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GUMMED TAPE

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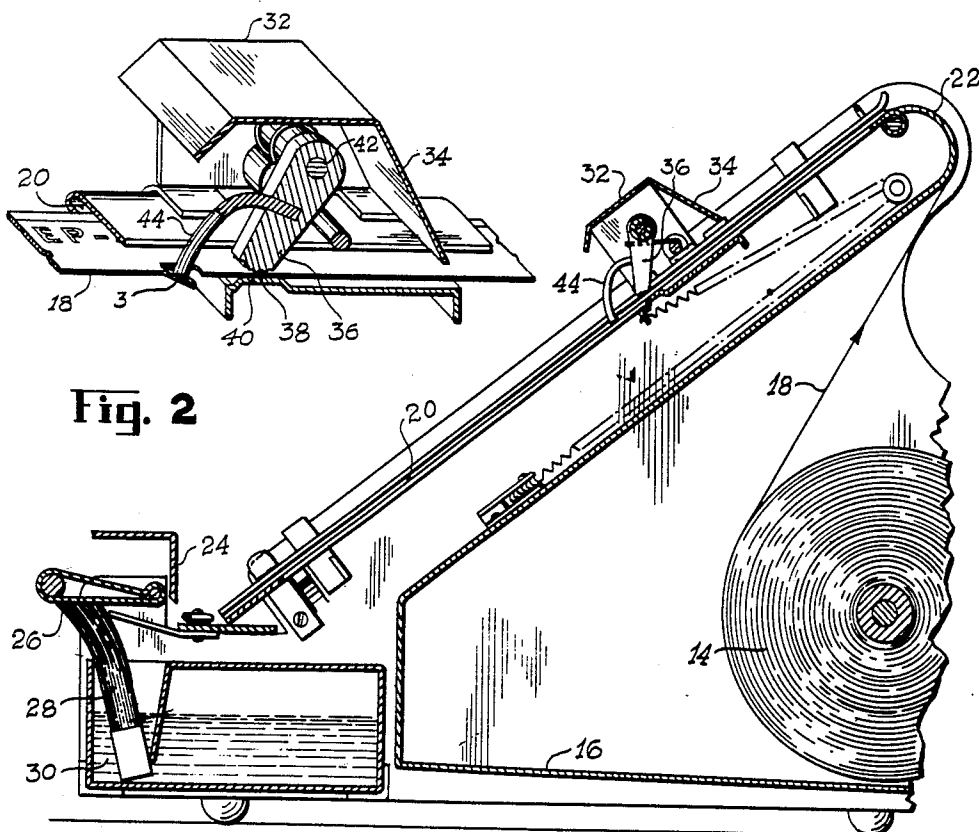


Fig. 2

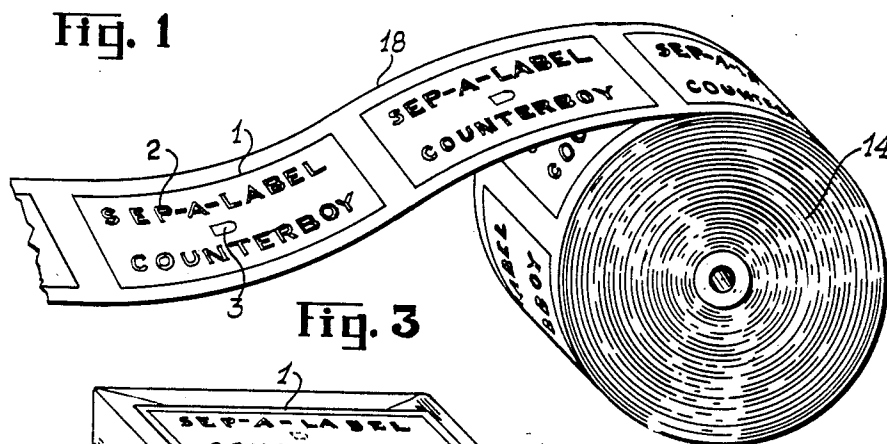


Fig. 3

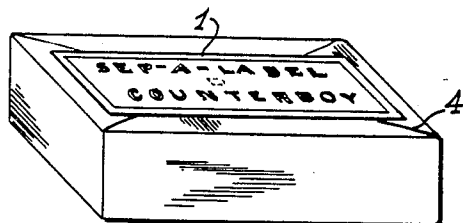


Fig. 4

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GUMMED TAPE

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3 Claims. (Cl. 281—5)

This invention relates to improvements in gummed tape to be dispensed in gummed tape serving machines and more particularly to printed tape or strip labels which will issue from the machine cut between the printed portions thereof, and present a complete tape section or label which may be in the form of a rectangular figure or the like in which there are no visible holes, notches or other undesirable features.

The feeding of the gummed printed tape for wrapping packages or labeling in which the printing covers a specified portion of the tape or constitutes a label has frequently been found unsatisfactory either for the reason that the dispensing machine was not properly adapted to cut the tape accurately at predetermined positions or when the machine was so properly adapted for the reason that the printed labels or the repeats of the printed "copy" on the tape were not uniformly spaced. Thus the undesirable feature of tape or labels cut in the printed portion rather than at the end thereof has arisen.

It has been suggested to overcome this difficulty by providing a guide hole in the tape at spaced intervals and a feeler device which is sensitive to the guide hole in the tape, which feeler actuates a tape feeding mechanism so that the complete printed tape or label is dispensed from the machine.

For reasons which have to do with the construction and functioning of the dispensing machine, this guide hole cannot usually be placed between adjacent labels where it would be out of the way of the printed matter, but must usually be located somewhere within the printed area of the label itself. This is particularly true in the case of medium-sized and large-sized labels as compared to very small labels. This forced locating of the hole within the printed area has two very serious disadvantages from the standpoint of marketing such tape.

The first disadvantage is that a modification or revision of the printing is necessary to avoid any of the text being printed over the spot where the hole has to be located. This interferes with the readability as well as with the pleasing composition of the text.

The second serious disadvantage to the marketing of such tape with punched holes is the frequent color difference between the label and the surface to which it is applied; for example, a white label pasted to brown wrapping paper. Such color difference can also be caused where the papers are similar but where a different colored ink is used to print a reverse plate label.

Thus the label may have a red ink background, whereas the wrapping paper underneath may be grey. Any such color difference results in the hole or mutilation showing very prominently and not only detracts greatly from the appearance of the label by giving the effect of a "scar" or blot on its surface, but also interferes seriously with the reading of the text.

A major object of this invention is therefore to provide a gummed tape or label which will issue from the dispensing machine as a complete label with the printed material intact and which will possess no visible holes, perforations, or other unsightly mutilations, as seen gummed to a package or used for any other purpose to which it may be applied.

It is further the object of this invention to provide a means of registration which will have the effect of making it possible to deliver from the dispensing machine a complete label with the printed material intact, even though the spacing of the printed labels on the tape is not uniform. In other words, to provide a means for registration which will correct the non-uniformity of the spacing of printed matter on tape or labels in addition to correcting irregularity in feeding on the part of the dispenser.

In the patent of Michael J. West, No. 2,021,038 granted on November 12, 1935, there is described and claimed a tape serving mechanism in which a feeler device when encountering a hole in the tape causes a gripping device or tape feeding mechanism to feed tape from the machine. By spacing the holes in the tape a predetermined distance apart the amount of tape fed upon a full throw of the feed device can be regulated. The holes in the tape, however, are subject to the disadvantage that the same interfere with the printing matter which is usually placed on the tape, and moreover when the label is pasted on the package an unsightly effect is produced, especially if the paper in which the package is wrapped is of a different color than the tape.

In my present invention I obviate these drawbacks by providing tape in the form of a roll or continuous strip in which weakened or depressible areas are formed at spaced points capable of yielding under the pressure of the feeler device, but in the production of which no part of the paper of the strip is removed as would be the case in punching a hole. In a preferred embodiment of this invention U or V-shaped incisions are made in the tape at intervals, substantially coinciding with the intervals between label impressions or so-called "copy," the U or

V-shaped tongues or flaps thus formed having substantially the same position label by label relative to the so-called "copy," whether the copy appears on the tape at uniform or non-uniform intervals. When the tape is fed through the machine, the feeler device instead of functioning through a hole as disclosed in the West patent, slightly bends the flap out of the plane of the tape. Since these flaps yield to the slight pressure of the feeler, said feeler actuates the tape feeding mechanism so as to propel the tape through the machine. When the strip of tape so fed passes through the moistening element of the dispensing machine, the flap, having been only momentarily and slightly depressed out of the plane of the tape, again resumes its original position in the plane of the tape and is moistened in the same manner that the whole body of the label is moistened, and therefore when the strip of tape so fed, moistened, and cut is applied to the package, the flap is pasted evenly with the rest of the tape so that the tape or label presents a smooth appearance in which the flap is scarcely noticeable except on careful examination. This result enables the arrangement of the printed matter on the tape to be made without regard to the position of the flap, although it is a feature of the invention to space the incision with regard to the printed matter in order that each piece of tape cut may contain a complete message.

Preferably the tape is placed in the machine so that the flaps point away from the direction of travel as this is a surer means of bringing the slightly depressed flap back into the plane of the tape than if the flaps pointed in the direction of travel. However, it is possible to modify the tape serving machine in such a way that the flaps are brought back into the plane of the tape as the tape is being fed through the machine even though the flaps point in the direction of travel of the tape.

Any suitable means for cutting the flaps may be utilized; for instance, the use of an appropriately shaped knife incorporated in the printing press in which the tape is printed, as will be understood by those skilled in the art. The cutting of the flaps by means associated with the printing press or otherwise directly coordinated with the printing operation so that the flaps are accurately positioned with respect to each repeat of the printed design is important. By this means correct cutting of the strip with respect to the printed design is assured whether the spacing of the printed design is uniform or not.

Further objects and advantages of the invention will hereinafter appear from the detailed description of the gummed tape in its preferred form and its preferred application to the dispensing machine.

In the drawing forming part of this specification:

Fig. 1 is a sectional view of the tape dispensing device partly broken away, showing one type of feeding mechanism to which this invention is adapted.

Fig. 2 is a vertical section of the feeding device in perspective, showing the engagement of the feeler with the registering device of the tape.

Fig. 3 is a perspective view of a roll of the improved gummed tape showing a preferred form of tongue or depressible area situated at prede-

termined intervals on the tape in relation to the printed matter.

Fig. 4 is a perspective view of a package or box with my improved label applied thereto.

One type of dispensing machine to which the improved tape may be applied is disclosed in the West patent heretofore mentioned and comprises generally a pair of side frame members connected by suitable cross members, the frame members supporting a roll of tape 14 therebetween. The roll of tape rests on a bottom strip or supporting pan 16, the tape being arranged to roll rearwardly as the tape 18 is drawn forward, thus rolling the tape roll 14 against one of the cross members which with the supporting pan 16 act as a frictional brake to prevent over-running of the tape.

The inclined face of the machine is provided with a tape guide to guide the tape 18 there-through. The tape passes over a strip receiving apron 22 at the top of the machine, then down the tape guide 20 and finally passes out of the machine past the tape severing device 24 and through the moistening couple consisting of the pivoted pressure plate 26 and brush 28. The brush 28 is normally adapted to rest in the water reservoir 30 from which it draws water by capillary attraction and sufficiently moistens the gummed surface of the tape 18 after the tape passes the severing device.

This general construction of the machine without the feeler mechanism hereinafter described is more fully shown in United States Patent No. 1,638,816 granted on August 9, 1927, to Theodore H. Krueger.

The gummed tape 18 may be printed in any predetermined way such as in labels, slogans or distinctive advertising sections. The entire strip however is continuous and is adapted to be used for wrapping cartons, or for labeling packages, etc., and for this purpose is preferably cut between the labels or printed portions. Obviously, a single section may be dispensed as well as whole multiples thereof. The tape 18 may be rolled either with the printed portion on the outside as shown in Figure 3 or with the gummed portion on the outside as shown in Figure 1, depending upon the construction of the dispenser.

One type of feeding mechanism applicable to the dispensing of this improved tape is described in the above mentioned patent to West. It is generally indicated at 32 and may preferably be in the form of a substantially rigid carriage surrounding the tape guide 20 and slidable thereon and comprising a rear face 34, inclined to permit easy grasp by the operator and a tape gripping dog 36, having a serrated nose 38 which cooperates with a raised section 40 in the under surface of the tape carriage to grip the tape. The gripping lever or dog 36 may be pivoted on a suitable cross shaft 42 so that when free to drop, it will contact the tape 18 against the raised portion 40 on the tape carriage to feed the gummed tape forward when the carriage is advanced.

The movement of the tape gripping dog to insure the delivery of a complete unit of length of the tape is controlled by a feeler finger 44 secured to the gripper lever 36. This feeler normally contacts with the surface of the gummed tape and holds the gripper lever out of tape engagement. When the feeler 44 reaches the V or U-shaped cut or other depressible area in the tape as shown in Figure 2, it will press down

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against the flap 3 formed by this cut, which flap will yield to slight pressure and by its connection with the gripper lever 36 will contact with the tape and on forward movement of the tape carriage will feed tape from the feeding end of the machine according to the spacing of the flaps along the tape.

Since the flap caused by the U or V-shaped cut in the tape is only slightly depressed out of the plane of the tape, and since the paper stock and the dry gum coating give the flap considerable stiffness or springiness, it will reassume its position in the plane of the tape as it passes under the pivoted pressure plate 26 and over the moistening brush 28 and will be moistened by the brush 28 in the same manner as the rest of the tape issuing from the machine. While the flap may point either away from the direction of the motion of the tape or in the direction of the motion of the tape or at an angle thereto, it is preferable for the flap to point away from the motion of the tape as the motion of the tape through the parts of the dispensing machine tends to assist the flap in reassuming its original position in the plane of the tape more easily than when the flap points in the direction of the motion of the tape. When the moistened tape is applied to the surface of a package 4 or other surface to which the moistened tape is to be applied, the flap which has also been moistened will adhere as firmly to the surface of the package or other surface as the rest of the tape.

While I have made reference to the West patent as showing one means for dispensing the tape embodying this invention, it is not my intention to limit myself or the scope of my invention to its application in connection with the West device, attention being called to the fact that West's device, whether used in connection with a hole or with my flap, is rendered operative as a feeding device only when a feeler, by means of said hole or flap, permits a gripping or feeding device to function. West's device, therefore, does not feed any kind of tape except such tape as has perforations or flaps or other depressible areas. On the other hand, my flap tape can also be used in connection with a different type feeding mechanism, for instance, a feeding mechanism which can also be used to feed ordinary unperforated, unpunched or untongued tape.

Furthermore, while I have heretofore referred to this invention as relating to a continuous roll

of pregummed labels, the gum on which is dry at the time of use, nevertheless my invention includes also ungummed labels in roll or strip form provided with my depressible areas, which labels can thus be properly dispensed from a dispensing machine and can thereafter be made adhesive by coating the unprinted side with liquid paste or glue immediately before being applied to a package.

While I have illustrated and described in detail certain preferred embodiments of my invention, it is to be understood that changes may be made therein and the invention embodied in other structures; I do not therefore desire to limit myself to the specific construction illustrated, but intend to cover my invention broadly in whatever form its principle may be utilized.

I claim:

1. As a new article of manufacture, a roll of gummed printed labels having U-shaped tongues cut therein with the tongues pointing away from the direction of unrolling of said roll, said tongues being uniformly placed with relation to the printed label areas, and each being entirely within the area of an individual label.

2. A roll or strip of adhesive paper tape having a design or legend reproduced in repeat thereon and having registering portions formed therein in predetermined position in relation to the successive repeats, said registering portions comprising weakened depressible gummed areas which are substantially invisible when the tape is affixed to the article to which it is applied, said areas being located entirely within the area of an individual label when said label is severed from said roll.

3. A roll or strip of gummed paper tape having a design or legend reproduced in repeat thereon and having registering portions formed therein in predetermined relation to the successive repeats, said registering portions consisting of gummed depressible tongues cut from the material of the tape and adapted to be normally maintained in substantial alignment with the plane of the paper by the resiliency of the paper, said tongues being so placed with respect to the printed repeats that when the tape is severed between successive repeats, the tongue or tongues in the severed portion will be located entirely within the area severed.

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