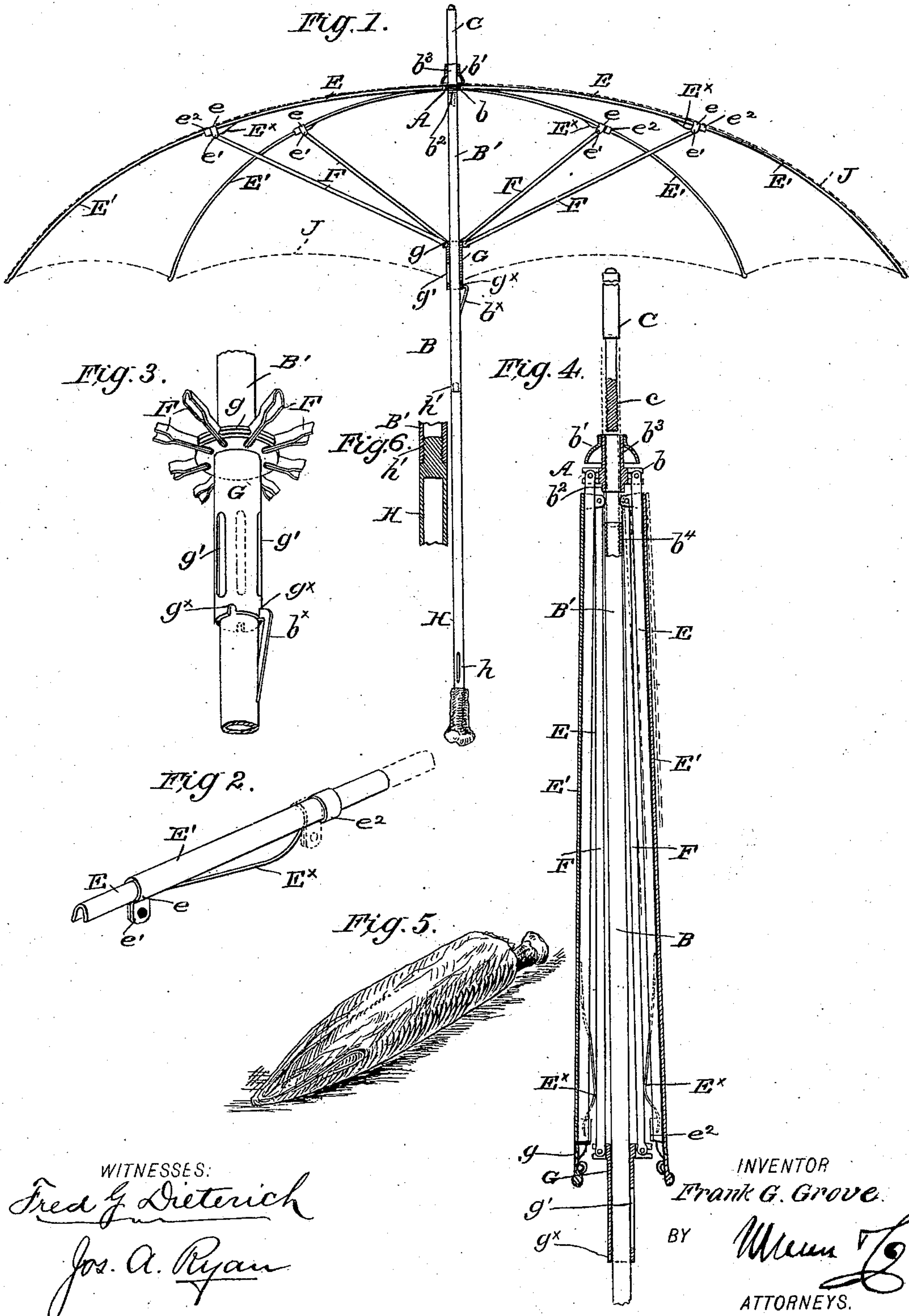


(No Model.)

F. G. GROVE.
FOLDING UMBRELLA.

No. 551,957.

Patented Dec. 24, 1895.



WITNESSES:
Fred G. Dieterich
Jos. A. Ryan

INVENTOR
Frank G. Grove
BY *Wm. L. L.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANK G. GROVE, OF LURAY, VIRGINIA.

FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 551,957, dated December 24, 1895.

Application filed December 13, 1894. Serial No. 531,700. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. GROVE, residing at Luray, in the county of Page and State of Virginia, have invented a new and Improved Folding Umbrella, of which the following is a specification.

My invention is an improvement in that class of folding or collapsible umbrellas which are provided with ribs made in sections adapted to slide on each other.

The invention consists in the construction and combination of parts as hereinafter set forth.

Figure 1 is a vertical transverse section of an umbrella constructed in accordance with my invention, the same being shown extended. Fig. 2 is a detail perspective view of one of the rib-joints. Fig. 3 is a detail perspective view of the lifting sleeve or runner and the locking device hereinafter referred to. Fig. 4 is a view, partly in elevation and partly in section, showing the relation of the several parts when in a folded position. Fig. 5 is a perspective view of my improved umbrella, the parts being in a folded position, and Fig. 6 is an enlarged detail view of the joint *h'*.

Referring to the accompanying drawings, A indicates the upper ring or collar, which in the construction shown has the usual rib-holding annular notch-rim *b* and cover-clamp portion *b'*, an inwardly-extending flange *b²* and an outwardly-extending portion *b³*, the inner flange *b²* forming a seat for the upper end of the staff member B, which member B, it should be stated, is formed preferably of a tubular body having internal threads *b⁴* at the upper end, into which is adapted to fit the threaded shank *c* of the tip or member C, which shank passes loosely through the collar A, as shown.

The object in detachably connecting the upper stick-section to the tip C is to permit the ribs to fold more closely together (without straining or bending them) than could possibly be done were the said end of the stick and tip or end C made integral. This will be clearly apparent from Fig. 4 of the drawings, in which the upper section B' is shown detached and drawn back and the ribs folded up close, such section being, however, shown to its joined position in dotted lines, the po-

sition of the ribs when folded against the said section being also indicated in dotted lines to the more clearly illustrate the advantage of having the stick member B' made detachable.

The ribs, which are preferably of the well-known "paragon" shape, are made in sections slidable on each other, the inner sections E being secured to the rim *b* in the usual manner, while the outer sections E' are connected to the cover. The sections E and E' are joined in the manner most clearly shown in Fig. 3, by reference to which it will be seen the lower section E' terminates in a cuff-like portion *e* formed with ears *e'*, to which the outer ends of the stretchers F are pivoted. The section E passes through the cuff member and terminates in a cuff portion *e²*, which slides on the outer section, such inner sections E having spring members E^x, which serve to increase the frictional resistance and hold the two parts locked together and prevent a tendency of their parts to slide together when such action is not desired.

The stretchers F are secured at their inner ends to the sliding runner G, which has at the upper end a fixed annular notched rim *g*, to which the said stretchers are secured in the usual manner.

By referring to Fig. 2 it will be seen the runner G has a number of slots *g'* instead of one, as is usual, so that when the umbrella is closed such runner will readily slip into locked engagement with a detent *h* on the lower or handle member H of the staff, which member it should be stated is detachably connected with the upper section of the staff by the threaded connection *h'*, as shown in Fig. 6. It will also be observed by reference to Fig. 3 that the lower edge of the runner G has a series of notches *g^x*, which when the umbrella is at its opened position are adapted to engage the lock or detent member *b^x* on the upper staff-section, and thereby lock the runner and the staff together and prevent independent movement thereof, it being manifest that unless they were held together, in turning the staff in the hand the same would turn loosely in the runner and the upper bearing member A, and thereby leave the framing free to wobble on the staff.

The cover J is secured at the inner end of

the ribs at the center by the cap-piece b' and to the inner end of the outer rib-section E' , also to outer end of outer strip E' .

From the foregoing description, taken in connection with the drawings, it will be seen that when the umbrella is extended, as shown in Fig. 1, the springs on the connecting portion of the slides will hold the rib-sections to their extended position. To fold the umbrella, the runner G is first released from detent g^x and then lowered on the staff. Pressure is then applied to each of the ribs inward, which will cause the outer sections to slide inward until their inner ends abut the collar A . The tip or member C is then disconnected from the upper staff-section, and such staff-section pulled back to the position shown in full lines in Fig. 4 to allow the contracted rib members to fold up closely. The outer or handle portion of the staff is then disconnected, and the frame with the cover (which owing to its peculiar connection with the frame laps as shown) is shut compactly and strapped or tied together or inserted into a suitable bag, as shown in Fig. 5.

To adjust the umbrella ready for use, the

handle member of the staff is screwed into the upper section and the foot-piece joined to such upper section. The runner G is then pulled down on the staff its full limit, which movement draws the ribs out to their extended position, after which the runner is raised and the umbrella opened as usual.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

As an improvement in collapsible umbrellas, the combination, with the staff, having a screw socket in its head end, and a collar fixed in a tubular shank, of the shouldered and threaded tip, and ribs composed of sections one of which is adapted to slide on the other, the lower slidable sections having interior projections, or lugs, on their inner ends, which, when the tip is screwed out and the umbrella is collapsed, are accommodated in the space between the staff and the shank of the collar, as shown and described.

FRANK G. GROVE.

Witnesses:

FRANK C. OBERLY,
BRAMHALL CAMPBELL.