(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 632 599 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
08.03.2006 Bulletin 2006/10

(51) Int Cl.:
D06F 57/04 *(2006.01)*

(21) Application number: **05255168.6**

(22) Date of filing: **23.08.2005**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **02.09.2004 GB 0419432**
11.05.2005 GB 0509544

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(54) Shower protected airer

(57) A rain protection system suitably designed for the popular rotary airer comprising of water resistant panels (5), which form the required funnel shape.

The panels (5) are attached to the airer's outermost line, the lower sections of the panels are weighted such that the panel becomes taut under normal conditions, creating the desired funnel shape. The lower, weighted sections (15) will also form the shape of a downspout (8), providing greater protection. During windy conditions, the panels may be forced to lift, this will create a gap alowing air to escape. This vent-like action will prevent damage, should the rotary airer be left unfolded during windy conditions.

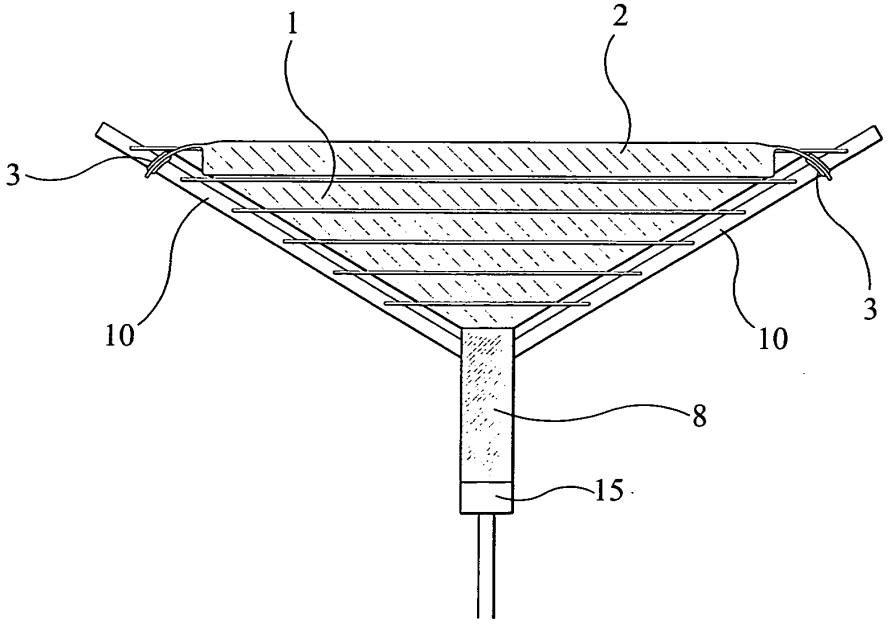

FIG 6

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Description

[0001] The present invention relates to shower protected airer and in particular to a shower protected airer for use as a rain protection system for use with a rotary airer.

[0002] The rotary airer is a popular device used for clothes drying. An airer generally comprises a central pole from which a plurality (normally 3 or 4) of rotor arms extend. The rotor arms are inclined upwards such that they generally define an inverted pyramid. A washing line is then suspended between the arms in a spiral fashion. A long length of washing line can thereby be accommodated in a small space, which is ideal for use in small garden spaces. When not in use, the arms can be folded upwards or against the central pole to conserve space. A weatherproof sheath can optionally be slid over the folded airer for aesthetic purposes and/or to protect it from the elements.

[0003] A problem with outdoor clothes drying is that several hours of good weather is required to achieve the desired aim, which is to have washing dried. For many working people, this means leaving the contents of the airer unattended from early morning to late afternoon, in the hope that it stays dry.

[0004] Washing line and airer covers are available. Known washing line or airer covers are generally in the form of a tent-like structure, which is used to shield the line/airer from the elements. Such covers are generally larger than the airer and extend upwardly therefrom, which is unsightly, large shadow forming and space-inefficient. Moreover, because of their tent-like structure, known covers perform badly in windy conditions because the roof creates a lifting force that tends to try to pull the tent / airer out of the ground.

[0005] It is an object of the present invention to attempt to overcome one or more of the above problems.

[0006] Accordingly, a first aspect of the invention provides a rain protection system for an airer comprising a lining adapted for attachment to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

[0007] A second aspect of the invention provides an airer system comprising an airer and a rain protection system therefor, the rain protection system comprising a lining attached to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

[0008] A third aspect of the invention provides a pattern for a rain protection system for an airer comprising a lining adapted for attachment to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

[0009] One possible advantage of the invention is that it provides the household greater convenience by allowing washing to be left out to dry on days when showers may be expected, and indeed for days when rain is not expected.

[0010] The panel or panels of the invention are preferably water-resistant. Preferably also, the panel or panels are flexible enough to allow the airer to be folded into its upright position when not in use. Another preferred feature of the panel or panels is that they be manufactured of a thin material such that it occupies as small a volume as possible when folded, which preferable feature is intended enable the airer to be stored folded, with the lining in-situ whilst still being able to accept the protective sheath, which is sometimes provided with a conventional airer.

[0011] The lining comprises one or more panels for collecting rainwater. Preferably, the number of panels provided corresponds to the number of arms of the airer. More than one panel can be fabricated by providing appropriate folds in a single piece of material. In a most preferred embodiment of the invention, the lining is made from a single piece to minimise the number of joins, and hence minimise the likelihood of leakage and/or failure.

[0012] The lining is preferably manufactured of a sheet material. Most preferably, the lining is manufactured of a polymer sheet, for example polyethylene sheeting, polyester, or a woven polymer sheet material.

[0013] The rain protection system of the invention is adapted for attachment to and above the airer, which may be accomplished by any suitable means. For example, fasteners may be provided that engage with the rotor arms and/or washing lines of the airer. Suitable fasteners may be clips, ties, eyelets, hook-and-loop type fasteners (e.g. Velcro ®) or hooks that engage with apertures associated with the airer or vice-versa.

[0014] In preferred embodiments of the invention, the lining will be attached to an airer by releasable attachment means. The releasable attachment means preferably allow for detachment of the lining in very windy conditions. Suitable releasable attachment means include spring-loaded clips and the like. Preferably, ends of the airer will have pins extending laterally to which the releasable attachment means may be attached.

[0015] Additionally, the lining may comprise one or more stiffeners to maintain the lining, as much as possible, in a desired configuration. The stiffeners, where provided, may comprise strips of relatively rigid material, e.g. a plastic strip, that is affixed to the lining. Preferably, the stiffeners are disposed at or near to the interface of adjacent panels. The stiffeners may be affixed to the lining along the edges of the panels such that they substantially coincide with the arms of the airer. The stiffeners, where provided on the lining, are preferably disposed on the underside of the lining.

[0016] It is a yet further preferable feature of the invention that flanges are provided on the arms of the airer to provide an abutment surface for the lining. The lining, in use, is preferably held in a taut configuration and flanges may be provided upwardly of the arms of the airer to provide a smooth surface for the lining to sit upon. This feature of the invention may help to maintain the lining in a desired configuration, in addition to minimising the likelihood of chaffing.

[0017] The flanges, where provided may be flat or they may have a configuration to correspond with the arms of the airer and/or the lining. In a most preferred embodiment, the flanges have a V-shaped upper surface to conform to the shape of the lining and to provide a drainage channel in the event of a lining leak and a lower surface having U-shaped formations for detachable clip engagement with the arms of the airer. The one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer. The configuration of the invention therefore provides a funnel into which rainwater is collected and funnelled towards the aperture. One advantage of such a configuration is that it occupies only little more space than the airer itself, which adds to the aesthetic appeal of the invention. More importantly, however, the airer has a different aerodynamic configuration to that of known devices insofar as it may tend to generate a downward force when a wind passes over and/or around it. This feature may help to stabilise the airer in windy conditions and to reduce the likelihood of the airer being lifted from the ground in windy conditions.

[0018] The aperture is preferably located towards an intended a lower part of the lining when in use. Most preferably, the aperture is disposed at the intended lowest point of the lining when in use. In one possible embodiment of the invention, the lowest part of the lining substantially coincides with the centre pole of the airer.

[0019] The lining may additionally comprise a downpipe associated with the aperture. The downpipe, where provided, may be used to direct collected rainwater away from the airer or in a desired direction.

[0020] The lining is preferably weighted. The weighting means may be provided on any part of the lining but may conveniently be provided on the downpipe. The weighting means may compose one or more weights sewn into or otherwise attached to the lining. The weighting means, where provided, may help to keep the lining taut, and/or in a desired configuration. The weighting means may be associated with any part of the downpipe or aperture, especially the intended lower part of the downpipe or the periphery of the aperture.

[0021] Thus, in windy conditions, the lining is preferably able to rise to accommodate shape changes therein but to fall, under the weight of the weighting means, back into a desired configuration.

[0022] To prevent the lining being lost in high winds, it is preferable to provide hook means on the lining that can snag on the washing line or another part of the airer. Conveniently, the hook means may be provided on a lower end of the downpipe. The hook means may take the form of a finger or the like extending upwardly.

[0023] A fourth aspect of the invention provides a rain protection system designed to shelter the contents of a rotary airer from an unexpected rain shower by means of a unique funnel shaped lining.

[0024] The rain protection system according to the fourth aspect of the invention may provide greater convenience for people requiring unattended dry airing. The construction of the rain protection system according to the fourth aspect of the invention may be by use of water-resistant material to form the required funnel shape. The rain protection system according to the fourth aspect of the invention may additionally have side panels, which provide additional side protection should a light wind drive rain in ant an angle. Further, rain protection system according to the fourth aspect of the invention may be designed for use with existing rotary airers.

[0025] A preferred embodiment of the invention shall now be described, by way of example only with reference to the accompanying drawings, in which;

Figure 1 shows a prior art airer in side elevation;
Figure 2 shows a partial section through the invention from the side;
Figure 3 shows a side elevation of a lining according to the invention;
Figure 4 shows an alternative embodiment of the invention in side elevation;
Figure 5 shows a schematic representation of the invention in plan view;
Figure 6 shows a further side view of the invention;
Figure 7 shows a detailed cross section through a stiffener fitted to the invention;
Figure 8 shows a side elevation of the invention with side panels;
Figure 9 shows a possible pattern for fabricating the invention;
Figure 10 shows a cross-section through a detachable flange of the invention; and
Figure 11 shows a variation of the invention.

[0026] Referring now to the drawings, Figure 1 shows the basic shape of a rotary airer, which comprises a central pole 12 and a plurality of rotor arms 10. The arms 10 are held in-situ by tie bars 6. A sliding collar 11 is provided to enable the arms 10 to be folded to a vertical position when the airer is not in use. A length of washing line 7 is threaded through holes (not shown) in the arms 10 in a spiral fashion.

[0027] Figures 2 and 3 show views of the invention, which comprises a plurality of panels 5 forming a lining, which are arranged to sit atop the airer. Each panel 5 has an upper flap 2, which overlaps the uppermost washing line 7' and hangs over the periphery of the airer. A downpipe 8 is formed from one or more dependent strips that form a tube. An aperture 13 is formed where the panel 5 meets the downpipe 8. Thus, rain falling in the

direction generally indicated by arrow A, is collected by the lining 1 and runs towards the aperture 13, as indicated by arrow B. The collected rainwater is able to drain through aperture 13 and be directed in a desired direction (e.g. away from the clothes) as indicated by arrow C by the downpipe 8. The downpipe 8 is shown surrounding the central pole 12 of the airer, although it could be offset for ease of installation.

[0028] In Figure 4, the lining 1 is provided with eyelets 3 that are adapted to engage with the ends of the arms 10 of the airer.

[0029] Figure 5 shows a plan view of the lining 1 of the invention. Each panel 5 is welded or stitched to an adjacent panel 5. A flange 4 is provided on the arms of the airer where the panels 5 join. The flange 4 is manufactured from a strip of plastic, whose function shall be described more fully below.

[0030] In Figure 6, the downpipe 8 is fitted with a weighting means 15 at its intended lower end. The lining 1 is affixed atop the airer by eyelets 3 that engage with the ends of the arms 10 of the airer. The weighting means 15 causes the lining 1 to be held taut, whilst being free to lift under the influence of wind forces. The flanges 4 also help to hold the lining 1 in its desired configuration.

[0031] Figure 7 shows a detail of the panel 5 interfaces. Each panel 5 is stitched 16 to a stiffener 4 as previously described. The flange 4 is arranged to lie atop an arm 10 of the airer. This configuration serves several functions, namely; retaining a desired lining 1 configuration; reducing the likelihood of the stitching 16 from chaffing on the arm 10 and providing a convenient valley gutter for the lining 1. The flange 4 is shown as a flat strip of plastics material, although providing it with a U-section or V-section configuration may be desirable.

[0032] Figure 8 shows further feature of the invention, namely an outer windshield 9 that can be hooked to the arms 10 of the airer using elasticated loops 17. This helps to protect the airer from slanting rain, in windy conditions.

[0033] Figure 9 shows a pattern for an embodiment of the invention. The lining 1 is formed from four trapezium-shaped panels 5. Edges 19 are stitched together to form the lining 1 into a funnel shape. Slits 20 are provided such that the panels 5 fold about line 21 to form the overhangs 2, when in use. Eyelets 3 are provided for fixing the lining 1 to the airer. The lower edges 22 of each panel define the aperture 13. Each edge 22 is stitched to a corresponding edge 23 of the downpipe piece 8. The downpipe 8 has a hem 24 that is formed by stitching a lower edge 25 of the downpipe 8 to line 26. A weight (not shown), e.g. a chain or a string of lead shot, is stitched into the hem to provide a weighting means 15. Edges 26 and 27 are stitched to one another to form the downpipe 8 into a tubular configuration.

[0034] A windshield panel is formed from a rectangle of material and has eyelets 3' in intended upper corner thereof to which an elasticated cord may later be attached. A weighted hem 24' may be provided that is formed in a similar manner to that of the downpipe 8.

[0035] Figure 10 shows a cross-section through a flange 4 of the invention. The flange 4 has a V-shaped upper surface 28, which serves as a valley gutter and U-shaped 30 formations on the underside for engaging with the arms 10 of the airer. A screw or rivet may be provided (not shown) for a more robust connection of the flange to the arm of the airer.

[0036] Finally, Figure 11 shows a variation applicable to any embodiment of the invention in which the downpipe 8 has one or more upwardly extending fingers 32 from the lower end thereof. The finger or fingers is or are intended to snag on the washing line 7, in the event that the lining becomes detached from the airer, to prevent loss of the lining.

[0037] This variation will be particularly appropriate for embodiments of the invention in which the eyelets 3 are replaced by releasable attachment means such as spring-loaded clips 34 that allow the lining to detach in high winds. Such clips may be attached to pins 36 extending laterally from ends of the airer arms.

Claims

1. A rain protection system for an airer having one or more arms extending from one or more support poles from which a clothes line can be suspended, comprising a lining adapted for attachment to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

2. A rain protection system comprising an airer having one or more arms extending from one or more support poles from which a clothes line can be suspended, and a rain protection system therefor, the rain protection system comprising a lining attached to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

3. A rain protection system as claimed in claim 1 or claim 2, wherein the panel or panels of the invention are water-resistant.

4. A rain protection system as claimed in any of claims 1 to 3, wherein the panel or panels are flexible.

5. A rain protection system as claimed in any of claims 1 to 4, wherein the lining is manufactured of a sheet material.

6. A rain protection system as claimed in claim 5, wherein the lining is manufactured from a polymer sheet material

7. A rain protection system as claimed in any of claims 1 to 6, adapted for attachment to and above the airer by fastening means that engage with the arms and/or washing lines of the airer.

8. A rain protection system as claimed in claim 7, wherein the fastening means is one or more from the group comprising clips, ties, eyelets, hook-and-loop type fasteners (e.g. Velcro ®) and hooks that engage with apertures associated with the airer or vice-versa.

9. A rain protection system as claimed in any of claims 1 to 8, wherein the lining additionally comprises one or more stiffeners.

10. A rain protection system as claimed in claim 9, wherein the stiffeners comprise strips of relatively rigid material

11. A rain protection system as claimed in claim 9 or claim 10, wherein the stiffeners are disposed at or near to the interface of adjacent panels.

12. A rain protection system as claimed in any of claims 9 to 11, wherein the stiffeners are affixed to the lining along the edges of the panes such that they substantially coincide with the arms of the airer.

13. A rain protection system as claimed in any of claims 1 to 12, wherein the aperture is disposed at the intended lowest point of the lining when in use.

14. A rain protection system as claimed in any of claim 1 to 13, wherein the lowest part of the lining substantially coincides with the centre pole of the airer.

15. A rain protection system as claimed in any of claims 1 to 14, wherein the lining additionally comprises a downpipe associated with the aperture.

16. A rain protection system as claimed in claim 15, wherein the downpipe or lining may be weighted by a weighting means.

17. A rain protection system as claimed in claim 16, wherein the weighting means is associated with the intended lower part of the downpipe or the periphery of the aperture.

18. A rain protection system as claimed in any one of claims 1 to 17, wherein flanges are provided on the arms of the airer for providing a resting surface for the lining.

19. A rain protection system as claimed in claim 18, wherein the flanges comprise a valley formation for channelling rainwater.

20. A rain protection system as claimed in claim 18 or claim 19, wherein the flanges are detachable from the arms of the airer.

21. A rain protection system as claimed in any of claims 1 to 20, wherein the lining is attachable to the airer by releasable attachment means.

22. A rain protection system as claimed in any of claims 1 to 21, wherein the hook means is provided on a lower end of the downpipe.

23. A pattern for a rain protection system for an airer comprising a lining adapted for attachment to and above the airer, the lining comprising one or more panels for collecting rainwater, wherein the one or more panels are inclined downwardly from the outside of the airer towards the centre of the airer and wherein the lining has an aperture therein through which collected rainwater is able to drain.

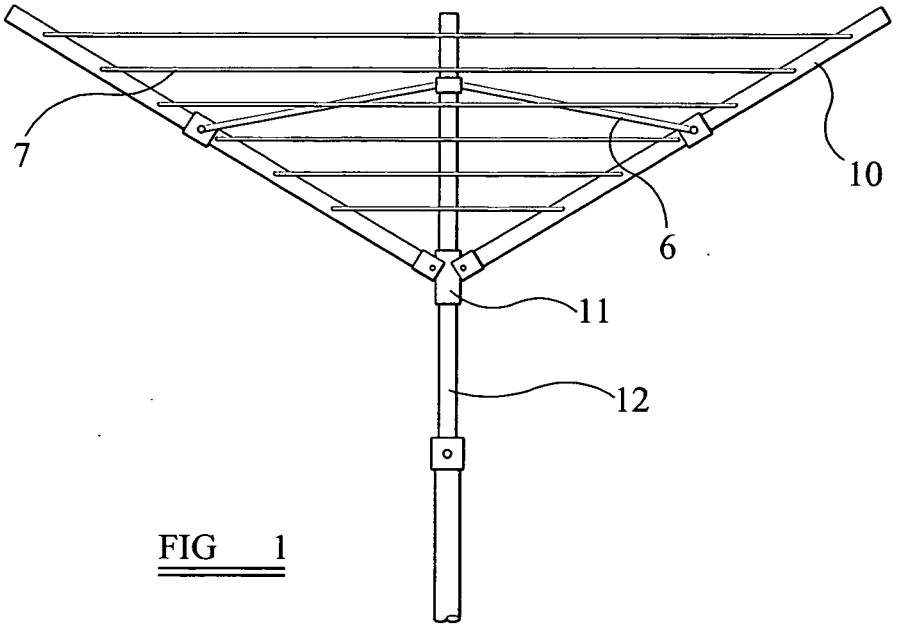

FIG 1

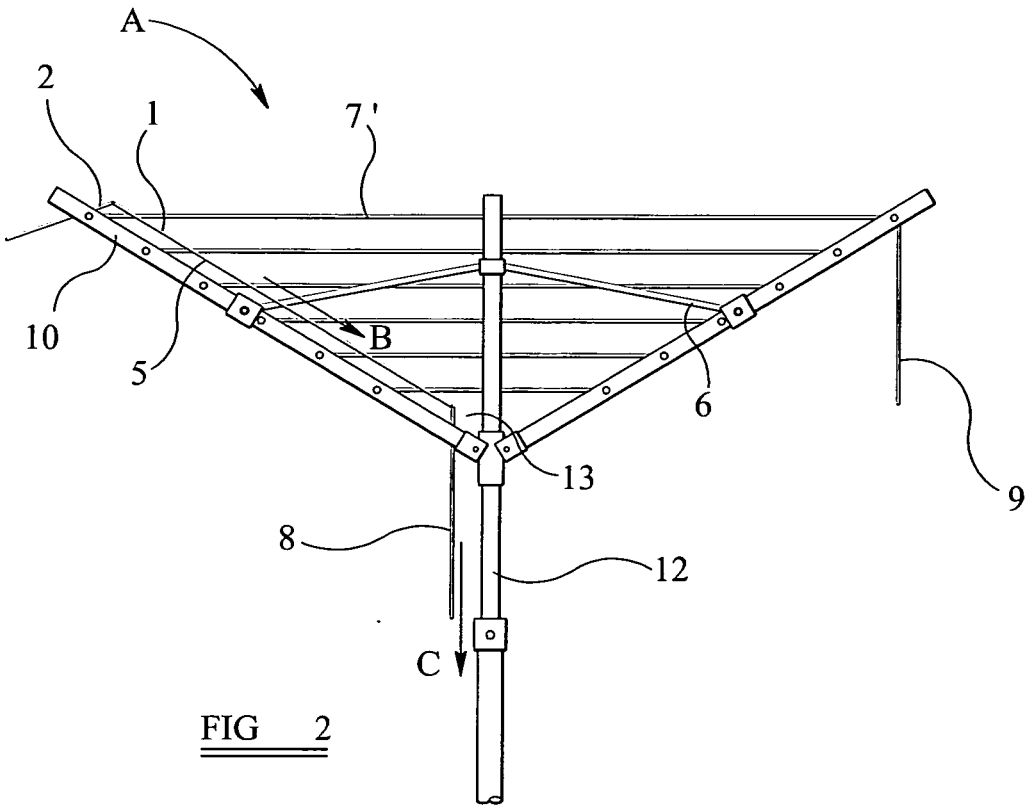

FIG 2

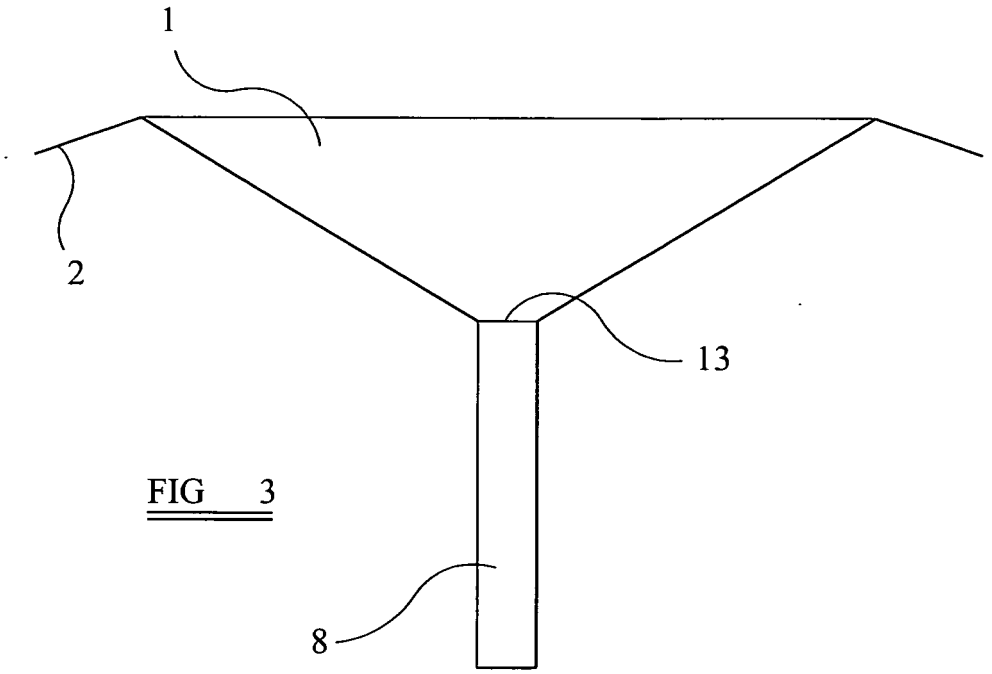

FIG 3

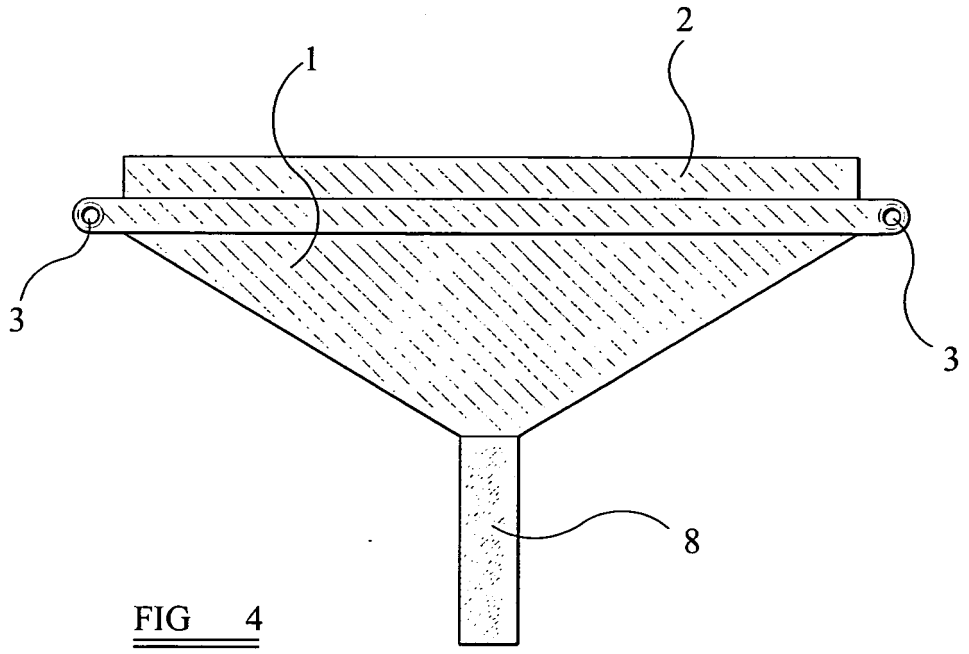

FIG 4

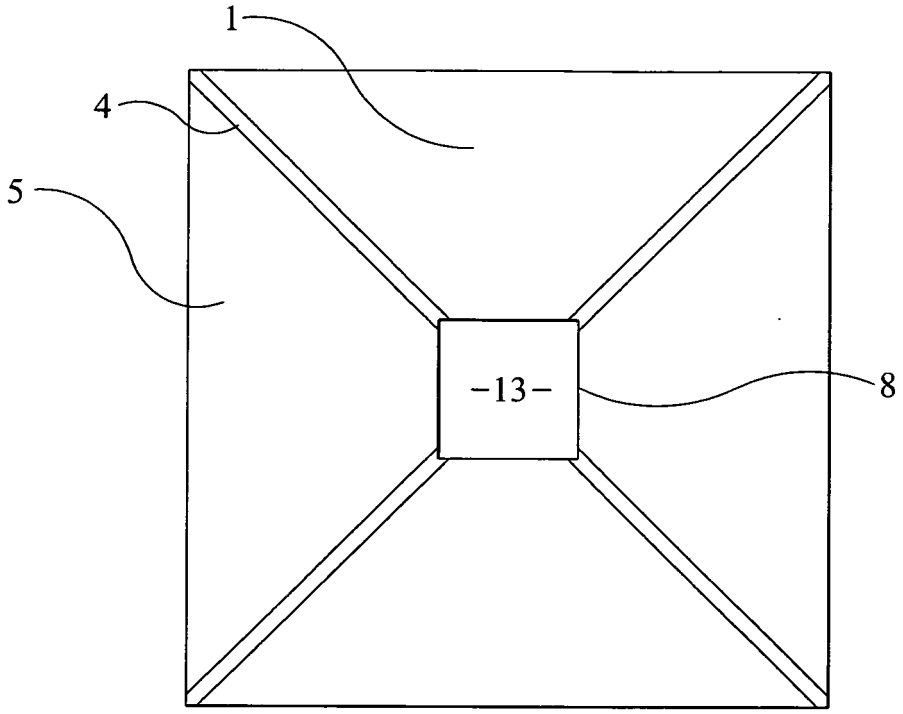

FIG 5

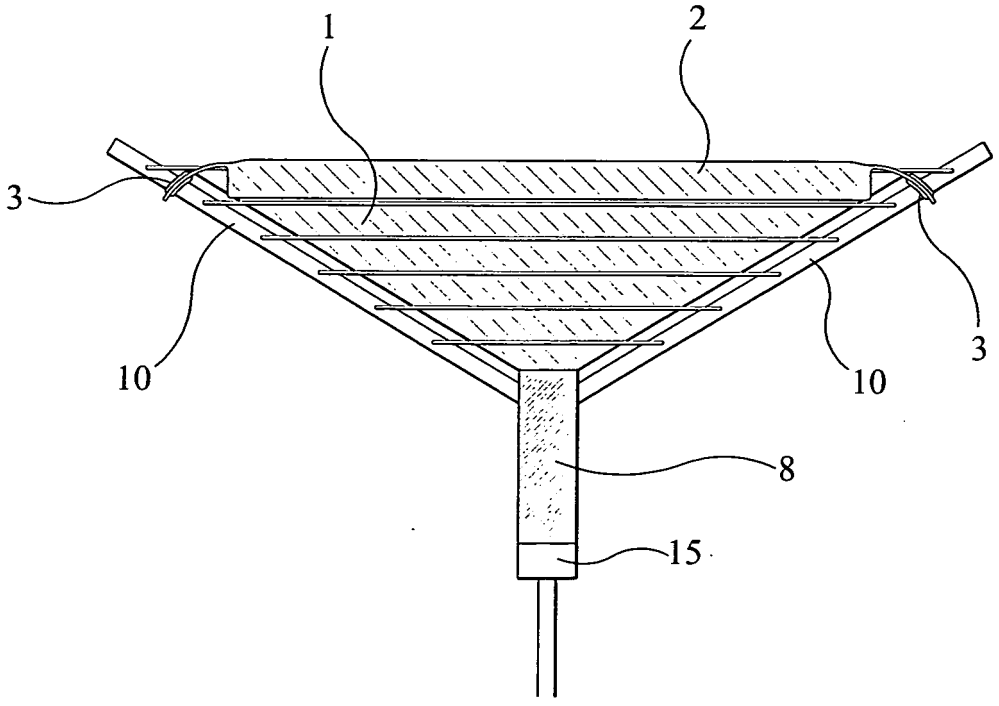

FIG 6

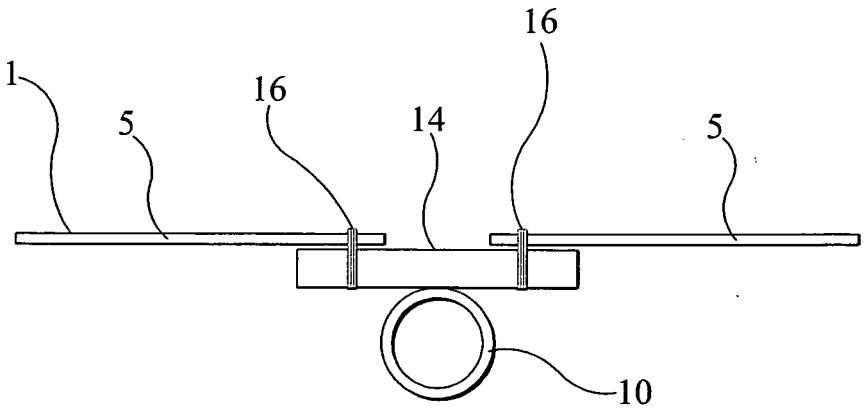

FIG 7

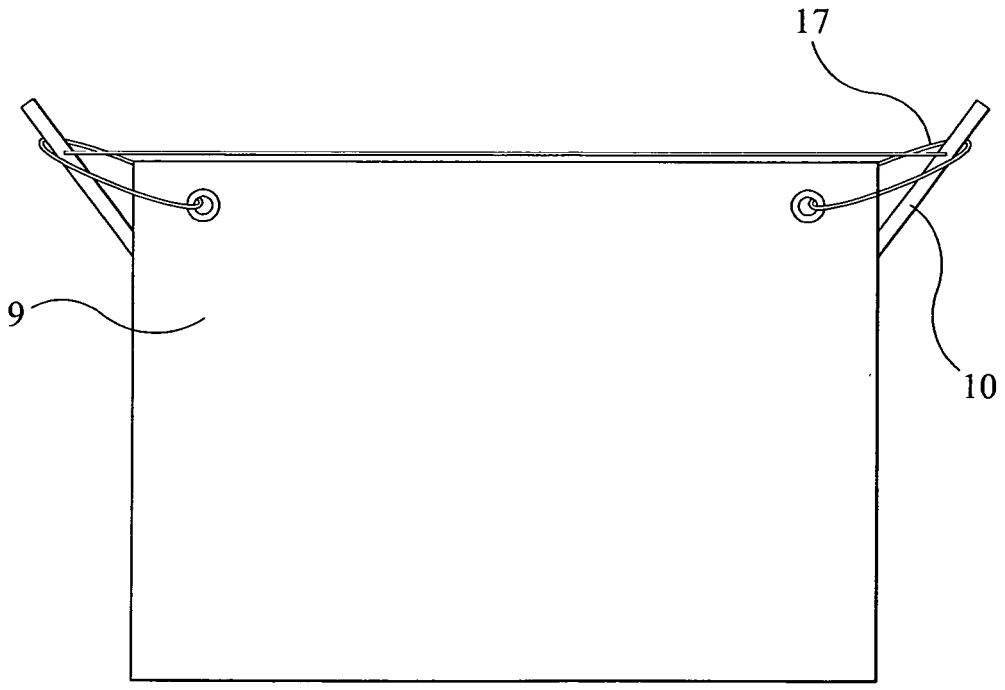

FIG 8

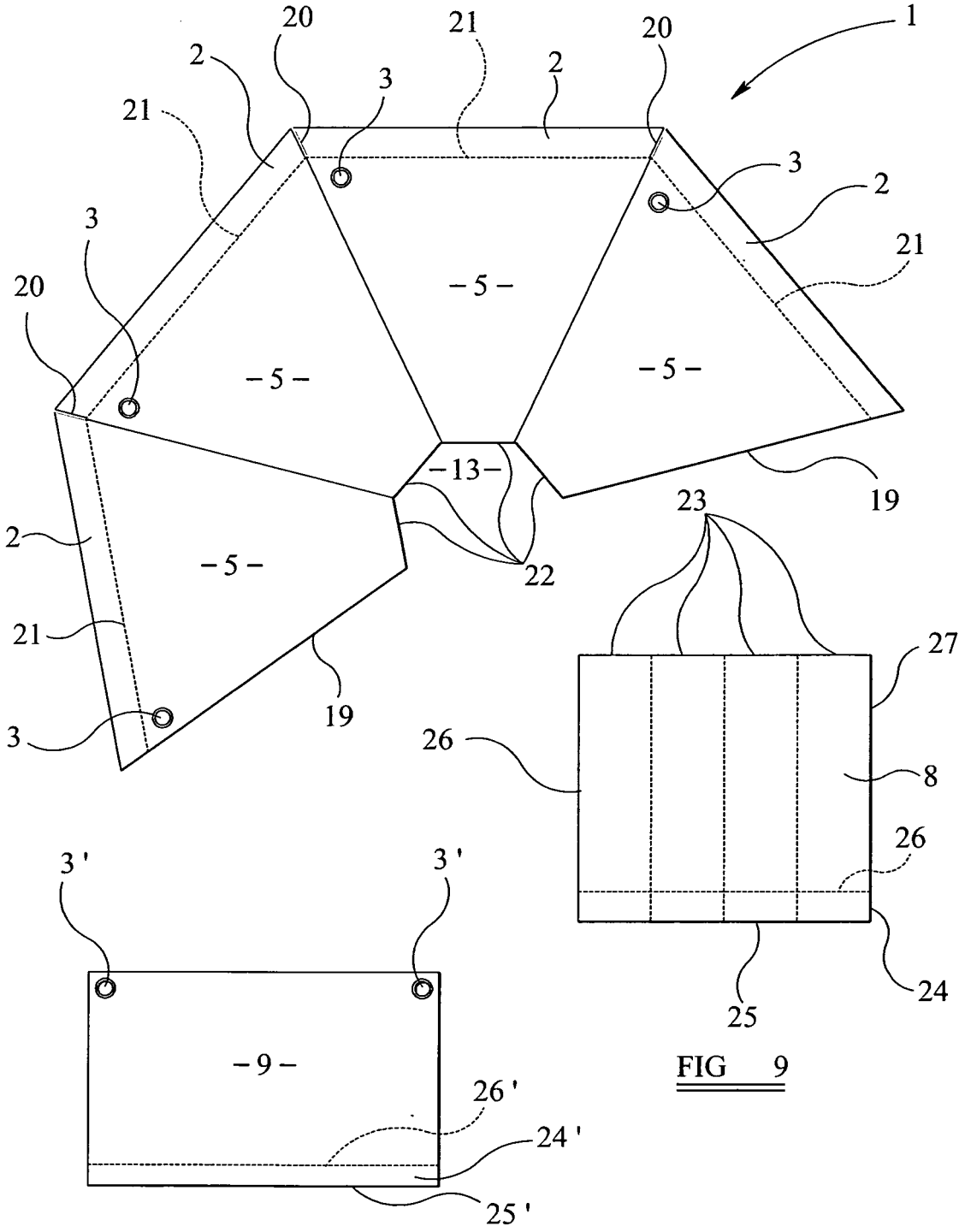
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FIG 9

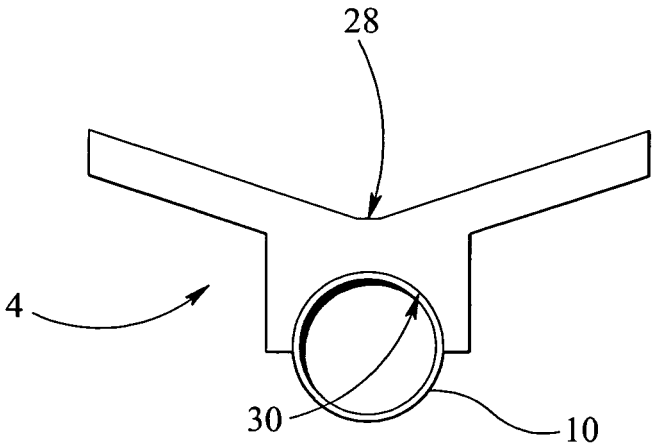

FIG 10

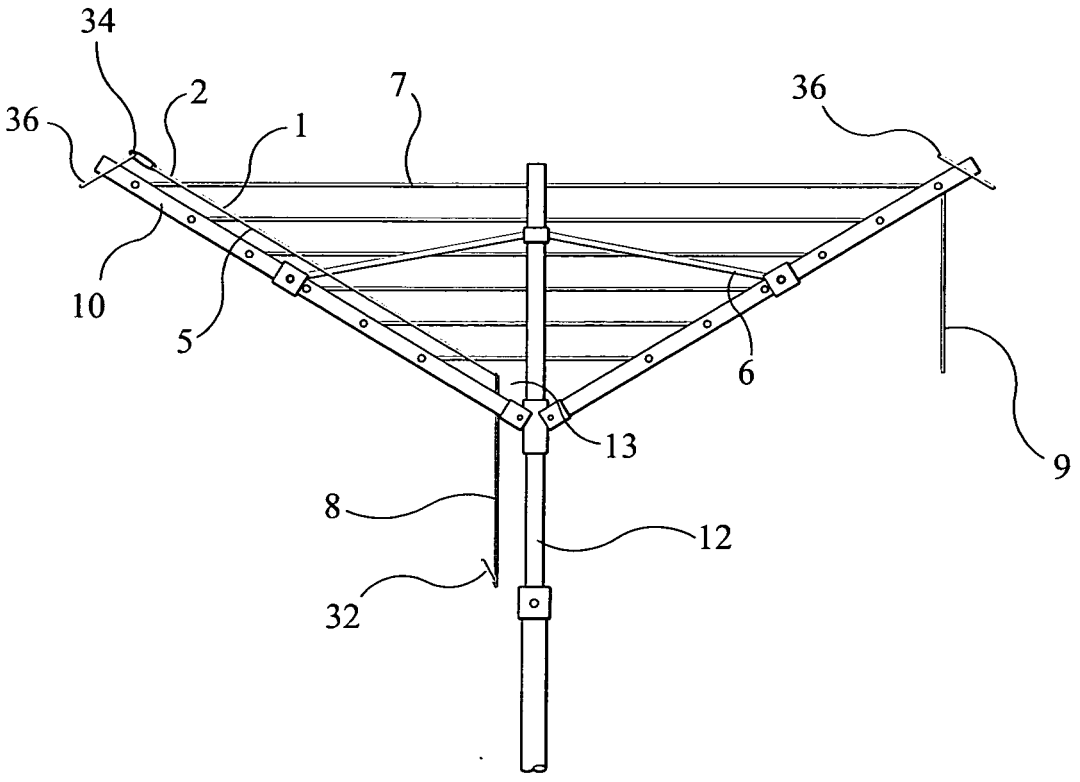

FIG 11

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 25 5168

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	29 November 2005	Weinberg, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 25 5168

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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29-11-2005

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