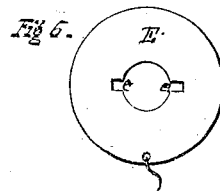
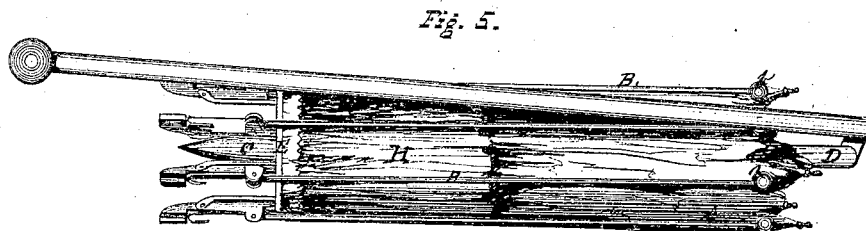
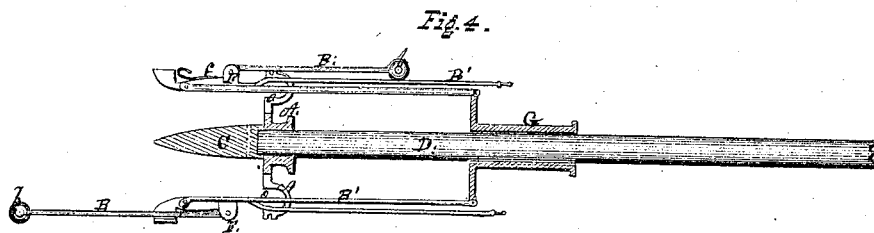
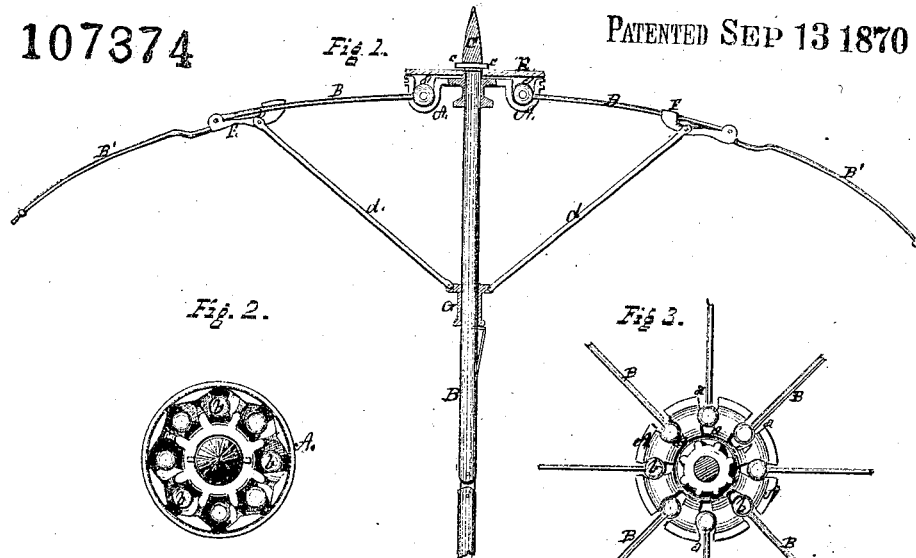


A. S. Hubbell.

Improvement in Umbrellas.

107374

PATENTED SEP 13 1870



Witnesses.

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United States Patent Office.

ALGERNON S. HUBBELL, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 107,374, dated September 13, 1870.

IMPROVEMENT IN UMBRELLA-FRAMES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ALGERNON S. HUBBELL, in the county and city of Providence and State of Rhode Island, have invented certain new and useful Improvements in the Construction of Umbrella and Parasol-Frames, to enable them to be folded for carrying in a satchel or small trunk; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a vertical sectional view of the jointed rib, ball-and-socket hinge, center cap, and handle, for folding umbrella and parasol-frames, as spread.

Figure 2 shows a top view of the socket-hinge cap.

Figure 3 is an under side view of the same, showing the ball-hinges and portions of the upper sections of the ribs.

Figure 4 shows a sectional view of the frame, as run up through the cap, for folding.

Figure 5 is a parasol, as folded for carrying.

Figure 6 shows a detached view of a plate-cap, for securing the ball-and-socket hinge frame.

The object of my invention is to shorten the length of umbrellas and parasols as much as possible, for the convenience of putting them into a satchel, carpet-bag, or trunk, for traveling.

My invention consists in the construction of the frame with ball-and-socket joints and cap, for securing the ribs at the top in such a manner that the jointed upper portion may be shoved up through the cap, when the parasol is closed, and turned over to rest on the outside of the covering, thereby shortening the frame-work of the ribs one-half of its length.

Also, in the peculiar construction of the joint and spring snap, for holding the ribs or braces firmly in their position, when the umbrella or parasol is opened.

To enable others to make and use my improvements, I will describe them more fully, referring to the drawing and to the letters marked thereon.

The cap A may be cast or struck up out of sheet metal, so as to leave the openings and sockets *a a a* of the proper form to receive the balls *b b b* on the ends of the hinged ribs B B.

The cap A has a stem of metal, C, cast with or secured to it, to make the tip of the umbrella-staff D.

Onto the tip C is fitted a cap-plate, E, with notches *e e* on the opposite sides of the central opening, so as

to admit the projecting ends of the pin *c*, which is put through the tip C, to pass through the cap-plate E, to hold it on, by being slightly turned in either direction on the tip, by which means the ball-hinges *b b b* are secured in their sockets in the flange or socket-cap A.

To enable the upper portion of the ribs B B to be folded over, when they are pressed up through the openings in the cap A, they are provided with a peculiarly formed joint, F F, made of metal, which are firmly secured to the lower portion of the ribs B B, the braces *d d d* being connected with the joints F F, and the slide G on the staff D, by which the umbrella is spread in the usual manner.

The joints F F are provided with notches, into which the upper portion of the ribs B B lock, and are held in their places by catch springs *f f*, so that, when the ribs are brought in a line, and locked in the notches in the side of the joints, they are as firm and substantial as if there was no joints in the ribs.

The umbrella or parasol may be used just the same as any ordinary one, it being as firm and durable, and more so, as the ball-and-socket joints are not so frail and liable to get broken or out of order as the eye and wire in the ribs, on the tops of those ordinarily constructed, and when desirable to pack it for traveling, it is easily folded in the following manner, to wit:

Turn the cap-plate E on the tip C until it slips off the pin *c*, shove the ribs up through the cap A until the joints F F come just above the cap, fold the puffed portion of the covering H over the lower portion I, unlock each of the ribs B B from the notches in the joints F F, and let them fall over on the outside of the covering. Jack up the handle D, and wind the elastic cord around the whole. To open, reverse the order, as above.

What I claim, and desire to secure by Letters Patent, is—

An umbrella, having its top notches *a a* covered by a detachable cap, E, and provided with openings of such size as to admit the passage of the ribs B and their joints, when the several parts are to be folded, and retain their ball ends, when open for use, as shown and described.

In testimony whereof I hereunto subscribe my name.

ALGERNON S. HUBBELL.

Witnesses:

D. B. POTTER,

RICHARD M. HUBBELL.