R. R. GROOMS.

SEPARABLE FASTENER.

APPLICATION FILED AUG. 10, 1915.

1,172,703. Patented Feb. 22, 1916.

Fig. 1.

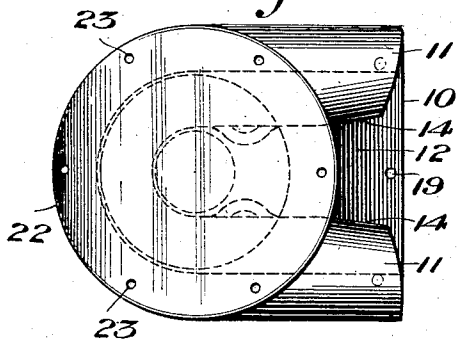


Fig. 2.

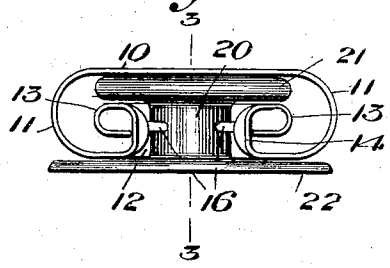


Fig. 3.

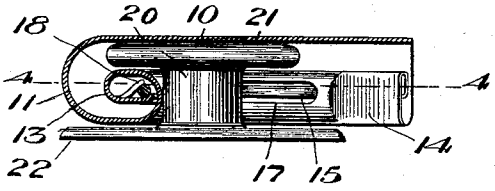


Fig. 4.

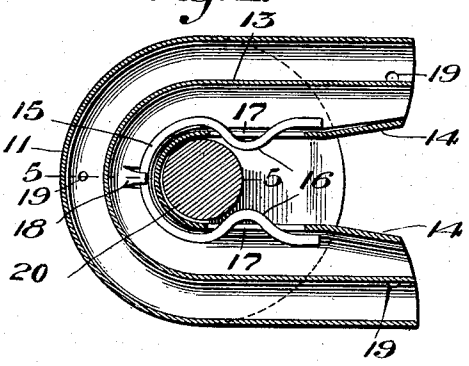
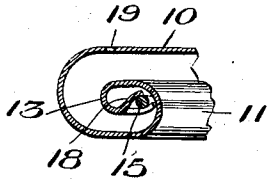


Fig. 5.



Witness
Philip E. Barnes

Inventor
Rista R. Grooms.

By D. P. Reinold & Sons.

Attorneys.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

REISTER R. GROOMS, OF WASHINGTON, DISTRICT OF COLUMBIA.

SEPARABLE FASTENER.

1,172,703. Specification of Letters Patent. Patented Feb. 22, 1916.

Application filed August 10, 1915. Serial No. 44,718.

To all whom it may concern:

Be it known that I, REISTER R. GROOMS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Separable Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to improvements in separable fasteners, and more particularly to the lateral-closing, head and socket type of such fasteners, the same embodying a resilient retaining means to prevent the accidental separation of the parts thereof under ordinary strains or conditions of usage.

The primary object of the invention is to provide a comparatively simple and inexpensive construction of the character mentioned, and one which embodies an attractive, yet conservative, design, and highest efficiency for the purpose, usual with fastening devices of this type.

The invention resides in the certain new and novel construction which will be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawing, in which,

Figure 1 is an enlarged bottom plan view thereof, Fig. 2 is a front elevation, Fig. 3 is a longitudinal section on the line 3—3 of Fig. 2, Fig. 4 is a horizontal section on the line 4—4 of Fig. 3, Fig. 5 is a fragmentary vertical section on the line 5—5 of Fig. 4.

Referring to the accompanying drawing, in which similar characters of reference refer to corresponding parts in the several views thereof, the numeral —10— designates the main or socket part of the improved construction of the invention, the same consisting of a single piece of sheet material, preferably sheet-metal, shaped to provide a body substantially U-form in cross-section, and having its side walls, and one of its end walls, curved or rounded, as shown. These side and end walls terminate in an inwardly rolled formation —11—, disposed within the body and arranged to provide a shank-engaging channel —12— therebetween. The edge of this rolled formation —11— is shaped to provide a second rolled formation —13— of a size approximately one-half of that of the formation —11—. The opposed walls of the channel —12—, immediately adjacent the open end thereof, are flattened, as at —14—, to provide a flared entrance thereto.

Disposed within the rolled formation —13— is a substantially U-shaped resilient member —15—, preferably formed of spring wire, having its parallel members formed to provide opposed bent portions —16—, which project into the channel —12— through suitable slots or openings —17—, formed in the opposed walls of the rolled formation —11— for the purpose. The resilient member —15— is retained firmly in position by means of a struck-out tongue —18—, formed in the free edge of the rolled formation —13—, preferably at a point medially of the connecting portion thereof, which admits of unrestricted movement of the parallel members, but prevents the latter from becoming totally displaced from their operative position. Suitable openings —19— are provided in the top wall of the socket —10—, by means of which the latter may be secured in any desired position upon the article to be fastened, either thread or other suitable fastening means being passed through the said openings for the purpose.

A shank —20—, having a relatively flat head —21—, and a supporting disk or plate —22—, comprises the second element of the invention, and the same is adapted to be inserted laterally into engagement with the socket —10—. The diameter of the shank —20— being very slightly less than the distance between the opposed walls of the channel —12— to admit of easy sliding engagement of the same therewith, while the diameter of the head —21— is slightly less than the distance between the outer or oppositely disposed walls of the smaller rolled formation —13—, and of a thickness sufficient for comparative free sliding engagement with the opposed wall of the socket —10— and the top wall of the rolled formation.

The supporting-plate or disk —22— is provided with a plurality of openings —23— for the passage therethrough of any desired fastening means by which the headed shank may be secured in position for cooperative engagement with the socket member. When the two elements of the separable fastener, thus provided, have been properly positioned upon the garment, or other article to be fastened, the headed

shank —20— is engaged in the channel —12—, and forced rearward therein beyond the resilient abutments —16—, which are pushed to either side of the channel —12—, during the passage of the shank therethrough, and spring back into normal projected position thereby closing the channel sufficiently to prevent ordinary strains from withdrawing the shank. The distance between the rear or closed end of the channel —12— and the resilient abutments —16— is, however, of sufficient greater length than the diameter of the shank to admit of a slight longitudinal movement of the latter therein. This free longitudinal movement tends to relieve the fastener of an excess of the strain usually brought to bear upon fasteners when used on articles of wearing apparel. It is to be noted of the supporting plate —22— that its diameter is approximately equal to the width of the socket —10—.

Having thus fully described the invention, what is claimed, is:—

1. A separable fastener comprising a socket member formed to provide inwardly rolled side walls and having a channel extending longitudinally therebetween, the forward ends of said rolled side walls being flattened to provide a flared entrance to said channel, a headed-shank adapted to be engaged in said channel, an inner rolled wall formation continuous with said rolled side walls, and resilient means inclosed by said inner rolled wall formation and projected within said channel through openings formed in said rolled side walls for retaining said shank in its engaged position, said shank having slight free movement within said channel when in such engaged position.

2. A separable fastener comprising a socket member formed to provide inwardly rolled side walls and having a channel extending longitudinally therebetween, the forward ends of said rolled side walls being flattened to provide a flared entrance to said channel, a headed-shank adapted to be engaged in said channel, an inner rolled wall formation continuous with said rolled side walls, resilient means inclosed by said inner rolled wall formation and projected within said channel through openings formed in said rolled side walls for retaining said shank in its engaged position, and means for securing said resilient means in operative position.

3. A separable fastener comprising a socket member formed to provide inwardly rolled side walls and having a channel extending longitudinally therebetween, the forward ends of said rolled side walls being flattened to provide a flared entrance to said channel, a headed-shank adapted to be engaged in said channel, an inner rolled wall formation continuous with said rolled side walls, said rolled side walls and said inner rolled wall formation being connected at the rear of said channel, resilient means inclosed by said inner rolled wall formation and having its free ends extending parallel to the walls of said channel, abutments formed with said resilient means projecting into said channel from opposite sides thereof, and means for securing said resilient means in operative position.

4. A separable fastener comprising a socket member formed to provide inwardly rolled side walls and having a channel extending longitudinally therebetween, the forward ends of said rolled side walls being flattened to provide a flared entrance to said channel, an inner rolled wall formation continuous with said rolled side walls, said rolled side walls and said inner rolled wall formation being connected at the rear of said channel, a substantially U-shaped spring member inclosed by said inner rolled wall formation, means for retaining said spring member in position, abutments formed with said spring member and projecting into said channel from opposite sides thereof, and a headed-shank adapted to be inserted into said channel and engaged to the rear of said abutments.

In testimony whereof I affix my signature, in presence of two witnesses.

REISTER R. GROOMS.

Witnesses:

W. PARKER REINOHL,

J. EDWARD BANGS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."