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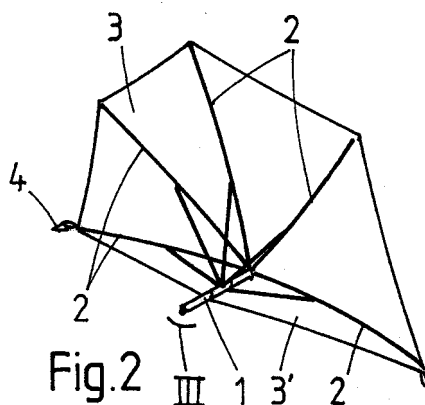
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(54) **Wind- and/or sun screen**

(57) The wind or sun screen comprises a post (1), a plurality of ribs (2) which are movably connected to the post and are bendable, said ribs extending from the post within substantially radial planes with respect to the centre line of the post. A screen cloth (3) is connected to the

ribs. An unfolding and locking mechanism (5) connected to the ribs serves to tension the ribs having the cloth thereon starting from a folded condition. The ribs are preferably curved and extend at one side of two substantially aligned ribs. This results in half a parasol which can be used as a wind and/or sun screen.



Description

[0001] The invention relates to a wind and/or sun screen, in particular a screen which can be folded and unfolded by means of ribs.

[0002] Wind and sun screens of many types and dimensions are known. Some wind screens are relatively large and may protect several persons against wind. Special provisions can be made thereby so as to prevent against the sun as well. Other screens are intended for preventing a single person against the sun and/or wind. Examples thereof can be found in GB-A-1,521,060, CH-A-470 859, DE-A-2 140 423, DE-A-39 06 013 and US-A-2,910,078. However, such wind and sun screens have not or hardly penetrated onto the market.

[0003] It is an object of the present invention to provide a wind and/or sun screen which is easy to use and can be constructed at relatively low cost.

[0004] To obtain this object the invention provides a wind and/or sun screen comprising a post, a plurality of ribs which are movably connected to the post and are preferably bendable, said ribs extending from the post within preferably substantially radial planes with respect to the centre line of the post, a screen cloth connected to the ribs, and an unfolding and locking mechanism connected to the ribs for tensioning the ribs having the cloth thereon starting from a folded condition, and wherein the ribs are preferably curved and extend on one side of two substantially aligned ribs.

[0005] Such a wind and/or sun screen operates according to the principle of a parasol or umbrella and therefore it can be manufactured by using standard parts of a parasol with a few adjustments. This enables the use of parts which are already manufactured in large numbers. Therefore the wind and/or sun screen according to the invention requires a relatively small investment so that smaller numbers of wind and/or sun screens can be manufactured at relatively low production costs, as well. Therefore, the wind and/or sun screen according to the invention can be offered at an attractive price.

[0006] The preferred embodiment of the wind and/or sun screen according to the invention comprises securing means such as tags which are attached to the screen cloth at the substantially aligned ribs.

[0007] These securing means enable the screen to be anchored to the ground in a simple manner. In the case of tags it is possible to use separate tent stakes or other anchoring means and the securing means are not or hardly inconvenient in the folded condition of the sun screen.

[0008] Furthermore, according to the invention the post is preferably short, such that the sleeve of the unfolding and locking mechanism is slid-off from the post in the folded condition of the screen.

[0009] As a result, a person lying or sitting behind the wind and/or sun screen feels relatively little inconvenience due to the post, hence having a great freedom of movement behind the screen.

[0010] The screen cloth preferably extends beyond the two substantially aligned ribs by a limited length.

[0011] Due to this feature a sort of flap arises which lies on the ground when the wind and/or sun screen is unfolded. As a consequence, the locking mechanism, for example, is better protected against penetration of, for example, sand, and a wind stream below the screen will occur less easily, as well.

[0012] The invention will be elucidated further by reference to the drawings which depict an exemplary embodiment of the wind and/or sun screen according to the invention.

Figs. 1 and 2 are two perspective views of an embodiment of the wind and/or sun screen according to the invention in the unfolded condition, viewed from two sides.

Fig. 3 shows detail III of Fig. 2 at a larger scale.

Fig. 4 is a view similar to Fig. 3, wherein the unfolding and locking mechanism is slid-off from the post of the screen.

Figs. 5 and 6 are views similar to Fig. 2, wherein the screen is shown in the entirely folded and in the partly folded condition.

Fig. 7 is a perspective view on a larger scale of the unfolding and locking mechanism of the screen according to the Figs. 1 - 6.

[0013] A first embodiment of the wind and/or sun screen according to the invention is shown in Figs. 1 - 7. It can be seen that the screen is provided with a relatively short post preferably made of (light) metal, plastic, wood or the like and a plurality of ribs 2 movably connected to this post 1. The ribs 2 may be bendable and are preferably made of (light) metal, plastic, wood or the like. The ribs extend from the post 1, in this case within substantially radial planes with respect to the centre line of the post 1. The ribs 2 are pivotally connected to the post 1 by means of pivoting axes extending tangentially with respect to the post 1. For that reason, the ends of the ribs 2 are flattened and provided with a hole through which a small pin or thread extends, for example, the small pin or thread being tangentially attached to the circumference of the post 1. Of course, a different pivoting joint is conceivable.

[0014] As can be seen in the drawings, five ribs 2 are arranged in this embodiment wherein two adjacent ribs extend at an angle of about 45° with respect to each other. The two ribs which are disposed most extremely, extend at an angle of 180° with respect to each other, hence they are substantially aligned. The other ribs are disposed at one side of these two aligned ribs 2. As a result, a half frame is obtained so to speak, extending 180° instead of 360° such as in the case of an umbrella or parasol.

[0015] A screen cloth 3 is attached on the ribs 2 and is preferably made of one piece of material and is connected to the ribs with tags in a known manner or con-

nected to the ribs in another manner and is tensioned by the ribs 2 in the unfolded condition of the screen. The ribs may be somewhat curved such that the screen cloth 3 may have a curved shape in two directions. The screen cloth 3 is folded up in the folded condition according to Figs. 5 and 6 and can be folded around the ribs 2 which are folded together to a small size.

[0016] Near the lower ribs 2 a plurality of securing means 4 are arranged to the screen cloth 3 which, in this case, consist of a plurality of tags 4 intermittently disposed along the lower ribs 2. These tags 4 are attached to the screen cloth 3, for example sewed, and may serve to fix the wind and/or sun screen by means of tent stakes or other anchoring means which are put through the tags 4.

[0017] In Figs. 2, 3 and 4 it still can be seen clearly that the screen cloth 3 extends beyond the lower ribs 2 at the side facing away from the other ribs 2, such that a flap 3' is formed which lies on the ground in the unfolded condition of the sun screen. This flap 3' may consist of a loose piece of cloth. This flap 3' is cut in a certain shape and sewed, for example, or otherwise attached to the lower side of the screen cloth 3, which is positioned substantially vertically in the unfolded condition of the screen. The flap 3' together with the tags 4 and the anchoring means determine the final shape of the product in the unfolded condition.

[0018] Furthermore, the wind and/or sun screen is provided with an unfolding and locking mechanism 5 for tensioning the ribs 2 having the screen cloth 3 thereon starting from the folded condition, such as shown in Figs. 1 - 3. This unfolding and locking mechanism 5 is provided with a sleeve 6 which is slidably disposed around the post 1, which sleeve is lockable in a predetermined position with respect to the post 1 so as to keep the screen in the unfolded condition. This can be achieved by means of known tools. The sleeve 6 is connected to the ribs 2 through tensioning rods 7. Generally these tensioning rods 7 will be slightly more rigid than the ribs 2. The tensioning rods 7 are disposed in the same radial plane as the rib 2 connected thereto and are attached to the corresponding rib 2 at a distance from the post 1, for example at a quarter to half of the length of the ribs 2.

[0019] The lock of the sleeve 6 with respect to the post 1 can be released by means of a push button 8 so that the wind and/or sun screen can be moved again to the folded condition. In the folded condition the sleeve 6 is slid-off from the post 1 as a result of the relatively limited length of the post 1. In order to move the sun screen to the unfolded condition the sleeve 6 must be slid-on to the post 1. Fig. 7 in detail shows the end of the sleeve 6 which faces the ribs 2, wherein the pivoting joint between the tensioning rods 7 and the sleeve 6 are shown. Also in this case, each of the pivoting joints consists of a pin or thread tangentially arranged with respect to the sleeve 6 which is put through a hole into a flattened end of the corresponding tensioning rod 7.

[0020] The invention is not limited to the embodiment

such as shown in the drawing and as described above. It can be varied in different ways within the scope of the invention. The shape and the configuration of the frame or the cloth may be adjusted in numerous ways, for example.

Claims

1. Wind and/or sun screen comprising a post, a plurality of ribs which are movably connected to the post and are preferably bendable, said ribs extending from the post within preferably substantially radial planes with respect to the centre line of the post, a screen cloth connected to the ribs, and an unfolding and locking mechanism connected to the ribs for tensioning the ribs having the cloth thereon starting from a folded condition, and wherein the ribs are preferably curved and extend at one side of two substantially aligned ribs.
2. Wind and/or sun screen according to claim 1, wherein the unfolding and locking mechanism is provided with a sleeve which is slidably disposed around the post, which sleeve is lockable in a predetermined position with respect to the post and connected to the ribs through tensioning rods.
3. Wind and/or sun screen according to claims 1 or 2, wherein the ribs are pivotable about a pivoting axis which extends tangentially of the post.
4. Wind and/or sun screen according to claims 2 and 3, wherein each of the tensioning rods is disposed within the same radial plane as the ribs connected thereto.
5. Wind and/or sun screen according to one of the preceding claims, wherein securing means such as tags are attached to the screen cloth at the substantially aligned ribs.
6. Wind and/or sun screen according to claim 2, wherein the post is short, such that the sleeve of the unfolding and locking mechanism is slid-off from the post in the folded condition.
7. Wind and/or sun screen according to one of the preceding claims, wherein the screen cloth extends by a limited length beyond the two substantially aligned ribs.
8. Wind and/or sun screen according to one of the preceding claims, wherein the screen cloth is made from one piece.
9. Wind and/or sun screen according to one of the preceding claims, wherein the ribs are movably attached

to a crown arranged at the end of the post and aligned thereto.

10. Wind and/or sun screen according to one of the preceding claims, wherein the screen is composed of standard parts of a parasol.

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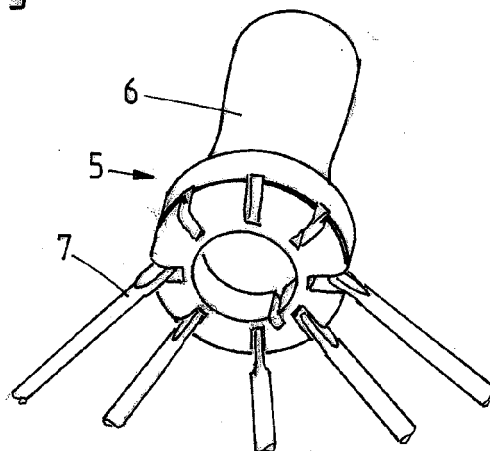
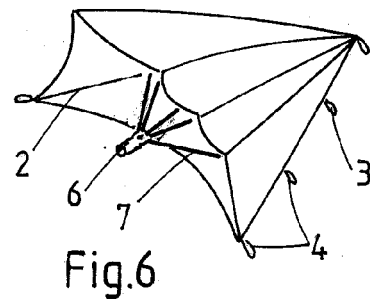
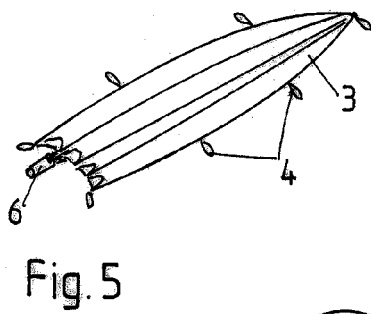
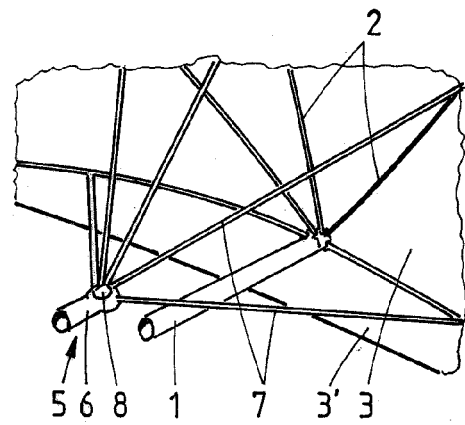
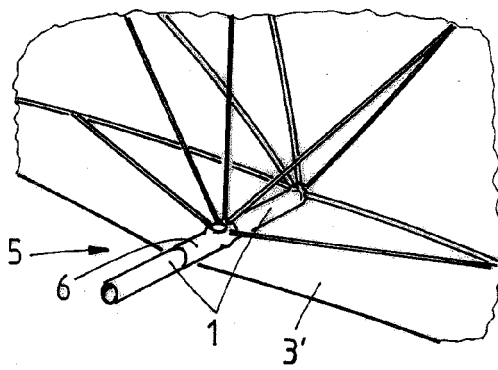
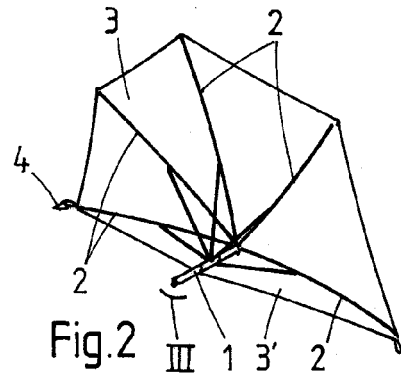
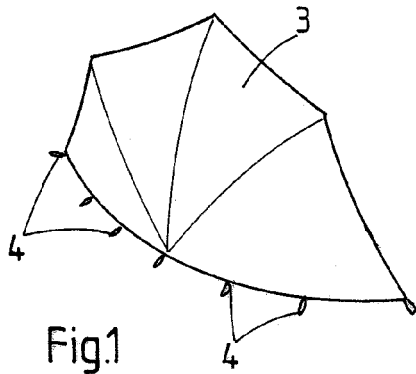
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European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 06 10 1371

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	* column 1, line 35 - line 54; figures 1A,1B *	5,6	
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A	* page 2, paragraph 5; figure 3 *	7	
X	----- US 5 642 747 A (RIZZOTTI ET AL) 1 July 1997 (1997-07-01)	1-4,8-10	
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A	* figures 1-5 *	7,9	
A	----- US 6 422 252 B1 (PILZ HELMUT ET AL) 23 July 2002 (2002-07-23)	5,7	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A45B E04H
Place of search		Date of completion of the search	Examiner
The Hague		5 April 2006	Dindorf, J
CATEGORY OF CITED DOCUMENTS 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 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 & : member of the same patent family, corresponding document			

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EPO FORM 1503 03/82 (P04/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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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