

[54] **FASTENER ATTACHMENT DEVICE
FOR FLEXIBLE SHEET**

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[22] Filed: **Feb. 10, 1971**

[21] Appl. No.: **114,296**

[52] U.S. Cl. **24/265 R, 24/67 AR**

[51] Int. Cl. **A44b 21/00**

[58] Field of Search... **24/265 R, 67 AR, 265 SC, 265
AL, 24/7**

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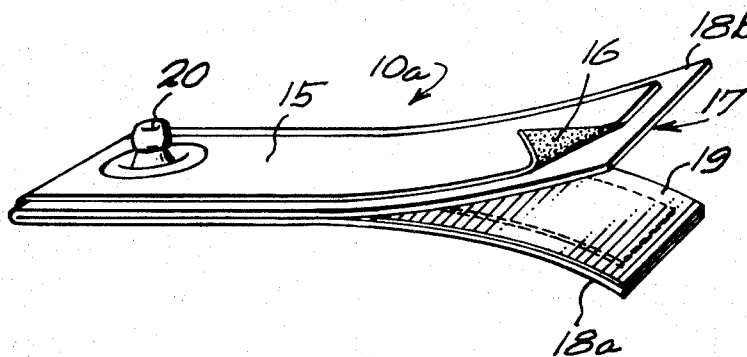
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[57] **ABSTRACT**

A fastener attachment device for application to marginal edge portions of flexible sheet materials to facilitate the fastening of such sheet material is described. The device comprises a length of tape coated on one side with a pressure-sensitive adhesive and folded against itself midway along its length to provide an inner adhered-together portion and non-adhered, opposed, outwardly-extending portions retained in separated relation before use of the device by an interposed cover or tear strip member. Fastening means in the form of a snap fastener, eyelet, ring or the like is affixed to the adhered-together portion of the tape. In use, the outwardly-extending portions of the tape will be separated from the cover or tear strip member and applied flat against opposite marginal side portions of the sheet material to which the device is to be applied.

3 Claims, 5 Drawing Figures



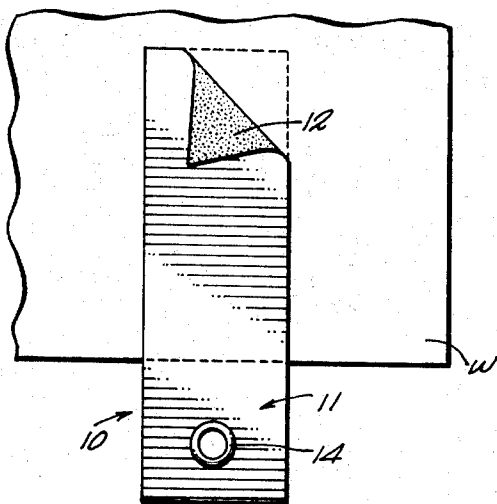


Fig. 1

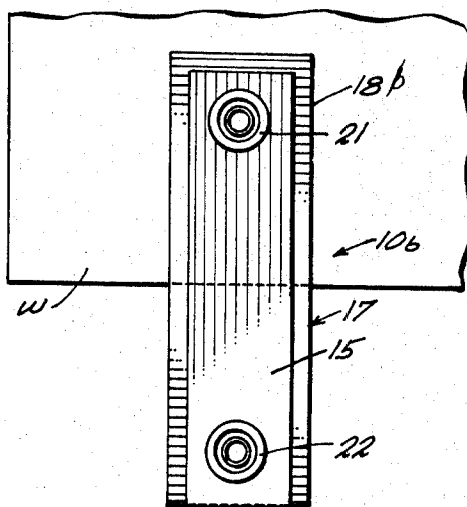


Fig. 2

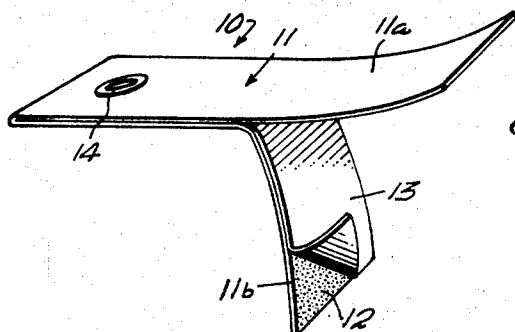


Fig. 3

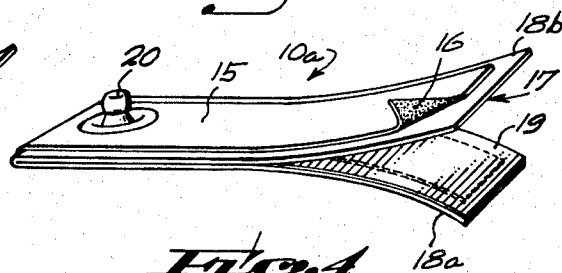


Fig. 4

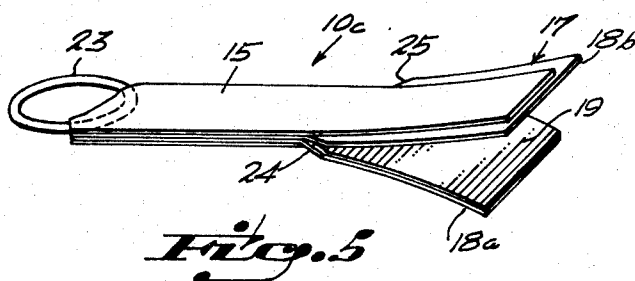


Fig. 5

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FASTENER ATTACHMENT DEVICE FOR FLEXIBLE SHEET

This invention relates to the flexible sheet materials such as woven fabrics and vinyl and other synthetic plastic sheeting or webbing, and is directed particularly to improvements in pressure-sensitive devices for securing fasteners, supporters, locators, holders or the like along marginal edge portions of such material.

The principal object of the invention is to provide an improved method and means for applying mechanical fasteners of one kind or another to thin web or sheet material such as of woven fabric, paper or synthetic plastic.

A more particular object of the invention is to provide a fastener device in the character above described that can readily be applied along marginal edge portions of sheet materials without the use of any tools and which will securely grip opposed surface zone portions of the material so as to minimize possibility of ripping or tearing away even under high stress conditions.

Another object of the invention is to provide a flexible attachment device of the above nature which comprises opposed, pressure-sensitive adhesive strip members adapted to being affixed against opposed surface zone portions of the material to which it is to be attached.

Still another object of the invention is to provide a fastener attachment device of the character described which can readily be fabricated of simple and inexpensive parts, which is readily adaptable to use in combination with a wide variety of fastening, supporting, locating and holding members, and which will be inexpensive to manufacture, neat in appearance, easy to apply and fool-proof in operation.

Other objects, features and advantages of the invention will be apparent from the following description when read with reference to the accompanying drawings. In the drawings, wherein like reference numerals denote corresponding parts throughout the several views:

FIG. 1 illustrates, in plan view, one form of attachment device embodying the invention, and shows the method of attachment to the marginal edge portion of sheet material;

FIG. 2 illustrates, in plan view similar to that of FIG. 1, a second form of attachment device embodying the invention;

FIG. 3 is a perspective view of the attachment device illustrated in FIG. 1, shown separately and partially separated to reveal interior construction;

FIG. 4 is a perspective view of another form of the invention; and

FIG. 5 is a perspective view illustrating still another embodiment of the invention.

Referring now in detail to the drawings, FIGS. 1 and 3 illustrate a basic form of attachment device embodying the invention, designated, generally, by reference numeral 10 and showing the manner of attachment to a marginal edge portion of a piece of sheet material W, partly illustrated (FIG. 1). As best illustrated in FIG. 3, the attachment device 10 comprises an elongated rectangular strip of flexible tape 11 coated on one side with a pressure-sensitive adhesive 12 and folded or reversely bent substantially midway along its length to provide opposed tape portions 11a, 11b. The strip of flexible tape 11 is folded so that the pressure-sensitive

adhesive 12 will be at the inside, with approximately one-third of the inner end portions of the tape portions 11a and 11b adhering to one another, as best illustrated in FIG. 3. Prior to use, the remaining outer end portions of the opposed tape portions 11a, 11b will be kept separated from each another by a cover or tear strip 13, of any suitable sheet material such as paper, woven fabric or sheet plastic. Prior to use, the outer end portions 11a and 11b will be pressed down against the opposite sides of the cover or tear strip 13. An eyelet 14, for example, will be applied, in conventional fashion, through the inner, adhered-together portions of the flexible tape member 11 for fastening purposes, as is hereinbelow more particularly described.

In use, the outer end portions of the opposed tape portions 11a and 11b will be separated from the cover strip 13, as is partially illustrated in FIG. 3, after which the exposed pressure-sensitive adhesive 12 will be utilized to secure said tape outer end portions in face-to-face engagement against opposed surface zones of a marginal edge portion of the piece of sheet material W to which the attachment device is to be applied, (see FIG. 1). The attachment device will thus become securely affixed to each side of the material W along comparatively large surface zone portions thereof. For this reason, any stresses imposed upon the attachment device through use of the eyelet 14, for example, will be widely distributed in the sheet material W to which it is attached, to minimize the possibility of tearing or breaking away in use.

FIG. 4 illustrates a modification of the invention designated, generally, by reference numeral 10a, wherein a reversely bent or folded rectangular strip of flexible tape 17 having opposed tape portions 18a, 18b, and being similar to the rectangular strip 11 in the embodiment of FIGS. 1 and 2, is similarly provided with a separating cover strip 19 for the use and purpose as above described. The embodiment of the invention illustrated in FIG. 4 differs from that described in FIGS. 1 and 3 in that it is provided with strengthening means in the form of a rectangular outer reinforcement strip 15 fitted over the rectangular strip 17 and maintained in place such as by use of a pressure-sensitive adhesive 16. The inner or stuck-together portions of the opposed tape portions 18a, 18b are fitted with a male snap fastener member 20, for example, for attaching engagement with a complementary female snap fastener member (not illustrated) which may be provided in an otherwise similar attachment device secured to the same or another piece of sheet material, or to any other device, for securing one or more pieces of sheet material in inter-attached relation. It will be understood that the attachment device embodiment illustrated in FIG. 4 will be secured to a piece of suitable sheet material, whether of paper, woven fabric, or sheet or film plastic, or webbing, for example, by first removing the cover strip 19 and then applying it to a marginal edge portion of the sheet material as illustrated in FIGS. 1 and 2, for example, and as hereinabove described.

FIG. 2 illustrates another modification of the invention designated, generally, by reference numeral 10b, which differs from the form of the invention illustrated in FIG. 4 and described above only in that, instead of using the male snap fastener member 20, a female snap fastener member 22 is used as means for securement to

the device. As an additional feature of the invention, after the device 10b has been secured in place with respect to its piece of sheet material W, another female snap fastener member 21, for example, is applied through the attached opposed tape portions 18a, 18b (only portion 18b illustrated in FIG. 2), and through the sheet material W. This application of the female snap fastener member 21 not only serves to reinforce attachment of the attachment device in place, but also serves as securing means for a co-operative male snap fastener member which may be provided in another attachment device, such as the attachment device 10a of FIG. 4.

FIG. 5 illustrates still another form of attachment device designated, generally, by reference numeral 10c, embodying the invention, differing from that of FIG. 4 illustrated and described above in that attachment means in the form of a ring 23 is provided instead of the male snap fastener member 20. Folding of strips 15 and 17 through the ring 23 secures the ring in place. The embodiment of FIG. 5 also differs from that of FIG. 4 in that side portions of the strip of tape 17 are cut away, as indicated at 24 and 25, to the same width as that of the outer reinforcement strip 15 along the inner ends of the opposed tape portions 18a, 18b. The use and operation of the embodiment of the invention illustrated in FIG. 5 is otherwise similar to that described above in connection with the embodiment of FIG. 4.

While we have illustrated, by way of example, only four forms in which the invention can conveniently be embodied in practice, it is to be understood that other forms utilizing various sizes of snap fasteners, rings, eyelets, buckles, chain snaps, double rings, and the like could be used in co-operative association with the at-

taching tapes for a wide variety of attaching and securing purposes. The invention, in brief, comprises all the embodiments and modifications coming within the scope and spirit of the following claims.

What we claim as new and desire to secure by Letters Patent is:

1. A fastener attachment device for flexible sheet material comprising, in combination, an elongated tape member, said tape member being coated on one side with a pressure-sensitive adhesive and being folded against itself substantially midway along its length to provide an inner, adhered-together portion and mutually non-adhered, opposed, outwardly-extending portions, and fastening means affixed to said adhered-together portion of said tape, a reinforcement strip secured in face-to-face relation against the outer surface of said tape member, said reinforcement strip is provided on its inside with a coating of pressure-sensitive adhesive and is of slightly smaller size than that of said tape member and so placed as to provide a marginal border of said tape member with respect to said reinforcement strip, a cover strip member interposed said outwardly extending portions of said tape member and against opposite side portions of which said outwardly-extending portions are adhesively secured, and a sheet material member interposed said outwardly-extending portions of said tape member and against opposite side portions of which said outwardly-extending portions are adhesively secured.

2. A fastener attachment device for flexible sheet material as defined in claim 1, wherein said fastening means comprises a snap fastener.

3. A fastener attachment device for flexible sheet material as defined in claim 1, wherein said fastening means comprises a snap socket.

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