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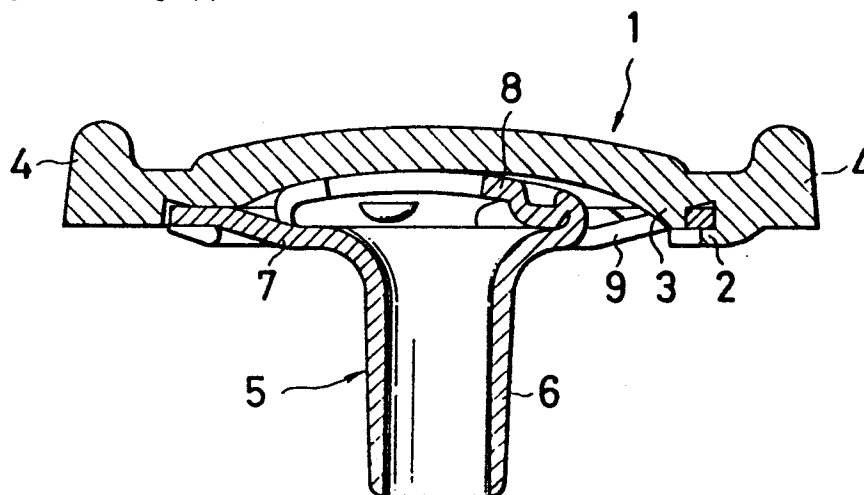
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84 Capped eyelet for attaching snap fastener.

57 According to the present invention, a capped eyelet comprises an eyelet body (5) with a flange (7) extending outwardly from one end of a hollow shank (6) and having at least two apertures (9), and a cap (1) having on its bottom side at least two sets of inner and outer clamping projections (3, 2) disposed inwardly of a peripheral edge (4) of the flange (7). The inner clamping projections (3) are inserted through the respective apertures (9), while the outer clamping projections (2) are crimped over the peripheral edge of the flange (7), thus tightly holding the peripheral edge of the flange (7).

FIG. 1



CAPPED EYELET FOR ATTACHING SNAP FASTENER

The present invention relates to an eyelet for a snap fastener composed of a male and a female member, and more particularly to a capped eyelet for attaching such a fastener member to a garment fabric or the like.

Known capped eyelet for the concerned purposes, as disclosed in U.S. Patent 3,333,306, for example, and as reillustrated here in Figure 7, generally comprise a circular cap B, and an eyelet body A having a hollow shank with a flange and secured thereto by crimping a peripheral edge portion C of the cap B around a peripheral edge of the flange. This prior art eyelet is disadvantageous in that since the eyelet body A must fit to the cap B, a number of eyelet bodies of different shapes and sizes are required for various kinds of caps, and one of these eyelet bodies must be chosen for each cap depending on the shape and size of the cap.

Another disadvantage of the prior eyelet is that since the cap is secured to the flange of the eyelet body by merely crimping the peripheral edge portion of the cap around the peripheral edge of the flange, the cap is apt to be inadvertently rotated or angularly displaced on the eyelet body.

The present invention seeks to provide a capped eyelet in which a cap can be secured to a flange of an eyelet body, irrespective of the shape and size of the cap and in which the cap is free from being rotated or angularly displaced on the eyelet body.

According to the present invention, there is provided a capped eyelet for attachment of a snap fastener member to a garment, comprising: an eyelet body including a hollow shank and an annular flange extending outwardly from one end of said shank, said flange having at least two circumferentially spaced apertures; and a cap covering said flange and having at least two pairs of clamping projections on its bottom surface, at least one of said clamping projections of each pair being inserted through a respective one of said apertures, the other clamping projection of each pair being permanently bent in crimped form against the bottom surface of said flange.

Many other advantages, features and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying drawings in which a preferred embodiment incorporating the principles of the present invention is shown by way of illustrative example.

Figure 1 is a cross-sectional view of a capped eyelet embodying the present invention;

Figure 2 is a bottom view of Figure 1.

Figures 2A and 2B are fragmentary bottom views of modified forms of the eyelet;

Figure 3 is a cross-sectional view of a cap of Figure 1 showing the same before having been joined with an eyelet body of Figure 1;

Figure 4 is a bottom view of Figure 3;

Figure 5 is a cross-sectional view of the eyelet body of Figure 1, showing the same before having been joined with the cap;

Figure 6 is a bottom view of Figure 5; and

Figure 7 is a cross-sectional view of a prior art capped eyelet.

Figures 1 and 2 show a capped eyelet embodying the present invention and comprising an eyelet body 5 and a cap 1 secured thereto.

The cap is made of metal or synthetic resin and bears on its top surface a design, an emblem or an ornament. The cap 1 has a circular shape, as shown in Figures 2 and 4, but may be of any other shape such as a polygon.

The cap 1 has at least two circumferentially spaced pairs of outer and inner clamping projections 2, 3 on its bottom surface slightly inwardly of a peripheral edge of the cap 1. In the disclosed embodiment, three pairs of outer and inner clamping projections 2, 3 are illustrated. The outer and inner projections 2, 3 of each pair are disposed slightly inwardly of a peripheral edge of the cap 1 in radially confronting relation; in its initial form - (Figure 3), the outer clamping projection 2 is higher than the inner clamping projection 3 for a purpose described below. The three pairs of outer and inner clamping projections 2, 3 are circumferentially spaced at uniform angular distances. The outer and inner clamping projections 2, 3 of each pair are concentric arcs subtend a predetermined angle at the center of the circular cap 1.

As shown in Figures 1, 2, 5 and 6, the eyelet body 5 includes a tubular shank 6 and an annular flange 7 projecting outwardly from an upper or one end of the shank 6. The flange 7 is slightly upwardly curved toward its peripheral edge 10 and has three buffer wings 8,8,8 punched from the flange 7 and folded over the top surface thereof, there resulting three corresponding apertures 9,9,9. Each aperture 9 serves as a drain to allow any water or other liquid substance (collected in the capped eyelet due to washing or plating) to flow out of the eyelet, thus making the latter free from rust.

As shown in Figure 6, the three buffer wings 8,8,8 and thus the three apertures 9,9,9 are arranged about the axis of the eyelet body 5 at uniform angular distances, each aperture 9 has an

arcuate outer edge portion 10 which curvature substantially corresponds to the curvature of each inner clamping projections 3 and length slightly longer than the length of each inner projection 3.

For assembling the capped eyelet, namely, for joining the cap 1 and the eyelet body 5 together, firstly the cap 1 of Figures 3 and 4 is placed on the annular flange 7 of the eyelet body 5 of Figures 3 and 4 with the three inner clamping projections 2,2,2 inserted through the corresponding three apertures 9,9,9 along the outer edge portions 10,10,10 thereof. Then the three outer clamping projections 2,2,2 are permanently deformed or bent inwardly in crimped form against the bottom surface of the annular flange 7, thus tightly holding the peripheral edge of the flange 7 at the portions 10,10,10 thereof.

According to the present invention, since the cap 1 and the eyelet body 5 are joined together by holding the peripheral edge of the flange 7 of the eyelet body 5 by the plurality of pairs of outer and inner clamping projections 2, 3 disposed on the bottom side of the cap 1 inwardly of the peripheral edge 4 thereof, it is possible to mount the cap 1 on the flange 7 of the eyelet body 5, irrespective of the shape and size of the cap 1. Consequently, only a single kind of eyelet bodies are required for various kinds of caps having different shapes and sizes.

Another advantage of the eyelet body of the present invention is that the cap is free from being inadvertently rotated or angularly displaced on the eyelet body, partly because the inner clamping projections of the cap is inserted through the respective apertures of the flange of the eyelet body, and partly because the outer clamping projections are bent in crimped form against the bottom surface of the flange of the eyelet body.

Further, since the cap is secured to the flange of the eyelet body without deforming the peripheral edge of the cap, the assembled eyelet is neat in appearance.

In the illustrated embodiment, the apertures 9 are provided as a by-product of the buffer wings 8 when the latter are punched from the flange 7 and folded over the top surface thereof. Alternatively, the apertures 9 may be formed independently of the buffer wings 8.

Figures 2A and 2B show modified forms of the capped eyelet, in which both the clamping projections 2, 3 of each pair are inserted through one aperture 9. In Figure 2A, one clamping projection 3

is merely disposed at one end of the aperture 9 against the edge of the aperture 9, which the other clamping projection 2 is disposed at the other end of the aperture 9 and is permanently bent away from the one clamping projection 3 about the edge of the aperture 9.

In Figure 2B, the inner clamping projection 3 is merely disposed along and against the inner edge of the aperture 9, while the outer clamping projection 2 is disposed along the outer edge of the aperture 9 and is permanently bent away from the inner clamping projection 3 about the other edge of the aperture 9. In the embodiment of Figure 2B, the aperture 9 is preferably of a rectangular shape.

Claims

1. A capped eyelet for attachment of a snap fastener member to a garment, comprising: an eyelet body (5) including a hollow shank (6) and an annular flange (7) extending outwardly from one end of said shank (6), said flange (7) having at least two circumferentially spaced apertures (9); and a cap (1) covering said flange (7) and having at least two pairs of clamping projections (2, 3) on its bottom surface, at least one of said clamping projections (3) of each pair being inserted through a respective one of said apertures (9), the other clamping projection (2) of each pair being permanently bent in crimped form against the bottom surface of said flange (7).

2. A capped eyelet according to claim 1, said clamping projections (2, 3) of each pair being disposed inwardly of a peripheral edge (4) of said cap (1).

3. A capped eyelet according to claim 2, said clamping projections (2, 3) of each pair being in the form of concentric arcs subtending a predetermined angle at the center of said cap (1).

4. A capped eyelet according to claim 2, said pairs clamping projections (2, 3) being circumferentially spaced at uniform angular distances.

5. A capped eyelet according to claim 1, the other clamping projection (3) of each pair having a length slightly shorter than the length of a respective one of said apertures (9).

6. A capped eyelet according to claim 3, each said aperture (9) having an outer arcuate edge of a curvature substantially equal to the curvature of the other clamping projection (3).

FIG. 1

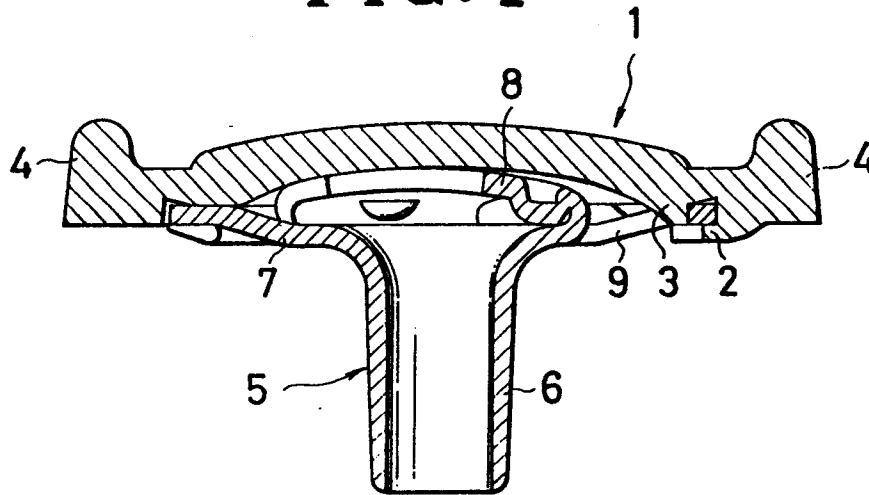


FIG. 2

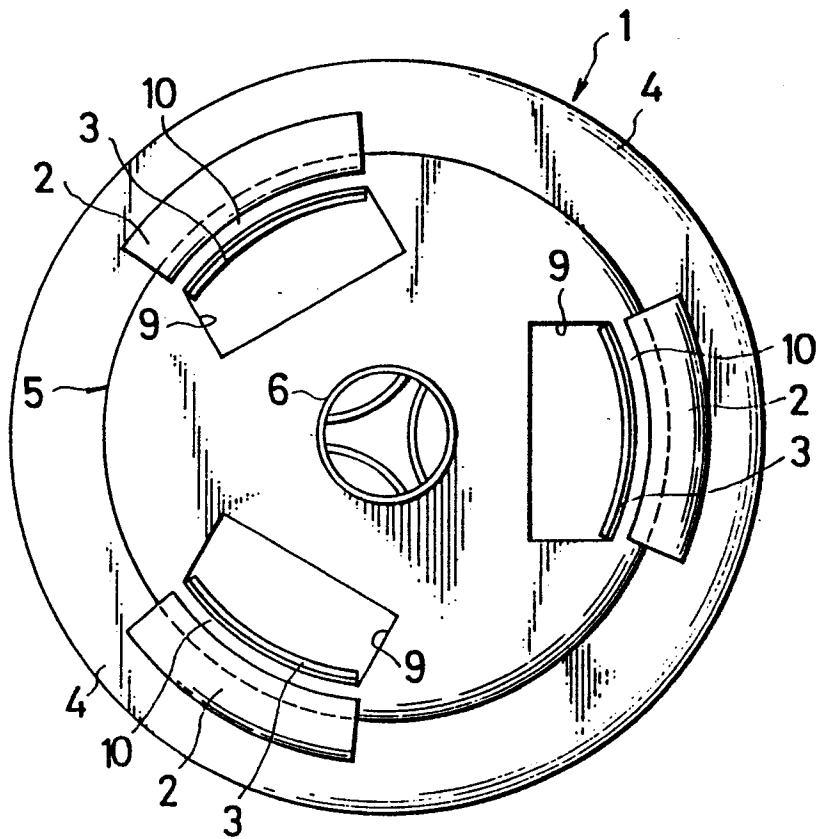


FIG. 2A

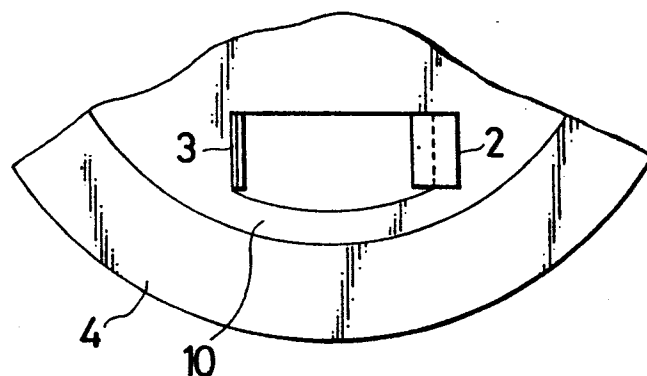


FIG. 2B

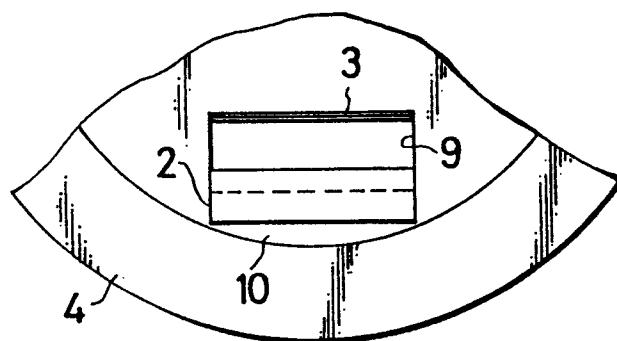


FIG.3

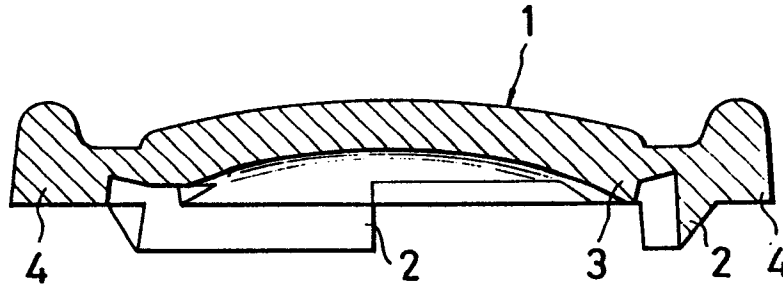


FIG.4

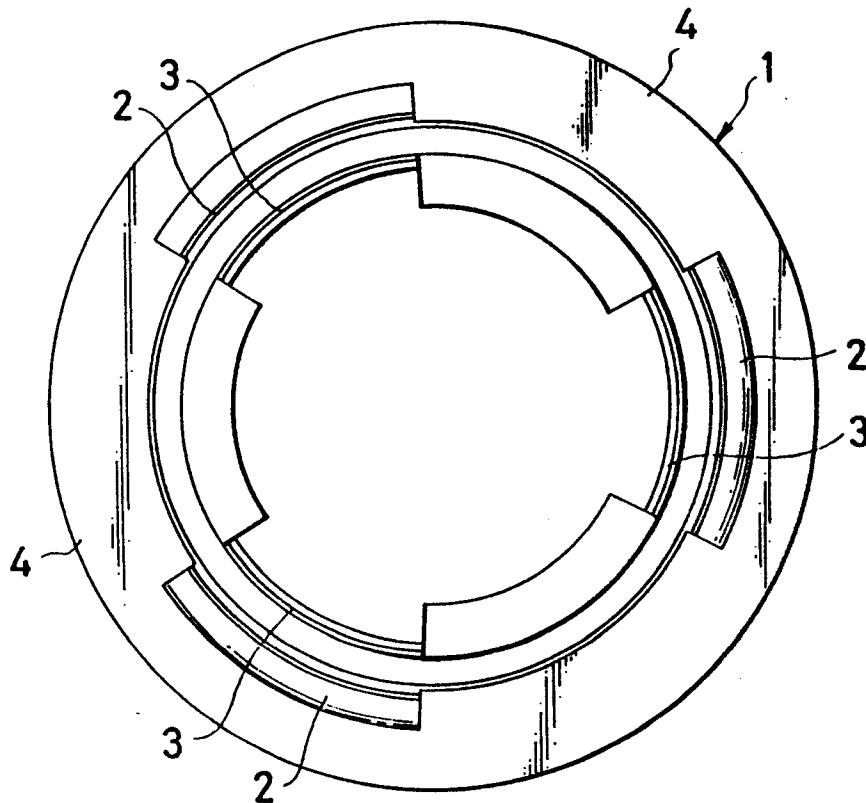


FIG. 5

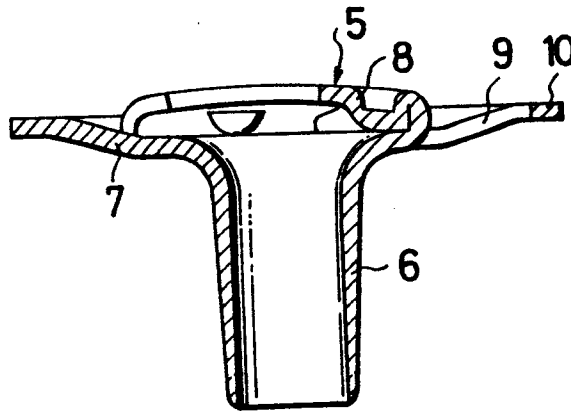


FIG. 6

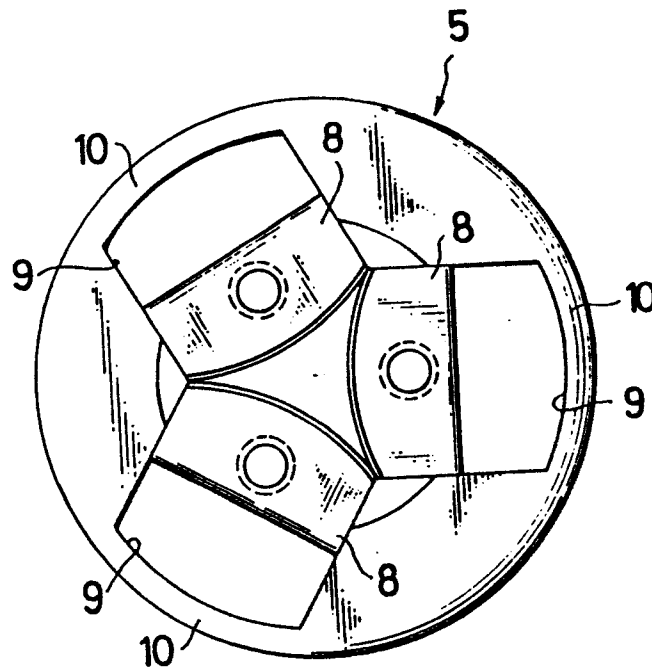
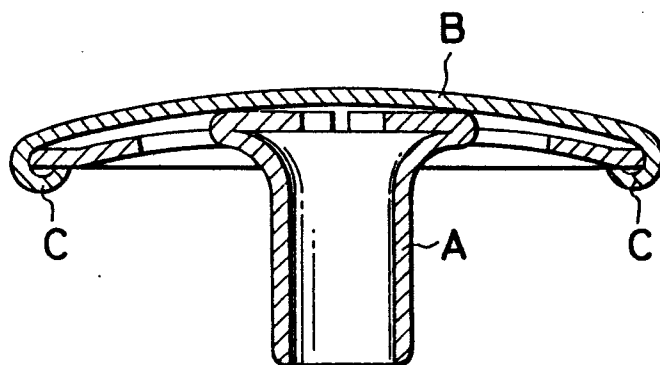


FIG. 7





EP 86 11 0583

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	FR-A-1 243 521 (C. LAFOND)		A 44 B 17/00
A	FR-A- 988 372 (B. LEMOINE)		
A	US-A-1 387 119 (CARR FASTENER CO.)		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			A 44 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 01-12-1986	Examiner GARNIER F.M.A.C.
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