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LABEL AFFIXING MACHINE.

APPLICATION FILED APR. 18, 1911.

1,050,856.

Patented Jan. 21, 1913.

2 SHEETS—SHEET 1.

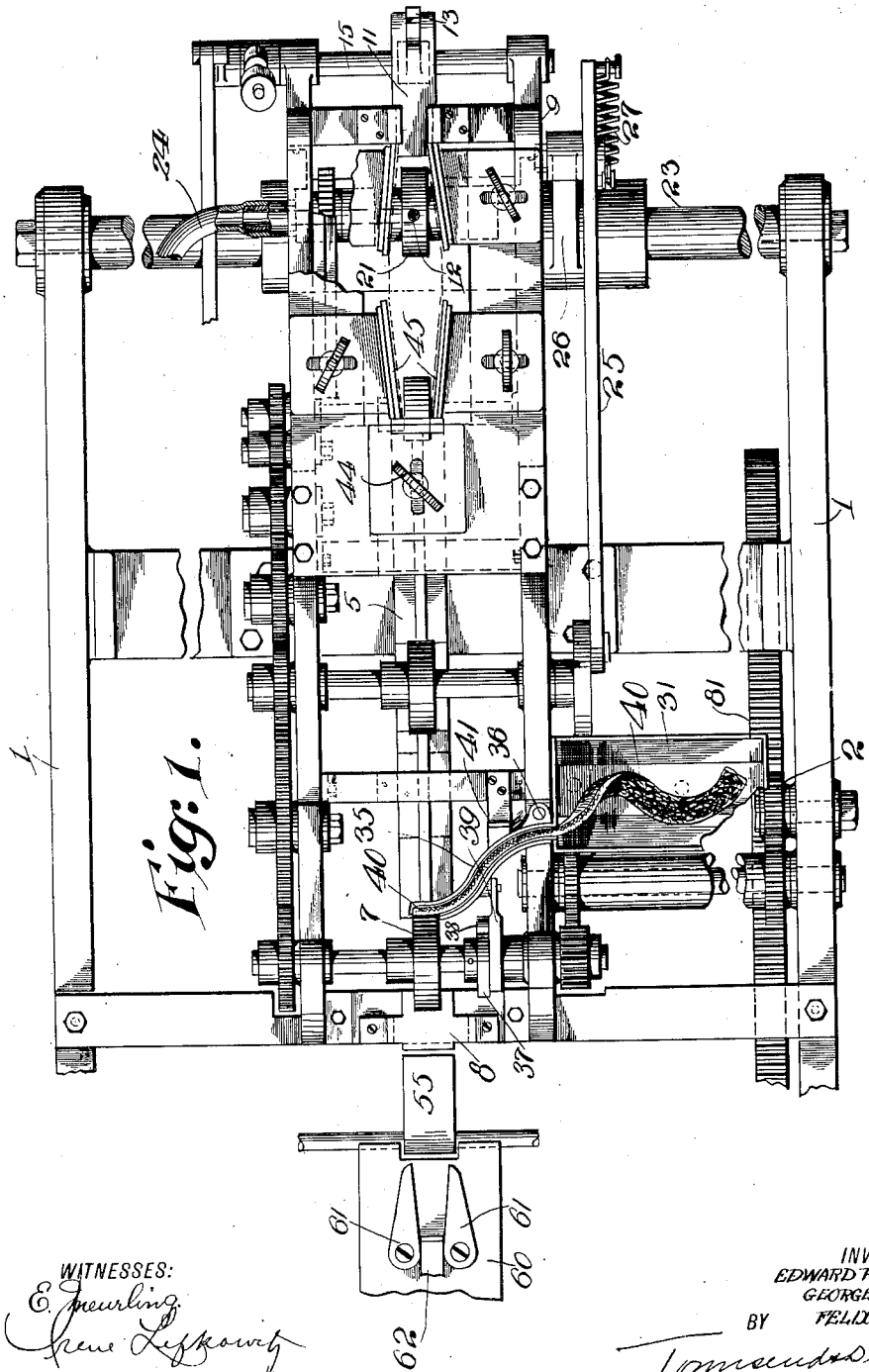

Fig. 1.

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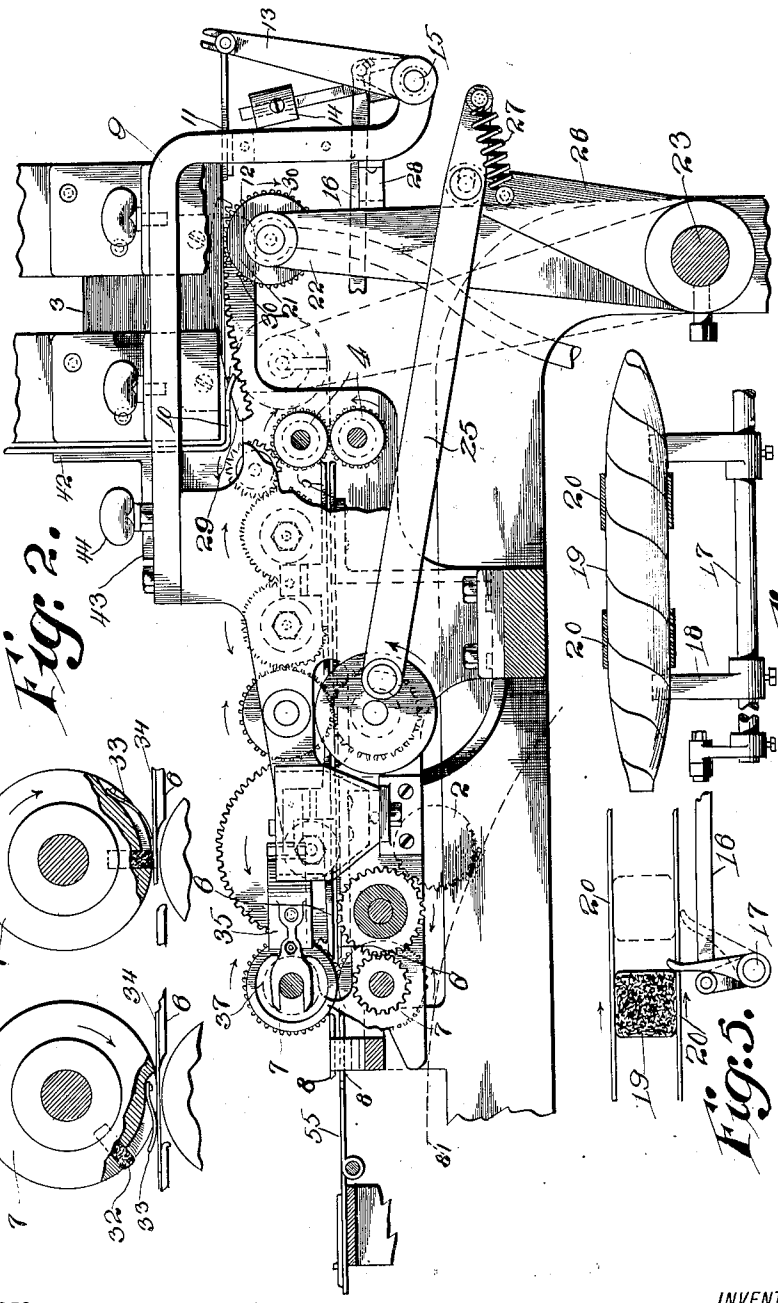

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 3.

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LABEL-AFFIXING MACHINE.

1,050,856. Specification of Letters Patent. Patented Jan. 21, 1913.

Original application filed March 9, 1909, Serial No. 482,262. Divided and this application filed April 18, 1911. Serial No. 621,772.

To all whom it may concern:

Be it known that we, EDWARD P. SHELDON, GEORGE BRAND, and FELIX MARCILE, citizens of the United States, and residents of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Label-Affixing Machines, of which the following is a specification.

Our invention relates to the means for supplying labels in properly gummed or moistened condition to position in a label affixing machine for affixing to the objects to be labeled.

The invention is particularly useful for cigar banding machines of the general character described in application for patent filed June 6th, 1908, Serial No. 437,041, by Edward P. Sheldon, which was issued as Patent No. 981,017, dated Jan. 10, 1911.

The object of our invention is, among other things, to prevent the labels from sticking to the moistening device, as well as to afford a simple and effective apparatus for properly gumming or moistening the labels and delivering them, one at a time, in gummed or moistened condition, directly to a support adapted to hold or support the label in readiness for receiving the article to which it is to be affixed.

The invention consists in the special details of construction and combinations of devices more particularly hereinafter described and then specified in the claims.

In describing the invention, it will be assumed that the articles to be labeled are cigars fed to labeling position on a collapsible support or platform, as described in the prior application and patent above referred to. Inasmuch as the invention has to do particularly with the portion of the apparatus for gumming or moistening the labels and the associated devices for supplying the labels to the same, and is applicable to other machines for affixing labels, the drawings and specification will be confined, for the sake of brevity, to such portion of the machine, and the appliances for feeding the cigars or other objects and for applying or wrapping the band or label, have been omitted.

Figure 1 is a plan of an apparatus embodying our invention. Fig. 2 is a side elevation of the same. Figs. 3 and 4 show the label moistening device with its detaching finger in two different positions. Fig. 5 illustrates the means for controlling the feed of the labels from a pile of the same to the label moistening devices. Fig. 6 is an end elevation of the device shown in Fig. 5.

1 indicates the framework of the machine broken away in a vertical line between the label feed and the portion which supports the devices for feeding the cigars or other objects to label affixing or banding position upon the collapsible platform 55 or other support, as described in the prior application hereinbefore referred to.

The mechanism shown may be driven from a wheel 81 or other driving wheel connected with or forming a portion of any revolving member of the machine, as described in such prior application, said wheel 81 being indicated in dotted lines and being shown as gearing to a wheel 2.

The labels detached or removed one at a time from the pile of labels 3 are first received by a pair of feed rolls 4 and fed thereby between guide plates 5 from which they are passed on by a pair of feed rolls, at the farther end of said plates 5 to a second pair of guide plates 6. They are drawn from the space between the latter pair of guide plates by means of a pair of feed rolls 7 and forced by the latter through guide plates 8 into position upon the collapsible support 55. In this position they receive the cigar or other object to be labeled and are affixed thereto by the operation of a suitable plunger and folding and pressing devices which act when the object with the label beneath it is forced down past plate 55, said devices operating in the manner described in the aforesaid application or in any other suitable way. The forward end of the label which, in the present instance is supposed to have inclined sides is received between side guide plates 61 upon a support plate 60 and its forward motion is stopped by the abutment 62 which is engaged by the forward end of the label. Proper motion is given to the various feed rolls through a train of gears geared up to wheel 2, as clearly shown, and which need not be described in detail as its construction and operation will be obvious to those skilled in the art.

The label holding box holding the pile of

labels 3 is properly mounted on a plate or frame 9 secured to the main frame of the machine. When the labels are detached one at a time from the pile, as herein described, from beneath, said pile is supported at one end by a plate 10 whose free end is preferably somewhat inclined downwardly to facilitate the movement of the label when it is detached or removed and slips down past the free edge of the plate 10. At its opposite end the pile is supported by a plate 11 normally projecting a slight distance beneath the edge of the pile so as to allow the label to bend freely and clear said support when it is drawn downward by the action of the pick-up device which detaches or removes the labels one at a time from the pile and which acts upon them as will be presently described. The plate 11 also acts as a guard plate to prevent detachment of labels when the feed of cigars or other objects is interrupted from any cause, and for this purpose is adapted to be reciprocated endwise beneath the pile of labels and to interpose itself between the pile and the exhaust tube 12 of the suction pick-up which is mounted and operated as will be presently described.

13 is a lever connected to the shield 11 and normally maintained in position shown by the action of the cigars or other objects as they move in a train or series to label affixing position. A suitable weight 14 carried upon an arm projecting from the rock shaft 15 which supports lever 13 acts to move the plate or shield 11 inward to shield the labels against the action of the suction device 12 when freed from the restraining influence of the cigars or other objects exerted on the lever 13 through a connecting rod 16, as shown in Fig. 5, tied to an arm extending from a rock shaft 17, carrying fingers or arms 18 which lie in the path of the cigars or other objects 19 as they are fed by the band feed 20 toward position upon the platform 55. As shown in said Fig. 5, when there is no interruption in the train of cigars or other objects, the fingers 18 will be held down in position indicated in dotted lines and the shield 11 will be held against the influence of the weight 14 in the position shown in Fig. 2. In case there should be a cessation in the regular feed of the cigars 19, the arms or fingers 18 will be permitted to rise to the position shown in full lines, and the weight 14 will thereby be permitted to move the shield 11 endwise beneath the pile of bands 3 and prevent further detachment of the labels by the action of the pick-up device.

The pick-up device for removing or detaching the labels one at a time from the pile operates by exhaust of air and suction applied through the medium of a tube 12, the mouth of which may be located in the periphery of a suitable wheel 21 mounted to rotate in suitable bearings on a reciprocatory support 22 carried by rock shaft 23. The shaft of wheel 21 is a hollow shaft affording a passage which communicates with the exhaust tube 12 on the one hand and on the other communicates with a flexible tube 24 applied to the hollow end of the shaft, as shown in the plan view, and connected with a suitable exhaust pump. The support 22 is reciprocated toward and away from the initial pair of feed rolls 4 by any proper device but preferably by means of pitman 25 connecting with a crank pin on a wheel of the label feed gear or by similar mechanical movement arranged to pass the dead center when the arm 22 and pick-up device are in position shown in full lines with the mouth of the suction tube against the surface of the outermost label of the pile. By these means the suction device is caused to dwell in position for detaching the label so as to insure the action thereof by suction or exhaust on said label. Movement of the pitman is communicated to the support 22 through the arm 26 fastened to rock shaft 23, and to further insure a dwell of the exhaust tube in position shown in full lines, a lost motion is provided by elongating the opening in the pitman where a pin projecting from the arm 26 engages in said pitman.

A spring 27 connects the arm 26 and the pitman, as shown, while a stop 28 limits the rearward movement of the support 22 for the pick-up device. As the crank moves in the direction of the arrow toward position shown, to cause the arm 22 to recede, the latter first brings up against the stop but owing to lost motion the crank can continue its movement and slide the pitman on the pin without producing any movement of the arm 22. After passing the center, the pitman follows up the crank under the action of the spring 27 until it again engages the pin at the reverse end of the slot, after which the arm 22 with the pickup device begins its forward motion toward the position shown in dotted lines.

The label pick-up is caused to rotate from the position shown in full lines to that shown in dotted lines as it moves forward toward the feed rolls 4 by any suitable means, as for instance, by rack 29 engaged by a toothed wheel 30 on the shaft of wheel 21 or by other suitable means. Inasmuch as the suction device or tube 12 takes hold of the label at a point somewhat removed from the end it is obvious that the free, forward end of the latter will project tangentially from the wheel 21 and thereby be caused to enter between feed rolls 4 when the support 22 is moved over to the position shown in dotted lines and the wheel 21 is partially rotated with the label clinging by suction

to its periphery. The rear end of the label will wrap itself partially around the wheel and being detained or held between the pile of labels and the lip or plate 10 it will be finally drawn from beneath the pile and around the smooth periphery of the wheel 21 by the positive action of the feed rolls 4. These means for detaching the labels from their pile and presenting them, one at a time, to the feed rolls by which they are fed to the moistening device and for preventing detachment of labels from the pile when the feed of cigars or other objects is interrupted, are not herein claimed, as they form the subject of claims in our application for patent filed March 9th, 1909, No. 482,262, of which our present application constitutes a division.

The moistening of the labels may be either a moistening with a gum or moistening by a liquid such as water applied to a previously dried and gummed surface. We have shown appliances, however, particularly designed for moistening by water, the label moistener being wetted periodically through the intervention of a wick which draws moisture from a tank 31 containing water. The moistener proper consists preferably of some absorbent substance 32 set in a periphery of one of the feed wheels 7. Said wheel carries also a detaching finger 33 set preferably in the periphery of the wheel and acting to forcibly detach the label 34 from the moistener 32, so as to prevent sticking. The spring finger 33 is compressed between the two wheels 7 with the label 34 as the latter passes between said feed wheels, but as the free end of the tongue or finger passes the point of compression it springs outwardly and detaches the moistened end of the label, in obvious manner.

Fig. 4 shows the moistener as engaging the label and the spring finger as about to enter between the feed rolls.

Fig. 3 shows the position assumed by the finger after it has detached the label and which position it retains until the wheel has rotated in the direction of the arrow around to position shown in Fig. 4. The moistener 32 whether charged with water or with a gum is periodically wetted by a wetting device carried in a reciprocatory support 35 pivoted at 36 on the frame of the machine and operated by a cam 37 on the shaft of the feed drive. Said cam engages, as shown in plan view, a roller 38 carried by a pivoted arm 39 attached to the support 35, said arm being sustained by a fork on the cam shaft, as better seen in the side view, Fig. 2. When a liquid or other solvent for a previously gummed label is used, the wetting device embodies a wick 40 and the support 35 is simply a wick tube whose end is cut away to allow the wick to engage the moistener 32. The end of the wick is kept moist by the liquid drawn up through capillary action from the tank 31 and the reciprocating movement of the tube 35 is related to the rotary movement of the moistener 32 or coordinated so that when the moistener is opposite the end of the wick tube 35 it will be permitted by the cam 37 to fall against and wet the moistener 32. The forward movement of the tube 35 is for this purpose secured by the action of a suitable spring 41 bearing on the wick tube and fastened to the framework, the rearward movement to carry the wick away from engagement with the periphery of the feed wheel 7 being produced by the cam acting in opposition to said spring. In order to permit the label box or holder to accommodate labels of different lengths and having inclined edges inclined at different angles, the end plate 42 is provided with a slotted base 43 through which rises a pin carrying clamping nut 44. The two side plates 45 are similarly mounted and may obviously be adjusted to any required position with reference to the longitudinal axis of the label, so as to accommodate labels of different widths having edges differently inclined to said longitudinal axis. This construction of the label box also forms the subject of claims in the prior application above referred to, of which the present application is a division, and is therefore not claimed herein.

What we claim as our invention is:

1. In a label-affixing machine, the combination of a support adapted to receive or support the labels in label-affixing position, means for feeding the labels successively thereto, a label moistener mounted in a rotating support carried on stationary bearings and periodically operated to moisten the gummed ends of the successive labels, a wetting device for wetting the moistener and means for periodically bringing the same into engagement with the moistener as and for the purpose described.

2. In a label-affixing machine, the combination of a label support adapted to support the label in label-affixing position, a label feed wheel for feeding the label on to said support and a label moistener of absorbent material set in a recess in the periphery of said wheel and adapted to engage an end of the label as it moves under the action of the wheel.

3. In a label-affixing machine, the combination of a label support in label-affixing position, a label feed wheel adapted to feed the label on to said support and having a label moistener set in its periphery, a wetting device and coöperating mechanism for bringing the same into position to be engaged by the label moistener as and for the purpose described.

4. In a label-affixing machine, the combination of a label support in label-affixing po-

sition, a label feed wheel having a label moistener set in its periphery, a wetting device and means for bringing the same periodically into position to be engaged by the moistener at a fixed point in the revolution of said feed wheel.

5. In a label-affixing machine, the combination of a label support adapted to support the label in label-affixing position, a feed wheel for feeding the labels thereto and provided with means for moistening the same and a detaching spring finger adapted to engage the label and prevent it from sticking to the moistening device.

6. In a label-affixing machine, the combination of means for supporting the label in label-affixing position, means for feeding the labels one at a time thereto, a label moistening wheel adapted to engage the label and moisten the same at one point only in the travel of the wheel's periphery and just before the label is delivered to label-affixing position and a spring finger set in the periphery of said wheel at a point immediately succeeding the moistening portion thereof.

7. In a label-affixing machine, the combination of a support for the label in label-affixing position, means for feeding the labels one at a time thereto, a wheel having a label moistener set in its periphery and adapted to engage the label as it passes to label-affixing position, a movable wick holder and mechanism for moving the same to and from the periphery of the wheel and timed to engage said wheel when the moistening portion thereof is in position opposite the wick holder.

8. In a label-affixing machine, the combination of means for supporting the label in label-affixing position, a label feed wheel for feeding the labels one at a time on to said support and having a label moistener set in its periphery, a liquid tank containing a wick, a movable wick holder for said wick and means for operating said wick holder to cause the wick to engage the label moistener as and for the purpose described.

9. In a label-affixing machine, the combination of a support adapted to hold the label in label-affixing position, a label feed wheel feeding the labels thereto and having a label moistener set in its periphery, an external wetting device and means for periodically moving said wetting device against the periphery of the feed wheel to engage the same at its moistening portion.

10. In a label-affixing machine, the combination of a support for the label in label-affixing position, a label feed wheel for feeding the labels one at a time thereto and provided with means for moistening the labels in succession and a detaching finger mounted on the periphery of said wheel in position immediately succeeding the label moistening portion thereof.

Signed at New York in the county of New York and State of New York this 12th day of April A. D. 1911.

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Signed at New York in the county of New York and State of New York this 13th day of April, A. D. 1911.

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IRENE LEFKOWITZ.

Signed at New York in the county of New York and State of New York this 13th day of April, A. D. 1911.

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