

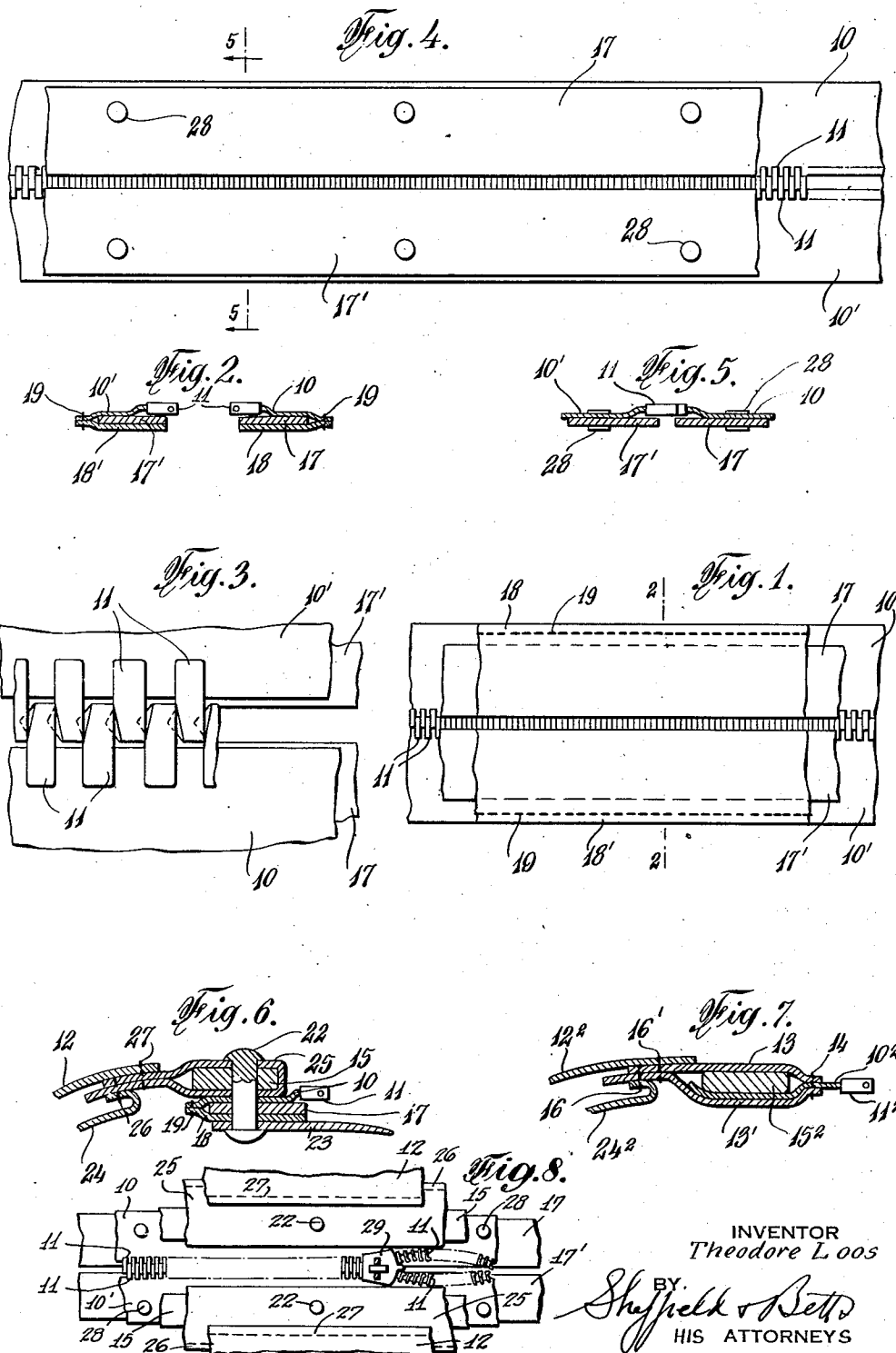
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SLIDE FASTENER ASSEMBLY

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SLIDE FASTENER ASSEMBLY

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The primary object of my invention is to provide a new form of assembly or mounting for so-called slide fasteners of the well-known type which utilize spaced interlocking metal prongs and a sliding locking device, which new assembly or mounting is better adapted to attachment to the article to which it is to be applied and also better adapted for replacement of damaged fasteners, etc., than present forms of fastener assemblies. A further object of my invention is to provide a simple and economical method of attaching such fasteners to the articles to which they are to be applied. A still further object of my invention is to reduce the danger of damage or injury to the fastener elements.

In its usual form, the prongs of such a fastener are carried by a strip of flexible material, ordinarily fabric. When such fastener, which has been applied to an article in the usual way and without utilizing my invention, has been damaged and it is desired to replace it with a new one, it is necessary first to remove the stitching by which the flexible strips that carry the prongs are attached to the article, to detach the strips, and then to sew the flexible strips of the new fastener to the article. In the case of many articles, this involves considerably more complicated operations than would appear from the foregoing statement. In the case, for example, of hand or traveling bags, it is ordinarily necessary to remove the stitching which fastens the frame members surrounding the opening of the bag, to detach them from the walls of the bag, to remove the coverings of the frame members, and then to remove the flexible strips of the fastener; ordinarily, the only parts which can be salvaged are the bag itself, the lining (where one is used), and the frame members; also, before mounting the new fastener, the frame members must be straightened out; in mounting the new fastener the same operations must be performed as were necessary when the bag was initially assembled and, in addition, in the case of certain materials, care must be taken to insert the new stitches in the same holes in the material of which the bag is made to avoid weakening the same. This usual method of replacement of slide fasteners on hand bags requires the use of skilled labor, results in unnecessary waste of material, and is a comparatively expensive operation; as a result, the cost of repairs is a substantial item for bag manufacturers and also, in the case of cheaper bags, often makes it hardly worth while to replace a damaged fastener.

My invention makes it possible both to apply a slide fastener to a new bag or other article and

also to replace a damaged fastener at a cost of from one-third to one-fourth of the present cost and by means of operations that can be carried out easily by unskilled labor. In its preferred form, my invention also provides increased protection to the fastener and decreases the danger of injury to its elements.

It will be understood that my slide fastener assembly or mounting is adapted to be used not only on hand or traveling bags or similar articles, but also on nearly all articles to which it is desired to apply a slide fastener.

Other advantages of my invention will appear from the following description thereof.

In the accompanying drawing—

Fig. 1 is a fragmentary view of the preferred form of my slide fastener assembly or mounting, taken from the inner side thereof, certain parts being broken away for clarity of illustration;

Fig. 2 is a cross section thereof taken on the line 2—2 of Fig. 1, the fastener being open and the two parts thereof separated;

Fig. 3 is an enlarged fragmentary detail view of my fastener assembly, taken from the outside thereof;

Fig. 4 is a fragmentary view of another form of my slide fastener assembly or mounting, taken from the inner side thereof, certain parts being broken away for clarity of illustration;

Fig. 5 is a cross section thereof taken on the line 5—5 of Fig. 4, looking in the direction of the arrows, the fastener being closed;

Fig. 6 is a cross section of one-half of the preferred form of my assembly as applied, for example, to a club bag;

Fig. 7 is a similar cross section of a present common type of slide fastener assembly as ordinarily applied to such a bag; and

Fig. 8 is a fragmentary top view of a bag to which my invention has been applied.

Referring to the drawing, the numerals 10, 10' indicate the flexible strip or tape, ordinarily made of suitable fabric, which carries the interlocking prongs 11 of the slide fastener. The manner of mounting the prongs on the tape and the configuration of the prongs are well known in the art and need not be described in the present specification. The illustrations of such parts, in the drawing accompanying this application, are therefore largely diagrammatic.

A present common method of applying a slide fastener to, for example, a club bag is illustrated in Fig. 7, in which the numeral 10² indicates the flexible strip which carries the prongs 11² of the fastener. Two comparatively narrow strips 13, 13', of leather or other suitable material are first

cut to the proper size. The tape 10² of the fastener is then sewed between these strips, the stitching being indicated at 14. A straight strip of metal 15², designed to constitute one of the frame members surrounding the opening in the bag, is then inserted between the strips 13, 13' and the strips are then sewed together, as indicated at 16—the lining 24² being, at the same time, sewed to the strips. These operations result in a combined covered frame for the bag and mounting for the slide fastener. Thereafter, the frame member 15², so covered, is bent to the desired shape and affixed to the wall 12² of the bag; this is done by sewing the inner edges of the strips 13, 13' to the wall of the bag, as indicated at 16'. If the fastener is damaged and it becomes necessary to replace it, the row of stitching 16' must be removed, whereby the frame member and the fastener are detached from the bag. It is not usually possible to salvage and use again the strips 13, 13'; therefore, the stitching 16 must usually also be removed so that the lining 24² may be affixed to the new frame assembly. If the strips 13, 13' are to be used over again, it is also necessary to remove the stitching 14 to release the old fastener tape 10² and affix the new one. Before affixing a new fastener to replace the damaged one and recovering the frame, the latter must be straightened out. Thereafter, the new fastener is affixed, the frame re-covered, the lining replaced, and the frame again bent to the desired shape. The combined frame and fastener mounting are then attached to the bag in the same manner as in the original manufacture and all of the operations described above must again be carried out. The stitching operations are difficult because, in every case, several layers of material have to be handled and adjusted. As already stated, this requires skilled labor and the cost is substantial. In fact, in the case of a cheap bag, the cost of replacing a damaged slide fastener may be almost equal to the original cost of the bag.

In the case of my improved assembly or mounting, two rigid strips 17, 17' are provided. I have found that cold rolled steel strips, such as are readily available on the market in suitable lengths, are well adapted for use in my invention although, for some uses, even more rigid strips may be desirable. On the other hand, the strips may be made of stiff fiber although, in that event, they do not have as much rigidity as is desirable for the utilization of my invention to the greatest advantage.

In the preferred form of my invention, that edge of each of the flexible strips or tapes, 10, 10' of the fastener opposite to that on which the prongs 11 are mounted is first sewed to the edge of another strip 18, 18' of flexible material, such as leather or fabric—the stitching being indicated in the drawing at 19. Preferably, the strips 18, 18' are somewhat narrower than the fastener tapes 10, 10'. The rigid strips 17, 17' are preferably then drilled at suitable intervals for a purpose that will appear hereinafter. One of those strips is then placed between each fastener tape and the strip (18 or 18') to which it has been sewed. If desired, the strips 18, 18' may be glued or cemented to the rigid strips 17, 17'. The fastener is then ready for mounting on the article to which it is to be applied.

It will be noted that the relative position of each fastener tape and of the corresponding rigid strip should be such that, as clearly indicated for example in Figs. 2 and 3, the prongs 11 which are affixed to the flexible strip will project for a

part, only, of their length beyond the corresponding edge of the rigid strip with which they are associated. In other words, when the prongs interlock and the fastener is closed and the elements thereof are under tension, the flexible strips, together with the prongs, should lie substantially flat on the surface of the rigid strips and adjacent edges of the rigid strips should be substantially in contact (as clearly shown in Fig. 5). The relative positions should be such, however, that the inner portion of the sliding member 29 which causes the prongs to interlock should pass freely between the prongs and the rigid strips when the fastener is being either opened or closed. Although it might appear that the relative positions must, to permit the sliding member to operate easily, be such that, when the fastener is closed and the prongs interlocked, the strips 17, 17' are separated, yet I have found that, ordinarily, the fastener tapes 10, 10' have sufficient elasticity and pliability to permit such relative positions to be used that there will be no or practically no space between the inner edges of the strips 17, 17', even when the fastener is closed. For example, the space indicated, in Fig. 8, between the strips 17, 17' may be so narrow that it is difficult to insert a knife-blade therein.

The application of a fastener to an article or the replacement of a damaged fastener becomes a simple and economical operation with my improved assembly. I here describe such operation as applied, for example, to a club bag. In this case, the wall of the bag is indicated at 12 (see Figs. 6 and 8) and the frame member of the bag which is adjacent the opening of the bag is indicated at 15. A cover 25 for the frame member 15 is folded around the latter and the two edges thereof are sewed together, as indicated at 26; preferably, the lining 24 of the bag is sewed to the cover 25 at the same time. The covered frame member, together with the lining, is then sewed to the wall of the bag, as indicated at 27. The bag is then complete, except for attaching a fastener thereto. Utilizing my improved fastener assembly, the fastener may be affixed to the bag, and a damaged fastener may be replaced by a new one without detaching the frame from the bag, without removing the lining, and, in fact, without removing any of the stitching by which the frame and its cover are attached to the bag.

Thus, all that is necessary to do, to install the fastener when the bag is first made, is to take an assembly (such as illustrated in Fig. 1) of the proper length and size, bend it to the desired shape, and fasten it directly to the bag frame. This may be done in any desired manner. In the arrangement shown in Fig. 6 of the drawing, it is accomplished by drilling the bag frame and cover, as well as the rigid strips 17, 17' of my fastener assembly, and then attaching the latter to the frame members of the bag by suitable means, such for example, as rivets 22.

With such an arrangement, the replacement of a damaged fastener is very simple. It is only necessary to detach the fastener assembly from the frame members of the bag, as by punching out the rivets, where rivets have been used; apply new tapes to the strips; and affix the reassembled fastener to the frame members. It will be seen that no stitching need be removed from the bag, that the covering of the frame members need not be disturbed, that neither the strips 17, 17' nor the bag frame members need be straightened out and re-bent, and that the op-

erations are simple and can be economically performed. To facilitate the replacement operation, a supply of fastener tapes, already sewed to the flexible strips 18, 18' can be kept available for immediate use.

Another form of my slide fastener assembly or mounting is shown in Figs. 4 and 5. In that form, each of the flexible strips or tapes of the fastener, such as 10, is directly affixed to the corresponding rigid strip 17 by any suitable means. A readily available form of split rivet 28, which is caused to pass through the flexible strip 10 and through a perforation in the rigid strip 17 and which may be inserted by a hand punch, is well adapted to the purpose. If rivets are used, the spacing between them may vary by a considerable amount, depending upon the use to which the fastener is to be put. Rivets are shown and described merely by way of example, since the flexible strip may equally well be affixed to the rigid strip by other means such, for example, as short machine screws and bolts or by stitching; in each case, the rigid frame will be provided with perforations suitably spaced for the particular form of attachment employed. The rigid strips 17, 17' may, if desired, be covered with leather or other suitable material, or they may be japanned or otherwise treated or covered.

To mount that form of my fastener assembly that is shown in Figs. 4 and 5, additional perforations are provided in the strips 17, 17', through which rivets, sleeve bolts, or other suitable means may pass to affix such strips, with the fastener elements carried thereby, to the article to which the fastener is to be applied. This arrangement is shown in Fig. 8.

Although it is not essential, I prefer to affix to the inside of one of the rigid strips a guide member 23 (see Fig. 6) which, in the case of a club bag, will extend along a portion of the top of the bag. The purpose of this member is to facilitate the closing of the bag and the bringing of the two rigid strips 17, 17' into alignment when the edges of the bag are brought together to close it.

One way in which my present invention may be applied to a club or similar type of bag is shown in my co-pending application Serial No. 336,905.

As already suggested, my new fastener assembly or mounting has other advantages in addition to its ease of application and replacement. For example, when applied to a club bag or similar article, it results in protection both to the fastener and to the contents of the bag. Thus, in closing the bag, it is only necessary to make sure that no articles of clothing, etc., project between the edges of the strips 17, 17'. The use of the guide member 23 not only facilitates the closing of the bag but aids, to a certain extent, in preventing the contents of the bag from becoming caught between the rigid strips. The edges of the bag having been brought together with none of the bag contents projecting, the fastener may be closed and opened repeatedly without danger of its becoming jammed and without danger of any part of the contents of the bag becoming caught in the prongs of the fastener, which may either tear or otherwise injure the article which gets caught, or damage the fastener, or both. Even if an article of clothing, for example, does project between the strips 17, 17', I have found that, utilizing my improved fastener mounting, it is less liable to

become caught in the prongs of the fastener than when, as in the usual form of fastener assembly, the rigid strips are not present.

Another advantage of my improved fastener assembly is that, when it is applied, for example, to a club bag, hinge members may be mounted directly on the ends of the rigid strips 17, 17'. This feature enables, or in any event greatly simplifies, its application to bags of that general character as well as to many other articles where U-shaped frames or edges are used and the fastener assembly follows the conformation of such frames or edges. With this arrangement, the bag can be made to stay open while it is being packed, whereas present bags of such type, when supplied with a slide fastener, will repeatedly close on the arms of the person who is packing it. Also, the hinges remove a large part of the strain from the fastener elements which is one of the common causes of injury to the fastener.

A still further advantage of my assembly is that both lateral and longitudinal play of the fastener elements is largely eliminated, which substantially reduces shock to the elements resulting from lifting, carrying, or dropping the article to which the assembly has been applied and also reduces the danger of injury resulting to the fastener elements from foreign articles' becoming caught in the prongs or slider.

Other advantages resulting from the use and application of my fastener assembly, both in its application to and use on luggage and in its application to and use on numerous other articles, will be apparent to those skilled in the art.

It is to be understood that my invention is by no means limited to the application thereof to traveling bags or to luggage or to similar articles and that my description of such application thereof is given solely as an example and to illustrate one method in which it may be used; the articles to which my invention is adapted to be applied are countless, as will be understood by those engaged in the various arts which utilize slide fasteners. It is also to be understood that various modifications or alterations may be made in my slide fastener assembly or mounting and in the method of applying it, in addition to those indicated in the foregoing description, without departing from the spirit of my invention and that I desire protection for all such modifications or alterations as may come within the scope of the appended claims.

Having described my invention, I claim:

1. A slide fastener assembly comprising in combination a flexible strip carrying prongs of the fastener, a second flexible strip affixed to the first-mentioned strip at points spaced from the prongs, and a rigid strip freely disposed between said flexible strips; the prongs projecting, for a distance less than the length of an individual prong, beyond one lateral edge of the rigid strip.

2. An interlocking slide fastener assembly comprising in combination a pair of flexible strips each carrying prongs of the fastener, the prongs on each strip being adapted to interlock with those on the other strip; a second pair of flexible strips; each of said first mentioned strips being affixed, adjacent that edge thereof that is spaced from the prongs, to one edge of the corresponding second mentioned strip; a pair of rigid strips, each thereof being between one of the first mentioned flexible strips and that one of the second mentioned flexible strips that is affixed thereto, one edge of each of said rigid strips being adjacent the line along which those

flexible strips between which it is placed are affixed to each other; and a sliding member adapted to cause said prongs to interlock to close the fastener, said member being provided with means by which it may be manually operated, said means being located on the opposite side of said prong-carrying strips from said rigid strips; said rigid strips being of such width that the adjacent edges thereof are substantially in contact when said fastener is closed and the elements thereof are under tension.

3. A slide fastener assembly for closing an opening in an article, said assembly comprising in combination two strips of fabric, each bearing fastener prongs projecting from one lateral edge thereof, two strips of rigid material, means operatively connecting each of said strips of fabric with one of said strips of rigid material, each strip of fabric being detachable from the associated rigid strip without deformation of the latter, said prongs overlying, and projecting for a distance less than the length of an individual prong beyond, the rigid strip with which they are associated, and a sliding member adapted to cause said prongs to interlock to close the fastener, said member being provided with means by which it may be manually operated, said means being located on that side of said fabric strips that is opposite to the side thereof that is adjacent to said rigid strips; said assembly being detachable as a unit from the article.

4. A slide fastener assembly for a closure comprising in combination a flat strip of metal and a strip of flexible material carrying prongs of the fastener, said flexible strip being operatively connected with said metal strip remote from one edge thereof, the two strips lying in substantially parallel planes, said prongs overlying, and projecting for a distance less than the length of an individual prong beyond, one lateral edge of the metal strip; a second flat strip of metal and a second strip of flexible material carrying the complementary prongs of the fastener on one lateral edge thereof, said second flexible strip being operatively connected with said second metal strip remote from one edge thereof, said last-mentioned strips lying in substantially parallel planes, the prongs carried by the second flexible strip overlying, and projecting for a distance less than the length of an individual prong beyond, one lateral edge of the second metal strip; and a sliding member adapted to cause said prongs to interlock and thereby close the fastener, said member being provided with means by which it may be manually operated, said means being located on the opposite side of said flexible strips from said metal strips; the adjacent edges of the metal strips, when the fastener is closed and the elements thereof are under tension, being separated by a space of less width than the length of an individual prong and substantially forming the closure.

5. A slide fastener assembly for a closure comprising in combination a pair of flat rigid strips; a pair of flexible strips each bearing a series of fastener prongs projecting from one lateral edge thereof, each of said flexible strips being operatively connected with one of the rigid strips by means external to the rigid strip; a sliding member adapted to cause said prongs to interlock and thereby close the fastener, said member being provided with means, located on the opposite side of said flexible strips from said rigid strips, by which it may be manually operated;

and means operatively connecting said rigid strips to said closure; the adjacent edges of the rigid strips being substantially in contact when the fastener is closed and the elements thereof are under tension, said rigid strips substantially forming the closure.

6. A slide fastener assembly for a closure comprising in combination a rigid strip, a flexible strip carrying prongs of an interlocking slide fastener, and means operatively connecting said flexible strip with said rigid strip remote from one edge thereof and being detachable therefrom without deformation of the rigid strip; a second rigid strip, a second flexible strip carrying the complementary prongs of the fastener, and means operatively connecting said second flexible strip with said second rigid strip remote from one edge thereof and being detachable therefrom without deformation of the rigid strip; and a sliding member adapted to cause said prongs to interlock to close the fastener, said member being provided with means, located on the opposite side of said flexible strips from said rigid strips, by which it may be manually operated; said assembly being detachable as a unit from said closure.

7. A slide fastener assembly, detachable as a unit from the edges of the article to which it is to be applied, said assembly comprising in combination a pair of rigid strips; a pair of flexible strips each bearing a series of fastener prongs projecting from one lateral edge thereof, each of said flexible strips being operatively connected with one of the rigid strips along a line remote from one edge thereof; means for attaching each half of said assembly to one edge of the article, each of said means passing through one of said rigid strips and the flexible strip associated therewith, said means being independent of the means operatively connecting said flexible strips with said rigid strips; and a sliding member adapted to cause said series of prongs to interlock to close the fastener, said member being provided with means, located on the opposite side of said flexible strips from said rigid strips, by which it may be manually operated.

8. A slide fastener assembly, detachable as a unit from the edges of the article to which it is to be applied, said assembly comprising in combination a pair of opposing rigid strips; a pair of flexible strips each bearing a series of fastener prongs projecting from one lateral edge thereof, each of said flexible strips being operatively connected with one of the rigid strips remote from one edge thereof, the tips of said prongs, when said fastener is closed and the elements thereof are under tension, overlying the edge of the opposing rigid strip; means for attaching each half of said assembly to one edge of the article, each of said means passing through one of said rigid strips and the flexible strip associated therewith, said means being independent of the means operatively connecting said flexible strips with said rigid strips; and a sliding member adapted to cause said series of prongs to interlock to close the fastener, said member being provided with means, located on the opposite side of said flexible strips from said rigid strips, by which it may be manually operated.

9. A slide fastener assembly comprising in combination a flexible strip carrying prongs of the fastener, a second flexible strip affixed to the first-mentioned strip along a line spaced from the prongs, and a rigid strip freely disposed between said flexible strips, one edge of the rigid strip being adjacent the line along which the flexible

strips are affixed to each other, said prong-carrying strip lying substantially flat on said rigid strip.

10. A detachable slide fastener assembly for application to the edges of an article, comprising in combination a rigid strip, a flexible strip carrying prongs of the fastener, said flexible strip being operatively connected with said rigid

strip remote from one edge thereof and detachable therefrom without deformation of the rigid strip, and removable means for attaching said strips to one edge of the article, said means passing through both said rigid strip and said flexible strip.

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