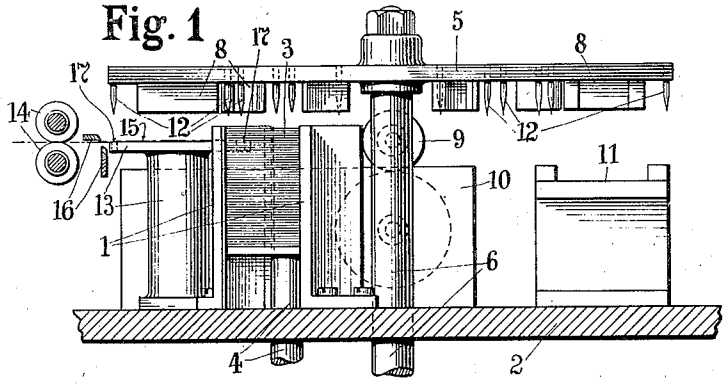
F. GROVER.

WRAPPING MACHINE.

APPLICATION FILED DEC. 27, 1911.

1,037,617. Patented Sept. 3, 1912.

Fig. 1



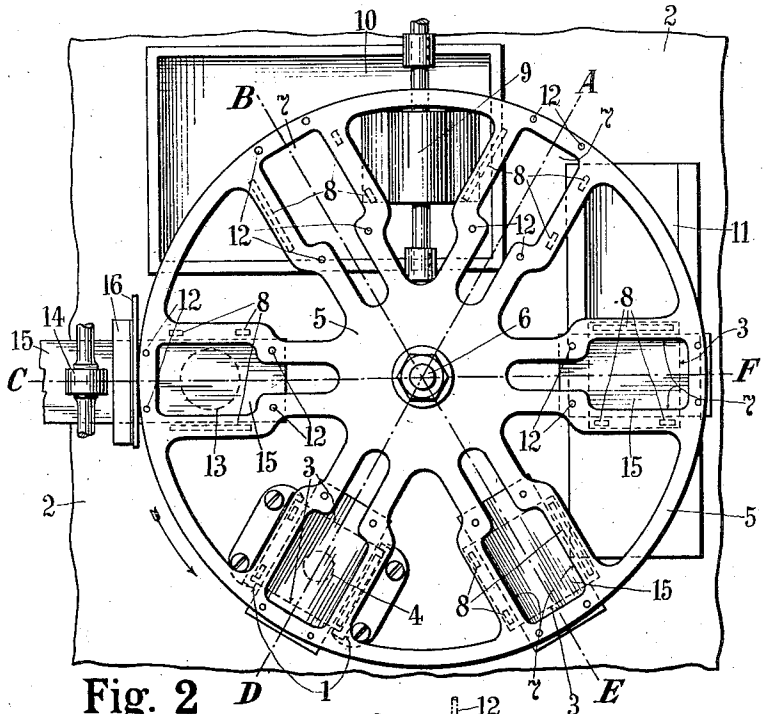


Fig. 2

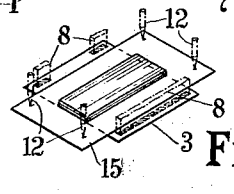


Fig. 3

Witnesses;
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By Harold Serrell
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UNITED STATES PATENT OFFICE.

FREDERICK GROVER, OF LEEDS, ENGLAND, ASSIGNOR TO THE FORGROVE MACHINERY COMPANY LIMITED, OF LEEDS, ENGLAND.

WRAPPING-MACHINE.

1,037,617. Specification of Letters Patent. Patented Sept. 3, 1912.

Application filed December 27, 1911. Serial No. 668,052.

To all whom it may concern:

Be it known that I, FREDERICK GROVER, a subject of the King of Great Britain, residing at Leeds, in the county of York, England, have invented certain new and useful Improvements in Wrapping-Machines, of which the following is a specification.

This invention relates to machines for automatically wrapping rectangular tablets, such as chocolate cakes, in one or more inner wrappers and an outside binder or label.

The present invention has particular reference to a previously proposed wrapping machine designed for folding a label around an already wrapped tablet. In this previously described machine, a pile of labels is contained in a vertical open-topped box having corner pieces against which the top label is normally held by means of a carrying plunger pressed up by a counterbalance weight arrangement and having a mechanically operated brake to hold the plunger at certain times in a lower position when so placed, and a step-by-step rotating horizontal disk is provided having a series of through apertures formed with depending side lugs which are caused to conta with a gum roller prior to each aperture being brought to rest above the label box, provided mechanism being employed to cause the disk to then descend in the direction of its axis to bring the gummed lugs on to the top of the pile of labels and depress the same, the brake operating to hold the label plunger in its depressed position, while the disk is then permitted to rise to lift the top label from the pile and flick its corners past the corners of the label box, when the succeeding intermittent partial rotation of the disk carries the label to a position to receive a tablet which is subsequently delivered to folding mechanism.

The present object is to construct the labeling machine above referred to in such a manner as to cause the step-by-step rotating disk to take up one or more inner wrappers (hereinafter referred to as a wrapper) prior to being caused to take up a label from the label box, the arrangement being such that the wrapper and the label together are carried by the intermittently moved disk to a position to receive the tablet ready for the subsequent wrapper-folding operation; whereby the inclosing of the tablet in one or more wrappers can be performed simultaneously with the folding of a label around the said tablet. To this end, a step-by-step rotating disk is employed having a series of through apertures formed with depending side lugs working in conjunction with a gum roller and a label box as before; and on the underside of the said disk at the ends of each through aperture are fixed depending pins, say two at each end, arranged outside or beyond the depending lugs so as not to interfere in any way with the label which is to be carried by the latter. At the opposite side of the disk to that at which the tablet is fed or at any other suitable position and directly beneath one of the apertures of the disk (assuming the latter to be stationary), is provided a fixed table on to which an inner wrapper is fed say from a reel by feed rollers working in conjunction with a cutting device so as to deliver wrappers of a predetermined length.

As the step-by-step rotating disk is intermittently moved around, the depending lugs first take up the adhesive from the gum roller, when on the said disk coming over the wrapper its depression at this point causes the provided pins on its underside to pierce the said wrapper, pick it up and carry it a step forward to a position above the label box, where the disk by being again depressed causes the gummed lugs to pick up the uppermost label from the label box, while the effect of the subsequent forward step or steps of the said disk is to carry the inner wrapper and also the outside label together forward to the position to receive the tablet.

The inner wrapper carried by the pins of the step-by-step rotating disk is situated above the label carried by the gummed lugs of the said disk, the width of the wrapper being such as not to extend up to the gummed portions of the label while the ends of the said wrapper extend outward beyond the ends of the said label so as to subsequently constitute the end folds.

On the wrapper and the label being together brought by the step-by-step rotating disk to the position to receive the tablet, the latter is fed into position by any known convenient means, when the tablet and its wrapper and label are delivered to folding mechanism of any known or convenient construction capable of folding over the ends

and sides of the wrapper and of simultaneously folding over the sides of the label; the gum having the effect of securing the inner wrapper and the outside label in position around the tablet.

The invention will now be described with reference to the example of construction shown in the accompanying drawings, in which corresponding numerals indicate like parts in all the figures; wherein:—

Figures 1 and 2 are respectively a sectional side elevation and a plan of the label picking-up portion of the labeling machine before referred to, fitted with means for picking up a wrapper in accordance with the present invention; and Fig. 3 is a perspective view indicating how the wrapper and label are carried, and showing a tablet in position upon the said wrapper and label prior to the wrapping operation.

In the drawings, 1 is the label box mounted on the bed-plate 2 and having therein a pile of labels 3 carried upon the vertical plunger 4, and 5 is the step-by-step rotating disk mounted on the vertical shaft 6 and having through apertures 7 formed with depending side lugs 8 adapted to make contact with the gumming-roller 9 of the gum trough 10 mounted on the bed-plate 2, while 11 is the slide by way of which the tablets after being wrapped are delivered; all the parts enumerated being of known construction.

According to the present invention depending pins 12 are fixed on the underside of the disk 5, at the ends of each of the through apertures 7, which depending pins 12 are situated outside or beyond the depending lugs 8 so as not to interfere in any way with the label which is to be carried by the latter, while immediately beneath the disk 5 and at the side opposite to that of the tablet delivery-slide 11 is provided a fixed table 13 on to which by means of feed rollers 14 a wrapper 15 is fed from a reel (not shown), the wrapper being cut off to a predetermined length by a cutting device 16 so as to leave the said wrapper 15 resting on the table 13 directly beneath one of the apertures 7 of the disk 5, and holes 17 are formed in the table 13 for admitting the points of the pins 12 on the disk 5 being depressed.

In the example of construction shown in the drawings, each forward step of the disk 5 is made equal to a sixth portion of a single revolution. The forward movement therefore of the disk 5 in the direction of the arrow (see Fig. 2) from A to B causes the depending side lugs 8 to receive adhesive from the gum roller 9, while the next step forward from B to C brings one of the apertures 7 of the disk 5 over the wrapper 15, when the depression of the disk 5 at this point causes the provided pins 12 on its underside to pierce the said wrapper 15 and pick it up, and the next step forward of the disk 5 from C to D brings the same aperture 7 over the label box 1, when the depression of the disk 5 at this point causes the gummed lugs 8 to pick up the uppermost label 3 from the label box 1, while the subsequent steps forward of the disk 5 from D to E and E to F bring the carried wrapper 15 and label 3 to the position to receive the tablet. In this way, the wrapper 15 carried by the pins 12 of the step-by-step rotating disk 5 is situated above the label 3 carried by the gummed lugs 8 of the said disk 5 as shown at Fig. 3; and in these relative positions the said wrapper 15 and label 3 are brought by the disk 5 to the position F (Fig. 2) where they receive the tablet, around which they are subsequently folded by any known or convenient folding mechanism as before stated.

What I claim as my invention and desire to secure by patent is:—

1. In a machine for wrapping up confectionery tablets in one or more inner wrappers and an outer label, the combination with a horizontal disk provided with depending lugs, means for intermittently rotating said disk the same amount and for depressing it during the period of rest at the conclusion of each rotation, a roller for applying an adhesive to said lugs, and a label-containing box from which the lugs of the disk pick up a single label at each period of rest and subsequently carry it around to a position to receive a tablet, of fixed pins depending from the under-side of the disk, a stationary table beneath said disk in front of the label box, holes formed in the table for admitting the points of the pins on the depression of the disk, and means for intermittently feeding a single wrapper, or wrappers, on to the table, said pins being adapted at each depression of the disk to pierce the fed wrapper by a direct thrust and pick it up prior to the disk lugs picking up the label, so that the wrapper and label together are carried by the disk to the tablet-receiving position.

2. In a machine for wrapping up confectionery tablets in one or more inner wrappers and an outer label, the combination with a horizontal disk provided with depending lugs, means for intermittently rotating said disk the same amount and for depressing it during the period of rest at the conclusion of each rotation, a roller for applying an adhesive to said lugs, and a label-containing box from which the lugs of the disk pick up a single label at each period of rest and subsequently carry it around to a position to receive a tablet, of fixed pins depending from the underside of the disk and being situated outside the label-carrying lugs, a stationary table beneath said

disk in front of the label box, holes formed in the table for admitting the points of the pins on the depression of the disk, and means for intermittently feeding a single wrapper, or wrappers on to the table, said pins being adapted at each depression of the disk to pierce the fed wrapper by a direct thrust and pick it up prior to the disk lugs picking up the label, so that the wrapper and label together are carried by the disk to the tablet-receiving position.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FREDERICK GROVER.

Witnesses:
JOHN JOWETT,
VANCE EWART GALLOWAY.