Nov. 1, 1927. 1,647,783

F. S. CARR

SEPARABLE FASTENER

Filed Dec. 20, 1924

Fig. 1.

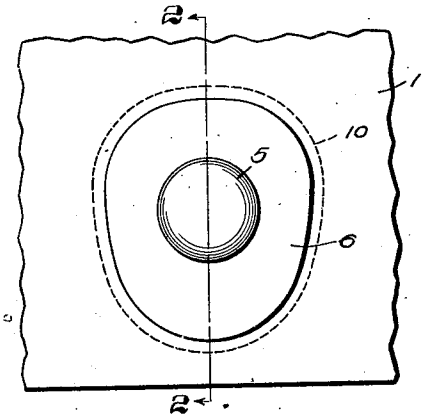


Fig. 2.

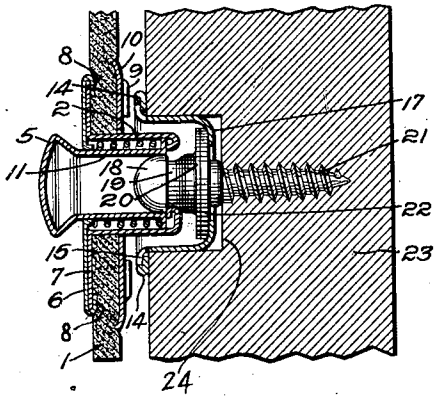


Fig. 3.

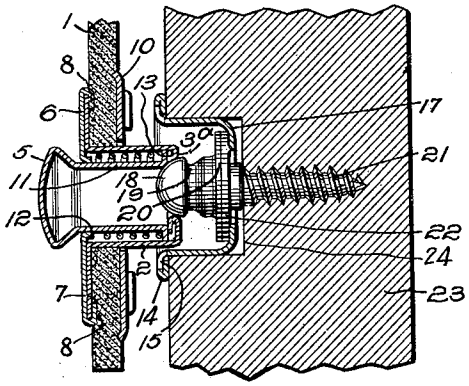


Fig. 4.

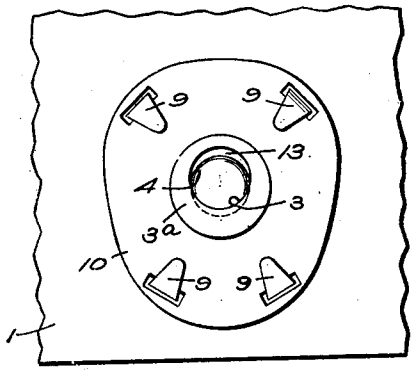


Fig. 5.

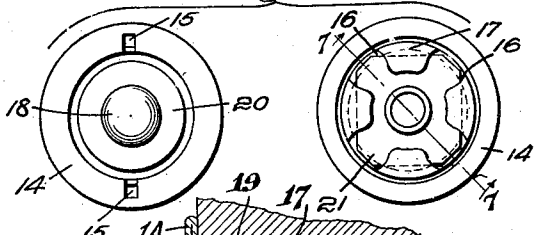
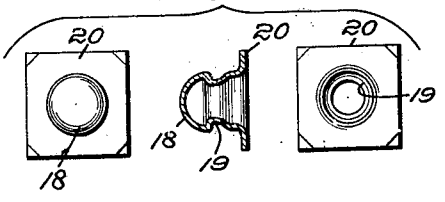


Fig. 7.

Fig. 6.



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UNITED STATES PATENT OFFICE.

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SEPARABLE FASTENER.

Application filed December 20, 1924. Serial No. 757,159.

This invention aims to provide an improved separable fastener.

In the drawings, which illustrate a preferred embodiment of my invention:—

Figure 1 is a front elevation of the fastener;

Fig. 2 is a section on the line 2—2 of Fig. 1, being partly in elevation;

Fig. 3 is a section similar to Fig. 2, but showing the relation of the stud and socket as the socket is being engaged with the stud;

Fig. 4 is a rear elevation of the socket;

Fig. 5 includes a front and rear elevation, respectively, of the stud;

Fig. 6 includes a front, a cross section and a rear view, respectively, of the socket-engaging part of the stud; and

Fig. 7 is a section on the line 7—7 of Fig. 6, being partly in elevation.

Referring to the drawings, I have shown a simple and efficient separable fastener which includes a stud having a non-resilient socket-engaging part and a cooperating socket having a stud-receiving aperture of fixed dimensions.

The socket, as illustrated, is secured to a flexible curtain fabric 1 and presents at one side of the curtain a casing 2, having a stud-receiving aperture 3 in the front face 3^a thereof and a locking member 4 within the casing. At the opposite side of the curtain, I have provided means for securing the casing 2 to the curtain and a knob 5 for manual operation of the locking member.

While the socket may be secured to the curtain fabric 1 in any suitable manner, I prefer that the attaching means shall comprise a front plate 6 secured to the outwardly extending flange 7 of the casing 2 by a plurality of ears 8. This front plate 6 presents a plurality of prongs 9 which extend through the curtain 1 and through apertures in a back plate 10 against which they are finally clenched as shown in Fig. 4. Thus, as illustrated, in Figs. 2, 3 and 4, the tubular casing 2 extends through the curtain and the back plate 10 for engagement with the stud.

The locking member 4 and knob 5 are pressed from a single piece of metal and the knob 5 protrudes through an aperture in the front plate to permit shifting of the locking part relative to the casing 2. The locking member 4 is normally urged toward the stud-receiving aperture 3 by a spring 11 and is guided by a wall 12 surrounding the aperture in the front plate 6.

The stud-receiving aperture 3, which is preferably eccentrically located in the front face 3^a of the casing 2 and surrounded by an inwardly curved neck-engaging wall 12^a, is intersected by the locking member for purposes more fully hereinafter described.

The locking member 4 is assembled with the front plate 6 by placing it through the aperture therein, then placing the spring 11 over the outside of the locking member and forming a flange 13 at the outer end of the locking member (Figs. 2 and 3) against which the spring seats to urge the locking member toward the stud-receiving aperture 3.

The stud, as illustrated, comprises a one-piece casing, a one-piece socket-engaging part and a one-piece attaching part, all secured together to form a flush-type stud. The casing is preferably cylindrical in cross-section and is provided at one end with a reversely bent flange 14 having a plurality of tool-receiving slots 15 therein. The other end of the casing presents a plurality of alternating flat spots 16 between a plurality of prongs 17, as best illustrated in Fig. 5. The socket-engaging part presents a head 18, a neck 19 and a rectangular base portion 20. This socket-engaging part is assembled with the casing by inserting it through the inner end of the casing so that the corner portions of the base portion are seated against the flat spots 16 and the head and neck extend into the casing. The attaching part comprises a screw portion 21 and a flat rectangular head 22, the head back-supporting the base 20 of the socket-engaging part and the corners thereof fitting between the prongs 17. When the stud is thus assembled, the prongs 17 are bent over and against the head 22 of the attaching part, thereby holding all the parts together so that there can be no rotation of one part relative to any other part. When thus secured together, the flat spots 16 prevent longitudinal movement of the stud part and the attaching part in one direction and the prongs 17 prevent longitudinal movement in the opposite direction, as best shown in Fig. 7.

The stud, as illustrated, is preferably secured to a rigid support 23 by the screw

portion 21, the body part of the casing fitting into a hole 24 in the support and the flange 14 being seated against the outer face of the support. Attachment of the stud is effected by placing the blade of a screw driver, or other suitable tool, into the slots 15 and rotating the casing.

The socket may be engaged with the stud by entering the head of the stud into the stud-receiving aperture 3 and pressing upon the front plate 6 as best illustrated in Fig. 3. As the head 18 passes through the aperture, it engages and moves the locking member 4 longitudinally relative to the casing 2, and against the spring 11, thus permitting the head 18 of the stud to pass through the aperture. When the neck 19 is opposite the wall 12^a surrounding the aperture 3, the socket shifts upwardly and the head 18 of the stud enters the locking member 4. The spring 11 then urges the locking member 4 toward the aperture 3 and the wall 12^a engages the neck 19 of the stud (Fig. 2). Thus the stud is held eccentric relative to the aperture 2 and is locked against separation by an outward strain on the curtain or by resolution of forces exerted by an upward pull on the curtain.

Separation of the fastener is effected by a pull upon the knob 5, presented at the front plate 6, which manually shifts the locking member out of engagement with the head 18 of the stud and permits passage of the head through the aperture 3 and separation of the socket from the stud.

While I have shown and described a preferred embodiment 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.

I claim—

1. A separable fastener stud comprising a non-resilient head and neck surrounded by a casing, an attaching member secured to one end of said casing and tool-receiving slots located at the opposite end of the casing for receiving a tool for securing the attaching member to a support.

2. A flush type stud including a casing presenting at one end thereof a plurality of prongs, a socket-engaging part having a head, a neck and a base portion, said base portion seated against said casing between the prongs and an attaching screw having a head back supporting the base of the socket-engaging part and held in assembled relation with said casing by said attaching prongs.

3. A flush type stud including a casing presenting at one end thereof a plurality of prongs, a socket-engaging part having a head, a neck and a base portion pressed from a single piece of metal, said base portion seated against said casing between the prongs and an attaching screw having a head back-supporting the base of the socket-engaging part and held in assembled relation with said casing by said attaching prongs, and a plurality of tool-receiving slots at the opposite end of said casing for receiving a tool to attach the stud to a support by rotation of said casing.

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

FRED S. CARR.