April 27, 1943. R. S. AVERY 2,317,576

LABEL DISPENSER

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Fig. 1

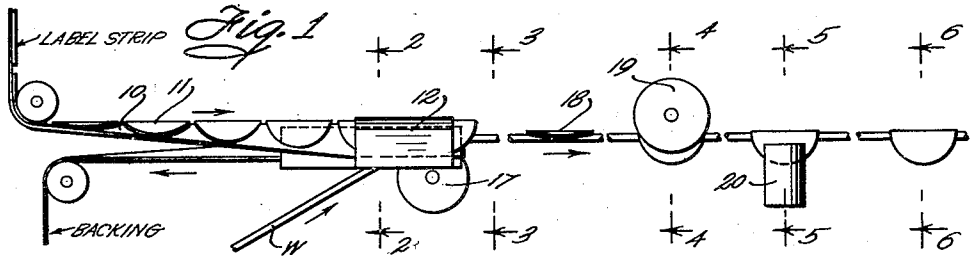


Fig. 2

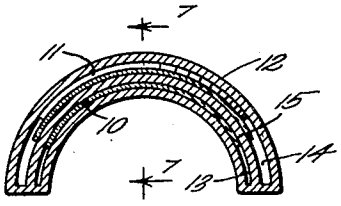


Fig. 3

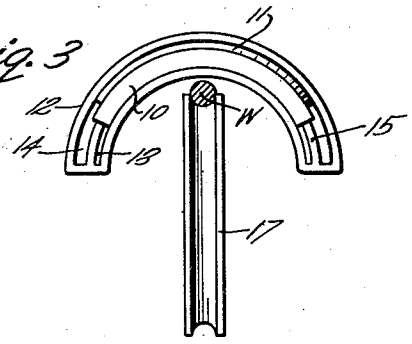


Fig. 4

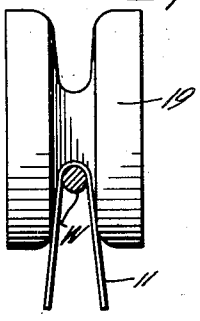


Fig. 5

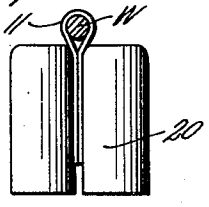


Fig. 6

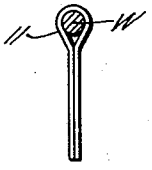
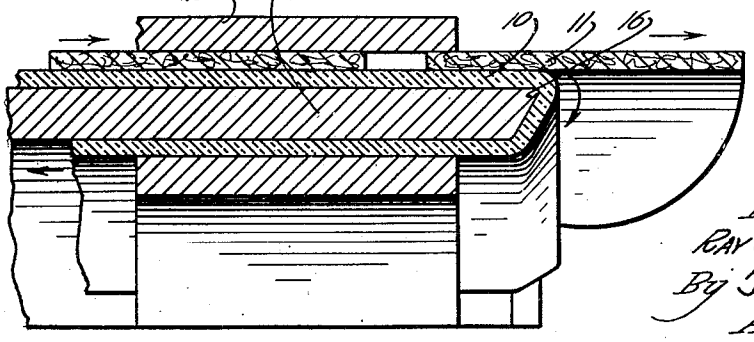


Fig. 7



Inventor
RAY STANTON AVERY
By Hazard and Miller
Attorneys

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LABEL DISPENSER

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Fig. 8

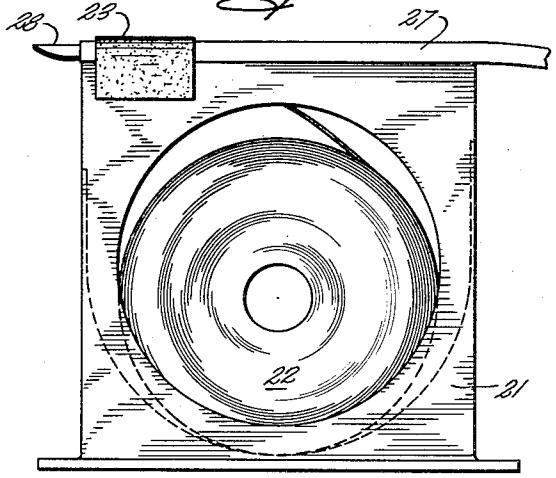


Fig. 9

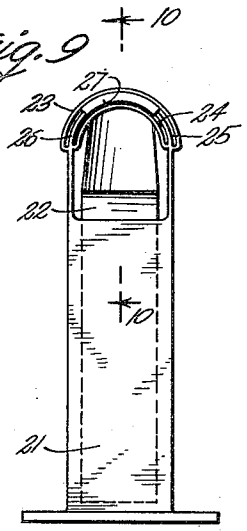


Fig. 10

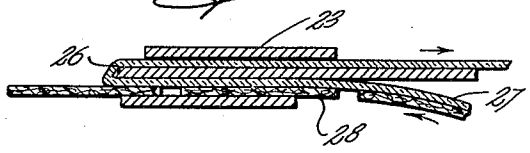


Fig. 11

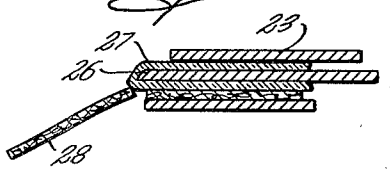
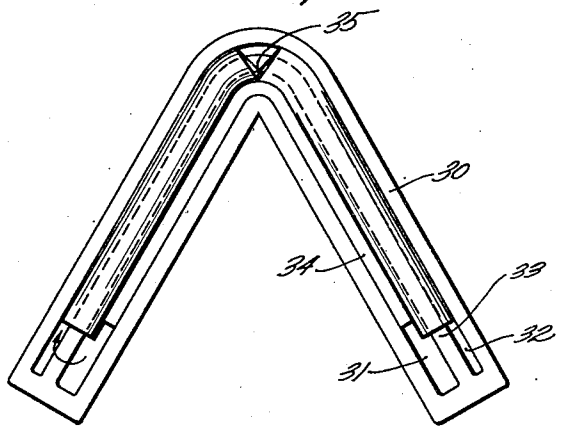


Fig. 12



Inventor
RAY STANTON AVERY
By Hazard and Miller
Attorneys

Patented Apr. 27, 1943 2,317,576

UNITED STATES PATENT OFFICE

2,317,576

LABEL DISPENSER

Ray Stanton Avery, Los Angeles, Calif.

Application May 14, 1941, Serial No. 393,359

9 Claims. (Cl. 216—9)

This invention relates to a method and apparatus for dispensing labels and the like that are temporarily mounted on a backing or backing strip by means of pressure sensitive adhesive and may be considered as an improvement over the disclosure made in my copending application Serial No. 349,892, filed August 2, 1940, entitled Label and tape dispensing machine.

In the above identified application there is disclosed a means for dispensing or separating labels from the backing on which they are mounted wherein the backing with the labels mounted thereon is drawn over a relatively sharp edge, thus causing the labels to continue in their planes while the backing is being peeled therefrom. Where the material of which the labels are formed is very thin or highly flexible, there is a tendency for the labels due to their great flexibility to follow the backing as it is drawn around the relatively sharp edge instead of continuing in their respective planes.

An object of the present invention is to provide an improved means and method for stripping or peeling the backing from the labels wherein the labels and backing are transversely flexed or arched as they approach the relatively sharp edge so that the labels will thus be stiffened in the direction of their movement reducing any tendency of the labels to follow the backing around the sharp edge and thus assuring a peeling of the backing from the stiffened labels.

Another object of the invention is to provide a means and method for applying adhesive labels to a wire or rod-like article so that identifying media may be applied thereto at regular intervals for purposes of identification, which method and means preferably employ the feature of transversely flexing the labels at the locality where the backing is stripped or peeled therefrom.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a diagrammatic view of an apparatus embodying one form of the present invention illustrating a backing strip having labels mounted thereon by means of pressure sensitive adhesive as being fed into a dispensing device embodying the present invention wherein the backing strip is separated or peeled from the labels and the labels are deposited on and applied to a rod or wire-like article;

Fig. 2 is a sectional view taken substantially upon the line 2—2 upon Fig. 1;

Fig. 3 is a sectional view taken substantially upon the line 3—3 upon Fig. 1;

Fig. 4 is a view taken substantially upon the line 4—4 upon Fig. 1;

Fig. 5 is a view taken substantially upon the line 5—5 upon Fig. 1;

Fig. 6 is a view taken substantially upon the line 6—6 upon Fig. 1;

Fig. 7 is an enlarged fragmentary view in longitudinal vertical section through the dispensing device illustrated as forming a part of the apparatus illustrated in Fig. 1 and may be considered as having been taken substantially upon the line 7—7 upon Fig. 2;

Fig. 8 is a view in side elevation of a modified form of dispensing device embodying the present invention;

Fig. 9 is a view in front elevation of the same;

Fig. 10 is a partial vertical section taken substantially upon the line 10—10 upon Fig. 9 illustrating a label as in the process of being dispensed and separated from its backing;

Fig. 11 is a view similar to Fig. 10, but illustrating the label as having been dispensed; and

Fig. 12 is a view in front elevation of an alternative form of construction embodying the present invention.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, and referring specifically to Figs. 1 to 7, inclusive, W, indicates a wire, cord, or other rod-like article to which it is desired to apply labels at regular intervals as a means of identifying the wire or cord as the case may be. It sometimes is desirable to have identification media applied at regular intervals to articles of this character for trademark purposes, and in the case of wires used for electrical purposes in communication cables and the like, it is sometimes desirable to have the wires suitably identified at regular intervals to facilitate their being connected in proper circuits. There are frequently other situations where it is desirable to apply an identification device to wire, cords, and the like at regular intervals. Suitable for this purpose are paper labels which are normally marketed in the form of a backing strip indicated at 10 on which the labels 11 are mounted by means of pressure sensitive adhesive. The term "pressure sensitive adhesive" refers to that class of adhesives that are normally tacky, requiring no moisture or

solvent to render them adhesive to dry articles to which they may be applied.

The backing employed varies under different circumstances and may consist of Cellophane, Glassine, holland cloth or the equivalent, but should have the characteristics that when the backing is peeled from the label having the pressure sensitive adhesive thereon that it will readily peel from the adhesive leaving the adhesive attached to the under surface of the labels.

The apparatus for removing or peeling the backing from the labels and depositing them on the wire W as illustrated in Fig. 1 comprises a suitable guide 12 which is transversely arched or curved and has two closely arranged concentric arcuate passages 13 and 14. Between these passages the partition 15 provides a relatively sharp edge 16, see Fig. 7, over which the backing 10 can be drawn. The label strip is suitably guided so as to feed through the upper or outer passage 14 which, because of its curvature or shape, causes the label strip to be transversely flexed or arched as it approaches the edge 16. The backing 10 is reversely drawn about this edge and is caused to pass rearwardly through the lower or inner passage 13. During this movement it will be noted that each label as it passes over the relatively sharp edge 16 is held in the arched or flexed condition so that it will be stiffened in a longitudinal direction facilitating the stripping or peeling of the backing therefrom. Even though the material forming the labels 11 is quite thin and flexible this arching or flexing of the labels is such as to resist any tendency of the labels to follow the path of the backing 10 around the sharp edge 16 causing the labels to be effectively projected and separated from the backing.

The wire W is fed underneath the guide 12 around a suitable guide roller 17 so as to receive or have deposited thereon the projected and detached label. One such label is indicated as having been deposited on the wire as at 18. The wire is drawn with the deposited label beneath a roller 19 which serves to bend the sides of the label downwardly around the wire as clearly illustrated in Fig. 4, after which the downwardly bent sides of the label are caused to pass between two opposed rollers 20 as shown in Fig. 5 which bring the sides of the label into opposed adhesive engagement around the wire.

In the preferred form of construction the rate of feed of the wire is so co-related with relation to the speed at which the backing is pulled around sharp edge 16 as to cause the labels to be projected and deposited at regular spaced intervals. The labels may have a trade-mark or other identifying media printed thereon prior to their application to the wire, or if desired, this may be subsequently applied after the labels have been drawn through or between opposed rollers 20.

It will be noted that in the above-described apparatus that the curvature of guide 12 is such as to transversely flex the labels and backing strip so as to longitudinal stiffen the labels while they pass over edge 16 and the backing 10 is being stripped therefrom. The guide also serves to accommodate the top of roller 17 so that the wire can be fed very close to the under-exposed side of the adhesively coated label that is projected from the guide.

In Figs. 8 to 11, inclusive, an alternative form of construction is illustrated consisting of a suitable container 21 designed to receive a roll or supply of labels mounted on a backing strip by means of pressure sensitive adhesive, such a roll is indicated as being disposed within the container at 22. On the top of the container there is provided a guide 23 having concentrically arranged arcuate passages 24 and 25 between which there is a relatively sharp edge 26. The backing strip 27 having the labels 28 applied thereto is fed outwardly through the inner or lower passage 24 and is drawn reversely around the sharp edge 26 through the upper or outer passage 25. The backing may be pulled rearwardly through this passage by hand and in so doing, the labels are projected through the forward end of passage 24 in a transversely flexed and consequently longitudinally stiffened condition. The tendency for the labels to follow the backing around the sharp edge 26 is thus greatly reduced even though the material of the labels may be quite thin and flexible.

When the labels are projected as shown in Fig. 11 they may be easily detached at their trailing ends from the backing strip. Where the labels are small there is some tendency for the trailing edge of the labels to swing the labels around edge 26 and deposit them on top of the guide. If desired, the top surface of the guide may be equipped with sandpaper to retard or resist adhesion of the labels to the guide as disclosed in my copending application, above-identified.

In Figs. 1 to 11, inclusive, the shape of the guide and consequently of the passages therein, is arcuate or semicircular in form. The invention is not restricted to this configuration and if desired may be given the form of an acute angle as shown in Fig. 12. In this figure the guide is generally designated at 30 having parallel inner and outer passages 31 and 32, respectively. The label strip comprising the backing and the labels mounted thereon by pressure sensitive adhesive can be drawn forwardly through the inner passage 31 around the relatively sharp edge 33 and rearwardly through the outer passage 32. The labels 34 will thus be bent or arched by the shape of the passage 31 as they approach the edge 33 longitudinally stiffening the labels while the backing is being peeled therefrom. The longitudinal stiffening resists any tendency of the labels to follow the backing. In this form of construction the backing may be previously split or divided so that when being drawn rearwardly over the apex of the relatively sharp edge 33 it will divide as indicated at 35.

It will be noted that in the construction illustrated in Fig. 1, that the backing is peeled from the concave side of the label as the label is flexed by the guide, whereas in the construction illustrated in Figs. 8 to 12 the backing is peeled from the convex side of the label as flexed by the guide. Whether the backing is peeled from the convexly flexed label or from a concavely flexed label is ordinarily immaterial. In both instances the approaching or flexing of the label at or near the locality where the backing is peeled therefrom longitudinally stiffens it to resist its following the backing thus facilitating the peeling or stripping of the backing therefrom.

From the above-described construction it will be appreciated that an improved means and method of dispensing labels wherein the backing is peeled or stripped from the labels is provided which affords greater assurance that the labels will not remain attached to the backing and follow the backing in its peeling movement. The improved construction also lends itself admirably

to the application of labels to wires, cords, and like articles of merchandise.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. The method of removing the backing from labels atached to the backing by pressure sensitive adhesive which comprises drawing the backing over a transversely arched relatively sharp edge thus peeling the backing from the label.

2. The method of removing the backing from labels attached to the backing by pressure sensitive adhesive which comprises drawing the backing over a transversely arched relatively sharp edge thus peeling the backing from the label while the label is in a transversely flexed condition.

3. The method of removing the backing from labels attached to the backing by pressure sensitive adhesive which comprises transversely flexing the label and backing and peeling the backing from the label while the label is held in flexed condition.

4. The method of removing the backing from labels attached to the backing by pressure sensitive adhesive which comprises transversely flexing the label and backing and peeling the backing longitudinally from the label while the label is held in transversely flexed condition.

5. The method of removing the backing from labels attached to the backing by pressure sensitive adhesive which comprises transversely flexing the label and backing and peeling the backing longitudinally from the label while the label is held in transversely flexed condition by drawing the backing over a transversely arched relatively sharp edge.

6. Means for dispensing labels attached to a backing by pressure sensitive adhesive comprising guide means for transversely flexing the labels and backing, and means providing a relatively sharp edge adjacent the guide means over which the backing may be drawn so as to peel the backing from the labels while the labels are in flexed condition.

7. Means for dispensing labels attached to a backing by pressure sensitive adhesive comprising guide means for transversely flexing the labels and backing, and means providing a transversely arched relatively sharp edge adjacent the guide means over which the backing may be drawn so as to peel the backing from the labels.

8. Means for dispensing labels attached to a backing by pressure sensitive adhesive comprising means providing two closely adjacent parallel transversely arched passages through one of which the backing and labels may pass and be transversely flexed thereby and through the other of which the backing may be reversely drawn in peeling it from the labels.

9. Means for dispensing labels attached to a backing by pressure sensitive adhesive comprising means providing two closely adjacent parallel transversely arched passages through one of which the backing and labels may pass and be transversely flexed thereby and through the other of which the backing may be reversely drawn in peeling it from the labels, there being a relatively sharp edge arranged between the passages.

RAY STANTON AVERY.