mechanism and with spring mechanism so organized and related that the cam-mechanism acts to impart movement positively to the carrier means for withdrawing the wiping rolls from the contact with the article, whereas the spring mechanism acts to press the wiping rolls under yielding pressure into contact with the label and the article.

Other functions and advantages of the invention will appear from the following description taken in connection with the drawings, wherein—

Figure 1 is a top plan view of the improved machine,

Figure 2 is an elevation, with parts in section, looking at the rear,

Figure 3 is an elevation, partly in section, viewed from the left of Fig. 1.

Figure 4 is a similar view looking from the opposite end,

Figure 5 is a vertical transverse section partly in elevation, said section being in the plane indicated by the irregular line 5—5 of Figure 1, and said section being through one unit of the duplex labeling mechanism

which unit is positioned at one side of the runway, and the remainder of said view (Figure 5) illustrating in a fragmentary way a portion of the machine frame and certain of the operating parts.

Figures 6 and 7 are views showing one label-applying mechanism depicted in Figure 5, with the parts in different positions,

Figure 8 is a section on the line 8—8 of Figure 5,

Figure 9 is a partial top plan view showing one of the label applying mechanisms,

Figure 10 is a front elevation of Figure 9,

Figure 11 is a plan view partly in horizontal section of the actuating means for the label wiping mechanism,

Figure 12 is an elevation of one of the label wiping mechanisms with parts in section,

Figure 13 is a side view of the mechanism shown in Figure 12, with parts in section,

Figure 14 is a perspective view of one of the label holding fingers associated with the label wiping means, showing the shoe detached.

Figure 15 is a side view of one of the label wiping rollers, showing the roller and roller support disconnected.

Figures 16, 17 and 18 are top plan views of the label wiping mechanism with the parts in different positions, said views illustrating the wiping action of the rollers upon a label.

Figure 19 is a top plan view of the magazine in the position it takes in the act of applying the label to the article.

Figure 20 is a longitudinal section through the magazine, with the parts in the position of Figure 19.

Figure 21 is a similar view with the parts in the position they occupy when the magazine is moving away from the article.

Figure 22 is a sectional view, partly in elevation, through the adhesive trough and the adhesive feed roller operating therein.

Figure 23 is a detail view illustrating the detachable connection for one end of the removable runway to the machine frame.

In the present embodiment of the invention, a suitable framework is provided, comprising a table 1, upon which the label applying mechanism and labed wiping mechanism are mounted, said table being supported by suitble legs 2. The articles to be labeled (indicated at 3, and in the form of jars in the present instance) are fed to mechanism for intermittently advancing the articles in spaced relation, by an endless belt 4, which is supported by pulleys 5 at its ends, said belt being driven by a sprocket chain 6, which engages a sprocket wheel 7 rigid with one of the supporting pulleys 5. The sprocket chain is driven in a manner to be presently described. The upper run of the belt extends over the top surface of a bracket 9 extending laterally above and beyond the table and one of the pulleys 5 is journaled in bearings at the outer end of the bracket 9. The other pulley is journaled in bearings in a bracket at the opposite side of the table, and the belt 4 moves continuously. Near the center of the table the articles engage a stop 10, the said stop being arranged over the upper run of the belt, and the innermost article, at regular intervals, is moved laterally off the belt 4, and into engagement with a feeding mechanism to be described, which moves the articles along a runway past the label applying and label wiping mechanisms to the point of delivery from the machine.

The runway which extends longitudinally of the table, and at approximately the center thereof, comprises a pair of angle rails 11 supported above the table, and upon which the articles 3 move. Holding plates 12 and 12ª are secured to the outer faces of the rails, it being understood that the article moves on the upper edges of the rails, and one of these plates is mounted to yield away from the other. When the articles are beaded at their tops and bottoms, as shown, the holding plates 12 and 12ª are arranged to grasp the bead at the lower end of the article. Each plate is shaped to fit over the bead at its upper edge. The plates 12 are rigidly secured to the adjacent rail 11, while the plates 12ª are supported by shouldered and headed studs 14 extending outwardly from the rail into which they are secured, and passing through openings in the plates, and coil springs 15 encircle the studs, between the heads and the plates 12ª, and normally act to press said plates inwardly. The rails 11 are spaced far enough from each other, so that the feeding mechanism for the article may move between the rails.

The said mechanism comprises a feed bar 16 which slides at its ends within openings provided in vertically movable slides 17 positioned at the ends of the machine. This bar is provided at spaced intervals with upstanding fingers 18, each finger being secured to the bar to extend upwardly therefrom and to engage with an article. Referring to Figures 5, 9 and 10 it will be seen that the fingers are connected to the bar by means of screws 19, and as shown in Figures 9 and 10, each finger is spaced from an adjacent finger for a distance greater than the diameter of an article, and at an equal division of the distance between the centers of the label applying and the label wiping mechanisms. The articles are moved into the runway by means of a pusher 20. This pusher is attached to a slide 20ª mounted for reciprocation in a horizontal path by a guide 21, supported above the table, and is moved by means of an up-

standing pin 22 on the feed bar 16 before mentioned. This pin 22 slidably engages the pusher actuating slide, 20^a so that whatever the vertical position of the bar, the pin will be in engagement with the pusher actuating slide 20^a. The bar 16 has four movements. With the fingers in engagement with the article, the bar moves to the right of Figures 5 and 9 for pushing the articles along the runway; is then moved downwardly to disengage the fingers; it then moves to the left of Figures 5 and 9, and then moves upwardly to engage the fingers with the article. Whenever the bar moves to the right or left of Figure 1, the pusher is moved therewith, and with each complete reciprocation of the bar, an article will be moved from the belt 4 into position to be engaged by the fingers of the bar. The articles will be advanced along the runway with a step by step motion, and in spaced relation. The bar is moved by mechanism as follows:—

The slides 17, which give vertical movement to the feed bar 16, are mounted to move vertically in guides 23 at the ends of the table, and each slide is provided with a roller 24, moving in contact with a cam 25 on the main cam shaft 26 journaled longitudinally of the frame below the table. The slides are normally pulled downward by means of coil springs 27^a, which are arranged between the slides and a cross bar fixed to the guides.

The main cam shaft 26 is driven from a drive shaft 27, through gearing 28 and 29. The shaft 27 carries a belt wheel 30, by means of which it may be connected to any suitable source of power, and the said wheel 30 is loose on the shaft, being connectable thereto by means of a clutch indicated generally at 31, operated by a lever 32. This lever is pivoted at one end to a bracket 33 on the frame, and is connected intermediate its ends to the clutch, in a well-known manner. The sprocket chain 6 before mentioned is driven through a sprocket wheel 34 on the shaft 27. The chain passes over idlers 35^a at the opposite sides of the table and the lower run passes beneath the sprocket wheel 34. The upper run passes beneath the sprocket wheels 7, and thereby operates the adhesive receptacle mechanism to be described.

Reciprocating movement is imparted to the feed bar 16 by the cam 75 on the main cam shaft 26. An elbow lever 155 is journaled under the table, and one arm of the lever is connected by a link 156 with a slide 72 to be hereinafter described. The other arm is connected by a link 157 with the feed bar, the connection being of an adjustable character, see Figure 10.

A stud 162 is mounted in a slot in a plate 163 fixed to and pendant from the feed bar 16, the stud having a flange which shoulders against the plate 163 above and below the slot, a flattened shank which engages the slot, a threaded portion extending from the flattened shank through and beyond the slot to receive a washer and clamp nut, a stem on the other side of the flange adapted to engage the link 157, and provided with a washer and cotter pin for holding the link on the stem. The plate 163 is provided with adjustable screws 163^a entering the slot at either end thereof and the screws have lock nuts to hold them in adjusted position. Should the machine be required to handle two sizes of articles, the feed bar must be adjusted to feed the article being labeled to central position with respect to the label-applying and label-wiping mechanisms. This adjustment brings the shank of the stud 162 nearer one end of the slot in the plate 163 and the screw at that end is positioned to bear against the shank of the stud and locked there. Then the adjustment may be made for the other article, locating the stud toward the other end of the slot and setting and locking the screw in that end. Thereafter, in setting up the machine for one article or the other, it is only necessary to loosen the clamp nut on the stud 162, move the feed bar to position against the screw at the proper end of the slot, and tighten the clamp out.

The label applying mechanism comprises a plurality of means for applying labels to the opposite faces of the article. Each of the said means consists of a slide 35, mounted to move in a guide bracket 36 above the table, and a magazine 37 of substantially U shape is detachably connected with each slide. The magazine is attached to the slide 35, by a headed stud 38 on the magazine engaging a notch 39 in the inner end of the slide, and by a pin 40, which passes through registering openings in the outer end of the magazine and in the slide. It is obvious that by lifting the pin 40 and by moving the magazine slightly inward, it may be removed bodily from the slide. The bottom of the magazine extends outwardly further than the slide walls, as clearly shown in Figures 5 and 20. The two opposing magazines are moved toward and from the article on the trackway, by arms 41, adjustably clamped to the upper ends of shafts 42 journaled in the frame at one side of the magazines. Each of the arms 41 is forked at its free end, and the arms of the fork engage opposite faces of a block 43 pivoted to a plate 44 which is yieldingly connected with the slide. Referring to Figure 5, it will be seen that the outer end of the plate 44 has an upturned lug 45, and, further, that the rear end of the slide 35 has a bracket portion 47, through which the plate 44 is movable. A fixed stud 47^a, on the plate 44, is positioned to engage

with the inner face of the foot of the bracket 47, this serving to carry the slide 35 outward positively. The forked arms 41 move the plate 44 positively in both directions, and the plate 44 moves the magazine slide 35 outward positively through engagement of the stud 47ª with the slide bracket 47, and moves the slide inwardly toward the article by pressure of the upturned portion of the outer end of the plate against the spring 46 which abuts upon the slide bracket 47. This prevents breakage of the articles from excessive pressure of the bottom of the magazine against the articles in case of wrong adjustment. The shafts 42 are provided at their lower ends with laterally extending arms 48, which are connected by links 49, with other arms 50 on a vertical shaft 51 journaled in the table and a bracket mounted beneath the table. The shaft 51 has a laterally extending arm 52 at its lower end, provided with a roller 53 at its free end, and the roller engages a circumferentially extending cam groove in a cam 54 on the cam shaft 26 before mentioned. The cam so functions that once during each complete rotation of the shaft 26, the magazines at opposite sides of the runway are moved toward each other, and toward the article on the runway. The magazines are connected with the slides in the manner described, in order to provide for the easy and quick interchange of different sizes; that is, adapted to hold different sizes of labels.

A label follower 55 is arranged in each magazine, and the follower has connected therewith a stem 56, extending outwardly through the magazine, and through a guide bracket 57 extending transversely of the slide and fixedly connected therewith. The stem also extends through the bracket 47 before mentioned, and is provided with a stop 58 outside of the bracket. This stop is adapted to engage a plate 59 depending from the outer end of the bracket, and through which the stem passes, to limit the inward movement of the follower, so that the follower may not push off the magazine lips should the supply of labels be exhausted while the machine is running. The follower stem is frictionally held to the bracket portion 47 of the slide, by means of a cap 60 which is arranged across the stem, and is pressed upon the stem by springs 61, arranged between the cap 60 and the plate 60ª, and the pressure is adjusted by two screws 62 which pass through the plate 60ª, through the springs 61, through the cap 60, and are threaded into the bracket 47. The labels which are arranged in edgewise position in the magazine, are held at the inner end of the magazine by retainers which, in one constructional form, are attached to the side walls of the magazine at the inner end thereof. The inner edges of the plates 37ª are flush with the inner faces of the side walls of the magazine, and the lips 37ᵇ extend inwardly beyond such walls, so that only the lips engage the extreme ends of the innermost label in the magazine. A plurality of magazines are provided, each having plates provided with one, two or more lips depending upon the height of the magazine, said height of the magazine always approximating the height of the label. The outward motion of the follower is retarded at each complete reciprocation of magazine slide 35 by a cramp plate 64. This cramp plate is fitted loosely on, and depends from, the follower stem 56, between the plate 59 and the bracket portion 47 of the slide. The opening through the cramp plate for the stem 56 is large enough for the free passage of the stem, and a light coil spring 65 encircles the stem between the cramp plate 64 and the bracket portion 47 of the slide. The lower end of the cramp plate 64 has a liberal opening through which passes a stop rod 66 extending laterally from the frame. This stop rod has a stop 67 at its outer end, in the form of lock nuts, and a heavier coil spring 68 encircles the stop rod between the stop 67 and the cramp plate 64 before mentioned, said spring acting as a cushion between the plate and the stop. The stop rod is of such length, and the stop and spring are so arranged that when the magazine slide 35 is near the end of its outward movement, the cramp plate 64 will engage the spring 68 on the stop rod and will check the motion of the lower end of the cramp plate, as clearly shown in Figure 6. This will cramp the plate 64 on the stem 56, and will stop the motion of the follower outward and cause the follower to press the labels against the lips at the inner end of the magazine. The cushion spring 68 checks the outward motion of the follower, as it is carried with the magazine slide 35 by the friction of the shoe 61, only enough to tighten up the labels against the magazine lips, and not enough to press them past said lips. The friction shoe 61 acts upon the stem of the follower 55 to maintain the pressure of said follower against the labels in the magazine during the inward travel of the magazine slide 35, after the cramp plate 64 has moved out of engagement with the cushion spring 63.

Adhesive is applied to the foremost label in the magazine by the action of a paste roll 69, it being understood that the construction of the label applying mechanisms at opposite sides of the runway is precisely the same. This roller is journaled between a pair of arms 70 which are pivoted to cross-bars 71 on a slide 72, which is mounted to move vertically on a guide 73. As shown in Figures 5 and 10, the guide 73 is a post fixed to and depending from the table, and the

slide 72 is of tubular formation, said slide being composed of complemental parts which are assembled into register and secured firmly together by suitable means, such as screws or bolts. This sectional formation of the slide provides for its ready assemblage with respect to the depending fixed guide post, as will be apparent by an inspection of Figure 10.

The pivots are fixedly attached to the cross-bars 71 and engage slots in the lower ends of the arms 70, see Figure 5. The angular attachment of the springs 83 enables them to exert a portion of their pull downwardly, tending to press the upper ends of the slots upon the pivots, but allowing a slight relative movement vertically between the arms 70 and the cross-bars 71. The slide has a roller 74, see Figure 5, which engages a cam 75 before mentioned on the shaft 26. A receptacle 76 for adhesive is detachably connected with the table, below each magazine. Each receptacle is clamped onto the table by a clamp 77, engaging an extension 78 at the outer end thereof, and headed studs which engage slots in an extension at the inner end of the receptacle, and a roller 79 is journaled in the receptacle. The thickness of the layer of adhesive on the roller is gauged by a scraper 80, supported by and in slidable engagement with opposite walls of the receptacle 76, as indicated in Figure 5, wherein the scraper is shown as resting upon one of the two side walls of the receptacle, 76, so as to be slidable thereon, said scraper being adjustable by means of rods 81, which are journaled in a bearing 82 extending transversely of the receptacle, and in the end of the container, and have collars in engagement therewith. The rods have threaded engagement with the scraper, whereby said scraper may be moved toward or from the roller, and it will be noticed that the scraper has extensions at the ends of the roller for scraping the said ends, see dotted lines in Figure 5. The roller 69 is normally pressed toward the roller 79 and toward the face of the labels in the magazine by means of coil springs 83, arranged between the links and the ends of the cross-bars 71. When the roller 69 is moved downward to receive a film of adhesive, the extended ends of the roller shaft 84 engage guides 85 which are fixedly mounted on the magazine slide bracket 36 at each side of its inner end, and are so arranged as to permit the adhesive roller 69 to engage the labels only over a distance corresponding to the height of the label. It will be understood that each magazine slide bracket has a guide at each side, said guides having straight edges parallel to the inner face of the label magazine, and supporting the adhesive roller through engagement with the extended ends of the shaft 84 at such time as there are no labels in the magazine. The adjustment is such that when labels are in the magazine, the adhesive roller engages the surface of the foremost label and there is a slight clearance between the extended ends of the roller shaft 84 and the face of the guides 85. An adjustable cam strip 85^a is detachably connected with the upper end of each guide, and the said strips are so positioned that the lower ends will be at the upper edges of the labels. As the ends of the shaft 84 engage the cam strips, the roller will be moved inwardly beyond the plane of the foremost label. The strips are adjustable to permit the use of labels of different height. This arrangement prevents any gumming of the upper edges of the labels. Fixed humps 85^b on the face of the guides perform the same function for the lower edges of the labels. The bottom of the magazine is cut away at the center of the inner end thereof, as will be evident from an inspection of Figures 5, 6, 7, 19, 20, and 21, so that the labels may be pressed closely against an article, and the magazine move further inwardly without interference from the bottom of the magazine, it being understood that in the present construction the labels are of greater length than the sides of the articles upon which they are placed. Upon the downward movement of the adhesive applying roller 69 below the magazine, the ends of the roll shaft engage inclined guides 86, the action of which is to swing the upper ends of the links 70 outward toward the roller 79. Referring to Figures 5, 6, and 7, it will be seen that the roller 69 is spaced outward from the inner end of the magazine slide bracket 36, so that said adhesive applying roller must move outward to engage the roller 79. The guides 86 impart this movement to the applying roller 69, and they are assisted by the springs 83 before mentioned, which tend to swing the roller 69 outwardly toward the roller 79. The slide 72 before mentioned is normally pulled downward by coil springs 87 arranged between the cross-bars and an equalizer bar 87^a mounted on a tie rod connecting the legs of the machine near the floor.

The operation of this portion of the mechanism is as follows, commencing with the parts in the position of Figure 5. The adhesive applying roller 69 first moves downwardly, as indicated in Figures 6 and 7, to the position of Figure 7 and into contact with the roller 79, and the roller 69, through mechanism to be later described, is rotated while in contact with the roller 79. As the roller 69 moves downward below the magazine, the magazine is moved inwardly toward the article 3 to be labeled, it being understood that the magazines of the two label applying mechanisms are operated simultaneously. The innermost label in the

magazine has been gummed on the preceding upward movement of roller 69, and when the gummed label contacts with the article 3, as shown in Figure 7, the adhesive on the label causes the same to adhere to the article. As the magazine nears the end of its movement away from the article, the follower is retarded slightly, to press the mass of labels against the retaining lips at the inner end of the magazine. The cutaway bottom of the magazine permits the mass of labels to be pressed closely against the article, and the magazine to be moved inwardly to carry the magazine lips beyond contact with the labels, and when the article is beaded at its bottom, as in the present instance, the edge of the bottom of the magazine may be made thin and pass over the top of the bead, so that the label to be applied will engage the article above the bead.

The follower as before stated is frictionally held, and when the magazine nears the end of its movement toward the article and a gummed label is applied to the article, the contact of the labels with the article will stop the inward motion of the labels and the followers, and the slight further travel of the magazine toward the article will carry the retaining lips beyond the labels. The relative position of the labels is shown in Figure 19, from which it will be noticed that the foremost label at its ends does not contact with the lips, and the lips have moved inwardly slightly past the line of the face of the article against which the libel is pressed. As the magazine moves away from the article, the labels will be loose in the magazine at the end adjacent to the article, as indicated in Figure 21, and there will be no force whatever exerted on the gummed label that would prevent its withdrawal from the magazine through the adhesion of the gummed surface to the article. As the magazine nears the end of its outward movement, away from the article, the cramp plate is operated by the spring 68, which is a relatively strong spring, to grip the follower stem 56, and to retard or arrest the outward motion of the follower. The slight further travel of the magazine outward presses the lips of said magazine toward the mass of labels, and tightens them in the magazine. In effect the mass of labels is loosely supported in the magazine to move longitudinally thereof, so that the inward movement of the mass of labels may be stopped by contact with the article and the labels then be pressed toward the article by means of continued movement of the label magazine, and the outward movement of the mass of labels may be yieldingly stopped by the contact of the cramp plate with the coil spring on the stop rod and the consequent gripping engagement of the follower stem with said cramp plate, thus transmitting the pressure of the coil spring, through the cramp plate, follower stem and follower, upon the labels, to press them against the magazine lips.

When the magazine completes its rearward movement, the roller 69 moves upward, and applies the adhesive to the succeeding label in the magazine. A shaft 88 is journaled in a suitable bearing 89[a], forming a part of the bracket 89 which supports the magazine slide bracket and the said shaft is provided at one end with a sprocket wheel 90, which is engaged by the sprocket chain 6 before mentioned. Referring to Figure 3, it will be seen that the upper run of the sprocket chain 6 passes over the sprocket wheel 90 of one adhesive receptacle, and under the other, so that the shafts 88 at the opposite sides of the runway are rotated in opposite directions. Each shaft 88 is provided at the end adjacent to the adhesive receptacle with a gear wheel 91. Each roller 69 has a gear wheel 92 at the end adjacent to the wheel 91, and the gear 92 of the roller 69 is adapted to engage with the gear 91 of the shaft 58, when the roller 69 moves into contact with the roller 79. Because of the yielding mounting upon cross-bars 71 of the arms 70 which support the roller 69, the gear wheels 91 and 92 may engage without danger of damage to either. The shaft of the roller 79 has a radial arm 93, provided at its free end with a laterally extending lug 93[a] of modified diamond section, the long diameter being radial and the apices of the sides of the diamond being flattened to engage with pin 94 on gear wheel 91, providing a connection which constrains the roller 79 to rotate with the gear wheel 91. The form of lug described allows the adhesive receptacle to be removed and replaced while the machine is running, without damage to lug or pin.

In order to support the labels in the magazine intermediate their ends and against the pressure of the retarded follower, I provide a finger 95 for engaging the labels, when the magazine reaches its extreme outward position and controlled to operative position by the movement of the magazine slide 35. The finger depends from an arm 96, adjustably connected with the upper end of a shaft 97 journaled in a bearing fixed on the guide 36 before mentioned. A dog 98 extends radially from the shaft 97 just above the level of the slide, and the dog is adapted to be engaged by an upstanding lug 99 on the slide. Referring to Figure 9, it will be seen that a portion of the angled foot of the adjacent side of the magazine is cut away to permit the removal of the magazine from the magazine slide without interference with the lug 99. A coil spring 100 is connected with the dog and with one of the slide caps

and normally acts to move the finger 95 out of engaging position, that is to rotate the shaft 97 in the opposite direction to which it is moved by the dog. The roller 69 is annularly grooved at its center, so that its vertical and rotating movements are not interfered with by the finger 95.

After the labels have been applied to the opposite faces of the article, the article is advanced to the label wiping mechanism, which presses the label closely against the article. The label wiping mechanisms, of which there are two, arranged at opposite sides of the runway, and operated simultaneously in the same manner as the label applying mechanisms, operate to wipe the ends of the label away from the center thereof, to cause the same to tightly adhere to the article. Each of these mechanisms comprises a label grip for engaging the center of the label indicated at 101 in Figures 16 and 18 inclusive, and a pair of rollers for wiping the label onto the article. The label grip 101, to be later described in detail, is supported by a plunger 102, having a stem of smaller diameter and mounted to move in a counterbored member 103 supported by brackets 104 upstanding from the table. A coil compression spring 105 is arranged around the plunger stem and within the counterbore and acts normally to press the plunger toward the article. Referring to Figure 13, it will be seen that the spring acts between the shoulder formed at the end of the counter-bore and the shoulder on the plunger. The label grips each comprise an engaging member 106 of suitable material, as for instance rubber, held in a block 107. Referring to Figure 14, it will be seen that the block has a dove-tail groove 108 in one edge, and a groove 109 in the opposite edge. The engaging member 106 has a dove-tail to fit within the groove 108, and the groove 109 is adapted to receive a cross-head 110 on the adjacent end of the plunger 102. Rivets 111 extend transversely of the grooves 109 near the ends thereof, one of said rivets being adapted to engage a notch 112 in the top of the cross-head, while the other is adapted to engage an inclined slot 113 in the outer edge of the cross-head, near the bottom thereof. It will be obvious that by engaging the lower rivet with the slot 113, the block may be moved downward and inward, until the upper rivet slips into the notch 112. The label grips are moved toward the articles by the springs 105, and they are moved away from the articles by means of a cross-bar 143 on one of the slides 17 before mentioned. The ends of this cross-bar engage radial arms 144 on shafts 145 supported by the brackets 104. Each shaft has a radial arm 146 at the opposite end from the arm 144, and the said arm is connected by a link 147, with a clevis 148 threaded on the plunger stem and locked in adjusted position with respect thereto by a nut 149 on the rod. By detaching the link from the clevis, the clevis may be adjusted on the plunger rod, thus determining the position of the holding shoe 106 when withdrawn from the operative position.

It will be evident from the preceding description that when the feed bar 16 is moved upward, the plungers and the label grips will be moved outwardly away from the articles. When the feed bar moves downward, the label grips will be moved inwardly by the springs 105 to contact with the article being labeled. The pressure of the label grips on the article is a yielding pressure, the grips being moved outward positively, but inwardly by the springs.

The rollers 114 are supported by levers 115, in a manner to be presently described, and the levers are supported by double forked arms 116. Each lever is supported between the arms of one fork and the upper and lower arms of the other fork engage a shaft 117, and a sleeve 118 respectively, the sleeve being journaled in a bearing 119 rising upward from the frame, while the shaft is journaled in the sleeve. The arm of 116 engaging the sleeve 118 is adjustably secured thereto by means of a clamp screw 120, the arm being slotted, and an arm 121 is secured to the shaft 117 between the arms of the fork 116, by a similar clamp screw 122 and slot. Referring to Figure 12, it will be noticed that the upper end of the shaft 117, and the upper end of the sleeve 118, are annularly enlarged, and an annular shoulder is formed between the enlargements and the bodies of the shaft and sleeve. These shoulders engage washers 165 and 166, which are supported at the top of the bearing 119, and at the top of the sleeve respectively. This mechanism permits the fork arm and the arm 121 to be released for adjustment, without displacement of the sleeve and shaft. A link 123 connects the outer end of the arm 121 with that end of the lever 115 remote from the roller 114. With this arrangement, it will be evident that when the shaft and the sleeve are moved relatively to each other, a pantographic movement will be given to the roller 114. Since there are two rollers 114 pertaining to each label affixing mechanism, and that there are two of such label affixing mechanisms, there will be four shafts 117, and four sleeves 118. The four shafts 117 are simultaneously operated by a cam 127, see Figure 11, while the four sleeves 118 are simultaneously operated by a cam 126. The four shafts 117 are operatively connected one to the other and are actuated by a cam 127, whereas the four sleeves 118 are operatively connected one to the other and are actuated by a cam 126, said cams 126, 127, being positioned one below

the other and being mounted on a single cam shaft 137. The operative connections between the four shafts are as follows reference being had to Figs. 11 and 12. One shaft 117 is provided with an arm 124 provided at the free end with a roller 124ª which rides upon the lower cam 127; from the same shaft extends another arm 125 to which is pivoted a link 125ª to which is connected a spring 131ª; the other end of link 125ª is pivoted to one end of a bell crank 126 secured fast to another of the four shafts 117; from this bell crank 126 extends a link 126ª pivoted to a radial arm 127ᵇ made fast with another of the four shafts 117; from the radial arm 127ᵇ extends a link 127ª pivoted to the end of a radial arm 128 on the remaining one of the four shafts 117. The operative connections for the four sleeves are as follows:—On one of the sleeves 118 is made fast a three arm lever 129, one of the arms of which carries a roller 129ª adapted to ride against the upper cam 126, another arm of said three armed lever is connected to a spring 131, and to the third arm is pivoted a link 132; said link is connected to a radial arm 133 on another of the sleeves 118; from this arm 133 extends a link 134 connected to a bell crank 135 fastened to another of the vertical sleeves 118, and from said bell crank extends a link 136 attached to the end of a radial arm 136ª on the other of the four vertical sleeves 118.

The vertical shaft 137 is journaled in bearings 137ª of the frame, and they are driven from the main cam shaft 26 through mitre gearing 130ᵇ, the cams 126, 127, being positioned below the runway and directly above cam shaft 26.

Referring to Figure 11, it will be seen that the inward throw of the cam 126 which operates the sleeves is slightly in advance of the inward throw of the cam 127, so that the sleeves are first oscillated to cause the rollers 114 to move toward the article 3 to be labeled, and to engage the label on each side of the label grips 106. The shafts are then partially rotated, to swing the levers 115 in the forks of the arms 116, and the rollers move outward with a wiping movement, pressing the label closely against the surface of the article. It will be understood that the pressure of the rollers is caused by the springs 131 and 131ª, the cam 127 (lower cam) moving the rollers away from the holding shoes while the spring 131ª presses the rollers toward the front of the article until the rollers are part way around the corner of the article, then the spring 131 pressing the rollers against the sides of the article while the cam 126 (upper cam) swings the arms 116 to carry the rollers inwardly by the sides of the article.

The operation of this part of the mechanism is as follows: When the articles are in the position of Figure 16, with the labels adhering to the opposite walls of the article, the label grips are first moved to engage the labels intermediate their ends, and at points directly opposite. Then the rollers 114 are moved into engagement with the labels at each side of the label grips, as shown in Fig. 17. The levers are then operated to wipe the rollers outward away from the label grips, and the label is pressed closely against the surface of the article. Where such article has rounded corners, as in the present instance, the rollers will sweep around the corners to the sides of the article. When the rollers have passed over the lateral edges of the labels, the cam 127 swings the rollers slightly away from the article, and the cam 126 returns the rollers to their starting position, the label grip being withdrawn at the same time. The return movements of the rollers and label grip are positive. After the labels have been wiped, the articles are advanced with a step by step movement toward a delivery conveyor, comprising a belt 140, supported by suitable pulleys 141 at its ends. At the end of the runway, the upper run of this conveyor passes over a plate indicated at 160, see Figure 1, and as the articles are labeled, they are advanced, eventually passing onto the upper run of the delivery conveyor, by means of which they are removed to a suitable distance for further handling.

The rollers 114 are detachably connected with the levers 115, in a somewhat similar manner to the connection of the label grips.

Referring to Figure 15, it will be seen that the lever has a cross-head 150, which has the notch 151, and the inclined slot 152, for receiving the rivets 153 of the roller block 154. The cross-head 150 has a vertical groove in its outer edge, and the roller block 154 is received in this groove, the arrangement being the reverse of Figure 14. The purpose of this arrangement is to make the rollers interchangeable and the label grips interchangeable, so that different heights of label grips and different lengths of rollers may be used, depending upon the size of the article and the height of the label. Where the ends of the article are beaded, as in the present instance, it will be obvious that since the label is affixed between the beads, the label grips and the wiping rollers must be of a size to enter between the beads. When beaded articles of a different size are labeled, the wiping rollers and the label grips will be of a size to correspond.

In operation, the articles to be labeled are fed against the stop 10, and they are moved successively by the pusher plate on to the runway, along which said articles are fed by the motion of the feed bar with a step by step movement to the label applying mechanism, and then to the label wiping

mechanism, eventually reaching the conveyor 140, by which they are delivered from the machine. As each article comes to a position of rest intermediate the magazines of the label applying mechanisms, said magazines are moved toward the article, and a gummed label is applied to each face thereof. When the article carrying the labels reaches a position between the wiping mechanisms, the attached labels are engaged by the label grips, after which the labels are wiped to the article by the rollers. For articles of various heights, wiping rollers and holding shoes of suitable length may be used.

The runway 11 is demountable from the machine, but it is held fixedly in position by fitting one end portion within a notch 158 of a plate 159 (see Fig. 23) attached to the frame at the feed end of the machine. The other end of the runway is positioned between fixed blocks 159 at the delivery end of the machine, and cooperating with the delivery end of the runway is a delivery plate 160 across which the articles slide from the runway to the delivery belt 140, see Fig. 1. The runway may be lifted between the blocks and withdrawn from the notched plate, thereby permitting the easy and quick removal of the runway.

I claim:—

1. In a labeling machine, label-applying means, article feeding means co-operable with said label-applying means, and label wiping means including a plurality of wiping rolls pivotally supported for movement in paths conforming to the contour of the article to be labeled, said label-applying means being operable independently of said label wiping means and said label-applying means operating to apply a label to an article at a different station from the station at which the label wiping means acts upon the article.

2. In a labeling machine, label-applying means, article feeding means co-operable with said label-applying means, label wiping means including a plurality of wiping members and yieldable pantographic carriers operable to present said wiping members in active relation to an article to conform to the contour thereof, and operating means for said label wiping means, said label-applying means being operable at a different station from the station at which the label wiping means acts upon an article.

3. In a labeling machine, a runway for the articles to be labeled, said runway being provided with means for yieldingly grasping the articles, means for applying labels, and a plurality of pivotally mounted rolls for wiping labels arranged alongside the runway in spaced relation to said label applying means, and means for feeding the articles to be labeled relatively to said applying means and wiping means.

4. In a labeling machine, a runway for articles to be labeled, said runway having means for yieldingly grasping articles at beaded portions thereof, combined with means for applying labels, and means for wiping labels, and means for feeding the articles to be labeled relatively to the said applying means and wiping means with a step by step movement and with the articles in spaced relation.

5. In a labeling machine, a runway for the articles to be labeled, means for applying labels, and means for wiping labels, said applying means and said wiping means being arranged alongside the runway and in spaced relation to each other, means for feeding the articles to be labeled relatively to said applying means and wiping means with a step by step movement and with the articles in spaced relation; said runway comprising a plurality of laterally spaced rails, and holding strips connected with the rails, with the strips of one rail being mounted to yield outward.

6. In a labeling machine, a runway for articles to be labeled, means for applying labels, means for wiping labels, and a finger bar for feeding the articles to be labeled relatively to the said applying means and wiping means; said runway comprising laterally spaced rails, and article-holding strips on said rails, the fingers of said feed bar being positioned for movement intermediate said rails and the article-holding strips.

7. In a labeling machine, article-feeding means, a label magazine operable for applying a label directly to an article, means for imparting movement to said magazine relatively to the path of articles moved by said article feed means, said movement imparting means being operable for moving the magazine so that the label delivery of said magazine is beyond the line of contact between a label and the surface of an article to which said label is to be applied, means for applying an adhesive to the foremost label within said magazine, and means for wiping labels into intimate contact with articles to which labels are applied by the operation of said magazine.

8. In a labeling machine, the combination with article feeding means, of a label magazine operable for applying a label directly to an article, means for imparting movement to said magazine relatively to the path of articles moved by said article feed means, said movement imparting means being operable for moving the magazine so that the label delivery of said magazine is beyond the line of contact between a label and the surface of an article to which said label is to be applied, and an adhesive distributing

roll movable relatively to the label delivery of said magazine for applying an adhesive to the foremost label therein.

9. In a labeling machine, the combination with article feeding means, of a label magazine operable for directly applying a label to an article, means for moving said magazine relatively to the path of articles moved by the article feeding means, said movement imparting means being operable for moving the magazine to a position in which the label delivery of said magazine is beyond the line of contact between a label and the surface of the article to which said label is to be applied, an adhesive distributing roll, and means for imparting to said adhesive distributing roll a traversing movement relatively to the label delivery of said magazine.

10. In a labeling machine, the combination with article feeding means, of a label magazine, means for imparting movement to said label magazine toward and from the path of articles moved by the article feeding means, said movement imparting means being operable for moving the magazine to a position in which the label delivery of said magazine is beyond the line of contact between a label and the surface of the article to which said label is to be applied, an adhesive roll, and means for moving said adhesive distributing roll in a path across the label delivery of the magazine, said movement imparting means for the distributing roll being operable to position said roll into contact with a foremost label at a period when the magazine is moved away from the article path and to withdraw said distributing roll from the path of the magazine prior to the movement of the magazine toward the article path.

11. In a labeling machine, a magazine mounted to move toward and from the article to be labeled, a follower in the magazine, and means for arresting the movement of said follower, said arresting means being controlled by the movement of the magazine away from the article.

12. In a labeling machine, a label carrying magazine mounted for movement relatively to the path of an article to be labeled, a follower positioned within the magazine, means for retarding the follower, said retarding means being controlled by the movement of the magazine away from the path of the article and a yielding stop co-operating with said retarding means and the follower.

13. In a labeling machine, a label carrying magazine, mounted for movement relatively to the path of an article to be labeled, a follower positioned within the magazine, means controlled by the movement of the magazine away from the article for retarding the follower, a yielding connection between said retarding means and the follower, and means for frictionally holding the follower in position relatively to the magazine.

14. In a labeling machine, a label-carrying magazine, means for imparting movement thereto relatively to the path of articles to be labeled, a follower mounted for movement with said magazine, and means cooperating with the follower whereby it is permitted to move relatively to the magazine under frictional restraint when the label contacts with an article, such restraint in the follower movement occurring at the period of the continued movement of said magazine toward the article.

15. In a labeling machine, a label-carrying magazine open at the delivery end and provided with label retaining means, means for imparting movement to said magazine relatively to the path of articles, a follower mounted within the magazine for cooperation with the label retaining means whereby labels are confined intermediate said follower and the label retaining means, and a friction device cooperating with the follower for permitting the continued movement of the magazine and label retaining means toward the article after a label contacts with said article.

16. In a labeling machine, a slide mounted for movement relatively to the path of articles to be labeled, a magazine movable with said slide, and a follower carried by the slide, said magazine being demountable bodily from said slide independently of the follower, and means for operating the slide.

17. In a labeling machine, a magazine carrier, a magazine movable with said magazine carrier, a follower co-operating with said magazine, and means for retaining the follower in a desired relation to the magazine carrier, said magazine being demountable from the magazine carrier independently of the follower.

18. In a labeling machine, a magazine movable relatively to the path of articles to be labeled, a magazine carrier, and means for imparting movement to the magazine carrier, said movement imparting means including a yieldable connection with the magazine carrier whereby the magazine and the magazine carrier are yieldingly adapted for movement relatively to the articles to be labeled.

19. In a labeling machine, a slide movable relatively to the path of articles to be labeled, a magazine movable with said slide, means for imparting movement positively to said slide for moving the same in one direction, and a yielding connection between the slide and the movement imparting means for moving the slide in an opposite direction.

20. In a labeling machine, article feeding means, a magazine provided with label re-

tainers adjacent an open label delivery thereof, means for imparting reciprocating movement to said magazine with respect to the article feeding means, said movement imparting means being operable for moving the magazine to a position in which the label delivery of said magazine is beyond the line of contact between a label and the surface of the article to which said label is to be applied, a paste roll, means for imparting a traversing movement to the paste roll relatively to the open label delivery when said magazine is in an outward position away from the path of the article whereby the paste roll is operable for applying paste to the foremost label while said label is held within said magazine by said retainers, and wiping means cooperable with said article feeding means.

21. In a labeling machine, a magazine reciprocable with respect to the path of an article to be labeled, an adhesive roll movable with a traversing movement across the foremost label within said magazine, means acting to apply yielding pressure to said adhesive roll during the period of its traversing movement with reference to the magazine, and wiping means operable to wipe a label at a different station from the station at which a label is applied to an article by the magazine.

22. In a labeling machine, article feeding means, a label magazine having a label delivery adapted to be presented to an article moved by said article feeding means, means for imparting reciprocating movement to said magazine relatively to the path of an article, said movement imparting means being operable for moving the magazine to a position in which the label delivery of said magazine is beyond the line of contact between a label and the surface of the article to which said label is to be applied, and means for supplying an adhesive to the foremost label in the magazine at a period when the label magazine is moved away from the path of an article.

23. In a labeling machine, a magazine movable relatively to the path of an article to be labeled, a follower co-operating with said magazine, and a friction device movable with the magazine for effecting a braking action upon the follower during the movement of said magazine toward the article path, said friction device allowing the movement of the follower to be arrested by contact with an article during a further movement of the magazine toward the article path.

24. In a labeling machine, a label magazine movable relatively to the path of articles to be labeled, an adhesive feed roll, an adhesive distributing roll movable across the label delivery of said magazine and movable also into co-operative relation with said feed roll, and gears for rotating said distributing roll when in a co-operative relation to said feed roll, said distributing roll being yieldable for insuring the proper meshing of said gears as said distributing roll moves into co-operative relation to the feed roll.

25. In a labeling machine, a magazine movable relatively to the path of articles to be labeled, an adhesive distributing roll movable across the label delivery of said magazine, a label detaining element movable to a position across the label delivery of said magazine, and means for actuating said label detaining element to withdraw it from the path of the magazine and to position it in operative relation to the label delivery of the magazine.

26. In a labeling machine, a magazine movable relatively to the path of articles to be labeled, means for applying adhesive to the foremost label when the magazine is in one position, a follower within the magazine for pressing the labels toward the article to be labeled, means engaging the ends of the label for preventing displacement thereof from the magazine, and means controlled by the movement of the magazine toward and from the article to engage the labels in the magazine intermediate the ends thereof as the magazine moves away from the article.

27. In a labeling machine, a magazine movable relatively to the path of articles to be labeled, means for applying adhesive to the foremost label when the magazine is in one position, a follower within the magazine pressing the labels toward the article to be labeled, means engaging the ends of the label for preventing displacement thereof from the magazine, a label detaining finger positioned for contact with a label intermediate the ends thereof, a shaft to which the finger is connected, a spring acting normally to rotate the shaft in a direction to move the finger away from the labels, and a dog on the shaft, said magazine having means for engagement by the dog to rotate the shaft when the magazine moves away from the article.

28. In a labeling machine, a label magazine provided at its delivery end with inwardly extending lugs for engaging the ends of the outermost label, a frictionally held follower pressing the labels toward the lugs, a finger to engage the outermost label intermediate its ends when the magazine moves away from the article, and means controlled by the movement of the magazine away from the article for swinging the finger into engagement with the labels.

29. In a labeling machine, a plurality of label magazines, means for feeding articles intermediate the magazines, means for applying adhesive to the foremost labels in the magazines, means for moving the magazines toward the article to cause the labels

to adhere to the articles, and means for wiping labels into intimate contact with the articles.

30. In a labeling machine, a plurality of label magazines, means for feeding articles in a path intermediate the magazines, means for applying adhesive to the foremost labels in the magazines, means for moving the magazines simultaneously toward the articles, means for wiping the labels into intimate contact with the articles, a follower positioned within each magazine, and means controlled by the movement of each magazine away from the articles for retarding the movement of the associated follower with said magazine.

31. In a labeling machine, a plurality of label magazines, means for feeding articles in a path intermediate the magazines, means for moving the magazines simultaneously toward the articles, means for wiping the labels into contact with the articles, a follower within each magazine, frictional means for holding each follower, and means controlled by the movement of the magazine away from the article for arresting the movement of said follower during such recession of the magazine.

32. In a labeling machine, article feeding means, a plurality of label-applying means the units of which are positioned in opposing relation to each other and at opposite sides of the path of articles moved by said article feeding means, each label-applying means including a magazine movable relatively to the article path, means for actuating said magazines of the label-applying means for effecting the simultaneous application of labels to opposite sides of an article, a plurality of adhesive distributing rolls, one to each label magazine, movable across the delivery of said magazines for applying an adhesive to the foremost labels in said magazines, and a plurality of label wiping means positioned in opposing relation to each other and co-operable with said article feeding means.

33. In a labeling machine, article feeding means, label-applying means co-operable with said article feeding means, and label wiping means in operative relation to said article feeding means, said label wiping means including a grip adapted for contact with a label on an article, wiping members positioned on opposite sides of said grip, means for moving said grip relatively to the path of article feed, and compound cam and spring means for actuating said wiping members simultaneously for movement in paths to follow the contour of the article.

34. In a labeling machine, a label magazine movable relatively to the path of an article to be labeled, said magazine being provided with retaining lips, a follower for holding the labels against said retaining lips, and arresting means for the follower, said arresting means being movable with the magazine whereby the movement of the magazine acts to press the retaining lips against the labels when the magazine is moving away from the article path.

35. In a labeling machine, a label magazine movable relatively to the path of articles to be labeled, retaining lips positioned at the sides of the magazine and adjacent the delivery end thereof, a follower positioned within the magazine, means for frictionally arresting the follower to permit the retaining lips to be moved away from the mass of labels, and means controlled by the movement of the magazine away from the article for arresting the follower to press the lips against the labels.

36. In a labeling machine, a label magazine movable relatively to the path of articles to be labeled, retaining lips at the delivery end of said magazine, a follower frictionally held to permit the retaining lips to be moved by the pressure of the article away from labels, and means controlled by the movement of the magazine away from the article for arresting the follower to press the lips against the labels, the bottom of said magazine being cut away at the delivery end thereof.

37. In a labeling machine, a label magazine movable relatively to the path of articles to be labeled, retaining lips at the delivery end of the magazine, a follower positioned within the magazine and frictionally held to permit the retaining lips to be moved by the pressure of the article on the movement of the magazine away from the labels, and yielding means for arresting the follower to press the lips against the labels.

38. In a labeling machine, means for applying a label to an article, and means for wiping the label into contact with the article, said wiping means embodying a plurality of members each mounted to move in two planes at right angles to each other whereby said wiping members are adapted for following the contour of articles of various cross sections.

39. In a labeling machine, the combination with means for applying a label to an article, of means for wiping the label into contact with the article, said wiping means embodying a plurality of rollers each mounted to move in two planes at right angles to each other whereby said wiping rollers are adapted for contact with the surfaces of articles of various cross sections, resilient means for moving the wiping mechanism to operative position, and cam controlled means for moving said wiping means to an idle position.

40. In a labeling machine, duplex label-applying means including label feeding units in opposed relation to each other, du-

plex label-wiping means including sets of pantographically controlled wiping members in opposed relation to each other, article feeding means operable for feeding an article in a path intermediate the units of the label-applying means and the units of the label wiping means, and actuating means for imparting movement to the article feeding means with intervals of dwell.

41. In a labeling machine, a plurality of means for wiping separate labels to the opposite faces of an article, said wiping means being positioned in opposing and counterbalanced relation and cooperating to support the article while the labels are affixed, said wiping means comprising opposed and counterbalanced holding means for engaging the label and wipers movable in opposite directions relatively to the holding means.

42. In a labeling machine, a plurality of means for wiping separate labels in contact with the opposite faces of an article, each wiping means comprising holding means for engaging the label, and wipers pantographically controlled for movement relatively to the holding means, said wipers including members mounted to move in planes at an angle one to the other whereby said wipers are adapted for contact with the faces of articles of various cross sections.

43. In a labeling machine, a label wiping means embodying a plurality of wiping members, and a pantographic carrier for each wiping member, each pantographic carrier including members movable on a common axis.

44. In a labeling machine, means for supporting an article, means for applying a gummed label to the article, and means for wiping the label into contact with the article, comprising a holding means engaging the label intermediate its ends, wipers mounted to move outwardly from the holding means, means for supporting and moving the holding means, and means for supporting and moving the wipers, said holding means and wipers being detachably connected with their supporting means.

45. In a labeling machine, the combination with article feeding means, and a label-applying means, of a wiping mechanism embodying a plurality of wiping rollers free to rotate axially while in contact with the surface of an article, each of said wiping rolls being supported by a pantographic carrier including members movable on a common axis, and means for actuating and controlling the pantographic carriers of said wiping rollers.

46. In a labeling machine, the combination with article feeding means, and a label-applying means, of a wiping mechanism embodying a plurality of wiping rollers free to rotate axially while in contact with the surface of an article, each of said wiping rolls being supported by a pantographic carrier including members movable on a common axis, spring mechanism for actuating said pantographic carriers to yieldingly retain the wiping rollers in contact with said article, and actuating means for imparting movement positively to said pantographic carriers of the wiping mechanism to move the same to an idle position.

47. In a labeling machine, the combination with article feeding means, and label-applying means, of wiping means embodying a plurality of wiping rollers, a pantographic carrier for each wiping roll including members movable on a common axis, spring actuated cam-controlled means for actuating said pantographic carriers and yieldingly holding the wiping rollers in active positions, and cam actuated means for shifting the pantographic carriers with a positive movement to idle positions.

48. In a labeling machine, the combination with label-applying means, of a plurality of label wiping devices embodying a plurality of shafts and sleeves, pantographic carriers the parts of which are movable with the shafts and sleeves respectively and are rotatable on a common axis, wiping rollers mounted in said pantographic carriers, cam-actuated spring mechanism for yieldingly holding the wiping rollers in active positions and in contact with an article, and cam actuating means for imparting movement positively to said pantographic carriers for shifting the wiping rollers to idle positions.

49. In a labeling machine, the combination with label-applying means, of label wiping means including a pantographic carrier the parts of which are rotatable on a common axis, a wiping roller on said carrier, and actuating means for said pantographic carrier whereby the wiping roller is yieldingly controlled while in active position and is shifted by a positive motion into an idle position.

50. In a labeling machine, the combination with label-applying means, of a member positioned at a wiping station and adapted for contact with a label intermediate the ends thereof, and wiping means including a plurality of carriers each having parts movable on a common axis, wiping rollers mounted in said carriers, and actuating means cooperating with said carriers for imparting movement to the rollers so as to travel in opposite directions simultaneously with respect to the label retaining member.

51. In a labeling machine, the combination with label-applying means, of label-wiping means including a plurality of carriers each carrier having parts movable on a common axis, a plurality of wiping rollers, one to each carrier, cam-actuated spring mechanism common to the plurality of car-

riers and operating to retain said wiping rollers under yielding pressure into contact with an article, and cam actuated means for withdrawing the rollers with a positive motion from contact with said article.

52. In a labeling machine, the combination with label-applying means, of label-wiping means embodying a plurality of wiping rollers and pantographic carriers for said wiping rollers whereby the latter are movable in paths to follow the contour of an article.

53. In a labeling machine, the combination with label-applying means, of label-wiping means including a plurality of pantographically mounted rollers and actuating means operating to yieldingly press said rollers into contact with the article and to follow the external contour thereof.

54. In a label applying machine, the combination with means for applying labels to opposite sides of an article, of a plurality of label wiping mechanisms including pantographically mounted rollers adapted for movement in paths to follow the contour of the article and spring mechanism for yieldingly retaining said rollers in wiping contact with the several labels on the respective surfaces of said article.

55. In a label applying machine, the combination with means for applying separate labels to opposite sides of an article, of a plurality of pantographically controlled label wiping mechanisms positioned in opposing relation to each other and cooperating one with the other for precluding relative displacement of an article during the label wiping operation.

56. In a labeling machine, the combination with a runway, and means for applying labels to the opposite sides of an article on said runway, of a plurality of pantographically controlled label wiping mechanisms positioned in opposing relation to each other and at the opposite sides of said runway and mutually cooperating for retaining the article against displacement relatively to said runway.

57. In a labeling machine, the combination with article feeding means, of a label magazine movable relatively to the path of articles advanced by said feed means, an adhesive feed means mounted for traversing movement relatively to said label magazine, and a member positioned for contact with the foremost label within the magazine intermediate the ends of said label, said member being movable out of the path of said magazine.

58. In a labeling machine, the combination with article feeding means, of a label magazine the delivery end of which is adjacent the path of articles advanced by said feed means, a member positioned for contact with the foremost label within said magazine and intermediate the ends of said label, means for imparting movement to said magazine, and means for withdrawing said member from the path of the magazine as the latter moves toward the article feeding means.

59. In a labeling machine, the combination of a label magazine the delivery end of which is adjacent the path of feed of articles to be labeled, adhesive feed means including a yieldingly supported member adapted for traversing movement relatively to the delivery end of said magazine, and means for directing said adhesive member in a path which precludes the application of the adhesive to the edges of the labels within said magazine.

60. In a labeling machine, the combination of article feed means for intermittently moving articles in a rectilinear path, a label magazine operable for applying a label directly to an article during the period of dwell of said article feed means, means for imparting movement to said label magazine relatively to the path of the articles, said movement imparting means being operable for moving the magazine during the period of dwell of the article feed means, means operable for applying an adhesive to the foremost label present within the magazine, and means operable for imparting movement to said adhesive applying means at a period when the label magazine is shifted away from the path of the articles, whereby said article feed means is operable for advancing the articles concurrently with the operation of the adhesive applying means in applying paste to a label within the magazine.

In testimony whereof I have hereto signed my name this 3rd day of September, 1921.

CHARLES S. WEEKS.