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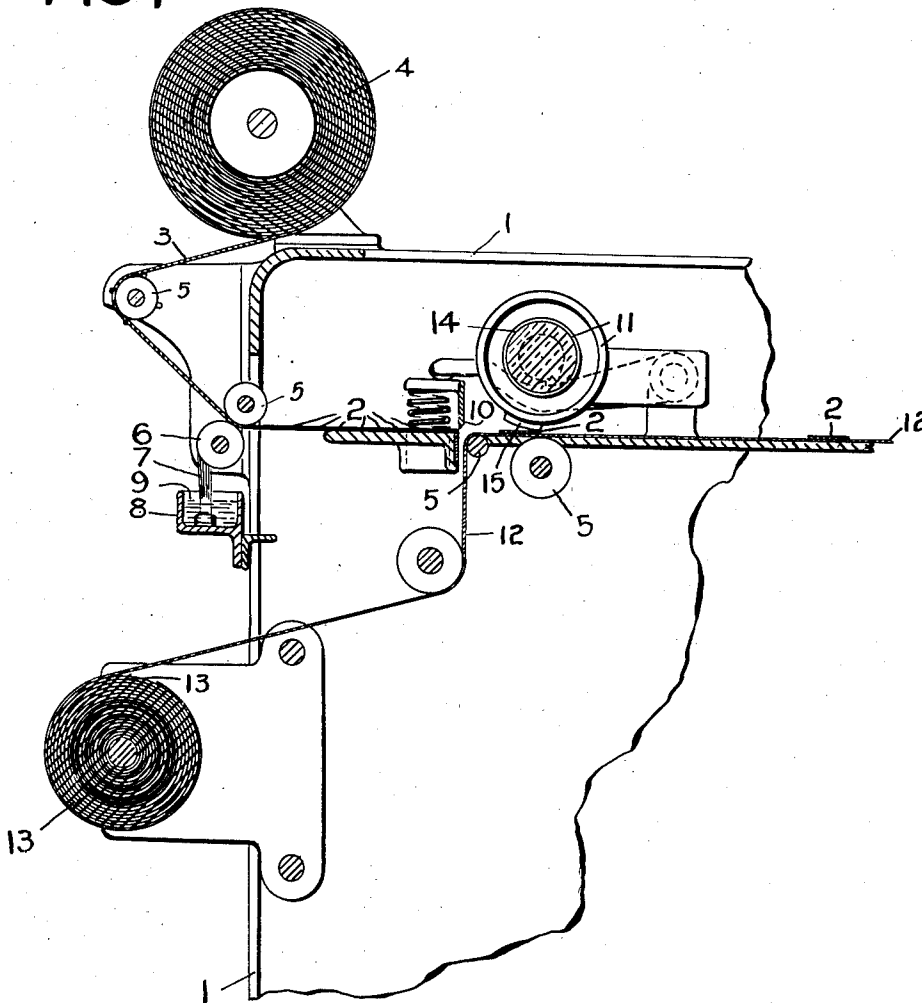
2,335,033

APPARATUS FOR APPLYING GUMMED LABELS TO CELLOPHANE OR THE LIKE

Filed April 3, 1942

2 Sheets-Sheet 1

FIG 1



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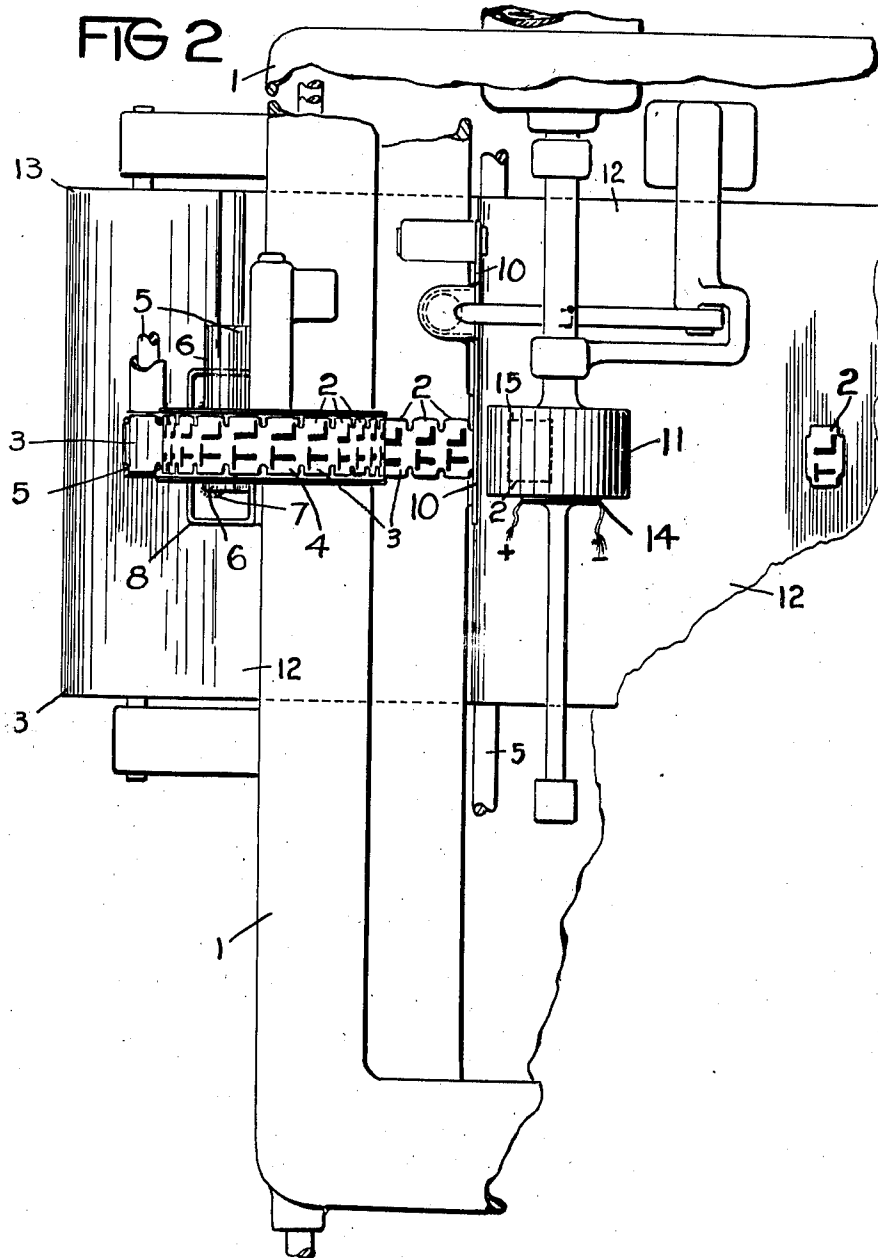
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UNITED STATES PATENT OFFICE

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APPARATUS FOR APPLYING GUMMED
LABELS TO CELLOPHANE OR THE LIKE

John Kirby Tompkins, Narberth, Pa.

Application April 3, 1942, Serial No. 437,476

8 Claims. (Cl. 216—30)

My invention relates to applying labels having a water soluble adhesive to Cellophane or like material. Among the purposes and objects of my invention are to provide:

A convenient means of permanently securing a label having any of the commonly used water soluble adhesive coatings to Cellophane or other similar material.

A Cellophane cake wrapper having gummed labels permanently secured thereto.

A machine for moistening, cutting, heating, and securing a continuous strip of labels to a continuous sheet of Cellophane.

A convenient, quick, gummed label applicator for Cellophane wrappings for cake and other packages.

A means of eliminating the necessity of coating labels with rubber or other special adhesive so that the labels will adhere to Cellophane or the like.

I accomplish these and other objects by the construction, process, method and apparatus hereinafter described and illustrated in the accompanying drawings forming a part hereof, in which:

Fig. 1 is an elevation showing my moistener, cutter and heater.

Fig. 2 is a plan view.

Similar reference characters refer to similar parts in the drawings and in the specifications to follow.

Securing labels to Cellophane has been accomplished by the use of a label having a special adhesive such as rubber or the like, which is heated to make the label adhere to the Cellophane. Such labels are expensive and require rubber, now much needed for military uses. Then, too, such special labels are unnecessary and are rendered useless by the use of my invention.

A label having any of the commonly used water soluble gums may be permanently secured to Cellophane or the like by moistening the gum and then, while moist, heating the label and pressing it onto the surface of the Cellophane.

The combining of moisture, heat and pressure to the label at the time of its application, insures its permanent adhesion to the Cellophane. The ordinary label thus will not peel off as it would if not moistened, or as it would if it were merely heated.

To facilitate these operations, I have provided a moistener to a machine which, in other respects, may be the same as now used in securing rubber coated labels to Cellophane. I do not wish

to imply that other machines and attachments to machines cannot be made to work equally well using my invention in its simple broad concept, i. e.: that of applying labels having ordinary water soluble gum to Cellophane, using moisture and heat.

Obviously, my apparatus for applying my process may be modified in numerous particulars without departing from the underlying principles underlying my invention.

The product, as well as the machine and the process also is new and forms a part of my invention. A wrapper of Cellophane, in which the adhesive for the label is water soluble is, by the application of heat, forced to combine with the chemical elements of the Cellophane, thereby forming a bond with the adhesive and the label, to which the adhesive is secured and which may be paper or other material, is thus permanently secured to and forms a part of the wrapper.

Referring to the drawings, the frame 1 may be that of a machine for wrapping and labeling cakes, etc.; and in addition to the affixing of the labels 2, which are preferably in a continuous strip 3 and in a roll 4, is suited to feed and handle the cakes into the machine as well as to wrap each cake with a Cellophane wrapper to which has been secured a label 2.

The machine may be constructed to slice the cake and perform numerous operations in connection with the cake which are not necessarily dependent on the securing of the label to the Cellophane wrapper for the cake.

For the sake of brevity and clarity, I will describe in detail only the parts of the machine which cooperate to secure the label with its water soluble adhesive to the Cellophane. The parts, as well as the operations, may vary in their relation to each other and to the machine as a whole, but are illustrative of the required principal operations to accomplish the function and result.

The roll 4 is preferably rotatably supported in relation to the machine or frame 1 and the continuous strip of labels is fed into the machine by the feed rolls 5 which control the tension, pressure and relation of the label strip. One of the feed rolls 6 may be kept continuously moist by the brush 7 and reservoir of water 8 into which the brush is partially submerged. The water is carried above its level 9 in the reservoir by capillary action. In some cases, however, the roll 6 may be moistened by being partially immersed in the water or the brush may be disposed to contact the strip of labels.

After being moistened, the labels 2 are cut

from the strip 3 by the knife 10, whereupon the heater 11 engages the label and presses it firmly against the Cellophane which is fed in a continuous sheet 12 from the roll 13. The Cellophane, with the label permanently attached to it at the desired spacing, is then fed further into the machine where it is wrapped around the cake or cut or folded or wound on another roll for future use, or cut off and piled in a stack for other use.

The heater may be maintained at the desired temperature by the electric element 14 which may be thermostatically controlled, or other heating means may be provided, such as gas or steam.

The heater is shown as a roll which may operate intermittently or may have only a part of its surface heated and may be so designed circumference that the heater surface only may contact the label but once per revolution when traveling at a peripheral speed equal to the rate of speed of travel of the Cellophane. The heated roll remains out of contact a substantial part of each revolution and only comes in contact with the label during that part of its revolution when its raised surface 15 engages the label after the label has been cut from the strip. The Cellophane is heated simultaneously with the label and adhesive.

The labels may be secured at any desired distance apart, depending on the circumference of the heater roll or, if the heater roll is operated intermittently, the pause or dwell may determine the spacing of the labels on the Cellophane strip. The heater and the rate of the feed of the strip in either case may be adjusted to determine the spacing of the securement of the labels to the Cellophane.

It is not the purpose of this disclosure to show all of the possible modifications which may be made to secure my water soluble adhesive and the labels thus coated, to Cellophane, but rather to illustrate to those skilled in the art to which my invention pertains, how the underlying principles may be accomplished. A study of this disclosure may suggest modifications which may be used to suit my invention to numerous other applications for which it is adapted and the purpose of this detailed description is to illustrate by example rather than to limit the scope of my invention, which is set forth in the appended claims.

I claim:

1. In a machine for affixing labels by heat and pressure, having a feeding means for labels and a sheet of material which is softened by heat and fed from a roll and to which the labels are secured at fixed intervals while the sheet is in motion, means cutting off the labels from a roll of labels and a heat pressing means for securing the labels to the sheet while in motion independent of said cutting off means.

2. In a machine for affixing labels by heat and pressure, having a feeding means for labels and a sheet of material which is softened by heat and fed from a roll and to which the labels are secured at fixed intervals while the sheet is in motion, means cutting off the labels from a roll of labels and a heat pressing means movable at the rate of travel of said label and said sheet engaging said cut off label and said sheet while in motion to affix said label to said sheet independent of said cut off means.

3. In a machine for affixing labels by heat and pressure, having a feeding means for labels and

a sheet of material which is softened by heat and fed from a roll and to which the labels are secured at fixed intervals while the sheet is in motion, means cutting off the labels from a roll of labels and a heat pressing means, said label carried and traveling on said sheet after being cut off and said heat pressing means engaging and affixing said cut off label to said sheet.

4. In a machine for affixing labels by heat and pressure, having a feeding means for labels and a sheet of material which is softened by heat and fed from a roll and to which the labels are secured at fixed intervals while the sheet is in motion, means cutting off the labels from a roll of labels and a heat pressing means, said label carried and traveling on said sheet after being cut off and said heat pressing means engaging and affixing said cut off label to said sheet, said heat pressing means being movable with and at the rate of travel of said label and said sheet.

5. In a machine for securing labels having water soluble adhesive, to the surface of a sheet of material to which said labels will not normally adhere, said machine comprising means moistening said adhesive and heating and pressing the labels onto said sheet, feeding means for the sheet and labels into the machine, each of said labels being substantially smaller than the sheet and secured to a predetermined spot on said sheet, supporting and feeding means for the labels and sheet, a heater having its periphery movable at the rate of speed of said sheet and adapted to heat and press a label onto and to affix said label to said sheet while in motion.

6. In a machine for securing labels having a water soluble adhesive to the surface of material to which said labels will not normally adhere, said material being fed from a rolled sheet, said machine having means feeding said sheet through said machine, a moistening and heating means for said labels, said labels being in a strip of labels and means feeding said labels into and through said machine, said machine comprising in combination means supporting said strip of labels and said sheet of material and means moistening and cutting said strip of labels into single labels, each separate label, after being first cut from said strip of labels being fed at the same velocity as said sheet of material to separated predetermined positions on said sheet and moistening, heating, and pressing means moved by said machine for securing said labels at said positions on said sheet, whereby said sheet is kept from being distorted from the cutting off of the labels.

7. In a machine for securing labels having a water soluble adhesive to the surface of material to which said labels will not normally adhere, said material being fed from a rolled sheet, said machine having means feeding said sheet through said machine, a moistening and heating means for said labels, said labels being in a strip of labels and means feeding said labels into and through said machine, said machine comprising in combination means supporting said strip of labels and said sheet of material and means moistening and cutting said strip of labels into single labels, each separate label, after being first cut from said strip of labels being fed at the same velocity as said sheet of material to separated predetermined positions on said sheet and moistening, heating, and pressing means moved by said machine for securing said labels at said positions on said sheet, whereby said sheet is kept from being distorted from the cutting off of

the labels, said cutting means being disposed in said machine between said moistening means and said heating and pressing means to cut the label off before said label is heated and pressed.

8. In a machine for securing labels having a water soluble adhesive to the surface of material to which said labels will not normally adhere, said material being fed from a rolled sheet, said machine having means feeding said sheet through said machine, a moistening and heating means for said labels, said labels being in a strip of labels and means feeding said labels into and through said machine, said machine comprising in combination means supporting said strip of labels and said sheet of material and

5 means moistening and cutting said strip of labels into single labels, each separate label, after being first cut from said strip of labels being fed at the same velocity as said sheet of material to separated predetermined positions on said sheet and moistening, heating, and pressing means moved by said machine for securing said labels at said positions on said sheet, whereby said sheet is kept from being distorted from the cutting off of the labels, said heating means coacting with said feeding means to feed said labels after being moistened and after being detached from the strip of labels and at the velocity of said sheet while pressing said label.

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