July 3, 1956 N. W. WINBERG 2,753,430

MEANS FOR HEATING LABELS

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Fig. 1

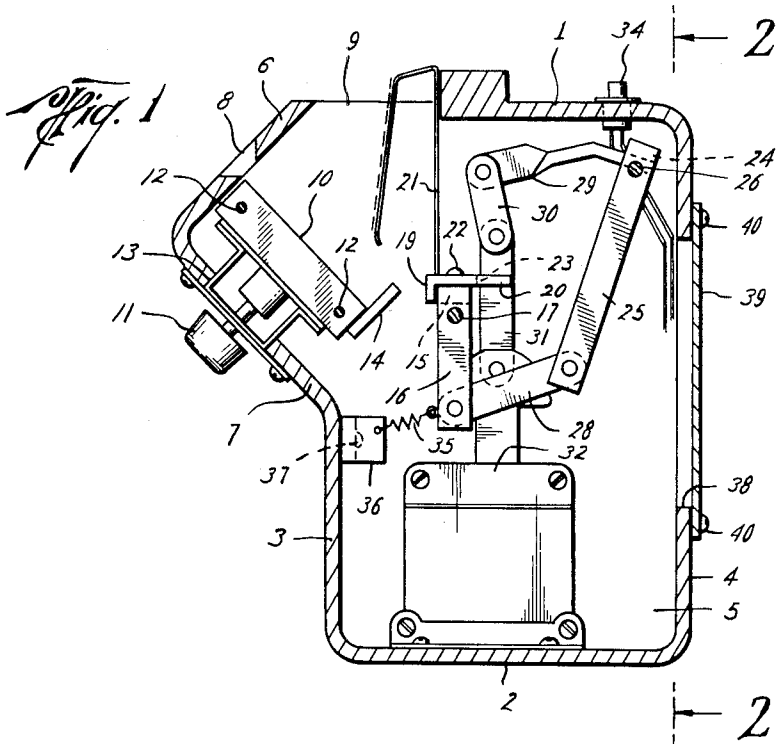
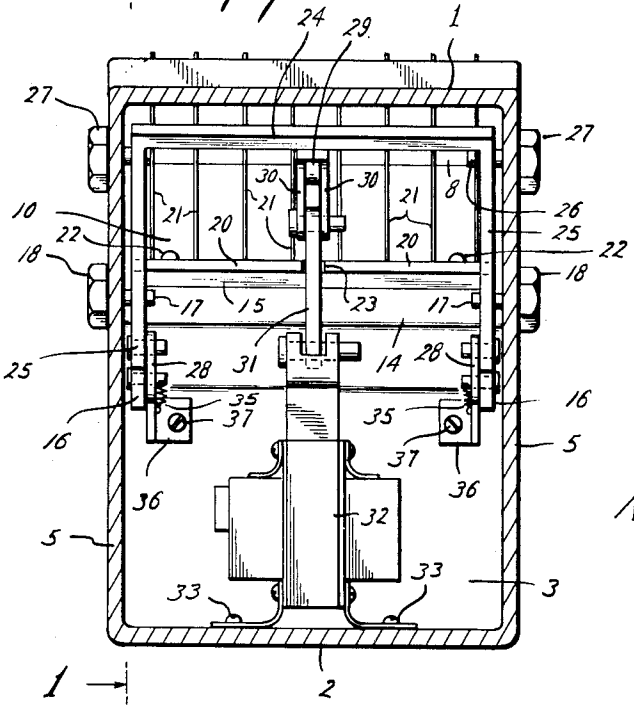


Fig. 2



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Fig. 3

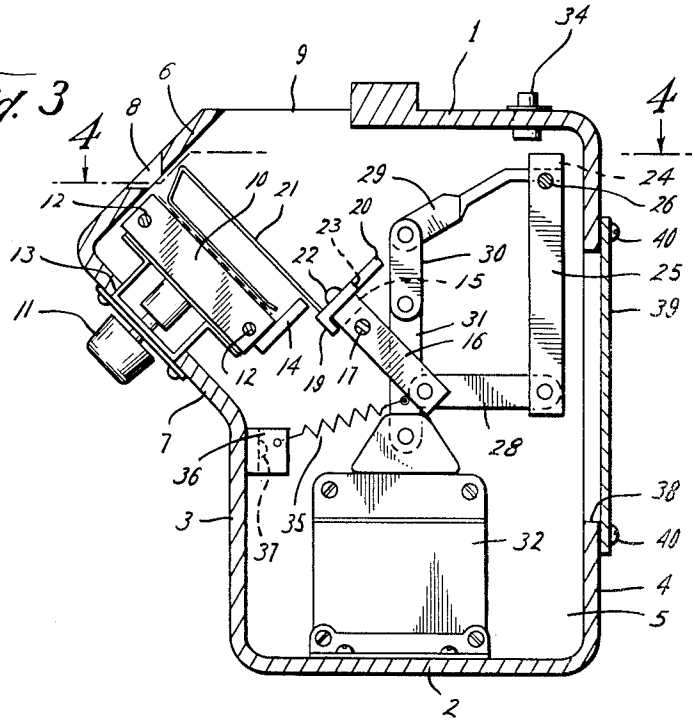
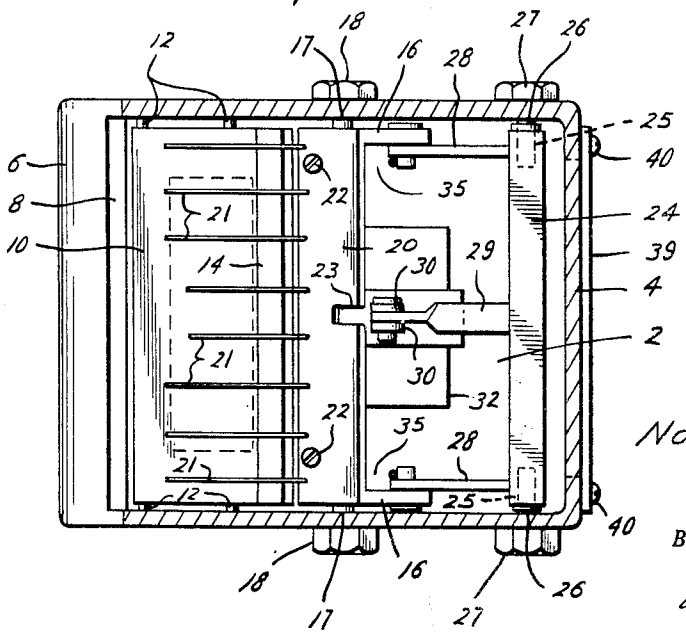


Fig. 4



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MEANS FOR HEATING LABELS

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1 Claim. (Cl. 219—19)

The invention relates to means for heating labels, and it concerns more particularly means for heating labels each having an adhesive applied to one side thereof, preparatory to applying them to articles in conjunction with which they are to be used.

It is an object of the invention to provide labor saving means whereby labels of the type described may be quickly and uniformly heated, in a separate operation, before applying them to goods of any kind.

Another object of the invention is to provide means for heating labels which is capable of being operated automatically, and the operation of which advantageously may be synchronized with other apparatus, such as a label imprinter of the type which is used in conjunction with fully automatic computing scales.

In the retail marketing of meat, for example, it is customary to prepack the meat, in order to serve large numbers of people more expeditiously. In this operation a portion of meat is first wrapped and sealed, after which it is weighed and labeled. The labels ordinarily used have an adhesive applied to the reverse side thereof which becomes sticky only when heated. A hot iron is pressed against the face of the label, as applied to the package, whereby the label is affixed to the package. This is a cumbersome and time consuming step. The applied heat tends to damage the meat, and the hot iron occasionally smears the label. The invention contemplates heating the label separately and thereafter applying the heated label to the package.

The invention will be readily understood by referring to the following description and the accompanying drawing, in which:

Fig. 1 is a sectional elevational view label heating means embodying the invention, taken on the line 1—1 of Fig. 2 and showing the apparatus in one of its operating positions.

Fig. 2 is a sectional elevational view taken on the line 2—2 of Fig. 1.

Fig. 3 is a view similar to Fig. 1, showing the apparatus in another of its operating positions.

Fig. 4 is a sectional plan view taken on the line 4—4 of Fig. 3.

Referring to the drawing, the label heating means of the invention includes a housing which is generally rectangular in shape and has a top 1, a bottom 2, a front wall 3, a rear wall 4 and a pair of side walls 5. The upper portion of the front wall 3 has a forwardly projecting bulge formed therein as hereinafter described. A portion of the front wall 3, designated by the numeral 6, is inclined downwardly and forwardly from the adjacent edge of the top 1. Another portion of the front wall 3, designated by the numeral 7, intersects the lower edge of the portion 6 at right angles and is inclined downwardly and rearwardly therefrom whereby it intersects the lower portion of the front wall 3, which lies in a substantially vertical plane.

An elongated slot 8, which is formed in the portion 6 of the front wall 3, is positioned intermediate the upper and lower ends of the portion 6 and extends transversely across it. A rectangular opening 9, which is formed in the top 1, is positioned adjacent the forward end of the top 1 and extends transversely across it.

An electrically heated iron, which has a rectangular heating surface 10 on one side thereof and a control knob 11 on its opposite side, is disposed transversely within the housing with the heating surface 10 lying in an inclined plane and facing upwardly. The heating surface 10 is inclined downwardly and rearwardly from side to side, and one side thereof is positioned immediately adjacent the lower edge of the slot 8. The iron is removably connected at its ends to the side walls 5 by two pairs of screws 12. The control knob projects downwardly and forwardly thru an opening 13 which is formed in the portion 7 of the front wall 3.

A flat bar 14, which is disposed transversely within the housing, is rigidly connected to the lower edge of the iron, adjacent one side of the heating surface 10, and extends upwardly and rearwardly therefrom in an inclined plane which is perpendicular to the plane of the heating surface 10.

A spindle having an elongated middle portion 15, which is disposed transversely within the housing, and a pair of depending end portions 16 which are disposed at right angles to the middle portion 15, is pivotally connected as hereinafter described to the side walls 5. Each of the end portions 16 is pivotally connected adjacent its upper end to one of two pins 17, which are rigidly connected, respectively, to a pair of cap screws 18. The cap screws 18 are received in threaded, aligned openings provided therefor in the respective side walls 5 on opposite sides of the housing. The axis of the spindle lies in a plane which is parallel to the plane of the heating surface 10 and closely spaced with respect thereto.

An angular plate having a relatively narrow side 19 and a wider side 20, which are disposed at right angles to each other, and which carries a plurality of wire fingers 21 as hereinafter described, is disposed transversely within the housing and is connected by a pair of screws 22 to the middle portion 15 of the spindle. When assembled, the narrower side 19 of the angular plate engages the front side of the middle portion 15 of the spindle and is disposed parallel to the depending end portions 16 thereof, while the wider side 20 of the angular plate engages the top of the middle portion 15 and is disposed transversely with respect to the end portions 16. The wider portion 20 is somewhat wider than the middle portion 15 of the spindle, and extends rearwardly with respect thereto. A notch 23 is formed in the rearward edge of the wider portion 20 intermediate its ends.

The fingers 21 each comprise a spring-like member consisting of a piece of wire which is bent angularly upon itself intermediate its ends and having a pair of end portions which are spaced apart from and inclined outwardly with respect to each other and a connecting middle portion. The fingers 21 are spaced longitudinally with respect to the spindle. One end of each of the fingers 21 is rigidly connected to the angular plate as hereinafter described.

One end of each of the fingers 21 is passed thru one of a plurality of longitudinally spaced openings which are formed in the wider side 20 of the angular plate, immediately adjacent the narrower side 19, and is welded to the adjacent surface of the narrower side 19. The fingers 21 are each disposed parallel to the narrower side 19 of the angular plate, and perpendicularly with respect to the wider side 20 thereof. When the angular plate is connected to the spindle as above described, the adjacent ends of the fingers 21 are disposed between the narrower side 19 of the angular plate and the front side of the middle portion 15 of the spindle. The fingers 21 are

disposed parallel to the depending end members 16 of the spindle, and extend upwardly therefrom, as shown in Fig. 1. The free end portions of the fingers 21 face forwardly, and are inclined at such an angle that upon movement of the spindle about the pins 17, as hereinafter described, the free end portions of the fingers 21 are adapted to yieldably engage the heating surface 10 of the iron, as shown in Fig. 3.

A rocker having an elongated middle portion 24, which is disposed transversely within the housing, and a pair of depending end portions 25 which are disposed at right angles to the middle portion 24, is pivotally connected as hereinafter described to the side walls 5. Each of the end portions 25 is pivotally connected adjacent its upper end to one of two pins 26, which are rigidly connected, respectively, to a pair of cap screws 27. The cap screws 27 are received in threaded, aligned openings provided therefor in the respective side walls 5 on opposite sides of the housing.

The rocker is disposed rearwardly with respect to the spindle above described, and is pivotally connected to the side walls 5 at a higher elevation. The end portions 25 of the rocker are each connected adjacent its lower end to one end of a link 28, which is pivotally connected at its opposite end to the lower end of one of the end portions 16 of the spindle.

One end of a rocker arm 29 is rigidly connected to the middle portion 24 of the rocker between the end portions 25, and extends forwardly therefrom. The forward end of the rocker arm 29 is pivotally connected to the upper ends of a pair of links 30, which are each pivotally connected at its lower end to the upper end of a link 31. An electrically operable solenoid of the pull type, indicated by the numeral 32, is disposed within the housing and is attached to the bottom wall 2 by a plurality of screws 33. The solenoid 32 is operatively and pivotally connected to the lower end of the link 31.

A switch 34 is provided for use in operating the solenoid 32 manually. The solenoid 32 advantageously may be operated automatically in conjunction with other apparatus, such as a label imprinter of the type used with fully automatic computing scales.

A pair of tension springs 35 are each connected at one end to one of a pair of brackets 36, and at its opposite end to the lower end of one of the end portions 16 of the spindle. The brackets 36 are each connected by screws 37 to the front wall 3 of the housing.

Upon energizing the solenoid 32, the spindle is movable pivotally from a normal position, as shown in Fig. 1, in which the fingers 21 are disposed vertically and the connected end portions thereof are positioned adjacent the rearward edge of the rectangular opening 9, to a tilted position, as shown in Fig. 3, in which the fingers 21 are inclined forwardly and the free end portions thereof yieldably engage the heating surface 10 of the iron.

The solenoid 32 pulls downwardly on the link 31 and the connecting links 30, whereby the forward end of the rocker arm 29 is pulled downwardly and the lower ends of the depending end portions 25 of the rocker, which is rigidly connected to the rearward end of the rocker arm 29, are moved rearwardly about the pins 26, to which they are pivotally connected. The lower ends of the depending end portions 16 of the spindle, which are connected to the lower ends of the end portions 25 by the links 28, are moved rearwardly about the pins 17, to which they are pivotally connected, whereby the fingers 21 are inclined forwardly as above described. The springs 35 retain the spindle in its normal position when not acted upon by the solenoid 32.

In the operation of the label heating means above described, a label may be inserted in the slot 8 with its adhesive side up. The bar 14 acts as a stop to limit the downward movement of the label, whereby the label rests face downwardly upon the heating surface 10 of the iron, as indicated by the dotted lines in Fig. 3. The solenoid 32 is then energized, either automatically or manually by operation of the switch 34, whereby the spindle is tilted from its normal position, as shown in Fig. 1, to its tilted position as shown in Fig. 3. The fingers 21 yieldably engage the adhesive side of the label, whereby the label is pressed firmly, momentarily, against the heating surface 10 of the iron, after which the spindle is returned to its normal position. The label adheres to the fingers 21, as indicated by the dotted lines in Fig. 1. Two of the fingers 21 are shorter than the others, as shown in Fig. 4, whereby the label may be readily disengaged from the fingers 21 and lifted therefrom thru the rectangular opening 9.

An opening 38 is provided in the rear wall 4 whereby the interior of the housing is accessible. The opening 38 is closed by a cover plate 39, which is removably connected to the rear wall 4 by screws 40.

The invention may be modified in various ways without departing from the spirit and scope thereof.

I claim:

Means for heating labels comprising a housing having an elongated slot formed in a wall portion thereof adapted to receive a label and having an opening formed in the top thereof suitable for use in removing the label, an electrically heated iron disposed within the housing and having a heating surface lying in an inclined plane and facing upwardly, the heating surface being aligned with the slot and in position to receive a label introduced thru the slot, stop means positioned adjacent the lower edge of the heating surface adapted to position the label with respect to the heating surface, a spindle disposed within the housing and rotatably supported at its ends, the axis of the spindle lying in a plane which is parallel to the plane of the heating surface and closely spaced with respect thereto, a plurality of resilient, normally upstanding fingers carried by the spindle and spaced longitudinally with respect thereto, the fingers being adapted to yieldably engage the heating surface upon rotating the spindle about its axis, linkage connected eccentrically to the spindle and capable of rotating the spindle from a normal position, in which the fingers are disposed substantially vertically, to a tilted position in which the fingers are disposed in an inclined plane for engagement with the heating surface, an electrically operable solenoid operatively connected to the linkage and capable of acting upon the spindle, when energized, to rotate the spindle about its axis, and spring means acting upon the spindle to maintain the spindle in its normal position.

References Cited in the file of this patent

UNITED STATES PATENTS

2,369,362	Marziani	Feb. 13, 1945
2,514,092	Reese	July 4, 1950
2,671,159	O'Donnell	Mar. 2, 1954