April 27, 1954 A. M. MARKS 2,676,704

ARTICLE RETAINING SUPPORT

Filed April 22, 1950

Fig. 1.

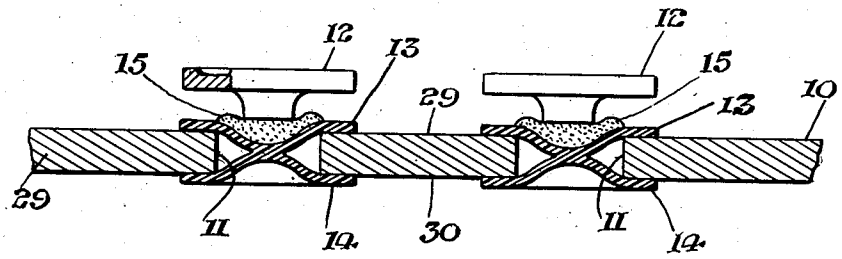


Fig. 2.

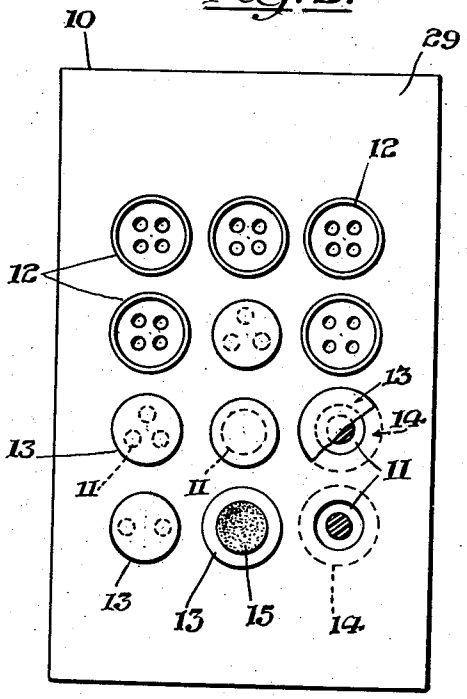


Fig. 3.

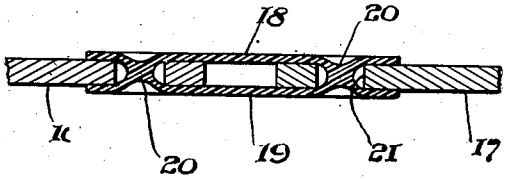


Fig. 4.

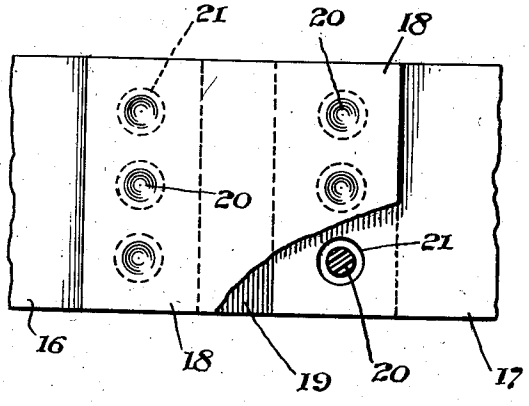
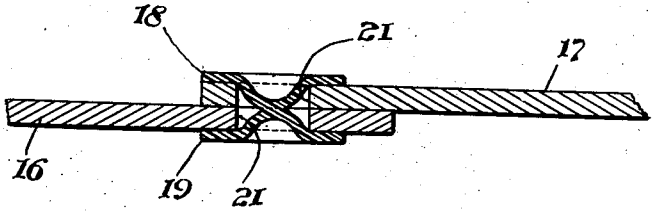


Fig. 5.



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UNITED STATES PATENT OFFICE

2,676,704

ARTICLE RETAINING SUPPORT

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2 Claims. (Cl. 206—80)

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This invention relates to article retaining means, such as are used to anchor, link, or clamp objects together, and the method of manufacturing said retaining means. Where it is desired to secure a plurality of articles to a sheet, such as cardboard or the like, as in the case of a button display card, it is necessary to provide means whereby the article may be held to the card until it is desired to use the said article. It is further necessary that the article, which may be for example, a button, be detachable from the supporting surface with a desired amount of effort, and in a manner which will free it completely from any portion of the supporting medium.

Presently known devices for displaying and mounting buttons employ stapling or sewing means whereby the buttons are secured directly to the cards. All of the well known means now used either fail to hold the article securely to the card until it is taken therefrom, or hold the article so securely that a considerable portion of the card and securing means are torn away when the buttons are removed. For this reason it has been found undesirable to secure the buttons directly to the card by means of an adhesive, since it then becomes necessary to peel the adhering portion of the card from the button before said button can be used.

As a corollary to the present device for securing buttons to a display card in a satisfactory manner, there is also provided a novel plastic rivet structure which may be employed for the purpose of securing dissimilar articles together; providing a flexible hinge member between two articles, thus secured together; forming a novel seam structure; and, also for the purpose of binding a plurality of sheets into a book.

Accordingly, it is an object of this invention to provide a novel means for securing a button to a display card.

Another object is to provide a button display card which will retain the buttons thereon, despite the customary usage of shipping, handling and distribution.

A further object of this invention is to provide a plastic rivet for the purpose of securing objects together.

Another object is to provide a structure which will secure objects together and provide a flexible seam therebetween.

A feature of the present invention is the substantially unitary structure of the completed rivet.

Another feature of the present invention is the use of a plastic insert in a button display card

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for the purpose of greatly improving the attachment of the buttons to the said display card.

A further feature of this invention is its ease and economy of manufacture.

The invention consists of the construction, combination and arrangement of parts, as herein illustrated, described and claimed.

In the accompanying drawings, forming a part hereof, are illustrated several embodiments of the invention, in which drawings similar reference characters designate corresponding parts, and in which:

Figure 1 is a horizontal section greatly enlarged of a button card, showing the button attaching means, in accordance with the present invention.

Figure 2 is a top plan view of a button card, showing several embodiments of the plastic rivet insert, with some of the buttons removed or cut away in order to show the structure of the said article.

Figure 3 is a horizontal section somewhat enlarged of a flexible plastic seam, in accordance with the present invention.

Figure 4 is a top plan view of the seam shown in cross-section in Figure 3.

Figure 5 is a view somewhat enlarged, showing another application of the plastic rivet, according to the present invention, used in the production of a seam.

Referring to the drawings, and particularly to Figures 1 and 2, 10 indicates a suitable sheet, such as cardboard, paper or the like, having a plurality of openings 11 therein at suitable intervals upon the said card 10. As shown in Figure 2, the openings 11 may be single or in groups of two or more, depending upon the strength required for retaining the article 12 upon the card 10.

A suitable film of plastic 13—14 is placed upon each side of the card 10 overlying the openings 11 in the card 10. The plastic films are somewhat larger than the size of the openings, so as to bear against the surfaces of the card 10. The plastic films 13—14 are fused in the manner shown in Figure 1, so that they meet within the openings 11 and grasp the opposed surfaces of the card 10. Thereafter, a suitable adhesive 15 is placed upon the upper surface of the plastic film 13 and the object to be attached, such as a button, is placed upon the said adhesive 15 before the adhesive is dry. In this manner the buttons 12 are securely held to the card 10 until it is desired to remove them from the said card. When the button is grasped by the user, it fractures the adhesive 15 and may be cleanly separated from

the card with the plastic insert remaining within the said card 10. It has been found that the use of a plurality of holes within the card forming a plurality of riveting spots will provide additional strength and distribution of stress to the structure.

The opposed plastic films 13—14 may be fused by any of the well known methods, such as the application of a liquid solution of the same plastic material, as is contained in the film segments 13—14, which solution will cause the two segments to fuse perfectly. Another suitable method of accomplishing this is to employ heat and pressure to the plastic films 13—14, so as to cause them to unite into a substantially unitary structure. While the plastic film members 13—14 shown in Figures 1 and 2 are circular in shape, the present invention contemplates the use of other suitable designs.

A preferred film material for the plastic members 13—14 consists of a plasticized compound plastic material such as polyvinyl butyral, plasticized with between 20% and 60% plasticizers such as dibutyl phthalate.

A suitable adhesive for cementing the buttons 12 to the plastic film 13 has been found to be the plastic interlayer comprising a solution of plasticized polyvinyl material, such as polyvinyl butyral, ordinarily employed for the laminating of glass. However, it is within the concept of the present invention to employ other plastic materials, which are suitable for securing the button to the plastic surface of the film 13.

Referring to Figures 3 and 4, there is shown a novel retaining means in accordance with the present invention, whereby two articles 16—17 which are to be joined are seamed together by means of strips of plastic foil 18—19, which are disposed along the top and bottom of each edge of the said articles 16—17, and fused together as indicated at 20, within a plurality of openings 21 provided in the articles 16—17 for this purpose. The manner of fusing the plastic foil 18—19 is similar to that described above, and the resultant structure will not only hold the articles 16—17 together, but will provide a flexible hinge structure therebetween. It will thus be seen that an economical flexible seam has been provided for retaining flat articles in edged relationship to each other.

Another embodiment of the flexible seam, possible with the present retaining means, is shown in Figure 5. In this structure the articles to be joined, 16—17, are overlapped so that the openings 21 therein are in register. The plastic foil 18—19 is then placed upon each side of the overlapped material overlying the said opening 21. When the plastic foil 18—19 is fused at the openings, a flexible retaining means is provided for securing together the two articles 16—17.

I claim:

1. An article retaining structure comprising, a support member, said member having an opening therein, a plastic sheet disposed on each side of the said support member and overlying the said opening, said sheets being fused together at a place defined by the said opening and an adhesive carried upon the upper sheet and adapted to secure an article to the said sheet.

2. An article retaining structure comprising, a support member, said member having a plurality of grouped openings therein, a plurality of small plastic sheets disposed on each side of the support member whereby each group of openings is overlain by one of said sheets and underlain by another of the sheets, said opposed sheets being fused together in the areas defined by said openings and an adhesive carried upon each of the upper sheets adapted to secure an article to the said sheets.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
187,094	Brear	Feb. 6, 1877
1,122,280	Kempshall	Dec. 28, 1914
1,730,929	Flynn	Oct. 8, 1929
1,861,663	Lahey	June 7, 1932
2,183,428	McNary	Dec. 12, 1939
2,247,252	Price	June 24, 1941
2,294,228	Derby	Aug. 25, 1942
2,325,584	Barnhart	Aug. 3, 1943
2,427,229	Riley	Sept. 9, 1947
2,434,545	Brady et al.	Jan. 13, 1948

FOREIGN PATENTS

Number	Country	Date
560,251	Great Britain	Jan. 20, 1944