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WRAPPER BANDER

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FIG. 1

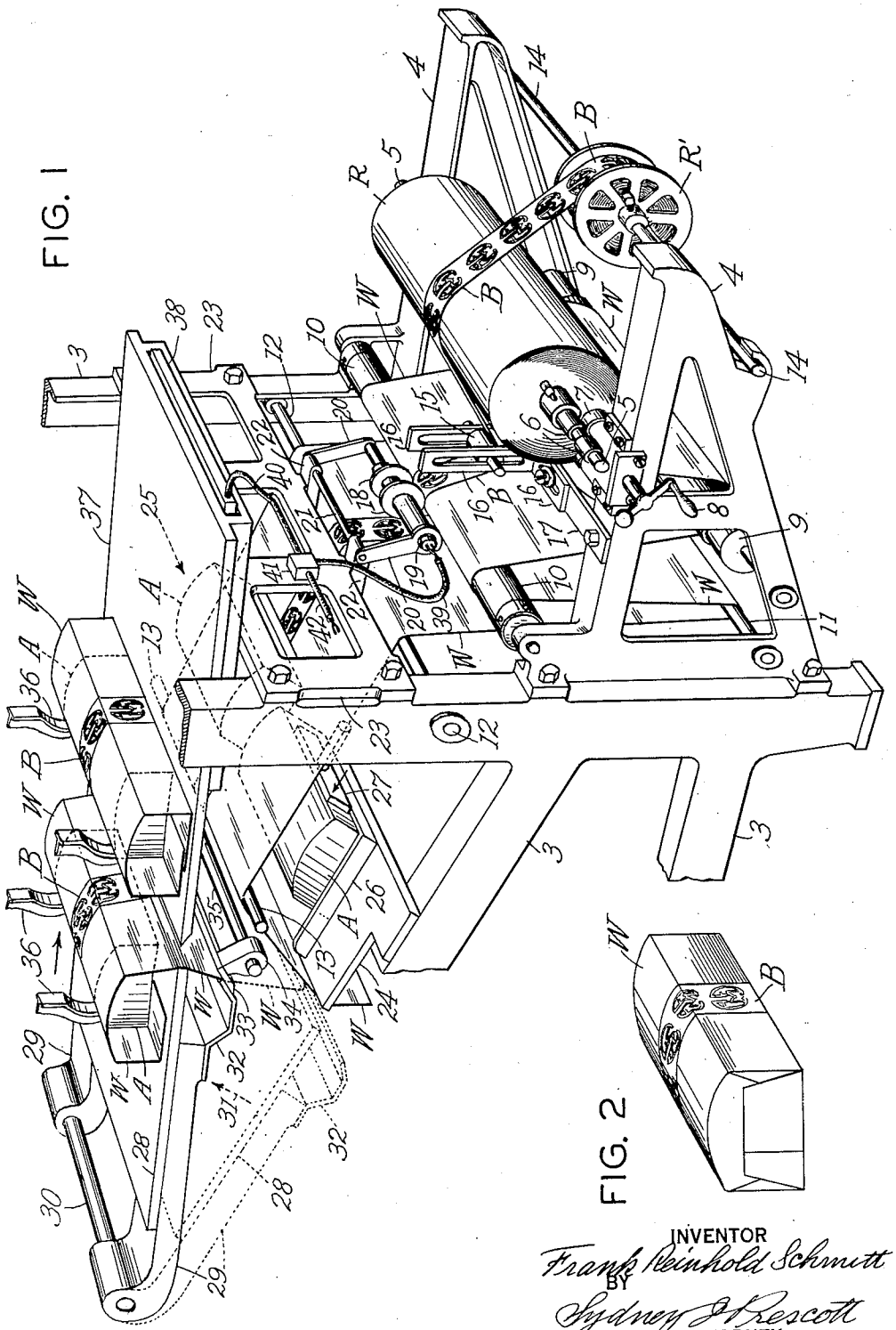


FIG. 2

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WRAPPER-BANDER

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7 Claims. (Cl. 93—2)

This invention relates to wrapper banders for wrapping machines, its main object being to provide means for automatically attaching an external band or "outsert" having a label or other advertising matter printed thereon, to the continuous web of wrapping material of a wrapping machine as the same is fed into the machine, the united wrapper web and band being thereafter severed to provide wrappers for the articles fed into the machine.

This object in the present invention is achieved by feeding the band from a reel onto a roller over which passes the wrapping web on its way to the wrapping mechanism of the machine, and by attaching the band to the web as both pass over the said roller. According to the materials of the web and band, the attaching of the band may be accomplished by pasting (in the case of nonimpregnated paper, etc.), or by heat sealing (in the case of wax paper or cellophane which is adhesive when heated). The banded wrapper thus obtained is then fed over other rollers into the wrapping mechanism of the machine in which the articles are wrapped and the ends of the wrapper folded and sealed in the usual manner, the external band thereby being placed around the package automatically. With this and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawing, which shows the application of this invention to a wax paper wrapping machine,

Fig. 1 is a perspective view of part of a bread wrapping machine, showing the improved band attaching means and the manner of wrapping an article in a banded wrapper; and

Fig. 2 is a view showing a finished package having a banded wrapper.

In carrying the invention into effect there is provided means for feeding a continuous web of wrapping material, means for securing a continuous strip of banding material to said web, means for enclosing an article in the united web and strip, and means for severing the united web and strip to provide a banded wrapper for the article. In the preferred form of construction the web feeding means includes a rotatable support for a reel of wrapping material and rollers over which the web is guided into position to permit the strip of banding material to be secured thereto. The preferred form of construction also includes means for securing the banding material to the web, comprising a rotatable support for a reel of banding material and a pair of heated rollers for heat sealing the banding material to the wrapping material. These various means and parts may be widely varied in construction within the scope of the claims for the particular machine selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the specific construction shown and described.

Referring to the drawing, the frame 3 of the wrapping machine carries brackets 4 on which is supported a reel R of wrapping material, the reel R being mounted on a shaft 5, one end of which between shoulders 6, rests on rollers 7 carried by a slide axially movable by a handle 8 so that the wrapping web W can be laterally adjusted with respect to the articles A to be wrapped. The web W is led into the machine over rollers 9, 10, 11, 12, and 13 supported by brackets 4 and frame 3, respectively, the portion between rollers 12 and 13 passing over the articles A as they are fed transversely into the machine.

On a shaft 14, supported by brackets 4, is mounted a reel R' carrying the label band B which is to be applied to the web W. The band B is led from reel R' over reel R and thence onto roller 10, being weighted between reel R and roller 10 by a floating roller 15 guided by slotted angles 16 adjustably attached to brackets 17 fastened to brackets 4.

While passing over roller 10 in intimate contact with the web W, the paper band B is sealed to the wax paper web W by means of rollers 18 bearing upon the edges of band B and being heated by an electric heating element 19 inserted into their common hub. The rollers 18 are pivotally supported by arms 20 hung from a shaft 21 supported by brackets 22 attached to cross-plate 23 of frame 3. When not in use, the rollers 18 are swung up and secured in their non-operative position so as not to interfere with the wrapping web in case that the articles A are to be wrapped without an outer band.

From roller 10, the web W and band B travel as one over rollers 11, 12 and 13, hanging down over the edge of article supporting plate 24 after passing over the articles A which are fed transversely into the machine in the direction of arrow 25 until stopped by a guide rail 26 along which they are then propelled lengthwise in

the direction of the arrow by a plunger 27. As each package intermittently leaves the plate 24 to pass onto a swinging table 28 hung by arms 29 from a shaft 30, it takes along the overhanging end of web W with its band B, thereby forming the first fold of the package around the forward side of the advancing article. During the sudden advancing of the web W due to this intermittent motion of the articles A, the floating roller 15 takes up any excessive stress on the band W thereby preventing the same from being damaged or ruptured.

When the table 28 is raised, as shown by arrow 31, the top fold is completed and the wrapping web W hangs down over the edge of table 28, passing the edge of a ledgerplate 32 attached across the arms 29. At this stage of the wrapping operation, the knife 33, mounted by brackets 34 on a shaft 35, is actuated, thereby cutting the web W, the free end of which, shown by dotted line, falls over the edge of plate 24, ready for the next package.

The web having been severed, the package is next pushed by pushers 36 from swinging table 28 in the direction of the arrow onto a stationary table 37, whereby the rear edge of the latter, which is closed to the forward edge of table 28, folds the downhanging end of the severed web W under the advancing package which is then further propelled on table 37 to engage with folding devices, not shown, which fold and seal the ends of the package, the bottom of the package, including the lap of the band B, being sealed by heating elements 38 carried by table 37. The heating elements 19 and 38 are supplied with current by wire cords 39 and 40 which in connection box 41 attached to plate 23 are connected to a cord 42 leading to an electrical supply circuit.

Thus it is seen that by the improved device herein described the band B is not only automatically fed and sealed to the wrapping web W, but is also wrapped and completely sealed around the package.

What is claimed is:

1. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material, of mechanism for securing the edges only of a continuous strip of banding material to said web in adhering relation thereto, means for partially enclosing an article in the united web and strip, mechanism for thereafter severing the united web and strip to provide a banded wrapper for said article and mechanism for overlapping the side edges of the severed wrapper to form a seam and heat sealing said seam.

2. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material, of mechanism for securing the edges only of a continuous strip of banding material to said web in adhering relation thereto, means for partially enclosing an article in the united web and strip, mechanism for thereafter severing the united web and strip to provide a banded wrapper for said article and mechanism for overlapping the sides edges of the severed wrapper to form a seam and heat sealing said seam, said web feeding means including a rotatable support for a reel of wrapping material, and rollers over which said web is guided into position to permit the strip of banding material to be secured thereto.

3. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material which is adhesive when heated, of mechanism for securing a continuous strip of banding material to said web, and means for enclosing an article in the united web and strip, and mechanism for severing the united web and strip to provide a banded wrapper for said article, said mechanism for securing the banding material to said web including a rotatable support for a reel of banding material, a pair of heated rollers arranged to press the edges of the banding material against the web to seal the banding material thereto, and a floating roller engaging the strip between said reel and heated rollers.

4. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material which is adhesive when heated, of mechanism for heat sealing a continuous strip of the banding material to said web said mechanism including a pair of spaced heated rollers arranged to press the edges only of the banding material on the web to heat seal them to the web.

5. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material which is adhesive when heated, of mechanism for heat sealing a continuous strip of the banding material to said web, said means including a rotatable support for a reel of wrapping material and a roller over which the wrapping material is guided, and said mechanism including a rotatable support for a reel of banding material and a pair of heated rollers arranged to press the edges of the banding material against the wrapping material on said roller to seal the strip of banding material to the web of wrapping material.

6. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous strip of wrapping material, of mechanism for securing the edges only of a continuous band to said web in adhering relation thereto, means for partially enclosing an article in the united web and band, and mechanism for thereafter severing the united web and band to provide a banded wrapper for said article.

7. In a wrapper bander for wrapping machines, the combination with means for feeding a continuous web of wrapping material, of mechanism for securing the edges only of a continuous band to said web in adhering relation thereto, and means for enclosing an article in the united web and band.

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