Dec. 28, 1937. B. C. PLACE 2,103,955

UPHOLSTERY BUTTON

Filed April 20, 1935

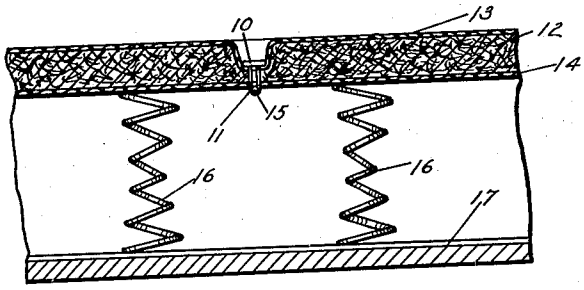


Fig. 1

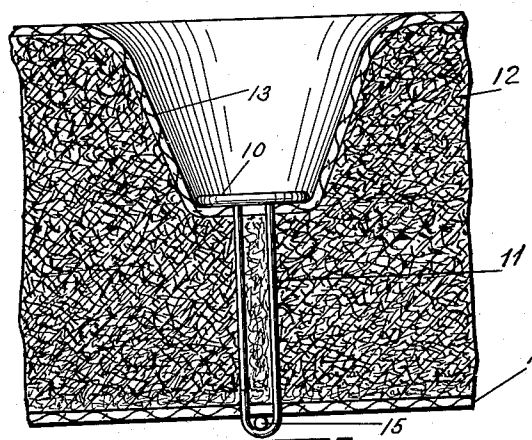


Fig. 2

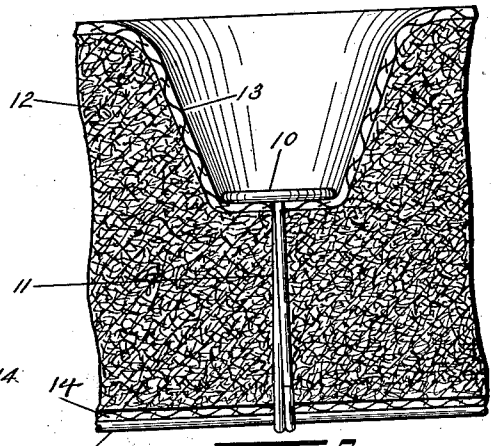


Fig. 3

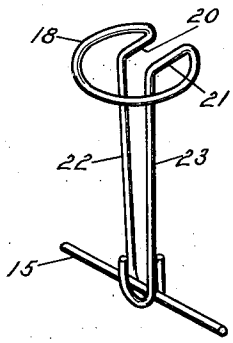


Fig. 4

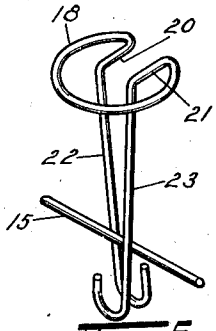


Fig. 5

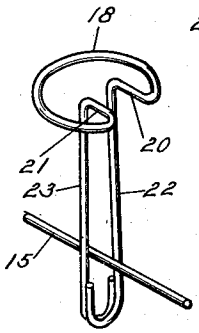


Fig. 6

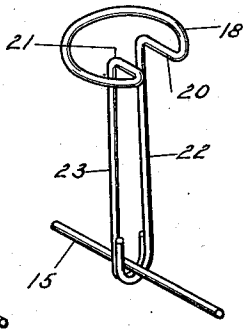


Fig. 7

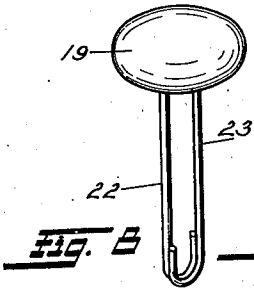


Fig. 8

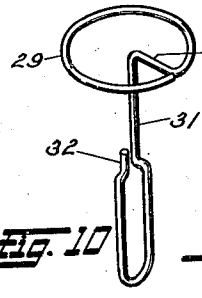


Fig. 10

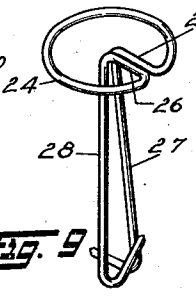


Fig. 9

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UPHOLSTERY BUTTON

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Application April 20, 1935, Serial No. 17,525

3 Claims. (Cl. 155—185)

This invention relates to an improved upholstery or tufting button. More particularly, the invention relates to a button designed to be used in the production of automobile or similar seats constructed so as to facilitate engagement with a wire or like support and to expedite the passage of the part of the button that penetrates the cushioning material through said material.

It has become the general practice, in the production of automobile or similar seats, to attach the tufting buttons to a wire forming a part of the cushion or seat support by means of a suitable connector that is attached to the usual eye of the button adjacent one end. The other end of the connector is secured to the wire of the support. Said connectors have been constructed of cord, twine or even of wire.

The passage of the connector through the cushioning material is a time consuming operation, even if wire is used, because the eye of the button and the wire connector provide a swivel joint that permits the connector to assume varying angular positions when the connector is forced through the cushioning material so that the end thereof may be engaged with the wire. Said swivel joint also prevents the ready engagement of the connector with the wire because the position of the connector can change during the assembly operation. Furthermore, when the connector is hooked on the wire, accidental disengagement can sometimes occur. If cord or twine is used the operation of connecting the buttons to the wires of the seat support is even more time consuming.

The primary objects of the present invention are to provide a tufting or upholstery button in which the connector is formed as an integral or unitary part of the button and in which the connector is so formed that its passage through the cushioning material and its engagement with a wire of the support is greatly facilitated.

Another principal object of the inventor is to provide an improved tufting button and connector in which the latter includes two hooks arranged in reversed side by side relation permitting the ready engagement with a wire of a seat support but providing an interlock that positively prevents disengagement of the connector from the wire under all possible conditions of service.

A further object of the invention is to provide a combined button and connector constructed of a single piece of wire, a part of which serves as a frame for the button, and the remainder of which forms the connector.

This invention also aims to provide an improved method of interlocking a tufting button connector and a wire of a support for the seat with which the button is used.

Further objects of the invention will appear as a description thereof proceeds with reference to the accompanying drawing in which:

Figure 1 is a fragmentary sectional view of a seat showing a preferred combination in which the present invention is employed.

Figure 2 is a fragmentary sectional view on an enlarged scale of so much of Figure 1 as is particularly concerned with the present invention.

Figure 3 is a view similar to Figure 2, taken on a plane at right angles to that on which Figure 2 is taken, said plane passing close to the improved button.

Figures 4, 5, 6 and 7 are perspective views showing the manner in which the hooks of the connector are brought into interlocked relation to a wire, the cover for the head of the button being omitted to show the construction of the frame of the head.

Figure 8 is a perspective view of the combined button and connector.

Figure 9 is a perspective view of a modified form of the invention.

Figure 10 is a perspective view of a further modification, the cover of the button proper being omitted to show the construction clearly.

Like reference characters indicate like parts throughout the several figures.

The combined upholstery button and connector of the present invention consists of a button proper 10 and a connector 11 formed as a unitary or integral part of the button. The button of the present invention is designed particularly for use as a tufting button for automobile or similar seats and when used in this connection, serves to secure cushioning material 12, a cover 13 of finish material and a backing 14 for the cushioning material to a wire 15 forming one of the supports upon which the cushioning material backing and finish material is disposed. Wire 15 is secured in conventional manner to the spring structure for the seat, several springs 16, of which are illustrated in Figure 1. The spring structure and upholstered seat is supported on a suitable base 17 likewise in conventional manner.

The button proper 10 comprises a frame 18 formed from the mid portion of a piece of wire by bending said portion into the form of a loop having space ends in the form of the invention illustrated in detail in Figures 4 to 8 inclusive. The head of the button is formed by covering frame 18 with a cover 19 (Figure 8). The cover may be made of any suitable material. Sheet

metal is preferred, the edges thereof being crimped around the frame 18. Fabric matching the finish material may also be used over the sheet metal or said fabric may be sewed directly upon the frame as may be desired.

The connector for the button is preferably formed from the ends of the piece of wire that provides frame 18. In forming said connector portions of the piece of wire are turned or bent inwardly in the plane of the loop forming frame 18 providing arms 20 and 21 that carry hooks 22 and 23 respectively. Said hooks preferably are arranged in reversed side by side relation as illustrated, so that the opening in each hook is closed by the straight portion of the other hook for a purpose presently to be referred to.

The combined button and connector is used in the accomplishment of its objects by forcing the connector through the covering material 13, the cushioning material 12 and the backing 14, suitable openings being formed in the covering material, the backing and, if necessary, in the cushioning material so that the connector may be passed therethrough. Since the connector is rigidly attached to the button, no difficulty is encountered in passing the connector through the upholstery, consisting of the covering material 13, cushioning material 12 and backing 14, because the connector can not move with respect to the button. Accordingly upon the application of pressure to the button in a direction normal thereto, the connector may be forced through the upholstery, the rounded end of the connector formed by the hooks contributing to the ready insertion of the button and connector in the upholstery. It will be observed that no ends of the wire are exposed so as to interfere with said insertion.

The button and connector are forced completely through the upholstery until the end of the connector extends substantially beyond the backing 14, when wire 15 is forced between the hooks as illustrated in Figure 4. Since the wire from which the connector and button frame are made is spring wire, this can readily be accomplished though the hooks normally preferably contact.

The upholstery is further compressed and the connector is thus moved to the position shown in Figure 5 at which the tips of the hooks are disposed below the wire 15. The button and connector are then turned through an angle of ninety degrees bringing the parts into the position illustrated in Figure 6 of the drawing, the wire 15 in this position being immovably interlocked with the connector. Upon release of the pressure on the upholstery the bights of the hooks engage the wire holding the upholstery in assembled relation to the spring assembly. It will be understood that disengagement of the wire 15 from the connector can not be effected accidentally under any conditions of service that might conceivably arise, in spite of the readiness with which the interlock is brought about.

In Figure 9 a modified form of combined button and connector is shown in which the frame 24 is a closed loop and in which the arms 25 and 26 in the plane of said frame are disposed in side by side and preferably contacting relation. The hooks 27 and 28 carried respectively by said arms are close together adjacent the frame but diverge from said frame toward the end of the connector as illustrated. The combined button and connector of this form of the invention requires a somewhat smaller opening in the covering material inasmuch as the hooks are brought closer together particularly adjacent the frame of the button. The arrangement of Figure 9 is applied in the manner above described with reference to Figures 4 to 8 inclusive.

In Figure 10 a still further modification is illustrated in which the frame 29 of the button is formed from one end of a piece of wire by bending it into circular form. A single arm 30 in the plane of the frame 29 and a single hook 31 is formed from the other end of the piece of wire. The hook is preferably formed as illustrated with the opening therein substantially closed by intwining the tip of the hook as shown at 32 so that said tip lies in close proximity to the portion of the wire that connects the hook to the arm 30.

In the use of this form of the invention the connector is forced through the upholstery as above described and the wire 15 is sprung past the tip 32 to bring about an interlock between the single hook and wire 15.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. An upholstered cushion of the type in which the cushioning material is secured to wires, comprising the cushioning material, the wires, and means to secure said material to said wires at spaced points consisting in one-piece wire tufting buttons each having a head part and a part rigidly attached to said head part to pass through said material and be interlocked to one of said wires, said last named part consisting only in a pair of spaced legs disposed at opposite sides of one of said wires and terminating in U-shaped ends, said U-shaped ends being disposed in side by side relation with the bottom of each U and the wire contacting therewith directly beneath the center of said head part.

2. A tufting button comprising a head part and a connector part, said connector part consisting only of two widely spaced straight legs depending from said head part and rigidly connected thereto, each leg having a U-shaped end disposed in side by side relation to the like end on said other leg so that the opening in each U is closed by the leg other than that to which it is attached, the bottom of each U being directly beneath the center of said head part.

3. A tufting button constructed from a single piece of wire comprising a head part formed from the mid-portion of said piece of wire and including a loop and two spaced arms extending inwardly toward the center of said loop, and a connector part formed from the ends of said piece of wire and consisting of two straight legs depending from said arms respectively and having U-shaped ends disposed in side by side relation so that the opening in each U is closed by the leg other than that of which it is a part, the bottom of each U being disposed directly beneath the center of said head part.

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