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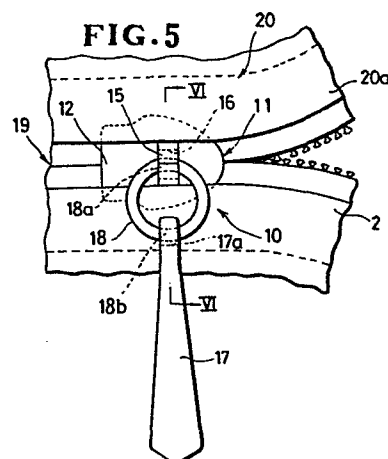
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⑤④ Slide fastener slider.

⑤⑦ A slide fastener slider (10) includes a pull tab connector (18) pivotably slidably connected to a lug (15) on the upper wing (12) of a slider body (11) and pivotably supporting thereon a pull tab (17), the lug (15) having a through hole (16) extending longitudinally of said slider body (11). The connector (18) has a portion (18b) supporting the pull tab (17) and being locatable outside of the upper wing (12) when the connector (18) rests flatwise on the upper wing (12) and the pull tab (17) is disposed in alignment with the lug (15) and the portion (18b) of the connector (18) at right angles to the axis of the through hole (16).



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SLIDE FASTENER SLIDER

The present invention relates to a slider for a slide fastener.

As shown in Figures 1 and 2, a conventional slide fastener slider S has a pull tab P pivotably mounted on a slider body B via an annular pull tab connector C pivotably connected to a lug L on an upper wing W of the slider body B. Although, in general, such slider has performed satisfactorily, the slider has not been found to be entirely suitable for use in a slide fastener F attached to an article disposed substantially in or at an angle to a vertical line, for example, to opposite edges of a transversely extending opening of a pocket on a garment G as shown in Figure 3. When released, the connector C pivots about the lug L by gravity until the pull tab P depends therefrom. During that time, the connector C is raised on the upper wing W as shown in Figure 2, and hence the connector C tilts about its longitudinal axis with the result that the upper surface P1 of the

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pull tab P is directed forwardly of the slider S, the upper surface P1 usually having marks or an ornamental design. The pull tab P projects upwardly of the edges E,E (Figure 3) at an angle thereto. The slider S as
5 attached to the garment G is defective from aesthetic view, liable to damage the user's body or another garment, and hinders smooth ironing of the garment G around the edges E,E.

According to the present invention, there is
10 provided a slide fastener slider comprising: a slider body including a pair of parallel spaced wings joined at one end by a neck, and a lug on one of said wings, said lug having a through hole; a pull tab connector pivotably slidably connected to said lug; and a pull
15 tab pivotably connected to said pull tab connector, said pull tab connector having a first portion supported by said lug and a second portion supporting said pull tab, characterized in that said through hole extends longitudinally of said slider body, and that
20 said second portion of said connector is locatable outside of said one wing when said connector rests flatwise on said one wing and said pull tab is disposed in alignment with said first and second portions of said connector at right angles to the axis
25 of said through hole.

The present invention seeks to provide a slider particularly suitable for use in a slide fastener

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attached to a transversely extending opening in an article disposed substantially in or at an angle to a vertical plane.

5 The present invention further seeks to provide a slide fastener slider in which when released, the pull tab depends from a connector attached to a slider body in a plane substantially parallel to the upper wing of the slider body.

10 The present invention still further seeks to provide a slider in which the upper surface of a pull tab is kept to face in one direction when the pull tab is in its recumbent position.

15 The present invention further sseeks to provide a slide fastener slider which allows smooth ironing of a garment around an area to which a slide fastener is attached.

20 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 sheets of drawings in which preferred structural embodiments incorporating the principles of the present invention are shown by way of illustrative example.

25 Figure 1 is a fragmentary plan view of a known slide fastener slider;

Figure 2 is a schematic perspective view of the known slider;

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Figure 3 is a fragmentary front elevational view of a garment to which are attached slide fasteners each having such slider as shown in Figure 1.

Figure 4 is a perspective view of a slide fastener slider according to one embodiment of the present invention, the slider being in operating disposition;

Figure 5 is an enlarged front elevational view of the slider on a slide fastener attached to a garment, the slider being in released disposition;

Figure 6 is a cross-sectional view taken along line VI - VI of Figure 5;

Figure 7 is a front elevational view of a slider according to another embodiment of the present invention, the slider being in released disposition;

Figure 8 is a right side view of the slider shown in Figure 7;

Figure 9 is a cross-sectional view taken along line IX - IX of Figure 8; and

Figure 10 is a view similar to Figure 7, showing the slider as in operating disposition.

As shown in Figure 4, a slide fastener slider includes a slider body 11 having a pair of parallel spaced upper and lower wings 12, 13 joined at one end by a neck or guide post 14. A lug 15 is disposed substantially centrally on the upper wing 12 and has a through hole 16 extending in alignment with the

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longitudinal axis of the slider body 11. A pull tab 17 is connected to the slider body 11 via an annular pull tab connector 18 pivotably connected to the lug 15.

5 The connector 18 is in the form of a circular ring made of a wire, and loosely received in the through hole 16 in the lug 15, the connector 18 having an inside diameter larger than a half of the width of the upper wing 12 of the slider body 11. Thus, the
10 connector 18 is pivotally movable about the lug 15 through 180° across the longitudinal axis of the slider body 11, between two recumbent positions where the connector 18 rests flatwise on the upper wing 12 on opposite sides of the lug 15. The pull tab 17 has
15 at its one end portion an opening 17a extending transversely therethrough and loosely receiving therein the connector 18. The pull tab 17 is pivotably slidably movable on the connector 18.

FIGS. 5 and 6 show the slider 10 as mounted on a
20 slide fastener 19 secured by sewing to a garment 20 along opposite edges 20a, 20b of an opening, which edges 20a, 20b is similar to the ones E, E shown in Figure 3. The slider 10 is shown as in released
25 disposition where the pull tab 17 depends from the connector 18 at right angles to the longitudinal axis of the slider body 11 and hence to the axis of the through hole 16 in the lug 15. In this state, the

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connector 18 has a first portion 18a supported by the lug 15 and a second portion 18b diametrically opposite to the first portion 18a and supporting the pull tab 17, the second portion 18b being located outside a
5 side edge of the upper wing 12.

When the slide fastener 19 is to be opened or closed, the pull tab 17 is pulled by user's fingers (not shown) whereupon the connector 18 is raised on the upper wing 12 as shown in Figure 4. When
10 released, the pull tab 17 slides on the connector 18 by gravity until it depends from the same. At the same time, the connector 18 pivots about the lug 15 approximately through 90° into its recumbent position shown in Figure 5. With the second portion 18b of the
15 connector 18 located outside of the upper wing 12, the pull tab 17 depends from the connector 18 substantially at right angles to the axis of the through hole 16 and lies flatwise over the garment 20. With this arrangement, the slider 10 as attached to
20 the garment 20 is good in appearance, free from damaging user's body or another garment, and does not hinder smooth ironing of the garment around the edges 20a, 20b.

The connector 18 may be an oval ring of which
25 the major axis has a length larger than a half of the width of the upper wing 12.

FIGS. 7 through 10 show a slider 21 according to

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another embodiment of the present invention. The slider 21 is structurally similar to the slider 10 shown in FIGS. 4 - 6 with the exception that a substantially 8-shaped connector 22 has an annular first portion 23 in the shape of an oval ring
5 pivotably connected to a lug 24 on the upper wing 25 of a slider body 26, and a second portion 27 in the shape of a U joined at opposite ends with the annular first portion 23 and pivotally supporting thereon a
10 pull tab 28. The connector 22 has a length larger than a half of the width of the upper wing 25. The annular first portion 23 is loosely received in a through hole 29 extending in the lug 24 longitudinally of the slider body 26, and the second portion 27
15 passes through an opening 28a extending transversely through the pull tab 28 at one end portion thereof.

When a slide fastener (not shown) similar to the one 19 shown in FIGS. 5 and 6 is to be opened, the pull tab 28 is placed in the position shown in Figure
20 10 where it extends longitudinally over the slider body 11, and is pulled by user's fingers (not shown) in the longitudinal direction of the slider body 11. When released, the connector 22 pivots by gravity about the lug 24 through 90° from the position shown
25 in Figure 10 to the position shown in Figure 7 in which the pull tab 28 connected to the connector 22 depends therefrom at right angles to the axis of the

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through hole 29. Since the pull tab 28 is supported
on the second portion 27 of the connector 22, the
annular first portion 23 smoothly slides in the
through hole 29 without interference with the pull tab
5 28. In both positions shown in FIGS. 7 and 10, the
upper surface 28b of the pull tab 28 face upwards of
the slider body 26. With the second portion 27
projecting laterally beyond the upper wing 25, the
pull tab 28 extends in a plane substantially parallel
10 to the upper wing 25.

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CLAIMS:

1. A slide fastener slider (10; 21) comprising:
a slider body (11; 26) including a pair of parallel
spaced wings (12, 13) joined at one end by a neck
5 (14), and a lug (15; 24) on one of said wings (12;
25), said lug having a through hole (16; 29); a pull
tab connector (18; 22) pivotably slidably connected to
said lug; and a pull tab (17; 28) pivotably connected
to said pull tab connector, said pull tab connector
10 (18; 22) having a first portion (18a; 23) supported by
said lug (15; 24) and a second portion (18b; 27)
supporting said pull tab (17; 28), characterized in
that said through hole (16; 29) extends longitudinally
of said slider body (11; 26), and that said second
15 portion (18b; 27) of said connector (18; 22) is
locatable outside of said one wing (12; 25) when said
connector (18; 22) rests flatwise on said one wing
(12; 25) and said pull tab (17; 28) is disposed in
alignment with said first and second portions (18a;
20 23)(18b;27) of said connector (18; 22) at right angles
to the axis of said through hole (16; 29).

2. A slide fastener slider according to claim 1,
said connector (18) having an annular body.

3. A slide fastener slider according to claim 2,
25 said lug (15) being disposed substantially centrally
on said one wing (12), said annular connector (18)
being a circular ring passing through said through

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hole (16) in said lug (15) and pivotably supporting thereon said pull tab (17), said circular ring (18) having an inside diameter larger than a half of the width of said one wing (12).

5 4. A slide fastener slider according to claim 3, said pull tab (17) having at one end portion an opening (17a) loosely receiving therein said circular ring (18).

10 5. A slide fastener slider according to claim 1, said first portion (23) of said connector having an annular shape passing through said through hole (29) in said lug (24), and said second portion (27) of said connector having a U shape joined at opposite ends with said annular first portion (23) and pivotably
15 supporting thereon said pull tab (28).

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FIG. 1

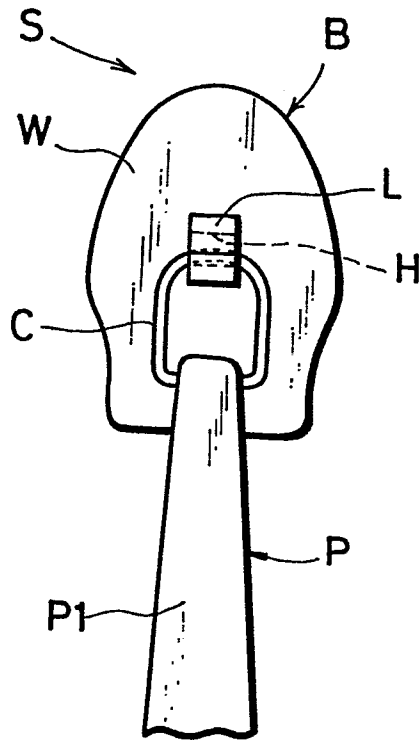


FIG. 2

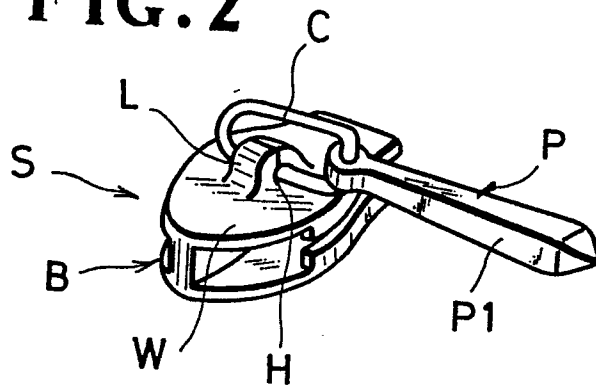


FIG. 3

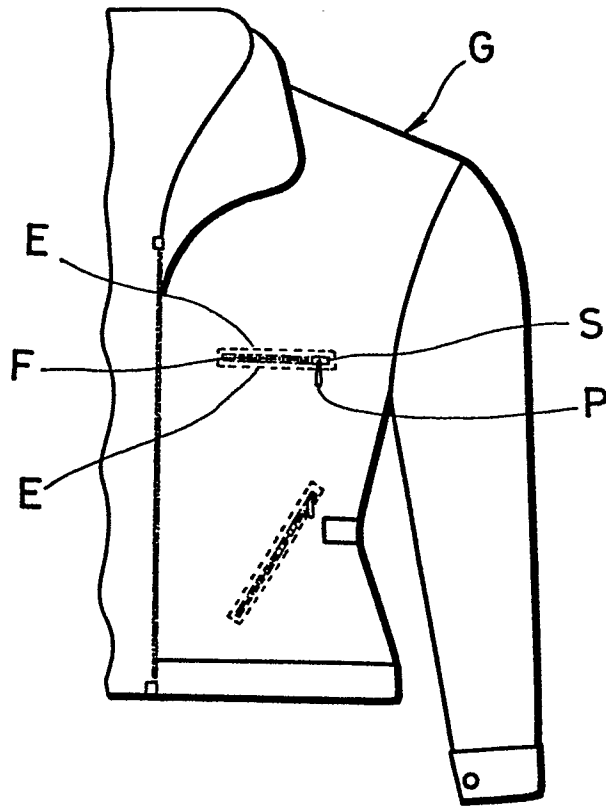


FIG. 4

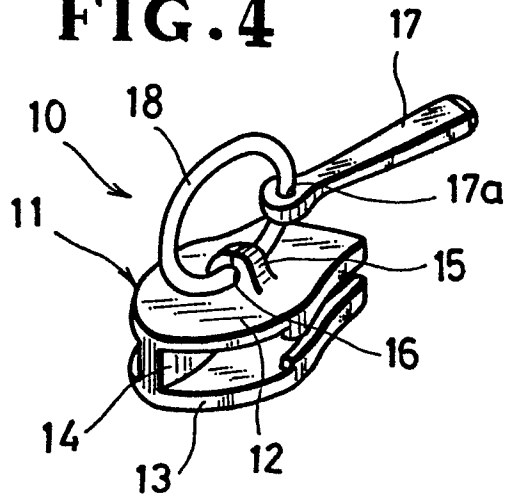


FIG. 5

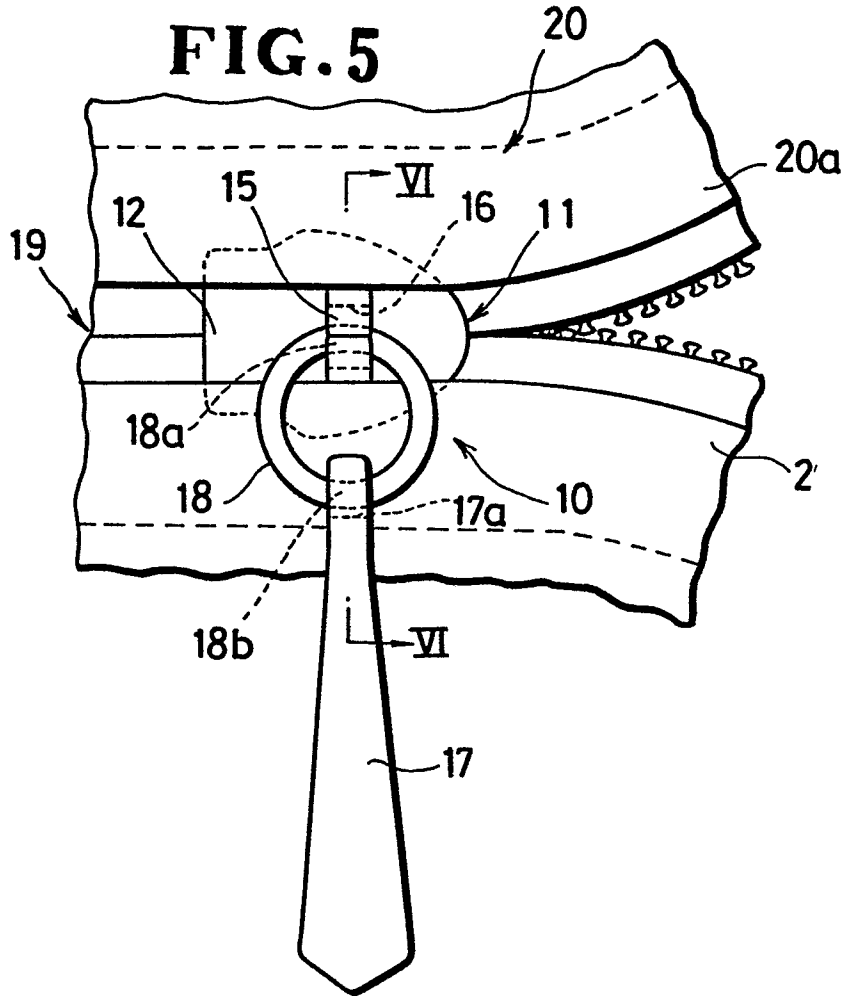


FIG. 6

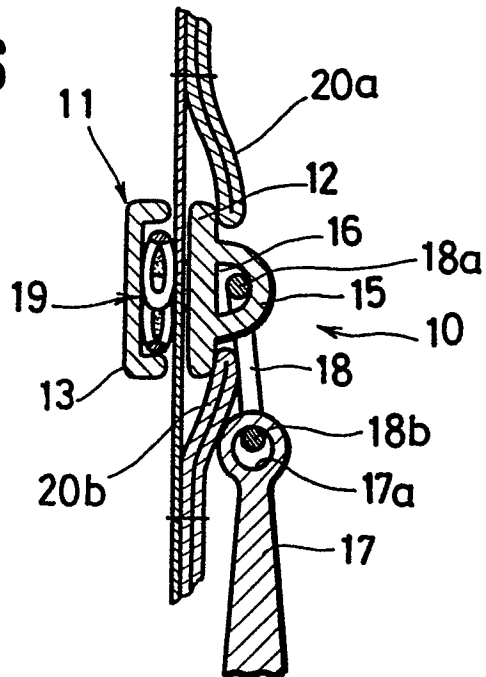


FIG. 7

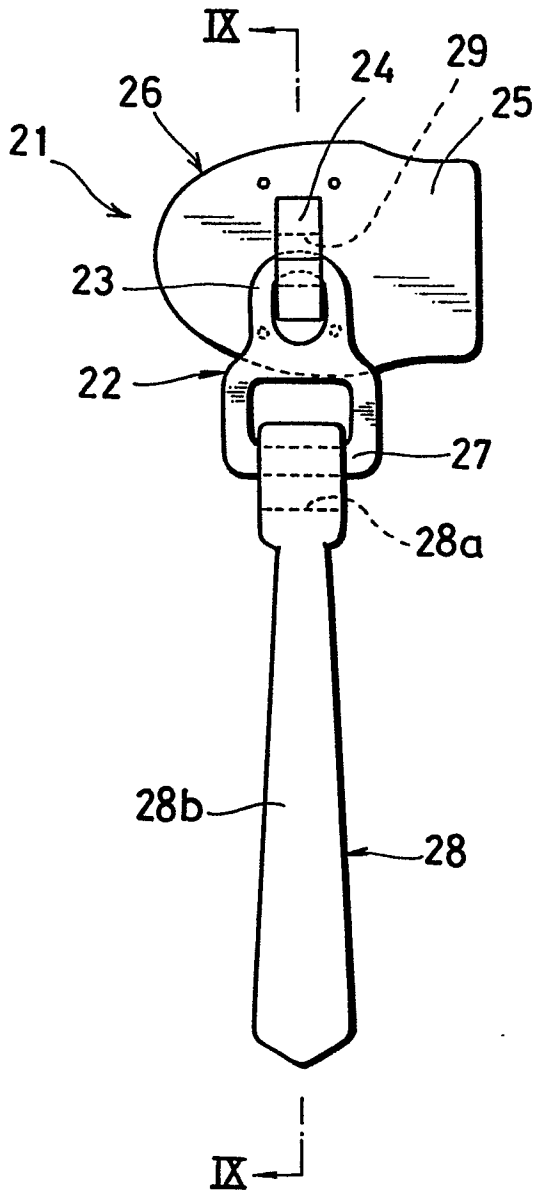


FIG. 8

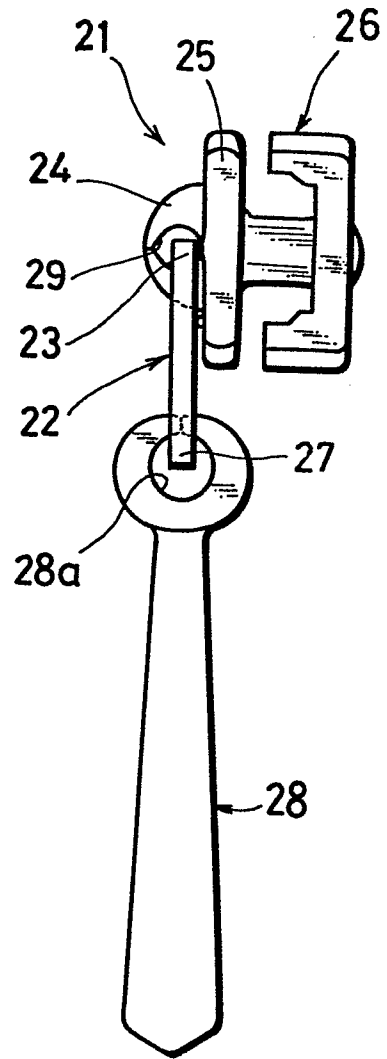


FIG. 9

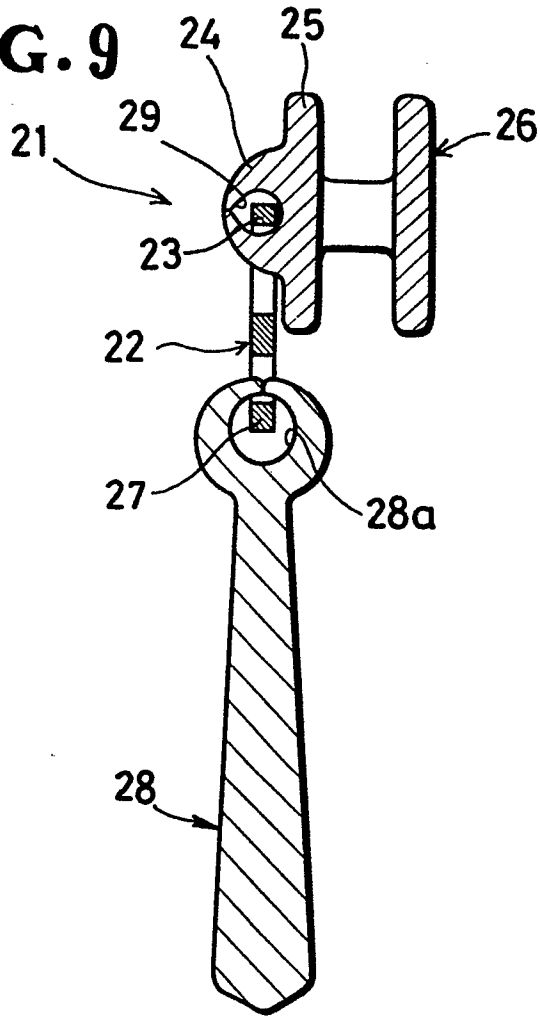
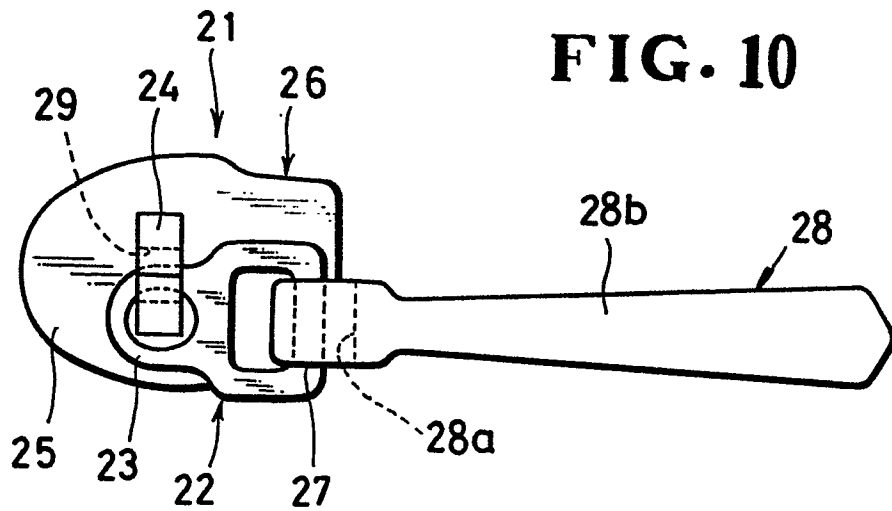


FIG. 10





EP 83106150.2

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	DE - C - 731 911 (HOSSMANN) * Fig. 4 *	1,2,4	A 44 B 19/26

A	DE - C - 874 736 (WINTERHALTER) * Fig. 13,30 *	1,2,4	

			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			A 44 B
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 07-09-1983	Examiner NETZER
<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>			