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F. K. JOHNSON

2,636,297

PRICE MARKING LABEL HAVING PRESSURE SENSITIVE ADHESIVE THEREON

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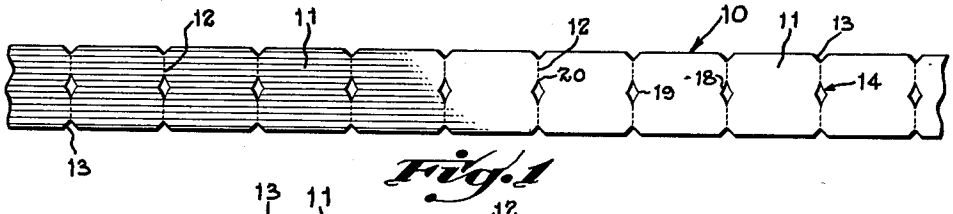

Fig. 1

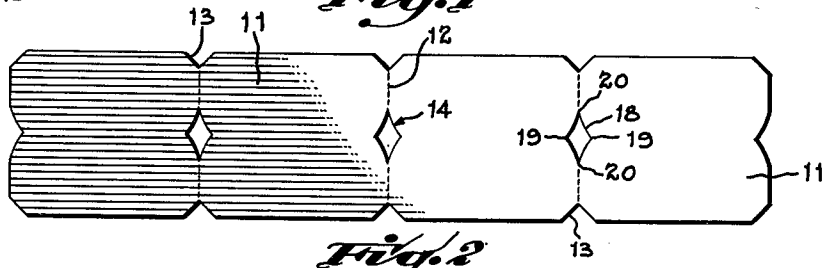

Fig. 2

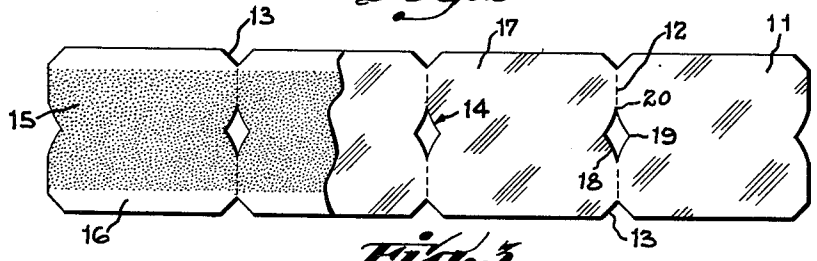

Fig. 3

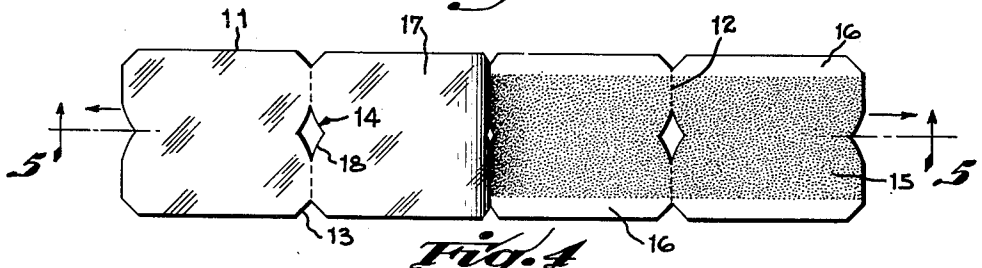

Fig. 4

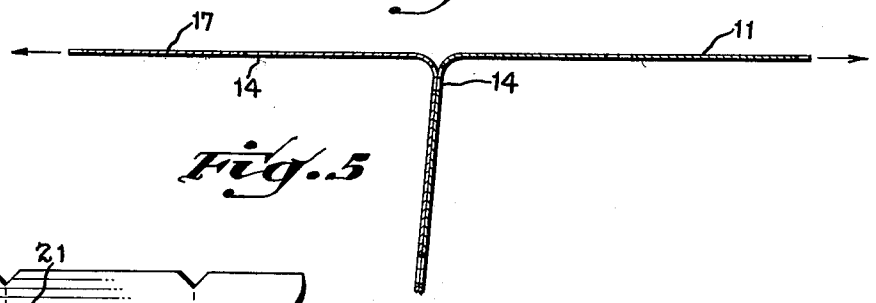

Fig. 5

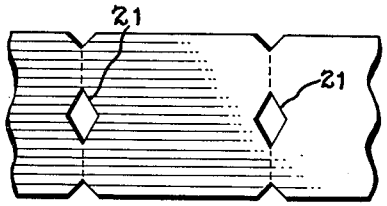

Fig. 6

INVENTOR.

Floyd K. Johnson

BY

Wood, Arey, Henson & Sams

ATTORNEYS

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PRICE MARKING LABEL HAVING PRESSURE SENSITIVE ADHESIVE THEREON

Floyd K. Johnson, Miamisburg, Ohio, assignor to The Monarch Marking System Company, Dayton, Ohio, a corporation of Ohio

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2 Claims. (Cl. 40—2)

1

This invention concerns an improvement in price marking labels of the type disclosed by United States Letters Patent No. 2,095,437, which issued October 12, 1937 to Louis Fox for "Price Marking Tag and Method of Making the Same."

In general, the labels of the invention are that type which are manufactured and sold in strip form. The strips are designed to be processed by automatic marking machines and, as is the usual practice, are fed through a machine from a reel, across a table to a printing station where the individual labels in the strip are printed. The strips are not acted upon by the cut-off knife of the marking machine but are dispensed in unbroken strip form. The strips are coated on the backs with pressure sensitive adhesive and the adhesive covered with protective glassine paper or the like which is removed before the individual labels are separated from the strip and affixed to goods. The individual labels in the strip are defined by lines of weakening which extend across the strip. Feed apertures are provided in the strips at the lines of weakening, the apertures being designed to cooperate with feed fingers which advance the strips through the marking machines.

The identified Fox patent discloses an efficient method of making strips of labels of the type described in which the adhesive and glassine backing are placed on the strip material prior to the time that the lines of weakening and feed finger apertures are cut into the material to define the individual labels; that is, the forming dies cut through both thicknesses, the strip material and the glassine material. The end product of the Fox method is a strip of labels having a coating of adhesive which is continuous over the major portion of the back of the strip, leaving the two marginal edges free of adhesive in order to provide a place to start the peeling of the backing from the strip. The Fox label strip has rectangular feed apertures which are located in the longitudinal center line of the strip on the lines of weakening between individual labels. Each rectangular aperture, in addition, is centered with respect to its particular line of weakening.

In actual practice, in working with labels made in accordance with the Fox method, it has been found that a great deal of care is required in order to peel off the glassine backing. The main difficulty seems to lie at the centrally located rectangular feed finger apertures. Unless extra care is exercised when the backing is being stripped past each aperture the label strip is likely to be torn. Possibly one reason for this tendency for tearing is a result of the method of making the label strips, inasmuch as the apertures are cut into the strips after the backing is in place. Under these conditions, when the die passes through the strips, the fibers of the label strip, the adhesive, and the fibers of the glassine backing are comingled around each aperture, fastening the backing to the label strip quite securely at these places. As a result, when the backing is being peeled from the label strip, the resistance offered to the peeling operation at the rectangular apertures is greater than the resistance of the label strip to tearing.

2

Even though the end product is not completely satisfactory, the method of making the label strips disclosed by the Fox patent is quite efficient. Thus, the problem has not been with the method but rather with the difficulty of peeling of the labels made by the method.

In working with this problem, it was found that the tendency for the labels to tear could be overcome by utilizing two bands of adhesive on the backs of the label strips, the bands straddling the rectangular feed finger apertures so that no adhesive was on the strip along the central portion in line with the apertures. This double band method of applying the adhesive solved the peeling problem but was less than completely satisfactory because the labels then did not stick to the articles properly. Users complained that the labels would curl up, popping off the articles at touch. In spite of this, the double band method of applying adhesive was used quite extensively; apparently the tendency for the labels to come off the articles being less of an evil than the difficulty of peeling encountered when a solid coating of adhesive was used.

Ideally, of course, the entire area of the back, with the exception of the two marginal areas, of each label should carry adhesive. Accordingly, it is the inventor's concept to provide a label strip, having a continuous back coating of adhesive, which may be made by the method disclosed by the Fox patent, but which has the advantage that the backing can be peeled easily and rapidly from the strip with the exercise of only ordinary care.

The improvement concerns particularly the feed finger apertures which are centered longitudinally of the strip and which lie on the lines of weakening, and more specifically, the shapes of the apertures; the preferred shape being that of a curve sided diamond in which the sides bow inwardly. The inventor has found that labels

which have feed finger apertures which are generally diamond shaped, and in addition positioned on the lines of weakening between labels with the diagonals of each diamond extending respectively longitudinally and laterally of the strip, may be coated with adhesive around the apertures without causing peeling difficulties. In fact, in peeling the backs off strips of labels made in accordance with the invention, surprisingly, the resistance to stripping or peeling is noticeably less at the apertures than elsewhere. The reason for this, it is believed, is that the material adjacent the pointed end of each diamond shaped aperture is the first of the material around the aperture to be separated and, as the peeling continues along the sides of the diamond, it moves progressively, point by point, along the angulated sides of the opening instead of meeting with a continuous line of resistance as offered by the rectangular apertures provided in the past.

It has been found that the diamond shaped apertures of the improved strip do not require specially shaped feeding mechanism in the machines in which the strips are processed. The diamond shaped apertures receive the feed fingers or finger of the various types of machines even though the fingers have been designed specifically for those with the rectangular shaped openings provided in the past. Thus, it is unnecessary to change existing equipment in order to utilize the improved label strips.

The preferred shape for the feed finger apertures has another advantage, however, in that it facilitates the separation of the labels one from the other after the backing has been peeled off the strip. Inasmuch as each diamond shaped aperture is centered upon a line of weakening between labels, the two end points of the diamond are contiguous with the line of weakening. When rectangular apertures were utilized, and centered upon the lines of weakening, the sharp angular corners of each rectangular opening were within the bodies of adjoining labels, away from the line of weakening, and when the labels were being separated a tear could as easily start from one of the sharp corners as at the line of weakening. This tendency was especially noticeable when the labels were being affixed to goods, as is the usual custom, by placing the end label of the strip on an article and then tearing the strip from it. Usually what happened was that the tear progressed from one side of the label along the line of weakening until the rectangular aperture was encountered. Then, on the other side of the rectangular opening, the tear proceeded from one or the other of the sharp corners of the rectangular aperture instead of along the central line of weakening, and the result was that the torn label had to be removed from the article and discarded—a waste of time and material.

Other advantages to the present invention will be apparent from the following detailed description of the drawings in which:

Figure 1 is a top plan view showing a portion of a strip of gummed labels made in accordance with the present invention.

Figure 2 is an enlarged top plan view, showing in particular the preferred shape for the feed finger apertures.

Figure 3 is a plan view of the back of the portion of the strip shown in Figure 2 illustrating the pressure sensitive adhesive coating and the glassine backing material which is used to cover the adhesive.

Figure 4 is a view showing the glassine material being peeled from the back of the strip.

Figure 5 is a cross sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a top plan view showing a portion of a strip of labels having a modified form of feed apertures therein.

The preferred tag strip is indicated generally at 10. The strip comprises a plurality of label units 11 which are joined end to end and defined in the strip by lateral lines of weakening 12, each of which is contiguous with a pair of marginal notches 13 and a centrally located feed finger aperture indicated at 14. The backs of the labels in the strip are coated with pressure sensitive adhesive 15 which covers the entire central portion of the strip leaving only the two marginal edges 16—16 free of the coating. The adhesive coating is covered by a strip of glassine backing 17; the word "glassine" being used in a generic sense in the present instance to indicate any covering material which is characterized by the fact that pressure sensitive adhesive has less tendency to adhere to it than to the paper material ordinarily used for price marking labels.

In the preferred method of making the labels, a ribbon of label material which is several times wider than the strip shown in Figure 1, is coated with longitudinal bands of pressure sensitive adhesive which are spaced apart at least as far as the widths of two of the marginal uncoated edges 16—16 of the finished strips. A tape of glassine backing material, which is as wide as the ribbon, is then placed on the adhesive side of the ribbon and the marginal notches 13, perforated lines of weakening 12, and feed finger apertures 14 stamped or died out through both thicknesses of material; that is, the label material of the ribbon and the glassine backing. At this time, if it is desired, the individual labels in the strips defined in the ribbon may be printed with appropriate captions identifying the ultimate users of the strips. After the dieing or stamping operation, the ribbon is then cut lengthwise into a number of the strips shown in the drawings. This method is disclosed in detail in the above identified Fox patent. The method has been found to be quite efficient from a cost standpoint, and is preferred; however, it will be obvious that other methods may be utilized.

The present invention concerns particularly the shape and disposition of the centrally located feed finger apertures 14. The preferred shape is that of a curved sided diamond in which the sides are bowed inwardly as shown at 18. Preferably, each aperture is formed with the minor diagonal of the diamond extending longitudinally of the strip and the major diagonal extending laterally and in alignment with the perforated line of weakening 12. The inwardly bowed sides 18 of each diamond shaped aperture terminate in points 19—19 at the respective ends of the minor diagonal which are aligned with the longitudinal center line of the strip. Referring to Figure 4, it will be seen that during peeling of the backing from the strip, the first portion of each aperture encountered is the point 19 at one of the ends of the minor diagonal. As the peeling progresses around the aperture, the separation of material is occurring at two points only at the edges of the aperture. The separation is thus progressive from point to point along each of the sides 18 of the diamond shaped aperture, and never is there encountered a line of

resistance as would be met with if the aperture were rectangular and the sides of the rectangle "squared" with the strip. It has been found that this simple configuration and arrangement of the feed aperture permits extremely rapid peeling in which it is not required that any particular care be exercised.

At the ends of the major axis of each diamond shaped opening the points 20—20 terminate on and are contiguous with a line of weakening 12. This arrangement greatly facilitates the separation of the labels one from the other after the backing material is removed. In fact, it has been found that the labels may be literally snapped apart without fear of tearing the strip material.

Although the curved sided diamond shape for the apertures described above is preferred, straight sided diamond shaped apertures, such as are indicated at 21 in the modification, illustrated in Figure 6, may be utilized. This particular shape for the apertures works almost as well as the preferred form and infinitely better than the rectangular openings of the past.

Having described my invention, I claim:

1. In a strip of price marking labels of the type having a coating of pressure sensitive adhesive on one side thereof covered by a backing of glassine paper or the like, and in which the individual labels in the strip are defined one from the other by lines of weakening extending laterally of the strip, the improvement in which the strip and backing are configurated to provide a feed finger aperture disposed in the center of the strip at each of the lines of weakening, the marginal edges of said aperture being generally diamond shaped with the major diagonal of the diamond extending laterally of the strip in alignment with the line of weakening and the minor diagonal extending longitudinally of the strip in alignment with the center thereof.

2. In a strip of price marking labels of the type having a coating of pressure sensitive adhesive on one side thereof covered by a backing of glassine paper or the like, and in which the individual labels in the strip are defined one from the other by lines of weakening extending laterally of the strip, the improvement in which the strip and backing are configurated to provide a feed finger aperture disposed in the center of the strip at each of the lines of weakening, the marginal edges of said aperture being in the shape of a curved sided diamond in which the sides bow inwardly, and said aperture disposed with the major diagonal extending laterally of the strip in alignment with the line of weakening and the minor diagonal extending longitudinally of the strip in alignment with the center of the strip.

FLOYD K. JOHNSON.

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