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FASTENER

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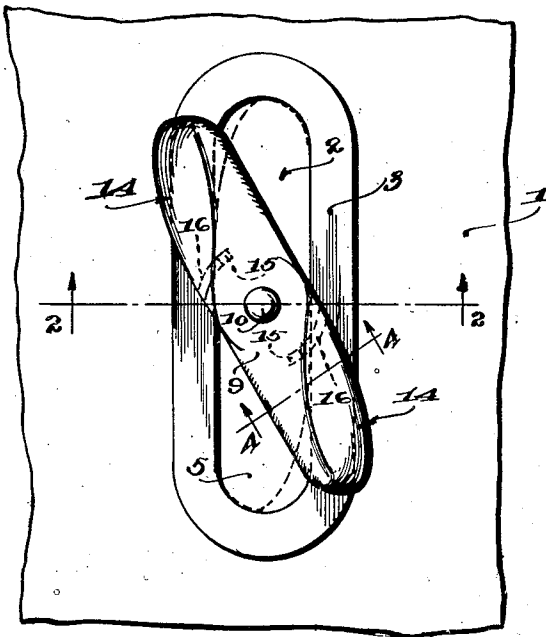


Fig. 1.

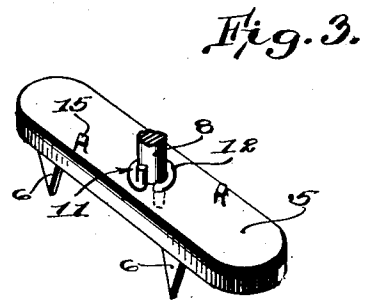


Fig. 3.

Fig. 2.

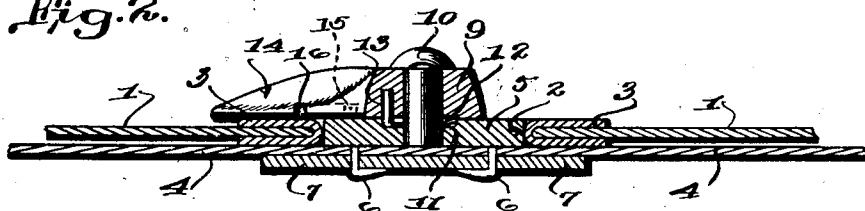
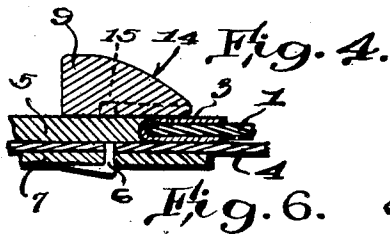


Fig. 4.



Fig. 6.

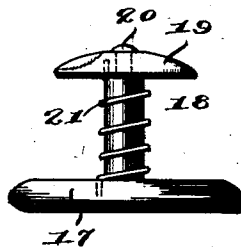
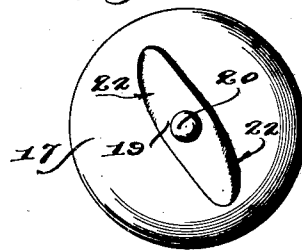


Fig. 5.



WITNESSES
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FASTENER

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This invention relates to fasteners of the type having a head adapted to be inserted through a slot, eyelet, or other opening in a part to be fastened and then turned to traverse the opening, and is more particularly concerned with an improved form of fastener of this type featured by the provision of a fastening head normally tending to traverse and formed additionally with means automatically centering it for insertion through the opening.

As previously constructed fasteners of the described type have been provided with a head which must be manually turned from an inserting position to a traversing position and held in this last position by locking notches or spring pressure, and usually both. With the present invention, the traversing movement is automatic following the insertion of the head through the opening and is automatically maintained. Insertion of the head is facilitated by the self-centering formation and action of the head relatively to the sides of the opening or eyelet when presented thereto.

The invention consists in the construction, combinations and arrangements hereinafter described and claimed and will be more clearly apparent as to structure from the following detailed specification which is to be read in conjunction with the accompanying drawings forming part thereof and in which:

Figure 1 is a plan view of the invention as embodied in a curtain fastener, with the fastening head extended through the curtain eyelet and automatically traversed by its tension spring.

Figure 2 is a transverse vertical section on the line 2—2 of Figure 1.

Figure 3 is a perspective detail of the fastener base detached.

Figure 4 is a fragmentary transverse vertical section on the line 4—4 of Figure 1 showing the beveled centering formation of the side edge of the fastener.

Figure 5 is a plan view of the invention as embodied in a collar button type fastener, and

Figure 6 is a side elevation of said button fastener.

Since the device of the present invention

is of general utility, I have shown and will describe its embodiment in two well known illustrative forms of fastener—the familiar automobile curtain type shown in Figures 1 to 4, and the button or collar button type as shown in Figures 5 and 6.

The device itself consists essentially of three cooperating elements—a base having an upstanding stud rigid therewith, a fastener head pivotally mounted between its ends on said stud, and a head traversing tension spring anchored thereto and to the base, this spring normally functioning to swing the head to traverse the eyelet or slot through which the head is first inserted. The head, which is of elongated form has its side edges at opposite ends and sides bevelled inwardly and upwardly to engage and be turned by the edges of the slot or eyelet against the tension of its spring to center itself relatively to the slot or eyelet for projection there-through, the tension of the spring, after the insertion of the head through and beyond the slot or eyelet, serving automatically to swing the head to traverse the slot or eyelet opening and to maintain it in traversing position. To withdraw the fastener, the head is merely turned by the finger to center or aline with the slot or eyelet opening and pulled or pushed therethrough.

In the curtain fastener embodiment of the invention shown in Figures 1 to 4, the curtain to be fastened is indicated by the numeral 1, with 2 indicating the opening outlined by the elongated eyelet 3. The base 4 to which the curtain 1 is to be fastened, frequently, in practice and as shown, is the underlying portion of another curtain or closure.

As shown in Figures 1 to 3, the base plate 5 of the curtain type fastener is of elongated form corresponding in shape to the elongated eyelet opening 2 and of a thickness to project therethrough to be substantially flush with the outer face of the curtain 1. It is provided with suitable mounting means, as shown, pairs of prongs 6 depending from its base edge at opposite sides and inserted through the curtain base 4 and through a backing strip 7 and clinched as shown in Fig. 2.

A stud 8 rigidly upstands from the outer face of the base plate 5 and an elongated fastener head 9 shaped and sized to extend through the eyelet opening 2 is pivotally mounted centrally on this stud with its under face parallel with and closely adjacent to the outer face of the base plate, the outer end of stud 8 being headed at 10 to retain the head thereon. The upper face of the base plate around and substantially concentric with the stud 8 is counter-sunk to provide an annular groove 11 (Figure 2) terminating in an anchorage hole or bore as best seen in Figures 2 and 3.

A coiled tension spring 12 having oppositely offset ends encircles the stud 8 as shown in Figures 2 and 3, and is seated in the groove 11 with one end inserted and anchored in a hole or bore therein and its other end inserted and anchored in a bore 13 (Figure 2) formed in the under face of the fastener head 9 in alignment with the spring, the tension of which normally tends to swing the fastener head 9 to and maintain it in the curtain retaining slot traversing position shown in Figure 1.

As shown in Figures 1, 2 and 4, the opposite side edges of the elongated head 9 at opposite ends are bevelled inwardly and upwardly as at 14 which facilitate the insertion of the head 9 through the curtain opening 2. Pressure of the edge of the eyelet 3 against a bevelled edge 14 when the fastener or eyelet are slightly turned to engage a bevelled edge 14 at one end of the head with the eyelet edge, will exert a wedging action against the head causing it to swing against spring tension and automatically to center relatively to the eyelet hole 2 so that it may be quickly pushed therethrough, the head automatically turning through the tension of its spring to traverse the opening and hold the curtain 1 when the under face of the head has cleared the outer face of the eyelet.

Preferably the automatic traversing movement of the head through the tension of its spring is determinately limited to facilitate insertion and retraction of the head. Accordingly, the upper face of the base plate 5 at its opposite edges and at points radially equidistant from the stud 8, is provided with similar upstanding lugs 15 which extend in slots 16 curved with the stud 8 as a center and extending partially across the head 9 from its opposite side edges, the inner ends of the slots providing stop shoulders cooperating with the lugs 15 to limit the traversing movement of the head under the influence of its tension spring.

When embodied in the form of a so-called collar button or stud, the invention, as shown in Figures 5 and 6 provides a base plate 17 having a rigid upstanding stud 18 reduced in diameter at its outer end to seat and pivotally mount the elongated fastener head 19, the

extremity of the stud being headed at 20 to retain the head 19 thereon. A coiled tensioned spring 21 encircles the stud 18 and has oppositely bent ends anchored in sockets formed in the opposed faces of the base plate 17 and head 19. The opposite side edges of the head 19 are bevelled at the ends of the head inwardly and upwardly as at 22, these bevels and the spring 21 functioning as in the curtain type of fastener previously described.

The specific embodiments of the invention herein shown and described are intended as illustrative rather than restrictive and structural modification and adaptation to conditions of manufacture and use are contemplated in consonance with the spirit of the invention and the scope of the appended claims.

What I claim, therefore, and desire to secure by Letters Patent is:

1. A fastener comprising a base having a stud upstanding rigidly therefrom, a fastener head pivotally mounted intermediate of its ends on said stud, and a tension spring anchored to said base and engaging said head and normally swinging said head to traverse an opening through which said head is insertable.

2. A fastener comprising a base having a stud upstanding rigidly therefrom, an elongated fastener head pivotally mounted intermediate of its ends on said stud, and a coiled spring encircling said stud and anchored to said base and head at its opposite ends, said spring being secured to the head under tension normally tending to swing said head to traverse an opening through which said head is insertable.

3. A fastener comprising a base plate having a stud upstanding rigidly therefrom, an elongated fastener head pivotally mounted intermediate of its ends on said stud above its base plate, and a tension spring anchored to said base and engaging said head normally effective to swing said head to traverse an opening through which said head is insertable, the latter having a bevelled side edge engageable with the side of the opening and wedged by pressure thereagainst to center the head relatively to the opening.

4. A fastener comprising a base plate having a rigid upstanding stud, a fastener head of elongated form pivotally and centrally mounted on said stud and having its opposite side faces at its ends inwardly and upwardly bevelled, and a coiled tension spring encircling the stud and anchored to said head and base plate normally to swing said head to traverse an opening through which the head is insertable.

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