Dec. 19, 1922. 1,439,025.

A. ROSE.

SNAP FASTENER.

FILED JUNE 24, 1921.

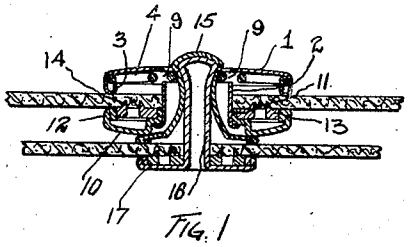


Fig. 1

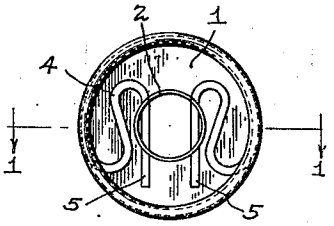


Fig. 2.

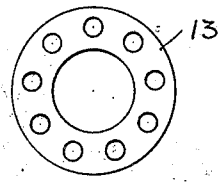


Fig. 3

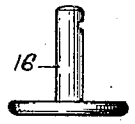


Fig. 5

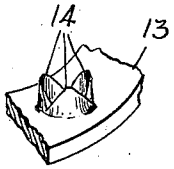


Fig. 4.

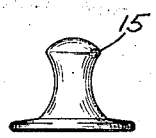


Fig. 6

INVENTOR.

Anton Rose

BY

Fay, Oberlin & Fay

ATTORNEYS

Patented Dec. 19, 1922. 1,439,025

UNITED STATES PATENT OFFICE.

ANTON ROSE, OF CLEVELAND, OHIO, ASSIGNOR TO THE GUARANTEE SPECIALTY MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

SNAP FASTENER.

Application filed June 24, 1921. Serial No. 480,008.

To all whom it may concern:

Be it known that I, ANTON ROSE (changed by court order from Anton Ruzicka), a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Snap Fasteners, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The type of fastening device to which the present improvements relate is also known as a press stud and is largely used in place of buttons for fastening garments or similar materials together. The present improved construction of snap fastener or press stud is designed more especially in situations where considerable strains have to be resisted, as for instance, on automobile curtains, hand bags, suit cases, sample cases, portfolios and pocket flaps, such, for example, as are found on such cases, portfolios and on the doors of automobiles. Not only do the parts of the fastener, where designed for such use as those just indicated, require to be of substantial construction, but instead of being sewed on, as in the case of ordinary garment fasteners, they are secured in place on the fabric by means of washers, through which the body portion of the fastener part passes and is then upset. In order to prevent the material from pulling away from these washers, they are usually formed with prongs, or equivalent projections, that bite into the material, but this has not been found at all satisfactory since the material will in turn pull away from such prongs.

The object of the present invention, accordingly, is to provide a method of attaching the snap fastener parts to fabric material which will obviate the difficulty just indicated, so as not only to assure permanency of attachment, but also a neat appearance so as to render devices of the general class in hand satisfactory for use in a number of situations where they are not at present employed.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a central section of my improved fastening device, the plane of the section, so far as the female member is concerned, being indicated by the line 1—1, Fig. 2; Fig. 2 is a bottom plan view of such female member by itself previous to attachment; Fig. 3 is a similar plan view of a member that cooperates with said female member when attached; Fig. 4 is a broken perspective view of a portion of said last-named member; Fig. 5 is a side elevation of one of the component parts of the male member of the device; and Fig. 6 is a similar view of another part of such male member.

In their general construction both the principal members composing the device are of familiar construction. Thus the female or socket member, as shown in Figs. 1 and 2, is in the form of a disk-like base 1, from the center of which rises a tubular projection 2. The periphery of the base is rolled over to form a flange 3, by means of which a spring 4 is held in place in said base. Such spring comprises a body portion of approximately semi-circular form and two S-shaped terminal portions so disposed that the free ends 5 lie parallel and intersect suitable slots 9 in the sides of the tubular extension 2.

Ordinarily the member just described is secured to the sheet of fabric, or like article, by inserting a tubular extension 2, through an aperture in such fabric and then through a suitable washer that is pressed against the opposite side of such fabric from the base 1 of the member by crimping or rolling down the edge of such extension. Such washer, as previously indicated, is usually provided with teeth or equivalent gripping elements that bite into the material with the object of preventing it from being pulled away from between the washer and the opposed base 1.

In my present improved construction I employ a washer 10 of the cross-sectional form shown in Fig 1, from which it will be

seen that such washer is provided with flanges 11 and 12 adjacent its inner and outer edges, respectively, such outer flange being formed by rolling in the periphery of the washer, thereby affording a relatively broad contacting surface that is opposed to the rolled in flange 3 of base 1. Furthermore, in the annular space between the flanges 11 and 12 I seat, a supplemental washer 13 which is formed with a series of upstanding prongs or teeth 14, preferably formed by stamping a series of holes through the washer and leaving the sharp edges project. These prongs or teeth will be forced into the material at points lying between the co-acting flanges of the base 1 and washer 10, and the hole in the material through which tubular extension 2 passes. Accordingly, the material is doubly secured against withdrawal from between the two main elements composing the socket member. In the first place it is tightly gripped between the opposed flanges 3 and 12, and in the second place the supplemental washer 13 serves to hold the material from being pulled radially away from the hole through which the extension 2 passes.

The male or stud member, as shown in Figs. 1, 5 and 6, comprises, in the first place, an outer sleeve 15 flanged at its base and having its head larger than its body portion so as to enter between and be engaged by the spring ends 5 when the two parts of the device are brought together. In the second place said member comprises a tubular rivet 16 having a head adapted to oppose the base of member 15, and a stem that enters the body of said member, and is there upset, whereby the two are securely fastened together. In so far as the elements just described are concerned, the construction is that familiarly employed, but, in addition, I here utilize again a supplementary washer 17 that, in its construction and function, is exactly the same as that of washer 13, said washer 17 being preferably inserted between the head of the rivet and the material, although, if desired, it could be placed between the base of the member 15 just as well.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a device of the character described, the combination of a member comprising a base and an extension adapted to pass through an aperture in a sheet of material to which such device is attached, a second member adapted to be secured to such extension, said member being formed with a peripheral flange disposed to press against such sheet of material, and a washer lying within such flange and formed with teeth adapted to grip such sheet.

2. In a device of the character described, the combination of a member comprising a peripherally flanged disk-like base and a tubular extension adapted to pass through an aperture in a sheet of material to which such device is attached, a second annular member adapted to be secured to such extension, said member being formed with a peripheral flange opposed to the flange in said first member, and a washer lying within such flange on said second member and formed with teeth adapted to grip such sheet.

3. In a device of the character described the combination of a member comprising a base having an annular outer flange and a tubular extension adapted to pass through an aperture in a sheet of material to which such device is attached a second member adapted to be secured to such extension and having a peripheral flange adapted to press against such material in annular alignment with said flange on said base, said flange on said second member forming an annular space, and a washer adapted to be received in such annular space and provided with teeth adapted to grip such material.

4. In a device of the character described, the combination of a member comprising a base having an annular outer flange formed by rolling the outer edge to form a curved, non-cutting edge, and a tubular extension adapted to pass through an aperture in a sheet of material to which such device is attached, a second member adapted to be secured to such extension and having a rolled over peripheral flange of the same size as said first flange and adapted with said first flange to grip such material, said second flange forming an annular space, and a washer adapted to be received in such annular space and having teeth to grip such material.

Signed by me, this 22 day of June, 1921.

ANTON ROSE.