June 25, 1946. O. J. HUELSTER 2,402,628

CAP FOR SNAP FASTENERS

Filed March 1, 1944

Fig. 1.

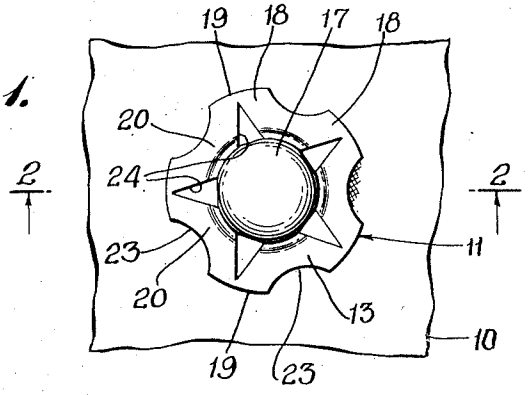


Fig. 2.

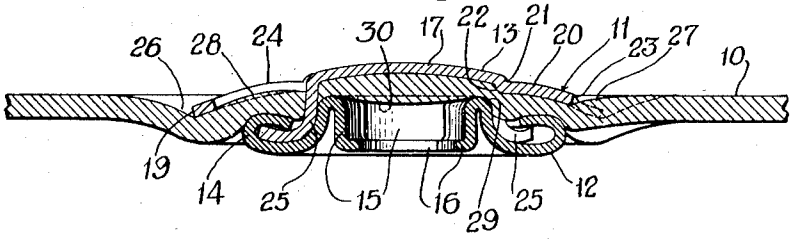
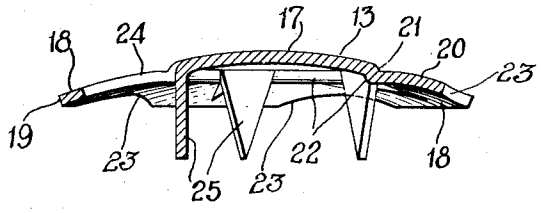


Fig. 3.



INVENTOR
OTTO J. HUELSTER
BY
Howard C. Thompson
ATTORNEY

Patented June 25, 1946 2,402,628

UNITED STATES PATENT OFFICE

2,402,628

CAP FOR SNAP FASTENERS

Otto J. Huelster, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Application March 1, 1944, Serial No. 524,826

7 Claims. (Cl. 24—216)

1

This invention relates to snap fastener installations of the general type employing sockets having yieldable portions for the reception of conventional stud-like elements in coupling and uncoupling the separate parts of the fastener. More particularly, the invention relates to the construction of the socket member of fasteners of the kind under consideration and, still more particularly, to the construction of the cap of such socket members. The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed, and in which the separate parts are designated by suitable reference characters in each of the views and in which:

Fig. 1 is a plan view showing the cap side of a socket member as attached to a support.

Fig. 2 is a section on the line 2—2 of Fig. 1 on an enlarged scale, and

Fig. 3 is a sectional view similar to Fig. 2 showing the cap in detached position with the prongs of the cap in the position assumed thereby, prior to the coupling with the socket part, as illustrated in Fig. 2.

The socket member, as disclosed in this application, forms a continuation-in-part of the socket member, as disclosed in a prior application filed by me February 8, 1944 and bearing Serial Number 521,741. In the present application, I employ a cap for socket members of fasteners of the kind under consideration employing a plurality of circumferentially spaced claw-like jaw members at the periphery thereof adapted to engage and become slightly embedded in a support at circumferentially spaced intervals in firmly gripping or positioning the socket member on the support and in retaining the same against shifting or rotary movement in the support. Further, the jaw members are cutout to form the coupling prongs for securing the cap part to the socket part and to the intervening support.

In Figs. 1 and 2 of the drawing, I have shown at 10 part of a support of any type or kind and usually composed of flexible fabric. In other words, it may constitute a part of a garment or other article of apparel. At 11 is shown a socket member which is composed of a socket part 12 and cap part 13. The part 12 is substantially of the same construction, as disclosed in the application hereinbefore referred to, and comprises a ring-like body terminating in an inturned circumferential hook-shaped flange 14, the bore of the socket part 12 having a plurality of circumferentially spaced spring arms 15 terminating at their inner ends in offset flange portions 16 adapted to engage the conventional stud part of a fastener, as is well known in this art. The stud is not shown, as it forms no part of the present invention.

2

The cap part 13 comprises a central outwardly domed part 17, at the periphery of which is a plurality of circumferentially spaced claw like jaw members 18, outer edges 19 of which being rounded, as clearly seen in Fig. 1 of the drawing. The jaw members 18, including the intervening wall portions 20, are offset with respect to the dome portion 17, as seen at 21, note Fig. 2 of the drawing. This offset forms a corresponding projection 22 on the inner surface of the cap.

The jaw portions 18 are separated and partially formed by rounded circumferential recesses 23, as illustrated in Fig. 1 of the drawing.

The jaw portions 18 are cutout centrally and longitudinally, as seen at 24, and these cutouts or apertures are formed by stamping a plurality of corresponding spaced prongs 25, which normally project from the lower surface of the cap 13 in the manner illustrated in Fig. 3 of the drawing. However, in assembling the parts 12 and 13, the prongs 25 pierce the support 10 and are curved outwardly into the inturned flange 14 of the socket part 12, as clearly illustrated in Fig. 2 of the drawing.

The jaw members 18, including the wall portions 20, are curved substantially similar to the curvature of the dome 17 and this disposes the outer ends of the jaws 18 in overlapped relationship with respect to the socket part 12, thus embedding the jaws in the support, as seen at 26, at the left of Fig. 2 of the drawing. On the other hand, the support 10 will extend upwardly through the recesses 23 intermediate the jaws 18, as seen at 27, at the right of Fig. 2 of the drawing. This forms a more or less hill and dale contour of the support along the periphery of the cap which securely keys the cap against rotation on the support, thus retaining the entire socket member against shifting and preventing any possible displacement or separation of the socket member from the support. It will also be understood that part of the support will be extended into the apertures 24, as illustrated at 28, at the left of Fig. 2, and this will also assist in the above operation. Furthermore, this structure maintains the socket member more completely in the environment of the support, presenting the thinest possible wall structure for free passage of the socket member through laundering devices or apparatus of vari-

ous types and kinds. The claw-like jaw members, which become partially embedded in the support, also present bevelled surfaces which facilitate free entrance of the socket member through laundering apparatus.

The cap of the socket member may be said to have a plurality of circumferentially spaced peripheral members curved or toed inwardly to firmly engage a support in keying the socket member to the support while, at the same time, presenting a minimum peripheral wall structure on the cap and, further, in providing, to a degree, independent flexure or engagement of the jaw members with the support. In other words, in the event that the cap of the socket member is subjected to stresses or strains at the periphery thereof, these stresses or strains will be localized on the independent jaw members and not transmitted, to any degree, to other associate jaw members.

The separate parts of the socket member will be wholly composed of sheet metal or of plastic materials. On the other hand, one part may be composed of metal and the other part of plastic material. When plastic material is employed in the cap part, with some supports, it may be necessary to pre-pierce the support for entrance of the prongs. Further, with some plastic materials, it may be necessary to pre-heat the prongs before the bending or flexing operation and, after cooling, the prongs will retain their flexed or bent positions.

It will also appear that a firm engagement is established with the support **10** between the inwardly extending projections **22** and the outer rounded edges **29** of the socket part **12**. Further, in compression of the parts **12** and **13** onto the support, the part of the support beneath the dome **17** will be extended slightly into the central portion of the socket, as seen at **30** in Fig. 2 of the drawing.

It will be apparent, from a consideration of Fig. 1 of the drawing, that the jaw members or claws represent the greatest radial dimension of the marginal portion of the cap and centrally of the spaced jaw members, the marginal portion of the cap has the least radial dimension. Furthermore, it will appear that the jaw members or claws may be said to be formed from wall portions which extend outwardly from the center portion of the cap and converge at their ends in forming the peripheral ends of the jaws. Another method of expressing this structure would be to say that the jaw members join the center portion in diverging wall members. The wall members referred to in both instances are united at the periphery of the center portion in the marginal flanges.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A cap for a snap fastener, said cap having an imperforate center portion and circumferentially spaced radial claws extending from the periphery of the center portion, said claws being offset with respect to the plane of the center portion, and said cap having circumferentially spaced mounting members projecting angularly from the lower surface of the cap.

2. A cap for a snap fastener, said cap having

an imperforate center portion and circumferentially spaced radial claws extending from the periphery of the center portion, said claws being offset with respect to the plane of the center portion, said cap having circumferentially spaced mounting members projecting angularly from the lower surface of the cap, and said claws joining the center portion in diverging side members.

3. A cap for a snap fastener, said cap having an imperforate center portion and circumferentially spaced radial claws extending from the periphery of the center portion, said claws being offset with respect to the plane of the center portion, said cap having circumferentially spaced mounting members projecting angularly from the lower surface of the cap, said claws joining the center portion in diverging side members, and said side members being curved longitudinally.

4. A cap for a snap fastener, said cap having an imperforate center portion and a surrounding marginal portion, said marginal portion having circumferentially spaced apertures extending radially from the center portion, the marginal portion being of greatest radial dimensions in alinement with said apertures to form, of the marginal portion and at the outer ends of said apertures, tonglike members, and means on said cap projecting angularly from the lower surface thereof for securing the cap to a support.

5. A cap for a snap fastener, said cap having an imperforate center portion and a surrounding marginal portion, said marginal portion having circumferentially spaced apertures extending radially from the center portion, the marginal portion being of greatest radial dimensions in alinement with said apertures to form, of the marginal portion and at the outer ends of said apertures, tonglike members, means on said cap projecting angularly from the lower surface thereof for securing the cap to a support, and said last named means comprising members arranged in radial alinement with said apertures.

6. A cap for a snap fastener, said cap having an imperforate center portion and a surrounding marginal portion, said marginal portion having circumferentially spaced apertures extending radially from the center portion, the marginal portion being of greatest radial dimensions in alinement with said apertures to form, of the marginal portion and at the outer ends of said apertures, tonglike members, means on said cap projecting angularly from the lower surface thereof for securing the cap to a support, and said marginal portion being curved inwardly.

7. A cap for a snap fastener, said cap having an imperforate center portion and a surrounding marginal portion, said marginal portion having circumferentially spaced apertures extending radially from the center portion, the marginal portion being of greatest radial dimensions in alinement with said apertures to form, of the marginal portion and at the outer ends of said apertures, tonglike members, means on said cap projecting angularly from the lower surface thereof for securing the cap to a support, and the marginal portion having the least radial dimension at circumferential points centrally between spaced tong members.

OTTO J. HUELSTER.