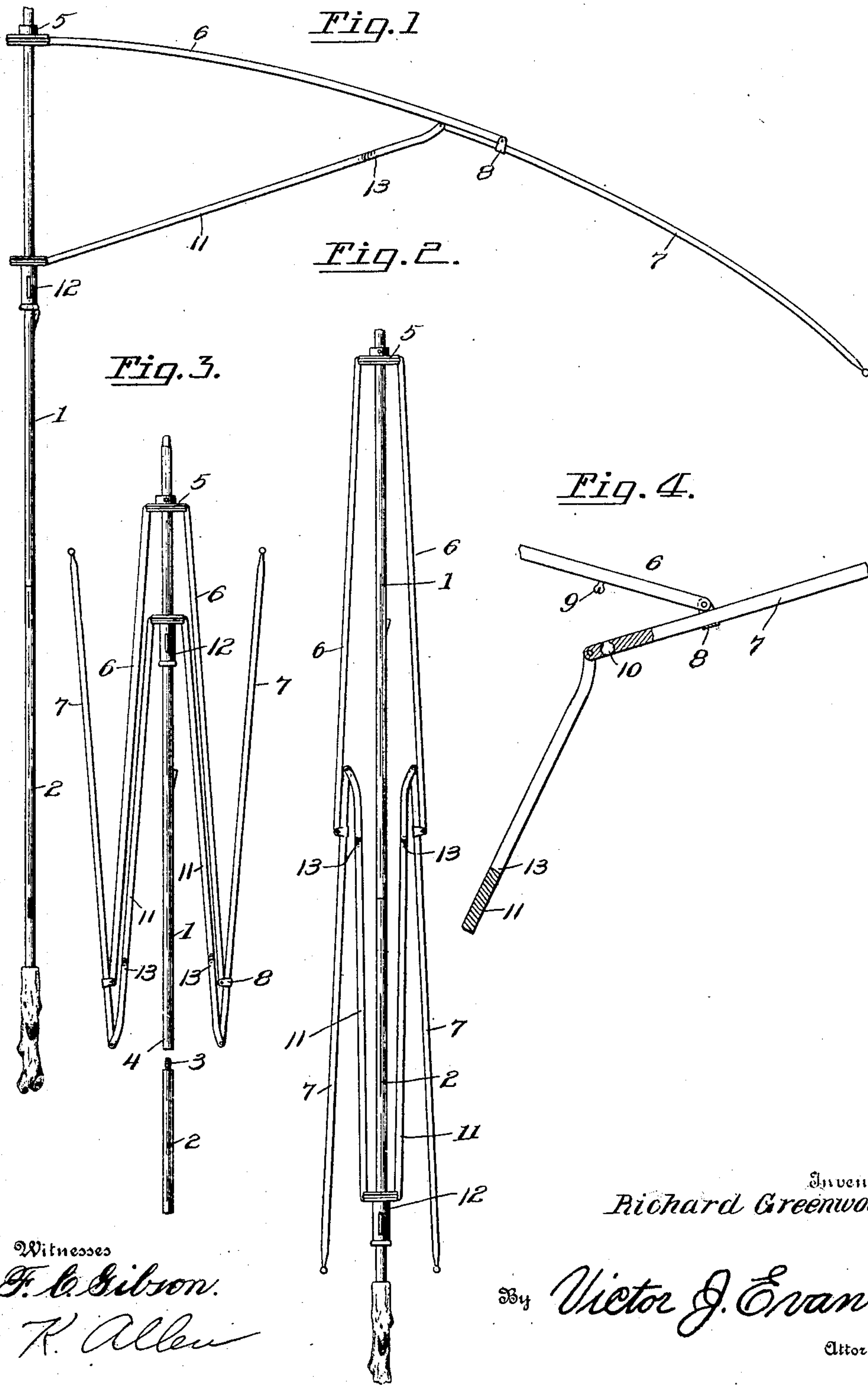


R. GREENWOOD.
FOLDING UMBRELLA.
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912,841.

Patented Feb. 16, 1909.



Witnesses
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RICHARD GREENWOOD, OF TACOMA, WASHINGTON.

FOLDING UMBRELLA.

No. 912,841.

Specification of Letters Patent.

Patented Feb. 16, 1909.

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To all whom it may concern:

Be it known that I, RICHARD GREENWOOD, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented new and useful Improvements in Folding Umbrellas, of which the following is a specification.

My invention relates to folding umbrellas, and its primary object is to provide an umbrella of this character wherein the sections of each rib are adapted to lie one in contact with the other when the umbrella is folded, thereby enabling the umbrella to be very compactly folded.

A further object of my invention is to provide a folding umbrella wherein the sections of each rib are adapted to have an interlocking engagement when the umbrella is in condition for use, said interlocking engagement being such that the sections provide a rigid rib.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter fully described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a view in side elevation of the staff, rib and stretcher of an umbrella constructed in accordance with my invention, said parts being shown in their relative positions when the umbrella is opened.

Fig. 2 is a view in side elevation, illustrating the relative positions which the ribs and stretcher assume when the umbrella is closed. Fig. 3 is a similar view, illustrating the relative positions which the sections of the ribs and stretcher assume when the umbrella is folded, and Fig. 4 is a view in

side elevation of fragmentary portions of the stretcher and the sections of one of the ribs, illustrating the manner in which the sections of the ribs are connected together, and the means of effecting an interlocking connection between the sections of the rib when the umbrella is in condition for use.

Referring to the drawing by reference numerals, 1 designates the upper and 2 the lower section of the umbrella staff, said sections being detachably connected together through the medium of a threaded stem 3 on the lower section 2, and a threaded socket 4 in the lower end of the upper section 1. The ribs of the umbrella are piv-

otally secured to the top notch 5 in the usual manner, and each comprises an inner section 6 and an outer section 7. The outer section 7 of each rib is provided at a point adjacent its inner end with a strap 8 which projects at right angles therefrom and which is pivotally secured to the outer end of the inner section 6. The pivotal connection between the sections of each rib is such that when the umbrella is folded, one section lies in engagement with the other, thus permitting the umbrella to be compactly folded, and such that when the umbrella is in condition for use the upper side of the inner end of the section 7 lies in engagement with lower side of the section 6, as fully disclosed in Figs. 1 and 2 of the drawing.

The section 6 of each rib is provided on its lower side at a point adjacent its outer end with a spring stud 9 adapted to enter a socket 10 formed in the inner end of the section 7 to effect an interlocking engagement between the sections of the ribs when the umbrella is in condition for use, said interlocking engagement being such as to provide a rigid rib. The entrance opening to the socket 10 is located in the upper side of the section 7 and is reduced to retain the stud 9 within the socket against accidental withdrawal. The spring stud 9 is wholly confined within the plane of the sides of the rib section 6, and the socket 10 is located wholly within the rib section 7. The stretchers 11 are secured to the runner 12 in the usual manner, said stretchers being provided with outer forked ends 13 which are pivotally connected to the inner ends of the sections 7 of the ribs. The forked ends 13 of the stretchers are curved to permit the sections of each rib to lie one in engagement with the other when the umbrella is folded. As the umbrella is folded and erected in condition for use in the manner common to umbrellas of this type, the construction and mode of operation of the same should be understood from the above description taken in connection with the accompanying drawing.

It should be apparent from the above description that I provide an umbrella which is simple, durable and efficient, which may be compactly folded, and which may be manufactured and sold at a comparatively low cost.

Changes in the form, proportions and minor details of construction may be made

within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

Having fully described and illustrated my invention, what I claim is:

5 A folding umbrella including a rib consisting of outer and inner sections, a strap secured to the outer section adjacent its inner end and pivotally secured to the outer end of
1 the inner section, the inner end of the outer section being provided with a socket having a reduced entrance located in the upper side
of the section, said socket being located

wholly within said section, a spring stud secured to the lower side of the inner section
for entrance into the socket when the outer
section is swung into the position it occupies
when the umbrella is erected, said spring
stud being wholly confined within the planes
of the sides of the section, and a stretcher. 2

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD GREENWOOD.

Witnesses:

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E. S. BARWELL.