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## EUROPEAN PATENT APPLICATION

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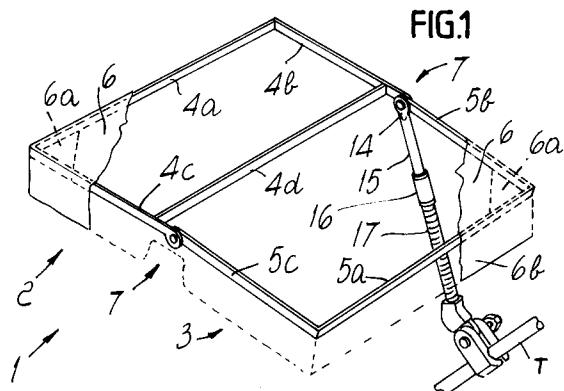
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### ④ Awning for carriage, stroller or the like.

⑤ Awning (1) for carriage, stroller or the like, comprising two rectangular leaves (2,3) which are mutually pivoted along a substantially median line and which are constituted by two metallic frames on which a panel (6) made of a material such as cloth can be fitted; the frames have means for mutual pivoting (7), and the top (14) of a single handle (15) is fixed at one of them; the handle fits, in a downward region, in the upper terminal (16) of a flexible arm (17) which ends, in a downward region, in a multiple-position support which is associated with a safety clamp.



The present invention relates to an awning for carriage, stroller or the like.

Parasols coupled by means of clamps to a carriage or stroller are usually used for protection from the inclemency of the weather and, mainly, from the sun: the handles of the parasols have a portion proximate to the clamp which can flex to allow to orientate the parasol at different angles according to the direction with respect to which the child is to be protected; due to the fact that the handle of the parasol is centered with respect to the parasol itself and that the clamp is instead usually coupled to the side of the carriage, the handle often ends up by crossing the stroller diagonally and thus either interferes with the child or becomes interposed between the child and the person who pushes the carriage, thereby considerably reducing freedom of access and intervention on the child.

Shades which have a squared shape have started to be considerably widespread in relatively recent times, especially for protection from the sun: these shades are usually associated with the carriage by means of two lateral arms which are provided downwardly with respective clamps which are meant to grip the two lateral uprights of the stroller; this fixing system, in addition to reducing access to the child on two sides, allows to orientate the shade in a different manner only by means of a rotation about a transverse horizontal axis, and only a slight degree of freedom can be allowed by the simultaneous deformation of the flexible portions, if any, of the arms.

In addition to this, currently commercially available shades are manufactured monolithically and create some problems due to their bulk which cannot be reduced.

Another problem of known coverings is that the part made of fabric has, for its placement and fixing, either complicated systems based upon laces, which are always and in any case un-aesthetic, or upon plastic or metal buttons or hooks which often create problems during washing.

The technical aim of the present invention is to obviate the above described problems of known devices, i.e. to provide a shade which maintains free and easy access to the child, which can be arranged in any position according to the direction with respect to which protection is to be ensured, and which has a markedly reducible bulk.

Within the scope of this technical aim, an object of the present invention is to provide a shade which can be easily and quickly removed and which does not create problems during washing.

This aim and this object, and other aims and objects which will become evident hereinafter, are achieved by the present awning for a carriage, stroller or the like, characterized in that it com-

prises at least two rectangular leaves which are mutually hinged along a substantially median line and which are constituted by two metallic frames on which a panel made of a material such as cloth can be mounted, said frames having mutual pivoting means, the top of a single handle being fixed at one of said pivoting means, said handle fitting, in a downward region, in the upper terminal of a flexible arm which is provided, in a downward region, with a multiple-position support which is associated with a safety clamp.

The particular characteristics and advantages of the present invention will become apparent and evident from the following detailed description of a preferred but not exclusive embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of an awning for carriage, stroller or the like according to the invention;  
 figure 2 is a front view of the means for the mutual pivoting of the leaves;  
 figure 3 is an exploded side view of the means of figure 2;  
 figure 4 is a side view of the safety clamp;  
 figures 5 and 6 are two front views of the safety clamp in two different working configurations;  
 figure 7 is a front view of the inner part of a jaw of the safety clamp;  
 figure 8 is a sectional side view of the safety clamp;  
 figure 9 is a perspective view of a further embodiment of the frames of figure 1.

With particular reference to the above figures, the reference numeral 1 generally designates the awning for carriage, stroller or the like according to the invention.

The awning 1 comprises at least two rectangular leaves 2 and 3 which are constituted by two metallic frames 4 and 5 on which it is possible to fit a panel 6 made of a material such as cloth (for example cotton cloth treated against mold).

The frame 4 is made from a folded metallic strip which defines a front side 4a and two lateral sides 4b and 4c; the two lateral sides 4b and 4c are connected by a cross-member 4d which is welded at its ends; the frame 5 is made from a folded metallic strip which defines a front side 5a and two lateral sides 5b and 5c; the two metallic frames 4 and 5, which are mutually independent, are connected by pivoting means 7.

Each one of the means 7 comprises two washers 8 and 9 with respective preferably tangent extensions 8a and 9a for fixing, for example by welding, so as to extend a side (4b, 5b, preferably the right one) of a respective frame; said washers are kept pressed against one another by elastic means for example such as cup-shaped springs 10

and 11 arranged on the outside of the washers 8 and 9; the washers are crossed by a locking bolt 12 on which a nut 13 is screwed; said nut can be of the self-locking type or can be riveted after screwing to prevent it from unscrewing during use; the bolt 12 also passes through the flattened top 14 of a handle 15 and mutually packs the washers, the cup springs and the top of the handle.

The panel 6 is substantially rectangular and has, at its four corners, respective pockets 6a which are sewn on the lower face; said pockets are preferably shaped like a right-angled triangle with an open diagonal, and the outer corners of the frames 4 and 5 can be inserted in said pockets; only two diametrically opposite corners of the panel 6 have been shown in figure 1.

A band 6b, shown in broken lines in the figure, extends downward all around the panel 6.

Friction between the mutually contacting faces of the washers allows locking of the two leaves at any angle, so as to both create a protection at any angle of incidence of the sun, rain or wind and allow complete folding of the leaves onto one another to halve their bulk.

The base of the handle 15 is inserted in the upper terminal 16 of a flexible arm 17, for example of the spring type, and is blocked thereat either by screwing a radial dowel or by means of a coupling with a hexagonal or square tang.

The lower end of the flexible arm 17 is associated with a safety clamp 18.

The clamp 18 comprises two jaws 19 and 20 which are manufactured by molding a material such as plastics and are substantially shaped like a hollow shell with a plurality of substantially longitudinal stiffening ridges 21.

In central position, the jaws are crossed by respective mutually aligned holes 22 and 23 for the passage of a screw 24; said screw 24 has a cambered head 24a and a first portion 24b which is substantially shaped like a converging frustum-shaped pyramid and is suitable to define, with the traction of the screw, a seat for itself in the plastic material which constitutes the jaw: the hole 23 has a portion 23a whose diameter is slightly larger than the diameter of the screw to allow the placement of a light helical compression spring 25 which tends to mutually space the jaws; a nut 26 is screwed on the screw 24 and is embedded in a butterfly 27 for manual actuation: the butterfly 27 has a significant height so as to allow the end of the screw, once complete screwing has been performed, to remain inside the edge of the corresponding hole of the butterfly in a protected position in compliance with accident-prevention statutory provisions and precautions; the end 24c of the screw is riveted to avoid the complete unscrewing of the nut and thus the removal of the butterfly.

The jaws 19 and 20 have opposite obtuse-angle cavities 28 and 29 in which respective shaped strips 30 and 31, made of antislip material, can be inserted, in order to facilitate coupling to a rising tubular upright T of the carriage: on the outside, the corners 32 and 33 of the jaws are gently chamfered; the jaws are rounded and/or chamfered all around and have a semicircular shape 34 in the upward region.

The support 35, which cooperates with, and is an integral part of, the clamp, is constituted by a plate 36 made of metallic material which is partially embedded in a body 37 made of a material such as plastics: the lower end of the sprung flexible arm 17 is also embedded in the body 37: all of the body 37 is externally provided with rounded and chamfered surfaces.

The part of the plate 36 which protrudes from the body 37 defines a circular portion 38 whose two surfaces are corrugated so as to define a plurality of front radial teeth 39.

A plate locking front 40 is defined in the jaw 19 and is correspondingly provided with a plurality of front radial teeth between which the teeth of the plate are able to fit frontally: at 40, on the outside of the jaw, there is a seat 41 for the head of a rivet 42 which passes through a hole 43 of the jaw and retains the portion 38 of the plate; elastic means are arranged between the head of the rivet and the bottom of the seat and are advantageously constituted by a helical compression spring 44 which is able to keep the set of teeth of the plate in elastic engagement against the set of teeth of the front 40.

The jaw 20 is correspondingly internally provided with a tubular portion 45 whose front is affected by radial teeth which are complementary to the teeth of the plate.

In order to vary the inclination of the plate (and thus of the arm) with respect to the clamp, it is sufficient to loosen the butterfly by a few turns, make the teeth of the plate snap-lock from one position to another between the teeth of the front and then tighten the butterfly again.

In order to fit the clamp on the tubular element T it is sufficient to completely loosen the butterfly (whose complete removal is prevented by the riveting of the end of the screw), rotate the jaw through 90 degrees, arrange the cavities on the tubular element T and rotate the jaw through 90° in reverse, finally tightening the butterfly.

In an alternative embodiment, which is however still within the scope of the inventive concept of the present invention, there is only one means for the mutual pivoting of the frames, instead of two lateral ones such as those previously described; said means is arranged in the centerline of the adjacent sides of the two frames.

In particular, the frames 45a and 45b are substantially identical to one another and have two washers 46a, 46b which are welded in a downward region at the centerline of the adjacent long sides; said washers are kept pressed against one another by elastic means which are constituted for example by two cup-shaped springs, fully similarly to what is illustrated in figures 2 and 3.

Differently from the example shown in figure 1, the upper part of the handle 15 has a portion 47 which is folded at right angles and ends with a flattened end 48 which is in turn folded at right angles and is packed together with said washers and said cup-shaped springs.

In this embodiment, the two frames are supported at their centerline instead of in a cantilevered manner.

It is stressed that all the edges of the clamp are gently rounded or chamfered in order to avoid injuries.

It has thus been observed that the awning achieves the intended aim and object.

The awning according to the invention thus conceived is susceptible to numerous modifications and variations, all of which are within the scope of the inventive concept. All the details may furthermore be replaced with other technically equivalent ones.

In practice, the materials employed, as well as the shapes and dimensions, may be any according to the requirements, without thereby abandoning the protective scope of the following claims.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

## Claims

1. Awning (1) for a carriage, stroller or the like, characterized in that it comprises at least two rectangular leaves (2,3) which are mutually hinged along a substantially median line and which are constituted by two metallic frames (4,5;45a,45b) on which a panel (6) made of a material such as cloth can be mounted, said frames having mutual pivoting means (7;46a,46b,48), the top (14;48) of a single handle (15) being fixed at one of said pivoting means, said handle fitting, in a downward region, in the upper terminal (16) of a flexible arm (17) which is provided, in a downward region, with a multiple-position support (35) which is associated with a safety clamp (18).

5 2. Awning according to claim 1, characterized in that said mutual pivoting means (7) are two, and in that each one of them is constituted by two washers (8,9) with preferably tangent extensions (8a,9a) for fixing so as to extend one side of a respective frame, said washers being kept pressed against one another by elastic means such as for example cup-shaped springs (10,11).

10 3. Awning according to claim 1, characterized in that said mutual pivoting means are constituted by two washers (46a,46b), each of which is welded substantially at the respective centerline of the adjacent sides of said frames and is kept pressed against the other by elastic means such as for example cup-shaped springs.

15 4. Awning according to claim 3, characterized in that the upper part of said handle has a portion (47) which is folded at right angles.

20 5. Awning according to claims 2, 3 or 4, characterized in that the end (14;48) of said handle is flattened and packed together with said washers and said cup springs.

25 6. Awning according to claim 1, characterized in that said panel (6) has related pockets (6a) sewn in a downward region at the corners, said pockets being preferably shaped like a right-angled triangle with an open longer side, the corners of said frames being insertable in said pockets.

30 7. Awning according to claim 1, characterized in that: said clamp is constituted by two shaped jaws (19,20) which are drawn toward one another by screwing a butterfly nut (27) on a transverse coupling screw (24) for and on the support, which comprises a plate (38) to which the end of a sprung flexible arm (17) is rigidly coupled; in that the end (24c) of said screw, once screwing has been performed, does not protrude from the butterfly nut and is riveted; and in that said plate of the support is rotatably mounted between two locking fronts (39,40) defined in the jaws.

35 8. Awning according to claim 7, characterized in that said jaws are manufactured by molding a material such as plastics and are constituted by half-shells with internal stiffening ridges (21).

40 9. Awning according to claim 7, characterized in that the surfaces of said plate are corrugated

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so as to define radial front sets of teeth (39) which are complementary to corresponding sets of teeth (40) of the locking fronts.

10. Awning according to claim 7, characterized in that said plate is articulated to one of the jaws by a riveted pin (42) and that provisions are made for the fitting of elastic means (44) able to keep the plate pressed in front engagement against said front. 5

11. Awning according to claim 7, characterized in that a helical compression spring (25), able to facilitate the spacing of the jaws in open configuration, is mounted on said screw and between said jaws. 10 15

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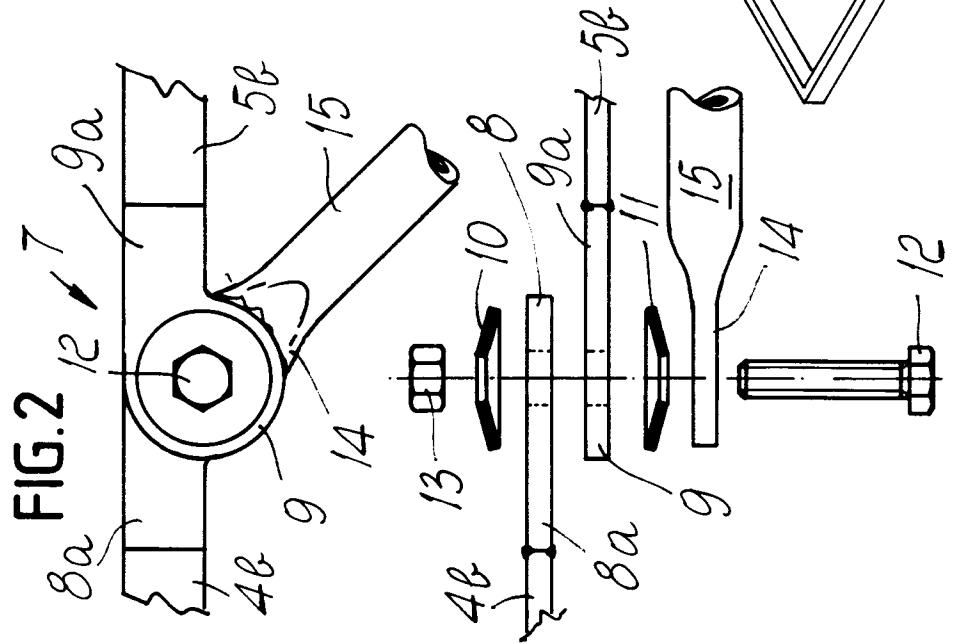
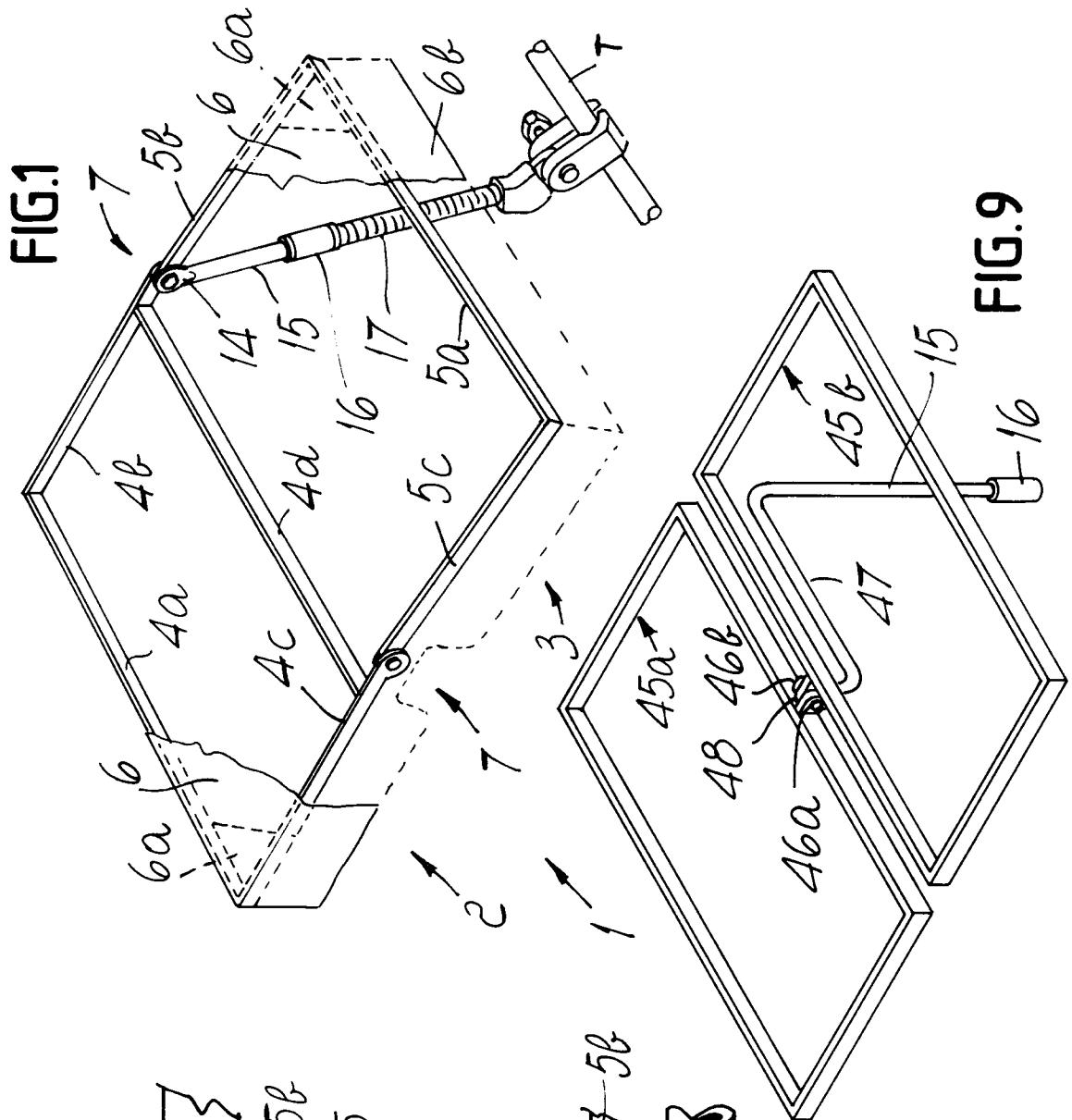
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FIG. 9

FIG. 3

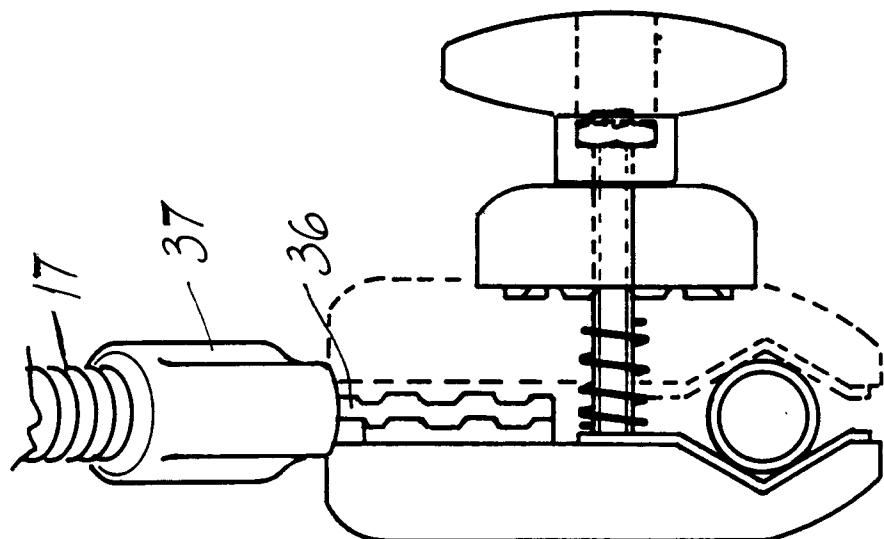


FIG. 6

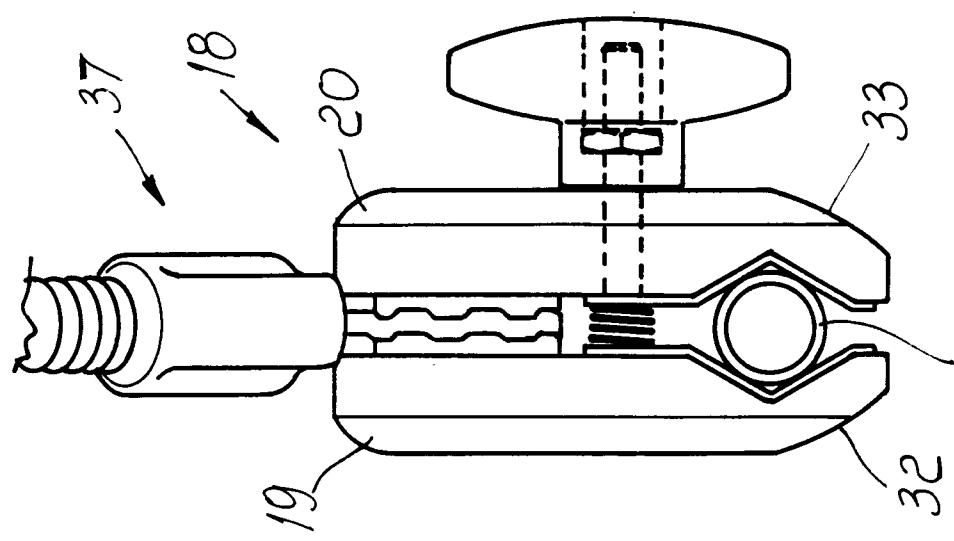


FIG. 5

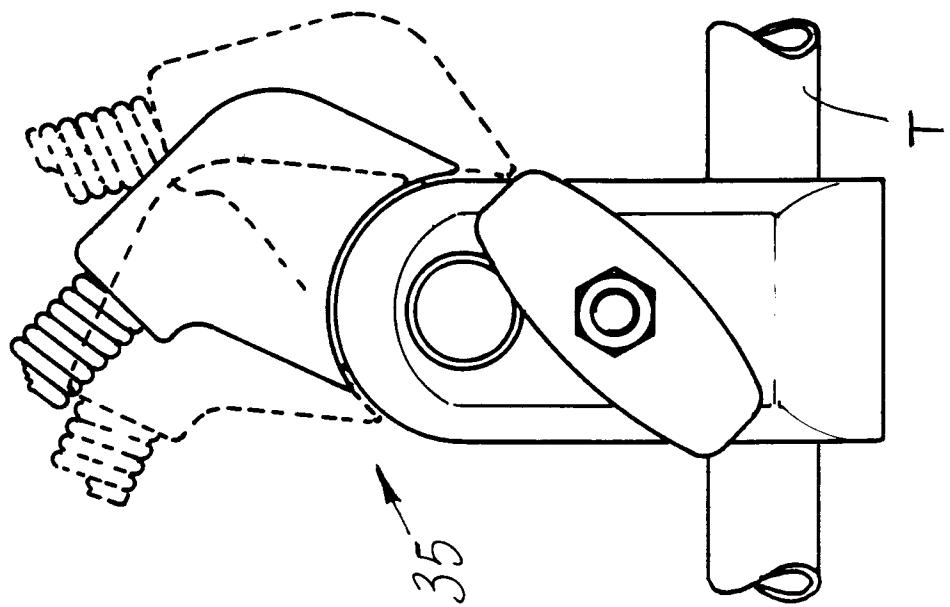


FIG. 4

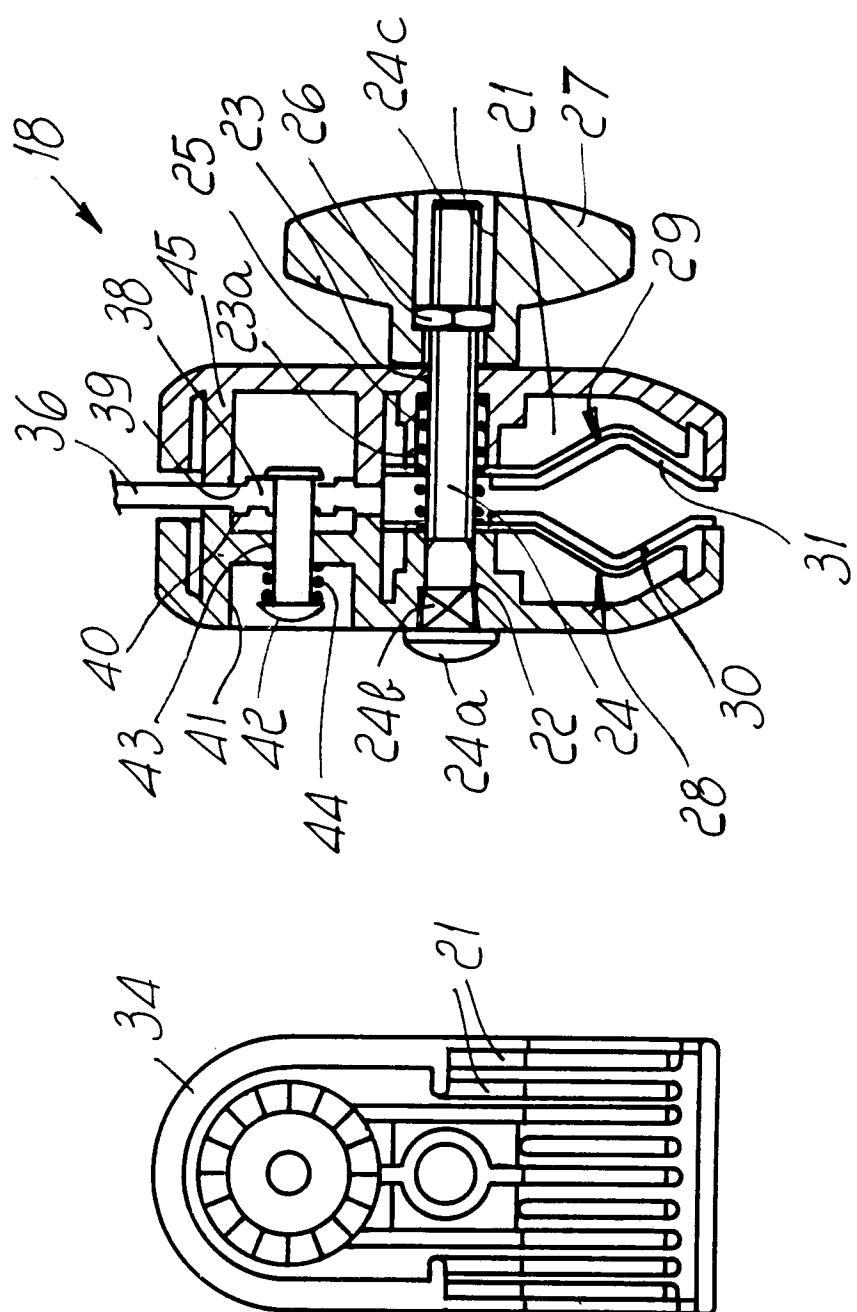


FIG. 8

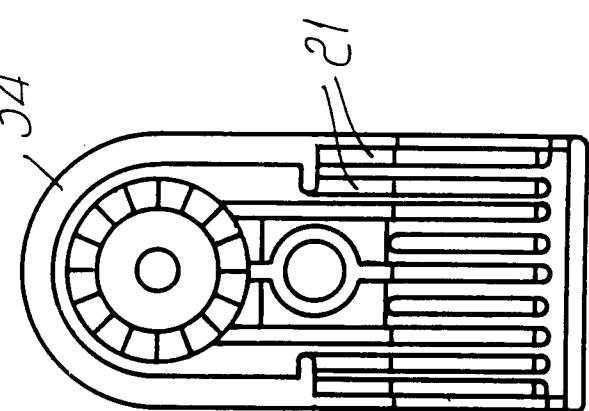


FIG. 7



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## EUROPEAN SEARCH REPORT

Application Number

EP 93 10 0560

DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Category	Citation of document with indication, where appropriate, of relevant passages		
A	US-A-2 563 353 (MUELLER J.H.) * the whole document * ---	1, 4	A45B11/00 A45B17/00
A	CH-A-255 273 (SCHLATEGGER-HESS) * the whole document * ---	1-5	
A	EP-A-0 444 360 (LAWTEX PLC) * column 3, line 40 - column 6, line 27; figures 1-14 * ---	7	
A	GB-A-2 045 338 (MCFARLANE D.J.) * page 1, line 44 - page 2, line 8; figure * ---	7, 11	
A	WO-A-8 202 999 (DUBINSKY E.) * page 7, line 2 - page 8, line 9; figures 1-5 * ---	6	
A	GB-A-887 248 (J. PARKER ELLISON LTD.) * the whole document * -----	1	
		TECHNICAL FIELDS SEARCHED (Int. Cl.5)	
		A45B	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
THE HAGUE	20 APRIL 1993		ELSWORTH D.
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