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## (54) Eyelets

(57) An eyelet for attachment within a hole in curtain heading has two ring-shaped eyelet structures (1, 9) with flanges (5, 11). The structures interlock with each other via ratchet configurations (4a, 17a) which allow different separations of the flanges (5, 11). The ratchet configurations (4a, 17a) may be confronting circumferentially grooved axial surfaces of central coaxial tubular parts (2, 10). One flange (5) may have spikes (7a) which pass through the curtain heading into a circumferential groove (16) in the other flange (11) to hold the eyelet in position on the curtain heading.

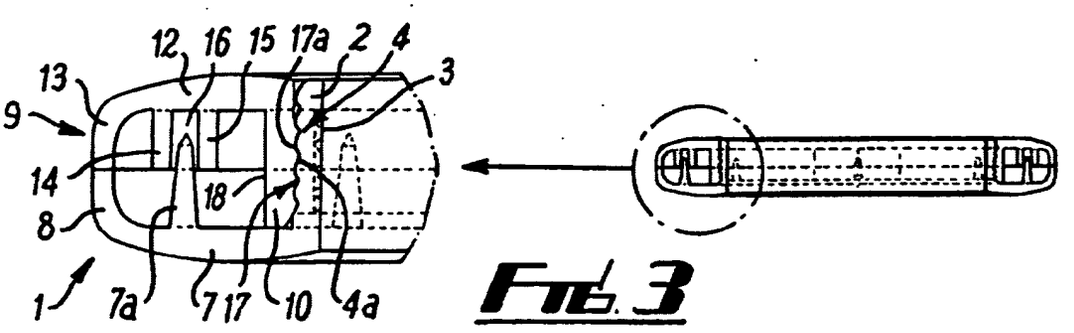


FIG. 3

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## Description

**[0001]** This invention relates to eyelets for attachment within holes in fabric material, particularly although not exclusively for attachment within holes in curtain headings to receive curtain hanging poles.

**[0002]** Curtains which are hung on curtain poles may have curtain heading tape stitched or otherwise fixed to a heading of the curtain material with aligned holes cut through the tape and curtain material and reinforcing eyelets fixed within the aligned holes.

**[0003]** With one known arrangement a first eyelet structure in the form of a ring having spaced circumferential flanges on opposite sides is pre-fixed within each hole in the heading tape with the tape material clamped between the flanges, and a second eyelet structure, in the form of a ring shaped insert with a circumferential flange on one side is pushed through each hole in the curtain material into interlocking engagement with the first eyelet structure so that the curtain material is clamped between the flange of the second eyelet structure and one of the flanges of the first eyelet structure.

**[0004]** With this known arrangement there is the problem that different curtain materials can have widely different thicknesses whereby it cannot be assured that the second eyelet structure can be easily and securely engaged with the first eyelet structure for all materials.

**[0005]** An object of the present invention is to provide an eyelet which can be easily and conveniently attached within a hole in fabric material for a range of thicknesses of such material.

**[0006]** According to the invention therefore there is provided an eyelet for attachment within a hole in fabric material, said eyelet comprising first and second ring-shaped eyelet structures, wherein the structures have respective configurations for interlocking engagement with each other and respective flanges for retention of said material therebetween, characterised in that the said configurations are adapted for said interlocking engagement at different separations of said flanges.

**[0007]** With this arrangement the eyelet can be readily attached to different thicknesses of material. Moreover, the eyelet structures can be wholly separate from the fabric material until required for use whereby manufacture can be facilitated.

**[0008]** With regard to the ring-shaped eyelet structures these are preferably complete circular rings although part circular or similar structures which essentially extend around a periphery but which may be discontinuous may also be used.

**[0009]** With regard to the flanges these are preferably complete circumferential flanges preferably extending at least substantially radially with a circular periphery, although part circumferential or similarly shaped flanges which extend around a periphery but which may be discontinuous may also be used.

**[0010]** With regard to the said configurations these may take any suitable form. In one embodiment the configurations comprise a first ratchet or stepped element having multiple, axially spaced grooves and/or projections engageable with one or more projections and/or grooves on a second ratchet or stepped element or pawl or other cooperable structure.

**[0011]** In addition to the configurations there may be a retention arrangement which helps locate the structures and for example prevents relative rotation thereof relative to the material. This arrangement may comprise one or more projecting pins or spikes on one structure which may cooperate with one or more receiving apertures or recesses or grooves on the other structure, such pins or spikes being arranged to penetrate the material in use.

**[0012]** Such pins or spikes may be provided on the said flange of one of the eyelet structures, the receiving apertures or recesses or grooves where provided being on the flange of the other structure.

**[0013]** In one embodiment there are multiple pins or spikes spaced circumferentially around the respective flange, and these may cooperate with a circumferential groove on the other flange.

**[0014]** In a particularly preferred embodiment each structure comprises an axial tubular part bounded by a radially extending said flange at one end and projecting freely at its opposite end, whereby the said configurations are provided on the tubular parts and one said part fits axially within the other said part.

**[0015]** Each flange may be cap-shaped with a radial wall and an inturned rim at its outer periphery.

**[0016]** The eyelet structures may each be one-piece plastics moulded parts and they may be formed from material of any suitable colour and texture.

**[0017]** The eyelet of the invention may be used with curtain headings e.g. within aligned holes through curtain heading tape and curtain material to which the tape is attached, to receive a curtain hanging pole, particularly as described in our copending application of even date.

**[0018]** However, the invention is not restricted to this and the eyelet may be used with any suitable textile or other fabric material for any suitable purpose.

**[0019]** The invention will now be described further with reference to and as illustrated in the accompanying drawings in which:-

| | |
|---|---|
| Figures 1 and 2 | are diagrammatic perspective views of first and second structures of one form of an eyelet according to the invention; and |
| Figure 3 to 6 | are sectional views with a detail shown enlarged of the assembled eyelet. |

**[0020]** Referring to the drawings, Figure 1 shows one eyelet structure 1 which is in the form of a one-piece moulded plastics ring.

**[0021]** The ring has a central, coaxial open tubular

part 2 having an axially parallel flat internal face 3 and a circular cross-section. The outer face 4 is generally axially parallel but has a formation 4a of like curved section coaxial grooves formed therein at equally spaced positions along the length of the tubular part.

**[0022]** At one end of the tubular part 2 there is an integral circumferential flange 5 having a continuous circular outer periphery 6 coaxial with the tubular part 2.

**[0023]** The flange 5 has a generally flat radially extending wall 7 with an inturned rim 8 around its periphery whereby the flange 5 is of the form of a cap open in the direction of the tubular part 2.

**[0024]** At regularly spaced positions within this cap around a circle coaxial with the tubular part 2 there are integral spikes 7a which are attached to the wall 7 and project in the direction of the tubular part 2 beyond the rim 8.

**[0025]** Figure 2 shows a second eyelet structure 9 which, like the structure of Figure 1, has an open coaxial tubular part 10 with a flange 11 at one end with a radial wall 12 and an inturned rim 13 defining a cap.

**[0026]** Within the cap 13 there are two coaxial walls 14, 15 level with the rim 13 defining therebetween a circumferential groove 16 or channel which is open facing in the direction of the tubular part 10.

**[0027]** The tubular part 10 has a formation 17a of curved section coaxial grooves, like the grooves of the tubular part, but on the inner face 17 of the tubular part 10, the outer face 18 of such part 10 being a flat axially parallel face.

**[0028]** The tubular part 10 of the second structure 9 is wider than the tubular part 2 of the first structure 1 whereby the inner diameter of the tubular part 10 is approximately equal to the outer diameter of the tubular part 2.

**[0029]** As shown in Figures 3-6, the two structures 1, 9 can press fit together with the tubular part 2 of the first structure 1 within the tubular part 10 of the second structure 9 with the respective formations 4a, 17a interengaging each other i.e. with the raised parts of each formation engaging the grooves of the other formation.

**[0030]** The formations 4a, 17a act as ratchets whereby the structures 1, 9 can be held with the flanges 5, 11 at different spacings depending on which grooves and raised parts of the formation 4a, 17a are interengaged. The grooves and raised parts of the two formations 4a, 17a have like profiles and the material of the tubular parts 2, 10 is slightly springy so that the tubular part 2 will snap-fit to different depths in the other tubular part 10 and will be retained at a selected depth unless rigorously pushed further in or pulled out.

**[0031]** When used with a textile fabric curtain heading having an attached textile fabric curtain heading tape with aligned holes cut through the tape and the curtain heading, the eyelet structures are interconnected by pushing the tubular part 2 of one structure 1 through the hole in the curtain heading and by pushing the tubular part 10 of the other structure 9 through the hole in the tape.

**[0032]** When fully pushed in the curtain and tape material is held tightly clamped between the respective flanges 5, 11 with the free edges of the rims 8, 11 contacting the fabric material.

**[0033]** In this position the spikes 7a penetrate the material and enter the groove 16 thereby to hold the eyelet securely in position and prevent rotation relative to the material.

**[0034]** With this embodiment the eyelet can be readily attached within aligned holes in the curtain and tape material with a wide range of thicknesses of such material, using a construction of the eyelet and the tape which is convenient to manufacture.

**[0035]** It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

## Claims

1. An eyelet for attachment within a hole in fabric material, said eyelet comprising first and second ring-shaped eyelet structures (1, 9), wherein the structures have respective configurations for interlocking engagement with each other and respective flanges (5, 11) for retention of said material therebetween, **characterised in that** the said configurations (4a, 17a) are adapted for said interlocking engagement at different separations of said flanges.

2. An eyelet according to claim 1 **characterised in that** the configurations (4a, 17a) comprise first and second ratchet elements (4a).

3. An eyelet according to claim 2 **characterised in that** the ratchet elements (4a, 17a) comprise respective grooved faces.

4. An eyelet according to any one of claims 1 to 3 **characterised in that** there is provided a retention arrangement (7a) to locate the structures (1, 9).

5. An eyelet according to claim 4 **characterised in that** the retention arrangement comprises projecting pins or spikes (7a) on one structure (1).

6. An eyelet according to claim 3 **characterised in that** the pins or spikes (7a) cooperate with receiving apertures (16) on the other structure (9).

7. An eyelet according to claim 6 **characterised in that** the pins or spikes (7a) and the apertures (16) are provided respectively on the flanges (5, 11).

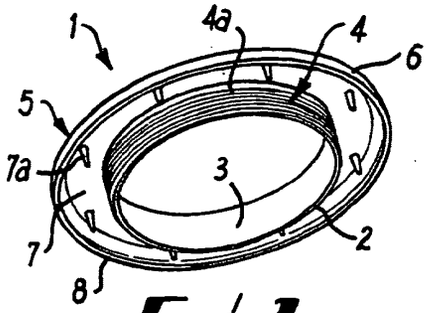
8. An eyelet according to claim 7 **characterised in that** the pins or spikes (7a) are disposed circumfer-

entially around the respective flange (5), and the apertures are provided by a circumferential grooves (16) on the other flange (11).

**9.** An eyelet according to any one of claims 1 to 8 **characterised in that** each structure (1, 9) comprises an axial tubular part (2, 10) bounded by a radially extending said flange (5, 11) at one end and projecting freely at its opposite end, the said configurations (4a, 17a) are provided on the tubular parts, and the said one part fits axially within the other said part.

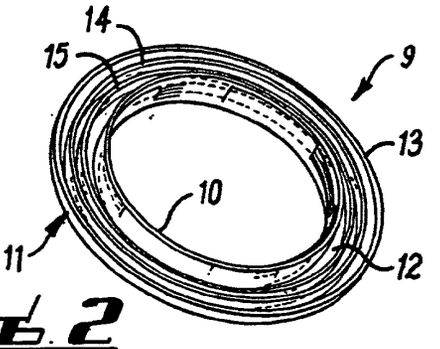
**10.** An eyelet according to any one of claims 1 to 9 **characterised in that** each flange (5, 11) is cap-shaped with a radial wall (7, 12) and an inturned rim (8, 13) at its outer periphery.

**11.** An assembly comprising a curtain heading with curtain heading tape attached thereto and aligned holes through the curtain heading and the tape, wherein eyelets according to any one of claims 1 to 10 are attached within the aligned holes.




Фиг. 1



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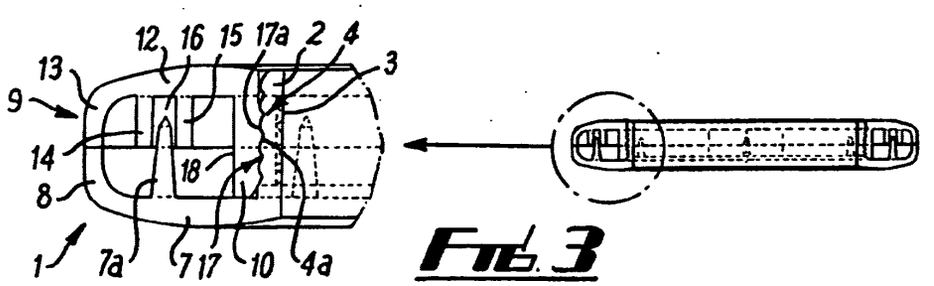


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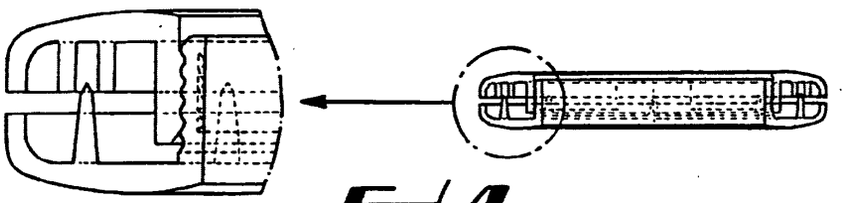

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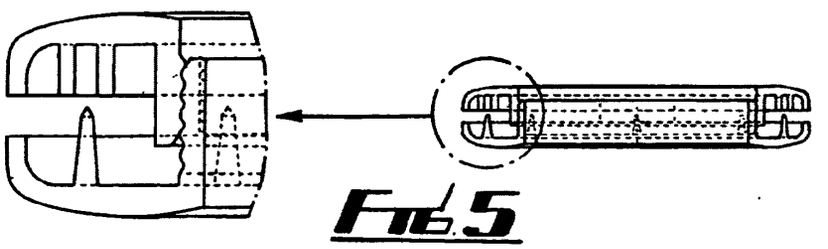

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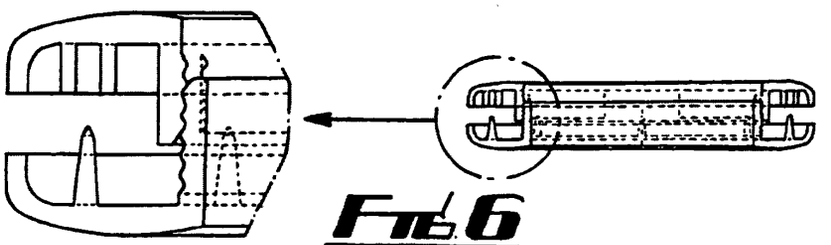

Фиг. 6