

[54] **RELEASABLE BUTTON-LIKE ELEMENT**

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; a part interest

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24/90 RR, 90 E, 90 D, 90 A, 90 B, 42; 85/5,
8.8

2,552,066 5/1951 Sorensen 24/217
3,120,971 2/1964 Bengtsson 85/5 R
485,848 11/1892 Perrine 24/108

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[57] **ABSTRACT**

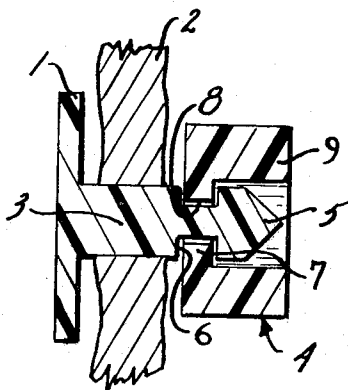
A button is integrally formed with a square shaft having one or more axially spaced recesses. A grommet is provided with a lip which releasably mates with such recesses to form a fabric clamp. The grommet has an outer flange portion which extends axially of the shaft from the lip such that insertion in the diametrically opposite position provides a completely different spacing, for accommodating correspondingly different thicknesses of fabrics.

[56] **References Cited**

UNITED STATES PATENTS

1,148,978 8/1915 Manning 24/91

6 Claims, 6 Drawing Figures



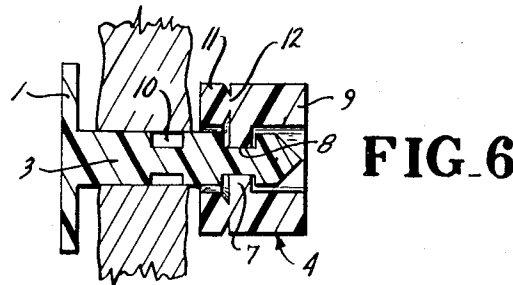
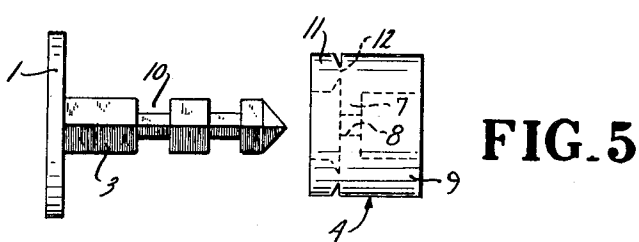
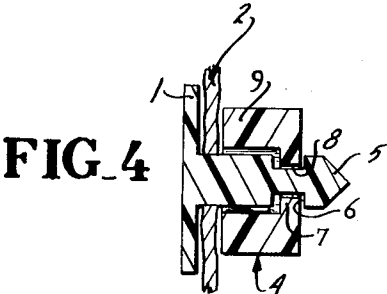
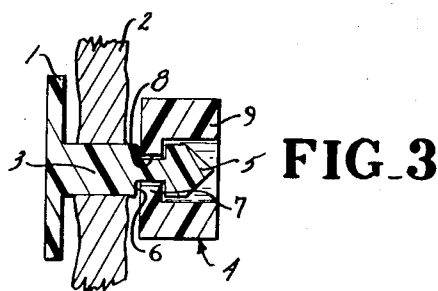
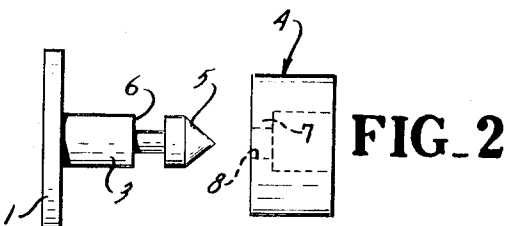
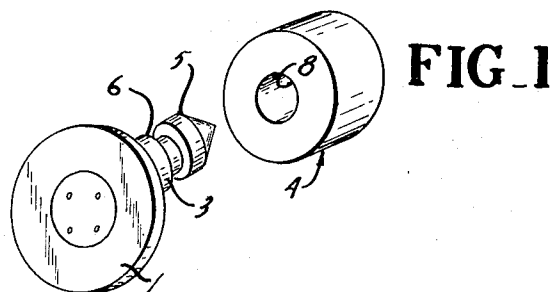


FIG. 5

FIG. 6

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RELEASABLE BUTTON-LIKE ELEMENT

BACKGROUND OF THE INVENTION

This invention relates to a button-member or the like connected to a fabric without the necessities of the usual needle and thread and one which is releasably clamped to the fabric.

Generally, buttons and the like are interconnected to the fabric through a suitable thread which is applied through appropriate openings in the button and the fabric by use of a suitable needle. Buttons and like members have been suggested which can be attached to the fabric by a piercing shaft and a suitable clamping member. Generally, such detachable members have employed a shaft member with a relatively complicated interconnecting grommet arrangement. Further, each unit is generally constructed for connection to a particular fabric thickness such as a shirt or the like.

SUMMARY OF THE PRESENT INVENTION

The present invention is particularly directed to a button-like element or the like for releasable interconnection to fabrics of different thickness with a firm and reliable releasable connection. Generally, in accordance with the present invention, a button-like member is connected with a coupling or connecting shaft and a clamping grommet which are constructed with an interconnecting lip and notch connection means to produce a firm and reliable connection. Further, in accordance with the present invention the connection means permits changing of the spacing between the button-like member and grommet with at least two fixed different distances, depending upon the interconnection between the grommet and the shaft.

In accordance with one aspect of the present invention, the grommet is provided with a lip adapted to match with a slot in the shaft. The grommet has an outer flange portion which extends axially of the shaft from the lip such that insertion in one direction establishes a first spacing while insertion in the diametrically opposite position provides a completely different spacing. Further, the shaft may be provided with a plurality of notches to permit adjustment for different spacing and with the novel lip and flange grommet provides a substantial number of differing spacings for accommodating a large number of different thicknesses.

Further, the connecting stem and grommet opening may be formed of a relatively square configuration to provide a more positive interlock between the members.

The present invention thus provides a novel button-like structure which can be readily connected to fabrics of widely differing thicknesses.

BRIEF DESCRIPTION OF THE DRAWING

The drawing furnished herewith illustrates the best mode presently contemplated by the inventor for carrying out the subject invention in which the above advantages and features are clearly disclosed as well as others which will be readily understood from the following description of such embodiment.

In the drawing:

FIG. 1 is an isometric view of a button constructed in accordance with the present invention;

FIG. 2 is a side elevational view of the button structure shown in FIG. 1;

FIG. 3 is a vertical section taken generally on line 3—3 of FIG. 2;

FIG. 4 is a view similar to FIG. 3 showing an alternate assembly of the structure shown in FIG. 1;

FIG. 5 is a side elevational view similar to FIG. 2 illustrating an alternate construction; and

FIG. 6 is a vertical section taken generally on line 6—6 of FIG. 5.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

Referring to the drawing and particularly to FIG. 1, the present invention is illustrated in connection with a conventional appearing button 1 having the usual thread openings simulated by appropriately spaced black dots or the like and interconnected to a fabric 2 in accordance with the teaching of the present invention. In the embodiment of the invention shown in FIGS. 1 through 3, a shaft or stem 3 is integrally connected to the backside of the button 1 and extends outwardly through the fabric 2. A special flanged grommet 4 is releasably secured to the protruding and outer end of the shaft 3 and releasably clamps the button 1 to the fabric 2. In accordance with the illustrated embodiment of the present invention, the shaft 3 is provided with a notch to which the flanged grommet 4 is secured in either of two positions, shown respectively in FIGS. 1 and 4, to provide for alternate spacings between the backside of the button 1 and the opposing and adjacent face of the grommet 4.

More particularly in the illustrated embodiment of the invention, the shaft 3 is shown having a generally round cross-section and terminating in the outer end in a slightly pointed end 5 to permit ready piercing of a fabric 2. The shaft 3 is provided with an annular detent or recess 6 spaced rearwardly from the button 1 generally in accordance with a maximum thickness material or fabric 2 to which the button 1 is to be secured.

The grommet 4 includes a radial continuous lip of base portion 7 having a central opening 8 having a diameter somewhat larger than the size of the shaft 3 portion within the annular recess 6. In addition the grommet 4 includes an outer flange 9 integrally connected to the outer edge of the base portion 7. The inner surface of the flange 9 is spaced upwardly of the shaft 3.

The shaft 3 is formed of a relatively rigid material while the grommet 4 and particularly the base or lip portion 7 is formed of a relatively flexible material. As a result the grommet 4 can be forced over the pointed end 5 of the shaft 3 with the lip 7 moving inwardly into the recess 6 to securely interconnect the grommet 4 to the shaft 3.

With the grommet 4 attached as shown in FIGS. 1 through 3, the base portion 7 of the grommet 4 is in opposing facing relation to the button 1. Consequently, a first predetermined distance is established therebetween permitting a relatively thick material or fabric 2.

Alternatively, the grommet 4 can be reversed (Fig. 4) and applied to the shaft with the outer edge of flange 9 in opposed, facing relationship to the button 1. As a result with the lip 7 engaged with the annular recess 6 the forwardly projecting flange 9 defines a relatively inwardly spaced clamping face, thereby reducing the

space between the button 1 and the clamping face of the grommet 4 to provide relatively secure interconnection to a relatively thin fabric 2.

By employing a flexible lip grommet 4 the button 1 can be attached and readily removed while establishing a firm and reliable interconnection of the button to fabric 2. This may be of particular significance in connection with washing of various garments and the like where it is desirable to remove the button, because of some adverse effect such as the particular material from which the button is constructed. Further, it might provide for easier ironing or other processing of the garment.

The present invention thus provides a highly versatile, releasable button construction which can be rapidly attached and removed from a garment without the necessity of the usual threading and sewing operation.

Further, to further increase the thickness or the variability of the thickness of the fabric 2 to which the button 1 might be secured, the shaft and grommet can be modified as shown in Figs. 5 and 6, wherein the corresponding elements of the previous embodiment are similarly numbered for simplicity and clarity of explanation. In the embodiment of FIGS. 5 and 6, the button 1 is secured to a shaft 3 having a second notch or recess 10 spaced from the first recess 6. The shaft may have a square cross-section to firmly interlock with the grommet. The selective interconnection of the grommet 4 to the two notches 6 and 10 provides a means further increasing the variations in acceptable fabric thickness. For example, the double notched unit with a flanged grommet 4 of FIGS. 1-4 would permit assembly of the button unit with four different fabrics.

Further, if desired, the grommet 4 can be formed with a second oppositely extending flange 11 which projects axially of the other flange 9, with one of the flanges 9 or 11 interconnected to the base portion 7 in a break-away manner such as by a thin connection portion 12 in the flange 11. Each clamping recess and the dual flanged grommet 4 would permit interconnection of the single button unit to three different sized fabrics. Thus, the double notched stem 3 would allow the interconnection to six different thicknesses of fabric.

The present invention thus provides a single unit construction which is very versatile and can be applied to a relatively large different number of fabrics in a simple, reliable and inexpensive manner. Although described in the preferred embodiment as applied to a flat button member, the invention is equally applicable to any other similar small member to be attached to clothing and the terminology button-like assembly is used to broadly cover button members and other similar small elements.

Various modes of carrying out the invention are contemplated as being within the scope of the following

claims, particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A detachable button-like assembly for selective releasable connection to fabrics of different thickness, comprising a button-like member, a shaft connected to said button-like member and having a free outer end, a grommet having an opening therethrough and slidably over the free end of said shaft from either end of the grommet, said shaft and grommet including a releasable interengaging lip means and recess means defining a locking means to lock said grommet to said shaft, said grommet having at least two clamping surfaces differentially axially spaced in relation to and to the opposite sides of said locking means and being reversibly mountable on said shaft to define at least two different releasably fixed positions defining two different spacings between the grommet and the button-like member in accordance with the clamping surface located in facing relation to said button-like member and thereby adapting said button-like assembly for connection to corresponding different thicknesses of fabric.

2. The detachable button of claim 1 wherein said recess means is formed in said shaft and said grommet includes an apertured base defining said lip means engaging said notch means, said grommet having an outer flange projecting from said base in one direction further than in the opposite direction to thereby define said spacings in accordance with the attachment of said grommet to said shaft.

3. The detachable button-like assembly of claim 1 wherein said recess means includes a recess on said shaft, and said grommet includes a lip selectively engaging said recesses and an outer flange projecting axially of said lip to define said different spacings.

4. The detachable button-like assembly of claim 1 wherein said recess means is formed as an annular recess in said shaft and said grommet is formed of a resilient rubberlike tubular member and includes an apertured base defining a flexible lip means having an opening less than the size of the shaft and larger than the base of the recess, said grommet including oppositely extending locating elements secured to said base and at least one of said elements being secured with a break-away connection.

5. The assembly of claim 4 wherein said elements are each an outer flange projecting from said base in one direction further than in the opposite direction to thereby define said spacings in accordance with the attachment of said grommet to said shaft.

6. The detachable button-like assembly of claim 1 wherein said shaft within said recess means has a square cross-section to firmly interlock with the grommet.

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