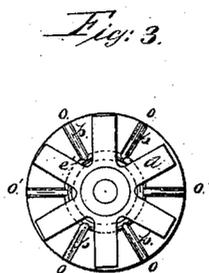
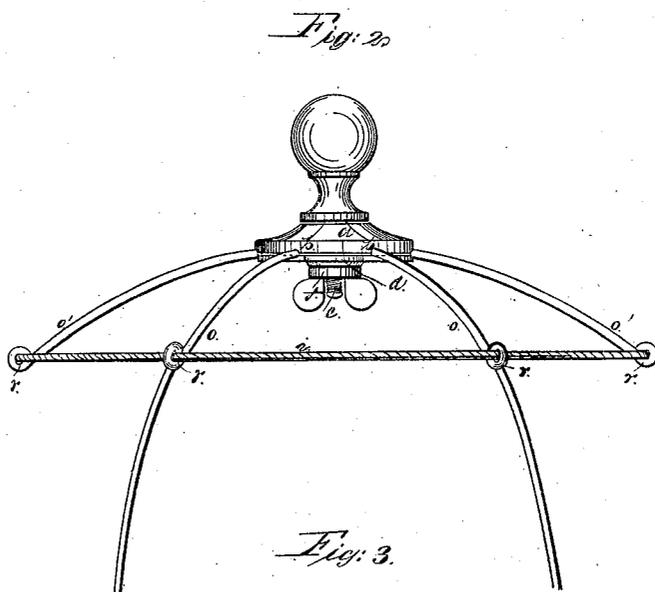
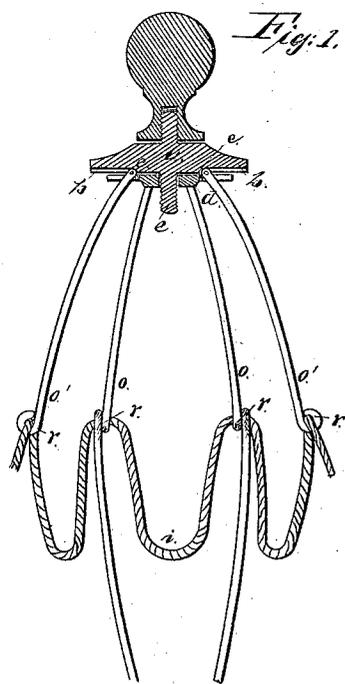


S. E. Hartwell,

Mosquito-Net Frame.

N^o 14,655.

Patented Apr 15, 1856.



UNITED STATES PATENT OFFICE.

SAMUEL E. HARTWELL, OF NEW YORK, N. Y.

FRAME FOR MOSQUITO-NETS.

Specification of Letters Patent No. 14,655, dated April 15, 1856.

To all whom it may concern:

Be it known that I, SAMUEL E. HARTWELL, of the city, county, and State of New York, have invented a new and useful Improvement in Portable Frames for Mosquito-Nets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawing, making a part of this specification, in which—

Figure I is a vertical central section. Fig. II is an elevation, or side view. Fig. III is of a part in detail, and similar letters indicate similar parts throughout.

My improvement consists of a series of light rods of metal or other suitable material curved to form an arch which shall support a canopy when expanded, each of which arms is hinged at one end near a common center from which they radiate in a manner similar to the arms of an umbrella, and my improvement lies in the arrangement of a clamp to secure firmness and rigidity when the rods are opened out. By this means a perfectly portable net and form can be constructed, which, by reason of its occupying little room when folded, may be carried in an ordinary traveling baggage. The head may consist of some ornamental knob and as seen at (*a*). The underside of this is flat, as shown, and radiating from the center a series of six or more grooves is cut according to the number of ribs to be inserted for the frame, and these are so divided that four grooves shall be directed toward the four corners of an ordinary bedstead, the knob being supposed to stand over its center. These grooves are shown at (*b*), and if the ribs are round ones the grooves will be a half round. These grooves all terminate in a circular one near the center of the knob, and which is to receive the hinge wire for attaching the ribs as seen at (*c'*).

The clamp is a plate with arms cut so as to cover the grooves and is of the shape shown at (*d*) Fig. III. One side of each arm has a half round groove also cut upon it, and this side is to face the grooved side of the knob, so that when an arm of the clamp lies over a groove a round hole will be formed, as seen at (*b*) Fig. II. The clamp is kept in place by a screw (*E*) Fig. I, on which a thumb-nut turns as in (*f*) Fig. II. Thus the screwing up of the nut

forces the clamp against the face of the knob.

The ribs as shown consist of four long ones (*o*) and two short ones (*o'*) shaped as in the figure; these are hinged at (*e*) as before described. The four long ones stretch out to the four corners of the bedstead where eyes may be placed to receive their ends, when used as permanent fixtures. At a short distance from the knob, say about one third of the length, holes are made through these rods as at (*r*), and the two short rods have also a similar hole in their outer ends, at the same distance from the knob as those in the long arms. These short arms (*o'*) are situated between the long ones (*o*) so as to extend toward the sides of the bedstead, and in these positions are shown by the letters of reference in Fig. III.

Through the holes in the arms a cord (*i*) is rove for the double purpose of preventing the gauze net from swagging down between the rods, and of stiffening the frame when distended, and by shortening this cord the frame will fit a smaller bedstead and will still be firmly held together.

To extend the ribs lay each one in its appropriate groove (*b*); then turn the clamp until each prong (*d*) lies over its appropriate groove, and set it there by screwing up the nut (*f*) until it pinches; each rib will then be held firmly in place and may be affixed upon the bedstead in the manner indicated; or where the eyes are not found, as in the case of traveling, it may be supported simply by standing it so that the feet of the rods will rest on the frame or even the bed clothes—the gauze being thrown over and allowed to hang down all around. To fold the ribs, unscrew the nut (*f*), then turn the clamp-plate so that the prongs (*d*) will stand between the spaces from groove to groove, when each rib will fold down without interference.

What I claim is—

The arrangement for screwing the ribs rigidly in position when expanded, that is to say, the radial grooves on the knob in combination with the grooved clamp, constructed and operated as described.

SAMUEL E. HARTWELL.

Witnesses:

S. H. MAYNARD,
T. TUCKERMAN.