No. 612,292. Patented Oct. 11, 1898.

T. A. & F. A. WILKINSON.

UMBRELLA.

(Application filed Sept. 16, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

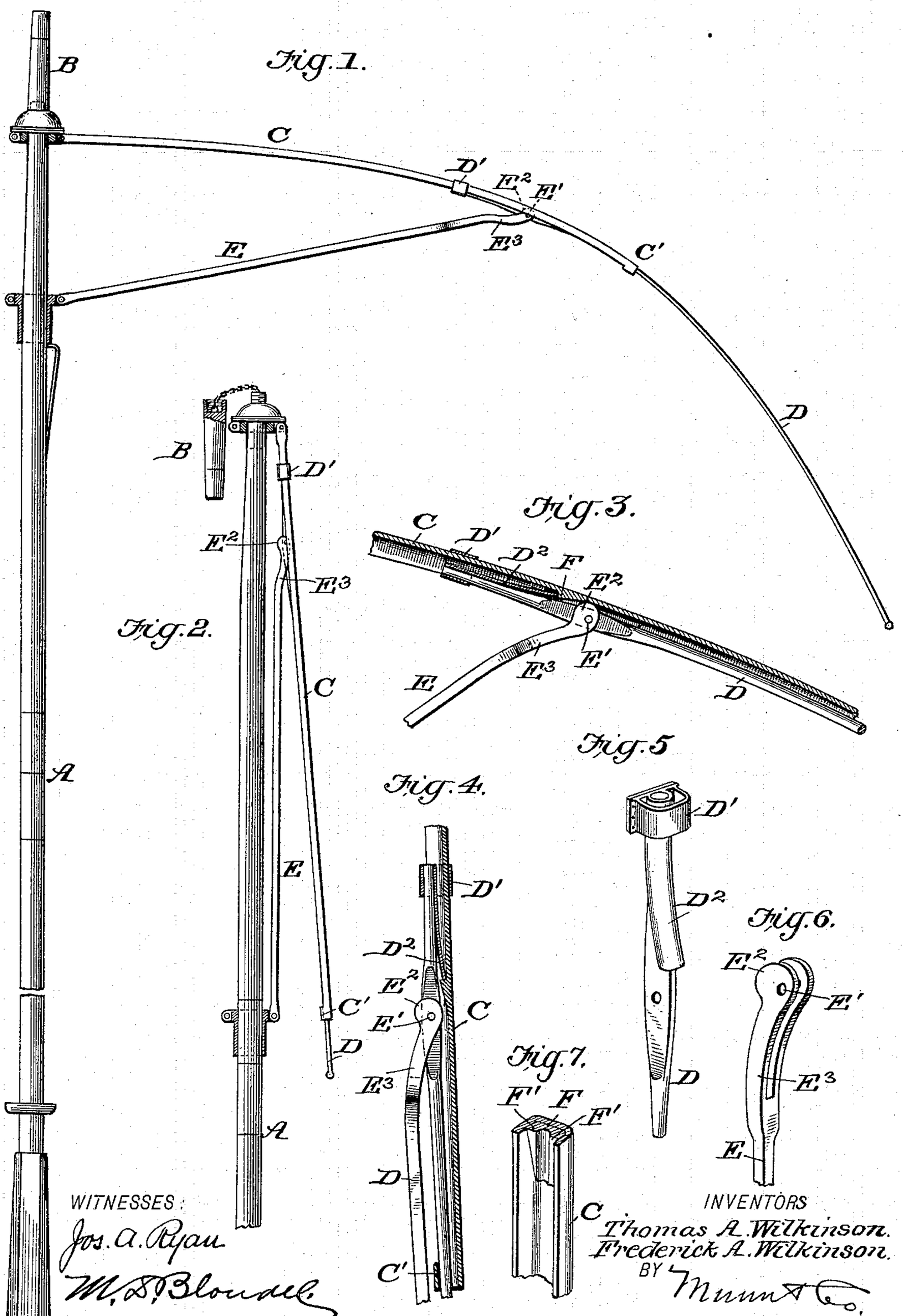

Fig. 2.

Fig. 3.

Fig. 5

Fig. 4.

Fig. 7.

Fig. 6.

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Fig. 8.

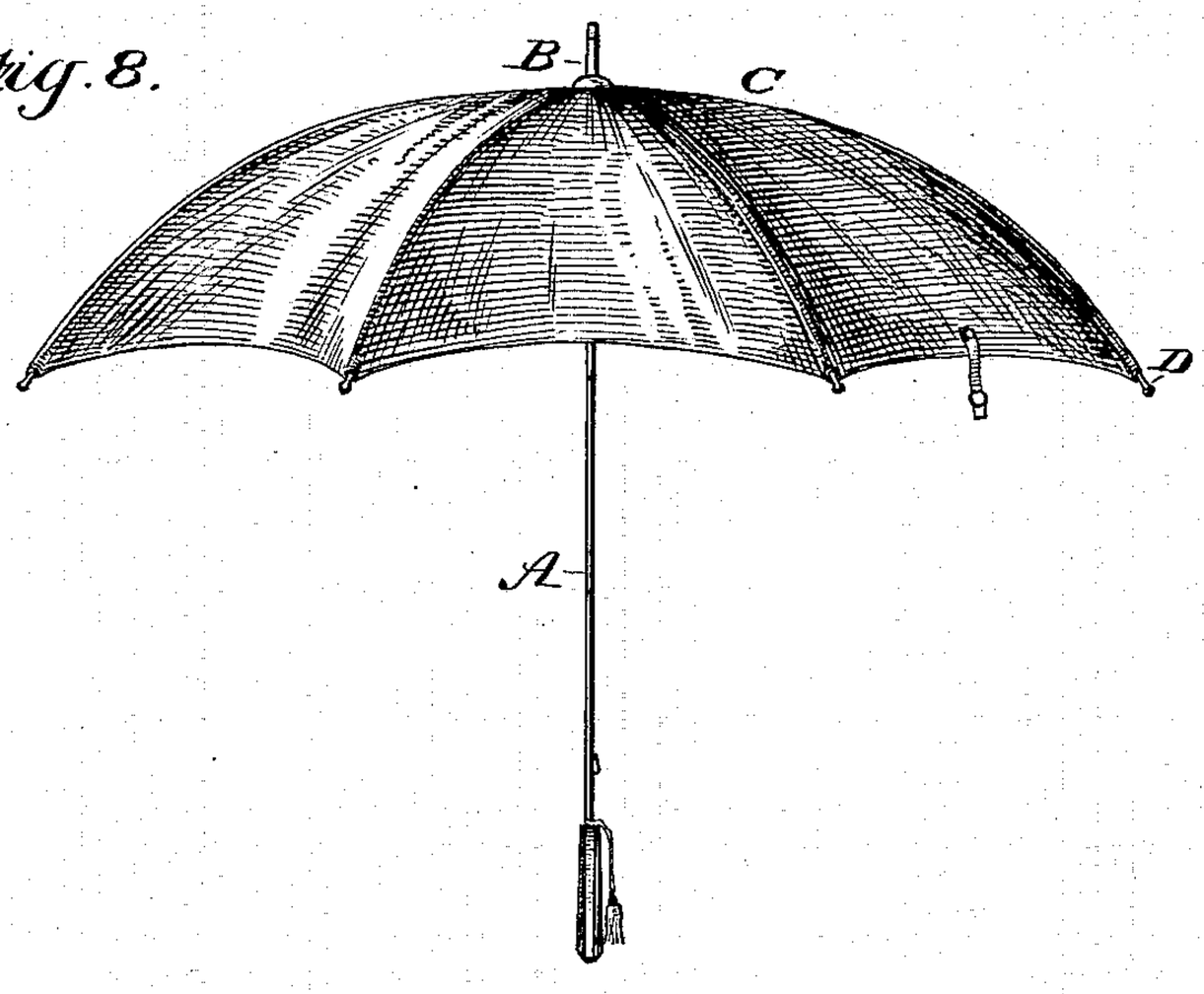

Fig. 9.

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UNITED STATES PATENT OFFICE.

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UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 612,292, dated October 11, 1898.

Application filed September 16, 1897. Serial No. 651,923. (No model.)

To all whom it may concern:

Be it known that we, THOMAS A. WILKINSON and FREDERICK A. WILKINSON, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Umbrella, of which the following is a specification.

This invention is an improvement in folding umbrellas; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a sectional view, partly broken away, of the improved umbrella with the ribs extended and opened for use. Fig. 2 is a similar view showing the umbrella folded. Fig. 3 is a detail sectional side view in the region of the joint between the stretcher and rib, and Figs. 4, 5, 6, and 7 show the improvement in detail. Fig. 8 shows the umbrella opened ready for use, and Fig. 9 shows the umbrella closed and folded.

In carrying out the improvement we employ an umbrella-stick, which may be jointed at A and provided with a detachable point end B, as shown. The rib may be connected with the notch in any suitable manner and is formed in sections C and D, which for convenience of reference will be referred to, respectively, as the "inner" and "outer" sections of the ribs. These sections are slidably connected, preferably by providing at their ends loops C′ and D′, which embrace the meeting sections and hold them together, so the ribs may be extended as desired. The portion of the outer section D between the loops C′ and D′ is designed to act as a spring, and, where desired, such portions of both the sections may be formed to act as a spring, and it will be noticed this spring is shortened by extending the rib, so that when such rib is extended the spring portion between the loops C′ and D′ will be comparatively short and have a high tension.

The stretcher E is pivoted at E′ to the outer section D at a point between the loops C′ and D′ and is provided with a cam projection E^2, which is rigid with the stretcher and is designed and adapted to clamp the sections C and D together when the umbrella is open for use, the short spring-section of the part D aiding in such clamping action. At its cam end the stretcher is bifurcated, and its arms formed by such bifurcation engage with the sections F′ of a stop projection F on the inner rib-sections C, such stop projection being designed to prevent the outer section D from slipping inward along the inner section C when the umbrella is extended for use and yet permitting the forcible closing of the outer rib-section when desired.

The outer section D is slidable in the channel of the inner section and provided with a portion D^2, which engages the stop F in such channel and limits the outward movement of such section D. This portion D^2 is preferably a plate projected from the loop D′, as thereby we avoid any projections on the spring portion of the section D.

It will be noticed that the stretcher E is curved slightly at E^3, such curvature permitting the jointing of such stretcher alongside the rib-section and also the fitting of the stretcher close to the rib when the umbrella is ready for use prior to opening the same.

In the use of the invention the umbrella may be compactly adjusted for packing by removing the end of the stick, folding such handle, and sliding the outer rib-sections along the inner sections C.

When it is desired to use the umbrella, it is only necessary to readjust the stick and draw the sections D to extended position, when the cam E^2 of the stretcher will ride over the stop projection F and the portion D^2 will abut such stop projection and limit the outward movement of the section D. When so extended, the sections D will be prevented from moving accidentally inward by the bearing of the stretchers against the stop projections F. When the ribs are so extended and the umbrella is opened in the usual way, the cams E^2 of the stretchers will clamp the sections of the ribs together and will hold the outer sections D securely in extended position.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An umbrella having a rib made in inner and outer sections slidably connected by loops spaced apart the portion or portions between said loops forming a spring which is shortened by extending the rib to position for use, and a stretcher pivoted to one of the sections and having a cam by which the sections are clamped together when the umbrella is opened for use substantially as described.

2. The improvement in umbrellas herein described consisting of the inner section having a stop projection formed in sections spaced apart, the outer rib-section slidably connected with the inner section and the stretcher having at its outer end a bifurcated cam and pivoted to the outer rib-section with such cam arranged to engage the sections of the stop projection substantially as described.

3. An umbrella-rib comprising the channeled inner section provided within its channel with a stop projection, the outer section slidable in said inner section and the loop secured to the outer section having a portion embracing the inner section and a part projecting within the channel of the inner section and arranged to engage the stop projection therein substantially as set forth.

THOMAS A. WILKINSON.
FREDERICK A. WILKINSON.

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