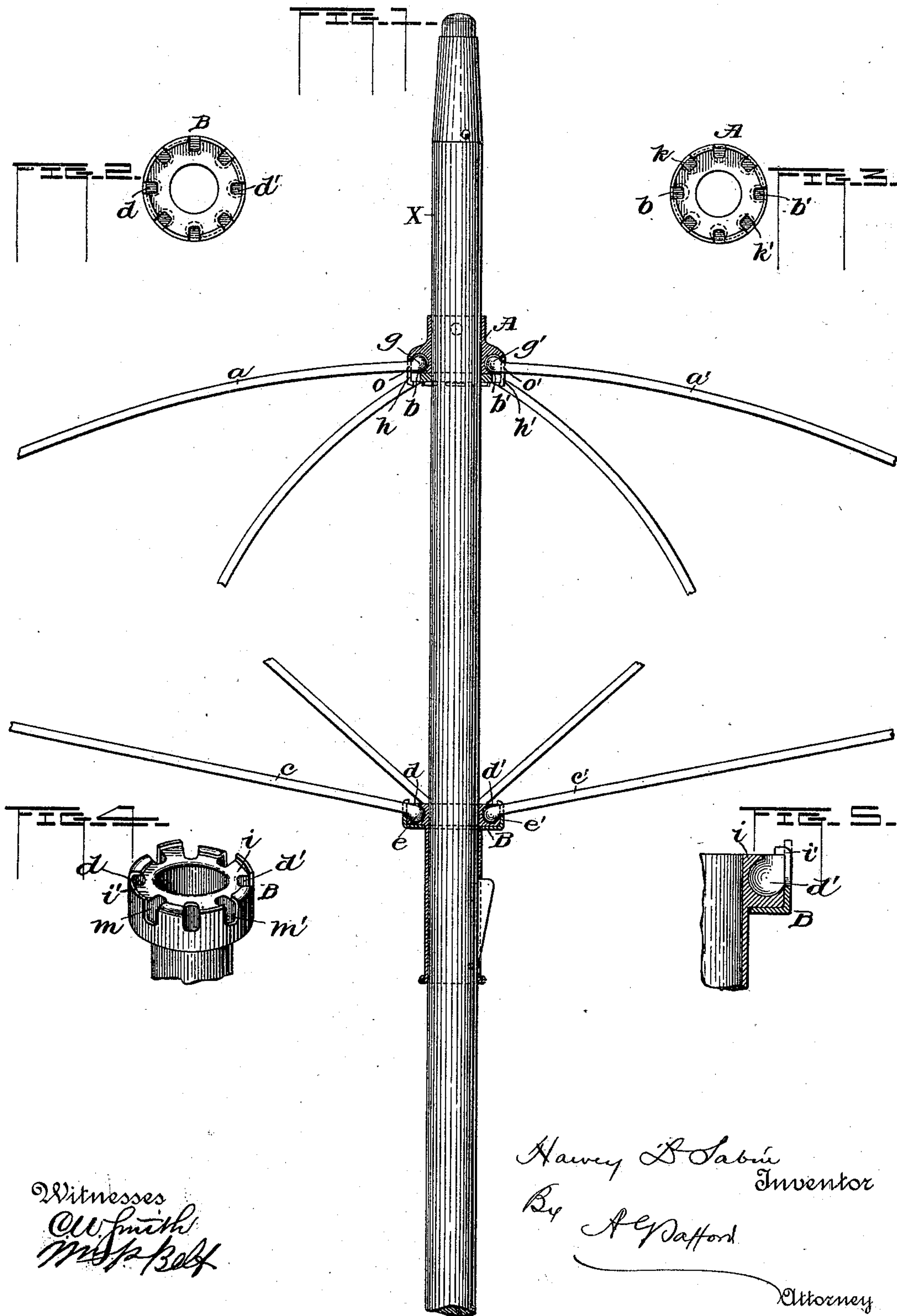


(No Model.)

H. D. SABIN.
UMBRELLA FIXTURE.

No. 554,313.

Patented Feb. 11, 1896.



Witnesses
C. W. Smith
Mrs. B. B. B.

Harvey S. Sabine
Inventor
By W. P. Rafford
Attorney

UNITED STATES PATENT OFFICE.

HARVEY D. SABIN, OF ST. ALBANS, VERMONT.

UMBRELLA-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 554,313, dated February 11, 1896.

Application filed June 2, 1894. Serial No. 513,247. (No model.)

To all whom it may concern:

Be it known that I, HARVEY D. SABIN, a citizen of the United States, residing at St. Albans, in the county of Franklin and State of Vermont, have invented certain new and useful Improvements in Umbrella-Fixtures, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in umbrella-fixtures in which the ribs and stretchers are attached to said fixtures by ball-and-socket joints, and the objects of my improvement are to provide means whereby the ribs, stretchers and fixtures can be readily and rigidly connected, easily taken apart, strength of construction of the ribs and stretchers, the formation of the sockets constituting one part of the joints integrally in the body of the fixture and not in separate parts thereof, and the formation of the ribs and stretchers and fitting them to the fixtures in such a way as to prevent the fixtures or the ribs or stretchers from injuring the fabric with which the umbrella may be covered.

Referring to the accompanying drawings, wherein the indicating-letters point out the same parts in each view, Figure 1 shows the supporting-stick X of an ordinarily-constructed umbrella provided with the upper stationary fixture, A, with some of the ribs $a a'$ provided with the terminal balls $g g'$ in place within the sockets $b b'$ and the lower sliding fixture, B, with some of the stretchers $c c'$ in place within the sockets $d d'$. Fig. 2 is a plan view of the upper face of the sliding fixture B. Fig. 3 is a similar view of the lower face of the stationary fixture A. Figs. 4 and 5 show a method of attaching the confining-plates $i i'$ to the fixtures by crimping over a portion of the flanges.

The stationary fixture A has a series of sockets $b b'$ bored at equal distances apart into the lower surface thereof, and a distinguishing feature of my device is that these sockets are wholly formed in the single piece which forms the body of the fixture, thus avoiding the necessity of providing a loose protecting-washer, as has been provided in other devices of this character, and obtaining a much stronger joint than is obtainable where the socket is partly formed in each of

two circumjacent pieces. These sockets are adapted to receive the balls $g g'$ upon the joint end of the ribs $a a'$, and forming therewith a true ball-and-socket joint of maximum strength. The slots $h h' h''$, &c., connect these sockets with the exterior of the fixture. The confining-plate i is provided with radial slots $k k' k''$, &c., coinciding with the sockets $b b'$ and the slots $h h'$ of the fixture. The confining-plate i is attached to the fixture by crimping over two or more of the edges of said flange, as shown in Figs. 4 and 5.

The sliding fixture B is of quite similar construction to the stationary fixture A. It is provided with the same sort of integral socket-holes $d d'$ similarly placed, but here the holes are bored into the edge of the fixture, thus forming the socket for the joint to be made with the balls $e e'$ of the stretcher $c c'$, the slots $m m'$ connecting the sockets $d d'$ with the upper surface of the fixture. The confining-plate i' is provided with the coinciding and confining slots $n n'$ in the flange thereof, and is attached to the sliding fixture B by crimping over the edges, as shown in Figs. 4 and 5.

That part of the ribs and the stretchers next to the ball which forms a part of the joint I denominate the "neck." (Shown in Fig. 1 at $o o'$.) This portion of both the ribs and stretchers is of course a little smaller than the balls which form the joints within the sockets. Its diameter, however, governs the diameter of the slots $h h'$ and $k k'$ of the stationary fixture A and the diameter of the slots $m m'$ and $n n'$ of the sliding fixture B. For a given joint the neck o is so fashioned that when the umbrella is closed it just fills the slot in the fixture, thus presenting a smooth surface to the fabric with which the umbrella may be covered, preventing all wear at that point and dispensing with the necessity of protecting it at that point.

Having thus described my invention, I now proceed to show the method of its operation.

The ribs and stretchers being provided with balls at their inner ends, just fitting into the integral sockets of the fixtures, and having the necks of said ribs and stretchers so shaped as to exactly fill the slots described, the balls are placed within the sockets, the confining-plates are rigidly attached and the stick X inserted, the fixture being perma-

nently attached thereto. Upon sliding the fixture B upward, the confining-plates *i i'* prevent the balls from leaving the sockets, the slots permit the free upward movement of the
 5 ribs and outward movement of the stretchers, and when the umbrella is closed the fixtures present no sharp edges to injure the fabric.

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

10 1. In an umbrella and parasol frame, the combination of headed ribs with a notched head and a slotted cap having fingers of unequal length and of which the longer fingers are bent inward to lock the cap in place.

2. An umbrella comprising in combination 15 a series of headed ribs and a notched head, a series of headed stretchers pivoted to said ribs and a notched runner, the notched heads and runners being provided with slotted caps having fingers of unequal length and of which 20 the longer fingers are bent inward to lock the caps in place.

In testimony whereof I affix my signature in presence of two witnesses.

HARVEY D. SABIN.

Witnesses:

MELVILLE E. SMILIE,
 JAMES T. SABIN.