F. S. CARR.

SEPARABLE FASTENER.

APPLICATION FILED JAN. 16, 1920.

1,387,102. Patented Aug. 9, 1921.

Fig. 1.

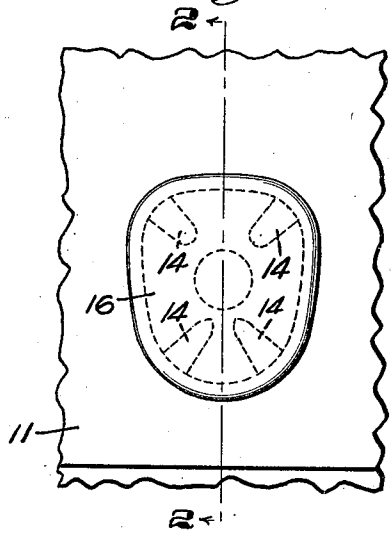


Fig. 2.

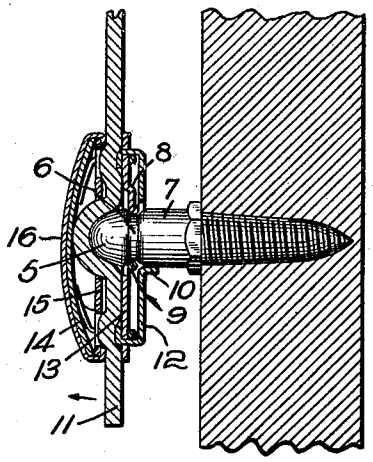


Fig. 3.

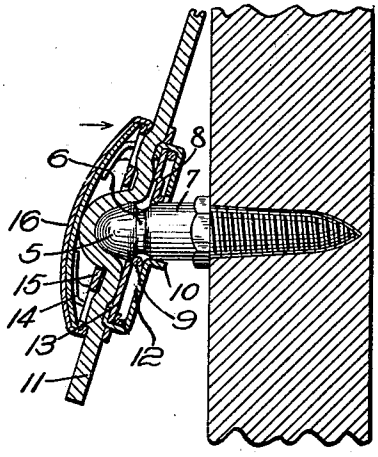
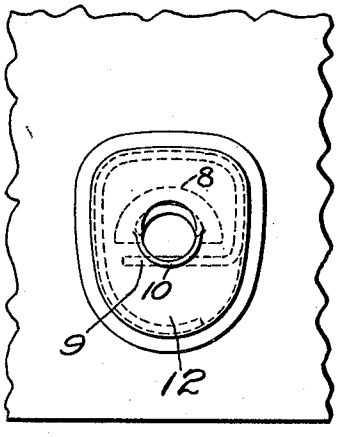


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SEPARABLE FASTENER.

1,387,102. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed January 16, 1920. Serial No. 351,768.

To all whom it may concern:

Be it known that I, FRED S. CARR, a citizen of the United States, and a resident of Newton, in the county of Middlesex and Commonwealth of Massachusetts, have invented an Improvement in Separable Fasteners, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention pertains to improvements in separable fasteners.

It is among the objects of the invention to provide a separable fastener of the three-side lock type, adapted to be separated by relative tipping movement of stud and socket in a predetermined direction only, and so constructed that, while separation may easily be effected by tipping movment in the desired direction produced by a pull, a corresponding tipping movement in the opposite direction actuated by a push will not separate the stud and socket. This feature is particularly useful in connection with curtain fasteners wherein relative tipping movement may be imparted to stud and socket by reason of the blowing of the wind against the body of the curtain in such a way as to produce by a resolution of forces relative movement of stud and socket analogous to that which would be produced by a pull tending to tip the stud and socket exerted on that side of the stud opposite the body of the curtain.

In the drawings wherein I have elected to show a preferred form of one illustrative embodiment of my invention:—

Figure 1 is a front elevation of a curtain fastener;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a section on the same plane as that of Fig. 2, but shows the stud and socket in the relative position which they preferably attain when sufficiently great pressure is exerted in an inward direction against the body of the curtain, by wind strain or otherwise; and

Fig. 4 is a rear elevation of the socket.

Referring to the preferred form of my invention shown in the drawings, I preferably provide a stud having a head 5, a neck 6 and shank portion 7, the shoulder between the neck 6 and the head 5 being preferably sloping and the shoulder between the neck 6 and the shank portion 7 also being sloping, for reasons hereinafter described.

Coöperating with the stud, I provide a socket which preferably includes an unyielding jaw 8 adapted to engage the neck of the stud at one side thereof, herein shown as the top, and a yielding jaw 9 adapted to engage the opposite side of the neck of the stud, herein shown as the bottom thereof. I also preferably provide opposite the unyielding jaw 8 a support 10 engaging the shank portion 7 of the stud at a point opposite the unyielding jaw 8; this support 10 preferably extending a considerable distance around the bottom of the stud to provide a relatively extended bearing surface.

In the preferred form of my invention, I have shown the unyielding jaw 8, the yielding jaw 9 and the support 10 as located on that side of the curtain 11 from which the stud enters so that, if desired, perforations of the curtain for passage of the head of the stud may be avoided. The stud-engaging parts, hereinbefore described, may conveniently be made in the form of a socket including a casing 12 inclosing a spring. I prefer, as shown, to form the support 10 as a part of the casing 12 and to provide the unyielding jaw 8 on a separate plate 13, which may form the closure for the socket.

I prefer to secure the socket to the curtain 11 by prongs 14 projecting forwardly from the casing 12 and clenched over a clench-plate 15 by being turned against an anvil 16.

The stud and socket hereinbefore described are adapted to be separated by tipping movement produced by an outward pull on the bottom of the socket. The stud and socket cannot be separated by relative tipping movement in any other direction because of the engagement of the unyielding jaw 8, and also preferably because the aperture in the casing 12 through which the stud passes is shaped to permit tipping movement only in a direction as above defined.

Tipping movement in the direction required for separation of stud and socket may be produced by an inward push at the top of the socket, as well as by an outward pull on the bottom of the socket. Fasteners made like those shown in the drawings, or modifications thereof coming within the scope of my present invention, do not separate by an

inward push on the top of the socket such as might be produced by the wind blowing the curtain above the socket in a direction to produce the tipping movement shown in Fig. 3. This may be effected in any suitable way, but I prefer to produce this result by providing a decided slope at the shoulder between the neck 6 and the shank 7 of the stud, and by providing a relatively smooth neck-engaging surface on the unyielding jaw 8, so that the jaw 8 can ride up the incline to the position shown in Fig. 3, at which point the stud and socket will be locked together against further tipping movement so that separation of stud and socket will not be effected regardless of any strain in the direction of the arrow shown in Fig. 3. When, however, the stud and socket are in the relative position shown in Fig. 2 and an outward strain is applied in the direction of the arrow shown in Fig. 2, the fixed jaw 8 will remain in the neck of the stud and, by reason of the yielding of the spring 9 as it rides up the surface between the neck 6 and the head 5, separation of stud and socket may be readily effected.

While I have shown and described a preferred form of one 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.

Claims:

1. A separable fastener comprising, in combination, a stud having a head, a shank portion, and a neck between said head and shank portion, a socket including a fixed jaw and a yielding jaw engaging opposite sides of said neck of said stud, said stud and socket separable only by relative tipping movement resulting from an outward pull on that side of the socket having the yielding jaw and means precluding similar stud and socket separating tipping movement resulting from an inward push on that side of the socket having said fixed jaw.

2. A separable fastener comprising, in combination, a stud having a head and a neck, a shank portion, a sloping shoulder between said neck and said shank portion, a socket including a fixed jaw and a spring jaw engaging opposite sides of the neck of said stud, said stud and socket when engaged separable only when an outward pull is exerted on that side of the socket where the spring jaw is located, thereby to tip the stud and socket one relative to the other by a rocking movement about said fixed jaw as an axis, said fixed jaw adapted to ride up said sloping shoulder and to wedge the stud and socket into engagement one with the other when an inwardly directed push is exerted on that side of the socket where the fixed jaw is located.

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

FRED S. CARR.