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R. F. WALTERS

1,760,261

UPHOLSTERY INSTALLATION

Filed July 24, 1924

Fig. 1.

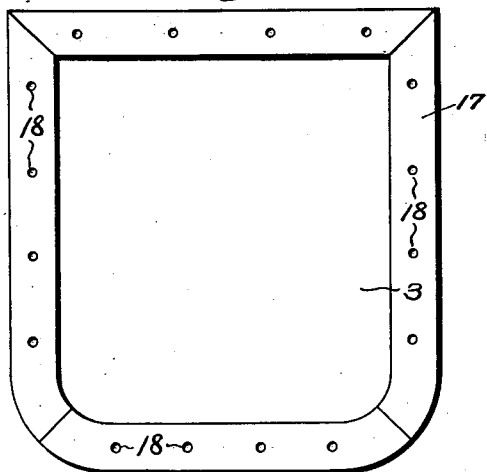


Fig. 2.

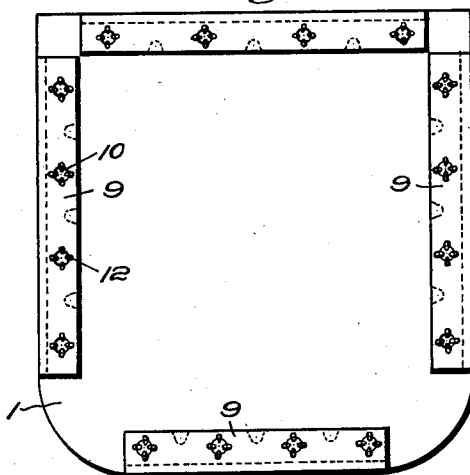


Fig. 3.

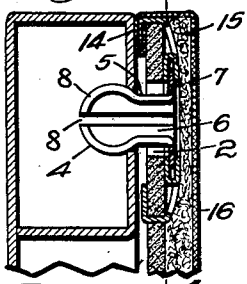


Fig. 4.

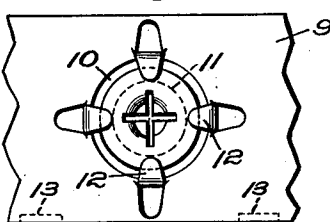


Fig. 5.

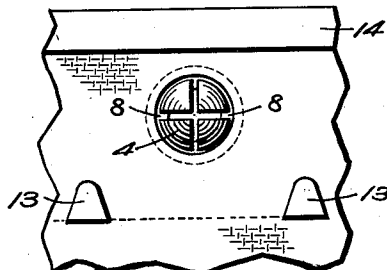


Fig. 6.

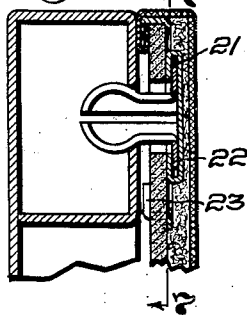


Fig. 7.

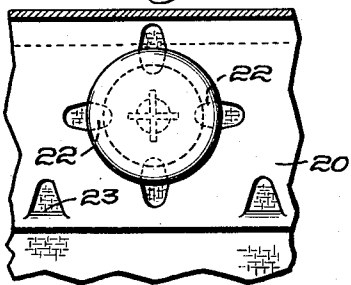


Fig. 8.

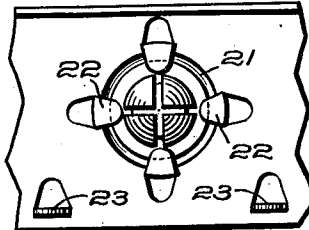


Fig. 9.

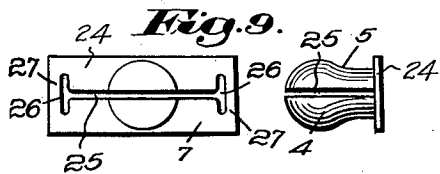
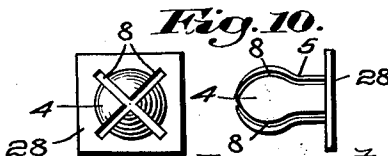


Fig. 10.



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UNITED STATES PATENT OFFICE

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UPHOLSTERY INSTALLATION

Application filed July 24, 1924. Serial No. 727,959.

This invention aims to provide an improved removable upholstery installation and improved fastening elements for use therewith. Reference is made to a divisional application, Serial No. 11,705, filed February 26th, 1925.

In the drawings, which illustrate a preferred embodiment of my invention, a modified form of fastener strip and two modified forms of studs:—

In Figure 1 is an elevation view of an automobile door showing the upholstered part removed therefrom;

Fig. 2 is an elevation view of the backing of the upholstered part, showing the stud strips secured thereto;

Fig. 3 is a transverse section of a portion of the door, showing the upholstery secured thereto;

Fig. 4 is a section on the line 4—4 of Fig. 3, showing a fragmentary view of one of the stud-carrying strips as secured to the backing;

Fig. 5 is a fragmentary view of the upholstered part, showing one of the studs and a portion of the stud-carrying strip as viewed from the inside face thereof;

Fig. 6 is a section similar to Fig. 3, but showing a modified form of stud-carrying strip secured to the upholstered backing;

Fig. 7 is an elevation view of a portion of the modified form of fastener strip;

Fig. 8 is an elevation view of the strip as shown in Fig. 6, but viewing the strip from the opposite side;

Fig. 9 is a front and a side elevation, respectively, of a modified form of stud for use with a stud-carrying strip; and

Fig. 10 is a front and a side elevation, respectively, of a second form of stud.

Referring to the drawings, I have shown, for illustration only, an automobile door pressed from a single sheet of metal to which may be secured an upholstered part for providing a finished appearance to the inside of the door. I have found that the fastener elements on the door frame and upon the upholstered part do not always align with each other, because of slight defects in manufacture of the door and of the upholstered part

when these parts are manufactured in large quantities. To remedy this defect, I have provided shiftable fastener elements which may be located upon either the frame or the upholstered part and the cooperating fastener elements may remain fixed relative to the part to which they are secured.

By using this method of shiftable fastener elements, the upholstered part may be quickly secured to the frame and any of the fastener elements may be aligned with each other by shifting the movable fastener element relative to the fastener part to which it is to be secured.

As illustrated in Fig. 2, the shiftable fastener elements may be first secured to a strip of metal or the like, so that attachment thereof to the backing is a simple and speedy operation.

Referring now to that form of my invention illustrated in Figs. 1 through 5, I have shown an upholstered part which includes a backing 1 (Figs. 2 and 3) having a plurality of apertures 2 punched therethrough to permit passage of the studs, for securing the upholstered part to the door 3 of the automobile.

These studs are pressed from a single sheet of metal and each is provided with a head 4, neck 5, shank 6, relatively thin flat base 7 and slots 8. The slots extend from the head to the base to permit contraction and expansion of the head. The studs, as illustrated in Figs. 2 and 3, are applied to the backing 1 in strips 9 having any desired number of studs secured thereto.

Each strip for holding the studs comprises a somewhat arched single sheet of metal having a plurality of depressions 10 of substantially larger cross section than the base 7 of each stud, an aperture 11 in each depression and a plurality of prongs 12 struck up from the strips 9 adjacent the periphery of the depressions 10.

When the studs are assembled with the strip 9, the base 7 of each stud fits into the depression and the rest of the stud protrudes through the aperture 11. The prongs 12 are then bent inwardly and downwardly over the depression to prevent the studs from falling

out of the strip while permitting free transverse movement of the studs relative to the strip.

The strips are secured to the backing by a plurality of prongs 13 projecting from the inner edge of the strip, and these prongs pass through the backing 1 and are clenched against the opposite face thereof. At the same time, a flange portion 14 at the outer edge of the strip 9 is clenched over the edge of the backing and left extending over the edge of the back face until the covering is applied to the installation. Thus the studs extend through the apertures 2 in the backing and, because the shanks 6 thereof are substantially smaller in cross-section than the apertures 2, they are free to be shifted transversely in any direction relative to the backing.

After the strips 9 are secured to the backing 1, a padding 15 of cotton, or the like, is placed over the surface of the backing at that side thereof where the strips 9 are exposed, thus providing a smooth surface over which is stretched a flexible covering 16 of cloth, leather or the like (Fig. 3). The edges of the covering 16 are wrapped over the upstanding portions 14 of the strips 9, which are thereafter clenched against the surface of the backing, thus clenching the covering 16 against the backing 1, as best illustrated in Fig. 3.

The door 3, as illustrated, is formed from a single sheet of metal and has a frame portion 17 adjacent the periphery thereof (Fig. 1) at the inside face of the door. This frame presents a plurality of stud-receiving apertures 18, which are formed by punching or drilling holes in the door blank before the frame part thereof is formed.

To secure the upholstered part of the installation to the door, the upholstered part is placed against the frame of the door and the heads 4 of the studs are pressed into their cooperating stud-receiving apertures 18, as illustrated in Fig. 2. If, for reasons of defect in making the dies for punching the apertures 18 in the frame portion 17 or the apertures 2 in the backing 1, or because the strips 9 are slightly out of line, the heads of the studs do not enter the apertures 18 in the frame, a suitable tool, hook-shaped at one end, may be inserted between the door and upholstery and the stud or studs may be shifted until they can be pressed into engagement with their cooperating apertures. Thus, the upholstery may be applied to the door without straining the studs and it may be attached thereto so that its edges "line up" with the edges of the door.

When the studs are engaged with the apertures in the frame portion 17, the edges of the upholstery are seated and held tightly against the frame adjacent the outer periphery of the door, as best illustrated in Fig. 3.

Referring now to Figs. 6, 7 and 8, I have

shown, as illustrated, a modified form of strip 20 for securing the studs to the backing 1. In this form of strip, the pockets or depressions 21 are pressed into the strip in the opposite direction from the depressions 10 shown in connection with the preferred form of my invention. The prongs 22 are pressed from the strip in substantially the same manner as described in connection with the preferred form of my invention and in this instance are bent against that side of the base 7 of the stud which lies adjacent the backing when the strip is secured thereto.

In the modified form of my invention, as illustrated, the prongs 23 for securing the inner edge of the strip 20 to the backing 1 are pressed from the strip itself and are located a slight distance inwardly from the edge thereof.

The door and the upholstery which is attached to the door and the method of attaching the strips 20 to the backing 1 are substantially as shown and described in the preferred form of my invention.

Referring to Fig. 9, I have shown a modified form of stud for use in connection with strips substantially as shown and described in the preferred and modified form of my invention. This stud is provided with a relatively narrow rectangular base portion 24 presenting a head, neck and shank portion substantially as shown in the stud used in connection with the preferred form of my invention. In this instance, however, I have provided one slot 25 only, which extends a considerable distance into the base portion 24. At each end of the slot 25 in the base portion 24, I have provided relatively short slots 26, 26, thereby to permit the head of the stud to contract and expand when engaging the stud-receiving aperture in the frame of the door. Most of the bending strain exerted upon the stud when it is contracted, occurs at those portions 27 of the base of the stud between the ends of the short slots 26, 26 and the outer ends of the base, as illustrated.

By using this type of stud, a somewhat narrower stud-holding strip may be used for securing the studs to the backing 1.

Referring now to Fig. 10 and to the second modified form of stud for use with stud-holding strips, I have shown a stud substantially as shown and described in connection with the preferred form of my invention. This stud, however, is provided with a rectangular base 28, the diameter of which is somewhat smaller than the diameter of the round base of the preferred form of stud, thus permitting the use of a somewhat narrower stud-holding strip than shown in connection with the preferred and modified form of my invention.

In this instance, the slots which permit contraction and expansion of the head of the stud are cut diagonally relative to the base

of the stud, thus permitting the use of the somewhat smaller base, as illustrated.

Notice is hereby given of the fact that my co-pending application Serial No. 727,956, filed on the same date as the present application, contains claims generic to some of the features illustrated and described in my present application.

While I have shown and described preferred and modified forms of embodiments of my invention, it will be understood that changes involving omission, substitution, alteration and reversal of parts, and even changes in the mode of operation, may be made without departing from the scope of my invention, which is best defined in the following claims.

Claims:

1. An upholstered part comprising a thin backing, a metal strip secured in fixed relation to one side of said backing and a number of snap fastener members for securing the upholstered part to a supporting structure, means provided by said strip whereby said snap fastener members are held in assembled relation therewith, said means embodying a lost motion connection and permitting lateral shifting of said snap fastener members in any direction relative to the metal strip as and for the purposes illustrated and described.

2. An upholstered part including a backing of relatively stiff material having a plurality of apertures therethrough, a fastener-retaining strip secured to said backing adjacent to said apertures, and a plurality of socket-engaging studs each having a base portion, means including a lost motion connection provided by said strip to hold said studs in assembled relation with said strip by their base portions, said means arranged to permit movement of the studs in any transverse direction relative to the backing.

3. An upholstered part including a backing of relatively stiff material having a plurality of apertures therethrough, a plurality of stud-carrying strips secured to said backing over said apertures, and a plurality of socket-engaging studs connected to said strips by a lost motion connection and having means passing through the apertures in the backing for engagement with cooperating stud-receiving means presented by a frame, said lost motion connection arranged to permit lateral shifting of the studs in any direction relative to the strips and backing.

4. An upholstered part for application to a frame, said part comprising a backing, a plurality of stud-holding reinforcing strips secured to said backing and presenting flange portions extending over the edges of said backing and overlying the adjacent face thereof, a plurality of shiftable studs extending through said backing from said strip and a flexible covering stretched over that face of

said backing at which said strips are exposed, said covering wrapped over the edges of said flanges and held between said flanges and said backing.

5. An upholstered part comprising, in combination, a backing of relatively stiff material, a plurality of stud holding strips secured to one face of said backing and carrying a number of studs which are presented through apertures in said backing, attaching means extending from said strips and securing them to said backing adjacent to the edges thereof and a flexible covering means providing an upholstered finish to that side of said backing at which said strips are secured, said covering means being wrapped over the edges of said backing and being held in position by said attaching means.

In testimony whereof, I have signed my name to this specification.

ROLLO F. WALTERS.