(No Model.)

J. D. NESBITT.

FOLDING UMBRELLA.

No. 364,951. Patented June 14, 1887.

FIG. 1.

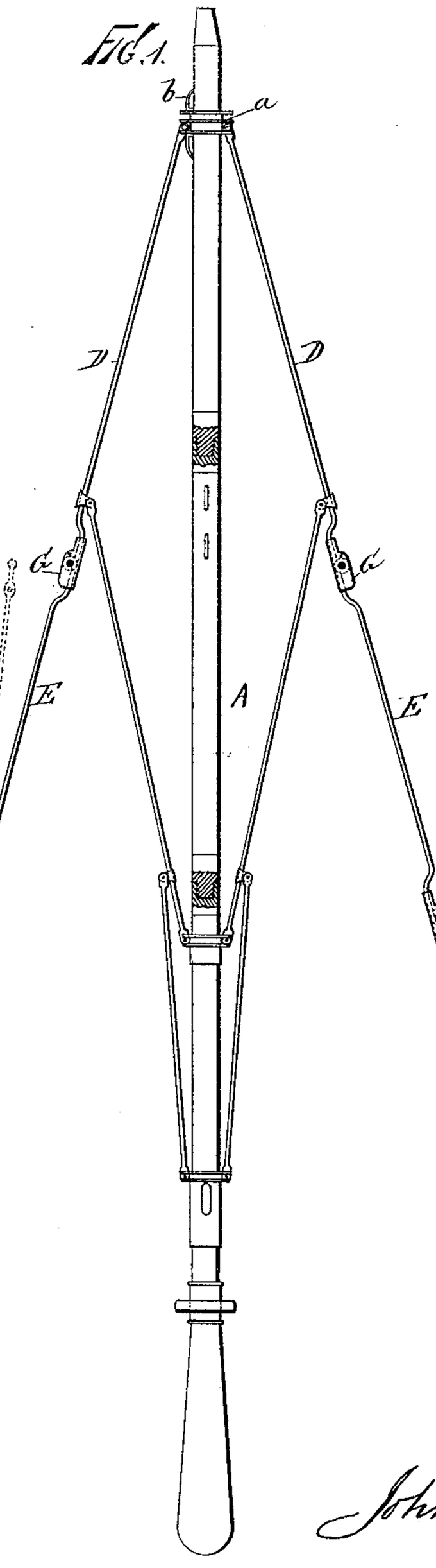


FIG. 2.

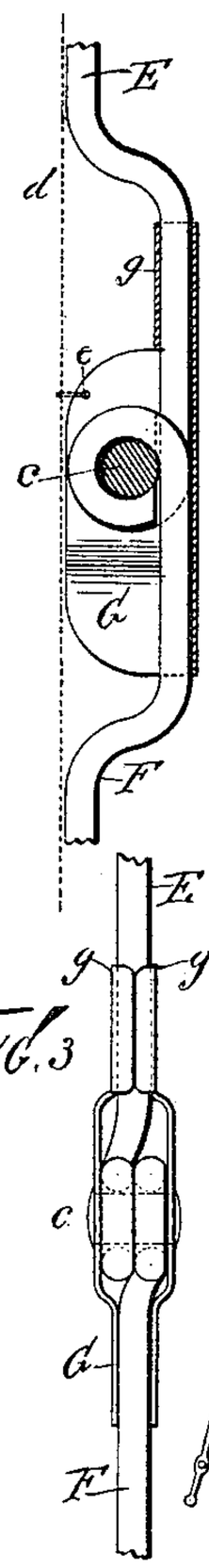


FIG. 3.

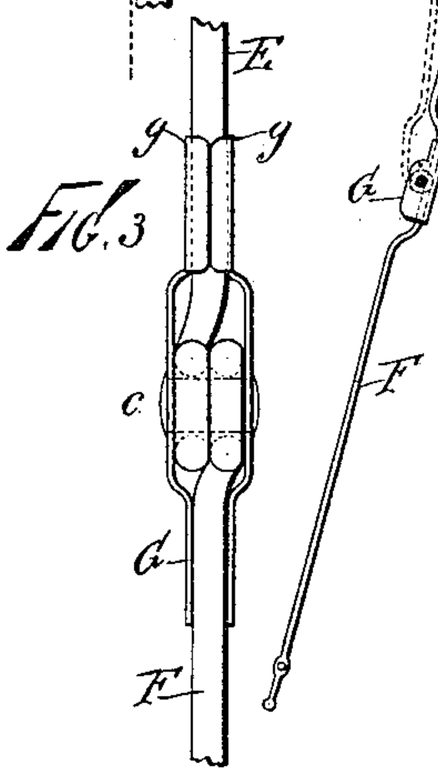


FIG. 4.

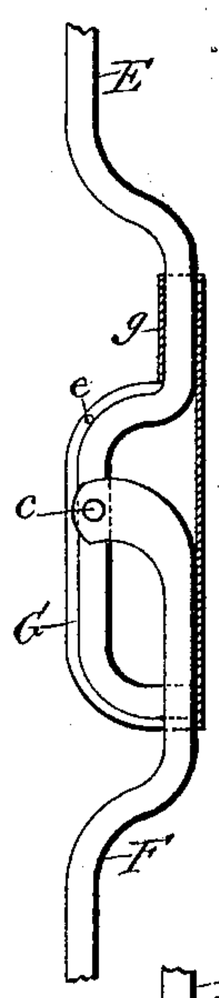
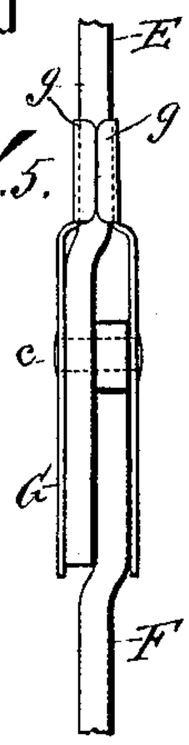


FIG. 5.



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UNITED STATES PATENT OFFICE.

JOHN D. NESBITT, OF NEW YORK, N. Y.

FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 364,951, dated June 14, 1887.

Application filed August 23, 1886. Serial No. 211,599. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. NESBITT, of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has relation to that class of articles commonly known as "folding umbrellas," wherein the ribs are jointed at one or more points in such manner as to permit the sections thereof to be folded or doubled up, so that the umbrella may be made of less length than the common forms not employing jointed sectional ribs.

The object of my invention is to unite the sections of the ribs in such manner that when extended, one section in prolongation of the other, (as when the umbrella is opened or closed,) they will constitute a practically uniform bearing, with no projection to pierce the cloth or cover or to destroy its smooth appearance, and in such manner that the joint or hinge is strong and durable, capable of holding the sections in proper relative position when extended, and obviating pinching or nipping of the cover when the sections are folded.

To this end my improvements involve certain new and useful peculiarities of construction of the hinges or joints and relative arrangements or combinations of parts connected therewith, all of which will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation and partial sectional view, showing an umbrella-stick with two jointed ribs mounted thereon, each rib having two joints or hinges arranged to operate in accordance with my invention. Fig. 2 is a view, partly in section and partly in elevation, showing one of the joints on an enlarged scale, the location of the cloth or cover being indicated by a dotted line, and the eyes for the reception of the hinge axis or pin being shown as formed by turning or bending the ends of the sections of the rib. Fig. 3 is a front elevation (omitting the cloth or cover) of the device shown in Fig. 2. Fig. 4 is a view, partly in section and partly in elevation, of a hinge-joint, also embodying my improvements, but having the hinge axis or pin passing through perforations drilled or punched in the material of the ribs; and Fig. 5 is a front elevation of the device shown in Fig. 4.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

A represents the stick or staff, which may be made in jointed sections, as indicated, or otherwise, as desired. The ribs which sustain the cloth or cover are mounted upon the stick in any preferred manner. In the drawings they are represented as being connected with a ring, *a*, which ring is sustained upon the stick by a spring, *b*, the latter permitting the ring and attached ribs to be removed in a manner well understood. The stays or braces and the runners may be of any approved form.

In short umbrellas the ribs need only be formed each in two sections; but in the longer varieties I prefer to make them in three sections, as indicated in Fig. 1, so that the folded umbrella may be as short as desired.

The construction of the hinges or joints is such that any number of them may be adopted.

D, E, and F are the three sections of the ribs, jointed together as indicated in Fig. 1. The adjacent ends of two sections, as E and F, are bent as shown, and received by a metallic clip or casing, G, of which the portions *g g* are made to hug one of the sections closely, leaving the neck or throat of that section free, and making a secure union between the section and casing. The other section is movable within the casing and between the extended walls thereof upon a hinge pin or axis, *c*.

In Figs. 2 and 3 the pin is shown as passing through eyes formed upon or by bending the ends of the rib-sections and secured in the vertical walls of the casing, the ends of the walls opposite *g g* being bent inwardly, so as to bear against the end of the rib-section beyond the pin when the section is in extended position. This bearing produces ample friction to maintain the two sections of the rib in proper relative position when the sections

are extended, the same as if the rib were solid, thus preventing any folding or lopping of parts of the umbrella when closed against the stick, as observed in constructions heretofore adopted. Like rigidity of parts is secured by the construction indicated in Figs. 4 and 5, wherein the end of the movable section is wedged in between one wall of the casing and the arch formed on the end of the other section, the arch extending about the length of the casing, so as to form a sufficiently long bearing-surface. The pin in this case is passed through perforations formed in the arch, in the end of the movable section, and in the walls of the casing. In either construction the friction produced is ample for the purposes intended.

In Fig. 2 the dotted line *d* represents the position of the cloth or cover, which is tacked to the casing of the hinge, as at *e*. The elongated casing is arranged so that the outer edges thereof are about on a line with the unbent portions of the rib-section, affording a convenient point for tacking the cloth and preventing any part of the hinge from bulging the cloth so as to destroy the desired smooth exterior thereof, or piercing the cloth, as frequently occurs in former constructions. When the two rib-sections are folded the bent ends afford an opening or throat between them, within which the folded, cloth is conveniently disposed without danger of pinching or nipping it, by which it would be liable to become creased or cut. The hinge thus constructed and arranged is strong and durable, affords all the desired movements, and is well calculated to answer the purpose or object of the invention, as previously set forth.

The casing is made of thin metal having sufficient elasticity to preserve the requisite frictional bearing against the movable rib-section without interfering with the necessary adjustments.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a folding umbrella, the two rib-sections secured within the hinge-casing, said sections being bent at their adjacent ends, and the outer edges of the casing being located in line with the unbent portions of the rib-sections, substantially as and for the purposes set forth.

2. In a folding umbrella, the two rib-sections, each having the bent portions and the eyes at their adjacent ends, the hinge-casing secured upon one rib-section and having the extended bearing for the other rib-section, and the hinge pin or axis passing through the walls of the casing and through the eyes, the parts being combined and arranged substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

JOHN D. NESBITT.

Witnesses:
JOHN BUCKLER,
WORTH OSGOOD.