United States Patent [19]

Smith

[11] **3,892,901**

[45] **July 1, 1975**

[54] **COMPOSITE LABEL WEB**

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[73] Assignee: **Monarch Marking Systems, Inc.**, Dayton, Ohio

[22] Filed: **Aug. 7, 1972**

[21] Appl. No.: **278,409**

[52] **U.S. Cl.** ..... **428/41**; 40/2 R; 161/109; 161/406

[51] **Int. Cl.** **B32b 3/16**; B32b 7/06

[58] **Field of Search** ..... 161/37, 39, 40, 44, 109, 161/45, 145, 167, 406; 40/2 R; 206/460, 820

[56] **References Cited**

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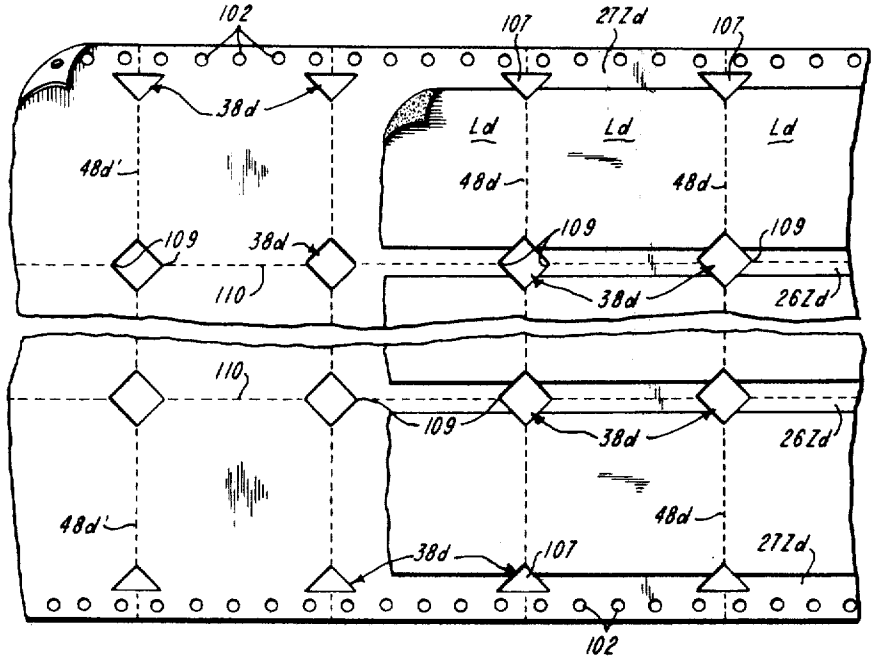
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Primary Examiner—Harold Ansher
Assistant Examiner—Henry F. Epstein
Attorney, Agent, or Firm—Joseph J. Grass

[57] **ABSTRACT**

Disclosed are a method of making composite label webs and also composite webs made by practicing the method. The disclosed method includes the steps of providing a relatively wide composite web having a web of pressure-sensitive label material releasably adhered to a web of supporting material, slitting the label material longitudinally, removing the label material between closely spaced-apart slits formed by the slitting and between the slits at the marginal side edges of the composite web and the respective side edges of the composite web to form a plurality of closely spaced-apart narrow label webs on the web of supporting material and thus leaving longitudinally extending zones of exposed supporting material, and cutting holes at longitudinally spaced-apart locations through at least one marginal side edge of each narrow label web and through the underlying supporting material and through the supporting material in the adjacent zone. The narrow label webs are either partially or completely severed transversely at longitudinally spaced apart locations along lines extending through the holes to form the label webs into labels. In some embodiments, the supporting material is slit between the narrow label webs through the holes to provide narrow label webs having a narrow strip of supporting material exposed at least at its one marginal side edge. In another embodiment, instead of slitting the supporting material between the narrow label webs, the supporting material is partially severed between the narrow label webs; the labels of this embodiment can be printed by feeding the composite web through a high speed printer.

1 Claim, 17 Drawing Figures



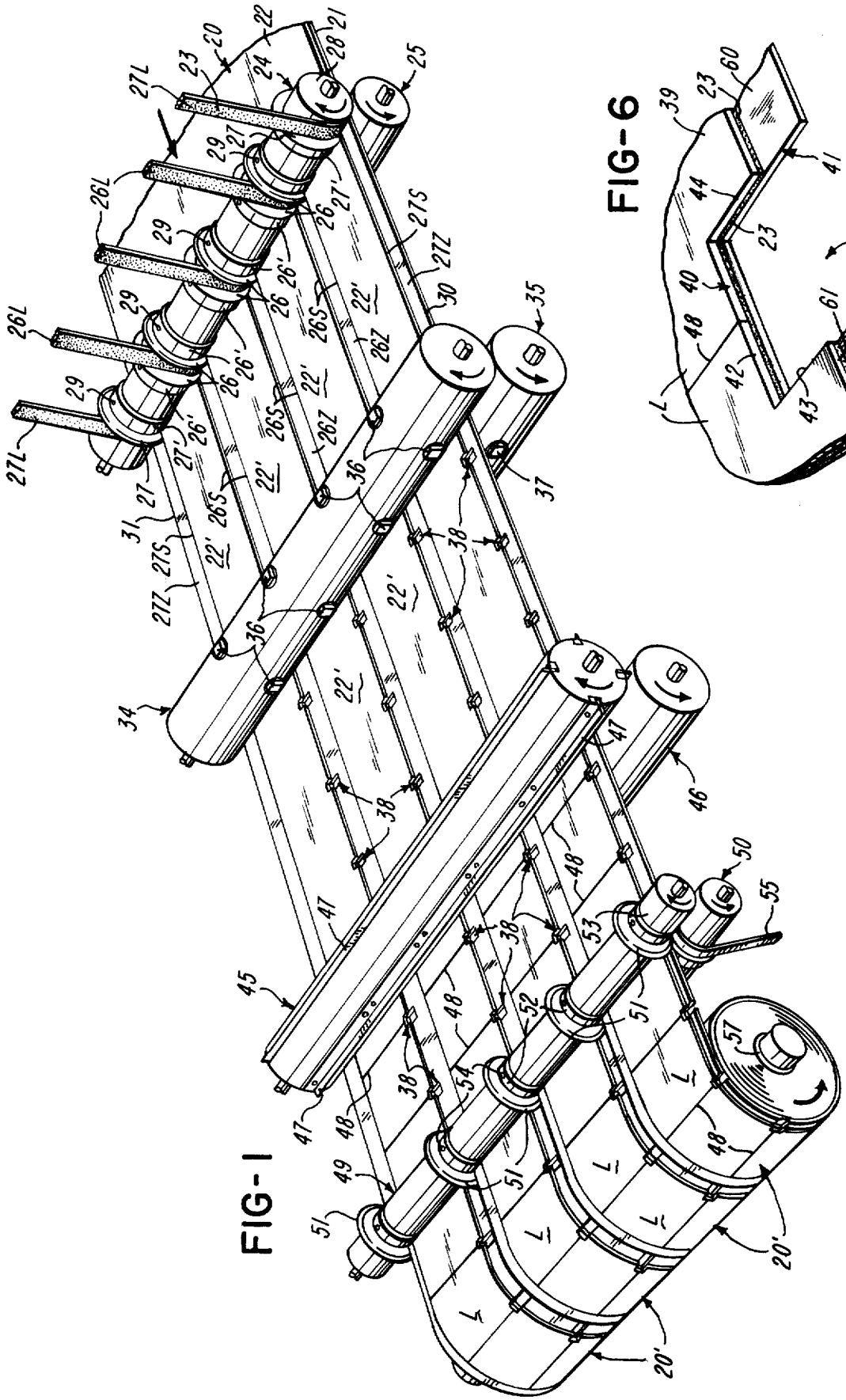


FIG-1

FIG-6

FIG-2

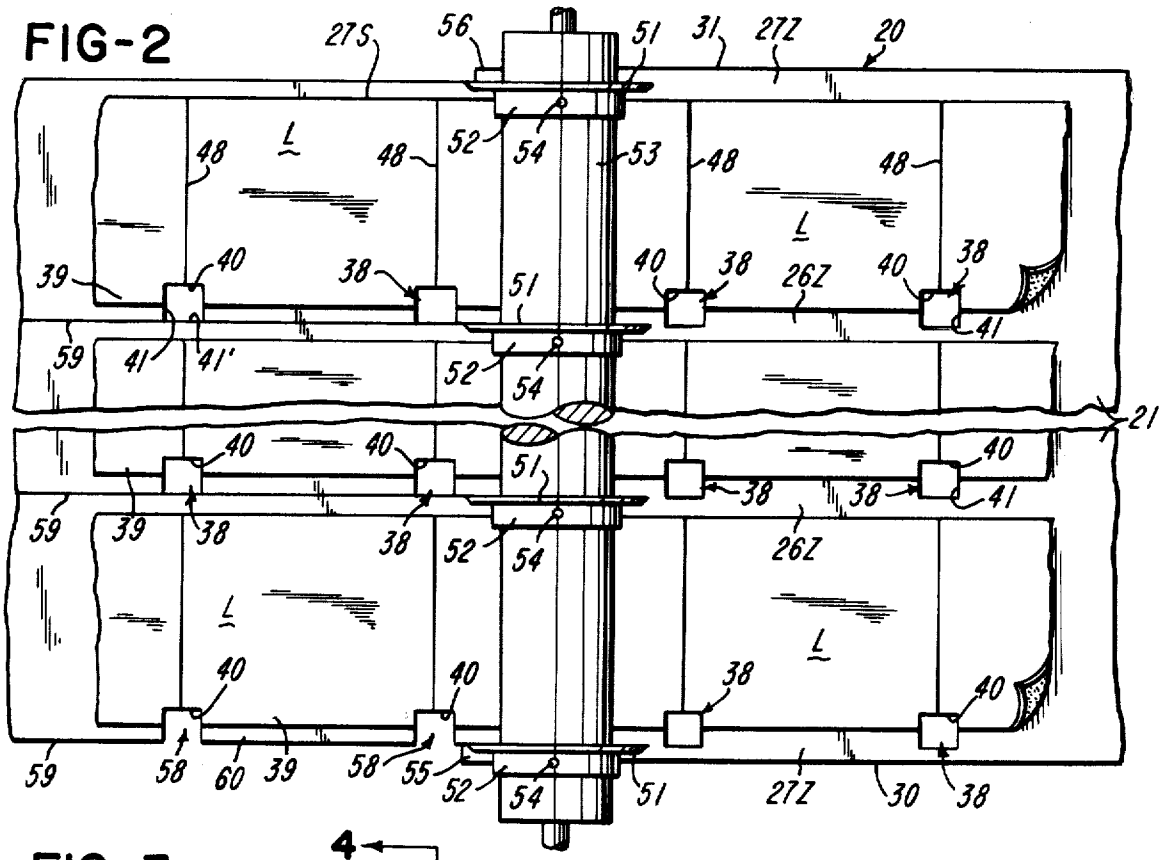


FIG-3

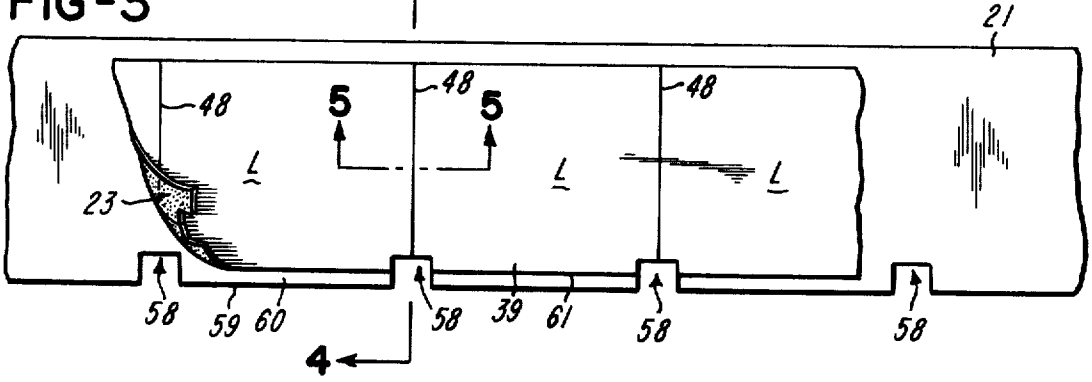
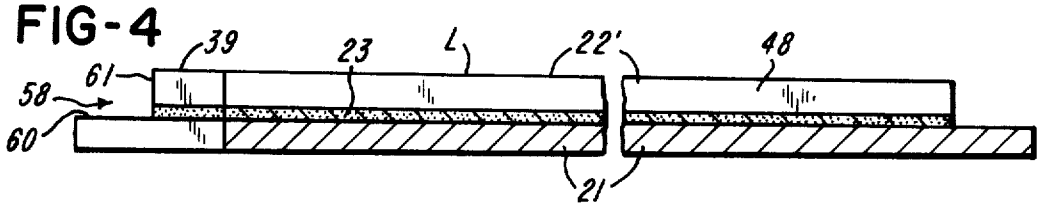


FIG-4



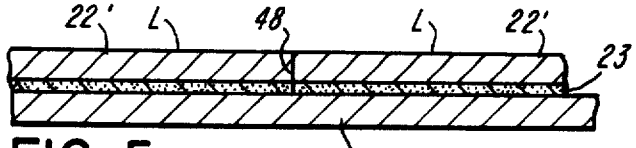


FIG-5

FIG-7

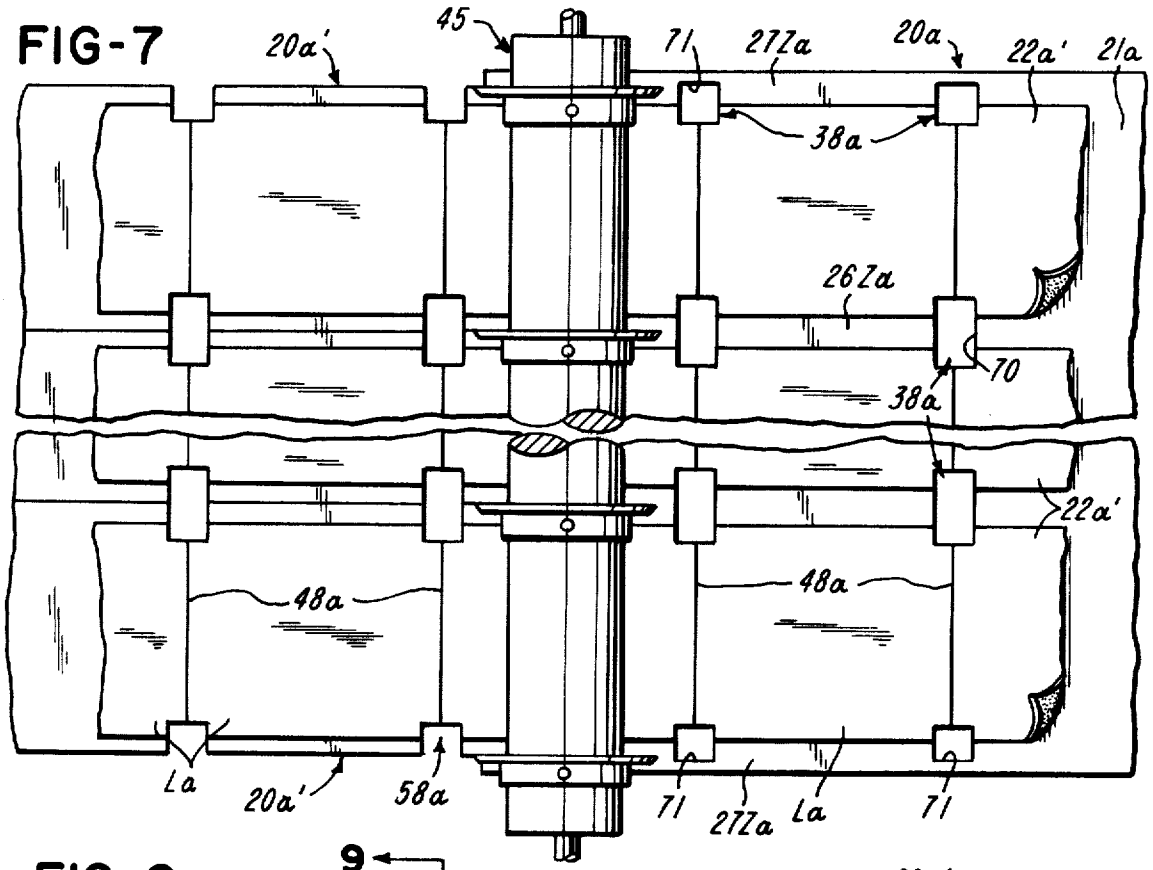
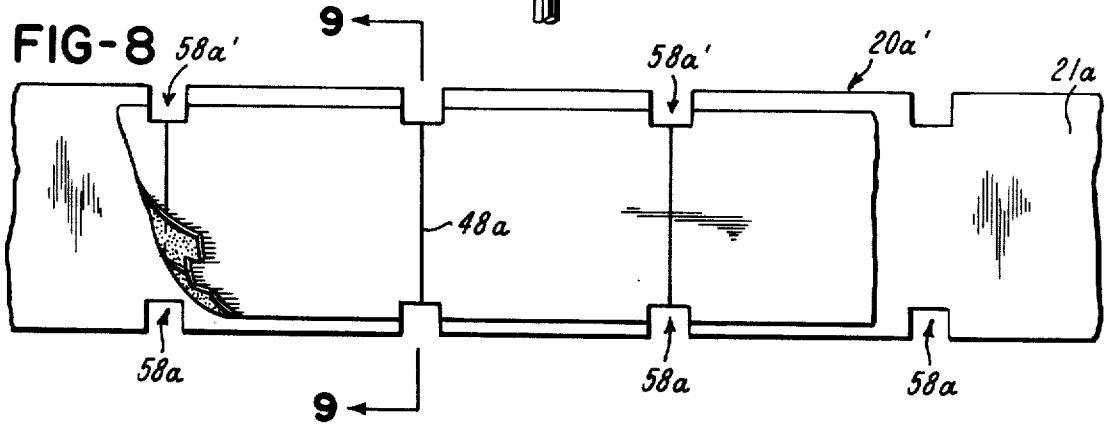


FIG-8



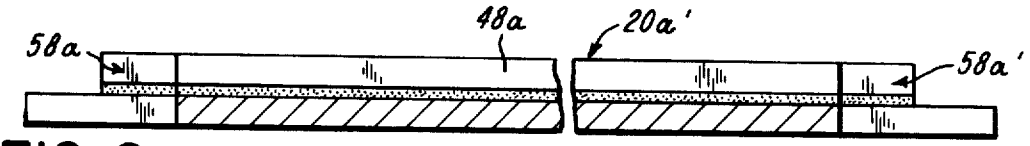


FIG-9

FIG-10

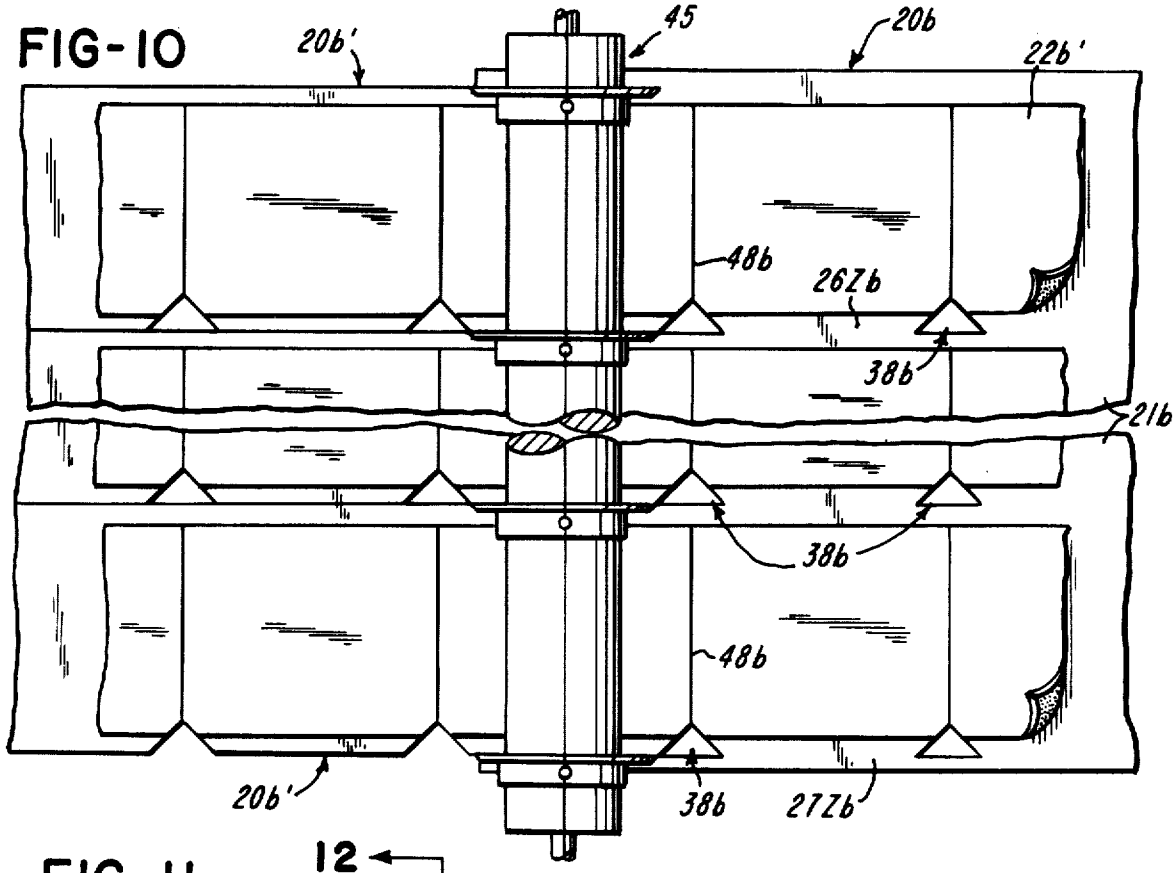
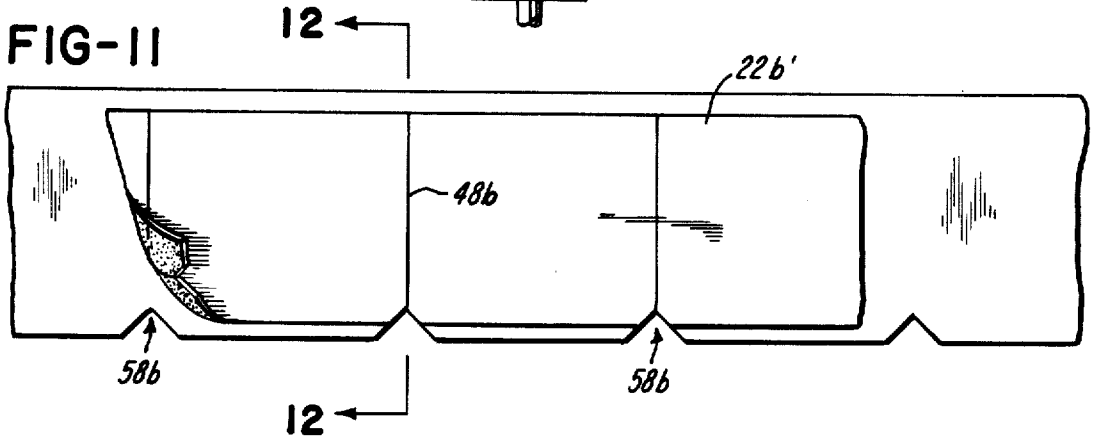


FIG-11



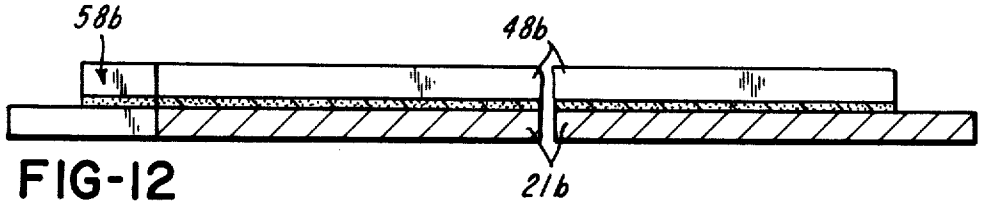


FIG-12

FIG-13

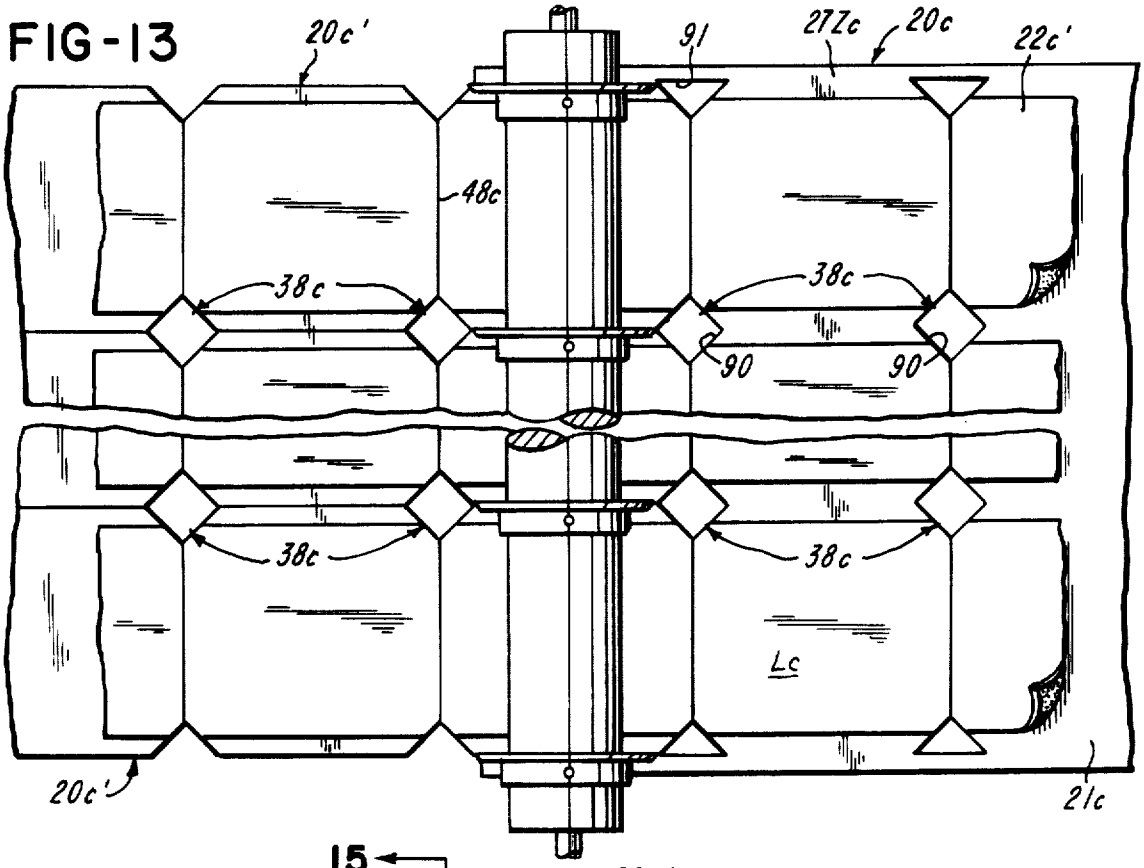
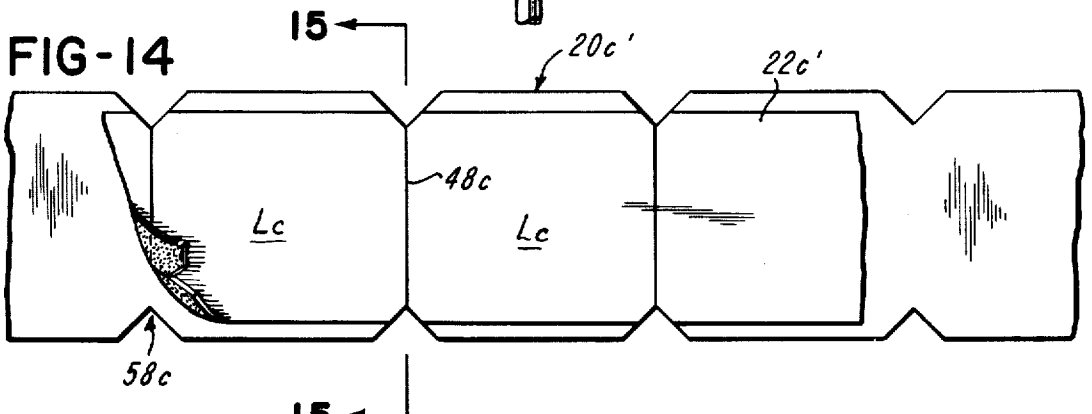


FIG-14



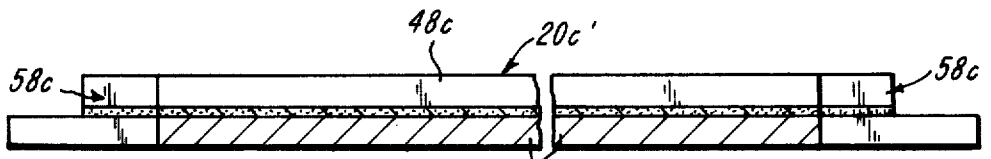


FIG-15

FIG-16

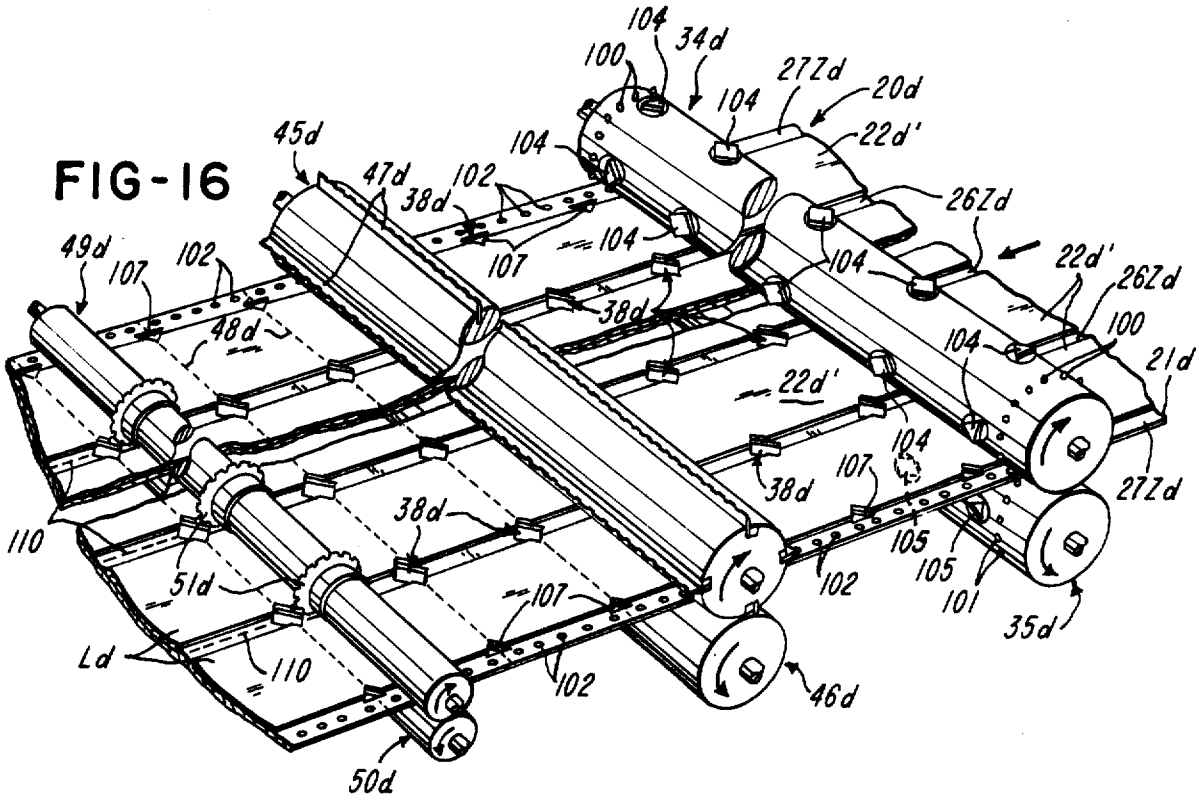
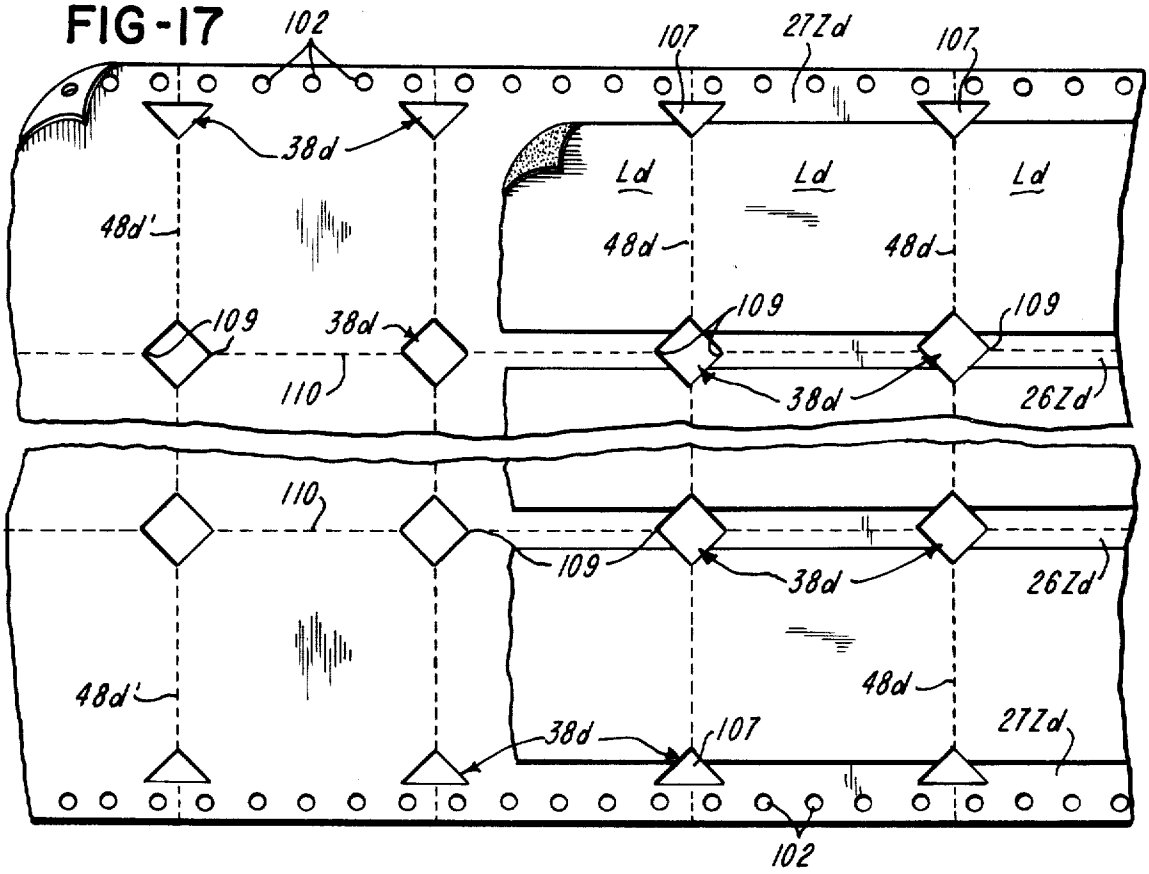

104
34d
100
27Zd
20d
104
22d'
45d
47d
38d
102
104
26Zd
49d
107
102
107
104
104
22d'
26Zd
48d
38d
100
104
21d
22d'
104
38d
107
27Zd
110
38d
105
105
51d
102
101
107
35d
Ld
110
102
46d
50d

FIG-17


102
107
27Zd
107
38d
Ld
Ld
Ld
48d'
48d
48d
109
38d
109
109
110
38d
26Zd
110
109
38d
26Zd
48d'
48d
38d
107
27Zd
102

COMPOSITE LABEL WEB

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the art of making composite label webs and to composite label webs.

2. Brief Description of the Prior Art

Illustrative patents relating to the art are: Fox U.S. Pat. No. 2,095,437; Flood U.S. Pat. No. 2,303,346; Avery U.S. Pat. No. 2,304,787; Avery U.S. Pat. No. 2,391,539; Avery U.S. Pat. No. 2,783,172; Singer U.S. Pat. No. 3,383,121; Marshall U.S. Pat. No. 3,501,365; and Williams et al U.S. Pat. No. 3,522,126. A prior development by Thomas M. Smith and Walter D. Gregory is disclosed in copending U.S. patent application Ser. No. 157,913, filed June 29, 1971 now U.S. Pat. No. 3,706,626, and owned by the assignee of the present application.

SUMMARY OF THE INVENTION

The invention resides in an improved method of making composite pressure-sensitive label webs and to composite pressure-sensitive label webs.

A specific embodiment of the method comprises the steps of providing a longitudinally extending wide web including a web of supporting material and a web of pressure-sensitive label material having pressure-sensitive adhesive and being releasably adhered to the supporting material, slitting only the label material longitudinally to form at least one pair of closely spaced-apart slits, stripping away the label material between the slits, whereby the web of label material is transformed into a plurality of closely spaced-apart narrow label webs on the web of supporting material, and cutting holes in at least one marginal side edge of each narrow label web and into the underlying and adjacent supporting material. Some embodiments of the invention comprise the further steps of slitting the supporting material between the narrow label webs into the holes to provide a plurality of narrow composite webs. The resultant narrow composite webs have notches in at least one marginal side edge which can be sensed by a suitable mechanical or optical sensor in a label applicator, in a recorder such as an imprinter or a perforator, or in a reader; the notches can also be used in feeding the composite web through one of the above types of devices.

In another embodiment, the method further comprises the steps of at least partially severing the label material webs transversely into labels along longitudinally spaced-apart lines extending through at least some of the holes, and partially severing the supporting material along at least some of the transverse lines. Additionally, the supporting material can be partially severed in the longitudinal zones, and means to facilitate feeding of the composite web through a high speed printer can be provided at the marginal side edges of the composite web.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view illustrating a method of making composite label webs from a wide composite web, in accordance with the invention;

FIG. **2** is a partly broken away top plan view of portions of the wide composite web and the composite label webs shown in FIG. **1**;

FIG. **3** is a top plan view of a fragmentary portion of one of the composite label webs shown in FIGS. **1** and **2**;

FIG. **4** is a sectional view taken along line **4—4** of FIG. **3**;

FIG. **5** is a sectional view taken generally along line **5—5** of FIG. **3**;

FIG. **6** is an enlarged perspective view of a fragmentary portion of one of the composite label webs shown in FIGS. **1** through **5**;

FIG. **7** is a top plan view similar to FIG. **2**, but illustrating another embodiment of the invention;

FIG. **8** is a top plan view of a fragmentary portion of one of the composite label webs shown in FIG. **7**;

FIG. **9** is a sectional view shown taken along line **9—9** of FIG. **8**;

FIG. **10** is a top plan view similar to FIG. **2**, but illustrating another embodiment of the invention;

FIG. **11** is a top plan view of a fragmentary portion of one of the composite label webs shown in FIG. **10**;

FIG. **12** is a sectional view taken along the line **12—12** of FIG. **11**;

FIG. **13** is a view similar to FIG. **2**, but illustrating another embodiment of the invention;

FIG. **14** is a top plan view of a fragmentary portion of one of the composite label webs shown in FIG. **13**;

FIG. **15** is a sectional view taken along line **15—15** of FIG. **14**;

FIG. **16** is a perspective view illustrating a method of making another embodiment of a composite web; and

FIG. **17** is a partly broken away top plan view of portions of the composite web shown in FIG. **16**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the embodiment of FIGS. **1** through **6** and initially to FIG. **1**, there is illustrated a method of making composite label webs in accordance with the invention. Initially, a relatively wide, longitudinally extending composite web generally indicated at **20** is provided. The composite web **20** includes a web of supporting material **21** to which a web of pressure-sensitive label material **22** is releasably adhered by pressure-sensitive adhesive **23**. It is preferred that the adhesive **23** be in a continuous uniform coating on the underside of the label material **22**, known as "full-gum" coating. A conventional release coating can be applied to the upper side of the web of supporting material **21**. Next, the label material **22** is cut or slit longitudinally as illustrated in FIG. **1**. The cutting or slitting step is shown to be performed by a rotary cutter of slitter roll generally indicated at **24** and a cooperating back-up roll generally indicated at **25** between which the composite web **20** is advanced. The slitter roll **24** is shown to have closely spaced-apart pairs of slitting knives **26**, and individual slitting knives **27**. The knives **26** and **27** have respective hubs **26'** and **27'** adjustably secured to roll shaft **28** of the roll **24** as by set screws **29**. The pairs of knives **26** make slits **26S** through only the label material **22** at transversely spaced-apart locations between side edges **30** and **31** of the composite web **20**. The knives **27** are spaced close to the side edges **30** and **31** and make slits **27S** through only the label material **22**. The label material **22** between each pair of slits **26S** is stripped from the remainder of the composite web **20** in continuous strips **26L**, and the label material **22** between the slits **27S** and the respec-

tive side edges **30** and **31** of the web **20** is stripped from the remainder of the web **20** in continuous strips **27L**. The strips **26L** and **27L** are shown to pass around the shaft **28** and extend away from the remainder of the web **20** by being pulled under a slight amount of tension. The strips **26L** and **27L** can be wound onto a suitable take-up device (not shown) as is known in the art. Stripping away the strips **26L** and **27L** exposes strip portions of the supporting material **21** at longitudinally extending zones **26Z** and **27Z**. The composite web **20** is now transformed into a composite web having a plurality of closely spaced-apart narrow label webs **22'** on the supporting material **21**.

After passing between the driven slitting roll **24** and the driven back-up roll **25** as described above, the continuously moving composite web **20** passes between a driven punch roll generally indicated at **34** and a mating driven die roll **35**. The punch roll **34** carries punches **36** cooperable with mating dies **37** carried by the die roll **35**. As the punch and die rolls **34** and **35** rotate, cooperating punches **36** and dies **37** cut holes generally indicated at **38** in the composite web **20**.

With reference to FIGS. **1** and **2**, the holes **38** are shown to be cut at longitudinally spaced-apart locations through the composite web **20**, and more particularly the holes **38** are equally spaced-apart longitudinally. The holes **38** are cut through one marginal side edge **39** of each label web **22'** and underlying supporting material **21** and through the supporting material **21** in the adjacent respective zones **26Z** and **27Z**. More particularly, each hole **38** forms a notch **40** in one marginal side edge of the associated composite label web **22'** and a hole **41** in the supporting material. The outline of the notch **40** is in alignment with the outline of a portion of the related hole **41**. With reference to FIG. **6**, each notch **40** in the label web **22'** is shown to be comprised of a longitudinal cut **42**, and a pair of spaced-apart transverse cuts **43** and **44** which respectively extend to the opposed ends of the respective longitudinal cut **42**.

After the holes **38** are cut in the composite web **20**, the composite web **20** is passed between a driven, transversely extending cutter roll generally indicated at **45** and a driven transversely extending back-up roll generally indicated at **46**. The cutter roll **45** is shown to have a plurality of angularly spaced-apart knives or cutters **47**. The knives **47** are long enough to form transverse cuts in all the label webs **22'**. The cuts **48** known as "butt cuts" are shown to extend entirely through the label webs **22'**, as best shown in FIG. **5**. Thus, it is apparent that the knives **47** are set relative to the circular cylindrical roll **46** so as to cut through only the label material. Although the cuts **48** are shown to completely sever the label material which comprises the webs **22'**, the cuts **48** can be perforation cuts, in which event the knives **47** would have to be perforating knives (shown in FIG. **16**). In the event the cuts **48** are to be perforation cuts it may in some application be desired to also make aligned perforation cuts in the supporting material, as in the case of above-mentioned U.S. Pat. application Ser. No. 157,913.

With reference to FIGS. **1** and **2**, the web **20** next passes between a driven, transversely extending rotary cutter or slitter generally indicated at **49** and a driven, transversely extending back-up roll generally indicated at **50**. The slitter **49** has transversely spaced-apart rotary slitter knives **51**. Each knife has a hub **52** adjustably mounted to a slitter shaft **53** by set screws **54** as best shown in FIG. **2**. Thus each of the knives **51** can be located and secured to the shaft **53** at any selected transverse location. In setting up the slitter **49**, the knives **51** are adjusted with respect to an aligning point forming part of the holes **38**. More specifically, each hole **38** has a longitudinal side or cut portion **41'** which serves as an aligning point for the respective slitter knife **51**. The cut portion **41'** is shown to be in the middle of the associated zones **26Z** and inboard of the edges **30** and **31** of zones **27Z**, that is half way between the slits **26S** of a pair of slits, and between the slits **27S** and the respective edges **30** and **31**. In addition to each of the knives **51** being individually adjustable, the entire slitter **49** is adjustable as a unit transversely with respect to the direction of travel of the web **20**. Thus, the slitter **49** can be aligned for minute adjustment during the slitting step. It is apparent that the slitter **49** slits the supporting material **21** through the zones **26Z** and **27Z**, and thus forms narrow label webs **20'** and trims off portions **55** and **56** of the supporting material **21** in the respective zones **27Z**. The composite web **20'** can now be wound into separate rolls on respective label cores **57**. It is also feasible, according to known practice, to wind the label webs **20'** into rolls without cores.

Slitting the composite web **20** causes the resultant composite webs **20'** to have notches **58** formed along one marginal side edge. The notches **58** extend through the marginal side edge of the label web **22'** and the underlying supporting material **21** and through the adjacent marginal edge of the supporting material to side edge **59** of the supporting material. A narrow strip **60** of the supporting material **21** existing between the side edge **59** of the supporting material **21** and the side edge **61** of the label material web **22'**. The narrow strip **60** enables the labels L carried by the supporting material **21** to be readily stripped away by hand. Notches **58** are considered to be channel-shaped.

With reference to the embodiment of FIGS. **7**, **8** and **9**, there is shown a composite web **20*a*** being slit into relatively narrow label webs **20*a'***. The composite web **20*a*** is the same in construction as the web **20** shown in FIGS. **1** and **2** in that some of the holes **38*a***, namely holes **70**, are rectangular in shape and extend through the marginal side edge of one label material web **22*a'*** and the underlying supporting material **21*a***, through the adjacent label material web **22*a'*** and the underlying supporting material **21*a***, and entirely across intervening zone **26Z*a*** of exposed supporting material **21*a***. Other holes **38*a***, namely the holes **71**, at the marginal side edges of the composite web **20*a*** extend through the marginal side edge of one label web **22*a'*** and the underlying supporting material **21*a***, and through the supporting material **21** at the respective zone **27Z*a***. The holes **70** and **71** are formed by punch and die rolls like the punch roll **34** and the cooperating die roll **35**. The punches and the mating dies have configurations conforming to the shapes of the holes **70** and **71**. Following the formation of the holes **70** and **71**, the label web **22*a'*** are severed along lines **48*a*** to form labels L*a*. Thereafter, the composite web **20*a*** is slit into the narrower composite label webs **20*a'*** by the cutter or slitter roll **45** and its cooperating back-up roll **46** (FIG. **1**). The resultant composite label webs **20*a'*** are identical in construction to the composite label web **20'** shown in the embodiment of FIGS. **1** through **6**, except that in the embodiment of FIGS. **7** through **9**, notches **58*a*** and

58a' are formed in each marginal side edge of each composite label web 20a'.

With reference to the embodiment of FIGS. 10, 11 and 12, there is shown a composite web generally indicated at 20b being slit into relatively narrow label webs 20b'. The composite web 20b is the same in construction as the composite web 20 in FIGS. 1 and 2 except that some of the holes 38b are shown to be triangular rather than rectangular in construction. The holes 38b extend through the marginal side edge of one label material web 22b' and the underlying supporting material 21b, and through the adjacent supporting material 21b at zones 26Zb and 27Zb of the exposed supporting material 21b. The holes 38b are formed by punch and die rolls like the punch roll 34 and cooperating die roll 35, however, the punches and the mating dies have configurations conforming to the shape of the holes 38b. Following the formation of the holes 38b, the webs 22b' are severed along lines 48b to form the labels Lb. Thereafter the composite web 20b is slit into the narrow composite label webs 20b' by the cutter or slitter roll 45 and its cooperating back-up roll 46 (FIG. 1). The resultant label webs 20b' are identical in construction to the composite label webs 20' shown in the embodiment of FIGS. 1 through 6, except that in the embodiment of FIGS. 10 through 12, notches 58b are V-shaped in construction and the vertex of the V is in alignment with respective transverse cut 48b.

With reference to the embodiments of FIGS. 13 through 15, there is shown a composite web 20c being slit into relatively narrow label webs 20c'. The composite web 20c is the same in construction as the composite web 20b in FIGS. 7, 8 and 9 except that the holes generally indicated at 38c are shown to be square and disposed in a diamond-shaped arrangement. Holes generally indicated at 38c include holes 90 and 91. The holes 90 extend through the marginal side edge of one label material web 22c' and the underlying supporting material 21c, through the adjacent label material web 22c' and the underlying supporting mateiral 21c, and entirely across the intervening zone 36Zc of exposed supporting material 21c. The holes 91 at the marginal side edges of the web 20c extend through the marginal edge of one label web 22c' and the underlying supporting material 21c, and through the supporting material 21c at the zones 27Zc. The holes 90 and 91 are formed by punch and die rolls like the punch roll 34 and the cooperating die roll 35. The punch and die rolls have configurations corresponding to the shapes of the holes 90 and 91. Following the formation of the holes 90 and 91, the label webs 22c' are severed along lines 48c to form labels Lc. Thereafter, the composite web 20c is slit into the composite label webs 20c' by the cutter or slitter roll 45 and its cooperating back-up roll 26 (FIG. 1). The resultant composite label webs 20c' are identical in construction to the composite label webs 20' shown in the embodiment of FIGS. 1 through 6, except that in the embodiment of FIGS. 13 through 15, V-shaped notches 58c and 58c' are formed in each marginal edge of each composite label web 20c'. The vertices of the V-shaped notches 58c and 58c' are in transverse alignment with transverse cuts 48c in the label material webs 22c'.

With reference to the embodiment of FIGS. 16 and 17, the manufacture of composite web 20d is started in the same manner as the composite web 20 of the embodiment of FIGS. 1 through 6 to form narrow label material webs 22d' carried by the supporting material 21d. The label material webs 22d are closely spaced-apart leaving zones 26Zd of the supporting material 21d exposed and leaving exposed zones 27Zd beyond the side edges of the outermost label material webs 21d'. In this embodiment the supporting material 21d at the zones 27Zd provides feed strips.

The advancing web 20d passes between cooperating punch roll 34d and die roll 35d. The punch roll 34d carries punches 100 cooperable with dies 101 and the die roll 35d for forming feed holes 102 in the zones 27Zd at the respective marginal side edges. The punches 100 and the cooperating dies have shapes depending on the desired shape of the holes 102. They can be chadless holes as in U.S. Pat. No. 2,275,064 to Moore. Alternatively, feed arrangements such as disclosed in U.S. Pat. No. 2,259,358 to Templeton can be used.

The die roll 34d is also provided with multi-sided punches 103 and 104. The punches 103 and 104 are cooperable with respective dies 105 and 106 carried by the die roll 35d. The punches 103 and the cooperating dies 105 are shown, in the illustrated embodiment, to form triangular-shaped holes 107 at the marginal side edges of the composite web 20d. The holes 107 are cut through the marginal side edge of each of two of the label webs 22d' and the underlying supporting material 21d and through the supporting material 21d in the adjacent respective zones 27Zd. The punches 104 and the cooperating dies 106 cut through the composite web 20d to form multi-sided holes 38d shown to be square and to be disposed in a diamond-shaped arrangement. The holes 38d are cut through the marginal side edges of adjacent label material webs 22d' and the underlying supporting material 21d and through the zones 26Zd.

Thereafter the composite web 20d is shown to pass between cutter roll 45d and cooperating back-up roll 46d. While the cutter roll 45d can have either straight knives (FIG. 1) in this embodiment it is preferred to use perforating knives 47d (FIG. 16), the edges of which are interrupted at spaced-apart intervals so that the label material webs 22d' are only partially severed as indicated at 48d. The knives 47d are set relative to the back-up roll 46d to also partially sever the supporting material 21d along the same transverse lines as indicated at 48d'. As the composite web 20d continues to travel, it passes between a rotary cutter 49d and a cooperating back-up roll 50d. The rotary cutter 49d and the back-up roll 50d are identical to the cutter roll 49 and the back-up roll 50 shown in FIG. 1, with the exception that perforating cutters or knives indicated at 51d in FIG. 16 only partially sever the supporting material 21d directly through aligning points 109 of the holes 39d of zones 26Zd. The longitudinal lines of partial severing made by the cutters 51d are indicated at 110.

In the embodiment of FIGS. 16 and 17, the completed composite web 20d is preferably fan-folded to facilitate its storage. When it is ready to be used it can be fed through a suitable printer such as a line printer (not shown) which can print data such as price, inventory control information, store number and the like on the labels Ld. The feed holes 102 can be useful in feeding the completed web 20d through the printer. The printed web 20d is adaptable as to its method of use in that the user can sever a transverse strip of labels by manually tearing the supporting material along one or more transverse lines at partial severing 48d'. If the sev-

ering at **48** is completely through and transversely across the webs **21***d* ' severing the supporting material **21***d* transversely separates the web along that transverse line. In the event, however, that the label webs **22***d*' are partially severed as indicated at **48***d* in the drawings, then the label material webs **22***d*' will also have to be torn there. It is sometimes desired to separate two or more transverse rows of labels L*d* from the supporting material **21***d* at one time. It is apparent that the web **20***d* can be manually torn at any desired transverse line or lines so that the stripped away part can have the desired number of rows of labels L*d*. The lines of partial severing **110** enable a longitudinal strip of the supporting material **21***d* and the labels L*d* which it carries to be stripped from the remainder of the composite web **20***d*. The labels L*d* can be removed in strips and conveniently applied to merchandise. It is sometimes desired to separate two or more longitudinal columns of labels L*d* from the supporting material **21***d* at one time. It is apparent that the web **20***c* can be manually torn at any desired line or lines of partial severing **110** so that the stripped away part can have the desired number of columns of labels L*d*. Accordingly, the web **20***d* is extremely versatile in its use.

A substantial advantage of the present invention as illustrated in the embodiments of FIGS. **1** through **17** is that the results achieved are accomplished using a full-gum composite web, rather than a patterned gum composite web as in the patent to Fox U.S. Pat. No. 2,095,437. The holes **38, 38***a*, 38*b*, 38*c*, and **38***d* are cut through such a small portion of the respective label webs **22, 22***a*', 22*b*', 22*c*' and **22***d*' that the adhesive **23** on these label webs does not cause any problem of gumming-up the punches and dies which make these holes.

Although the composite webs **20, 20***d*, 20*b*, 20*c* and **20***d* are referred to in this application as being "wide" and the label material webs **22, 22***a*', 22*b*', 22*c*' and **22***d*' are referred to as being "narrow," these relative references are intended to be definitive of the relationship that exists and is not intended to limit these webs with respect to width. Additionally, the composite webs of the various embodiments can have any desired number of labels extending transversely across them as is desired. Although the strips **26**L, **26**L*a*, 26L*b*, 26L*c*, **26**L*d*, 27L, 27L*a*, 27L*b*, 27L*c* and **27**L*d* are shown relatively wide in relation to the respective label webs **22**', **22***a*', 22*b*', 22*c*' and **22***d*', this is only for the purpose of clarity of illustration. In practice, the strips **26**L and **27**L are narrow but are wide enough to be strong enough for stripping purposes. The widths of the strips **26**L and **27**L accordingly can vary with the thickness and composition of the label material **22.** In one of the illustrated embodiments of FIGS. **1** through **17,** the label material is comprised of conventional paper label stock having a thickness of about 0.0025 to 0.006 inch, and the strips **26**L through **26**Ld and **27**L through **27**L*d* are each about three thirty-seconds of an inch in width measured in the transverse direction. The label materials webs **22**' through **22***d*'' can be of any desired widths. Moreover, the transverse widths of the composite webs **20**' through **20***c*' and the spacing between the lines of partial severing **110** of the composite web **20***d* need not be equal.

In the set-ups shown in FIGS. **1** and **16,** the slitting, stripping, hole cutting, transverse cutting and longitudinal cutting steps are illustrated as being performed in one continuous operation. It is apparent that these steps can be performed at different times, in different machines.

In the embodiment of FIGS. **1** through **6,** each line of severing **48** is in alignment with the center of the respective holes **38.** The severing **48,** thus, extends to the center of the longitudinal cut **42** (FIG. **6**). Should the cuts **48** be leading or lagging the position shown in FIGS **1, 2, 3, 4,** and **6,** that is, should the line of severing **48** be closer to the transverse cut **43** and further from the transverse cut **44,** or vice versa, due for example to inaccurate registration, there is still no ragged edge at the end of the label. Likewise, in the embodiment of FIGS. **7, 8** and **9,** the lines of severing **48***a* extend through the centers of the holes **70** and **71.** In the embodiments of FIGS. **10** through **12,** and **13** through **15,** and **16** and **17,** the respective lines of severing the partial severing **48***b*, 48*c*, and **48***d*' and **48***d* extend through the corners and the centers of the holes **38***b*, 90 and 91, and 38*d* and **107.**

It is apparent that although the method is illustrated as being practiced using rotary high speed equipment, the method can be practiced using flat-bed types of equipment, if desired. Although the longitudinal strips **26**L and **27**L are shown as being removed at the slitter, these strips can be removed by stripping apparatus disposed downstram of the slitter but upstream of the hole cutting station.

Other embodiments and modifications of this invention will suggest themselves to those skilled in the art, and all such of these as come within the spirit of this invention are included within its scope as best defined by the appended claims.

I claim:

1. A composite web of pressure-sensitive labels, comprising; a longitudinally extending wide composite web including a web of supporting material and longitudinally extending narrow webs of pressure-sensitive label material having a full-gum coating of pressure-sensitive adhesive and being releasably adhered to the supporting material, the label material webs being closely transversely spaced-apart to expose longitudinally extending zones of the supporting material web, first holes through the wide composite web at longitudinally spaced-apart locations along at least some of the longitudinally extending zones, each first hole extending through a marginal side edge of one of the narrow label webs and the underlying supporting material and through the supporting material in the adjacent zone, the supporting material extending beyond the side edges of the narrow label webs at the respective sides of the wide composite web to provide feed strips, longitudinally spaced-apart second holes in the feed strips to facilitate feeding of the composite web, the label material webs being at least partially severed transversely into labels along longitudinally spaced-apart lines extending to at least some of the first holes, and the supporting material being partially severed along at least some of the transverse lines and being partially severed in at least some of the longitudinal zones between the side edges of adjacent narrow label webs.

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