

(No Model.)

3 Sheets—Sheet 1.

J. W. WALLACE.
CAN LABELING MACHINE.

No. 531,668.

Patented Jan. 1, 1895.

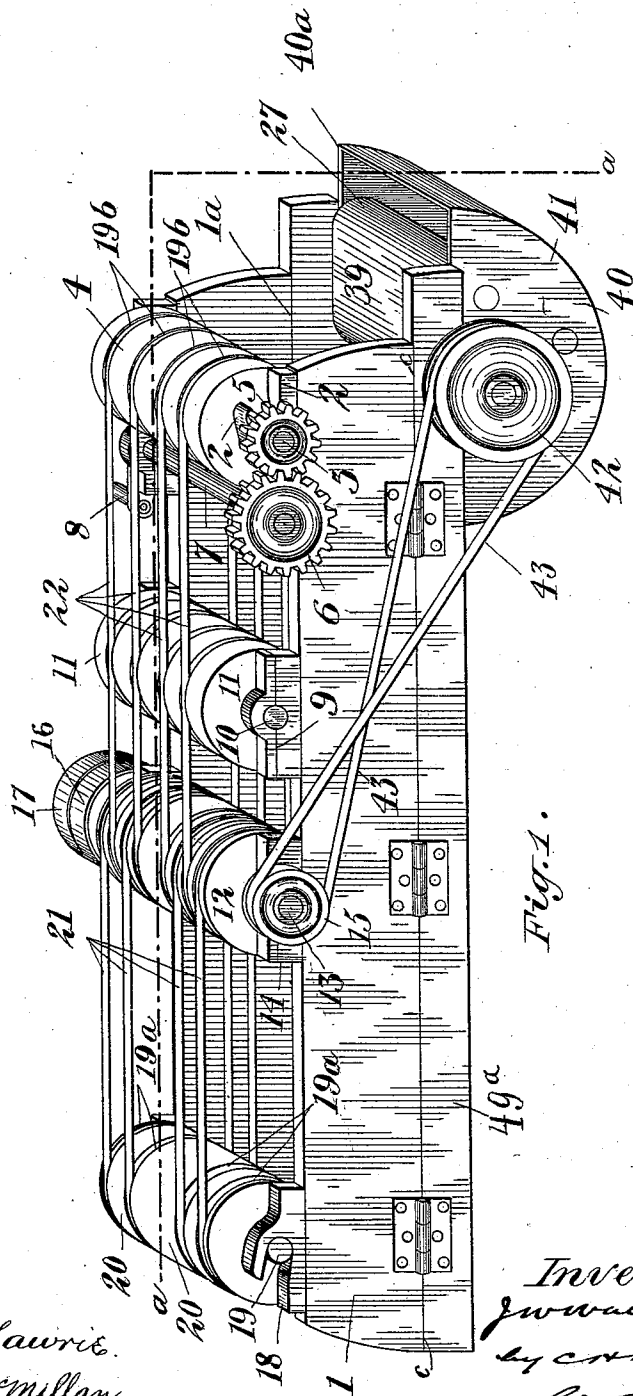


Fig. 1.

Witnesses,

C. L. Lawrie.

H. G. McMillan.

Inventor,
J. W. Wallace
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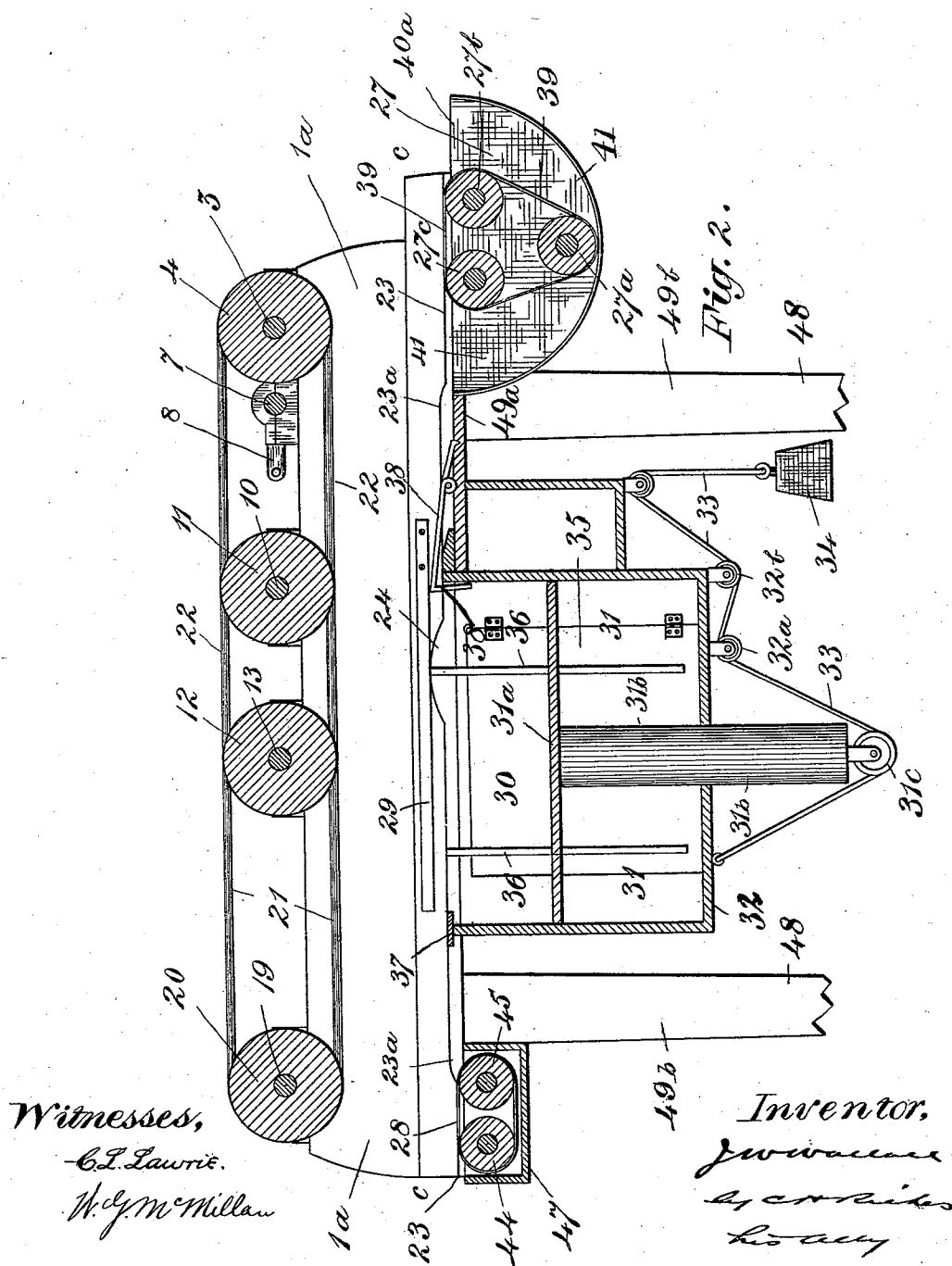
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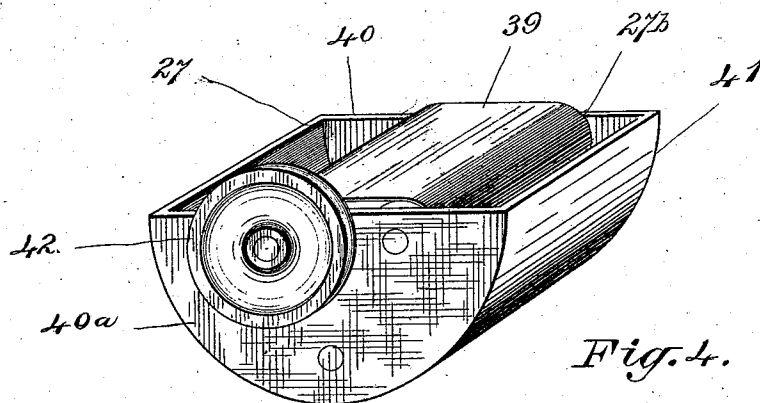
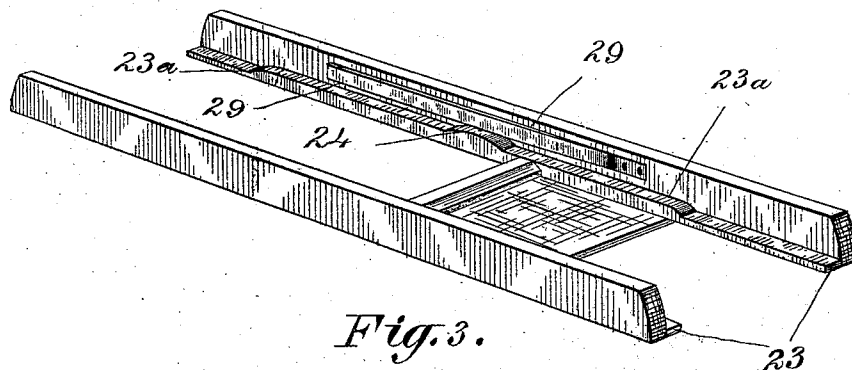
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UNITED STATES PATENT OFFICE.

JOHN W. WALLACE, OF PORT HOPE, CANADA.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 531,668, dated January 1, 1895.

Application filed September 22, 1893. Serial No. 486,235. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. WALLACE, builder, of Port Hope, in the county of Durham, Province of Ontario, Canada, have invented certain new and useful Improvements in Can-Labeling Machines; and I hereby declare that the following is sufficiently full, clear, and exact as to enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a machine for labeling cans with greater accuracy than can be accomplished by hand, and with a rapidity and economy in the use of the paste and labels; and the invention consists essentially of the device hereinafter more fully set forth in the specification, more particularly pointed out in the claims and illustrated in the drawings.

In the drawings:—Figure 1 is a perspective view of the machine showing the arrangement and location of the several parts. Fig. 2 is a longitudinal sectional view on the line *a—*a** Fig. 1. Fig. 3 is a perspective view of the lower frame and tracks. Fig. 4 is a perspective view of the pasting apparatus.

Like numerals of reference refer to like parts throughout the specification and drawings.

The machine consists of a frame comprised of two sides respectively 1 and 1^a which form the supports for the driving gear. Mounted on the top of the sides respectively 1 and 1^a and at or near one end thereof are hooked bearings 2 in which are journaled the ends of the spindle 3. On the spindle 3 is rigidly mounted the drum 4, and rigidly mounted on one end of the spindle 3 on the outer side of the side and the hooked bearing 2 is a pinion 5. Meshing with the pinion 5 is a gear 6 mounted on one end of the spindle 7, journaled in suitable bearings on the top of the sides 1, and 1^a respectively, the spindle 7 extending across the machine and beyond the side 1^a. Fixed to the other end of the spindle 7 is a crank 8 by means of which motion is transmitted to the said spindle and gear 6, and from the gear 6 to the pinion 5, and drum 4 when the machine is being operated by hand. Mounted in bearings 9 on top of the sides respectively 1 and 1^a are the ends of the spindle 10 of the drum 11. The center of the spin-

dle 10 is remote from the center of the spindle 3 a distance equal to the circumference of that size of can upon which the machine is designed to paste the label.

As the cans vary in size it is not possible to set forth the exact measurements of the various parts as the measurements given for one size of can would not be suitable for a can of any other size.

Located between the drum 11 and the delivery end of the machine is a drum 12 mounted on a spindle 13 journaled in suitable bearings 14 which are mounted on the top of the sides respectively 1 and 1^a. Mounted on one end of the spindle 13 on the outer side of the side 1 is a grooved pulley 15 and mounted on the opposite end of the spindle 13 are a fast pulley 16 and a loose pulley 17. When it is desired to transmit motion to the machine by machinery the belt is shifted from the loose pulley 17 to the fast pulley 16 thus imparting motion to the said pulley, the spindle 13 and drum 12. Mounted on the top of the sides respectively 1 and 1^a at the delivery end of the machine are hooked bearings 18 in which are journaled the ends of the spindle 19 on which is rigidly mounted the drum 20. Each of the drums 4, 11, 12, and 20 are grooved and located in the grooves 19^a. On the drums 20 and 12 are a series of four rubber belts 21 by means of which a rotary motion is transmitted from the drum 12 to the drum 20. Located in the grooves 19^b on the drums 12, 11, and 4, are a series of rubber belts 22 by means of which motion is transmitted from the drum 12 to the drum 4 and vice versa. The intermediate drum 11 is driven by the friction of the belts 22 passing across its grooved surface. Located on the inner side of the sides respectively 1 and 1^a and below the said drums are the tracks 23 along which roll the cans from the feed end to the delivery end of the machine. The distance between the under side of the said drums and the top of the track is equal to the depth of the can, on which is to be pasted the label.

It will be noticed by reference to the drawings that the tracks 23 have a raised portion 23^a which extends from the rear edge of the drum 4 to a point vertically below the center

of the spindle 19, and that each track 23 mediately between the vertical axes of the spindles 10 and 13 has an inclined plane 24.

The object in providing the track 23 with the raised portion 23^a is to prevent the can jumping upwardly, and perhaps off the track, when it rolls up the springs 38, the coil of the springs being in a somewhat higher plane than the track 23. By means of the raised portion, the can is brought on a plane equal to that of the coil in the springs 38, so that as said can rolls upon said springs the latter are depressed. The object of depressing the springs will be hereinafter set forth. The label is picked up by the paste on the can just before the can reaches the inclined plane 24, and the object of the inclined plane is to enable the can to lift only one label away from the remainder of the labels, so that the paste, which would naturally penetrate the one label, could not cause the can to pick up more than that one label. It is also apparent that the can in ascending the inclined plane, exerts a tension upon the label and draws the latter from beneath the plate 37.

The can is fed to the machine between the sides 1 and 1^a and is pasted during its passage across the pasting apparatus 27, the pasting apparatus at this period causing its forward travel. As the can is about to leave the pasting apparatus it is picked up and carried forward by the travel of the belts 22 passing around the drums 4 and 12 and is carried along the tracks 23 to the labels in the middle portion of the machine at which point it picks up one label and continues its travel by means of the motion transmitted to it from the belts 21 and 22, the belts 21 and 22 at the same time assisting to press the label upon the can. The can is carried along the tracks 23 to a belt 28 located at the delivery end of the machine which properly presses down the lap of the label. Located along one side of the track 23 is a spring 29 which holds the can against the opposite side of the track, the said spring extending beyond each end of the labels in order that the can will be properly held against the opposite side of the track and the labels pasted on the can with uniformity.

The labels are placed within the well 30 the latter being preferably of a width and length respectively equal to the width and length of the labels. The labels are supported on a vertically movable table 31 which consists of a top 31^a and a standard 31^b. Fixed on the lower end of the standard 31^b is a pulley 31^c and fixed to the under side of the stand 32 are two pulleys respectively 32^a and 32^b. Passing around the pulleys 31^c, 32^a and 32^b is a rope or cord 33 one end of which is secured to the under side of the stand 32 on the side of the standard 31^b, remote from the pulleys 32^a and 32^b while the opposite end of the cord or rope after passing around the pulley 32^b is attached to a weight 34 by means of which the table 31 is moved vertically in its guides. The table 31 is surrounded preferably by four

walls in order to retain the labels properly in place, and one of the walls 35 is removable or has a hinged portion in order that when the supply of labels is exhausted a new supply may be placed upon the table without the necessity of stopping the machine the labels being placed on the top of the table 31 through the said removable portion 35. Extending down the well 30 are two springs 36 located on the same side of the machine as that on which is located the spring 29 in order to bear the labels against the opposite side of the well to enable the cans to pick the labels up uniformly. The springs 36 extend from the bottom to the top edge of the well. Extending across the well at that end adjacent the delivery end of the machine is a metallic plate 37 to prevent the labels being lifted through the well by the pressure of the weight 34 and located at the opposite end of the well are two springs 38, the latter adapted to be depressed by the can in its travel to the rear of the machine, the result of such depression being to align the front edge of the labels.

Located at the feed end of the machine is the pasting apparatus 27 which consists of three rolls 27^a, 27^b and 27^c respectively arranged in the manner indicated in the drawings and passing around the rolls 27^a, 27^b, 27^c is a belt 39. The spindles of the rolls respectively 27^a, 27^b and 27^c are journaled in the sides 40 and 40^a of the paste tank or dish 41. Passing around the pulleys 15 and 42 is a cross belt 43 by means of which a rotary motion is transmitted from the drum 12 to the roll 27^c and from the roll 27^c to the rolls 27^a and 27^b by the belt 39. The dish 41 contains a suitable amount of paste and the traverse of the belt while passing around the roll 27^c carries with it to the top a sufficient quantity of paste to coat the can while passing thereacross.

Located at the delivery end of the machine are two rolls respectively 44 and 45 and around these rolls passes the belt 28. The rolls 44 and 45 are mounted in a box 47 which contains chalk or other suitable mineral in order that the belt 28 may receive a slight coating of the same to kill or nullify the properties of the paste transmitted to the belt 28 during the delivery of the labeled can to prevent the belt 28 and paste tearing the label therefrom.

The sides 1 and 1^a respectively may be divided along the line c and the lower section of the sides hinged to the upper section as shown in the accompanying drawings, in order that that part of the frame carrying the drums, &c., may be lifted off and access had to the tracks and lower part of the apparatus. The upper part of the frame may be lifted from the lower part when the machine is being driven from the crank as its motive power, but when the machine is driven from the pulley 16 it is not advisable to lift one section from the other except when necessary for repairs.

The can is fed into the machine and while

passing across the top of the pasting apparatus receives a coat of paste. Then the can by motion transmitted to it from the rubber belts continues its travel forward through the machine to the labels where the paste on its surface enables it to pick up from the pack, one label, the rubber belts pressing the label on the can during its continued travel through the machine. The can when reaching the belt 28 at the delivery end of the machine has its label properly pressed upon it and is then delivered to a receiver.

The machine is mounted upon a stand of any suitable design but shown in this instance to consist of a table comprised of a top 49^a and four standards 49^b supporting it. In the side of the table is a removable portion corresponding with the hinged portion 35 of the well in order that an entrance may be effected through the side of the table to the label well.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a can labeling machine the combination with the pasting apparatus, of a track, an inclined plane for said track, a label receptacle, springs within the label receptacle to hold the labels against one side thereof, a spring at one end of the label receptacle to place the front edge of the label in the proper position for the can to pick it up during its traverse along the track, and a traversing belt at the delivery end of the machine adapted to press down the lap of the label, substantially as set forth.

2. In a can labeling machine, the combination, with the frame having drums journaled thereon, and belts connecting said drums, of a receptacle located at the delivery end of the

machine, said receptacle adapted to contain chalk or other similar mineral, rolls mounted in said receptacle and an endless belt passing around said rolls, said belt adapted to press the lap of the label upon the can; substantially as set forth.

3. In a can labeling machine, the combination of a frame, drums mounted thereon, each of said drums having a series of grooves in its periphery, endless flexible belts mounted in said grooves and connecting the drums, a pasting apparatus secured to the feed end of said frame, a label receptacle located near the center of the frame, and a chalk receptacle secured to the delivery end of the machine; substantially as set forth.

4. In a can labeling machine, the combination, with the frame, a track running the entire length of the machine, said track having a raised portion, 23^a, and an inclined plane, 24, a flat spring located at one side of said track and adapted to press the can against the opposite side of the track, a label receptacle, springs located at one end of said label receptacle adapted to be depressed by the can and align the front edge of the labels, of a pasting apparatus and chalk receptacle, said pasting apparatus located at the feed end and said chalk receptacle located at the delivery end of the machine; substantially as set forth.

5. In a can labeling machine, the combination of a frame, drums mounted thereon and connected by flexible belts, a pasting apparatus, a label receptacle, and a chalk receptacle; substantially as set forth.

Port Hope, June 22, 1893.

J. W. WALLACE.

In presence of—

GEO. WILSON,

C. H. RICHES.