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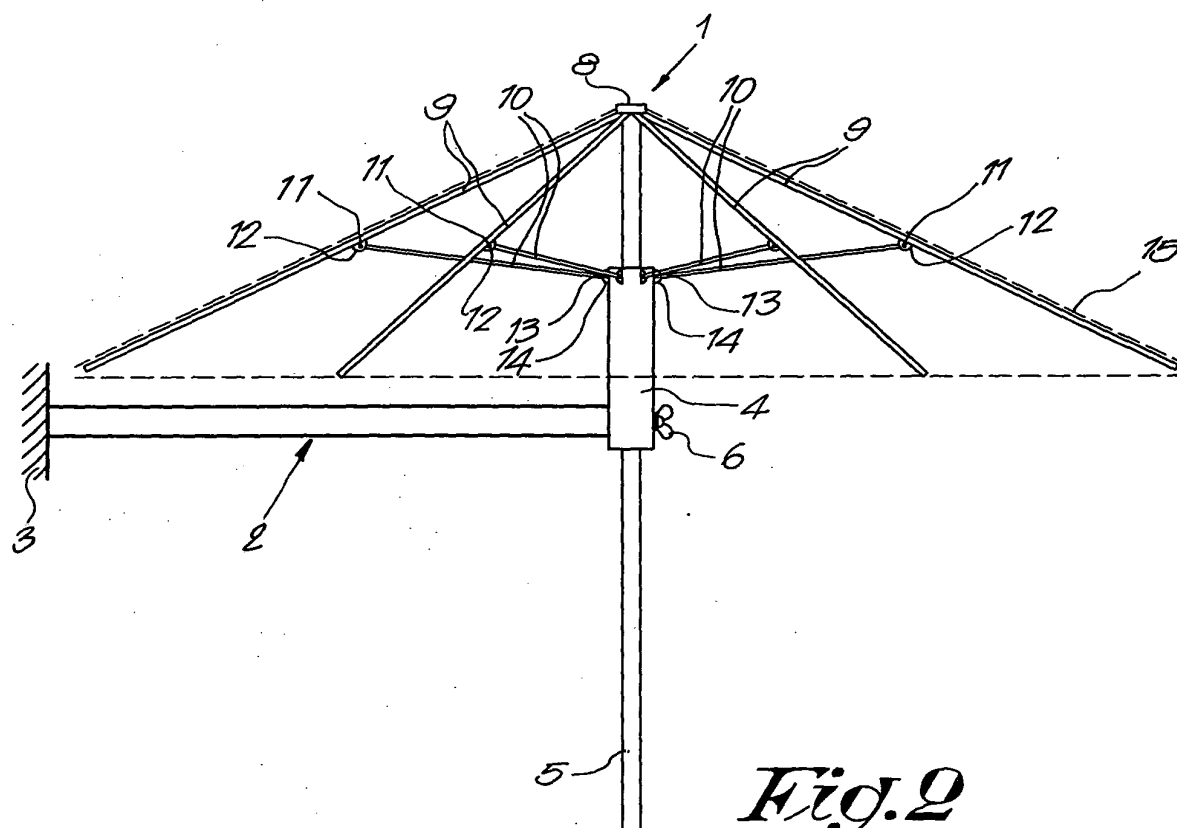
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(54) **Device for fixing a screen, for example a sun screen, a rain screen or the like to a support**

(57) Device for fixing a screen, for example a sun screen, a rain screen or the like, to a support (2), whereby this screen (1) is provided with a bush (4) in which a

bar (5) can be shifted, and whereby this bush (4) is connected to bones (9) of the screen (1) by means of spokes (10) or the like, characterized in that said bush (4) is fixed directly or indirectly to the aforesaid support (2).



*Fig. 2*

## Description

**[0001]** The present invention concerns a device for fixing a screen to a support, for example a sun screen, a rain screen or the like, in particular a screen as is used on terraces and the like.

**[0002]** As is known, in the aforesaid applications, the screen can be fixed to a mast or against a wall or the like, either or not by means of a support or an arm.

**[0003]** It is also known that the aforesaid known screens are fixed by securing the bar or stick of the screen in a holder which is part of the support.

**[0004]** It is also known that, in order to open and close a screen, use is made of a bush which is provided such that it can slide over the bar of the screen, and that such a bar is held with one hand, while the bush is pushed up or down over the bar with the other hand until a suitable, usually a snap locking is obtained.

**[0005]** A disadvantage of these known devices is that the screen has to be taken out of the holder of the support in order to be able to open and close the screen, which is relatively time-consuming.

**[0006]** It is known that such supports are generally placed at relatively great heights, which makes manipulating the screen even more difficult.

**[0007]** In practice, it is often found that the aforesaid known screens, given the encumbrance to open and close them, are just not closed at all, which may result in damages in case of storm or the like.

**[0008]** The present invention aims to remedy these and other disadvantages.

**[0009]** To this end, the invention concerns a device for fixing a screen to a support, whereby this screen is provided with a bush in which a bar can be shifted, and whereby this bush is connected to bones of the screen by means of spokes or the like, characterized in that said bush is fixed directly or indirectly to the aforesaid support.

**[0010]** The invention in other words consists in that the bush of the screen is fixed to the support, as opposed to the known devices whereby the bar of the screen is connected to the support.

**[0011]** An advantage which is thus obtained, is that the screen can be folded up and unfolded in a simple and fast manner by pulling the bar down or by pushing it up, such that it is no longer required in this case to remove the screen concerned from the support.

**[0012]** Preferably, when the screen is folded up, the bar of the screen will protrude with one part at the bottom side of the bush, which offers the advantage that when the arm has been provided at a certain height, also smaller persons can easily reach the bar to manipulate it.

**[0013]** According to a preferred embodiment, the bar of the screen is made pliable, whereby, when the screen is opened and the bar consequently protrudes maximally downward, the lower part can be folded up and can be fixed, such that it can form no hindrance to persons

situated under the screen.

**[0014]** According to the most preferred embodiment, the bush of the screen is held indirectly to the support by means of a holder which is preferably made as a clip.

**[0015]** This offers the advantage that the screen can be removed from the support in a simple manner, for example in order to be able to put away the screen.

**[0016]** In order to better explain the characteristics of the invention, the following preferred embodiments of a device according to the invention are described as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 schematically represents an embodiment of the device according to the invention, whereby the screen concerned is represented in the closed position;

figure 2 represents a view similar to that of figure 1, but with the screen in the opened position;

figure 3 represents a practical embodiment of a device according to the invention;

figures 4 and 5 represent the device according to figure 3, in two other positions;

figure 6 represents the part indicated by F6 in figure 5, to a larger scale and partially cut out;

figures 7 and 8 represent views similar to that of figure 3, but for other applications;

figure 9 represents the device according to figure 8, but for another position;

figure 10 represents a variant of the embodiment from figure 9;

figure 11 represents a section according to line XI-XI in figure 10;

figure 12 represents a variant of figure 11.

**[0017]** Figures 1 and 2 schematically represent a device according to the invention for fixing a screen 1, for example a sun screen, to a support 2 which in this case consists of a horizontal arm which is fixed to or in a wall 3 and which is provided with a bush 4 at its free end which is fixed directly to the support 1 and in which is provided a bar 5 which can be axially moved.

**[0018]** On the bush 4 is provided a clamping means for the bar 5 in the shape of a screw 6 which is screwed through a passage 7 in the wall of the bush 4.

**[0019]** At the top end of the bar 5 is provided a flange 8 upon which bones 9 of the screen 1 are provided hinge-mounted in a known manner.

**[0020]** Between the bush 4 and the bones 9 are provided spokes 10 which are hinge-mounted to the bones 9 at one far end by means of pins 11 which are provided in ears 12 which are provided on the bones 9 on the hand, and which are hinge-mounted to the bush 4, for example by means of pins 13 which are bearing-mounted in the ears 14 on the bush 4 on the other hand.

**[0021]** The screen 1 is completed in the known manner by a screen 15 which is fixed to the bones 9 and which is merely represented by means of a dashed line

in the figures for clarity's sake.

[0022] The length of the bar 5 is preferably such that when, as represented in figure 1, the screen 1 is folded up, the bar 5 protrudes with its free end from the bush 4.

[0023] The use of the device 1 is very simple and as follows.

[0024] When, starting from the folded-up position as represented in figure 1, the screen 1 has to be unfolded, the user will unscrew the screw 6 and he will pull the bar 5 down with its lower end, so that, as represented in figure 2, the spokes 10 and the bones 9 hinge away from one another and the cloth 15 is spread open.

[0025] When, as represented in figure 2, the screen 1 is opened entirely, the bar 5 is clamped in the bush 4 again by means of the screw 6.

[0026] It is clear that also other clamping means than the screw 6 can be used to lock the bar 5, for example in the shape of clamping means as applied with the known screens, whereby these clamping means automatically lock the bar 5 in the aforesaid position in the bush 4.

[0027] In order to fold up the screen 1 again, all one has to do is simply unscrew the screw 6 first in the opposite sense, to push the bar 5 upward and to subsequently screw down the screw 6 again.

[0028] Figures 3 to 6 represent a variant of a device according to the invention whereby, in this case, the bar 1 of the screen 1 is made pliable with a top part 16 upon which the bones 9 are fixed and a lower part 17, whereby these parts 16 and 17 are connected by means of a hinge 18, such that the lower part 17 can be rotated upward and can be suspended either on a hook 19 provided on the support 2, or in a loop of the screen 1 or the like, as a result of which the bar 5 will not hinder any persons situated under the screen 1 or walking underneath it.

[0029] Figure 7 represents a device according to the invention whereby the bush 4 is in this case fixed to a support 2 in the shape of a pliable arm which is for example composed of three parts 20-21-22 which are connected to each other by means of two hinges 23, such that a folded screen can be swung aside against the wall 3.

[0030] Figures 8 and 9 represent another application whereby the arm forming the support 2 is in this case made telescopic with two telescopic parts 24-25 which can be locked in relation to one another by means of a screw 26 or any other clamping device and whose far ends 27-28 are made pliable by means of two lockable hinges 29.

[0031] In the latter case, the support 2 can be folded in different positions and the length of the support 2 can be adjusted, so that the screen 1 can be easily positioned in different positions in relation to a wall 3.

[0032] Moreover, the screen 1, when it is not in use, can be placed in a space-saving manner against the wall 3, as represented in figure 9.

[0033] Although in the figures, the support 2 in the

shape of an arm has been fixed to a wall, it is also possible for such an arm to be provided for example on a vertical mast which can be made such that it can rotate itself around a vertical axis.

[0034] Figures 10 and 11 represent a variant of the device from figure 9, whereby the bush 4 is not fixed directly to the support 2 in this case, but is being held indirectly to this support 2 by means of a holder 30 in the shape of a bush in which the bush 4 of the screen is clamped by means of a clamping device which in this case consists of a screw 31 which has been screwed through the wall of the holder 30 up against the bar 5.

[0035] In the latter case, the screen 1 can be easily taken in and out of the holder 30, for example in order to put away the screen 1 in a sheltered place.

[0036] Figure 12 represents a variant from figure 11, whereby the clamping means of the bush 4 is in this case formed in the holder 30 by a lever 32 which is fixed to the holder 30 by means of a shaft 33, whereby said lever 32 has an eccentric far end 34 which protrudes in a groove 35 of the holder 30, such that when the lever 32 is placed diagonally to the holder 30, the eccentric far end 34 will not make contact with the bush 4 of the screen 1, whereas when the lever 32 is turned down into a position as represented in figure 12, the bush 4 will be clamped in the holder 30 by this eccentric far end 34.

[0037] The invention is by no means limited to the above-described embodiments given as an example and represented in the accompanying drawings; on the contrary, such a device according to the invention can be made in all sorts of shapes and dimensions while still remaining within the scope of the invention.

## Claims

1. Device for fixing a screen, for example a sun screen, a rain screen or the like, to a support (2), whereby this screen (1) is provided with a bush (4) in which a bar (5) can be shifted, and whereby this bush (4) is connected to bones (9) of the screen (1) by means of spokes (10) or the like, **characterized in that** said bush (4) is fixed directly or indirectly to the aforesaid support (2).
2. Device according to claim 1, **characterized in that** the bush (4) is fixed directly to the support (2) whereby this bush (4) comprises a clamping means for locking the bar (5) in the bush (4).
3. Device according to claim 2, **characterized in that** the aforesaid clamping means consists of a screw (7).
4. Device according to claim 1, **characterized in that** the bush (4) is fixed indirectly to the support (2) by means of a holder (30).

5. Device according to claim 4, **characterized in that** the holder (30) is formed of a bush in which the bush (4) of the screen (1) is fixed by means of a clamping means. 5
6. Device according to claim 5, **characterized in that** the clamping means for the bush (4) in the holder (30) consists of a screw (31). 10
7. Device according to claim 5, **characterized in that** the clamping means for the bush (4) in the holder (30) consists of a lever (32) which is hinge-mounted to the holder (30) and which has an eccentric far end (34) which partially sticks in a groove (35) of the holder (30). 15
8. Device according to claim 1, **characterized in that** the length of the bar (5) is such that it protrudes outside the bush (4) with its far end when the screen (1) is folded up. 20
9. Device according to claim 1, **characterized in that** the bar (5) is made pliable with a top part (16) and a lower part (17) which are connected to each other by means of a hinge (18). 25
10. Device according to claim 9, **characterized in that** a hook (19) or a loop is provided in which the afore-said lower part (17) of the bar (5) can be suspended. 30

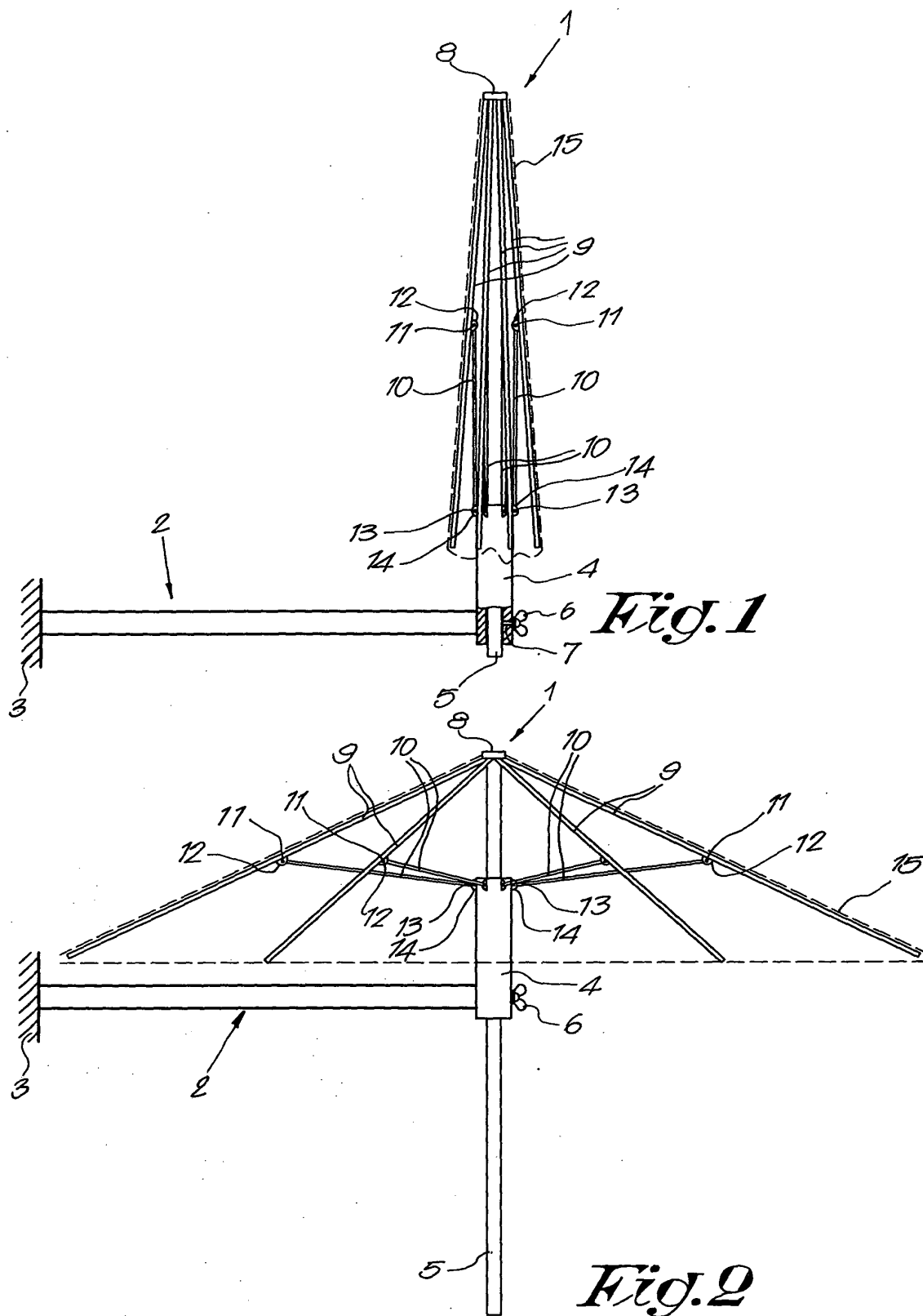
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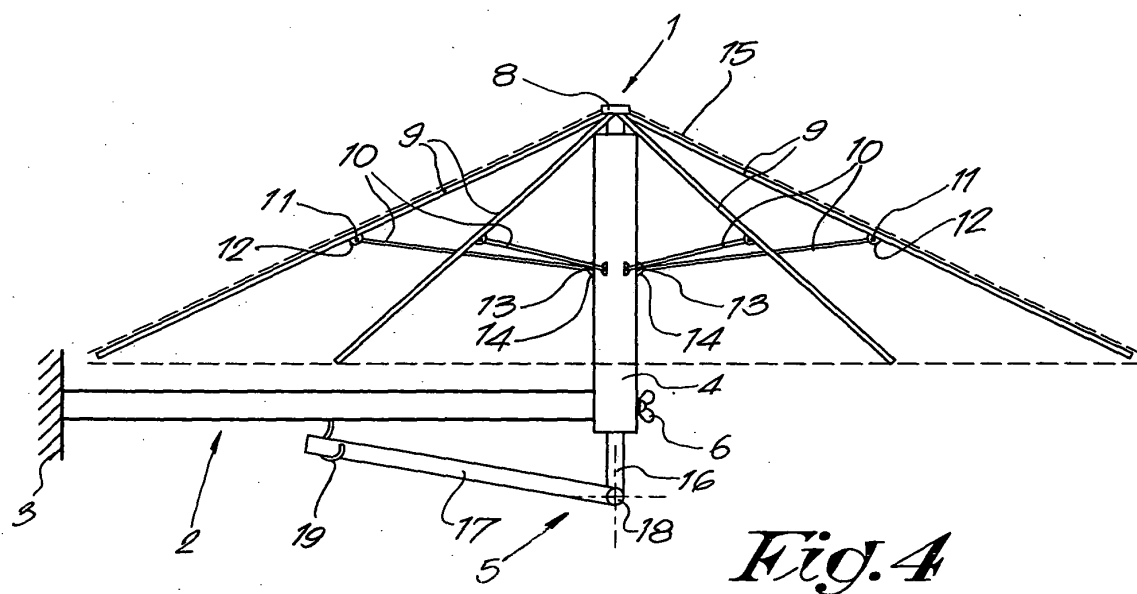
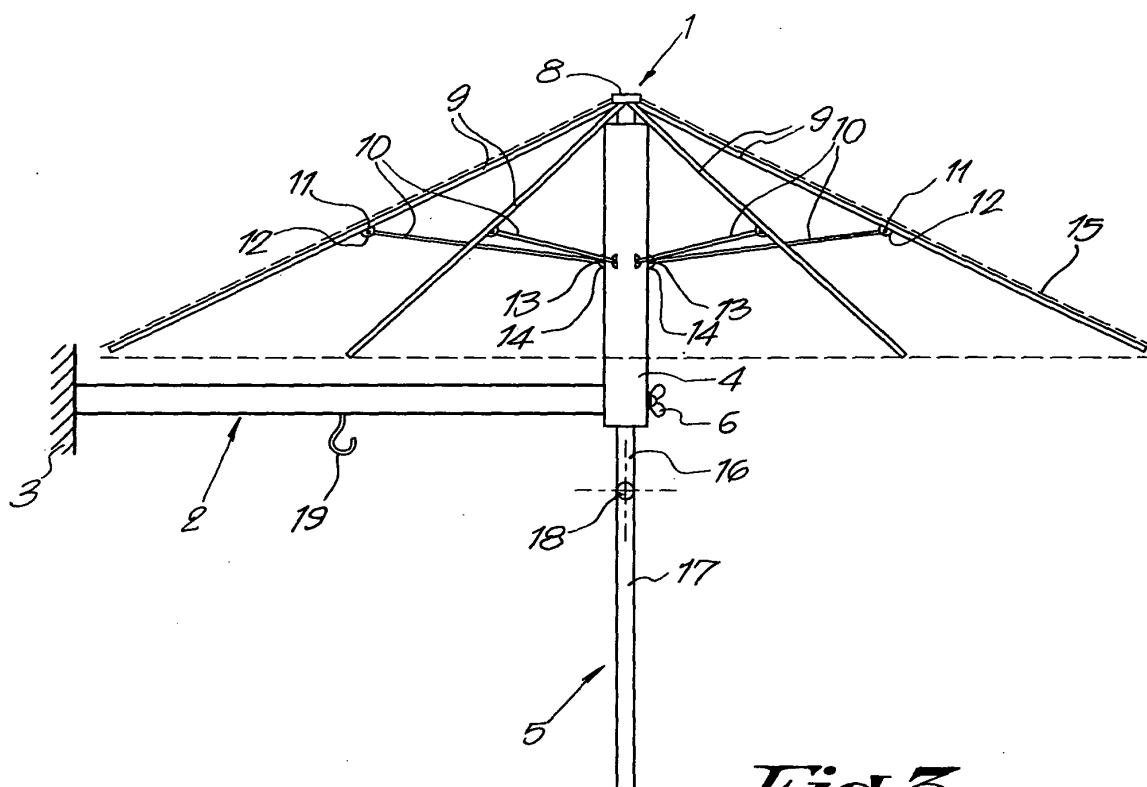
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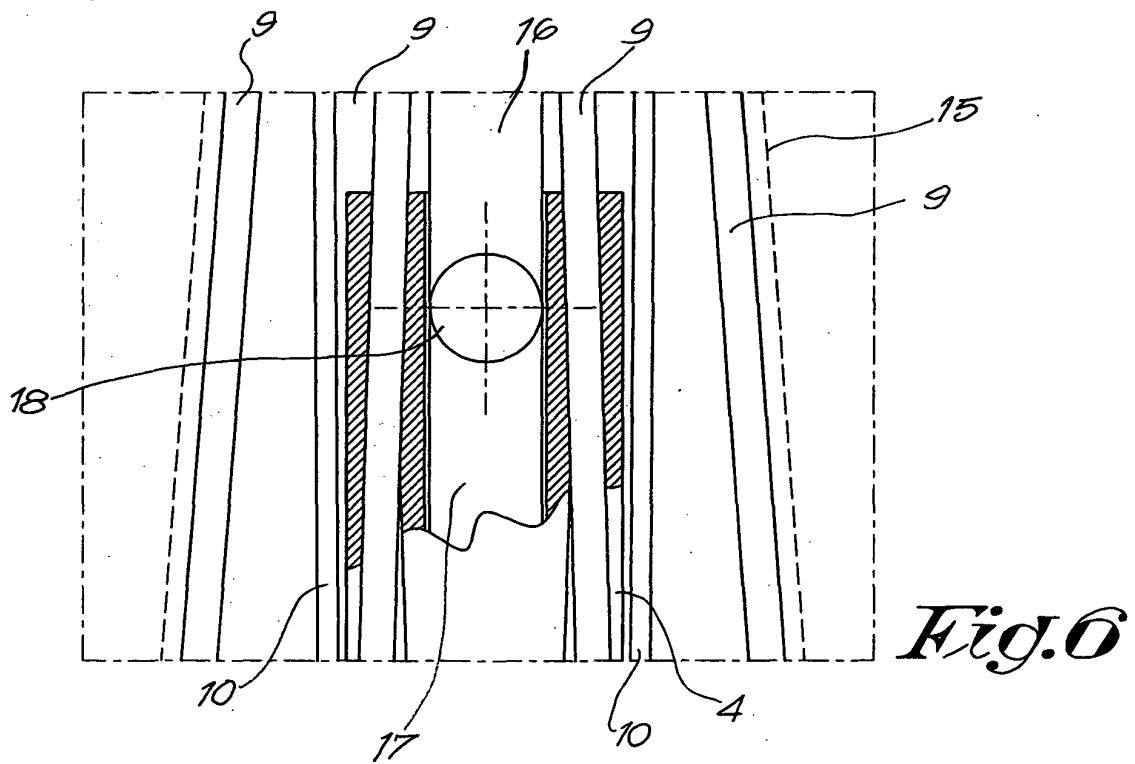
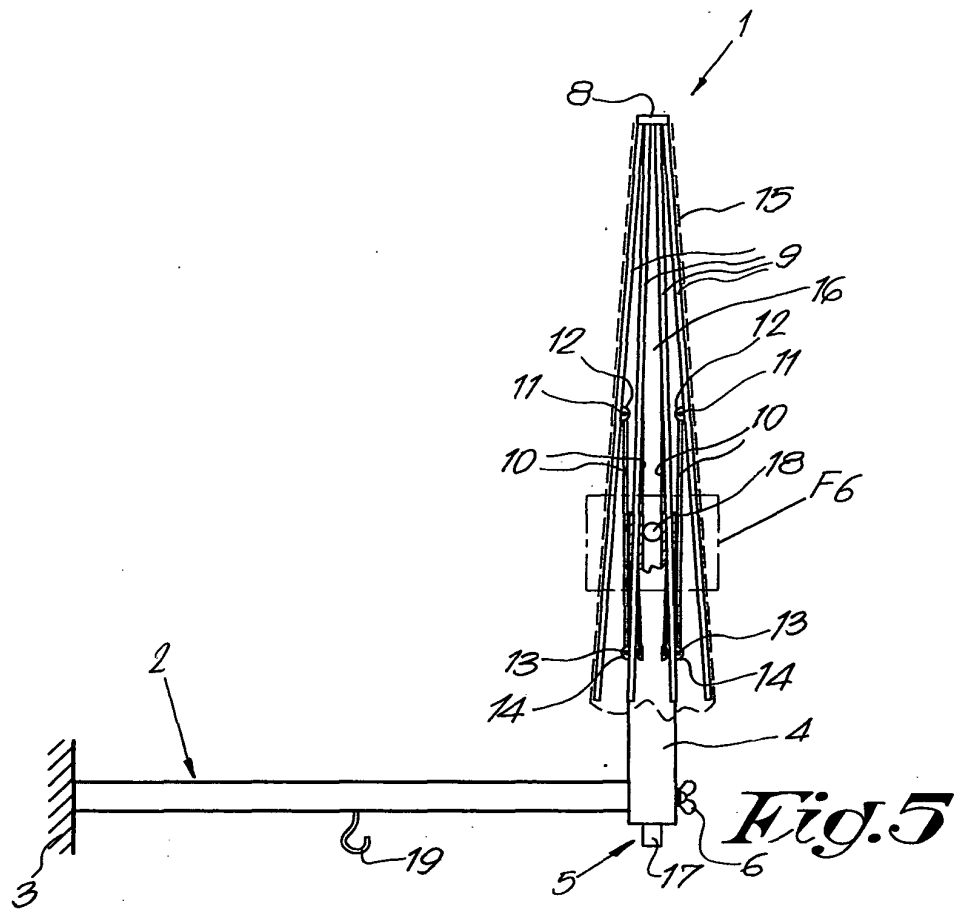
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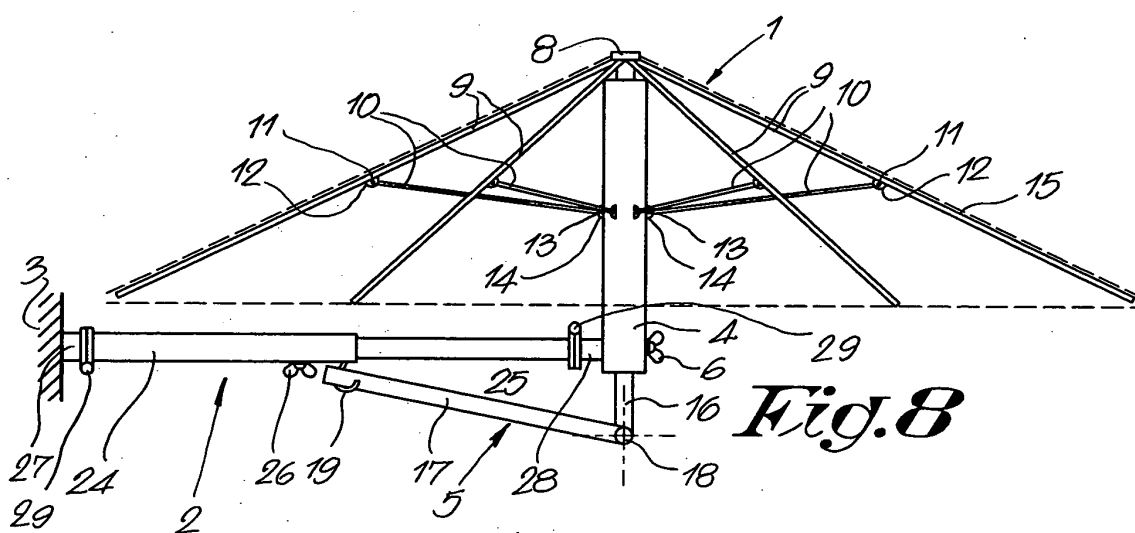
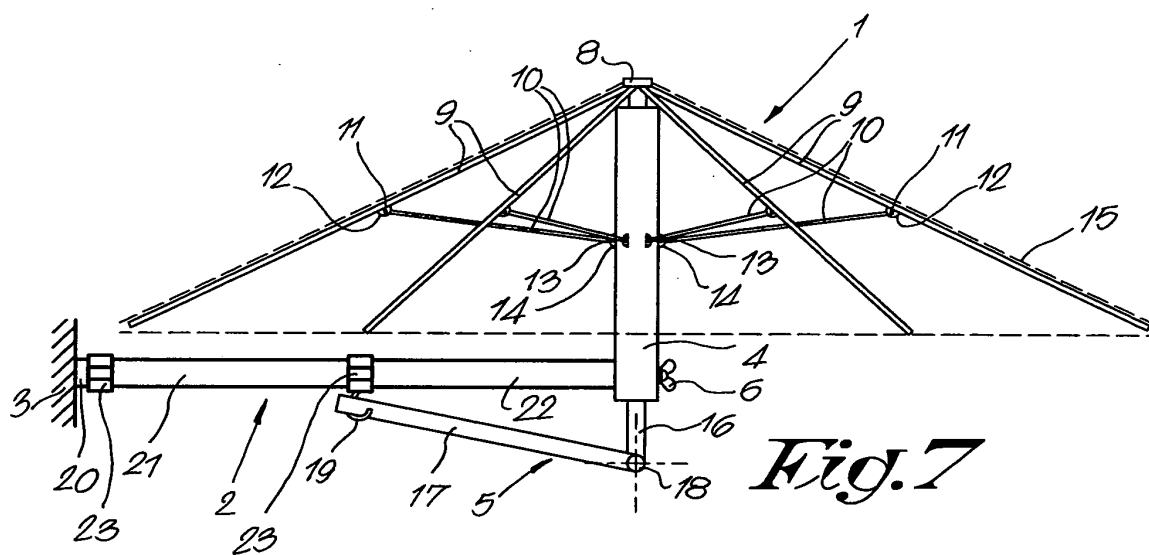
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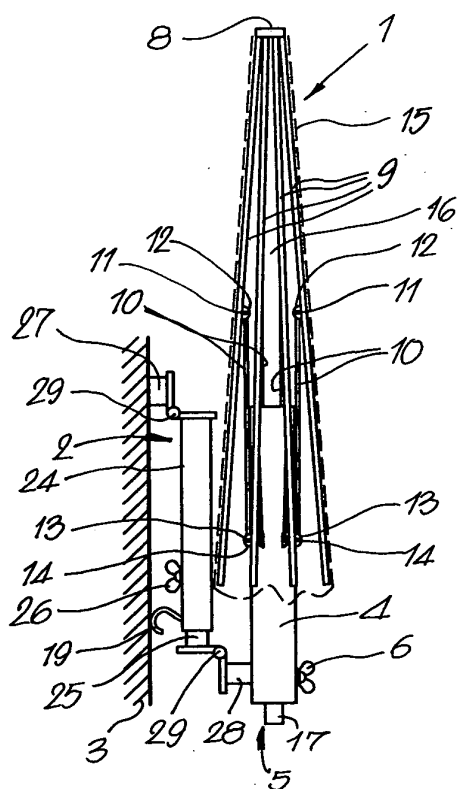
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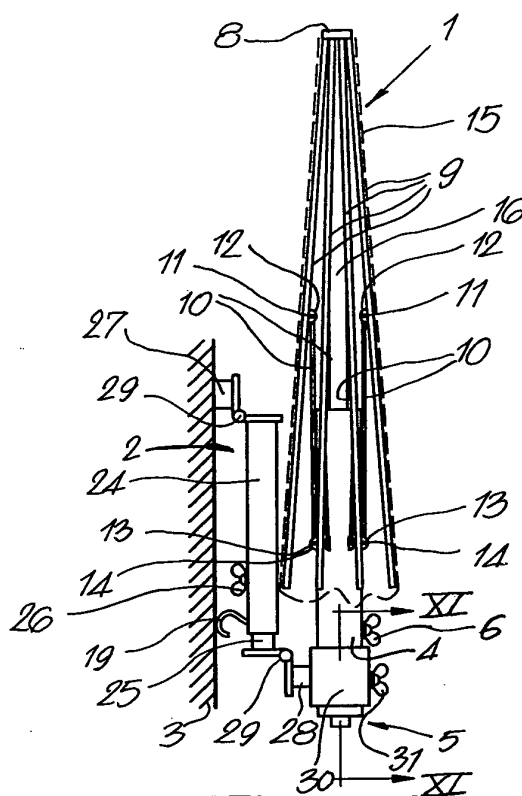




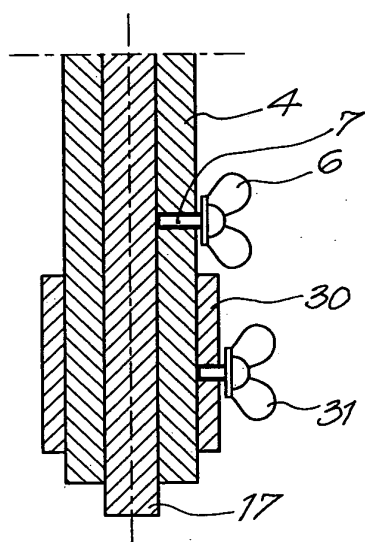




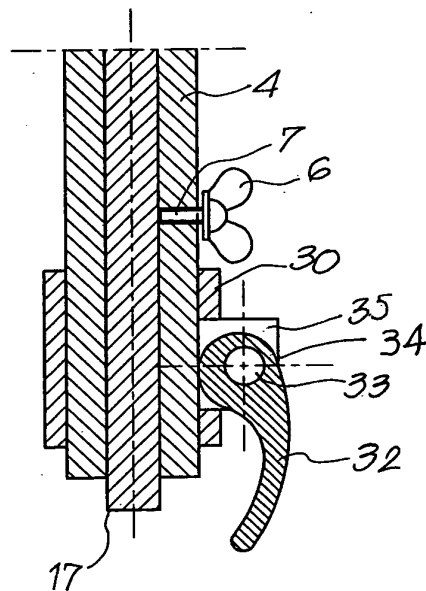
*Fig. 9*



*Fig. 10*



*Fig. 11*



*Fig. 12*



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# EUROPEAN SEARCH REPORT

Application Number  
EP 03 07 8188

| 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.7) |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US 2 515 993 A (FAASSE)<br>18 July 1950 (1950-07-18)<br>* figures 1,3,5 *<br>* column 4, line 46 - line 65 *<br>---   | 1-10                                                | A45B11/00<br>A45B23/00                       |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DE 90 10 616 U (REIFEN-IHLE GMBH)<br>25 October 1990 (1990-10-25)<br>* figure *<br>---                                | 7                                                   |                                              |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EP 0 829 598 A (WERNER B V)<br>18 March 1998 (1998-03-18)<br>* figure 4 *<br>* column 6, line 29 - line 55 *<br>----- | 1-6,8-10                                            |                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                       |                                                     | TECHNICAL FIELDS<br>SEARCHED (Int.Cl.7)      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                       |                                                     | A45B                                         |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                       |                                                     |                                              |
| Place of search<br>THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                       | Date of completion of the search<br>23 January 2004 | Examiner<br>van Overbeek, K                  |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                       |                                                     |                                              |

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 03 07 8188

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