H. G. MARSH.

CANOPY FRAME.

APPLICATION FILED JUNE 28, 1915.

1,184,764. Patented May 30, 1916.

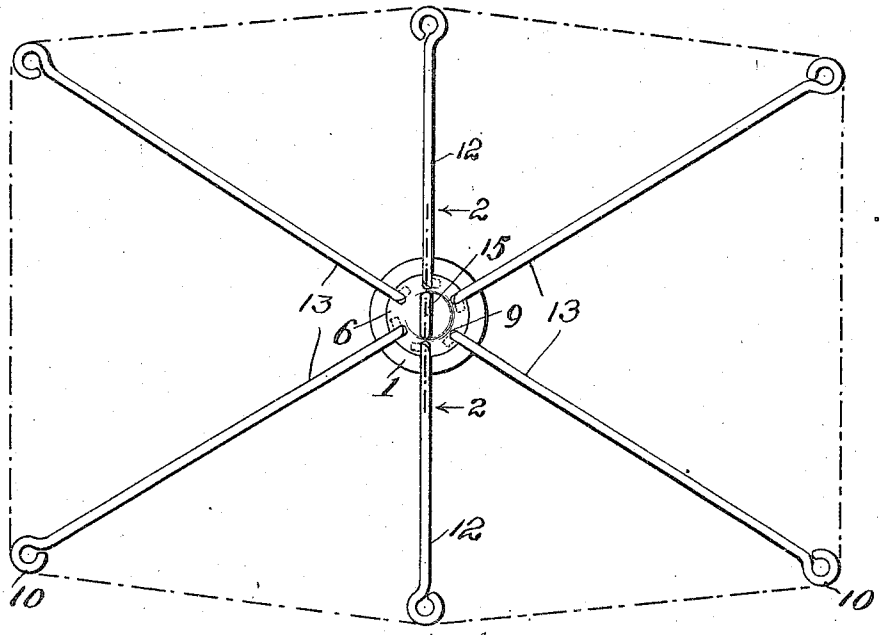


Fig. 1.

Fig. 2.

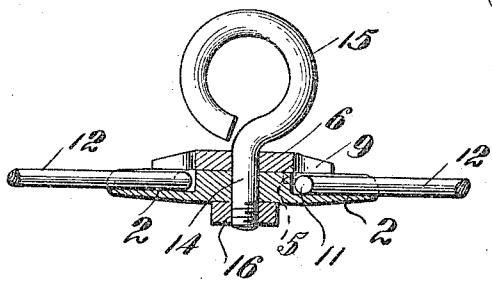
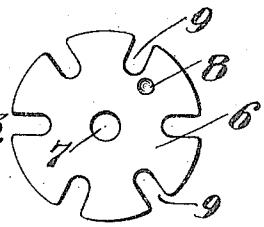


Fig. 3.



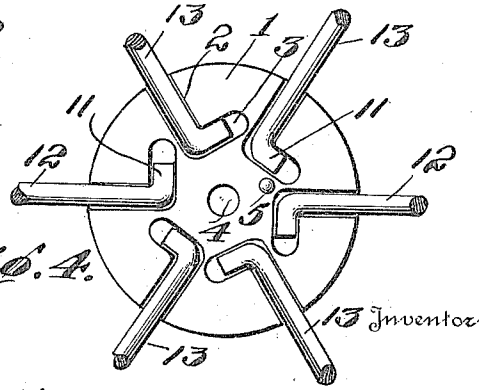


Fig. 4.

Inventor

HALBERT G. MARSH.

By Pollock, Schmeckpeper & Co.

Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HALBERT G. MARSH, OF BIRMINGHAM, ALABAMA.

CANOPY-FRAME.

1,184,764. Specification of Letters Patent. Patented May 30, 1916.

Application filed June 28, 1915. Serial No. 36,761.

To all whom it may concern:

Be it known that I, HALBERT G. MARSH, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Canopy-Frames, of which the following is a specification.

My invention relates to an improvement in a collapsible canopy frame having as its object to design a very cheap and economical means for hingedly connecting the radial wires or rods forming the frame to a center so that they can be assembled easily and without requiring any expensive machine work and can be folded up with the canopy connected thereto for convenience in shipping. I propose to construct the canopy frame by a plurality of radial rods or wires having eyes formed at their outer ends and having their inner ends bent at right angles and in the plane of the eyes to form a short pivotal hinge member for the rod. The center attachment for the rods comprises an upper and a lower plate which are made detachable, the lower plate having radial sockets cast or pressed therein with right angle extensions at their inner ends to receive the pivotal hinge members on the rods and the upper plate is designed to overlap the grooved extensions and the hinge members of the rods, and is slotted above the radial portion of the grooves to permit the rods to be swung about their hinge members into upright position.

In the accompanying drawings I have illustrated what I regard the preferred embodiment of my invention, but it will be understood that the same may be variously modified in its details without departing from the spirit of my invention.

In the drawings: Figure 1 illustrates a plan view of the canopy frame extended. Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1. Fig. 3 is a bottom plan view of the top plate; and Fig. 4 is a plan view of the bottom plate showing the frame rods seated in their bearings therein.

Similar reference numerals refer to similar parts throughout the drawings.

The bottom plate 1, which may be of cast or pressed steel, is provided with a plurality of radial grooves or seats 2 having each a short right angle extension 3 on the corresponding side of its inner end. At their outer ends the seats extend to the periphery of the plate 1 which in its center is provided with a bolt hole 4 and with a pointed stud 5 which projects slightly above its upper surface. The top plate 6, which may be punched from flat steel, is provided with a center opening 7 and with a socket 8 in its under face adapted to receive the stud 5 so as to center the top and bottom plates and bring the short radial notches 9 in the upper plate in position above the seats 2 in the bottom plate. In this position the plate 6 overlies the groove extensions 3. The frame is formed by a series of rods or wires which, at their outer ends, are provided with loop eyes 10 for the convenient attachment thereto of the netting and at their inner ends are bent at right angles and in the plane of the loop eyes to form short pivotal bearings 11 adapted to seat in the groove extension 3 in the base plate while the rods are seated in the groove 2. The frame, as customarily made, is provided with two oppositely disposed short rods 12 and four longer end rods 13. Due to the difference in length of the rods they are not set equidistantly about the plate, the side rods 12 being set closer to the adjacent end rods 13 than said end rods are set to each other. For this reason and in order to facilitate the assembling of the top and bottom plates so as to bring the notches of the former into alinement with the grooves in the latter, I provide the stud 5 and socket 8. The inner ends of the notches 9 extend inwardly to the inner ends of the grooves 2 and have substantially the same width as the grooves, hence, when in operating position, one side wall of each slot 9 will overlap the inner pivotal bearing end 11 of its corresponding rod, thereby hinging the rods between the plates and permitting them to swing freely up through the slots 9 to vertical or collapsed position. In order to secure the plates and rods in assembled position, I pass the screw shank 14 of a hook 15 through the registering holes 4 and 7 in the plates, and run up a nut 16 on the shank to clamp the plates firmly together. The hook is adapted to receive the cord by which the canopy frame is suspended. The top and bottom plates may be made of any suitable material and may be manufactured in any other manner than that described, but from the point of economic construction it is preferable to fasten between them the frame rods by means of an angled end on each rod, as this can be formed at one op-

eration and I avoid the expense of flattening and punching the rods to insert hinge pins or bending wires. The parts are easily assembled, can be quickly repaired, and the manner of hinging the rods to the center plates permits them to be collapsed with the canopy connected thereto for convenient and compact shipment.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

In a collapsible canopy frame, in combination, frame rods formed of wire, each having its inner end bent at right angles to an L-shape, a center plate having radially disposed L-shaped grooves, each having a single right angled lateral extension at its inner end which is adapted to receive the angled inner ends of the rods, said angled ends of the rods and the portions of the grooves that receive them being rounded to permit the rods to swing up and down in vertical radial planes relatively to the center plate, a top plate adapted to overlie the angled ends of the rods in their groove bearings and having radial slots spaced in correspondence with the radial portions of the grooves in the center plate to permit the rods to swing upwardly therethrough, interlocking means on said plates to set them in position with their respective slots and grooves in register, and a suspension means adapted to fasten the plates in interlocked position, substantially as described.

In testimony whereof I affix my signature.

HALBERT G. MARSH.

Witness:

NOMIE WELSH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."