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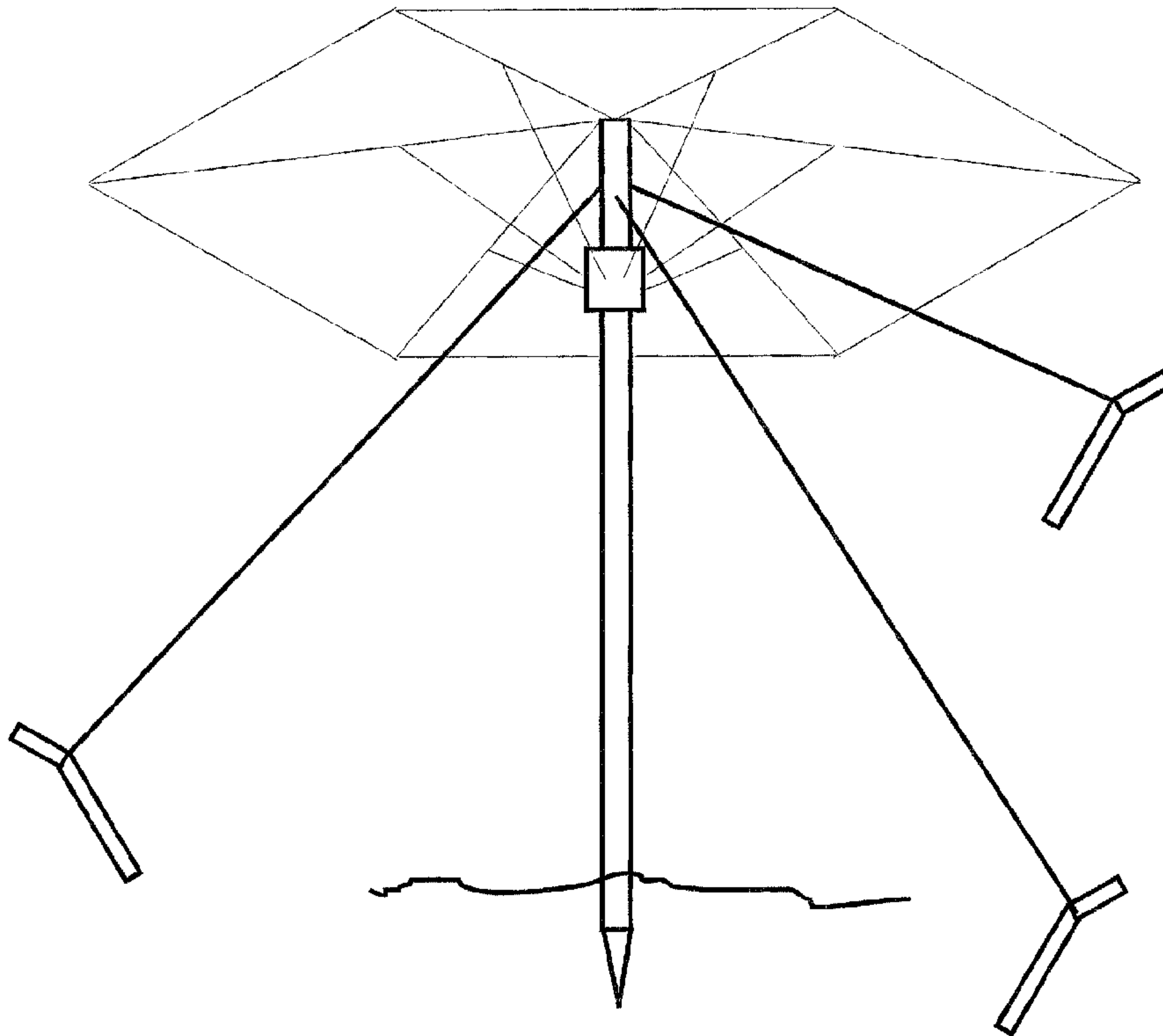
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(54) Titre : PARASOL DE PLAGE ET PARASOL DE JARDIN RESISTANTS AU VENT

(54) Title: WIND RESISTANT BEACH UMBRELLA AND GARDEN UMBRELLA



(57) Abrégé/Abstract:

A beach umbrella and garden umbrella is stabilized against wind gusts by tying the umbrella with ropes to stakes in the ground. The ropes are tied to the canopy or to the center pole. It is possible to have some ropes tied to the canopy, and some ropes tied to the center pole. The ropes are connected to the umbrella using detachable couplings. It is possible to increase wind resistance further by using a flat base or a heavy base for the center pole, or by using an anchor or ground screw for the center pole, or by using anchors instead of stakes, or by venting the canopy. Ornaments and decorations can be tied to the ropes to decorate the umbrella.



ABSTRACT

A beach umbrella and garden umbrella is stabilized against wind gusts by tying the umbrella with ropes to stakes in the ground. The ropes are tied to the canopy or to the center pole. It is possible to have some ropes tied to the canopy, and some ropes tied to the center pole. The ropes are connected to the umbrella using detachable couplings. It is possible to increase wind resistance further by using a flat base or a heavy base for the center pole, or by using an anchor or ground screw for the center pole, or by using anchors instead of stakes, or by venting the canopy. Ornaments and decorations can be tied to the ropes to decorate the umbrella.

(SUBSTITUTE SPECIFICATION: CLEAN VERSION)

WIND RESISTANT BEACH UMBRELLA AND GARDEN UMBRELLA

This invention relates in general to beach umbrellas and garden umbrellas, and in particular to beach umbrellas and garden umbrellas that are stabilized against wind.

The patent literature has a large number of patents for beach umbrellas, garden umbrellas, sun umbrellas, lawn umbrellas, sunshades, parasols and canopies.

A number of inventors have addressed the problem of beach umbrellas and garden umbrellas becoming dislodged by wind. Solutions include using an anchor or ground screw to provide better support for the center pole, using a flat and / or heavy base for the center pole, and venting the canopy to relieve wind pressure.

Prior art U.S patents include USP 6,286,530 (Hussey, 2001), USP 5,090,435 (Leclercq, 1992), USP 4,971,090 (Uhl, 1990), USP 4,364,193 (Visco, 1982), and USP 538,093 (Weston, 1895).

Solutions proposed so far to the problem of umbrella instability in windy conditions have various shortcomings. In particular, many of them only offer limited wind resistance.

SUMMARY OF THE INVENTION

The present invention describes a beach umbrella and garden umbrella that is stabilized against wind using ropes or cords connected to stakes in the ground. This invention provides a simple, light, inexpensive, robust, universal, easy to produce, and easy to install means for stabilizing

beach umbrellas and garden umbrellas against wind

This solution to the problem of lack of wind resistance is particularly robust. The wind resistance that it gives the umbrella is substantial, and it can be increased by adding more ropes and stakes, or by using anchors instead of stakes.

The ropes or cords can be tied either to the center pole or to the canopy. It is possible to have some of them tied to the center pole, and some to the canopy. The attachments of the ropes or cords to the umbrella, whether to the center pole or to the canopy, can either be permanent, or use detachable couplings.

DRAWING FIGURES

Figure 1 shows a beach umbrella and garden umbrella that is supported by ropes tied to stakes.

The ropes are tied to the center pole.

Figure 2 shows a beach umbrella and garden umbrella that is supported by ropes tied to stakes.

The ropes are tied to the canopy.

The umbrellas depicted in the figures have 3 ropes and stakes. However the umbrella can have any number of ropes and stakes.

Also, it is possible to have an umbrella where a number of ropes are tied to the center pole, and a number of ropes are tied to the canopy.

Figure 3 shows a center pole made up of 3 sections.

Figure 4 shows two examples of detachable couplings used on the cords between the stakes and the umbrella. In both couplings the locking element is spring loaded, so it locks the coupling automatically.

Figure 5 shows an example of an anchor that is used for a stake. Here the anchor is a ground screw.

Figure 6 shows an umbrella that has vent holes to relieve wind pressure. This umbrella has a few large holes. Usually there will be many small vent holes.

Figure 7 shows a center pole supported on an anchor. Here the anchor is a ground screw.

Figure 8 shows a center pole supported on a flat base.

Figure 9 shows a center pole supported on a base made up of horizontal arms.

Figure 10 shows an umbrella decorated with flags.

REFERENCE NUMERALS IN DRAWING FIGURES

1 - Center pole

2 - Canopy

3 - Rib supporting the canopy

4 - Spoke, attached on one side to a rib, and on the other side to a ring that can slide on the center pole.

5 - Ring that can slide on the center pole in order to fold the umbrella.

6 - Rope or cord

7 - Stake

8 - Vent hole

DETAILED DESCRIPTION

Refer to figs. 1 and 2. This invention is a beach umbrella and garden umbrella constructed of a center pole (1 in fig. 2), on top of which there are ribs (3 in fig. 2) mounted radially and supporting a flexible canopy (2 in fig. 2). In the preferred embodiment, the umbrella is foldable. A set of spokes (4 in fig. 2) connects the ribs to a ring (5 in fig. 2) that is slideable on the center pole. The bottom edge of the center pole narrows to a point, which is pushed into the ground. The center pole can either be a single pole, or it can be made up of a few sections. For example, fig. 3 shows a center pole that is made up of 3 sections.

Present designs of beach umbrellas and garden umbrellas are susceptible to be dislodged by wind gusts. This invention solves this problem by stabilizing the umbrella by ropes or cords (6 in fig. 2) tied to stakes (7 in fig. 2). In figure 1 the ropes / cords are tied to the center pole. In figure 2 the ropes / cords are tied to the canopy. It is possible to have some ropes tied to the center pole, and others to the canopy. Figures 1 and 2 show umbrellas with three ropes and stakes. The umbrella can have any number of ropes and stakes.

A number of rings or couplings are installed on the edges of the canopy and on the center pole. The ropes / cords are tied to these rings or couplings. In the preferred embodiment the ropes / cords also have rings or couplings on their edges, which can be attached to the couplings on the umbrella. The other end of each rope / cord is tied to a stake in the ground. The fact that this embodiment has rings or couplings on both the center pole and the canopy enables the user to decide whether to connect each rope to the center pole or to the canopy. Fig. 4 shows 2 examples

of detachable couplings used to attach the umbrella to the stakes.

This invention describes a beach umbrella and garden umbrella that is made wind resistant by being tied to ropes / cords that are tied to stakes. This is a robust umbrella that can withstand strong wind gusts without being dislodged. It can be made even more robust by using more ropes and stakes, or by using anchors instead of stakes. Fig. 5 shows an anchor used for a stake. Here the anchor is a ground screw. Other advantages of this invention include low cost, simplicity, universality, light weight and ease of manufacture.

The foregoing description is for the preferred embodiment of the wind resistant beach umbrella and garden umbrella. There can be many variations from this preferred embodiment.

This invention can be further improved by combining it with one or more of the existing means for stabilizing a beach umbrella and garden umbrella against wind.

The canopy can be vented by holes to relieve wind pressure. Fig. 6 is an umbrella where the canopy is vented by holes. In Fig. 6 there are a few large holes. Usually there will be many small vent holes.

The center pole can be supported on an anchor. Fig. 7 shows a center pole supported on an anchor. Here the anchor is a ground screw.

The center pole can have a flat or a heavy base, or a base that is made up of a number of horizontal arms. Fig. 8 shows a center pole supported on a flat base. Fig. 9 shows a center pole supported on a base made up of horizontal arms.

Other variations can also be incorporated into this umbrella.

The ropes / cords can be permanently attached to the umbrella instead of using detachable couplings or rings.

The canopy can be fixed rather than foldable.

The canopy can have any shape, such as circular, oval, polygonal, square, rectangular etc.

Besides stabilizing the umbrella against wind gusts, the ropes or cords can be used to decorate the umbrella. The ropes themselves can be colorful. Various decorations and ornaments can be tied to the ropes, such as flags, advertisements, cartoons etc. Fig. 10 shows an umbrella decorated with flags.

The foregoing description of the preferred embodiment of the invention and some possible variations has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible. It is intended that the scope of the invention be limited not by this detailed description, but rather by the claims appended hereto.

1. A wind resistant beach and garden umbrella for erecting on the ground, comprising
a centre pole,
a plurality of ribs extending radially from the top of said centre pole,
a flexible canopy supported by said ribs and not reaching the ground,
a plurality of spokes attached at one end to said ribs, and at the other end to a ring slidable on
said centre pole,
and a plurality of ropes attached at one end to said umbrella, and at the other end to stakes in the
ground.
2. The umbrella in claim 1, wherein said ropes are attached to said canopy.
3. The umbrella in claim 1, wherein said ropes are attached to said centre pole.
4. The umbrella in claim 1, wherein some of said ropes are attached to said canopy, and the other
ropes are attached to said centre pole.
5. The umbrella in claim 1, wherein said ropes are attached permanently to the umbrella.
6. The umbrella in claim 1, wherein said ropes are attached to the umbrella by a plurality of
detachable coupling means.
7. The umbrella in claim 1, wherein said stakes are anchors.

8. The umbrella in claim 1, wherein said centre pole is a single piece.
9. The umbrella in claim 1, wherein said centre pole is made up of a plurality of sections.
10. The umbrella in claim 1, wherein the bottom end of said centre pole narrows to a point.
11. The umbrella in claim 1, wherein said centre pole is supported on a flat base.
12. The umbrella in claim 1, wherein said centre pole is supported on a base comprising horizontal arms.
13. The umbrella in claim 1, wherein said centre pole is supported on an anchor.
14. The umbrella in claim 1, wherein said canopy has vent holes.

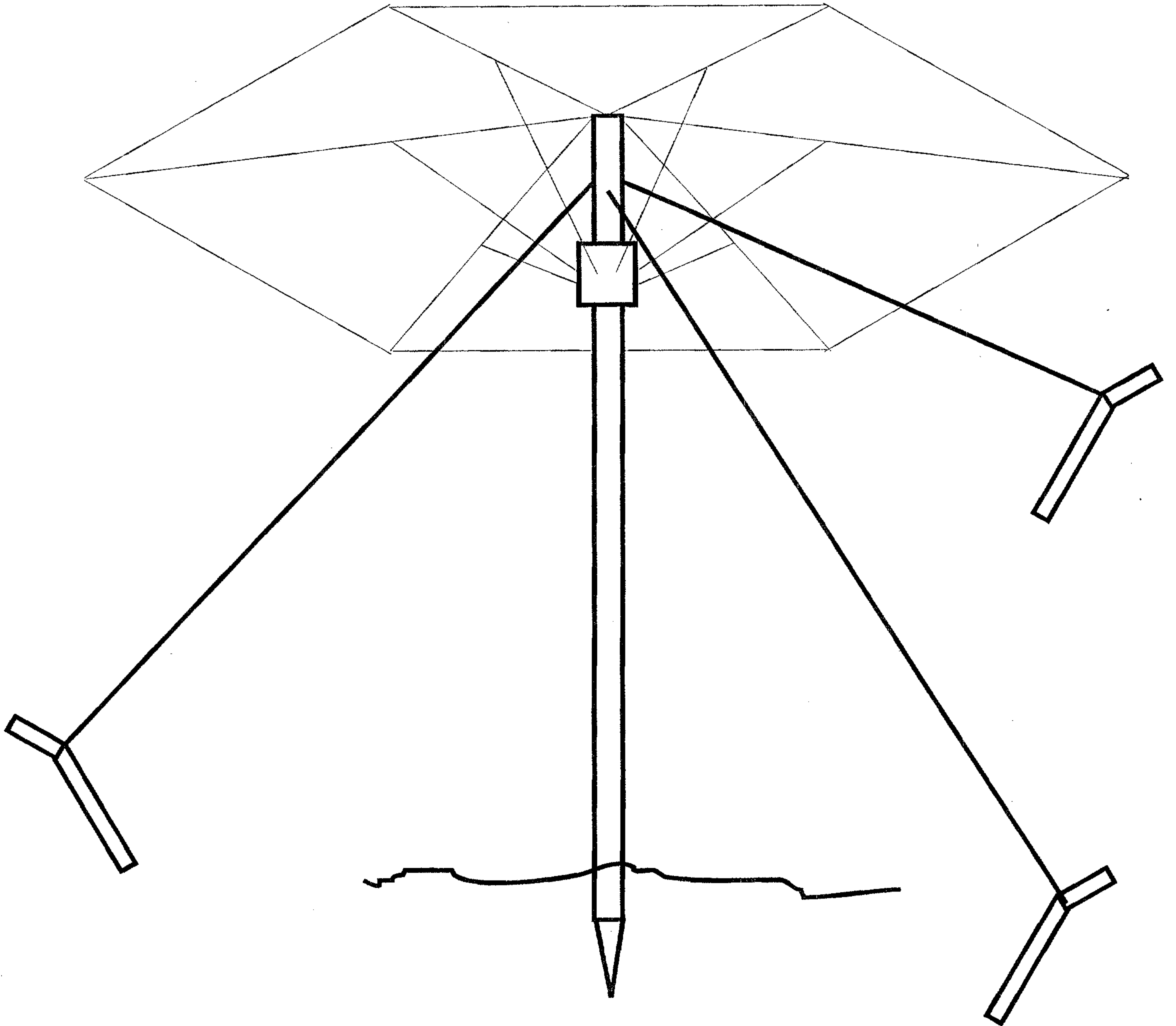


Fig. 1

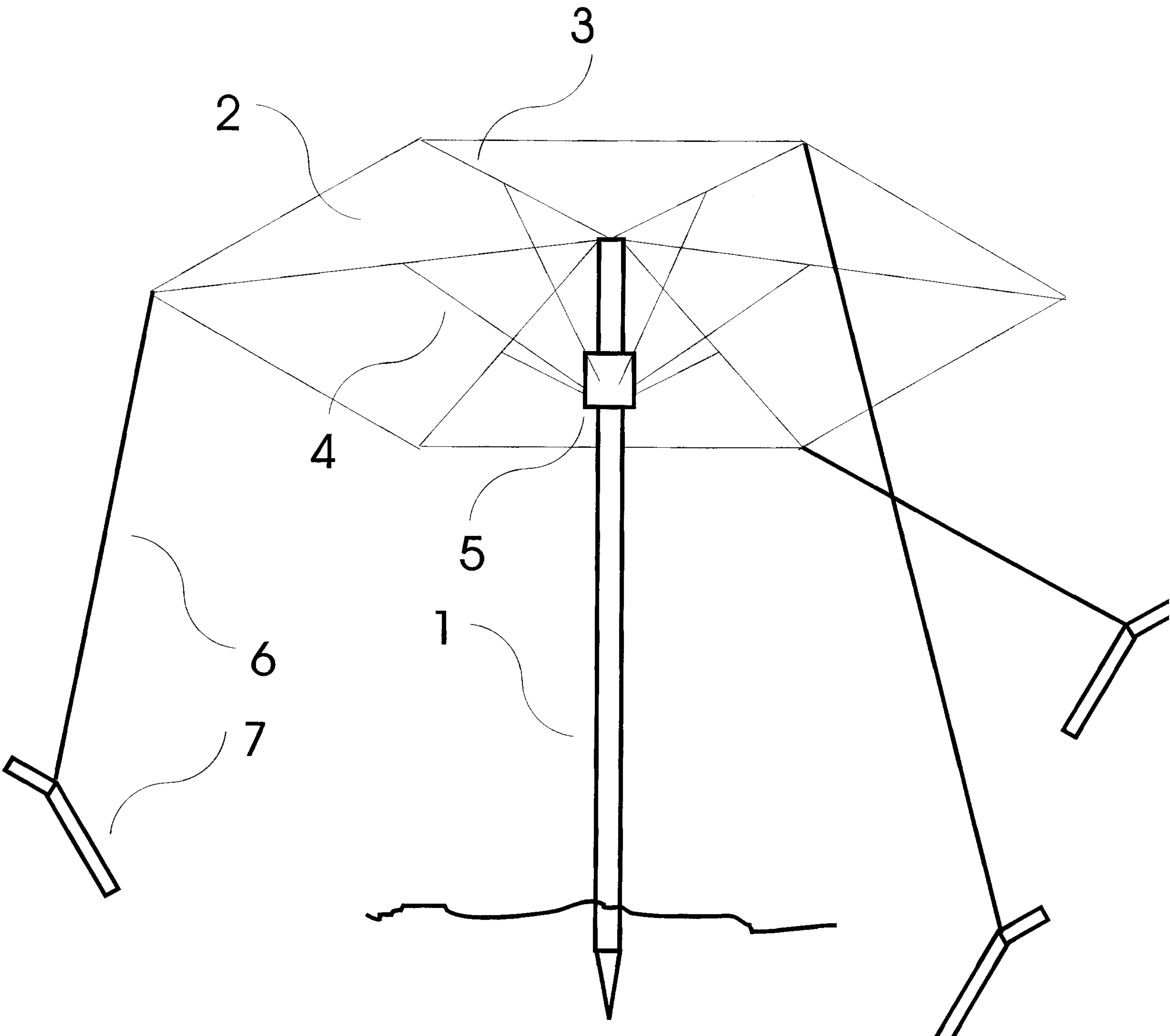


Fig. 2

REPLACEMENT SHEET

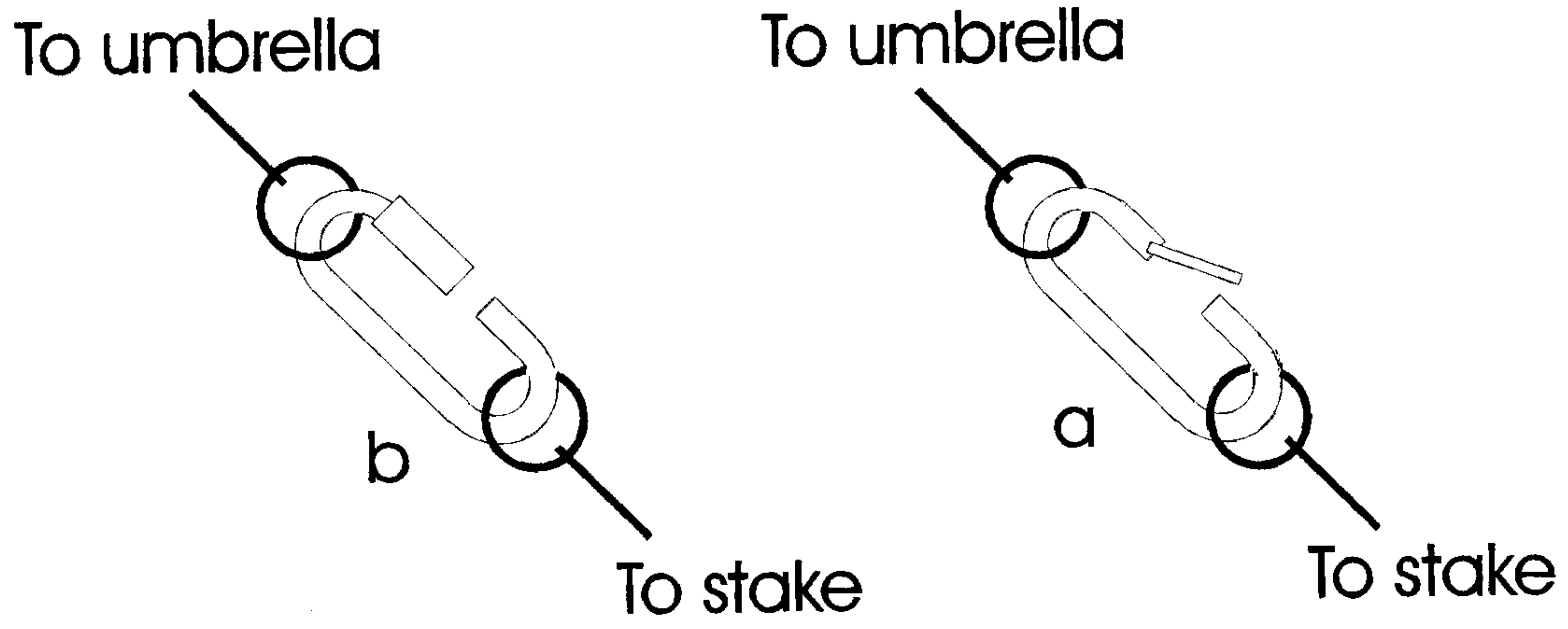


Fig. 4

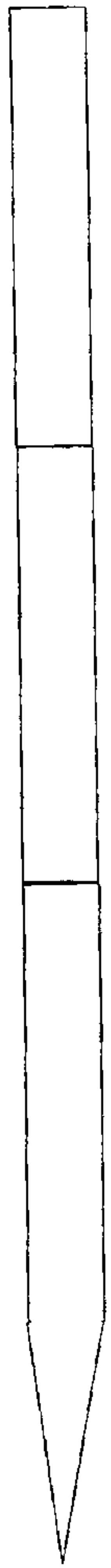


Fig. 3

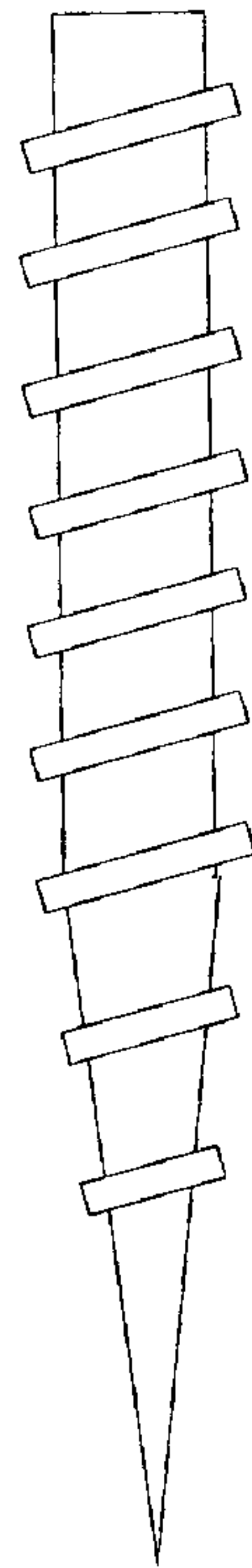


Fig. 5

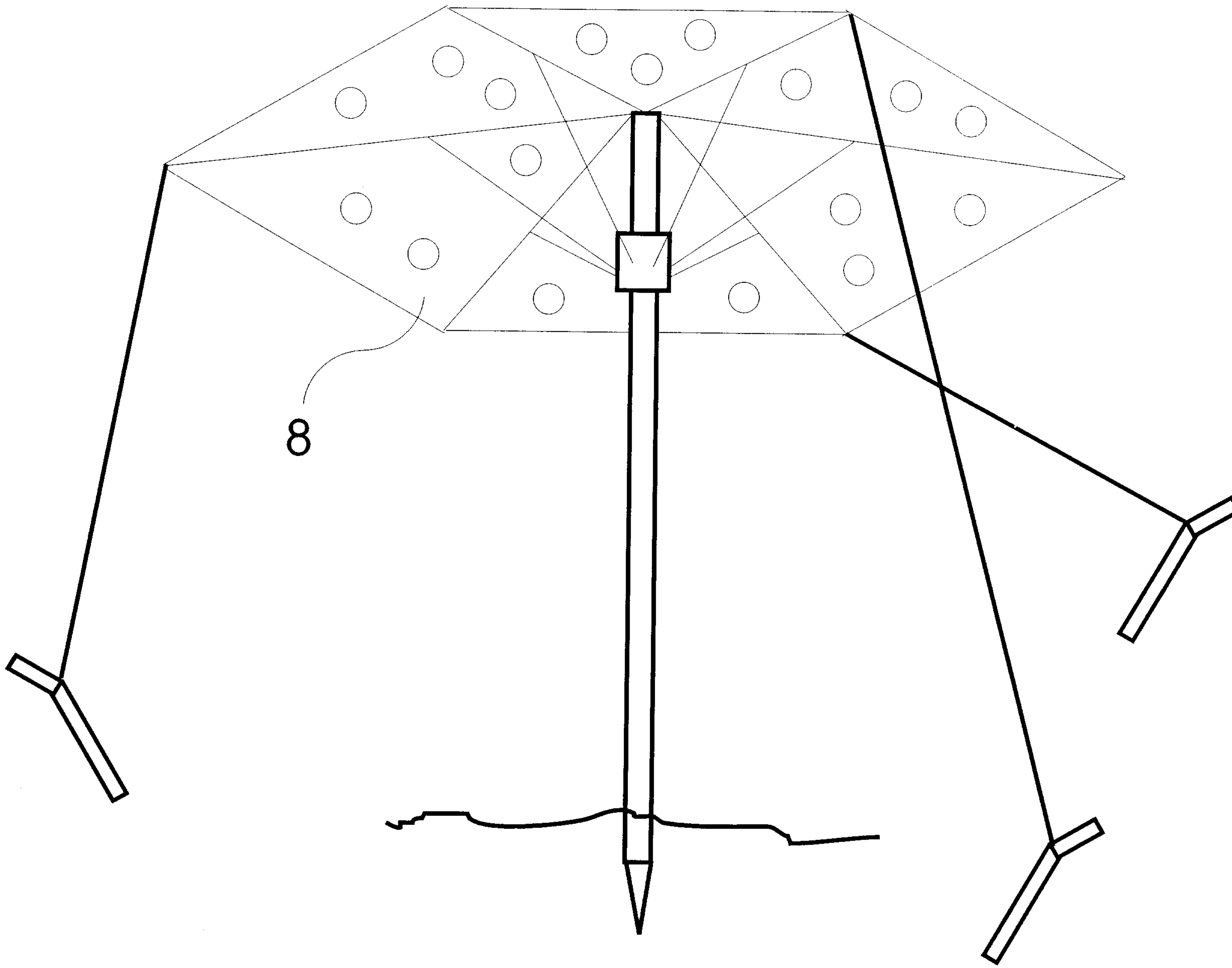


Fig. 6

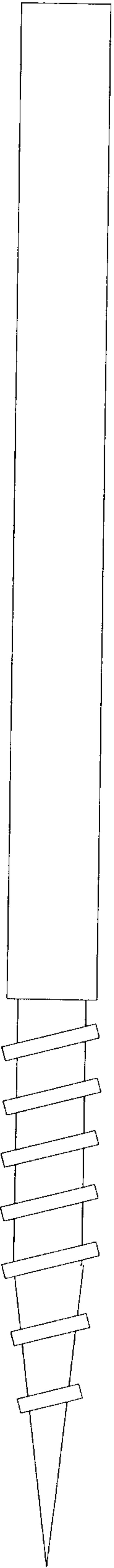


Fig. 7

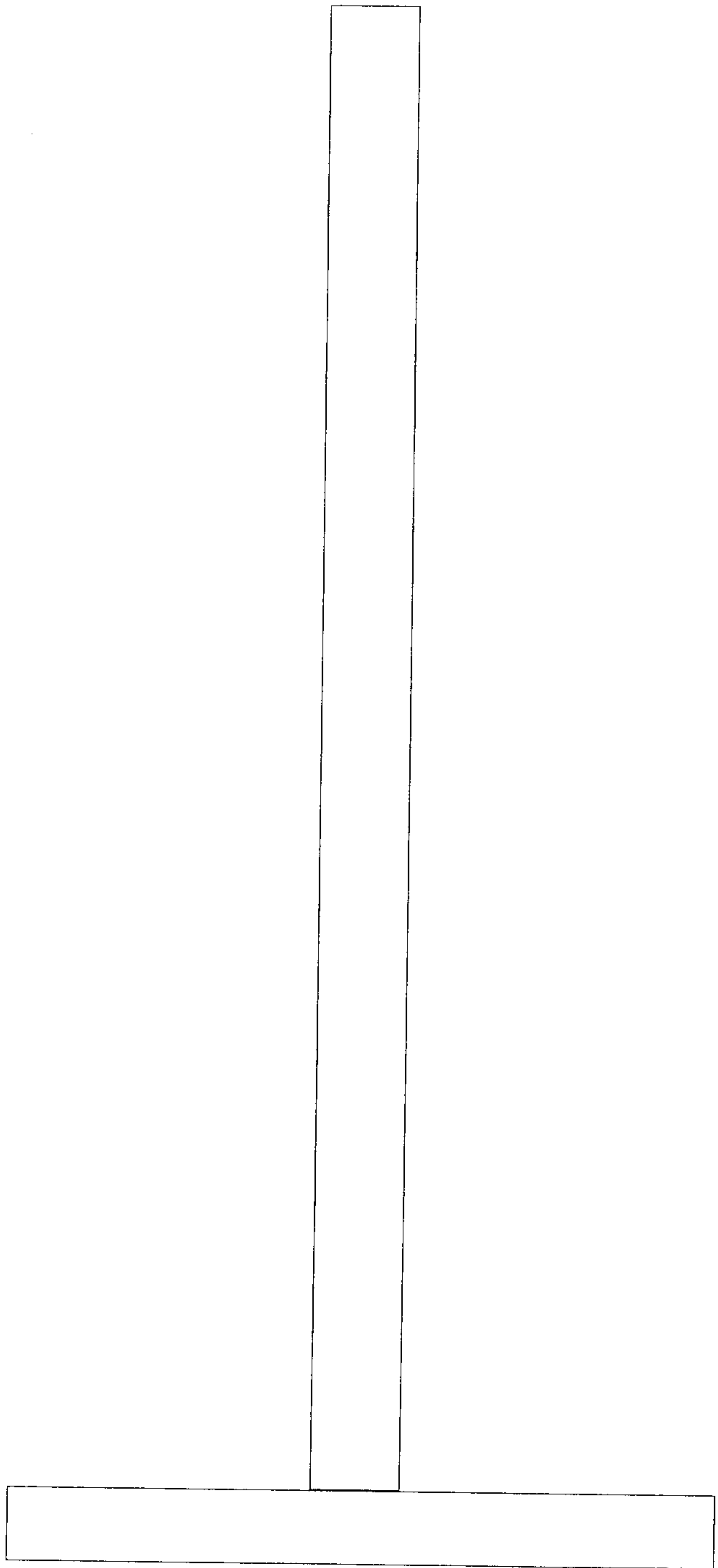


Fig. 8

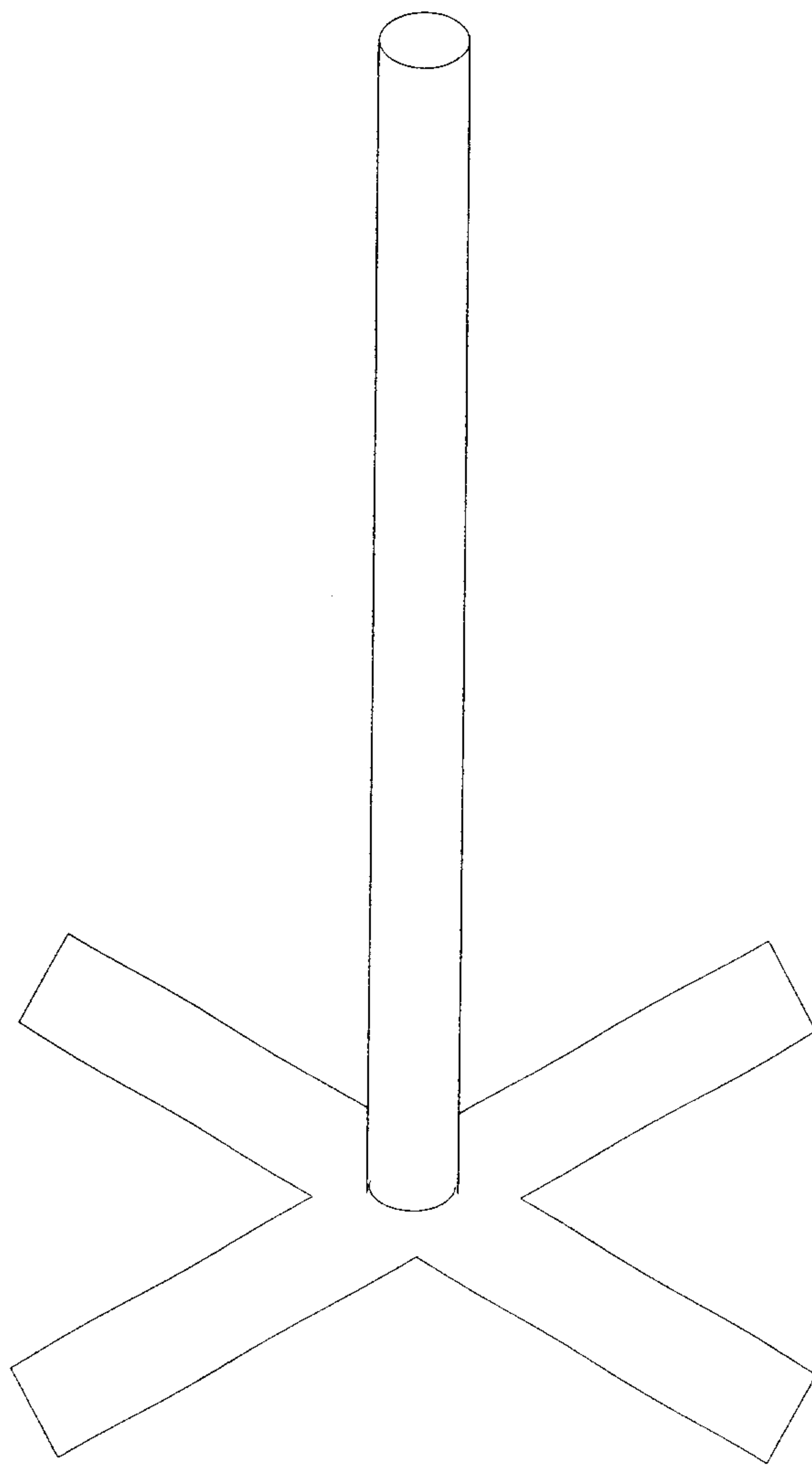


Fig. 9

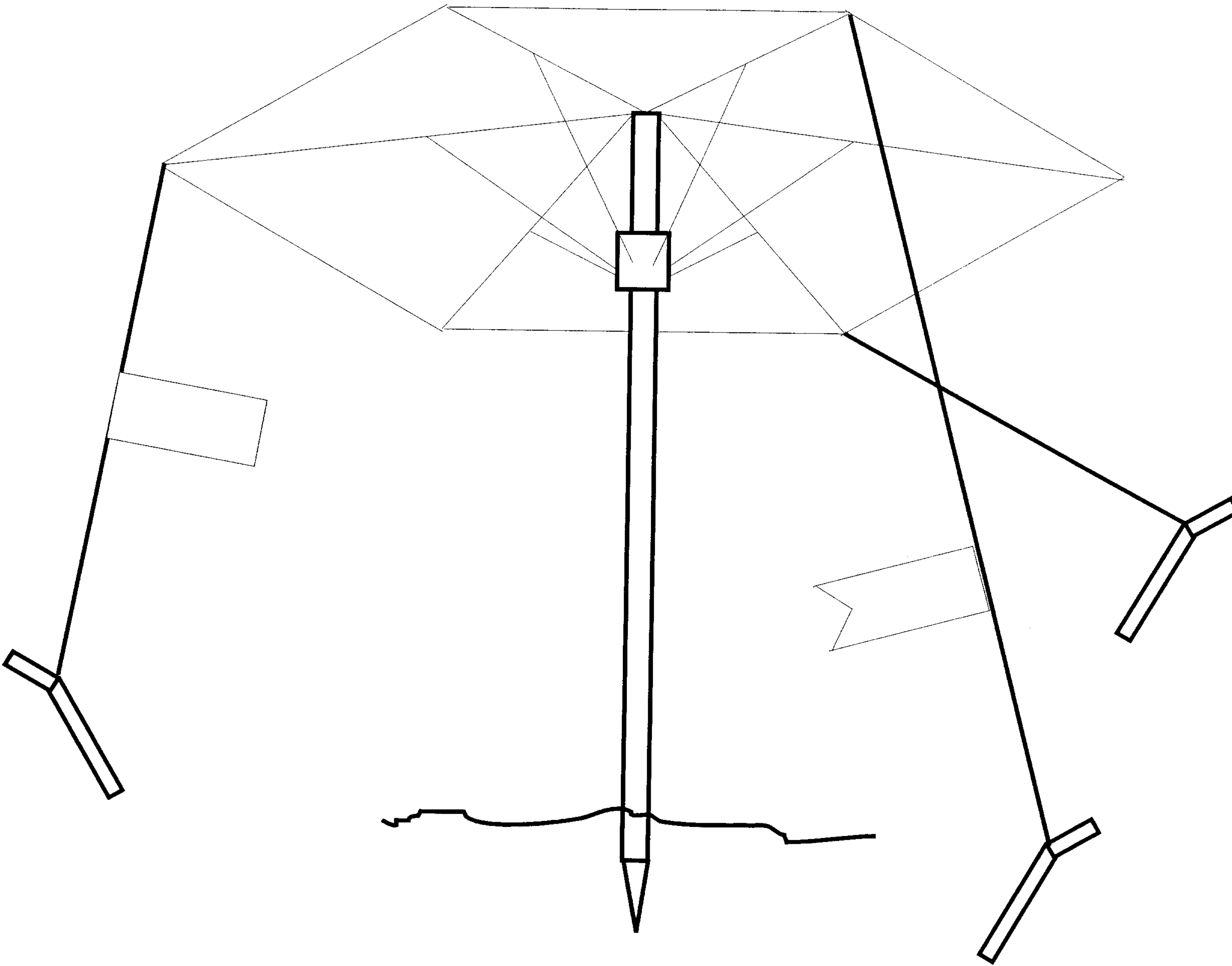


Fig. 10

