

Nov. 22, 1938.

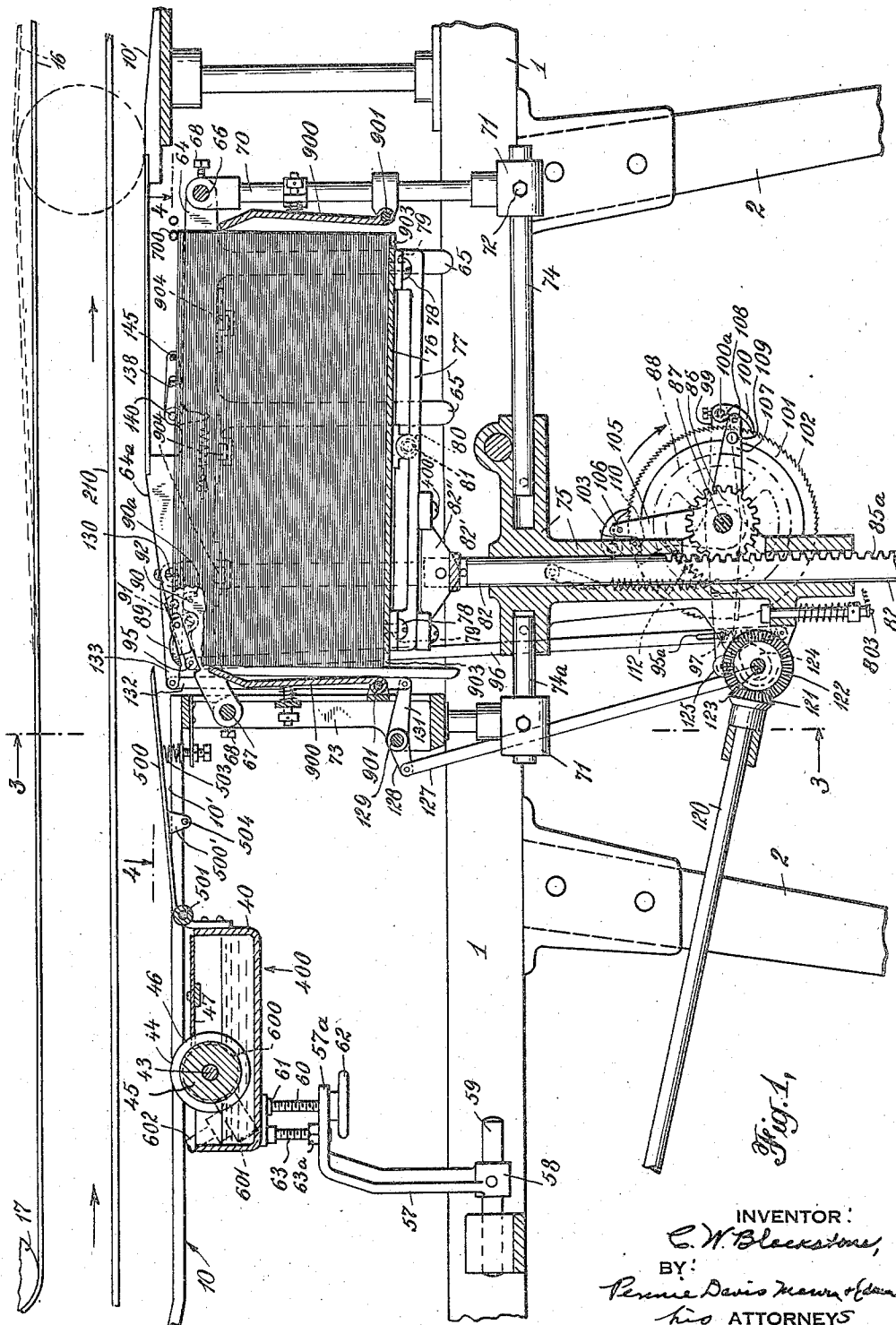
C. W. BLACKSTONE

2,137,381

LABEL FEEDING MECHANISM

Filed Aug. 22, 1935

6 Sheets-Sheet 1



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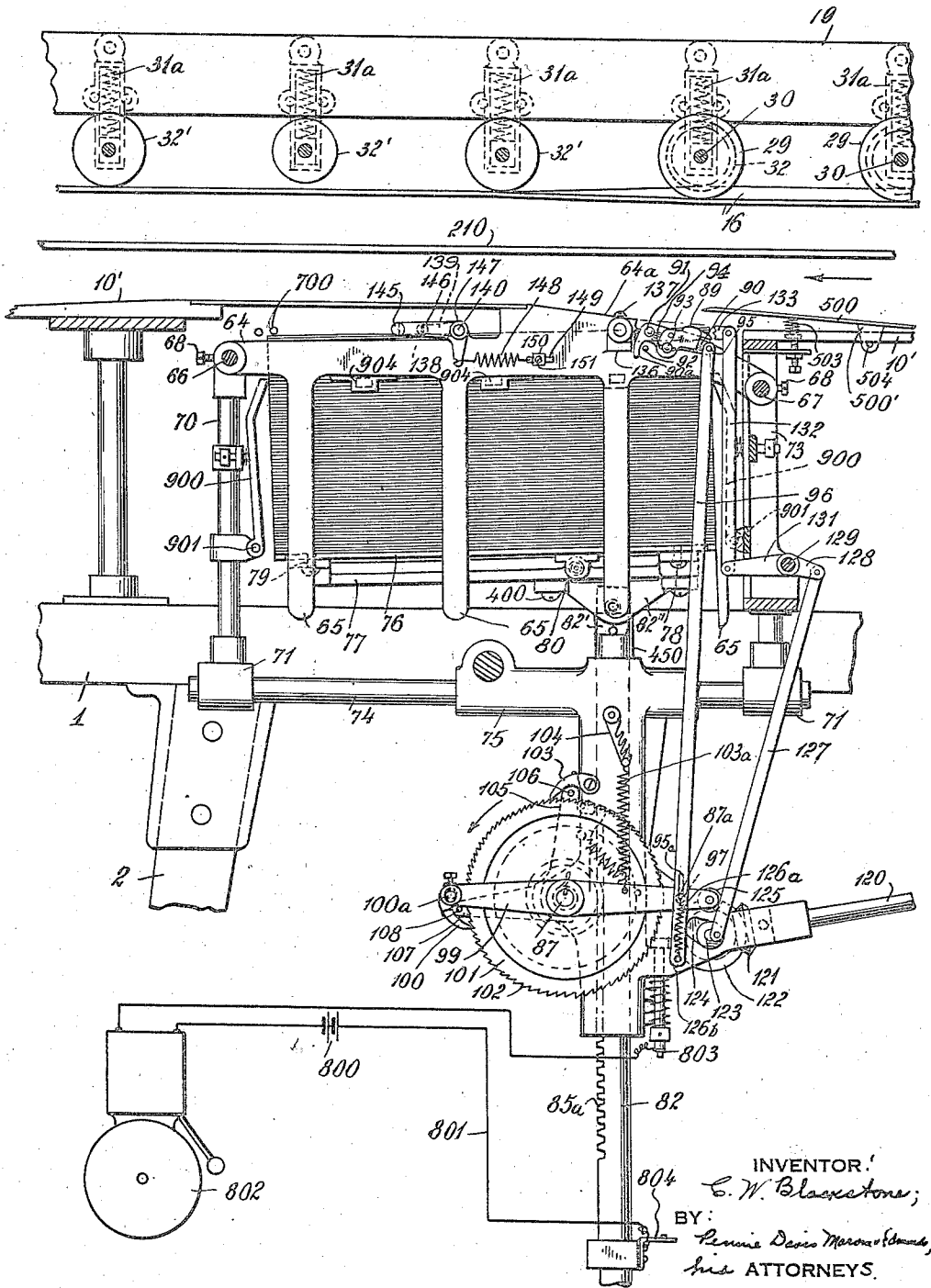
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LABEL FEEDING MECHANISM

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Fig. 2,



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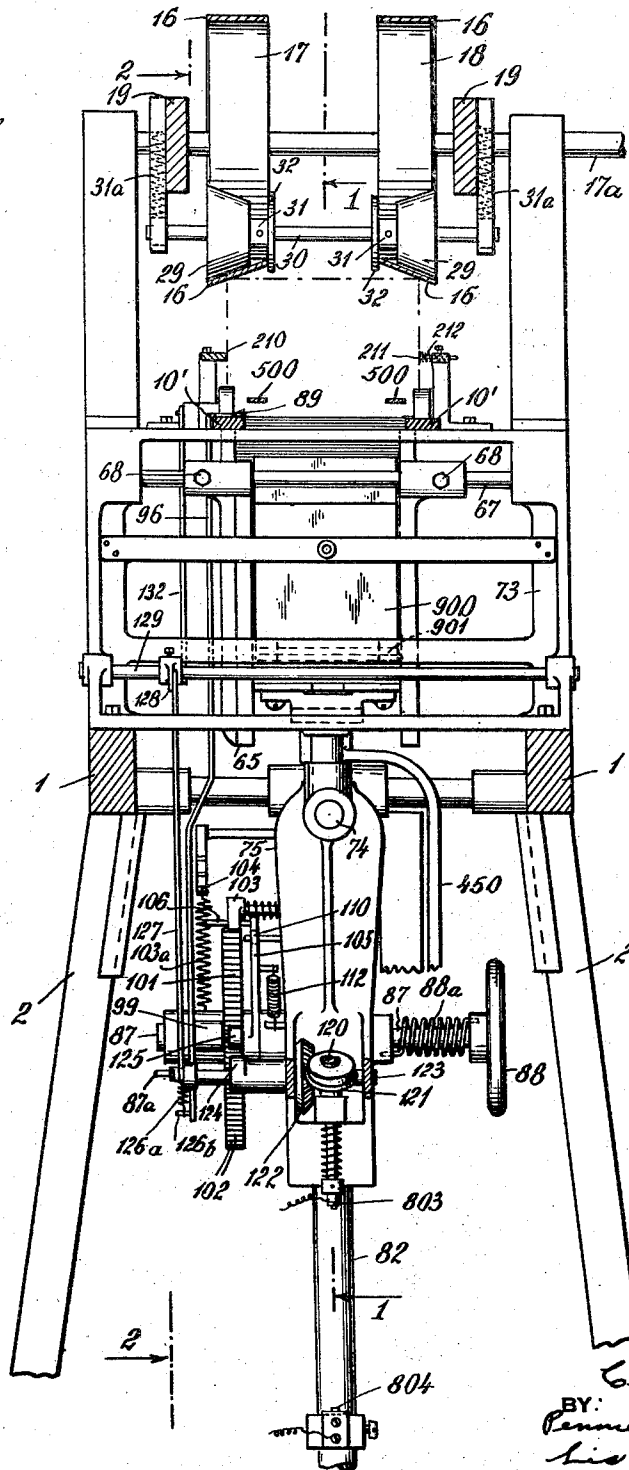
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Fig. 3,



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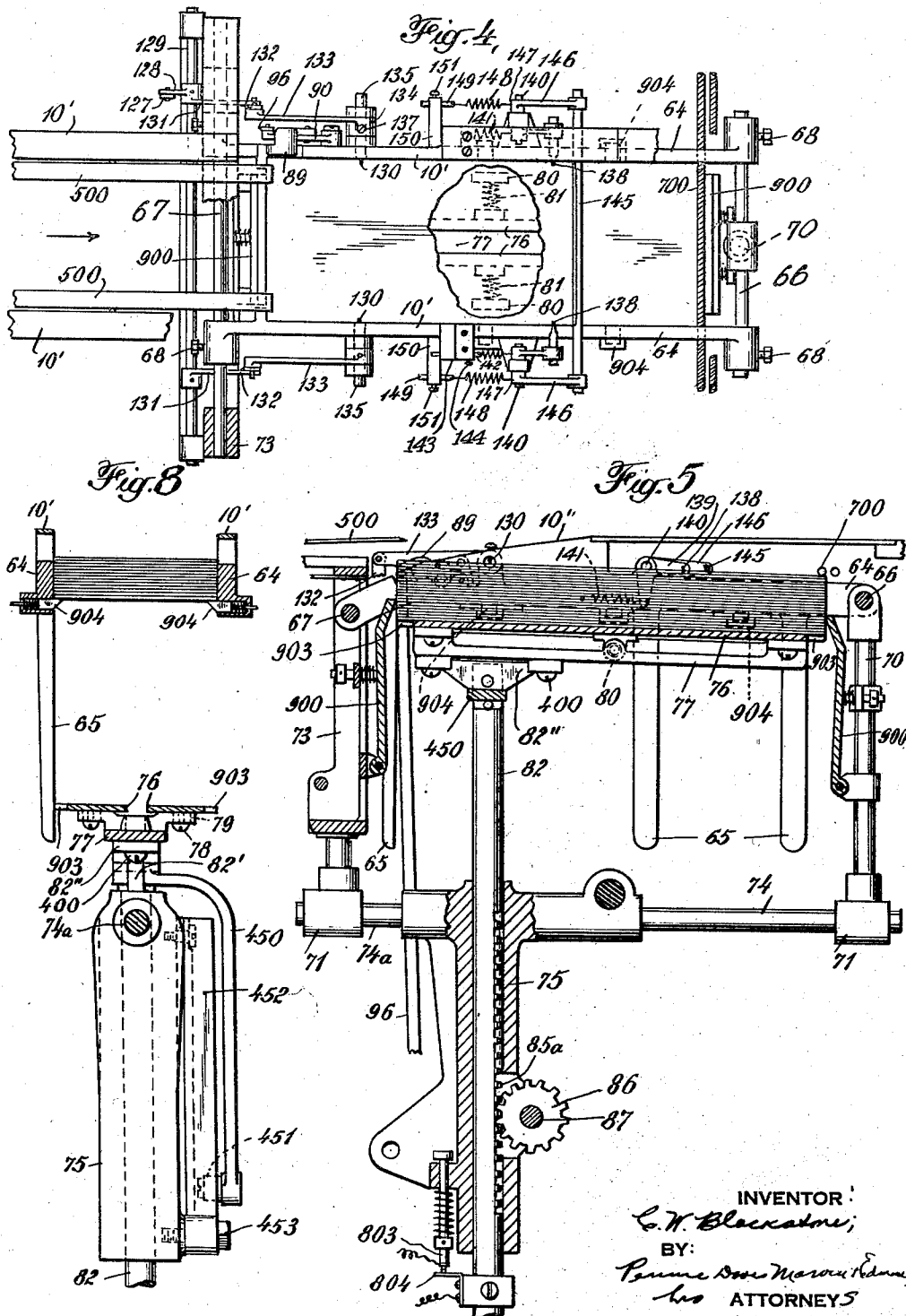
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LABEL FEEDING MECHANISM

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2,137,381

LABEL FEEDING MECHANISM

Filed Aug. 22, 1935

6 Sheets-Sheet 5

Fig. 6.

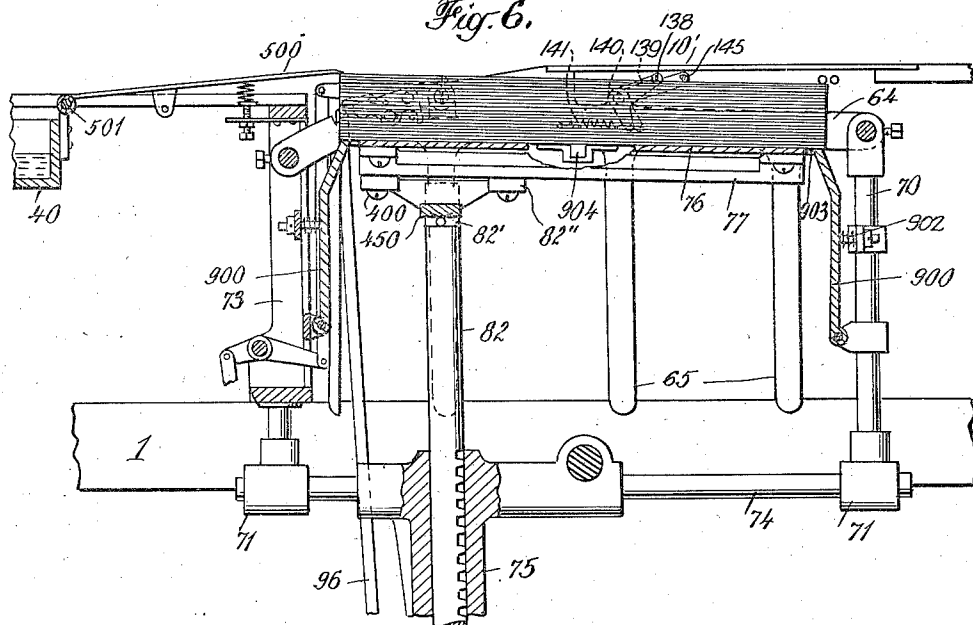
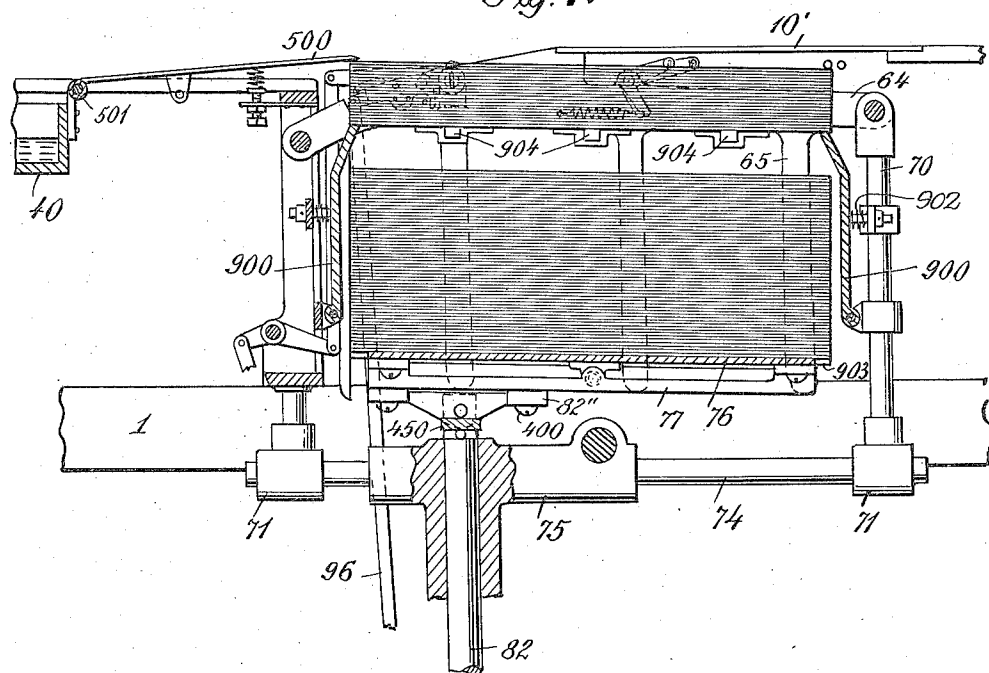


Fig. 7.



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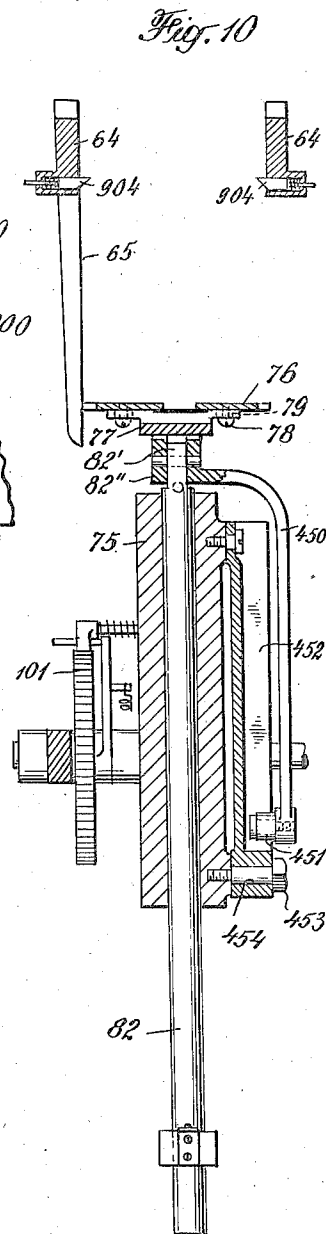
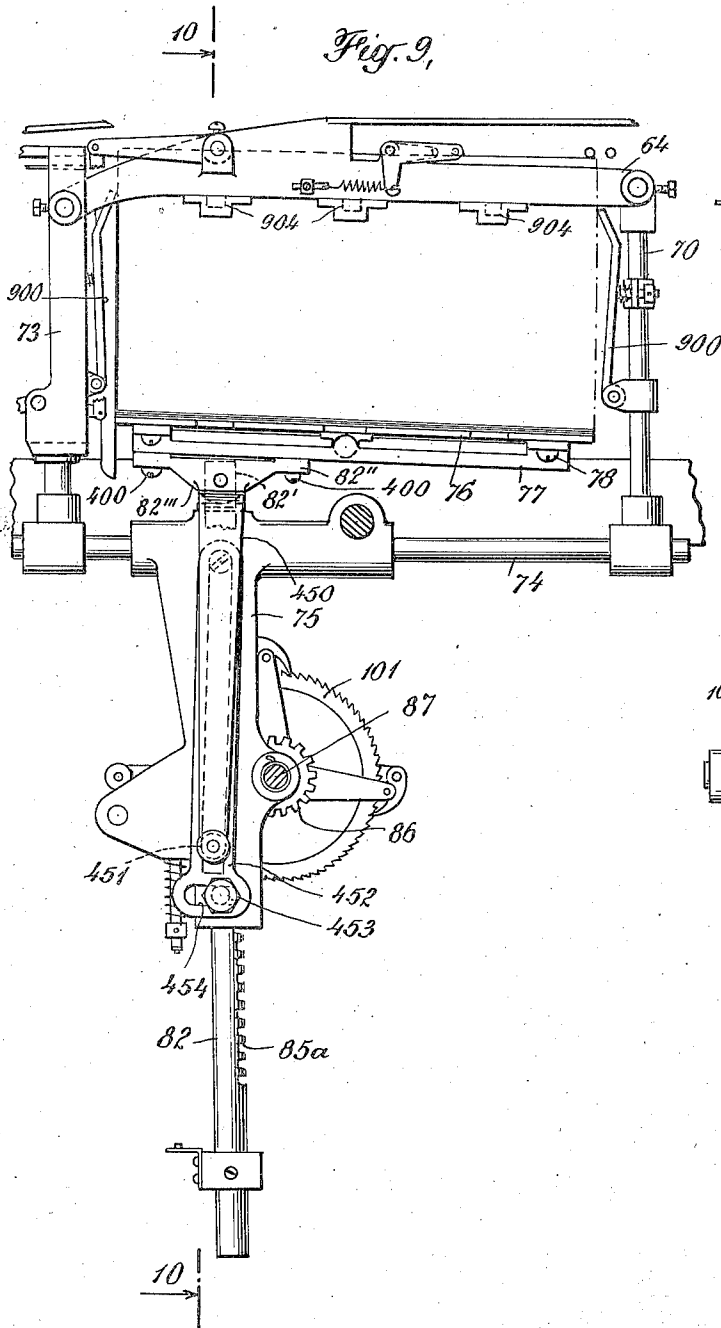
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LABEL FEEDING MECHANISM

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6 Sheets--Sheet 6



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UNITED STATES PATENT OFFICE

2,137,381

LABEL-FEEDING MECHANISM

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Application August 22, 1935, Serial No. 37,268

17 Claims. (Cl. 271-62)

This invention relates to labeling-machines, and primarily to machines for labeling cans and other like packages. More particularly, it concerns labeling machines of the type in which
5 a can passes along a runway, has siccative applied thereto, picks up a label thereby, and winds it around itself while rolling, the lap end of the label having been in the meantime rendered adhesive and being secured to the can by the rolling that occurs after the lap end is gummed, such as shown in U. S. Patent No. 1,271,724.

The principal object of the present invention is to provide a labelling machine in which the operator can replenish the supply of labels without shutting down the machine.

Another important object of the invention is to provide for automatically compensating for the greater height of the far end of the label-stack over the near end caused by the greater thickness of one end of the labels over that of the other, which is sometimes caused by the printing, embossing, or engraving, etc., and to hence maintain the top surface of the label-stack always in proper position to enable the
25 labels to be easily removed.

The other objects and concepts of the invention will be made manifest as this specification progresses.

The presently preferred embodiment of the invention is shown by way of example in the accompanying drawings, but it is to be understood that the invention is limited in its embodiments only by the scope of the sub-joined claims. In these drawings,

35 Fig. 1 is a central, longitudinal vertical, section of this embodiment, partly in elevation;

Fig. 2 is a view of the central portion of the machine partly in elevation and partly in section on line 2-2 of Fig. 3;

40 Fig. 3 is a transverse, vertical section on line 3-3 of Fig. 1;

Fig. 4 is a top plan view of the label receptacle and associated parts;

45 Fig. 5 is a vertical longitudinal section of the label receptacle showing the position of the parts as the supply of labels approaches exhaustion but before it is time to replenish it;

Fig. 6 is a similar view showing the position of the parts after the supply of labels is still further diminished and the means for temporarily supporting it during the insertion of a fresh supply, have functioned;

55 Fig. 7 is also similar to Fig. 5 showing the label support lowered to its lowermost position

and having had a fresh supply of labels placed upon it;

Fig. 8 is a vertical transverse section of the label receptacle with the parts as shown in Fig. 7, except that the supply of labels has not yet been placed upon the label support;

Fig. 9 is a side elevation of the label receptacle showing the mechanism for automatically controlling the label stack to compensate for differences in the height of the stack at its opposite ends; and

Fig. 10 is a transverse section on line 10-10 of Fig. 9.

Referring now more in detail to the construction shown in the drawings, 1 is a main frame or table of any suitable construction, and preferably of rectangular formation, supported in the usual manner by suitable standards or legs 2.

A runway for cans or the like extends longitudinally of the machine, the runway being generally indicated by the numeral 10, and comprising oppositely disposed bars 10' adapted to afford a supporting rest for only the ends of the cans. Adjacent opposite ends of the machine are suitable chutes, a feed chute and a discharge chute, not shown.

The cans are fed through the machine by endless-belt carriers 16, mounted upon rollers 17 and 18 respectively, positioned upon shafts like 17a. These shafts are supported upon a suitable auxiliary frame 19, extending longitudinally of and above the runway, the auxiliary frame being vertically adjustable by the usual mechanism (not shown) to accommodate cans of different diameters.

In order to prevent contacting of the belt 16 with the pasted portion of the cans, conical guide rollers 29 of special formation are provided, to engage the inner surface of the lower stretch of the belts. The rollers 29 are mounted upon a suitable shaft 30, and each has a hub portion 31, connecting with a disk-part 32, of substantially the same diameter as the greatest diameter of the roller 29, thereby affording an abutment to prevent slipping of the belt while permitting the belt to slightly yield in the space between the disk and smaller end of the roller. The shafts 30 for the rollers 29, are positioned in spring pressed supports 31a, the tendency of which latter is to position the roller supported 50 belts 16 in driving contact with only the ends of the cans in their movement along the runway, with the result that the belts will not engage the pasted area of the periphery of the cans.

The conical rollers are arranged along the

length of the belts between the paste pot 40 and the far end of the label magazine. At suitable intervals elsewhere throughout the length of the feed belts 18 are suitable spring pressed rollers 32', of substantially the same diameter from end to end, adapted to exert the feeding pressure of the belt on the cans. A belt tightener of any approved type may be provided to take up any play or slack, as desired.

10 The pasting mechanism 400 is arranged at the forward end of the machine below the runway 10 and includes a paste receptacle 40. Adjacent the forward end of the paste receptacle 40 is a suitable supporting shaft 43, extending transversely of the runway and adapted to have
15 mounted thereon a pasting roller, which latter comprises a plurality of connected disk-shaped parts 44, fixed upon a common hub 45, secured to the shaft 43, the disk-shaped parts 44 being separated from one another by an intervening space. A cover 47 may be provided at the forward end of the receptacle 40, the same having a suitable cut out part whereby to receive the paste roller, the overlying sides of the cover forming
20 scraping means or a doctor-blade for the peripheries of the roller, to prevent any accumulation of the paste at this point.

The shaft 43 for the paste roller is adapted to be suitably driven from the source of power, as by worm wheel 600, worm 601, and drive shaft 602.

The forward end of the paste receptacle 40 which accommodates the pasting roll is carried by a suitable bracket 57, adjustably mounted at 35 58 upon a suitable supporting member 59, to the end that the paste receptacle may be adjusted longitudinally of the machine, the rear end being supported on a cross shaft 501 which is carried in brackets (not shown) which are longitudinally adjustable. 60 is a bolt having a threaded engagement with the offset part 57' of the bracket 57, and a suitable engagement, 61, with the base of the receptacle 40, said bolt terminating in a small hand-wheel 62, so that the forward end of the receptacle may be slightly tilted about the fulcrum at point 501, to thereby regulate the engagement between the paste disks 44 with the periphery of the can. A suitable centering device and auxiliary support for the receptacle 40 includes a bolt 63 having a tapered upper end
40 loosely fitted into a recess in the lug on the base of receptacle 40, and having a threaded engagement at its opposite end in an aperture in the offset part 57' of the bracket, a nut 63' serves to retain the bolt 63 in position, after having been adjusted to accommodate for the adjustment of the bolt 60.

The label receptacle includes suitable sides 64, the upper edges of which taper downwardly at their forward ends 64' to a point below the runway bars 10, to the end that the forward ends of the uppermost labels will be positioned above the forward end of the label receptacle whereby to be picked up by a passing can in its movement along the runway and over the upper edges 64' of the label receptacle, which said upper edges constitute in effect a continuation of the runway bars 10. The said upper edges of the sides connect with that portion of the runway bars 10' projecting rearwardly beyond the label receptacle. Projecting downwardly from one side 64 of the label receptacle are vertical bars 65, which form guides for the edges of the labels positioned upon the label support. In order to accommodate labels of variable widths, the sides 64 are relatively

laterally adjustable on rods 66 and 67, and held in place by bolts 68. The rod 66 is supported in a bracket at the upper end of a vertical rod 70, which latter is supported in a suitable bracket sleeve 71, the sleeve 71 being longitudinally adjustable on a horizontal rod 74 and adapted to be held in adjusted position as by a threaded bolt 72. The rod 67 at the opposite end of the label receptacle is supported in any desired manner upon a suitable frame 73. The supporting frame 73 and supporting rod 70 are mounted upon longitudinally extending rods 74 and 74', projecting from a T-shaped centrally located sleeve support 75, the latter being mounted in any desired manner upon the frame 1.

A label follower or bed proper is provided and comprises plates 76 mounted upon a suitable base 77, as by threaded bolts 78 projecting downwardly from the plates 76 and engaging slotted apertures 79 in said base 77. Suitable lugs 80 project downwardly from the undersurface of the plates 76, and spiral springs 81 engage at one end a fixed part of the support 77, and at the opposite end engage said bosses 80, whereby to force the plates 76 outwardly into contact with the vertical guides 85, thereby adapting the plates 76 to the size of the receptacle determined by the adjustable sides 64.

The labels, as they are usually made, have their front, or pick-up, end left blank, that is to say, without any printing or embossing thereon for from $\frac{1}{2}$ to $\frac{3}{4}$ in. When the label is wrapped around the can, the lap end, or right-hand end, thereof overlaps the unprinted margin of the pick-up end, and the omission of ink or varnish from the margin facilitates adhesion. The absence of the coating of ink and varnish at the pick-up end, however, makes the label supply thinner at this end, particularly when the decoration on the label includes embossing, etc. The difference in thickness in a single label is minute, but when a stack of a thousand or more labels is considered, it causes a difference in the height of the stack which is considerable, sometimes causing the right-hand end of the stack to fluff up as much as $\frac{1}{2}$ in. to $\frac{3}{4}$ in. above the left hand end.

However, for the top of the label stack to be in proper relation to the path of the cans, it should be substantially horizontal, or, in other words, substantially parallel with the right-hand portion of the can stack immediately above the label stack, and preferably the pick-up end should actually be slightly higher than the lap end of the label stack. In order to accomplish this, I have provided the mechanism shown in Figs. 9, 10 and 8, by means of which the label support, or bed, is tilted automatically in such a way as to maintain the proper relation between the top of the label bed and the can stack, irrespective of the number of labels in the machine. That is to say, with a low stack of labels in the machine, the label bed will be tilted to a less degree than when a high stack of labels is in the machine, thereby maintaining the proper level at the top of the label stack. The change in angle of tilt is proportional to the elevation of the label support or bed.

In addition, due to the different kinds of printing, embossing, engraving, etc., which are used for the ornamentation of labels, some kinds of labels will tend to fluff up at the lap, or right-hand, end to a greater extent than others. Accordingly, the mechanism of my invention is made so that it can be adjusted to suit the par-

tical kind of label employed. When once so adjusted, no change is necessary, unless the character of the labels changes, but should a different sort of label be used in the machine, or if there should be a change in the characteristics of the labels from one batch to another, the desired adjustment can be made quickly and easily. This mechanism will now be described.

The main support-rod 32 has its upper end flattened as at 32' to form a tenon-like member which is embraced by a yoke-like member 32'', pivoted thereto as shown. The yoke member extends outwardly and downwardly as a tail 450 as shown best in Fig. 10, and longitudinally as ears 32'''. 15 bolted as at 400 to the underside of the bed-plate 77. The lower end of tail 450 bears a roller 451, and the corresponding face of the fixed sleeve or bearing 75 bears a channel-member 452 in which the roller is adapted to work. The upper end of member 452 is pivoted as shown to the member 75, and the lower end is adjustably engaged with the member 75 as by a set screw 453 working in a slot 454.

When the receptacle is first filled the right end 25 of the label support or bed, (plates 76) is purposely depressed enough below the left-end thereof, to render the top of the pile substantially horizontal though the plate itself is depressed at its right end. As the follower is fed upwardly, the straight-line cam action of roller 451 and channel member 452 functions to gradually increasingly elevate the right end of the bed plate with respect to the left end of the bed plate since the unevenness of height of the pack due to the disparity in thickness of the labels at opposite ends disappears gradually, so that finally the bed-plate itself is rendered almost horizontal, the top surface of the stack, in all feed-positions, remaining always horizontal. It will be understood that this term "horizontal" means, as indicated above, in proper relation to the path of the cans.

The rod 32 has upon one edge thereof rack teeth 35a, adapted to be engaged by suitable teeth on spur 36, mounted upon a shaft 37, supported at the lower end of the T-shaped member 75. The shaft 37 is provided at one end with a hand wheel 38, and at the other end with an intermittent feed mechanism, which is positively driven by suitable means controlled by the movement of a can passing along the runway to raise the rod 32 at intervals as the labels are taken up by the cans.

This feeding mechanism for the labels includes a trip 39, (see Fig. 2) mounted on a rock arm 90 which is pivoted upon a suitable stud 91 on the side member 64 of the label receptacle. The rock arm 90 has a curved tail piece 90a to engage a lug 92 so as to limit the upward swinging movement of the rock arm 90. The connection between the trip member 39 and rock arm 90 is adjustable, as through the medium of a screw and slot connection 93-94, with the arm 90, whereby the position of the trip member 39 may be accurately adjusted with respect to the desired height to which labels are to be fed.

The trip member 39 is arranged upon the side of the label receptacle adjacent the forward upper edge thereof, and is so positioned in the space above the inclined portion 64a of the label receptacle as to be engaged and pressed down by one of the heads of the cans whenever the elevation of the front edge of the label stack is low enough to permit it. The extent of the downward movement of the trip member by a can is determined by the height of the labels in the receptacle; that is to say, assuming that the normal position of the

can engaging end of the trip member is in substantially the same horizontal plane as the top-most label, the can in its movement over the label supply will not, owing to its contact with the label supply, move the trip member to any appreciable extent, but as the labels are taken off, the movement of the trip member by the cans is increased and only after the member is moved downwardly by the cans a predetermined distance is the actuating means placed in operative condition to elevate the label bed.

Operatively connected as by a pintle 95, to the free end of the rock arm 90, is a vertically extending bar 96, which latter is slotted at its lower end at 95a, whereby to receive a pintle 97 on the rock arm 99, sleeved upon the shaft 37. The pintle 97 has an eccentric extension 97a mounted in a bearing in the rock arm 99, whereby its position may be accurately adjusted. The bar 96 is held normally in elevated position by a spring 126a between the pintle 97 and a pin 126b in the lower end of the bar. At the free end of the rock arm 99 is positioned a spring actuated pawl 100, adapted to engage suitable ratchet teeth 102, upon a ratchet wheel 101 secured to the shaft 37. A pivot bearing 100a for the pawl 100 is given the form of an adjustable eccentric, to the end that the pawl 100 may be adjusted and accurately set to compensate for wear, or for any inaccuracy in construction. A pawl 103 is provided for holding the ratchet against reverse movement.

By means of the mechanism just described, the right end of rock arm 99 is lowered to a greater or less extent into the path of a continuously rotating cam 124 which coacts with a roller 125 on the rock arm. The roller is biased upwardly away from the cam by a spring 103a whose tension can be adjusted by a device 104. Cam 124 is on a transverse shaft 123 driven by bevelled gears 121 and 122 from a shaft 120.

Assuming that the height of the label stack is such that the cans will not force trip, or control member, 39 with rod 95 and the right end of rock arm 99 downward a sufficient distance to raise the left end of the rock arm and pawl 100 the space of one ratchet tooth, cam 124 on its next rotation will impart only a slightly idle rocking movement to the rock arm. When, however, the height of the label stack is reduced by the further removal of the labels, the pressure of a passing can on member 39 will move it a sufficient distance to raise the pawl 100 the full space of a ratchet tooth. Then on the next rotation of cam 124, rock arm 99 will cause the ratchet wheel 101 to be rotated correspondingly, thereby feeding the label stack upwardly and restoring the top of the stack to its original elevation.

We now come to the mechanism for providing for the replenishing of the label supply without stopping the machine. This includes devices for temporarily supporting the residual portion of a nearly exhausted stack of labels while permitting the label bed to be lowered to receive a fresh stack of labels.

At each end of the label-receptacle, there is provided a plate 900 hinged at its bottom edge on pins 901 running transversely of the machine and slightly outside the vertical feed-path of the label pile. Each plate has a light coiled spring 902, pressing them onto the ends of the label-pile. When the bed-plate rises above the tops of plates 900, the upper ends of members 900 will be pushed in under the ends of the pack, the label-bed-plate being cut out at 903 to permit this. The plates may well, also, consist of other shapes and other

materials, equivalently mounted, constructed and functioning.

On the longitudinal sides of the pile, on each side, and in the same horizontal plane as the tops of the members 800, are a plurality of latches 904, here shown as six in number and of the door-latch type with their cam-sides (or faces) down. These latches 904 are under spring tension, and when the pile is divided, snap into place under the top portion and hold it up until joined by the new supply, when they are retracted, as shown.

When the label bed has fed upwardly until there is about 2 inches of the stack left, a suitable signal is given the attendant, and he then turns the label feed wheel 88 to elevate the bed plate a sufficient distance for the hinged plates and latches to slip under the bottom of the pile. This raises the pack to somewhat higher than normal position and prevents the cans from striking the control or trip member 89.

Two guide-members 500 having their ends overlying the label stack, as shown best in Figs. 4 and 1, are pivoted on the shaft 501 which also supports the front wall of the paste receptacle. Coiled compression springs 503 urge plates 500 upwardly. When the bell rings and the operator runs up the bed higher than normal, the runway 10 is left behind and the members 500 bear on the pile as in Fig. 7 and provide a ramp for the cans. Each member 500 bears an ear 500' carrying stop pin 504 for limiting the upward movement of the member 500.

After this operation, the label bed is lowered by releasing the dogs 100 and 103 through the medium of a double-arm trip device sleeved upon the shaft 87, one arm 105 of said device having a pin 106 to engage under the dog 103, and the other arm 107 having a pin 108 to engage under the dog 100. The arm 107 is also provided with an operating handle 109 (Fig. 1) whereby to impart rocking movement to the arms, and said rocking movement, in one direction, lifts the pawls out of operative contact with the ratchet wheel 101. The arm 105 is also provided with means for limiting its movement in opposite directions, comprising a bifurcated terminal 110, to engage over a lug or projection, on the support 75, as shown in dotted lines in Fig. 1. A spring 112 connecting with the arm 105, at one end (at its opposite end with the support 75), tends to normally hold the pins 106 and 109 out of contact with the pawls 100 and 103, respectively. When the said pawls have been released from operative engagement with the ratchet wheel 101, as just described, the operator may impart rotary movement to the ratchet wheel through the medium of the hand wheel 88, and thereby lower the label bed into a position to receive a new supply of labels.

A suitable compensating spring 88* may be provided, and mounted on the shaft 87 and secured at one end to the hand wheel 88, and at its opposite end to a fixed part of the machine. As the shaft 87 is moved in one direction to lower the label bed, the spring is put under tension, and when moved in an opposite direction to raise the label bed, the tension is gradually relieved.

The signalling device for indicating the necessity of replenishing the label supply is here shown as consisting of an electric battery or other source of electric energy 800 having a normally open circuit 801 in which is located a gong or bell 802.

One terminal of the open circuit is constituted

by a spring-mounted stop 803 on member 75, and the other by a contact 804 on upwardly moving rod 82. When the supply of labels falls to 2 inches, or thereabouts, contacts 804 and 803 meet and cause the bell to ring.

In order to prevent more than one label being picked up by the can, knife blades 130 and 138 are mounted in the sides of the label bed to project slightly over the edges of the label. The blades 130 extend into the receptacle at opposite sides near the forward end thereof, whereby to engage the margin of the uppermost labels at their edges. The blades 130 which are near the front end of the label bed are continuously rocked to insure their cutting through the top label without stripping it off the can. To this end the shaft 123 carries at its end a small crank-pin (Fig. 2) to which is connected a rod 127, pivotally connected at its upper end to a rock arm 128, positioned on a rock shaft 129, extending transversely of the machine and mounted in suitable bearings of the label framework 73. Projecting in a direction opposite to the arm 128, and fixed upon the rock shaft 129, are arms 131, pivotally connected by links 132 to arms 133 attached at 134 to the knife shanks 135, mounted in bearings 136 carried by the side bars 64.

The knife blades 138 are mounted upon the bell crank levers 139, sleeved upon studs 140 on the sides 64 of the label receptacle, springs 141 being connected to one arm of the bell cranks 139 and at their opposite ends to pins 142, tending to normally exert a slight downward pressure of the knife blades upon the uppermost label. The pins 142 are lengthwise adjustable in a suitably supported bracket 143, on the side of the label receptacle, whereby to regulate the tension of the spring. When properly adjusted, the pins may be held in place through the medium of set screws or the like 144.

In order to facilitate winding the labels on the cans, a curling bar 145 extends transversely across the label receptacle, and has a flattened under surface to engage the upper surface of the labels adjacent the rear end of the latter. The curling bar 145 is mounted at its ends upon bell cranks 146, sleeved at 147, upon the stud 140, a suitable spring member 148 being connected at one end to the opposite arm of the bell crank 146, and at its opposite end to a pin 149 having an adjustable connection with a support 150. Said pin is adapted to be held in adjusted positions, as by a set screw 151. The tension of the spring and thereby the pressing contact of the curling bar upon the labels may be regulated at will.

A suitable lap-end pasting mechanism is provided which includes a coiled-wire-belt, paste-applying member 700. This mechanism is not shown as it requires no modification to accommodate the extra elevation given the label stack when the stack is replenished, the belt being sufficiently extensible for the purpose.

In order to accurately guide the cans in their movement along the runway there is preferably provided at one side of the runway a relatively fixed guide member 210, to engage one end of the cans, and a thin, yieldable, sheet-metal strip 211, to engage the opposite end of the cans.

In operation, about one thousand labels at a time are initially carried in the receptacle and they are inserted in the usual manner. The label bed is so raised that the cans can contact and pick them up, and the cans roll through, labeling themselves by means of the automatic mechanism hereinabove described. When the label bed

has automatically fed up so that there is only 2 inches to 1 3/4 inches thickness of labels on it, the electrical contacts are closed, and the attendant is warned by means of the sounding bell.

5 The attendant then has at least 15 seconds in which to replenish the supply, and to do so, he merely turns the label-feed hand wheel to raise the label bed until the latches and hinged plates slip under and provide the sole support for the labels. The label-bed is then lowered by the 10 hand wheel, a new pile of 1000 labels is inserted on the lowered bed-plate, and it is raised and pushed up so that it releases the small top-pile and it joins with the new 1000.

15 I have shown my improved mechanism for maintaining the labeling machine in continuous operation during the replenishing of the label stack as applied to a well-known type of label machine, shown for example in U. S. Patent No. 20 1,271,724. It will be understood however that the invention constituting the present improvements consist only in those mechanisms and combinations of mechanisms recited in the appended claims. It will also be understood that the inven- 25 tion is not limited to the details of construction herein illustrated but covers all such modifications thereof as fall within the scope of such claims.

I claim:

30 1. In a machine having a magazine for sheet-material including a vertically movable plate, means for automatically feeding same upwardly synchronously with the other operations of the machine, means for automatically segregating and supporting a residue of sheets in the opera- 35 tive position, means for lowering the plate into position for receiving a fresh additional supply of sheets thereon, adding the new supply to the old supply to form a new total supply while continuing the other operations of the machine, and 40 means on the lowering-member and on the machine frame for signalling imminent depletion of the supply.

2. In a machine of the character described, a main frame, a receptacle-frame therein including 45 vertical members and horizontal members defining a smaller oblong framework, hinged, vertically-extending plates at one end of said oblong framework, said plates being spring controlled, and at least one retractable cam-like member at 50 either side of said oblong framework near the top thereof, said latter member being operative to support a residual stack of material in operative-position.

3. In a machine of the character described, 55 a main frame, a receptacle-frame therein including vertical members and horizontal members defining a smaller oblong framework, hinged, vertically-extending plates at one end of said oblong framework, said plates being spring-controlled, 60 and a plurality of spring-controlled cam-like latch members around the sides of the oblong, said latter members being operative to support a residual stack of sheet-material in operative-position.

65 4. In a machine of the class described, a runway comprising two spaced members, a frame for a stack of sheet-material at one end thereof, and substantially parallel, elongated members each having one end fixedly pivoted between the run- 70 way members and their opposite ends overlying the longitudinal dimension of the stack.

5. In a machine of the character described, a runway, a frame for a stack of sheet material at one end thereof, and elongated members in 75 the runway and having one end pivoted to the

machine frame and the other resiliently overlying the longitudinal dimension of the stack.

6. In a machine of the character described, a runway, a frame for a stack of sheet material at one end thereof, and two substantially parallel, 5 elongated spaced members in the runway, one end of each of said members being pivoted to the machine frame and the other end being tapered and overlying the stack, a resilient compression member adjacent this end for damping the move- 10 ment of said elongated members, and a slotted ear on each elongated member engaging a pin to effectuate a stop-action of the upward rise of said elongated members.

7. In a machine of the character described, a 15 main frame, a magazine mounted therein, a magazine-bed for supporting a supply of sheet-material with one end initially lower than the other, a vertically movable elongated member under- 20 neath and having said bed pivoted thereto, means for automatically vertically moving said elongated member synchronously with a progressive depletion of the sheets on said bed, a lever fixed to said bed and extending substantially parallel 25 with the line of movement thereof, and means for moving said lever laterally simultaneously with the movement of said elongated member for progressively elevating the said depressed end of said bed to thereby ultimately bring said bed into 30 a substantially horizontal position.

8. In a machine of the character described, a main frame, a magazine mounted therein, a mag- 35 azine-bed, an elongated member vertically movable in said frame, means for feeding same upwardly, a bracket attached to the underside of the bed, a pair of ears on said bracket embracing 40 the upper end of said elongated member, a pivoted connection between the two such as to locate the far end of the bed initially in a depressed position, a yoke-member depending from said 45 bracket alongside the elongated member, the lower extremity thereof bearing a cam-follower member, and a cam-track fixed to the said frame, whereby there is produced a straight-line cam action progressively elevating the depressed end of 50 said bed when said elongated member is fed upwardly.

9. In a machine of the character described, a sheet-material bed having an elongated down- 55 ward feeding extension member, an open electric circuit having one terminal on said feeding member, means for feeding said elongated member upwardly, a signalling device in said circuit, the other terminal of said circuit being located on an 60 adjusting member on the frame of the machine at such a position that the circuit is closed to actuate the signal when a predetermined diminished number of sheets lies between the bed and the rolling articles, whereby to provide time latitude in which to replenish the supply of sheets 65 without interrupting the continuity of the other operations of the machine during this period.

10. In a labeling-machine, a pair of spaced supports terminating in a label-receptacle therebe- 70 neath, said receptacle having a pivoted bed for containing a vertical stack of labels each somewhat thicker towards one end than the other, means for progressively feeding said stack verti- 75 cally, and means operated thereby for automatically adjusting the relative vertical height of the respective ends of the stack in order to compensate for the disparity in thickness of the ends of the labels, whereby to maintain the path over the stack for the articles being labeled, always

substantially horizontal and no higher at one end than at the other.

11. In a machine of the character described, a main frame, a label-receptacle mounted therein, a label-follower bed in the receptacle for supporting a supply of sheet-material with one end initially lower than the other, a vertically movable elongated member underneath and attached to said bed, means for automatically vertically moving said elongated member synchronously with a progressive depletion of the label-supply on said follower, and means for synchronously and progressively elevating the said depressed end of said follower to thereby ultimately bring said follower into a substantially horizontal position.

12. In a machine having a magazine for a supply of sheet-material, feeding mechanism for the magazine including a support, means for lowering the support while retaining a sufficient supply of sheets in operative position, to permit removal of sheets from the top thereof, means operated by the feeding mechanism for signalling an attendant when substantial reduction of the supply of sheets becomes imminent, and means for permitting replenishing the sheet-supply without interfering with the removal of the sheets.

13. In a machine having a magazine for sheet-material, means for adjusting the magazine for inserting a fresh supply, means for supporting a residual supply in position for continuing the machine in operation while replenishing, means for joining said fresh supply to the residual supply to completely fill the magazine without interrupting the operation of the machine, and means for signalling imminent depletion of the supply.

14. In a machine having a magazine for feeding a stack of labels, means for removing labels from the top thereof, means for supporting a residual supply and means for lowering a magazine-part to take a new supply thus permitting replenishing the supply of labels without interfering with the removal of the labels from the top of the stack, and means on said replenishing-permitting means and on the machine frame for signalling imminent depletion of the stack.

15. In a machine for attaching strips of material to rollable-surfaces, a strip-receiver, means for feeding same, means for supporting a re-

sidual supply and means for lowering a magazine-part to take a new supply thus permitting replenishing the strip supply while simultaneously attaching the strips, and means on the replenishing-permitting members and on the machine frame for signalling imminent depletion of the strips.

16. In a machine of the character described, a label magazine bed for supporting a supply of labels with one end of the bed initially lower than the other, a frame member, an elongated member mounted for vertical movement in said frame member and having said bed pivoted thereto, means for automatically vertically moving said elongated member synchronously with a progressive depletion of the labels on said bed, a lever fixed to said bed and extending downwardly therefrom in substantially parallel relation to said elongated member, and cam means cooperating with said lever and said frame member to cause a lateral shifting of the lever as said bed rises to progressively elevate the depressed end of said bed to ultimately bring the bed into a substantially horizontal position, said cam means being adjustable to vary the initial depression of the lower end of said bed.

17. In a machine of the character described, a label magazine bed for supporting a supply of labels with one end of the bed initially lower than the other, a frame member, an elongated member mounted for vertical movement in said frame member and having said bed pivoted thereto, means for automatically vertically moving said elongated member synchronously with a progressive depletion of the labels on said bed, a lever fixed to said bed and extending downwardly therefrom in substantially parallel relation to said elongated member, a cam follower at the lower end of said lever, an elongated cam member having a cam track for cooperating with said cam follower to cause a lateral shifting of the lever as said bed rises to progressively elevate the depressed end of said bed to ultimately bring the bed into a substantially horizontal position, said cam member being pivoted at its upper end to said frame member and having an adjustable connection at its lower end whereby the angularity of said cam track may be adjusted.

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