Jan. 22, 1963 J. L. JONES 3,074,133

FASTENER AND LABEL

Original Filed May 6, 1958

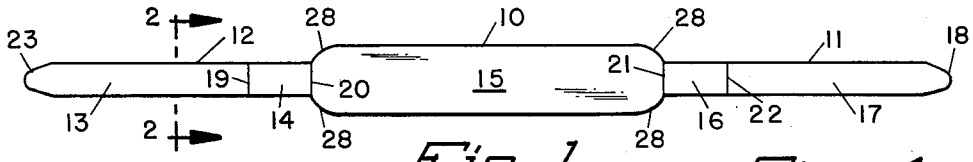


Fig. 1

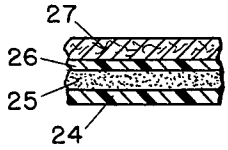


Fig. 2

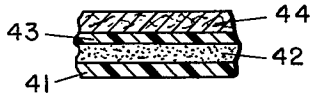


Fig. 4

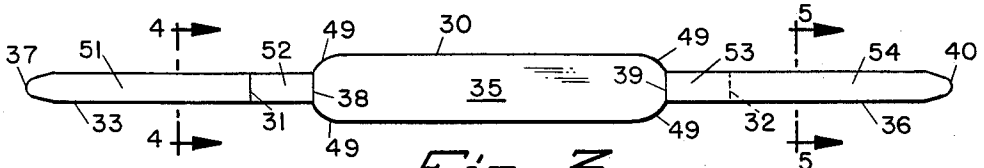


Fig. 3

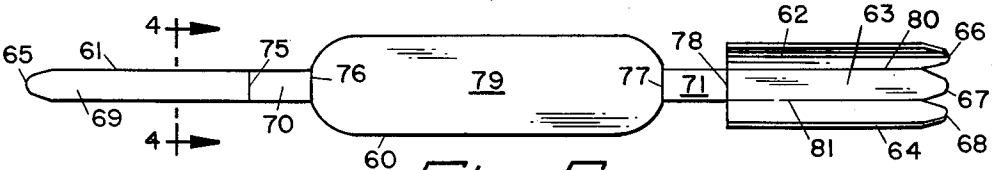


Fig. 6

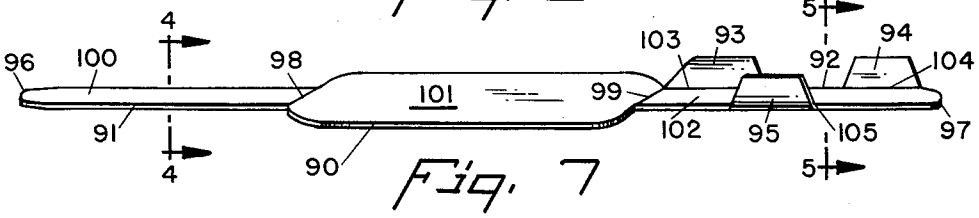


Fig. 7



Fig. 5

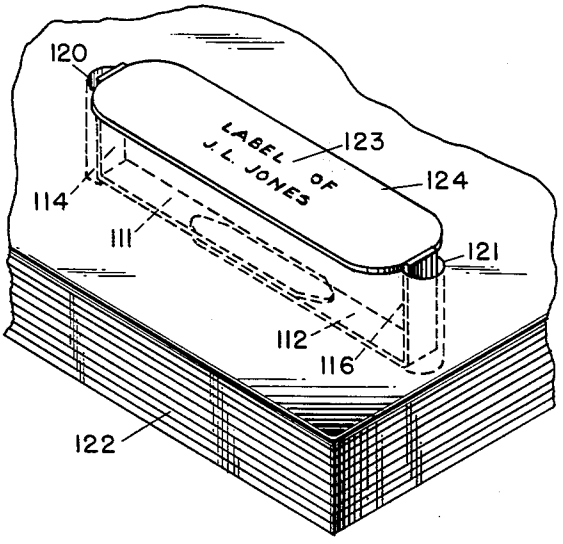


Fig. 8

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FASTENER AND LABEL

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11 Claims. (Cl. 24—67)

This invention relates to fasteners and labels for binding typewritten, printed or other pages. This invention is a continuation of my application Serial Number 733,348, filed may 6, 1958, now abandoned, on pronged paper fasteners.

Included in the objects of my invention are:

First, to provide an inexpensive metallic pronged paper fastener for business papers.

Second, to provide a a simple easily applied plastic fastener for binding a plurality of paper pages arranged together.

Third, to provide a method of reusing a fastener for a plurality of paper pages.

Fourth, to provide a fastener for paper sheets cooperative as a label holder.

Fifth, to provide an inexpensive reusable label and plastic fastener combination for paper pages.

Sixth, to provide a plastic and paper pressure sensitive, adhesively bonded securing and label means for paper sheets.

Further objects and advantages of this invention will become apparent in the following description.

I propose a new, inexpensive, strong and easily applied flexible plastic or metal film base fastener. Reference is directed to the accompanying drawings in which:

FIGURE 1 is a plan view of a flexible film fastener of one of my improvements in paper fasteners.

FIGURE 2 is an enlarged fragmentary cross sectional view of FIGURE 1, thru 2—2.

FIGURE 3 is another modification of my flexible film fastener improvements in paper fasteners.

FIGURE 4 is still another view of an enlarged fragmentary cross sectional view of FIGURE 3 through 4—4.

FIGURE 5 is an enlarged fragmentary cross sectional view of FIGURE 3 through 5—5.

FIGURE 6 is still another perspective view of my modification of another flexible film fastener of my invention.

FIGURE 7 is still another perspective view of another of my improvements in paper fasteners.

FIGURE 8 is a perspective sectional view of my combination label and paper fastener of the type of FIGURE 1 as applied to a pack of perforated paper sheets.

In my invention, my integral flexible film device consists of a strip body section of suitable length which has integrally secured to each of the opposite ends of the body section a pair of flexible prongs of suitable length, all components being constituted from a single continuous piece of flexible film material. The prongs are of such construction and width as to easily pass through the aligned punched holes in papers, which are to be secured together. In my invention, the entire pair of prongs and the body section are integrally made of a flexible plastic film base material selected from such materials as regenerated cellulose, plasticized cellulose acetate, plasticized vinyl chloride, polyvinyl chloride-vinylidine chloride, polyethylene, polypropylene, oriented polystyrene, oriented polyethylene terephthalate (Mylar), nylon, and plasticized cellulose acetate butyrate. In addition, I may use a thin aluminum foil as a flexible film base. A pressure sensitive adhesive coating is permanently spread coextensively over a portion or all of one or both surfaces of the flexible film base. Coextensive and adjacent with the pressure sensitive adhesive coating of the flexible film base are a plurality of flexible backing pieces selected

from such materials as paper, cloth, non-woven cellulose film or the like. The flexible backing pieces are provided with a release coating on one side or impregnated on one side with a release impregnant, which in either case provides ready release of the flexible backing pieces from the normally tacky pressure sensitive adhesive to which they are secured, release coated surface contiguously adjacent the pressure sensitive adhesive. The release coated or impregnated backing pieces are shaped into a plurality of separately removable sections of backing pieces. The plurality of backing pieces are contiguously adjacent all of the pressure sensitive adhesive coating or coatings of a fastener, prior to its utilization as a fastener. The separate backing pieces can be removed from contact with the pressure sensitive adhesive by a slight finger pull force.

Referring to the illustrative drawings in detail, FIGURE 1 is one of my improved fasteners in which **10** is the strip body section, having four rounded shoulders **28**. The prongs **11** and **12** are greatly reduced in width, compared to **10**, and possess lengths suitable for securing a pile of sheets of a required height. The prongs **11** and **12** have rounded tips **18** and **23** respectively, designed to permit their easy entrance through punched holes in sheets of paper. In the plan view of FIGURE 1, the fastener is shown covered face up with five sections of the coated flexible backing pieces illustrated as **13**, **14**, **15**, **16** and **17**, being separated by the slits between backings of **19**, **20**, **21** and **22** respectively. The pressure sensitive adhesive covering permanently secured to all of the upper plan surface of the flexible film device is not shown in FIGURE 1, being coextensive and contiguous to the integral flexible film device and to the coated flexible backing pieces shown, thereby separating them.

FIGURE 2 is a greatly enlarged fragmentary cross sectional view of section 2—2 thorugh FIGURE 1, in which **27** is a paper flexible backing, **26** is a release coating permanently secured to the paper surface, **25** is the pressure sensitive adhesive permanently secured to the flexible film shape **24**. The cross sectional dimensions are not necessarily to scale.

FIGURE 3 is a plan view of another of my improved fasteners in which a rectangular flexible film strip body section **30** is of material integral with the prongs **33** and **36**, and having the shoulders **49**. The prongs **33** and **36** have the rounded tips **37** and **40** respectively. Coextensively covering the prong **33** is a permanently secured layer of pressure sensitive adhesive, not shown but top side up, and on top of the adhesive is a pair of coated flexible backing pieces **51** and **52**, extending respectively from tip **37** to the slit **31** and from slit **31** to slit **38**. The strip body section **30** is also coextensively permanently covered, topside up, with a pressure sensitive adhesive not shown, and on top of the adhesive is coated flexible backing piece **35**, extending from the slit **38** to the slit **39**. Coextensively covering the underside of the integral prong **36** as shown, is a layer of permanently secured pressure sensitive adhesive not shown, and below and secured to the adhesive layer is a pair of coextensive coated backing pieces **53** and **54**. The backing pieces **53** and **54** extend from the slits **39** to slit **32** and slit **32** to tip **40** respectively.

FIGURE 4 is a further enlarged amplification of the consecutive arrangement of layers on the prong **33** through 4—4 of FIGURE 3, wherein **44** is a flexible cloth backing layer, **43** is the release coating permanently secured to the flexible cloth backing piece, **42** is the pressure sensitive adhesive permanently secured to the flexible film base **41**.

FIGURE 5, a further enlarged cross section view through 5—5 of FIGURE 3, emphasizes that the order of layers on prong **36** is the reverse of the order of layers on prong **33**. Layer **48** is the flexible film base, **47** is the

pressure sensitive adhesive permanently secured to 48, 46 is the release coating permanently secured to the flexible backing piece 45.

Referring to FIGURE 6, a rectangular, rounded corner, flexible film strip body section 60 has an integral prong 61 of the same base material and a triple set of opposite prongs 62, 63 and 64 of the same base material. Between said prongs 62 and 63 there is a crease line 80, permitting the prong 62 to be folded upwardly over prong 63. Likewise, between prongs 63 and 64 there is a crease line 81, permitting the prong 64 to be folded upwardly over prong 63. The prongs 61, 62, 63 and 64 have the rounded tips 65, 66, 67 and 68 respectively. The entire integral flexible film fastener of FIGURE 6 is permanently coated and secured on the uppermost side with a pressure sensitive adhesive coating, as illustrated in FIGURE 4. A plurality of coated flexible backing pieces are secured to the adhesive layer, as illustrated in FIGURE 4. A coated flexible backing piece 69, extends from tip 65 to slit 75; a second flexible backing piece extends from slit 75 to slit 76; a third backing piece extends from slit 76 to slit 77; a fourth backing piece extends from slit 77 to slit 78; a fifth backing extends from slit 78 to tips 66, 67 and 68.

FIGURE 7 illustrates another of my improvements in pronged paper fasteners, in which the rectangular strip body section 90 with rounded corners has a pair of oppositely projecting prongs 91 and 92. Prong 92 has extending therefrom the integral side prongs 93, 94 and 95, attached and upwardly bent at the crease lines 103, 104 and 105 respectively. The entire fastener base of FIGURE 7 is an integral flexible film device composed of the parts 90, 91, 92, 93, 94 and 95. A pressure sensitive adhesive coating permanently covers the prong 91 and the body section 90 as illustrated in FIGURE 4; additional pressure sensitive adhesive covers the under side of prongs 92, 93, 94, and 95 as illustrated in FIGURE 5; and a plurality of pieces of coated flexible backing cover the pressure sensitive adhesive layers, one piece of backing extending from tip 96 to slit 98; a second piece of backing from slit 98 to slit 99; and a third piece of backing extending from slit 99 to tip 97, including all of the prong and its side prongs, as further illustrated in FIGURE 5.

A further improvement of my invention disclosed herein is the formation of a transparent window in my pronged fastener to which is adhered a display label, the label being protected by the overlying transparent window. In this species of my invention I use transparent flexible plastic film to form a transparent strip body section and an integral pair of prongs oppositely extending from said body section and a transparent pressure sensitive adhesive coating permanently secured to one side of the transparent flexible plastic film device.

The transparent strip body coupled with the transparent pressure sensitive adhesive can be made in a variety of the plastic materials I have listed above, to form the transparent window. I propose to use a coated flexible backing piece having a label base on one side and a cooperative release coated face on the other side, adhesively secured adjacent the transparent pressure sensitive adhesive coating, with the release coating face adjacent the adhesive. In useful practice, I can mark the label base of the fastener in pen, pencil, typewriter or the like with information. In my transparent window modification of my fasteners of FIGURES 1, 3, 6 and 7, I remove the marked label backing piece 15 from slit 20 to slit 28, from transparent film 10 (FIGURE 1); the marked label backing piece 35, from slit 38 to slit 39, from transparent film 30 (FIGURE 3); the marked label backing piece 79, from slit 76 to slit 77 from transparent film 60 (FIGURE 6); and the marked label backing piece 101, from slit 98 to slit 99, from transparent film 90 (FIGURE 7), to form a set of transparent windows. By placing the respective separate single marked label faces of each respective backing piece 15, 35, 79 and 101 contiguously adjacent and adhesively secured to the transparent adhesive layer of the respective transparent windows, I protect the marked label and permanently secure the label. I also likewise prevent the pressure sensitive adhesive from sticking to other surfaces. In my FIGURE 8, I illustrate my transparent window with label displayed. I have placed information on the label face of my transparent window fastener.

In operation, a fastener of the type of FIGURE 1 is shown in FIGURE 8, securing a pile of previously perforated paper sheets 122. The pile of sheets, approximately ½ inch thick, is held together by threading the prongs 111 and 112 through the holes 120 and 121 respectively. The pieces 114 and 116, each being about ½ inch long, are left on the prongs to guard the adhesive and prevent papers from sticking to the prongs. The flexible backing piece (not shown) may also be left on prong 111 and the prong 111 folded over first, backing pieces 114 and 116 being adjacent to the pile of sheets. The backing piece (not shown) is then removed from prong 112 and the prong 112 pressed firmly on top of prong 111 to secure the pile of sheets together, without adhesion to the pile of sheets. Alternatively both backing pieces (not shown) may be removed, then prong 111 pressed on the pile of sheets to secure the same, followed by prong 112 on the bottom of prong 111 to secure together the sheets in a more permanent pile. The label 123 of my invention is shown in cooperation with the fastener of FIGURE 8, in which the flexible backing piece 123 is simply marked on the label non-coated face to prepare the label face 123 and secured to the strip body section 124 label face secured adjacent the transparent adhesive, underneath the transparent film.

As a further example, the fastener of FIGURE 3, with all the prong backings intact, is threaded through a pair of perforated holes in a stack of papers ½ inch high and the coated backings 51 and 54 are removed. Prong 36 is placed downward first, as in FIGURE 8, then prong 33 is placed downward on top of prong 36 to provide two adhesive surfaces in a suitable contact, for a stronger and generally more permanent bond.

As a still further example, the fastener of FIGURE 6 is manufactured with prongs 62 and 64 alternately folded upwardly over prong 63 at creases 80 and 81 respectively. In operation prongs 61 and folded prongs 62, 63 and 64 are threaded through two suitably spaced holes in a pile of paper sheets. After threading the prongs in the manner of FIGURE 8, the coated backing piece 69 is removed from the adhesive surface. The prongs are bent toward each other, as in FIGURE 8, and prong 61 is overlapped over prong 63. Alternately, prong 61 may be secured face downward by the adhesive face, then the three prongs 62, 63 and 64 are overlappingly secured downward by the three adhesive faces. Still further, alternately, prong 61 can have attached a pair of creased prongs similar to prongs 62, 63 and 64, and can be spread out in the same manner, to provide a stronger bonded adhering surface for a pile of paper sheets.

As another example in operation, the fastener of FIGURE 7, has the prongs 91 and 92 bent upwardly with the side prongs 93, 94 and 95 creased upwardly over the prong 92. After insertion in the punched hole of the thin pack of paper sheets, the flexible backing pieces 100 and 102 are removed from the prongs 91, 92, 93, 94 and 95. The prong 92 together with side prongs 93, 94 and 95 are first placed downward on the sheet pile, adhesive free surface down, then the adhesive surface of 92, to form a seal; side prongs 93, 94 and 95 are then creased and bent over onto the top surface of prong 91.

The relative lengths of the coated backing pieces 13 and 14 comparatively, and 16 and 17 comparatively of FIGURE 1 may be adjusted to accommodate different thickness of paper sheet piles. The total lengths of each of the prongs and of the strip body section of the fastener are those needed to secure the size and thickness of paper sheet piles used.

In general I may adjust the lengths of the flexible coated backing pieces covering the adhesive coating to produce a desired end result. Thus I may wish to prepare a pair of relatively short backing pieces, shaped to cover the tips of a pair of prongs and use them to cover the tips of adhesively covered prongs. The strip body section of the device may likewise be covered with a backing piece which is also shaped to cover portions of the adjacent prongs. The lengths of the flexible backing pieces covering the adhesive coatings are thus quite adjustable to fit a specific multiple sheet package of paper which is to be bound. Further, it should be understood that by retaining the flexible backing pieces on the prong directly adjacent the multiple pile of paper sheets to be bound, and by adhesively securing a flexible backing piece on the prong tip of the topmost prong, the fastener can then reversibly secure the pile of paper sheets together in a simple manner. The unsecured topmost prong tip can be used to release the adhesively secured top prong from the bottom prong and the bottom prong is not secured to the paper pile at all, thus providing for ready reseal of the pile of papers by the paper fastener.

Obviously many modifications and variations of my improvements in combinations of labels and pronged paper fasteners are possible in the light of the above teachings. It is therefore understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

I claim:

1. A pronged paper fastener comprising: an integral film device having a strip body section and a pair of prongs, each prong having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to one side of said film device; and a plurality of release coated flexible backing pieces mounted on said film device, coplanar and coextensive with and release coated sides adjacent said adhesive coating, and at least a pair of backing pieces separately covering the prong tips.

2. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of prongs, each of said prongs having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to one side of said film device, and a plurality of release coated flexible backing pieces mounted on said film device, coplanar and coextensive with and adjacent said adhesive coating and said backing pieces being coated to permit ready removal of said backing pieces.

3. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of main prongs, each of said prongs having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to one side of said film device; and five release coated flexible backing pieces mounted on said film device, coplanar and coextensive with and adjacent said adhesive coating, a first pair of said backing pieces covering a pair of said prong tips, a third backing piece covering the strip body section and also oppositely extending onto the pair of main prongs to provide a portion of the cover thereon, and a second pair of backing pieces covering the remainder of said pair of main prongs, said backing pieces being coated to permit ready removal of said backing pieces.

4. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of main prongs oppositely extending from said body section, one of said main prongs having a plurality of side prongs integrally extensive therefrom and arranged to fold over one said main prong and adapted to be detachably secured to the other said main prong by overfolding; a pressure sensitive adhesive coating completely covering and permanently secured to one face of said film device; and a plurality of release coated flexible backing pieces mounted on said film device, coplanar and coextensive with, and release coated sides adjacent said adhesive.

5. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of main prongs, each prong having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to one face of said film device; and five release coated flexible backing pieces mounted on said film device, coplanar and coextensive with and release coated sides adjacent said adhesive coating, a first pair of said backing pieces covering a pair of said prong tips respectively, a second pair of said backing pieces covering the remainder of said pair of prongs, and a fifth backing piece covering said strip body section, said backing pieces being release coated to provide ready removal of said backing pieces.

6. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of main prongs, each of said prongs having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to one side of said film device; and five release coated flexible backing pieces mounted on said film device, coplanar coextensive with and coated sides adjacent said adhesive coating, a first pair of said backing pieces covering a pair of said prong tips, a third backing piece covering the strip body section and also oppositely extending onto the pair of main prongs to provide a portion of the cover thereon, and a second pair of backing pieces covering the remainder of said pair of main prongs.

7. A pronged paper fastener comprising: an integral flexible film device having a strip body section and a pair of main prongs, each of said prongs having a tip, said prongs oppositely extending from said body section; a pressure sensitive adhesive coating completely covering and permanently secured to all of one face of said film device; and three coated flexible backing pieces mounted on said film device coplanar and coextensive with and coated sides adjacent said adhesive coating, a first backing piece covering said strip body section and a portion of each said pair of prongs, and a pair of backing pieces covering the remainder of each said pair of prongs, said backing pieces being release coated to provide ready removal of said backing pieces.

8. A pronged paper fastener and label combination comprising: an integral transparent flexible plastic film device, having a strip body section and a pair of prongs oppositely extending from said body section; a pressure sensitive transparent adhesive coating completely covering and permanently secured to one face of said film device; a flexible backing piece release coated on one side and with a label base on the other side cooperatively coextensive with and adhesively secured on the release coated side adjacent to said strip body section; and a plurality of release coated flexible backing pieces coplanar mounted on the remainder of said film device, coextensive with, and adjacent said remaining film device adhesive coatings, release coated to permit ready removal of said backing pieces.

9. A pronged paper fastener and label combination comprising: an integral transparent flexible plastic film device having a strip body section and a pair of main prongs oppositely extending from said body section, one of said main prongs having a plurality of side prongs integrally extensive therefrom and arranged to fold over said one main prong and adapted to be detachably secured to other said main prong by overfolding; a pressure sensitive transparent adhesive coating completely covering and permanently secured to one side of said film device; a flexible backing piece release coated on one side and with a label base on the other side cooperatively coextensive with and adhesively secured on the release coated side adjacent to said strip body section; and a plurality

of release coated flexible backing pieces coplanar mounted on the remainder of said film device, coextensive with, and adjacent said remaining film device adhesive coating, release coated to permit ready removal of said backing pieces.

10. A pronged paper fastener and label combination comprising: an integral transparent flexible plastic film device, having a strip body section and a pair of prongs integrally oppositely extending from said body section; a pressure sensitive, transparent adhesive coating completely covering and permanently secured to one face of said film device; an information marked label face backing piece marked on one face, said label face cooperatively coextensive with and reversibly adhesively secured to said strip body section; and a plurality of release coated flexible backing pieces coplanar mounted on the remainder of said film device and coextensive with said remaining film device adhesive coating, release coated to permit ready removal of said backing pieces.

11. A pronged paper fastener and label combination comprising: an integral transparent flexible plastic film device, having a strip body section and a pair of main

prongs integrally oppositely extending from said body section, one of said main prongs having a side prong integrally extending therefrom and arranged to fold over said one main prong and adapted to be detachably secured to the other said main prong by overfolding; a pressure sensitive transparent adhesive coating completely covering and permanently secured to one side of said film device; a flexible backing piece release coated on one side and with a label base on the other side, coextensive with and adhesively secured with the release coated side adjacent to said strip body section; and a plurality of release coated flexible backing pieces coplanar mounted on the remainder of said film device and coextensive with said remaining film device adhesive coating, release coated to permit ready removal of said backing pieces.

References Cited in the file of this patent

UNITED STATES PATENTS

2,292,272	Hirshfield	Aug. 4, 1942
2,345,484	Krumwieder	Mar. 28, 1944
2,532,011	Dahlquist et al.	Nov. 28, 1950
2,725,322	Muttera	Nov. 29, 1955