

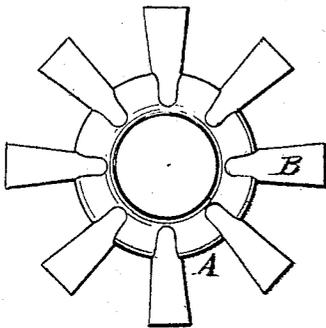
*J. Ball.*

*Umbrella.*

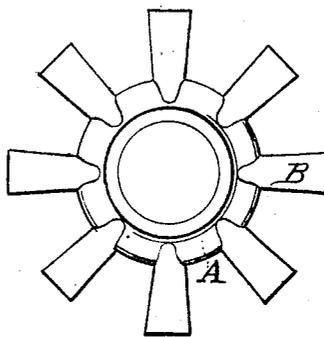
*N<sup>o</sup> 22478*

*Patented Jan. 4, 1859*

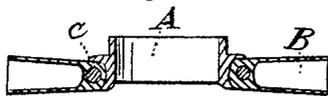
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

*Wm. J. Low*  
*Francis S. Low*

*Inventor:*

*Jonathan Ball*

# UNITED STATES PATENT OFFICE.

JONATHAN BALL, OF ELMIRA, NEW YORK.

## MANUFACTURE OF UMBRELLA-RINGS.

Specification of Letters Patent No. 22,478, dated January 4, 1859.

*To all whom it may concern:*

Be it known that I, JONATHAN BALL, of Elmira, in the county of Chemung and State of New York, have invented a certain new and useful Improvement in Umbrellas; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, in which—

Figure 1 is a plan view of the bottom of the ring or "top-notch" to which the ribs or frame of an umbrella is attached. Fig. 2 a plan view of the top of the same, and Fig. 3 a vertical section taken through the line X Fig. 2.

My invention relates to an improved method of securing in the ring or "top-notch" of an umbrella the wire to which the bases of the ribs or frames are attached, and consists in casting the ring in a metal mold, in which mold are placed the bases of the ribs and the wire to secure them, the wire being secured in place by the metal which is poured into the mold surrounding and inclosing it, thereby retaining the said bases more firmly in position, and preserving it from being broken more effectually than by the method of fastening them now used, the improvement being also applicable, in the same manner, and with the same effect, in securing the wire which holds the bases of the "stretchers" in the ring of the "runner" or slide of the umbrella.

A is the ring or "top-notch" which is fastened to the upper end of the "stick" of an umbrella, and to which are secured the bases of the ribs or frames.

B is one of the bases of the ribs or frames, made either in the form represented in the drawings, to receive a rib of whalebone or ratan, or by flattening out the end of the rib when it is made of steel or other metal. An aperture is made near the end of the base, in the usual manner, in and through which is placed the wire C to hold the bases in position and to serve as a pin upon which the base can turn to allow the umbrella to be opened or closed.

The ring or "top-notch" is cast of brass, block-tin, or other metal or composition in a mold made as follows—a metallic mold being preferred for the facility, and cheapness with which the articles may be cast in it. The mold is made in two pieces so as to separate at the line of the center of the

wire laid and cast within it to hold the bases, and is turned out in the form that is required to be given to the ring. Apertures are formed through the edge of the mold, equal in number to the number of bases to be used, and of the same form as the bases, so that the metal poured into the mold cannot escape through them. The bottom edges of the bases lie upon the bottom of the mold in order that no metal can run beneath them, so that the bases can be turned down in the ring to stand at a right angle to it to allow the umbrella to be closed, while the top edge of them is covered with the metal to prevent them from rising higher than a horizontal line, so that the umbrella cannot be turned "inside out" by a gust of wind, as the one of ordinary construction can.

The "stretchers" of the umbrella are attached to the wire in the ring of the "runner" or slide in the same manner as above described, a mold being made of proper form for the ring and provided with suitable apertures to receive the ends of the stretchers.

The operation of casting the rings is as follows:—The bases of the ribs, or the ends of the stretchers, are strung upon a wire ring, having first been washed with a light coating of soapstone or loom wash to prevent the metal adhering to them, and are then placed in the apertures in the mold made to receive them, after which the metal is poured into the mold, surrounding and securing the wire while the bases or ends are free to turn to the required degree upon the wire. If the molds are properly fitted the rings are ready to be used in making the umbrella as soon as they are removed from the mold. The present method of making these rings and securing in them the bases of the ribs, or the ends of the stretchers, is not only more expensive but also less durable than the one herein described, as the first cost of the casting for them is as great as that of my finished article. While a considerable amount of labor is required upon them to fit them for use, and the wire in them is unsupported between the ends of the bases or the stretchers so that it is liable to be broken by wear or rust, and if broken separates the connection of all the ribs or stretchers, while in mine the wire is supported between the end of each rib or stretcher so that no strain is brought upon it except upon the portion passing through

the end, thus removing the liability of its  
breakage, and in case of a breakage allowing  
only the rib or stretcher at the broken part  
to be detached, leaving the remainder se-  
5 curesly attached in place. The present con-  
struction of the rings, with their sharp  
edges and twisted ends of the wire wears  
and frets away the cover of the umbrella  
where it comes in contact with them, unless  
10 it is provided with a lining of cloth or other  
material to protect it, while mine is exempt  
from this objection as they present a smooth

surface against which the cover can lie in  
contact without injury.

What I claim as my invention and desire 15  
to secure by Letters Patent as a new article  
of manufacture, is—

An umbrella ring having the ends of the  
ribs or the stretchers and the wire to confine  
them cast within as herein set forth.

JONATHAN BALL.

Witnesses:

WM. H. LOW,  
FRANCIS S. LOW.