

M. N. THAYER.

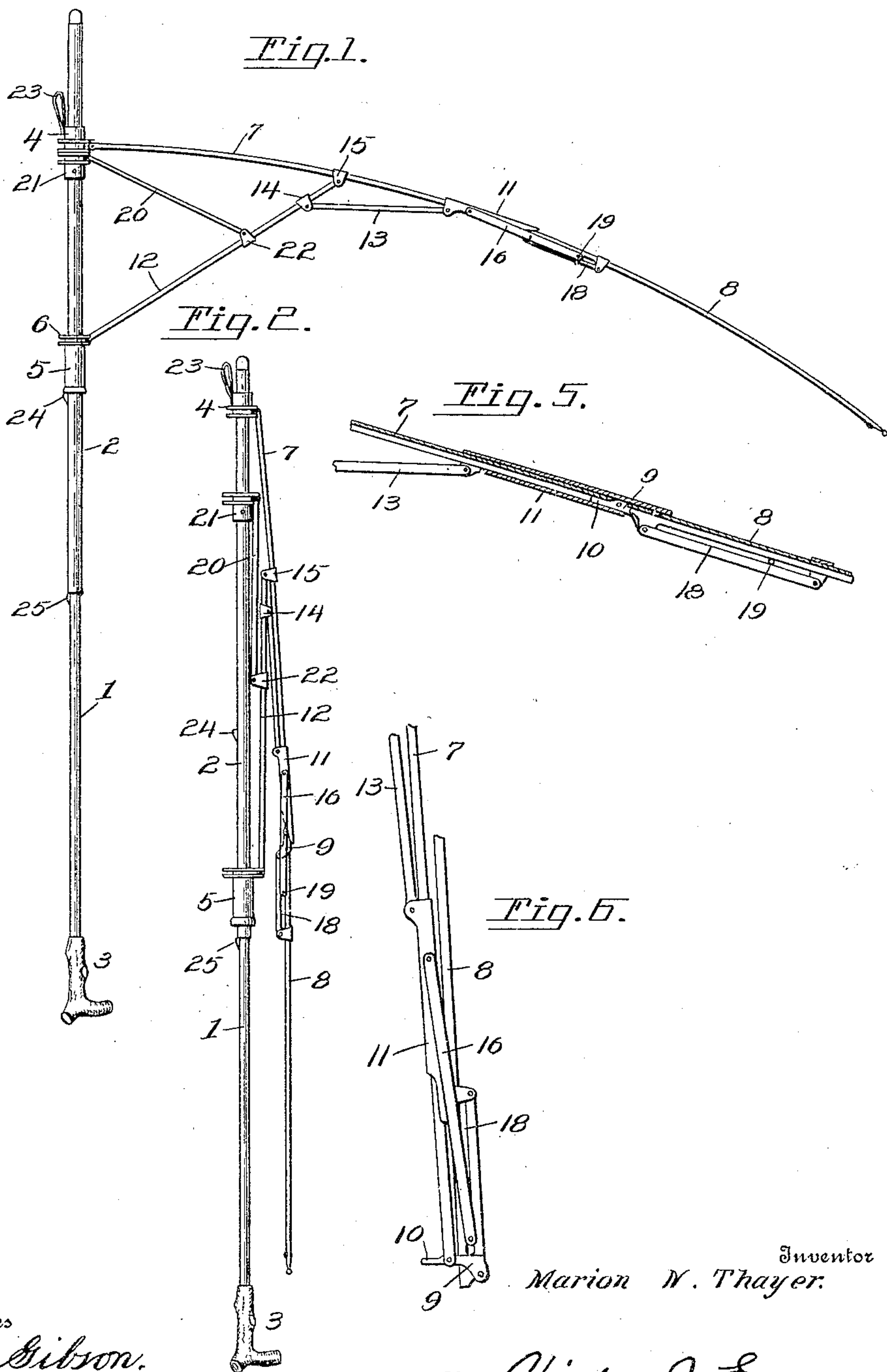
UMBRELLA.

APPLICATION FILED FEB. 12, 1908.

912,206.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.



Witnesses

F. C. Gibson.

R. M. Smith.

Inventor
Marion N. Thayer.

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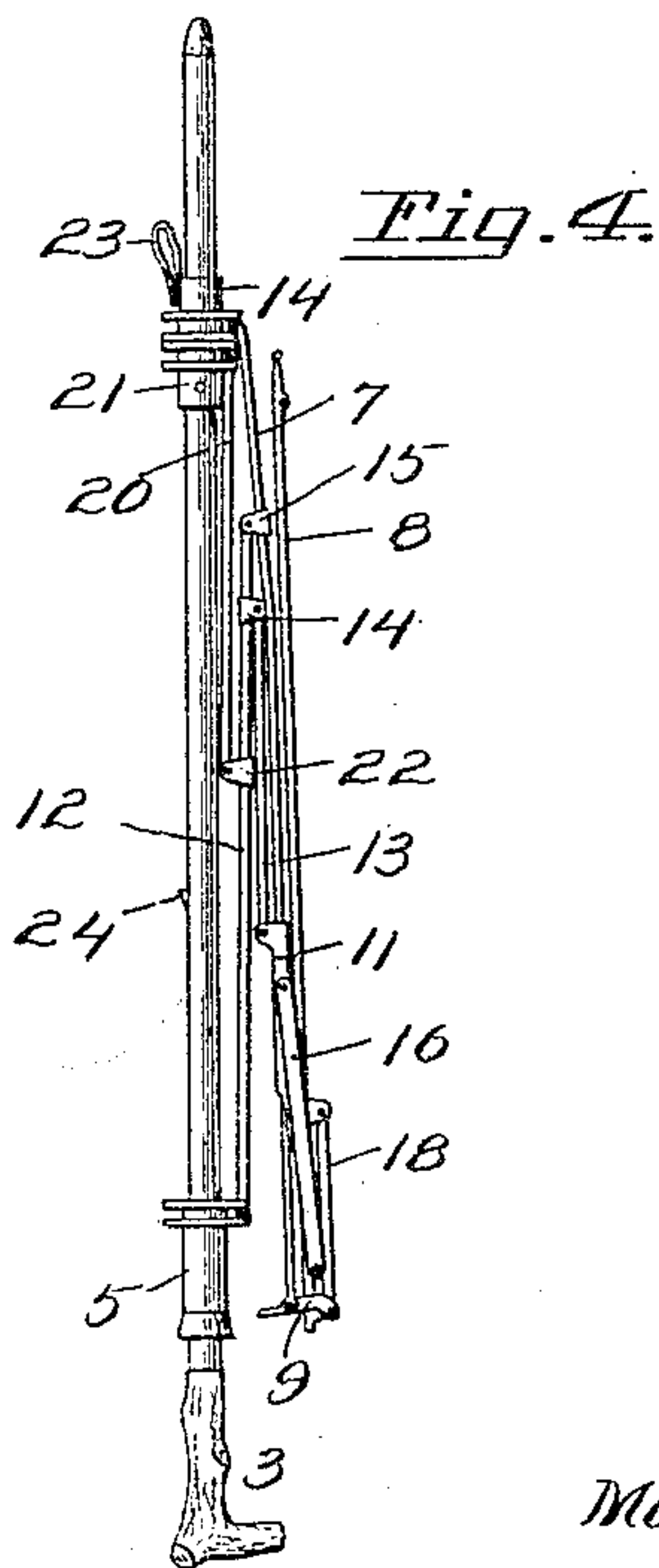
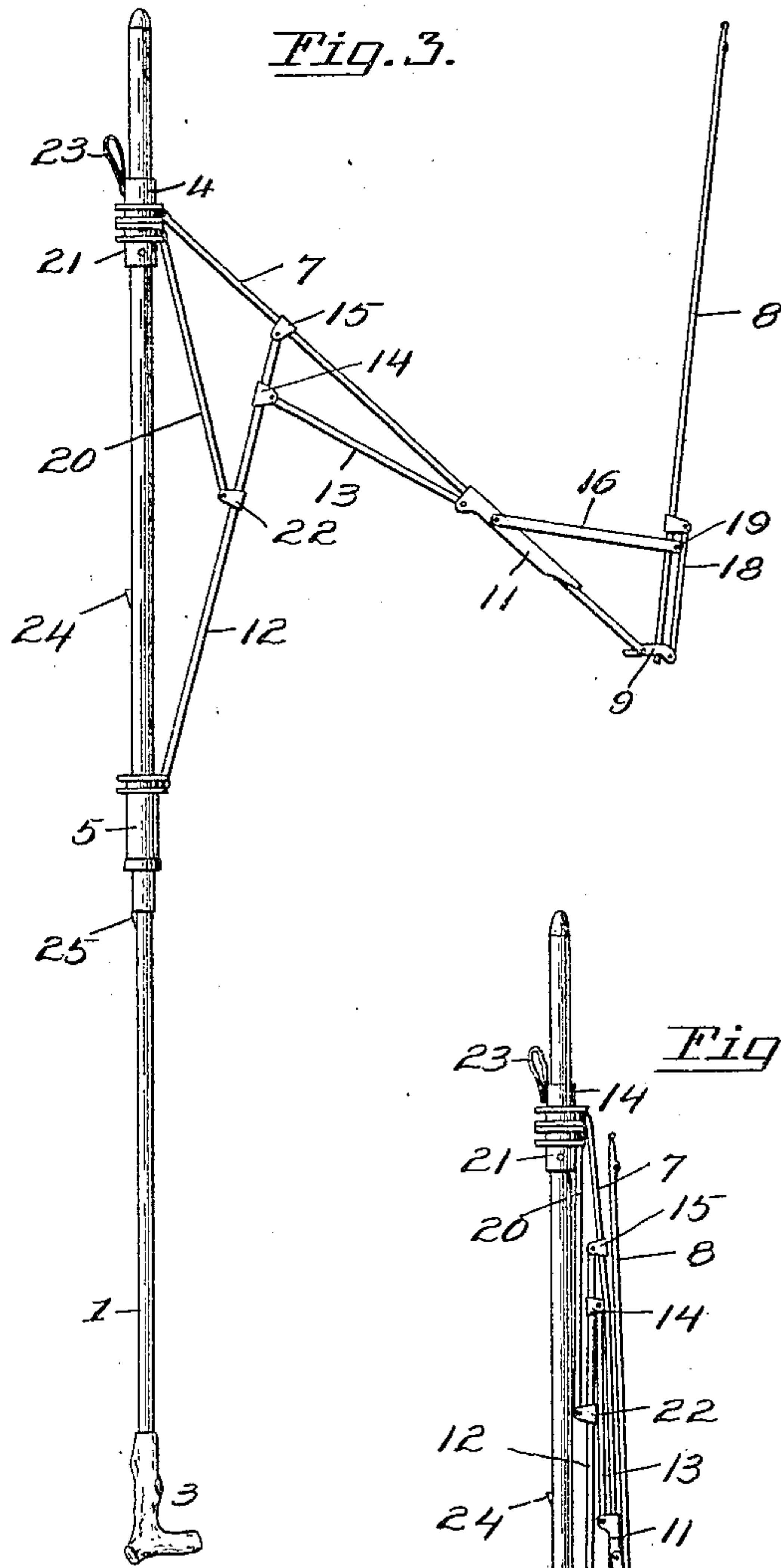
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UNITED STATES PATENT OFFICE.

MARION N. THAYER, OF LINTON, INDIANA.

UMBRELLA.

No. 912,206.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed February 12, 1908. Serial No. 415,581.

To all whom it may concern:

Be it known that I, MARION N. THAYER, a citizen of the United States, residing at Linton, in the county of Greene and State of Indiana, have invented new and useful Improvements in Umbrellas, of which the following is a specification.

This invention relates to umbrellas, the object of the invention being to provide a practical folding or collapsible umbrella which is adapted to be easily and reliably folded into compact form in which it assumes the shape of a cylindrical bundle of a length not much in excess of one-half the length of the ordinary umbrella rib.

With the above general object in view, the invention consists in the construction, combination and arrangement of parts hereinafter fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a view in elevation of the umbrella stick and one complete rib and brace, etc., of an umbrella frame, extended. Fig. 2 is a similar view of the same partially folded. Fig. 3 is an enlarged elevation of the same illustrating the manner of folding the umbrella. Fig. 4 is an elevation showing the folding operation completed. Fig. 5 is an enlarged detail sectional view of the double joint between the rib sections when the rib is extended. Fig. 6 is a detail view of the same parts as they appear when folded.

The stick or staff 1 of the umbrella is composed of any desired number of relatively slidable telescopic sections 1 and 2 arranged to slide one within the other, as clearly indicated in the drawings, thus enabling the several sections of the stick or staff to be nested within each other until the stick is brought into the condition illustrated in Fig. 4. One of the sections is provided with a suitable handle 3. The outermost or end section is provided with a sleeve 4 slidable on the stick and also has a runner 5 mounted on the stick and provided with a notched collar 6 to which the braces are connected. Each rib comprises an inner section 7 which is pivotally connected at its inner end to the sleeve 4 and an outer section 8 which has a jointed connection with the outer extremity of the inner section 7. It will be observed that the outer rib section 8 has a double-jointed connection with the inner rib section 7, said joint embodying a knuckle 9 to which the adjacent ends of the

rib sections are pivotally connected at a suitable distance apart, as shown, said knuckle comprising a projecting tongue 10 which extends beyond one pivot and is movable into and out of the adjacent end of a tubular slide 11, into which said tongue fits when the rib sections are in line with each other, as seen in Fig. 5. The slide 11 embraces the inner rib section and is movable lengthwise thereon, and has pivotally connected thereto the outer end of the outer brace section. Each brace also comprises an inner section 12 and an outer section 13, which sections are pivotally connected together at 14. The inner section 12 is pivotally connected to the runner 5, while the outer section is pivotally connected at its outer extremity to the slide 11. The outer end of the inner brace section has a sliding connection at 15 with inner rib section 7, and at a suitable distance from the connection 15 the inner end of the outer brace section is pivotally connected to inner brace section at 14.

16 designates a link which is pivotally connected to the outer brace slide 11 and having at its outer end a sliding connection with the outer rib section. This sliding connection is shown as embodying a slot 18 extending lengthwise of the inner portion of the outer rib section and a pin 19 on the end of the link which plays in said slot.

20 designates a stay, the upper end of which is pivotally connected to a slidable sleeve 21 on the stick, while said stay is pivotally connected at its opposite end at 22 to the inner brace section 12.

23 designates a loop or strap on the sleeve 4 to facilitate drawing said sleeve toward the point of the stick.

24 and 25 are catches for holding the umbrella open and the stick extended.

In order to fold the umbrella the runner 5 is moved downwardly on the stick, which has the effect of drawing the ribs inward and downward toward the stick, as shown in Fig. 2. This causes the sleeve 4 to slide upward on the stick, away from the sleeve 21. The sleeve 4 is then pushed downward which causes the link 16 to pull the outer rib section 8 outward and upward on its pivotal connection at the knuckle 9, the arm or tongue 10 on the knuckle being simultaneously pushed downward by the rib section 7 until the parts assume the position illustrated in Fig. 3, at which time, the several

joints being broken, the whole rib and brace are adapted to be folded compactly against the side of the stick, as illustrated in Fig. 4.

In extending the umbrella, the operation above described is reversed until the runner 5 snaps over a catch 24 on the stick. When the frame is extended the link 16 lies below or to the inner side of the plane of the outer extremity of the inner brace section, thereby locking the joint at the knuckle 9 and preventing the untimely collapse of the umbrella at the same time the tongue 10 of the knuckle enters the slide 11.

I claim:—

1. An umbrella frame comprising a series of ribs and braces, each rib comprising an inner section and an outer section and each brace comprising an inner section and an outer section, the outer section of the brace having a sliding connection with the inner section of the rib, and a stay having one end connected to the inner section of the brace, the other end having a pivotal non-sliding connection with the stick.

2. An umbrella frame comprising a series of ribs and braces, each rib comprising an inner section and an outer section, each brace comprising an inner section and an outer section, the outer brace section having a sliding connection with the inner rib section independently of the outer section, a stay interposed between the inner brace section and the stick, and a link interposed between the outer brace section and the outer rib section and movable across the point of connection of the rib sections to form a lock joint.

3. An umbrella frame embodying a stick,

a series of ribs and braces, each rib comprising an inner section and an outer section having a jointed connection with each other, each brace comprising an inner section and an outer section pivotally connected, a runner on the stick to which the braces are pivotally connected, stays having one end pivotally connected to the inner brace sections and having their opposite ends connected with the stick by a pivotal non-sliding engagement, a link, one end of which has a jointed connection with the outer base section and the other end of which is connected to a slide on the outer rib section, and a sleeve on the stick to which the ribs are pivotally connected.

4. An umbrella comprising a stick, a series of ribs, and a series of braces, each rib comprising inner and outer sections having a knuckle jointed connection with each other, each brace comprising inner and outer pivotally connected sections, each brace having a sliding connection at its outer end with the inner rib section independently of the outer section, a stay connected at one end with the stick and pivotally connected at its opposite end with the inner brace section, and a link interposed between the inner and outer rib sections having a sliding movement relative thereto and movable across the knuckle joint between the rib sections to form a lock joint.

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

MARION N. THAYER.

Witnesses:

FRED C. MORGAN,
MARY SHIEL.