F. S. CARR.

SEPARABLE FASTENER.

APPLICATION FILED MAR. 8, 1921.

1,433,788.

Patented Oct. 31, 1922.

Fig. 1.

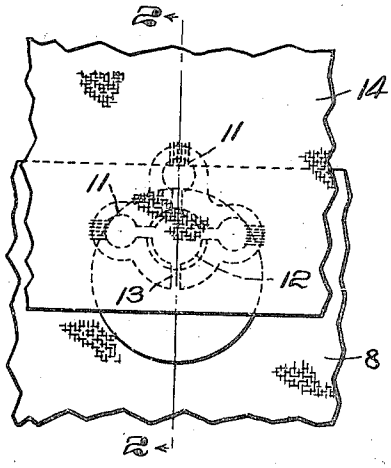


Fig. 2.

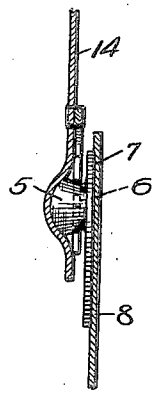


Fig. 3.

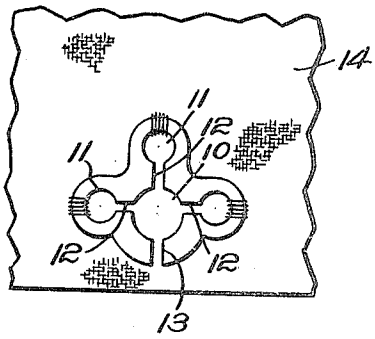
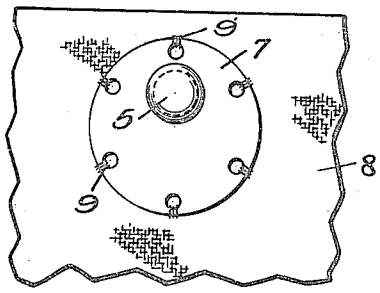


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRED S. CARR, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO CARR FASTENER COMPANY, OF CAMBRIDGE, MASSACHUSETTS, A CORPORATION OF MAINE.

SEPARABLE FASTENER.

Application filed March 8, 1921. Serial No. 450,738.

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, 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 inexpensive construction having superior holding power and which may be, if desired, relatively thin.

In the drawings, which show a preferred form of one embodiment of my invention:—

Figure 1 is a front elevation of two pieces of fabric, one carrying the stud member and the other the socket member of a preferred form of separable fastener;

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

Fig. 3 is a front elevation of the preferred form of socket member; and

Fig. 4 is a front elevation of the preferred form of stud member.

Referring to the drawings and to the preferred form of my invention selected for illustrative purposes, I have shown a stud including a head 5, a neck 6 and a base portion 7 secured to the stud-carrying fabric 8 in any suitable way, but preferably as indicated by stitching 9. The head and neck of the stud are preferably out of center of the base of the stud, as best shown in Fig. 4, the head of the stud being located in the line of strain between stud and socket, such line of strain ordinarily being perpendicular to and toward the edge of the stud-carrying fabric 8.

The preferred form of socket illustrated may be and preferably is, as illustrated, formed from sheet metal to provide a stud-receiving aperture 10 surrounded by a plurality of stitch-receiving openings 11, these openings preferably being connected with the stud-receiving aperture by slots 12. At one side the socket is preferably completely slotted through as at 13, and this side, which is preferably located adjacent the edge of the socket-carrying fabric 14, need not be provided with any stitch-receiving opening. The stud-receiving aperture 10 is preferably somewhat out of center, the eccentricity preferably, as indicated, being toward that side of the fastener which is adjacent the margin of the socket-carrying fabric and in the normal line of strain between stud and socket. In the preferred form of my invention illustrated, this brings the axis of the stud-receiving aperture as viewed in Fig. 3 somewhat below a line between the stitch-receiving openings at each side of the stud-receiving aperture. The slots connecting the stud-receiving aperture with these two stitch-receiving openings may be, as illustrated, in line with the stitch-receiving openings and, therefore, out of center with the axis of the stud-receiving aperture.

When stud and socket are secured to their carrying fabrics and subjected to lateral strain in the direction of the section line shown on Fig. 1, the tipping moment produced by the resolution of forces between stud and socket is minimized because the eccentric positioning of the stud relative to its base, and of the stud-receiving aperture relative to the socket as a whole, provides a leverage unfavorable to tipping movement, especially where all or a greater part of the attachments of the fastener parts to their carrying fabrics respectively are located as indicated on those portions of the fastening elements furthest removed from the margins of their respective carrying fabrics.

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 snap fastener comprising, in combination, a stud having a head, a neck and a base portion, and a socket including a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric.

2. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, and a socket including

a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric and slots extending from said stitch-receiving openings to said stud-receiving aperture.

3. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, and a socket including a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric, and a slot from said stud-receiving aperture through the periphery of said flat spring portion.

4. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, and a socket including a relatively flat spring portion having a stud-receiving aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric, slots extending from said stitch-receiving openings to said stud-receiving aperture, and a slot from said stud-receiving aperture through the periphery of said flat spring portion.

5. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, said head of said stud at one side of the central portion of said base portion, and a socket including a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric.

6. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, said head of said stud at one side of the central portion of said base portion, and a socket including a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric, and slots extending from said stitch-receiving openings to said stud-receiving aperture.

7. A separable snap fastener comprising, in combination, a stud having a head, a neck and a base portion, said head of said stud at one side of the central portion of said base portion, and a socket including a relatively flat spring portion having a stud-receiving and retaining aperture at one side of the center thereof, said spring portion having openings therethrough permitting stitching of the socket to its carrying fabric, and a slot from said stud-receiving aperture through the periphery of said flat spring portion.

8. A socket for separable snap fasteners formed from a flat sheet and presenting a stud-receiving aperture, a slot from said aperture to the periphery of the socket, a plurality of holes through said socket, and slots connecting said holes and the stud-receiving aperture, the periphery of said socket indented to provide generally constant cross-sections about the exterior sides of said holes.

9. A socket for separable fasteners formed from a flat sheet and presenting a stud-receiving aperture, a slot from said aperture to the periphery of the socket, a plurality of holes through said socket, and slots connecting said holes and the stud-receiving aperture, said stud-receiving aperture located out of center of said socket and nearer the side thereof having a slot extending to the periphery than to the opposite side thereof.

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

FRED S. CARR.

Certificate of Correction.

It is hereby certified that in Letters Patent No. 1,433,788, granted October 31, 1922, upon the application of Fred S. Carr, of Newton, Massachusetts, for an improvement in "Separable Fasteners," an error appears in the printed specification requiring correction as follows: Page 2, line 24, after the compound word "stud-receiving" insert the words *and retaining;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of December, A. D., 1922.

[SEAL.]

KARL FENNING,

Acting Commissioner of Patents.