May 11, 1937. D. I. REITER 2,080,379

SOCKET

Filed Aug. 20, 1936

Fig. 1.

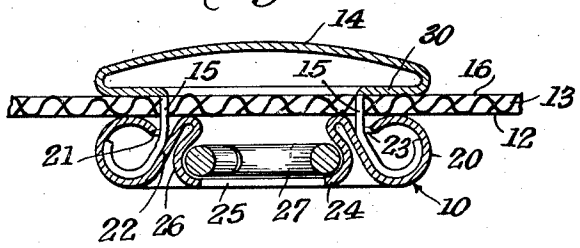


Fig. 4.

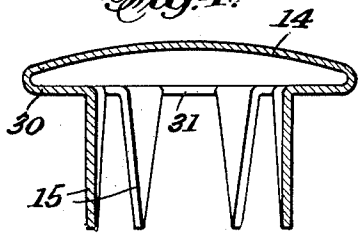


Fig. 2.

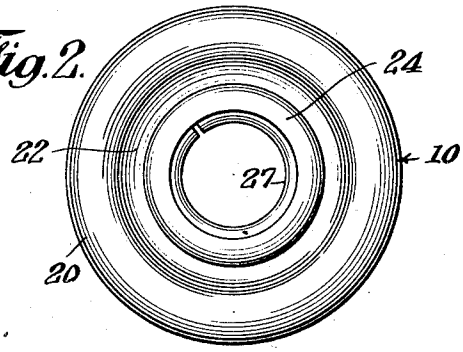


Fig. 5.

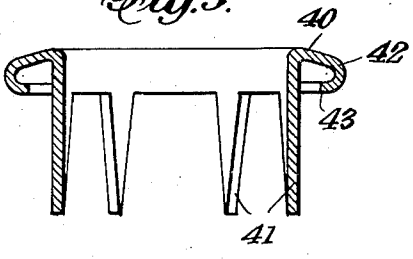


Fig. 3.

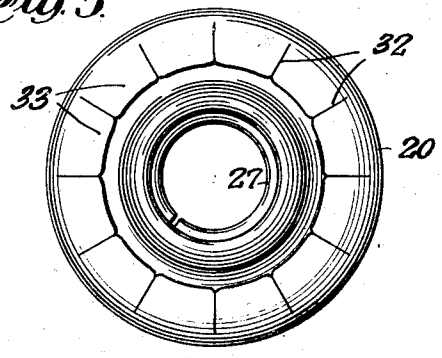


Fig. 6.

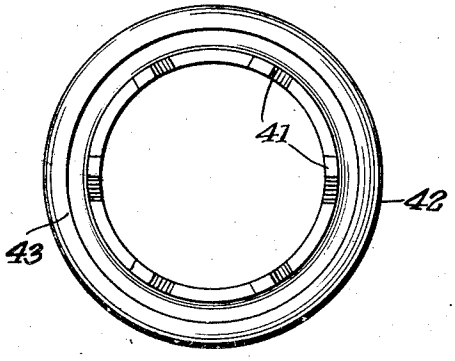
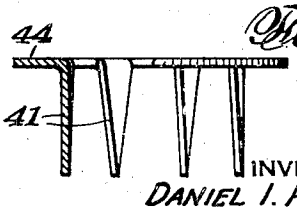


Fig. 7.



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SOCKET

Daniel I. Reiter, New York, N. Y.

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4 Claims. (Cl. 24—216)

This invention relates to snap fastener sockets and particularly to that type adapted to be secured to one sheet of material and adapted to separably engage a cooperating stud which is secured to a second sheet of textile or the like material.

Snap fastener sockets heretofore manufactured are customarily secured to one side of a sheet of material and held in place by a cap secured to the other side of the sheet. Cooperating members on the socket and the cap have been provided, one of which members passes through the sheet to engage the other member. When used for knitted fabrics, the securing member, usually in the form of an eyelet, which penetrates the sheet, frequently cuts and/or disarranges some of the threads of the knitted fabric through which it passes, thereby permitting the knit threads to ravel and causing a damage in the material which is likely to result in a run.

My invention contemplates the provision of a socket particularly useful in connection with knitted fabrics, which can be economically manufactured in large quantities, and which is provided with means for engaging and adequately holding the sheet penetrating prongs of the cap for the socket, to secure the socket and cap on opposite sides of a sheet of fabric, without danger of cutting any of the threads of the fabric to which the socket is secured.

My invention further contemplates the provision of a resilient socket which is provided with an anvil portion designed to turn over and secure thereto the sheet penetrating prongs of the holding cap for the socket, the prongs being designed to pass between the threads of the fabric to which the socket is secured.

My invention further contemplates the provision of a socket designed to be quickly and easily secured to one side of a knitted fabric sheet or the like without the use of eyelets or other means which might cut or sever any of the threads of the fabric to which the socket is secured.

My invention further contemplates the provision of an efficient socket and of a pronged holding cap therefor, the prongs of the cap being bent into holding position by merely arranging the cap and socket on opposite sides of the sheet to which they are to be secured and pressing them together.

The various objects of the invention will be clear from the description which follows, and from the drawing, in which,

Fig. 1 is a vertical section of my improved socket as it appears in its operative position.

Fig. 2 is a top plan view of the stud engaging part of the socket as it appears before attachment to the sheet.

Fig. 3 is a similar view of a modified form of the same in which the peripheral part of the anvil portion is slitted.

Fig. 4 is a vertical section of one form of the cap for holding the socket in place.

Fig. 5 is a similar view of a modified form of the holding cap.

Fig. 6 is a bottom plan view of the same.

Fig. 7 is a front view, partly in section, of another modified form of the holding cap.

In the practical embodiment of my invention which I have shown by way of example, the socket proper comprises the one piece member **10** and the spring ring **27** yieldably held therein so that it may expand under the pressure of a stud and contract in the neck of the stud to hold the stud in place. Said socket is suitably secured to one side **12** of the sheet of flexible material **13** by means of a suitable cap **14** provided with sheet penetrating members **15**, preferably in the form of spaced prongs. The cap is arranged on the other side **16** of the sheet **13** and the prongs **15** pass through the sheet past the side **12**. Said prongs **15** are preferably pointed or edged, so that if the sheet **13** is a knitted sheet of textile material, the prongs will pass through the spaces between the threads of said sheet without severing the threads, and without danger of causing raveling of the fabric.

As shown in Figs. 1 and 2, the socket member **10** is preferably formed of a single piece of sheet material, and comprises an outermost anvil portion **20**, which is bent in the form of an annular ring substantially circular in cross section. Said portion **20** terminates in a free edge **21**, spaced from the upwardly and inwardly inclined inner annular wall portion **22** to form a space **23** therebetween for the passage of the prongs **15**. Bent back on the wall **22**, from the uppermost inner edge of said wall to form a doubled fold, is the suitably shaped ring holding part **24**, said ring holding part having an opening **25** at the lower end thereof for the passage of a suitable stud into the socket. The ring holding part **24** is bent outwardly intermediate its ends as at **26**, toward the wall **22** and is of the proper substantially semicircular shape in cross section to adequately hold the open yieldable wire ring **27** therein, and to permit the expansion and contraction of the ring. The ends of said ring as is customary in the art, are slightly spaced apart. The ring expands against the wall **26** during the passage of a stud into the socket, and then after the stud has been forced therepast, expands against the neck of the stud to hold the stud in place removably in the socket. Preferably, though not necessarily, the lowermost end of the part **24** lies in the same plane as the lowermost element of the surface of the anvil portion **20**.

The cap **14** (Figs. 1 and 4) is preferably

stamped from a one-piece circular sheet metal blank, with the wedge shaped or pointed prongs 15 projecting radially from the circular central part of the blank. The prongs and the peripheral flange 30 adjacent to and outside of the prongs are bent downwardly into the positions shown in Fig. 4. A sufficient number of prongs 15, suitably spaced apart at the edge 31 of the cap, is provided to adequately hold the socket member 10 in place when the parts are assembled.

To secure the socket member 10 to the fabric sheet 13, said member 10 is arranged at its proper place on the side 12 of the sheet, with the cap 14 arranged on the other side of the sheet in such position that when the cap and socket member are pressed toward each other, the prongs 15 pass through the sheet 13 and through the space 23 and contact with the anvil wall 22. It will be understood that said prongs pierce the fabric 13 without materially tearing or injuring the threads thereof, and that particularly in the case or knitted fabrics, the prongs pass between the threads without causing any injury thereto.

On pressing the cap and socket member further toward each other, the bendable prongs 15 are engaged by the anvil portion 20 of the socket member and bent into the positions thereof shown in Fig. 1, in which separation of the cap and socket member is prevented, and the socket member is held firmly to the sheet 13.

In that form of my invention shown in Fig. 3, the outer wall 20 of the anvil portion of the socket member is slitted, as by a plurality of spaced radial slits 32 to form a series of yieldable tongues 33 engageable by the prongs 15 when bent.

In that form of my invention shown in Fig. 5, the cap 40 is open at its center, and the prongs 41 are shown as formed from the material removed to form the central opening. The outer part of the flange 42 may be bent under as at 43 to form a bearing surface to engage the side 16 of the sheet 13. If desired, however, the flange may be left in flat form as shown at 44, Fig. 7, to provide a cap in the form of a flat washer with projecting prongs thereon. It being obvious that the prongs may be bent from the outer edge of the washer if desired, no further illustration or description thereof is deemed necessary.

It will be seen that I have provided a simple anvil socket designed for quick and easy attachment to a cooperating cap for holding the socket in place to a sheet of material, that the socket and its cap may be assembled without danger of severing threads of the fabric and causing runs or ravelling thereof, and that I have provided a structure adapted to be economically manufactured and designed to meet the requirements of practical use.

While I have shown and described certain specific embodiments of my invention, I do not intend to be understood as limiting myself thereto, but desire to claim my invention as broadly as may be permitted by the state of the prior art and the scope of the appended claims.

I claim:

1. A one-piece circular socket member comprising a bent outermost annular anvil portion having an inwardly and upwardly inclined inner wall and an outer curved wall continuous with the inner wall and terminating in a free edge spaced outwardly of the top of the inner wall, an imperforate socket wall extending downwardly from the top of the inner wall and integrally joined thereto, a fold bent through an angle of approximately 180 degrees integrally joining the top of the socket wall to the top of the inner wall, said socket wall being the only wall inside of the inner wall and surrounding a stud-receiving central opening in the socket member, and having an annular recess therein substantially semi-circular in cross-section and a resilient stud-engaging ring in said recess, said socket wall terminating in a lowermost free edge lying substantially in the same plane as the bottom of said inner wall and being closely adjacent to said inner wall.

2. In a snap fastener socket installation for use with an imperforate sheet of knitted fabric subject to ravelling when a thread thereof is cut, a one-piece socket member arranged on one side of the sheet, said member having an outermost anvil portion provided with an inwardly and upwardly inclined wall and with an outer curved wall continuous with the inner wall and having a plurality of spaced tongue-forming slits therein, said member having a single imperforate wall bent downwardly from the top of the inclined wall and closely adjacent thereto and terminating in a lowermost free edge lying substantially in the plane of the bottom of said inclined wall, said imperforate wall being of substantially semi-circular cross-section to provide a ring-receiving recess intermediate of the ends of said imperforate wall, and a yieldable ring in and projecting inwardly beyond said recess, and a cap member arranged on the other side of said sheet, said cap member having a plurality of spaced, tapered and pointed prongs passing through the sheet between the threads thereof and bent by said anvil portion into position to secure said members together with the sheet therebetween.

3. In a resilient socket, a socket member having an outermost anvil portion provided with a series of tongue-forming spaced radial slits, a single imperforate wall closely adjacent the anvil portion and terminating at one end in a free edge and at its other end in a bend subtending an angle of approximately 180°, said bend integrally joining the imperforate wall to the anvil portion, said imperforate wall being bent outwardly intermediate its ends into substantially semi-circular cross-section to provide a ring-receiving recess therein and a resilient ring in said recess.

4. In a resilient socket, a socket member having an outermost anvil portion adapted to receive and bend the prongs of a pronged cap when assembled therewith and having an inner inclined annular wall, an inner stud-receiving portion consisting solely of a single imperforate wall bent to provide an annular ring-receiving recess therein, said stud-receiving portion having a stud entrance opening at one end and an opposed opening at the other end, the wall of said recess being of substantially semi-circular cross-section to conform to the shape of and being adapted to engage only the outermost part of the surface of a ring and being otherwise free of the ring at all times, said stud-receiving portion being integral with and bent into position closely adjacent the anvil portion, a resilient ring in said recess, and a cap having spaced bendable pointed prongs adapted to pass between the threads of a sheet of material and to enter and to be bent by said anvil portion to hold said members together with the sheet therebetween.

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