

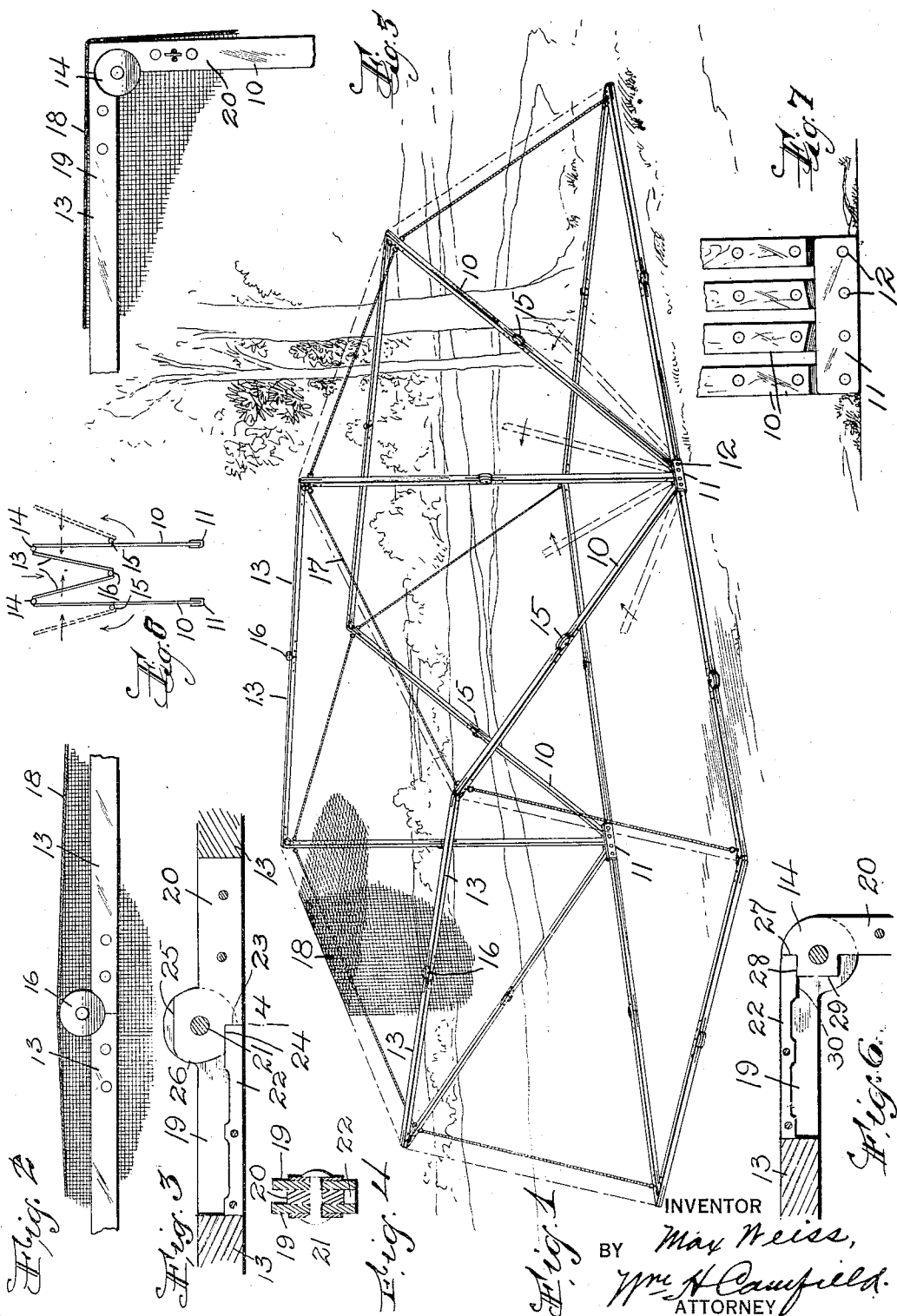
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CANOPY

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UNITED STATES PATENT OFFICE

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CANOPY

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This invention relates to an improved canopy with a folding frame and having a covering of screen cloth or of canvas if it is to be used as a tent. The frame is readily folded within a small compass in order to allow it to be carried under the arm or stowed in an automobile or other vehicle for transport.

The object of the invention is to provide a canopy, the frame of which folds laterally and longitudinally into a small compass. A canopy frame that covers 150 to 200 square feet can be folded into a compact oblong package easily carried under the arm. The frame is high enough to allow a person to stand upright inside of it and can be used as an outdoor sleeping shelter, and also used in many different directions as a protection from insects.

The invention is illustrated in the accompanying drawings in which Figure 1 is a perspective view of my improved canopy frame with the cover outlined by a dotted line. Figure 2 is a side view of a joint in the arms of the canopy. Figure 3 is a longitudinal section of the hinge and Figure 4 is a section on a plane indicated by line 4. Figure 5 is a side view of a corner hinge of the frame. Figure 6 is a longitudinal section through the hinge shown in Figure 5. Figure 7 is a side view of the bottom plate or foot on which the side arms are hinged and also showing the lower end of the arms. Figure 8 is a small view showing how the frame folds.

The canopy frame comprises two fan like members consisting of side arms 10 hinged together at the bottom. They are usually secured by a foot or plate 11 and pivoted on pins 12. The arms are usually made of light weight wood and are connected by cross arms 13 which are hinged at 14, their ends to the ends of the side arms 10.

The side arms are provided with joints 15 intermediate their ends these joints breaking toward the inside when the arms 10 are folded. The cross arms are jointed at the centre, these joints 16 also breaking inwardly when folded. As the break of the hinges 14 is outwardly, the folding of the canopy is easy and compact. The arms 10 are folded fan-wise until they are parallel. The cross arms then

folded inwardly. (See Figure 8). The bottom part of the side arms are then folded up alongside the upper part and the whole device is as long as one-half the length of a side arm 10 which is usually equal to one-half the length of a cross-arm 13.

The spreading of the arms 10 is limited by cords or wires 17 which are taut when the two outer of the side arms of one of the side members are aligned on the ground or on the floor. The covering 18 is also supported by the cords against undue sagging and this covering can be screen cloth or light canvas that can be easily folded into a small space.

In order to keep the frame open or shut against collapsing or unfolding I prefer to make the hinges with springs or other resilient means for maintaining them in open or shut position. In Figures 2 to 4 I show a hinge opened at 15 and 16. The side plates 19 are fastened to one arm section and the central plate 20 is fastened to the other arm section. The pin or pintle 21 is the element on which they swing. The spring 22 is secured between the plates 19 and bears at its end on the shoulder 23 of the plate 20 and thus acts as a stop to the swinging movement. The spring also bears against the shoulder 24 when the joint is open and against the shoulder 25 when the joint is closed. The faces 24 and 25 are nearer the axis of the hinge than the rounded end 26 and thus this cam surface 26 makes it necessary to apply force positively to the joint to open it or to close it.

The corner hinges can be similarly operated by placing the shoulder 27 on inner plate 20 of the hinge to engage the spring end 28 when the hinge members are at right angles. The flat faces 29 of the plate 20 and the flat face 30 of the spring 22 form co-acting means for holding the hinge in closed position. The hinges are therefore alike except for the difference in the contour of plate 20 in an intermediate joint 15 and 16 or in the hinges 14 at the corners.

Various changes can be made in the shape and proportions of the parts without departing from the scope of the invention as set forth in the claims.

I claim:

1. A canopy comprising a pair of side supports consisting of radially arranged arms pivoted together at the bottom, and jointed
5 cross arms connecting the ends of opposite side arms to enable the lateral folding of the structure.
2. A canopy comprising a pair of side supports, each support consisting of arms piv-
10 oted together at the bottom and having inwardly movable joints at the centre, and centrally jointed inwardly foldable cross arms connecting oppositely arranged side arms.
3. A canopy comprising a pair of fan like
15 members with arms hinged together, cross arms hinge jointed to the ends of corresponding arms of the members, the arms having joints breakable inwardly and the joints where the arms meet swingable outwardly
20 when the arms are folded together.
4. A canopy comprising side members consisting of a foot plate and side arms hinged at their ends to the foot plate and openings fan-wise, inwardly breaking joints in the
25 said arms in order to allow the arms to fold, springs in the joints to hold them in their open and closed positions, cross arms hinged to the ends of selected side arms, said last mentioned hinges breaking outwardly and
30 having springs to hold them in their open and closed positions, hinge joints in the cross arms at the centre, and springs in the joints of the cross arms for holding them in open and closed positions.
- 35 In testimony whereof I affix my signature.
MAX WEISS.

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