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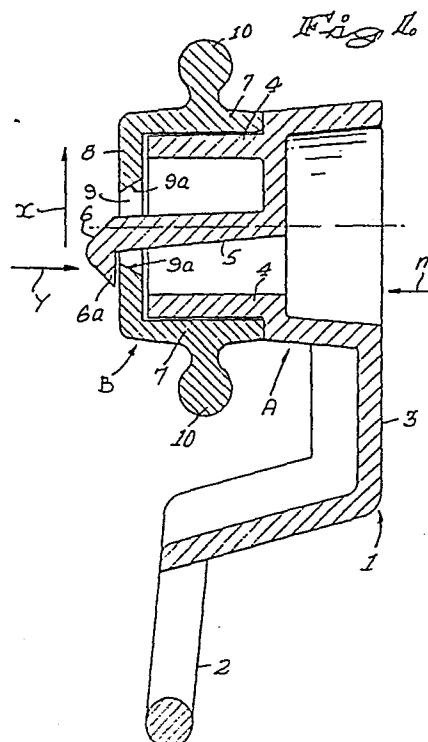
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⑷ Runner means, particularly curtain runners.

⑸ Curtain runner means comprising only two separate parts (A and B) which can be assembled in releasable manner. The one part comprises a bearing-hanger unit (A) comprising a bearing (4) which is integrally formed with hanger means (1) presenting a formation (2) from which a curtain may be suspended. The other part comprises a roller unit (B) which is adapted to run along a guide track and is removably mountable on the bearing (4) for rotation thereon. Retaining means (5, 6, 6a) is integrally formed with either the bearing-hanger unit (A) or with the roller unit (B) and is adapted releasably to retain the roller unit (B) on the bearing (4).



RUNNER MEANS, PARTICULARLY CURTAIN RUNNERS

This invention relates to runner means and more particularly to curtain runners and the like.

5 According to the invention runner means comprises hanger means; a bearing integrally formed with the hanger means; roller means or the like removably mountable on the bearing for rotation thereon; and retaining means adapted releasably to retain the roller means on the bearing.

10 For the purposes of this specification the term "roller means" includes wheel means or the like.

The retaining means may be integrally formed with the roller means.

Preferably, the retaining means is integrally formed with the bearing means and the hanger means.

15 With the arrangement according to the invention, the runner means may comprise only two separate parts which are adapted to be assembled in releasable manner. This facilitates and/or simplifies production and assembly and reduces costs.

20 The retaining means may be integrally formed with the bearing and the hanger means and may comprise an elongate element which extends axially relative to the bearing and which is displaceable transversely between a normal operative position in which it is engageable
25 with a co-operating formation on the roller means to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the roller means to be mounted on and be withdrawn from the bearing.

The elongate retaining element may be resiliently biased towards its normal operative position when it is displaced away from the normal operative position.

5 The bearing may comprise a tubular formation which is fast towards one end thereof with the hanger means, the elongate retaining element being fast with the hanger means in the region of the one end of the tubular formation and extending axially along the tubular formation within the bore thereof.

10 The elongate retaining element may be mounted in cantilever fashion and may include a transversely projecting catch formation towards its free end.

15 The roller means may comprise a sleeve-like body adapted rotatably to embrace the tubular formation of the bearing, the sleeve-like body including a formation adapted to co-operate with the elongate retaining element so as rotatably to retain the roller means on the tubular formation when the elongate retaining element is in its normal operative position.

20 The co-operating formation on the sleeve-like body may comprise a transverse wall across the sleeve-like body with an aperture therein through which the elongate retaining element may extend, the retaining element including a transversely projecting catch formation at
25 its outer end adapted to engage the surround of the aperture in the transverse wall.

The roller means may present any suitable outer peripheral configuration to suit a rail or other guide track on which the runner is to be mounted.

The hanger means may be of any suitable configuration to permit a curtain or the like to be suspended directly or indirectly therefrom.

5 The hanger means may comprise a hook formation adapted to engage a curtain or a part thereon.

Alternatively, the hanger means may comprise an annular or loop-like formation in which a hook or the like on a curtain may engage.

10 The parts of runner means according to the invention may be made from any suitable material, such as a synthetic polymer material.

15 For a clear understanding of the invention a preferred embodiment will now be described purely by way of example with reference to the accompanying drawings in which:

Figure 1 is a sectional view on the line I-I in figure 2, of a curtain runner according to the invention.

20 Figure 2 is a rear elevational view of the curtain runner of figure 1 in the direction of arrow M in figure 1.

Figure 3 is a sectional view similar to figure 1 of another embodiment of a curtain runner according to the invention.

25 The runner comprises a first unit A including hanger means 1 which includes a loop formation 2 engageable by a hook on a curtain; and a connecting part 3 which is integrally formed with loop formation 2. First unit A

further comprises bearing 4 which is in the nature of a tubular formation which is integrally formed at its one end with the connecting part 3 of hanger means 1 and is open at its other end.

5 First unit A also comprises elongate retaining element 5 which is integrally connected with connecting part 3 of hanger means 1 and with bearing 4 in the region in which bearing 4 is integrally connected with connecting part 3. Retaining element 5 extends axially along
10 bearing 4 within the bore thereof. It will be seen that retaining element 5 is mounted in cantilever fashion and that its free end projects from the open end of bearing 4. A head 6 presenting a transversely projecting catch formation 6a is integrally formed with
15 retaining element 5 at its free end.

Loop formation 2 and connecting part 3 of hanger means 1, bearing 4, retaining element 5 and its head 6 together with its catch formation 6a are all integrally formed as a single unit A from a suitable synthetic
20 polymer material.

The runner further comprises a second unit B comprising a roller unit including sleeve-like body 7 which is open at its one end and is adapted to be removably mountable on bearing 4 with body 7 rotatably embracing
25 bearing 4; transverse end wall 8 which is integrally formed with and extends across the outer end of body 7 and which is provided with a central aperture 9 through which the free end of retaining element 5 and the head 6 thereon can project with catch formation 6a located
30 outwardly of transverse wall 8; and annular guide formation 10 which is integrally formed with body 7 and is adapted to engage and run along a suitable guide rail or other guide track (not shown). Body 7, end

wall 8 and guide formation 10 are all integrally formed as a single unit B from a suitable synthetic polymer material.

5 Retaining element 5 is normally located in the operative position shown in figure 1 in which head 6 is off centre with respect to aperture 9 and catch formation 6a is engageable with the surrounds of aperture 9 in transverse wall 8 of roller unit B so that catch formation 6a and the surrounds of aperture 9
10 co-operate to retain roller unit B rotatably mounted on bearing 4. The diameter of head 6 is smaller than the diameter of aperture 9. The resilience of the material of retaining element 5 permits the retaining element 5 to be displaced transversely in the direction of arrow
15 X against the action of an inherent resilient bias in retaining element 5, to an inoperative position in which head 6 is aligned with aperture 9 to permit roller unit B to be withdrawn axially from bearing 4.

20 It will be appreciated that the runner only comprises two separate parts, namely the units A and B. The two units may be produced separately and then assembled. The particular construction and arrangement of parts facilitate the assembly of the two units.

25 It will be seen that the outer end of head 6 on retaining element 5 is tapered and that the bore of aperture 9 has an outwardly converging configuration to define a slanting inner peripheral surface 9a. To assemble the two units A and B, the open end of body 7 of roller unit B is simply pushed over bearing 4 in the
30 direction of arrow Y until the tapered head 6 of retaining element 5 engages the slanting inner peripheral surface 9a in the bore of aperture 9 in end

5 wall 8 of roller unit B. By pushing roller unit B further in the direction of arrow Y, the engagement between tapered head 6 and slanting surface 9a displaces retaining element 5 transversely in the direction of arrow X from its normal operative position towards an inoperative position, until head 6 is aligned with aperture 9 and passes through the aperture. Once head 6 has passed through aperture 9, the inherent resilient bias developed in retaining element 5 during the transverse displacement thereof, exerts itself to urge retaining element 5 back to its normal position shown in figure 1 in which catch formation 6a is engageable with the surrounds of aperture 9 and rotatably retains roller unit B on bearing 4.

10 It will be appreciated that instead of an elongate retaining element 5 which is integrally formed with bearing-hanger unit A as shown in figures 1 and 2, the retaining means may be integrally formed with the roller unit B and may comprise an elongate element which extends axially relative to the roller unit B and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation fast with the bearing 4 to retain the roller unit B in rotatable relationship on the bearing 4 and an inoperative position in which it permits the roller unit B to be mounted on and be withdrawn from the bearing 4. Any suitable co-operating formation, such as an apertured transverse wall formation, may be provided on the hanger-bearing unit A.

25 Thus, the arrangement of the elongate retaining element 5 and the co-operating transverse wall 8 shown in

figures 1 and 2 may be reversed. Such an arrangement is shown in figure 3 in which the elongate retaining element 5 is integrally connected with the roller unit B in the region of the outer end of the sleeve-like body 7. The retaining element 5 on roller unit B extends in cantilever fashion axially along sleeve-like body 7 of roller unit B within the bore thereof from the outer end of body 7 towards the inner open end of body 7 in a position permitting the retaining element 5 to be located within the bore of the tubular bearing 4. The elongate retaining element 5 on roller unit B is adapted for the transversely projecting catch formation 6a at its outer free end to be releasably engageable with a co-operating formation on the bearing-hanger unit A in order releasably to retain roller unit B in rotatable relationship on bearing 4.

As shown in figure 3 the co-operating formation on bearing-hanger unit A comprises apertured, transverse wall 8 across tubular bearing 4 which is integrally formed with connecting part 3 and with bearing 4 in the region of the inner end of bearing 4 where bearing 4 is integrally connected with connecting part 3. Transverse wall 8 is provided with a central aperture 9 through which the outer free end of retaining element 5 can project, aperture 9 having a converging bore configuration to define slanting inner peripheral surface 9a.

The retaining element 5 on the roller unit B can extend through central aperture 9 in the transverse wall 8 on the hanger-bearing unit A, the transversely projecting catch formation 6a at the outer free end of retaining element 5 being adapted to engage the surround of aperture 9 in transverse wall 8 to retain the roller

unit B in rotatable relationship on bearing 4 when retaining element 5 is in its operative position shown in figure 3. Retaining element 5 is displaceable transversely in the direction of arrow X towards an inoperative position to permit the roller unit B to be mounted on and be withdrawn from bearing 4, retaining element 5 being resiliently biased towards its normal operative position when it is displaced away from its normal operative position. The operation of the retaining element 5 on roller unit B and its co-operating apertured transverse wall 8 on bearing-hanger unit A is similar to that described above with reference to the arrangement of figures 1 and 2.

It will be appreciated that many other variations in detail are possible without departing from the scope of the appended claims. For example, instead of hanger means 1 presenting a loop formation 2, it may present a hook formation adapted to engage a curtain or a part thereon. Hanger means 1 may be of any suitable shape or configuration to suit particular requirements.

Also, instead of roller unit B having a guide formation 10, the roller unit B may present any other suitable outer peripheral configuration to suit a rail or other guide track on which the curtain runner is to be mounted.

The invention includes within its scope an integrally formed hanger-bearing unit as defined above as well as roller means as defined above.

Runner means according to the invention is particularly, but not exclusively, applicable to curtains.

CLAIMS:

1. Runner means characterized by hanger means (A); a bearing (4) integrally formed with the hanger means; roller means (B) or the like removably mountable on the bearing for rotation thereon; and retaining means (5, 6, 6a) adapted releasably to retain the roller means on the bearing.
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2. Runner means as claimed in claim 1, characterized in that the retaining means is integrally formed with either the hanger-bearing unit or with the roller means.
10
3. Runner means as claimed in claim 1, characterized in that the retaining means is integrally formed with the bearing and the hanger means and comprises an elongate element which extends axially relative to the bearing and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation on the roller means to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the roller means to be mounted on and be withdrawn from the bearing.
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4. Runner means as claimed in claim 3, characterized in that the elongate retaining element is resiliently biased towards its normal operative position when it is displaced away from its normal operative position.
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5. Runner means as claimed in claim 3 or 4, characterized in that the bearing comprises a tubular formation which is fast towards one end
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thereof with the hanger means, the elongate retaining element being fast with the hanger means in the region of the one end of the tubular formation and extending axially along the tubular formation within the bore thereof.

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6. Runner means as claimed in claim 5, characterized in that the elongate retaining element is mounted in canti-lever fashion and includes a catch formation towards its free end.

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7. Runner means as claimed in claim 5 or 6, characterized in that the roller means comprises a sleeve-like body adapted rotatably to embrace the tubular formation of the bearing, the sleeve-like body including a formation adapted to co-operate with the elongate retaining element so as rotatably to retain the roller means on the tubular formation when the elongate retaining element is in its normal operative position.

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8. Runner means as claimed in claim 7, characterized in that the co-operating formation on the sleeve-like body of the roller means comprises a transverse wall across the sleeve-like body with an aperture therein through which the elongate retaining element may extend, the retaining element including a transversely projecting catch formation towards its outer end adapted to engage the surround of the aperture in the transverse wall.

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9. Runner means as claimed in claim 1, characterized in that the retaining means is integrally formed with the roller means and comprises an elongate element which extends axially relative to the

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roller means and which is displaceable transversely between a normal operative position in which it is engageable with a co-operating formation fast with the bearing to retain the roller means in rotatable relationship on the bearing and an inoperative position in which it permits the roller means to be mounted on and be withdrawn from the bearing.

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10. Runner means as claimed in claim 9, characterized in that the bearing comprises a tubular formation which is fast towards one end thereof with the hanger means; and the roller means comprises a sleeve-like body adapted rotatably to embrace the tubular formation of the bearing, the elongate retaining element being fast with the sleeve-like body of the roller means in the region of one end thereof and extending axially in canti-lever fashion along the sleeve-like body within the bore thereof in a position permitting the retaining element to be located within the bore of the tubular formation of the bearing, the retaining element including a catch formation towards its free end which is adapted to engage the co-operating formation fast with the bearing.

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11. Runner means as claimed in claim 10, characterized in that the catch formation projects transversely from the retaining element and the co-operating formation fast with the bearing comprises a transverse wall across the tubular formation of the bearing, the transverse wall including an aperture therein through which the elongate retaining element may extend and the transversely projecting catch formation towards the outer end of the retaining element being adapted to engage

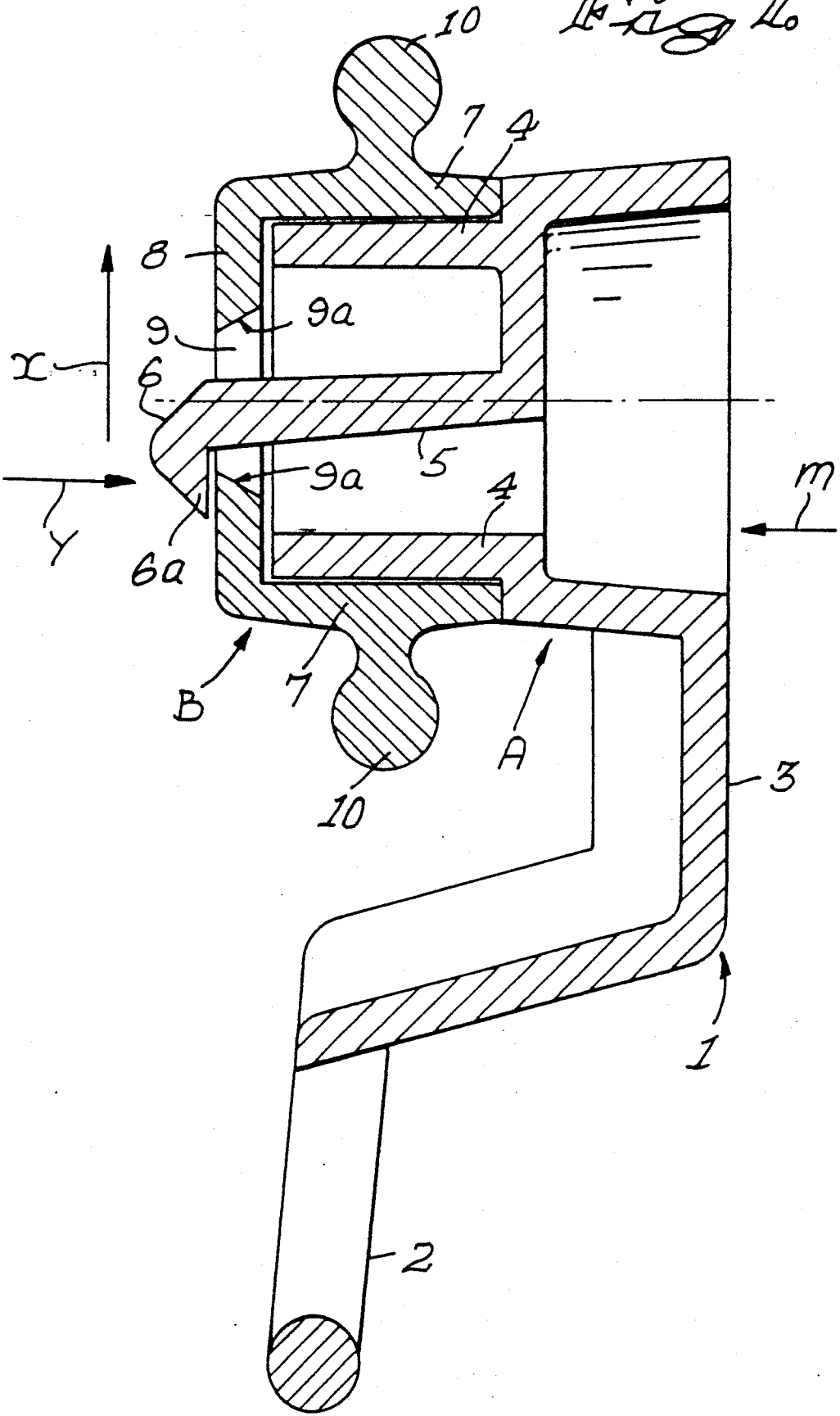
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the surround of the aperture in the transverse wall.

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12. Runner means as claimed in any one of the preceding claims, characterized in that the roller means presents an outer peripheral configuration to suit a rail or other guide track on which the runner is to be mounted.
- 10
13. Runner means as claimed in any one of the preceding claims, characterized in that the hanger means is adapted to permit a curtain or the like to be suspended directly or indirectly therefrom.
- 15
14. Runner means as claimed in claim 13, characterized in that the hanger means comprises a hook formation adapted to engage a curtain or a part thereon.
15. Runner means as claimed in claim 13, characterized in that the hanger means comprises a formation in which a hook or the like on a curtain may engage.
- 20
16. A bearing-hanger unit as defined in any one of claims 1 to 15.
17. Roller means as defined in any one of claims 1 to 15.

Fig 10



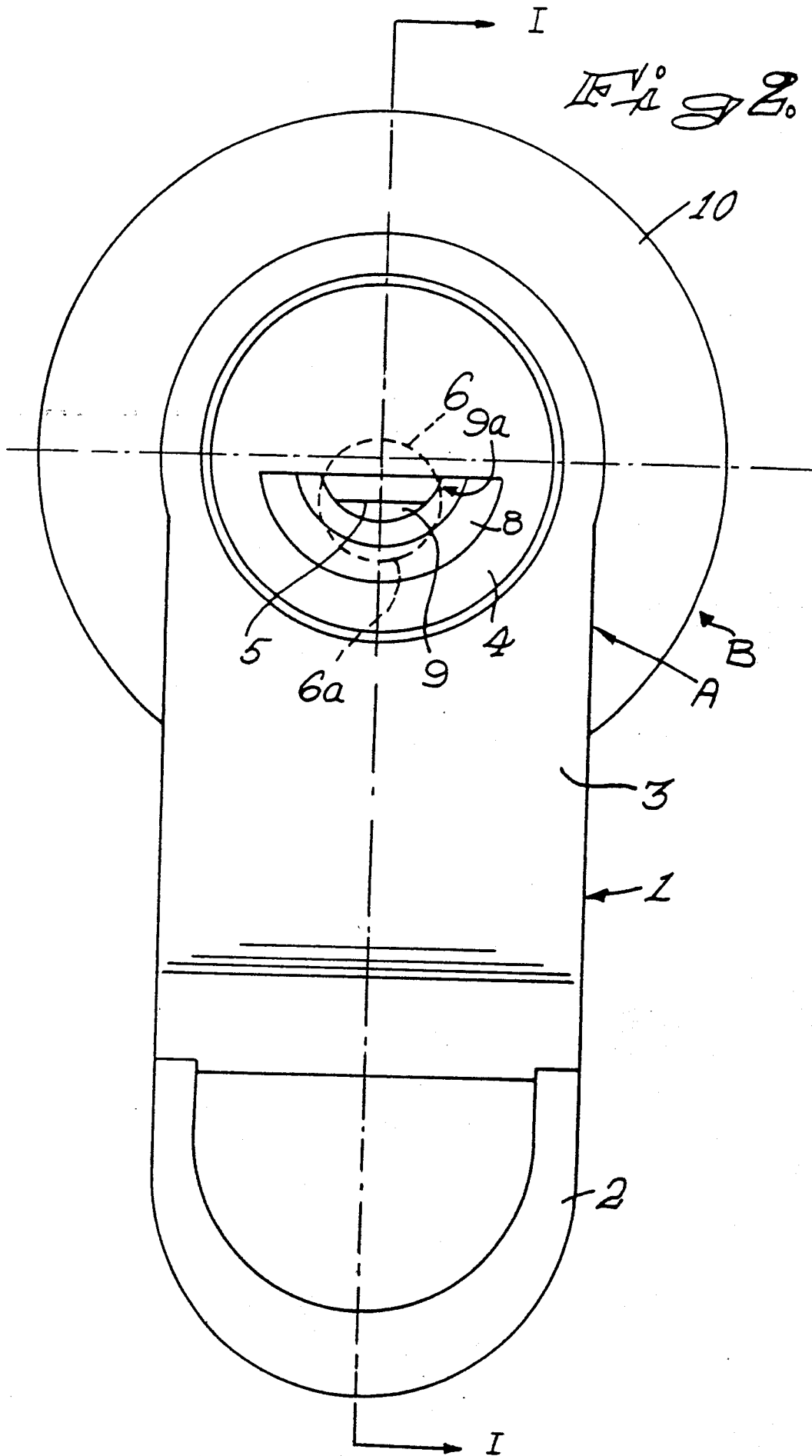
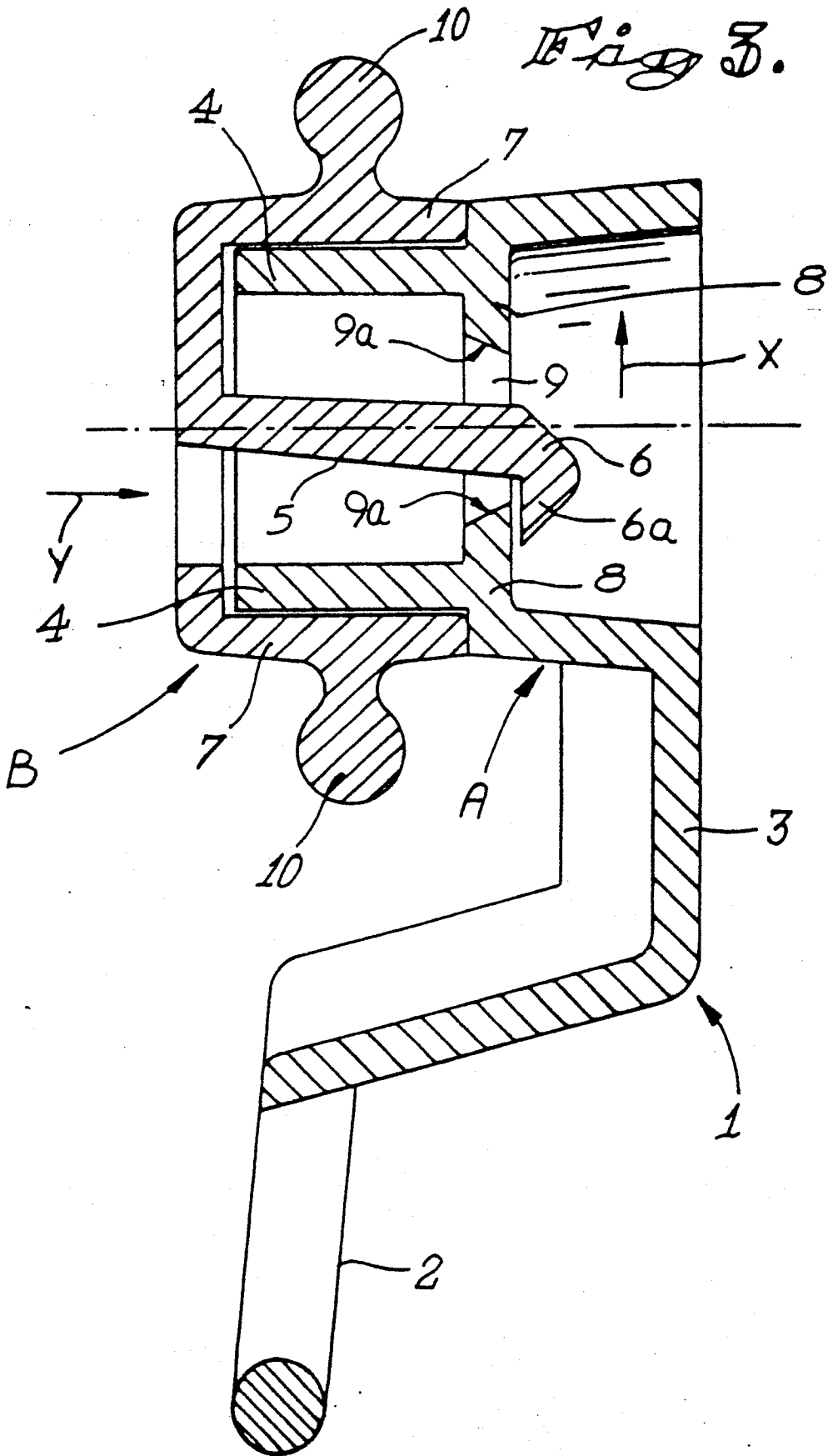


Fig. 2.

Fig 3.





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. 3)
A	GB-A- 489 992 (SCHADE) * Page 2, lines 19-60; figure 3 *	1,2,5,9	A 47 H 15/02
A	DE-C- 563 787 (VOSSLOH) * Page 2, lines 23-51; figures 1-3 *	1	
A	DE-A-2 100 369 (NÖLLE) * Page 7, line 14; page 8, lines 1-18; page 9, lines 1-19; page 10, lines 1-12; figures 1-4 *	1	
A	GB-A- 887 171 (FRENCH)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
			A 47 H
Place of search THE HAGUE		Date of completion of the search 08-12-1983	Examiner SCHOLS W.L.H.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			