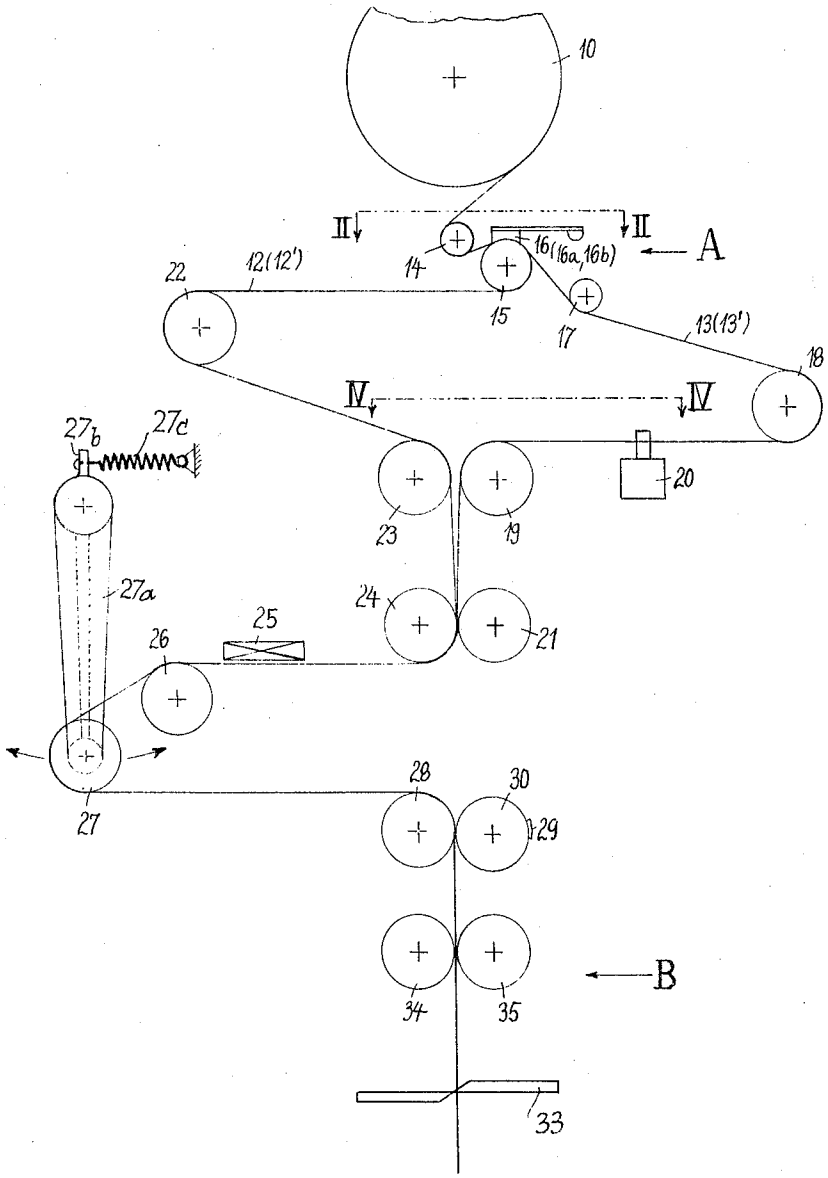
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Fig. 1



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Fig. 2

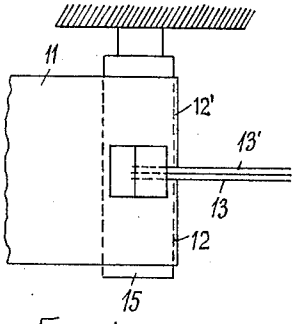


Fig. 3

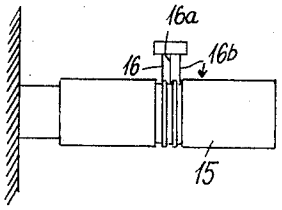


Fig. 4

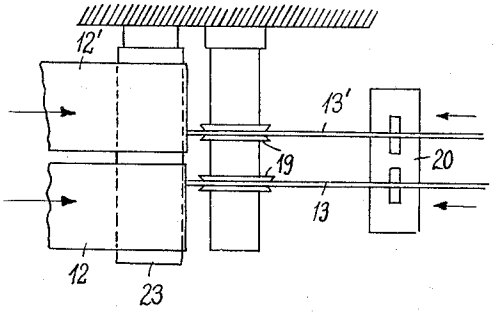


Fig. 5

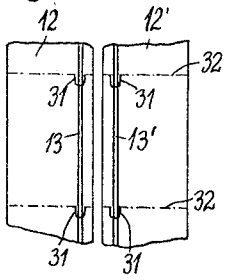


Fig. 6

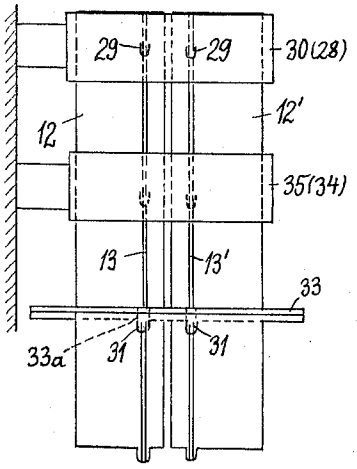


Fig. 7

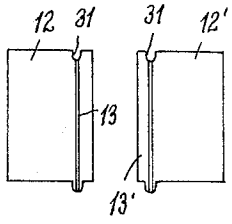
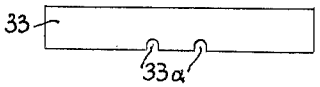


Fig. 8



United States Patent Office 3,272,673 Patented Sept. 13, 1966

3,272,673

METHOD OF AND DEVICE FOR PROVIDING WRAPPING MATERIAL WITH A PULL STRIP

Heinz-Hermann Focke, Bremen-Hemelingen, Germany, assignor to Focke & Pfuhl, Bremen-Hemelingen, Germany

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3 Claims. (Cl. 156—260)

The present invention relates to a method of and device for placing a strip of material, for instance a pull strip, upon longitudinally moving webs of wrapping material.

Heretofore such webs of wrapping material and the pull strips were withdrawn from separate supply spools and were then moved together and connected to each other by gluing or sealing, and finally were cut to length. Arrangements for handling one web or a plurality of webs are known. However, they have the drawback that with a structure for single webs two supply spools are required whereas with a structure for two webs four supply spools are required.

According to another heretofore known arrangement for a one-web wrapping machine, the web of wrapping material and the pull strip are withdrawn from a single supply spool while from the marginal portion of the said web a relatively narrow strip is cut off which, over deviating rollers, is passed to a device for sealing, dyeing or gluing and is then deposited on a desired portion of the web where it is glued or sealed thereto. A drawback of this arrangement consists in that the supply spool is difficult to control in such a way that no lateral movement whatsoever will be imparted upon the web, while on the other hand already small lateral movements of the supply spool greatly vary the width of the pull tape.

It is, therefore, an object of the present invention to provide a method of and device for cutting webs of wrapping material and pull tapes, which will overcome the above mentioned drawbacks.

It is another object of this invention, from a single web of material, to cut off both the wrapping material and the pull tape while preventing any material variations in the width of the pull tape.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

FIG. 1 diagrammatically illustrates an arrangement according to the present invention.

FIG. 2 is a top view of the arrangement of FIG. 1 as seen along the line II—II of FIG. 1, said top view showing the cutting means for cutting the pull tape.

FIG. 3 is a front view of the arrangement of FIG. 1 as seen in the direction of the arrow A of FIG. 1.

FIG. 4 is a top view of the guiding roller for the cut webs and the cut pull strips, FIG. 4 being seen along the line IV—IV of FIG. 1.

FIG. 5 is a top view of the web with U-shaped cuts.

FIG. 6 illustrates a view of the guiding roller and cutting-off device as seen in the direction of the arrow B of FIG. 1.

FIG. 7 shows the two pieces of wrapping material with pull strips in finished condition.

FIG. 8 is a top view of a knife used in connection with the present invention.

The present invention is characterized primarily in that from a single web of material at the same time two parallel webs of wrapping material and two pull strips are cut whereby simultaneously two packets may be wrapped in a continuous process and be provided with pull strips. As wrapping material there may be used any convenient material as for instance material of polymethane acrylic acid ester also known under the trade mark "Cellophane," material of polyvinyl chloride or any other wrapping material.

In conformity with the present invention, the webs of wrapping material with the pull strips to be cut for two packets are withdrawn from a single supply spool the width of which is so dimensioned that it corresponds to the total of the width of the two webs of wrapping material and the pull strips to be made. The strips to be produced are obtained by three cuts in longitudinal direction of the web and, more specifically, two webs of relatively wide wrapping material and two relatively narrow strips for the pull tapes are obtained.

Referring now more specifically to the drawings, the arrangement diagrammatically illustrated in FIG. 1 comprises a supply spool **10** with wrapping material **11** thereon the width of which corresponds to the total of the desired width of the two webs of wrapping material **12**, **12'** to be produced and of the two pull strips **13**, **13'**. The web of material **11** passes over rollers **14**, **15** and by means of three knives **16**, **16***a*, **16***b* laterally spaced from each other in conformity with the width of the strips to be cut is cut in such a way that two relatively narrow strips **13**, **13'** of a width of from 2 to 4 millimeters are produced and in addition thereto two relatively wide webs **12**, **12'**. The narrow strips **13**, **13'** are passed over deviating rollers **17**, **18** to a device **20** where a dye and/or adhesive solution is applied to said strips. The thus treated narrow strips **13**, **13'** form the pull strips and are passed over roller pairs **19**, **21**. The other two wide webs **12**, **12'** obtained by the cut of knives **16** correspond to the width of the required wrapping material and are passed over rollers **15**, **22**, **23**, **24**.

The relatively wide webs **12**, **12'** and the pull strips **13**, **13'** are then together fed into the bite of the rollers **21**, **24**. As will be evident from FIG. 4, the pull strips **13**, **13'** on rollers **19** are, of course, so controlled that they will be deposited on the two webs **12**, **12'** at the desired places. To this end, the rollers **19** are adjustable in a manner known per se.

The two wide webs **12**, **12'** with the pull strips **13**, **13'** thereon pass over roller **24** to a sealing or drying device **25** and over a roller **26** and a compensating or tensioning roller **27** to a roller **28**. The roller **28** cooperates with a roller **30** equipped with cutting means **29** by means of which a U-shaped incision **31** is produced as shown in FIG. 5. The dot-dash lines **32** indicate a cut to be effected subsequently by scissor-like knives **33** which are arranged behind roller pairs **34**, **35**.

The rollers **22**, **23**, **24** are pulling rollers and rotate continuously. They may be driven in any convenient manner. The roller pairs **28**, **30** and **34**, **35** on the other hand are driven intermittently. During the intermittent standstill of the rollers **34**, **35**, the knives **33** cut off the respective desired length of the wrapping material.

The compensating roller **27** is a tensioning roller for the strips **12**, **12'**. To this end, roller **27** is journalled on an oscillatable lever **27***a* to the upper end **27***b* of which there is connected a spring **27***c*. Spring **27***c* continuously urges the lever **27***a* to turn in clockwise direction with regard to FIG. 1, thereby holding the strips **12**, **12'** under tension.

The knives **33** are each provided with two recesses **33***a* corresponding to the location of the tabs produced by the incision **31** so that when cutting off the desired length of wrapping material, the tabs will not be cut off. The finished product is shown in FIG. 7.

It is, of course, to be understood that the present invention is, by no means, limited to the particular arrangement and designs shown in the drawings but also comprises any modification within the scope of the appended claims.

What I claim is:

1. A method of continuously and simultaneously providing two similar, composite webs of wrapping material, each of which comprises a relatively wide strip and a relatively narrow tear strip superimposed on said relatively wide strip, which includes the steps of: feeding a web of material longitudinally, simultaneously cutting said web along the center line and along two lines parallel to said center line and equally spaced on opposite sides of said center line and substantially closer to said center line than to the outer edges of said web so as to form two narrow tear strips of equal width along the sides of the center line and two substantially wider wrappings strips between said narrow strips and said outer edges, and guiding each relatively narrow strip into superimposed relationship with one of the relatively wide strips.

2. A method as claimed in claim 1, and applying an adhesive to the side of each of said narrow strips that engages the corresponding wide strip before said strips are superimposed.

3. An apparatus for continuously and simultaneously providing two similar, composite webs of wrapping material, each of which comprises a relatively wide strip and a relatively narrow tear strip superimposed on said relatively wide strip, including: means for feeding a web longitudinally, cutting means in the center line of the path of said web to slit said web in the center and two cutting means equally spaced from said center line on opposite sides of said first cutting means to slit said web simultaneously on opposite sides of said center line, said two cutting means being substantially closer to said center line than to the outer edges of said web so as to form two narrow tear strips of equal width along the sides of said center line and two substantially wider wrapping strips between said narrow strips and said outer edges, and means for guiding each relatively narrow strip into superimposed relationship with one of the relatively wide strips.

References Cited by the Examiner

FOREIGN PATENTS

222,637 7/1959 Australia.

EARL M. BERGERT, *Primary Examiner.*

D. J. DRUMMOND, *Examiner.*