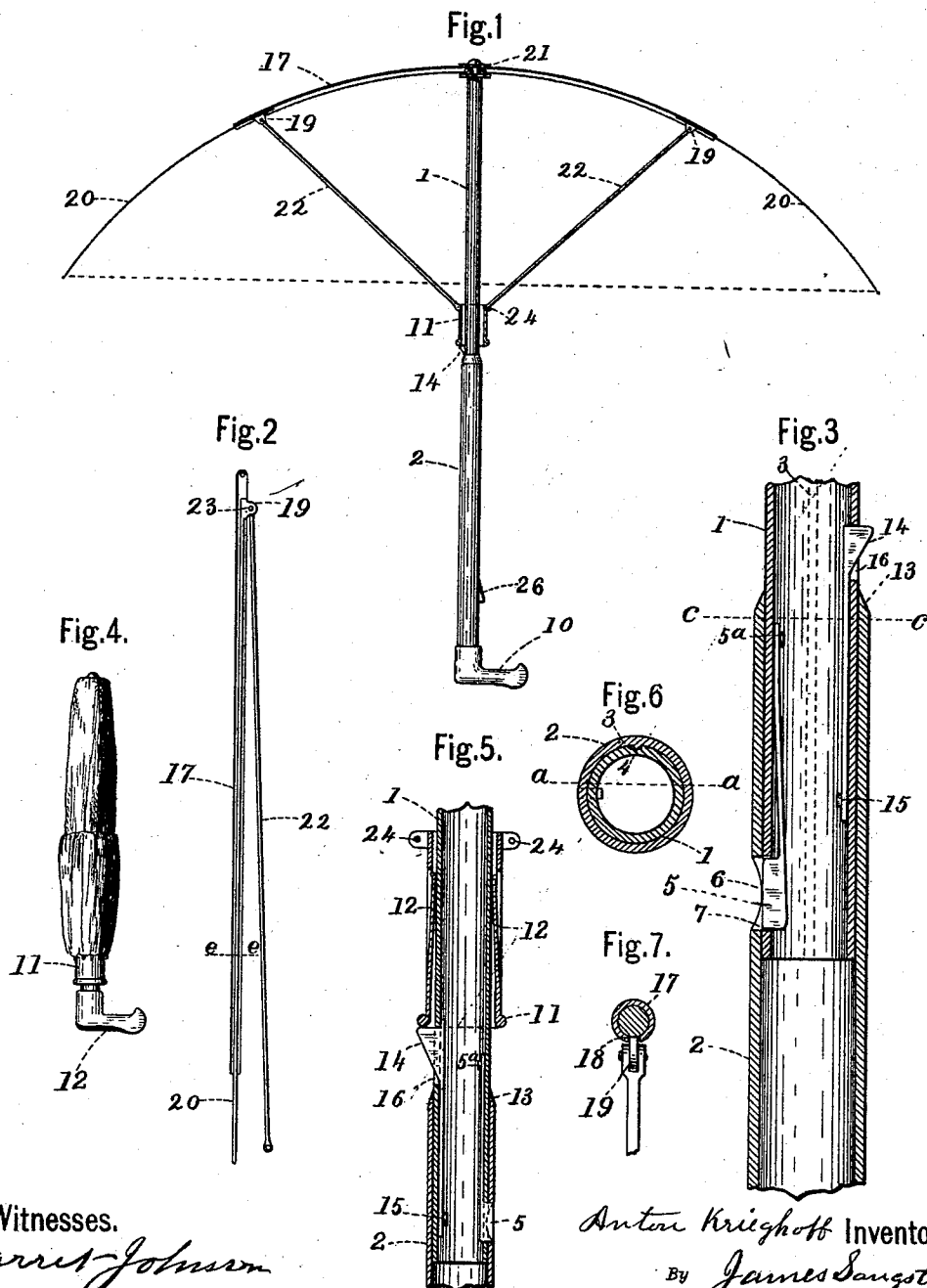


(No Model.)

A. KRIEGHOFF.
FOLDING UMBRELLA.

No. 496,833.

Patented May 2, 1893.



Witnesses.
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UNITED STATES PATENT OFFICE.

ANTON KRIEGHOFF, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF,
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FOLDING UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 496,833, dated May 2, 1893.

Application filed January 20, 1892. Serial No. 418,623. (No model.)

To all whom it may concern:

Be it known that I, ANTON KRIEGHOFF, a subject of the Queen of Great Britain, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Folding Umbrellas, of which the following is a specification.

My invention relates to a new and improved umbrella, which may be folded together, or reduced in size so that it can be put away in a small trunk or satchel or opened out and expanded into an umbrella of the usual size when required for use, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing the extensible stick and two of the braces, showing also a central section through the runner to which the lower ends of the braces are pivoted, and a longitudinal central section through two of the hollow parts of the ribs in which the outer sections of the ribs slide, all other parts being omitted. Fig. 2 is a longitudinal section through one of the inner or hollow sections of the ribs, showing the outer section of the rib within it and its brace pivoted thereto. Fig. 3 is an enlarged longitudinal central section through a portion of the telescopic stick in or about lines *a a*, Fig. 6, showing a side elevation of the spring for holding the two parts of the stick in position when opened out, the spring being represented as pushed in the proper position when it is desired to release them so that one part may be pushed into the other. Fig. 4 is a side elevation of an umbrella made to the same scale as that shown in Fig. 1 and put together or reduced in size so that it can be packed in a satchel or small trunk. Fig. 5 is an enlarged longitudinal central section through a portion of the two parts of the telescopic stick and also through the runner to which the lower ends of the braces are pivoted, showing the spring in position for holding the two parts of the stick in position when opened out, also the spring for holding the runner up when the umbrella is opened out for use. Fig. 6, is a horizontal section through the telescopic stick in or about line *c c*, Fig. 3. Fig. 7 is an enlarged cross section through one of the ribs,

in or about line *e e* Fig. 2, cutting through the outer and inner portions and showing a portion of the brace pivoted to the former.

Referring to the drawings—the telescopic stick is constructed in two tubular parts 1 and 2, one adapted to slide within the other. One part is provided with a longitudinal groove, 3 see Figs. 3 and 6. The other part is provided with a pin, 4, which fits in said groove see Fig. 6. The object of this construction is to prevent part 1 from turning in the part 2, while it is allowed to be moved freely in or out. The two parts 1 and 2, of the stick are kept rigidly in position when extended to the limit of their outward movement by means of a spring, 5, riveted to the interior of the stick section, 1, by a rivet 5^a, (see Figs. 3 and 5,) which springs into a slot in the portion 2, and holds the two parts firmly as shown in Fig. 5.

When it is desired to telescope the two parts of the stick, it is done as shown in Fig. 3. The portion, 2, is curved out substantially as shown at 6, (in said Fig. 3,) cutting nearly through the handle lengthwise of the slot, 7, the curved depression, 6, in the portion, 2, of the stick passing through it or nearly so.

From the above construction it will be seen that the spring, 5, can be easily forced inward as shown in said Fig. 3, and the part, 1, of the stick can be freely moved down into the part, 2.

The stick may be made of brass, or steel which is preferable, or of any suitable material. It is provided with an ordinary handle, 10, of any suitable form.

The runner, 11, is made in the usual form, and large enough to slip easily over the large portion, 2, of the stick and is provided with a series of inwardly projecting springs, 12, which press against the smaller portion, 1, of the stick and thereby keep it in a central position around it and at the same time give or spring in enough to allow the runner to be easily forced over the inclined end, 13, of the stick portion, 2, and then back or forth along the same. The lower end of the runner is made slightly rounded or flaring to readily slip over the beveled upper end of the part 2 of the stick and the springs 12 project upward so that as the runner is passed down onto the part 2, the free ends of the springs will not

catch against the end of the section and prevent the further movement of the runner. When the runner is moved in the opposite direction, or upward to open the umbrella, the ends of the springs will slip over the end of the part 2 onto the part 1 without any danger of their being caught.

When the umbrella is opened out as in Fig. 1, the runner and umbrella are kept up by means of a spring, 14, riveted by a rivet, 15, to the inner side of the smaller portion, 1, see Fig. 5. This spring, 14, projects through a slot, 16, in said portion and under the runner as shown in said Fig. 5. It is released in the usual way by pressing the spring, 14, in by the fingers. The inner parts 17 of the ribs, are made hollow or substantially so, a longitudinal opening, 18, being left to allow the pivoted ear, 19, to pass through and slide easily back and forth with the outer part 20 of the rib, to which it is attached or forms a part of it. The portions, 17, are pivoted to the top portion, 21, in the usual and well known way. To the ears, 19, on the outer ribs, 20, are pivoted in the well known way by pins, 23, see Fig. 2, the braces, 22, and the opposite ends of the braces, 22, are pivoted in the ordinary manner to the ears, 24, on the top of the runner, see Fig. 5. This frame when completed is covered with any suitable flexible material, silk, cotton or other similar material well known for such purposes.

The operation will be easily understood. When it is desired to open the umbrella as indicated in Fig. 1, the telescopic stick is extended until the spring, 5, moves into the slot, 7, and the runner is pushed up until the spring 14, passes out under it. The outer ribs, 20, are also drawn out until the cover becomes taut and the umbrella is ready for use. When it is necessary to close it, the spring, 5, is pushed in as hereinbefore mentioned which operation releases the part 1 of the stick and allows it to pass down into the part, 2, thereby

causing the spring, 14, to be forced in so as to release the runner and permit it to be brought down over the part, 2. The outer ribs, 20, are also pushed up thereby bringing the whole into a small compact form substantially as shown in Fig. 4.

The umbrella can be used as a walking stick if desired by simply pushing in the spring, 14, and letting the runner down and closing it without telescoping the stick or pushing the portions, 20, up, the usual spring, 26, holding the runner, 11, down. In this way it can be used as an ordinary umbrella in place of a walking stick if desired.

I am aware that extensible umbrellas have heretofore been used. I therefore do not claim such construction broadly, but

What I do claim is—

In a folding umbrella the combination with two non-rotatable tubular telescopic parts or sections, the outer one of which has its upper end beveled and provided with a slot near thereto, and the inner section is provided with two slots, one of which registers with the slot in the outer section and the other one is above the beveled portion when in an extended position, two spring catches in the inner part, the lower one of which is adapted to project through the registering slots and may be pressed in out of the slot in the outer section, and a runner, the walls of which are provided with inwardly and upwardly projecting springs and the lower end is made slightly rounded or flaring to slip over the beveled end of the lower part, and ribs and braces connected with the upper end of the runner and with the upper part of the stick, substantially as set forth.

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Witnesses:

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