March 17, 1970 D. B. MITCHELL 3,500,506

UPHOLSTERY BUTTON

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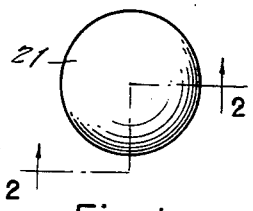


Fig. 1

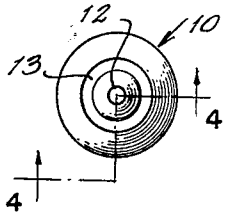


Fig. 3

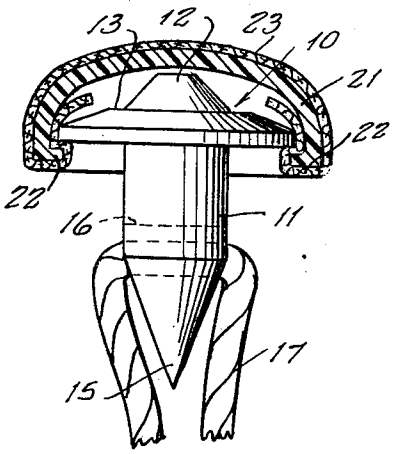


Fig. 5



Fig. 2

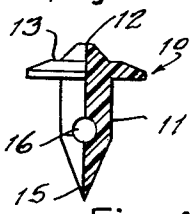


Fig. 4

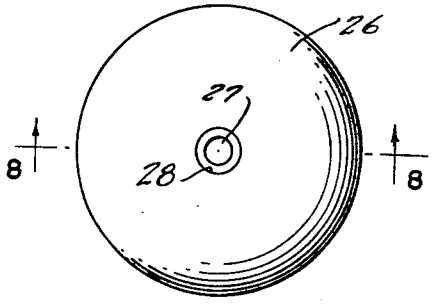


Fig. 6

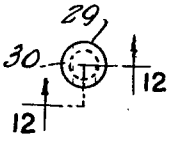


Fig. 11

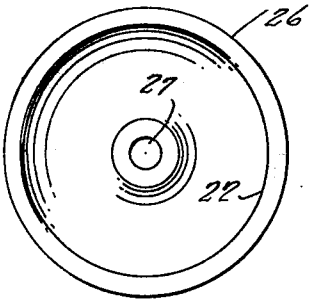


Fig. 7

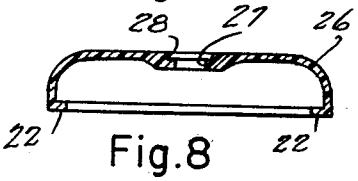


Fig. 8

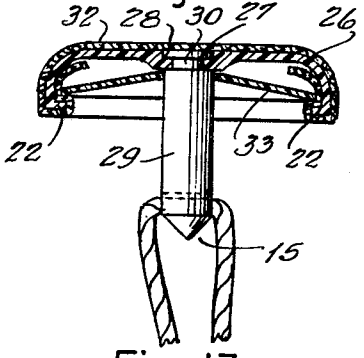


Fig. 13

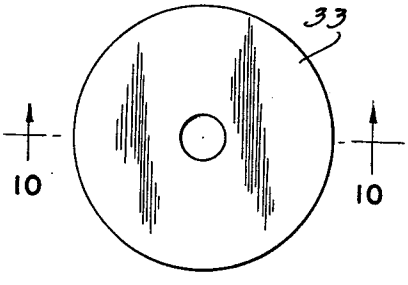


Fig. 9

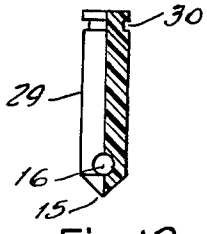


Fig. 12

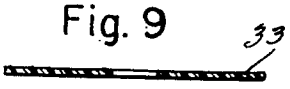


Fig. 10

INVENTOR

David B. Mitchell

BY

ATTORNEY

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UPHOLSTERY BUTTON

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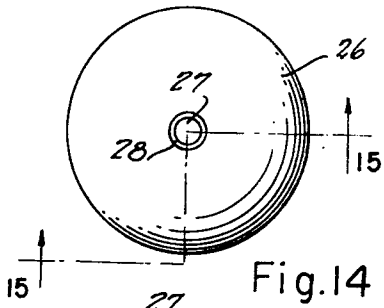


Fig.14

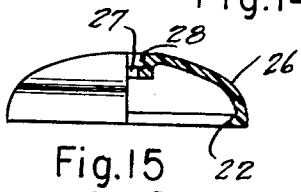


Fig.15

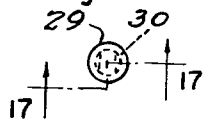


Fig. 16

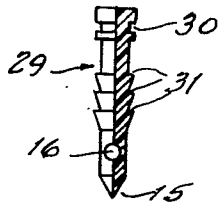


Fig.17

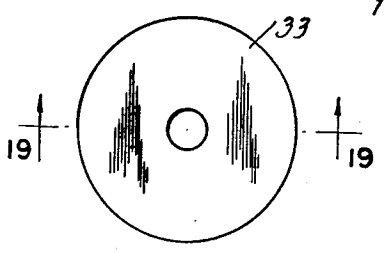


Fig.18

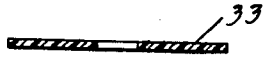


Fig.19

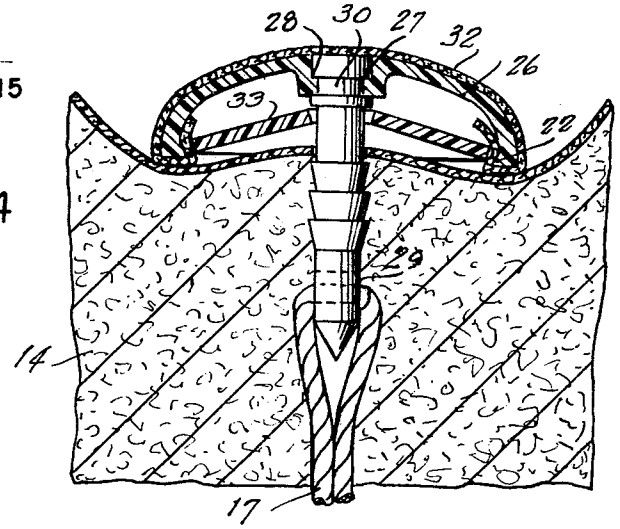


Fig. 20

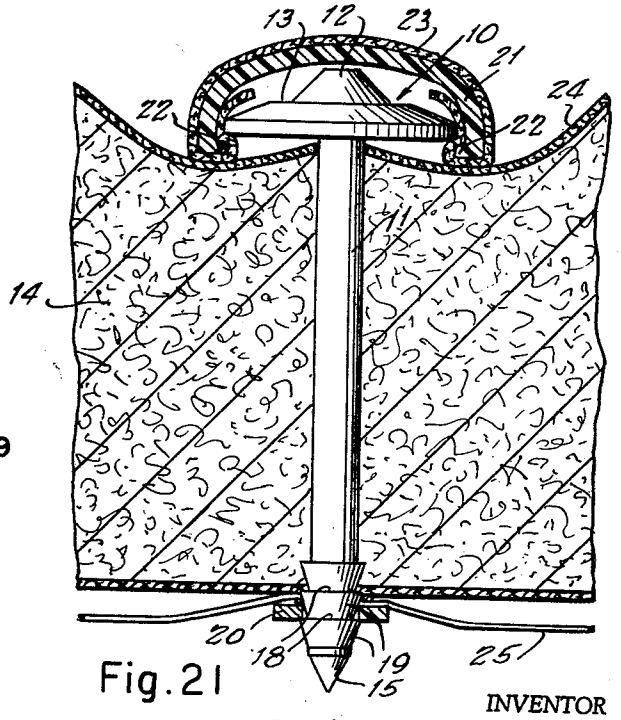


Fig. 21

INVENTOR

David B. Mitchell

BY Cecil L. D. Wood

ATTORNEY

United States Patent Office 3,500,506 Patented Mar. 17, 1970

3,500,506

UPHOLSTERY BUTTON

David B. Mitchell, 2905 Walnut, Garland, Tex. 75040

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Int. Cl. A44b 1/12, 1/14
U.S. Cl. 24—113 6 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus for forming tufts in padded material, such apparatus including a stem with a penetrating point at one end and a head at the opposite end. The head is adapted to be covered by a fabric material and means is provided for locking the fabric material to the head.

SUMMARY OF THE INVENTION

This invention relates to improvements in covered buttons for upholstery.

The invention specifically relates to buttons having especially designed mountings, preferably formed of plastic materials, and covered with fabric. The mountings are provided with stems capable of penetrating a thickness of padding materials and secured by suitable means to form a pattern of tufts in the padded materials used in various types of upholstery as applied to furniture, cushioned seats in vehicles, and the like.

PRIOR ART

Covered buttons have had extensive use in upholstering for many years but those employed are generally of the so called eyelet types formed with a loop or eyelet to which is attached a cord for tying the button to a supporting frame or a spring assembly, or having an elongated pronged stem which penetrates the padded material and has a washer at its inner end held in place by separating and bending the prongs in opposite directions.

The eyelet type buttons are not normally used in upholstering heavy padded furniture but may be used for forming shallow tufts in relatively light padding. The invention is designed to provide a more desirable means of forming both deep and shallow tufts in all types of upholstery and afford a more substantial tying means.

OBJECTS AND PURPOSES

An object of the invention is that of providing an economical and practical button assembly for forming tufts in padded upholstery for furniture, vehicle seats, and the like, and affording a button assembly which includes a mounting member having a stem adapted to penetrate varying thicknesses of padding and formed with a series of circumferential V-shaped grooves which provide spaced ledges or seats for retaining a flexible washer against the tension of the compressed padding materials in forming the tufts.

Another object resides in the provision of a base element for a covered button or head having a stem portion which is formed integrally of the base element and providing a button which, when covered with fabric, can be flexed over the base element in such a manner as to secure the fabric covering.

Broadly, the invention contemplates the provision of a tufting button for cushioned furniture which is simple in design and easily applied and secured, affording means for maintaining the compressed padding under suitable compression at all times to insure a uniform arrangement of tufts.

DESCRIPTION OF THE DRAWINGS

While the foregoing objects are paramount other and lesser objects will become apparent as the description proceeds when considered in connection with the appended drawings wherein:

FIGURE 1 is a plan view of a button or head embodying the invention.

FIGURE 2 is an elevational sectional illustration, on lines **2—2** of FIGURE 1.

FIGURE 3 is a plan view of one form of a base element embodying the invention over which the button is applied.

FIGURE 4 is an elevational sectional illustration, on lines **4—4** of FIGURE 3.

FIGURE 5 is an enlarged elevational view showing the base element shown in FIGURES 3 and 4, a button being covered and applied thereto and shown in transverse section, a tie cord being fragmentarily shown attached to the stem.

FIGURE 6 is an enlarged top plan view of a modified form of button having a central aperture therein.

FIGURE 7 is an enlarged bottom plan view of the button shown in FIGURE 6.

FIGURE 8 is a cross-sectional view, on line **8—8** of FIGURE 6, of the modified button.

FIGURE 9 is a plan view of a washer for retaining the fabric cover in the button shown in FIGURES 6, 7 and 8.

FIGURE 10 is a cross-sectional view of the washer, on line **10—10** of FIGURE 9.

FIGURE 11 is an end view of a detachable stem element for the button shown in FIGURES 6, 7 and 8.

FIGURE 12 is an elevational-sectional view of the stem element, on lines **12—12** of FIGURE 11.

FIGURE 13 illustrates, partially in section, an assembly of the button, washer and stem element shown in FIGURES 6 to 12.

FIGURE 14 is an enlarged view of another modification of the button shown in FIGURES 6, 7, 8 and 13.

FIGURE 15 is a side elevational-sectional view, on lines **15—15** of FIGURE 14, of the button.

FIGURE 16 is an end view of another form of detachable stem element for the buttons shown in FIGURES 6, 7, 8, 14 and 15.

FIGURE 17 is an elevational-sectional view of the modified stem element, on lines **17—17** of FIGURE 16.

FIGURE 18 is an enlarged plan view of a fabric retaining washer for the buttons shown in FIGURES 6, 7, 8, 14 and 15.

FIGURE 19 is a sectional view of the washer, taken on line **19—19** of FIGURE 18.

FIGURE 20 is an enlarged sectional view of an assembly embodying the button, stem element and washer shown in FIGURES 14 through 19, to form a tuft, the padding being fragmentarily shown, and

FIGURE 21 is an enlarged sectional view of an assembly similar to that shown in FIGURE 5, but having a modified stem, the padding being fragmentarily shown.

DETAILED DESCRIPTION

The preferred embodiment of the invention is shown in FIGURES 5 and 21, the separate parts of which are illustrated in FIGURES 1 to 4, and primarily comprises a circular base element **10** having an integral stem **11**, as best shown in FIGURES 3, 4, 5 and 21. The base element **10** is bevelled or chamfered about its upper surface and has a truncated conical protuberance **12** centrally thereof defining an annular plane **13**. The base element **10** with its stem **11** is preferably formed of a plastic material.

It is contemplated that, while the base element **10** may assume the same general shape and contour, the stem **11** may be of any desired length depending upon the thickness of the padding material **14** through which it is applied, and upon the means by which the stem **11** is

secured. In FIGURES 4 and 5 the stem **11** is shown relatively short, being pointed at its extremity **15** and having a transverse bore **16** therethrough to receive a cord **17**, or other tying means, as shown fragmentarily in FIGURE 5. The stem **11** shown in FIGURE 21 is longer than that shown in FIGURES 4 and 5 and has a series of circumferential teeth **18** the bodies **19** of which taper inwardly toward the end of the stem **11** to provide spaced seats for a retaining washer **20** applied to the stem **11** in the manner shown in FIGURE 21.

The button element or head **21**, shown in FIGURES 1, 2, 5 and 21 is substantially parabolical in section, having a peripheral internally extending flange **22** which is flexed over and engages the under surface of the base element **10** when a fabric cover **23** is applied, as shown in FIGURE 5. The protuberance **12** on the base element **10** will resist any inward pressure on the head **21** tending toward deformation thereof causing its detachment from the base element **10**.

As applied to a thickness of padding material **14**, such as foam rubber, or other suitable product, as shown in FIGURE 21, and which has a covering material **24** thereon, the stem **11** penetrates the padding material **14** and the cover **24** and is depressed to provide the desired depth of tuft whereupon the pointed end **15** of the stem **11** is anchored as by the cord **17**, as shown in FIGURE 5, which is tied to a frame or spring base (not shown), or by the washer **20**, shown in FIGURE 21, and a cord or wire **25** which may be continuous from one stem **11** to another and wound about the latter, as also shown in FIGURE 21, or by both of said securing devices.

Referring now to FIGURES 6 through 20, in which modifications of the invention are illustrated, the button or head **26**, which is also parabolical in section, has a central aperture **27** formed in an annular recess **28**, as best illustrated in FIGURES 8, 13 and 15. The head **26** is applied to a stem **29** having a circumferential groove **30** formed about and near one end, as best shown in FIGURES 12, 13, 17 and 20, by pressing the grooved end of the stem **29** through the aperture **27**, in the manner shown in FIGURES 13 and 20.

The stem **29** is intended to be modified as to form, as depicted in FIGURES 12, 13, 17 and 20, the primary difference being evidenced in FIGURE 17 which shows a series of circumferential tables **31** formed about the stem **29** similar to the teeth **18** shown on the stem **11** in FIGURE 21. These elements may be utilized to provide a seat for a washer, such as shown in FIGURE 21, or as an anchoring device in the cushioning or padding material **14**, in the manner shown in FIGURE 20, together with the cord **17**.

In the application of the assembly shown in FIGURES 13 and 20, the button **26** having been secured to the stem **29** in the manner just described, the fabric covering **32** is applied to the head **26** and a flexible washer **33** is arranged about the stem and pressed into the head **26** so that its perimeter is flexed past the internally extending flange **22** and is seated thereon against the inturned edge of the fabric covering **32** to secure it over the head **26**. The washer **33** is shown in detail in FIGURES 9, 10, 18 and 19, and in the assemblies shown in FIGURES 13 and 20.

It is not intended that the invention be limited to the specific disclosures herein but only to such changes and modifications in structure and design as may be resorted to by persons skilled in the art and which may be considered as falling within the spirit and intent of the invention.

What is claimed is:

1. An upholstery button comprising an elongated stem having a penetrating point at one end and a substantially hollow head on the opposite end, a central protuberance on the end of said stem remote from said penetrating point, said head being generally parabolic in cross-section and extending downwardly over a portion of said stem and terminating in an open end, said head having an inwardly extending annular flange located about the open end, a base element disposed about said stem and adapted to be forced over said flange and into said head, said protuberance being dimensioned to extend toward the hollow head a sufficient distance to resist inward pressure on the head tending toward deformation thereof and subsequent detachment of said head from said base element, whereby a fabric can be applied to the exterior surface of said head with the free edges of the fabric extending inwardly over said flange so that when the base element is applied it will lock the fabric onto said head.

2. The structure of claim **1** in which said central protuberance is connected to said head.

3. The structure of claim **1** in which said central protuberance is spaced slightly from said head.

4. The structure of claim **1** in which said base element is an integral portion of said stem.

5. The structure of claim **1** in which said base element is a flexible washer means.

6. The structure of claim **1** including means for securing said stem to upholstery.

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DONALD A. GRIFFIN, Primary Examiner

U.S. Cl. X.R.

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