

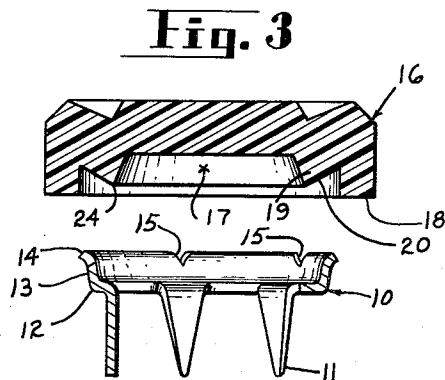
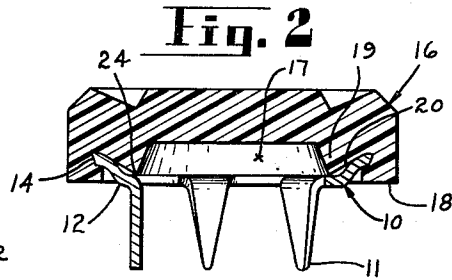
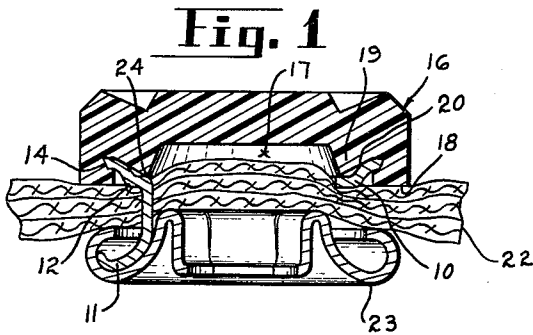
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CAPPED PRONG RINGS

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CAPPED PRONG RINGS

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This invention is an improvement in capped prong rings intended to be used for securing either the socket or stud parts of snap fasteners to flexible supporting material.

It has heretofore been proposed to mold a plastic cap to the ring portion of a metallic prong ring. However, the cost of a molding operation is such that these capped rings have not found any extensive use. It is, of course, much simpler and less costly to mold a cap separately.

It is the purpose of our invention to provide a combination plastic cap and metallic prong ring with such combined features of construction that the cap may be molded separately and easily but securely fastened to the metallic prong ring. The plastic material employed may be described as a pliable material even though it is generally rigid enough for its purpose as a decorative cap for the prong ring, one example of such material being nylon.

Along with the combination of features which allow such a plastic cap to be fastened inexpensively to the prong rings, it is desirable to provide means on the cap which will give firm support to the ring when the prongs are being clinched into a fastener element and also a suitable recess into which that portion of the flexible material penetrated by the prongs may extend.

Other objects and advantages of our invention will appear from the following detailed description when taken in conjunction with the accompanying drawing, wherein:

FIG. 1 is a sectional view of an assembled capped prong ring and socket, embodying our invention;

FIG. 2 is a sectional view of a capped prong ring, per se; and,

FIG. 3 is a sectional view of a prong ring and ornamental cap before they are assembled.

In the drawing the numeral 10 designates generally a prong ring, preferably made of metal, and having prongs 11 which extend downwardly from the inner edge of a ring portion 12. A rim 13 is formed upwardly from the outer edge of the ring portion 12 and has its upper edge flared outwardly at 14 and has V-shaped cut-outs 15 in its upper edge in line with each of the prongs 11 for reasons that will appear later.

The plastic cap 16 may be of any desired decorative shape and has a deep central recess 17 formed in its back face and providing a peripheral wall 18 around the edge of said cap. Between the base of the recess 17 and the peripheral wall 18, the cap is formed with a dependent annulus 19 of the cap material and shaped to provide an upwardly and outwardly inclined anvil shoulder 20 which intersects the inner surface of the peripheral wall 18 at an acute angle thereby providing means to flare the rim 13 of the prong ring when said rim is forced against the shoulder 20.

When the prong ring 10 is to be attached to the plastic cap 16, the flared edge 14 of the rim 13 is first aligned with the inclined anvil shoulder 20 of the cap 16 and the two parts then forced together. This causes the rim 13 of the prong ring to follow along the shoulder 20 of the annulus 19 and flare outwardly beyond the inner surface of the peripheral wall 18 and imbed itself in the plastic material of the plastic cap. The V-shaped cut-outs 15 in the flared portion 14 of the rim 13 of the prong ring 10 allow the rim and its flared portions to flare

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farther outwardly freely as it requires far less pressure to assembly these parts due to the cut-outs 15 than if the rim 13 were solid. Furthermore, the V-shaped cut-outs 15 are positioned in alignment with prongs 11 so as not to lessen the strength factor of the combined ring portion 12 and rim 13.

After the prong ring 10 is assembled to the plastic cap 16, the assembled capped prong ring is then assembled to a snap fastener 23 to attach the fastener to a garment material 22. In attaching the prong ring to the snap fastener 23, it is necessary to apply pressure to the top of the plastic cap 16 in order to force the prongs 11 into proper engagement with said fastener. It should be here noted that the lower end 24 of the anvil shoulder 20 is located directly over the prongs 11 of the prong ring 10. This provides means to transmit the pressure from the cap 16 directly to the prongs 11 and also supports the end thrust of the prongs to prevent deforming the ring portion 12 and collapsing it upwardly coincident with the fastener setting operation.

When the assembly of prong ring and snap fastener is completed, the support material 22 squeezed between the prong ring 10 and snap fastener 23 will bulge upwardly into that portion of the recess 17 inwardly of the dependent annulus 19 and thereby reduce the required pressure to complete the assembly and prevent cutting or mutilation of the garment material.

While the form of invention herewith shown and described embraces a preferred embodiment of the same, it is understood that the construction may be varied without departing from the spirit of the invention and the scope of what is claimed.

What we claim is:

1. The combination with a metallic prong ring comprising a ring portion with circumferentially spaced prongs projecting downwardly from the inner edge of said ring portion, and a rim projecting upwardly from the outer edge of said ring portion, of a cap of pliable plastic material covering said prong ring and having a peripheral wall extending around the outer edge of said ring portion, the rim of said ring portion being deformed outwardly to penetrate the plastic material of said peripheral wall and to interlock with the same, the lower surface of the cap having a deep central recess in line with the circular space defined by the inner surfaces of the prongs to allow material penetrated by the prongs to extend into said recess, and a shoulder between said deep central recess and peripheral wall against which the inner edge of said ring portion bears to give support to the prongs when the capped prong ring is being attached to a fastener member.

2. The combination defined in claim 1 wherein said rim has notches in its outer edge to facilitate flaring of the outer zone of said ring portion.

3. The combination defined in claim 2 wherein each notch is in radial alignment with each prong.

4. A two-piece prong member comprising a cap of pliable plastic material and an attaching part, said cap having a recess opening in one face thereof providing a base and cylindrical wall, said recess also formed with an upwardly and outwardly inclined anvil shoulder adjacent said cylindrical wall, said attaching part consisting of a ring portion having prongs extending downwardly from its inner edge and a rim extending upwardly from its outer edge, said rim of the attaching part having a smaller outside diameter than the cylindrical wall of the cap and terminating in an outwardly flaring flange having a diameter substantially equal to the diameter of said recess, said cap and attaching part when forced together causing said flange to cam against said anvil shoulder and deforming said rim outwardly to force said flange into the plastic material to a diameter greater than the

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cylindrical wall to establish a permanent anchorage between said cap and attaching part.

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