

Nov. 11, 1930.

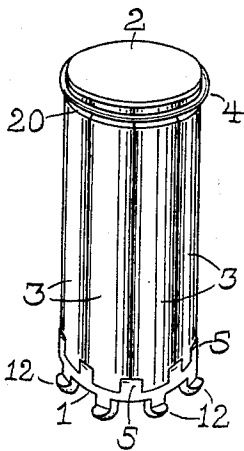
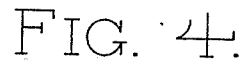
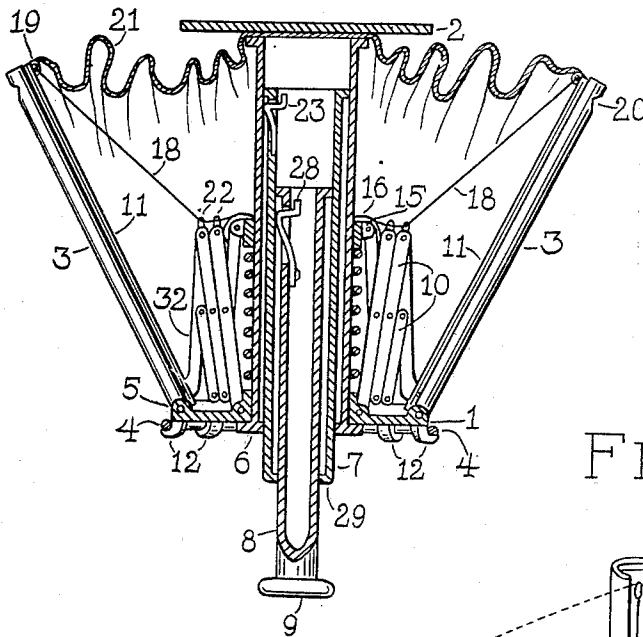
M. SCHWARTZ

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COLLAPSIBLE UMBRELLA

Filed Oct. 1, 1927

2 Sheets-Sheet 1



Max Schwartz Inventor
By His Attorney Frank Carlson

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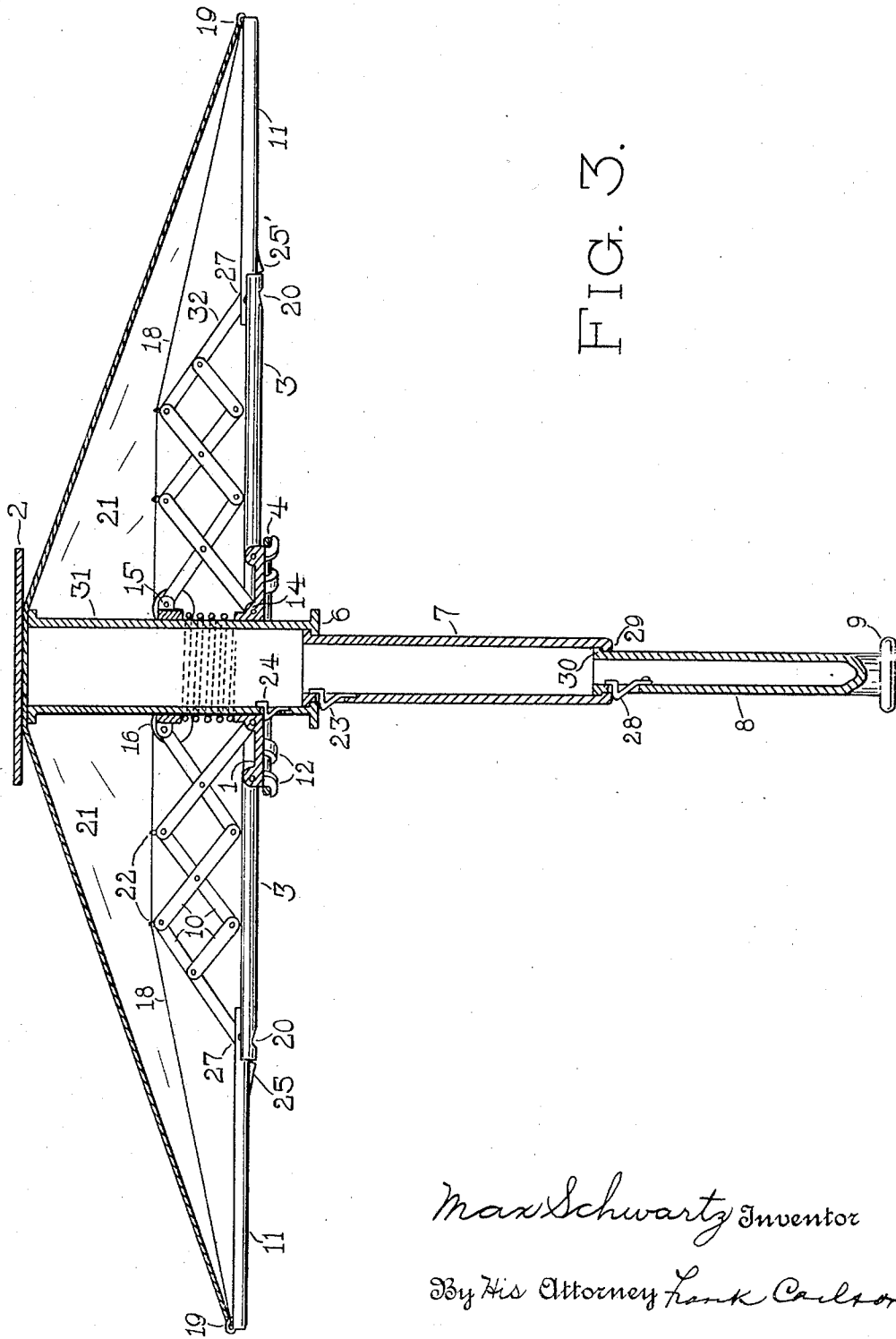
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UNITED STATES PATENT OFFICE

MAX SCHWARTZ, OF BROOKLYN, NEW YORK

COLLAPSIBLE UMBRELLA

Application filed October 1, 1927. Serial No. 223,433.

This invention relates to collapsible or folding umbrellas and the like, and particularly to the class wherein a telescoping handle serves as a nucleus for a plurality of divergent and extensible folding members which together may constitute a casing for the whole device in collapsed condition.

The main object of my invention is to provide an umbrella in such a completely collapsible form that it is condensed to a convenient and small package which may readily be carried in the pocket.

Another object is to produce such an umbrella which is of normal size and fully useful as ordinary equipment, and which is both reasonable in cost, as well as durable and practical in construction.

Further objects and the various economies and advantages attained by my invention will appear hereinafter, as the specification proceeds.

In the accompanying drawings, Fig. 1, is a perspective view of an umbrella embodying my invention, and shown in completely closed condition.

Fig. 2 is a vertical section of the same device in partly open condition, only one rib structure being shown at each side for clarity in illustration.

Fig. 3 is a similar view with the device opened to its full extent.

Fig. 4 is a top view of the device when partly opened as in Fig. 2, and the top plate removed to reveal certain structural details and the fabric or flexible cover merely indicated by dotted lines.

Throughout the views, the same reference numerals indicate the same or duplicate parts.

In the practice of my invention, a bottom plate 1 is mounted upon a tubular member 31 which is closed at the top by an imperforate plate 2.

The plate 1 is slidable on tube 31, and is retained on the same by a collar 6, while in raised position, a spring 26, also mounted on the tube will tend to return the same to collar 6. Intermediately on the tube, a plurality of bearings or arm pivots similar to 15 surround the tube, while corresponding

bearings 14 are formed on the inner edge of plate 1 adjacent the tube. Between the upper bearings 15 and lower bearings 14, a plurality of extensible lazy tong arms 10, 10 are mounted, in such a manner that, when plate is forced upward on the tube, these members will tend to extend outwardly in diverging fashion from the tube.

However, the outer edge of the plate 1 is also provided with bearings 5, 5 for a plurality of outwardly folding diverging leaves 3, 3 which may be made in the form of channels partly enveloping slidably extensible members 11, 11. The outermost link 32 of each lazy tong arm is pivoted at 27 to respective slidable member 11, although the link could be slidably adjustable therein up to a limit stop which would serve the same purpose as the pivot in this case.

The leaves or channels 3, 3 have near their upper or outer extremities depressions 20, 20 to serve as a seat for a retaining ring 4 to hold the parts closed. When it is desired to open the device the ring is forced down from the seats in the leaves toward plate 1, and there will rest idly in a final position on a plurality of retaining hooks 12, 12, 12, etc. below the pivot points of bearing 5, 5. The channels will then tend to open as in Fig. 2, when they may be drawn down to horizontal position to practically rest on ring 4. The inner slidable member 11, 11 may then be extended until spring stops 25, 25 snap down beyond the outer ends of channels 3, 3 while the lazy tong arms will simultaneously be extended to full length. A fabric 21, 21 is secured beneath the cap plate 2 and at its edges to the eyes 19, 19, on the extremities of slidable members 11, 11 and as the arms and their parts are extended, the fabric will be stretched out to its proper extent. In closed condition, the fabric is folded into the space about tube 31 between cap plate 2 and the lazy tong members. But in order to prevent damage to the fabric or entanglement thereof by the parts below the same, the top joints at 22, 22 are provided with eyes or loops through which a cord 18 is passed the outer end being secured to the eyes 19, 19 of the arms and the inner end taken in in spring

actuated slack take up reels 16, 16 mounted about tube 31 between the extensible arms. In this extended condition, a spring catch 24, for the purpose provided, will snap beneath plate 1 to hold the device open.

On the other hand the tube 31 contains a pair of telescoping tubes 7 and 8 which may be drawn out until a catch 23 holds tube 7 down against collar 6, and stop 29 of tube 7 is engaged between stop 30 and a spring catch 28 on tube or shank 8, while the head 9 on the lower extremity serves as a handle for the whole.

Having now fully described my invention, I claim:

1. In a collapsible umbrella including a handle provided with a cap plate upon the extremity thereof, and a plurality of bearings secured intermediately on said handle, a plurality of radially swingable members pivoted in said bearings and in closed position extending up to said cap plate and constituting therewith a closed casing, means to extend said swingable members, and a slidable ring mounted on said handle below said bearings and cap plate wherewith to operate said means and thereby swing out or withdraw said swingable members, there being a fabric associated with said cap plate and extending to the extremities of said swingable members.

2. A collapsible umbrella including a handle in combination with a ring having a plurality of swingable members pivoted thereto, each swingable member being of such relative proportions as to constitute a substantially-closed casing for the rest of the umbrella when all are retracted in closed position, a cap plate associated with said handle for closing the upper end of said casing, a retaining member surrounding said swingable members in order to hold them closed as an assembled casing, and means on said ring to retain said retaining member when displaced from said swingable members in open position thereof, there being a fabric associated with said swingable members.

3. A collapsible umbrella including the combination, with a handle provided with a cap plate thereon, of a plurality of radially swingable members, a slidable ring having a plurality of bearings in which said members are pivoted and further provided with radial projections thereon, said swingable members being so proportioned and relatively arranged that in closed position they constitute a completely closed casing with said cap plate, a retaining ring for surrounding and retaining said members in closed position, and seats for said retaining ring in said swingable members, said retaining ring being displaceable from said seats to rest on said radial projections on said slidable ring when said swingable members are opened outwardly, there being a fabric associated with said members to constitute an umbrella top.

4. A collapsible umbrella structure including a handle in combination with a plurality of bearings arranged around the same and provided with a plurality of swingable members pivoted thereto, a displaceable retaining member normally surrounding said swingable members when the same are in closed position, and means to catch and retain said retaining member when displaced from said swingable members in open position thereof, there being a flexible cover for said umbrella structure associated with said swingable members.

5. In a collapsible umbrella including a handle having a plurality of divergently extensible members associated therewith, a lazy tong structure associated with each extensible member for extending and supporting the same, there being a fabric connected to said handle and the outer extremity of each of said extensible members, and a connecting cord attached beneath said fabric to each of said outer extremities of said extensible members and passing over the corresponding lazy tong structure toward said handle in order to support and protect said fabric; a cord reel associated with said handle adjacent each lazy tong structure to receive the corresponding connecting cord and take up the slack thereof so as to provide a general tension thereof in open and partly open positions of said umbrella.

6. In a collapsible umbrella having a handle and a plurality of extensible members associated with the same, there being a lazy tong structure arranged above and associated with each extensible member for extending and supporting the same and also a fabric connected to said handle and the outer extremities of said extensible members, a connecting cord attached to the extremity of each of said extensible members and supported upon each corresponding lazy tong structure associated with said extensible members and beneath said fabric, and also connected to said handle, for the purpose of supporting and suspending said fabric between said handle and the outer extremities of said extensible members.

Signed at 132 Nassau Street, in the borough of Manhattan, city and State of New York, this 27th day of September 1927.

MAX SCHWARTZ.