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3,623,192

BUTTON

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FIG. 1

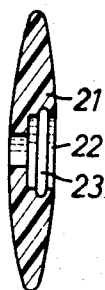


FIG. 3

FIG. 2A FIG. 2B

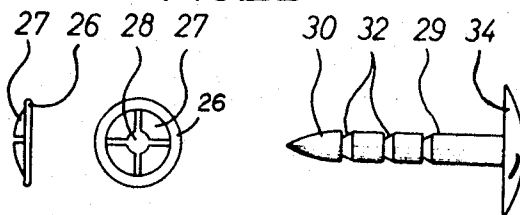


FIG. 4

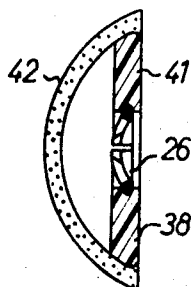
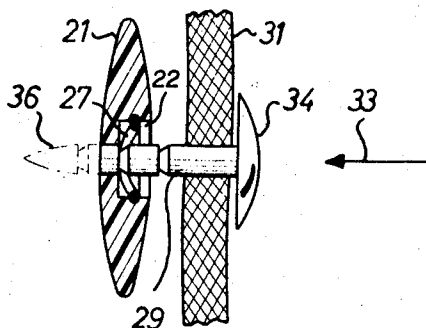


FIG. 5

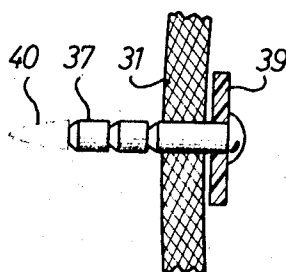


FIG. 6

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3,623,192
BUTTON

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4 Claims

ABSTRACT OF THE DISCLOSURE

A button assembly comprises a female member having the configuration of the desired button and a male member cooperative with the female member to attach same to a piece of cloth. The female member is provided with an internal recess and retaining means is disposed within the recess to engage with the male member. The male member comprises an elongated shaft on which are provided a plurality of axially spaced apart grooves. During assembly, the male member is inserted through the cloth into the female member whereupon the retaining means engages with one of the grooves to effectively connect together the male and female members. The retaining means comprises a washer having flexible projecting arms which engage in one of the grooves and the lip portion of the male member is then cut off. Alternatively, a decorative covering can be provided over the female member after the tip portions has been removed.

There are already known button assemblies which may be applied to a cloth without the use of any thread. Such button assemblies comprise a button or female member provided with an orifice in which is introduced a male member passing through from the back of the cloth or the garment. These buttons, which are very simple to manufacture and to position, were firstly provided in metal, the button thus comprising on its rear surface an elastic metal plate into the orifice of which is driven a pointed metallic male member which cannot be extracted once positioned.

There were later provided buttons of this type composed of plastic material, with or without a plate member, receiving a male member also composed of a plastic material the extremity of which passes through an orifice of the button or the plate and in which is provided a retaining notch. However, these buttons adapt themselves poorly to cloth of different thicknesses and it is thus necessary to have different sized male members of varying lengths and such is hardly practical.

The invention relates to a button assembly which may be rapidly affixed to a cloth without the use of thread and comprises a button composed of synthetic material provided with an orifice in which engages the male member which is composed of plastic material. The male member is inserted through the cloth from the back to the front of the cloth and the male member is provided with a plurality of peripheral grooves of which the front lip of each groove forms a removal point and the rear lip has a conical shape.

The invention will now be described with reference to various embodiments thereof and to the accompanying drawings in which:

FIG. 1 is a cross-sectional view of a button composed of plastic material and which comprises a female member of the button assembly;

FIGS. 2A and 2B show respectively, in side and plan views, an elastic washer used with the button of FIG. 1;

FIG. 3 shows a side view of a male member which cooperates with the female member and the washer to define the button assembly;

FIG. 4 is a side cross-sectional view of a button

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assembly attached to a piece of fabric according to the invention;

FIG. 5 is a cross-sectional view of a modified female member; and

FIG. 6 is a side view of a modified male member usable with the female member shown in FIG. 5.

In FIGS. 1-4, a female member of button head 21 has a bore opening into a recess or housing 22 in which is provided a circular groove or slot 23. The groove is of a shape and dimension corresponding to those on the periphery of an elastic or resilient washer 26, which has a disc shape, and which has four projecting members 27 collectively defining at their distal ends an orifice or aperture 28 into which is introduced the male member or elongated shaft 29. The male member 29 has a head 34 to retain same on one side of a cloth 31 and is provided with a tapered part 30 enabling its introduction through the cloth and facilitating its entry in the orifice 28 of the washer. The male member has a plurality of axially spaced-apart peripheral grooves or notches 32 in which the resilient members 27 of the elastic washer can engage thus assuring its retaining and consequently that of the button in the neck 33 of which it is forceably mounted. The resilient washer 26 cooperates with the male member to form a fastening means for fastening the button head to the fabric.

As seen in FIG. 4, the concave part of the washer is disposed on the side of the rear face of the button thus enabling, when the latter is pulled along in the direction 33, the arc terminating portion of the member 27 to enter the groove 23 and one of the notches 32 thereby reinforcing the retention of the button upon the male member 29. Additionally, when the mounting is finished, the excess tail part of the shaft 29, shown as dashed lines 36, is cut flush with the front face of the button thereby defining the completed button assembly.

In FIGS. 5 and 6, the tail portion 37 of the button 38 is introduced through the cloth 31, a washer 39 being employed to retain the button on the cloth. Then the excess protruding part, shown as phantom lines 40, is cut off after having passed through a cap 41 which receives therearound an aesthetic cover 42.

What is claimed is:

1. A button assembly attachable to a fabric comprising: a button head having a front surface portion and a back surface portion when attached to a fabric, means defining a recess in said back surface portion, and means defining a bore extending through said button head terminating at one end at said front surface and opening into said recess at the other end; and fastening means cooperative with said button head to define said button assembly for fastening said button head to a fabric comprising an elongated shaft having one end dimensioned to be inserted through the fabric into said bore and having another end, a head portion connected to said another end effective to prevent said elongated shaft from being inserted completely through the fabric, means defining a plurality of axially spaced-apart peripheral grooves on said shaft, and retaining means disposed within said recess coacting with one of said peripheral grooves for retaining said button head in a preselected position on said elongated shaft when same has been inserted through the fabric into said bore, said retaining means comprising a resilient member having means therein defining an aperture and having resilient projections thereon projecting from the periphery thereof towards said aperture engageable in one of said peripheral grooves on said elongated shaft, and means connecting said resilient member to said button head within said recess.

2. A button assembly according to claim 1; wherein said means connecting said resilient member to said button

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head comprises means defining a slot in said button head peripherally extending around said recess, and a peripheral portion of said resilient member positioned with said slot.

3. A button assembly according to claim 2; wherein said resilient projections each have an arcuate configuration cooperative together defining a convexly-shaped projection extending into said recess in the direction of insertion of said elongated shaft.

4. A button assembly according to claim 2; including an ornamental covering positioned over said front surface portion of said button head.

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