

(No Model.)

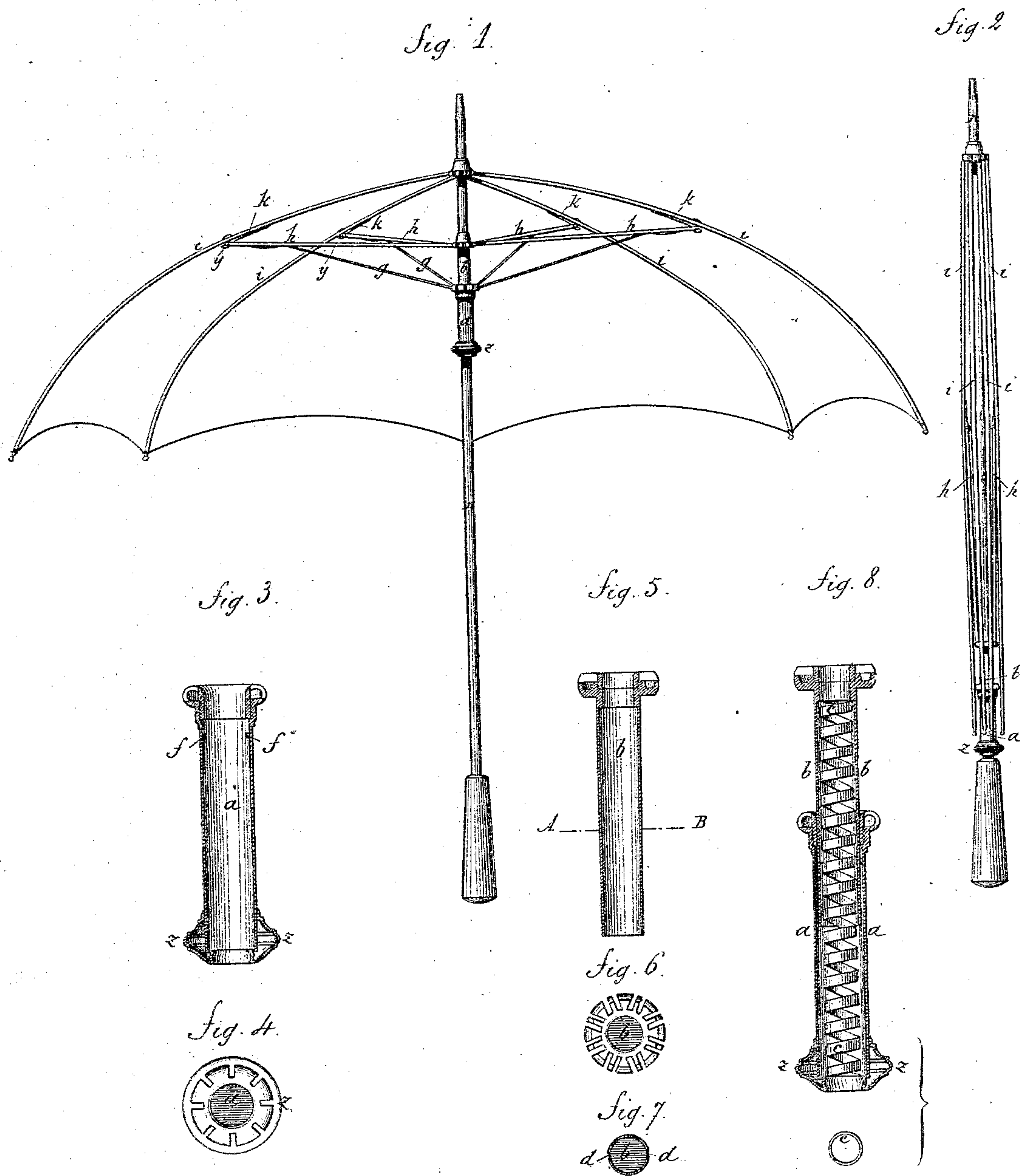
2 Sheets—Sheet 1

E. G. CHARAGEAT.

UMBRELLA RUNNER.

No. 295,351.

Patented Mar. 18, 1884.



Witnesses.  
J. H. Murray  
Jos. C. Earle

Emile Gabriel Charageat  
Inventor  
By Atty.  
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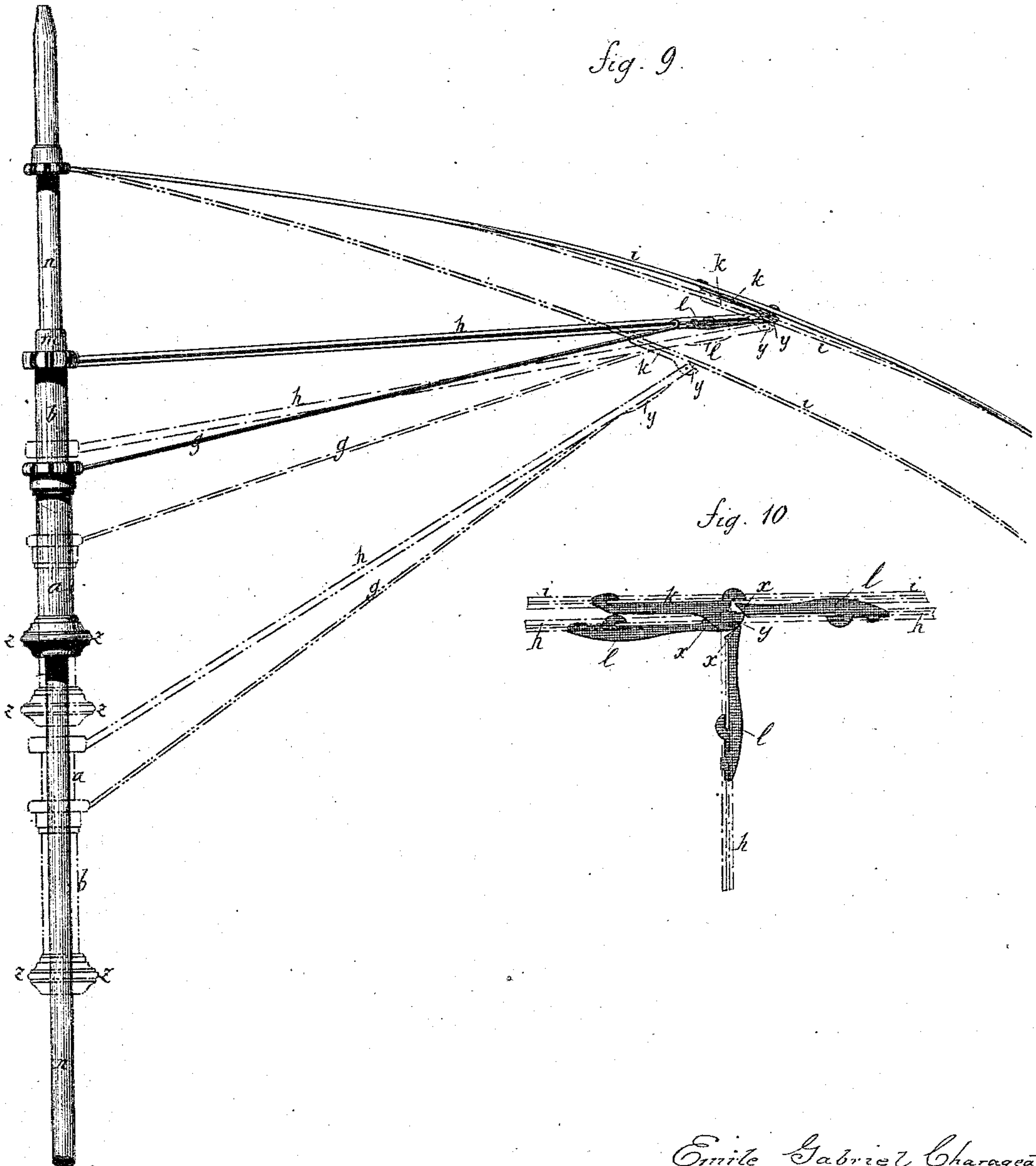
2 Sheets—Sheet 2.

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Witnesses,  
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*J. S. Earle*

Emile Gabriel Charageat  
Inventor  
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# UNITED STATES PATENT OFFICE.

EMILE G. CHARAGEAT, OF PARIS, FRANCE.

## UMBRELLA-RUNNER.

SPECIFICATION forming part of Letters Patent No. 295,351, dated March 18, 1884.

Application filed August 20, 1883. (No model.) Patented in France July 20, 1883, No. 144,232; in Belgium July 28, 1883, No. 62,165; in England July 31, 1883, No. 3,737; in Germany August 2, 1883, No. 7,037, and in Italy August 6, 1883, No. 259.

*To all whom it may concern:*

Be it known that I, EMILE GABRIEL CHARAGEAT, of Paris, France, have invented Improvements in Umbrellas, Parasols, and Similar Articles, of which the following is a specification.

It has been for many years the aim of umbrella-manufacturers to make umbrellas opening by self-act; but all the systems of such umbrellas hitherto brought into use present various defects, of which I may point out the following: First, the umbrellas are by far too heavy; second, they are too large sized, and, third, their working leaves much to desire. These drawbacks, which have up to the present time disappointed the many endeavors made to improve umbrellas, prevented the same from being more generally brought into circulation. Now, I succeeded in avoiding such disadvantages and manufacturing umbrellas which, while being very strong indeed, are of a most elegant appearance, sufficient lightness, and a perfect regularity of working.

The following is a full specification of my aforesaid invention with reference to the accompanying drawings.

Figure 1 represents an elevation of an umbrella arranged according to my invention when open. Fig. 2 shows the same when shut. Fig. 3 is a vertical section of the telescopic tube of the slide or runner. Fig. 4 is a plan view thereof; Fig. 5, vertical section of the tube *b*, detached; Fig. 6, a top view, and Fig. 7 a cross-section through line A B of Fig. 5. Fig. 8 is a section of the slide or runner inclosing the said telescopic tube, illustrating the inner arrangement of these two parts of the peculiar driving-spring, which will be hereinafter described. Fig. 9 is a partially-sectional elevation of an open umbrella in full size. The broken lines indicate the intermediate positions of same, so that its working may be fully understood. Fig. 10 is an elevation of the nose of the spring, arranged with an inclined plane, in combination with a trimming boss or stud of a peculiar shape, which I will describe farther on.

Into the outer tube, *a*, of the slide or runner is inserted a movable tube, *b*, similar to

that of a telescope. Between these two parts I provide a helical spring, *c*, flat in section, so that I can make springs of a small diameter, and thus obtain a considerable reduction in the size of the body of the slide or runner, while imparting it great expanding power.

Within the telescopic tube *b*, I provide two grooves, *d d*, opposite to each other, and arranged to receive the pins or stops *f f* of the tube or runner *a*. These stops and grooves serve to prevent any partial rotary motion of the whole stock, as this would make the working defective and might, in fact, cause the breaking of forks *h*. Runner *a* engages with suitable hooks on the ends of drawing or stretching wires *g*, made of tempered steel or any other very hard metal, which, by their opposite ends (by means of hooks likewise) are connected with said forks *h*, having to this effect convenient holes perforated in the center of their width. Forks *h* are in their turn connected on one side with the branches *i* of the umbrella, and on the other side with the nut of the telescopic tube *b*. Branches *i* receive at about the middle of their length, Fig. 9, small "trimming-studs" *k*, serving as connecting-points for forks *h*, which at their junction carry springs *l*, ending in a nose, *x*, Fig. 10, on an inclined plane, which acts upon boss *y* of stud *k*, arranged round the center of the junction. Studs *k* and springs *l* are fixed in their positions by means of suitable hooks or clasps forming parts thereof and entering corresponding slots on branches *i* and forks *h*. This combination of springs *l* and studs *k* has the double effect of shutting (and keeping shut) the umbrella, and of facilitating the start or first operation to open the same, thus providing in both cases for an immediate and perfectly sure action. When the umbrella is required to open, it will suffice to push forward the cap *z* of runner *a* by about one-third of an inch with the thumb of the same hand that holds the umbrella. Springs *l*, which keep the umbrella shut, will then no longer act upon branches *i*, and the helical spring *c*, automatically expanding with the required force, will push up again both the drawing-wires *g* and the forks *h*, which will draw along with them branches



*i*, carrying the stuff. The nut of tube *b* will now bear against an abutment, *m*, arranged to limit its upward motion along handle *n*.

In the specimen shown, Fig. 9, handle *n* is represented in the shape of a hollow rod of steel or iron; but it is obvious that as the working organ of this device is placed outside the handle, the latter may be as well made of wood and solid, or assume any desired shape. It is clear, too, that its thickness may be varied at will, provided that the diameter of the slide or runner be modified accordingly. When the umbrella is to be shut up, the cap of runner *a* is to be drawn so as to bring the latter back downward. By this movement, which is continued until the umbrella is shut, drawing-wires *g* exert a strong traction on forks *h*, which, as they yield to this traction, pull along with them branches *i*, and by pressing upon the nut of tube *b* force down the helical spring *c*. When the runner and the whole of the device have accomplished a certain stroke backward, springs *l* resume their action, and the nose on the inclined plane presses on bosses or studs *k*, and enters into a notch provided in said bosses. Then the umbrella will not open unless the cap of runner *a* is pushed again, as aforesaid, and the clasp is thus absolute.

It will be seen that the use of springs *l* and studs *k* involves the suppression of any spring, catch, or slot in the handle, and also allows to dispense with the "cups" or other shutting means now in use.

I moreover reserve to myself to vary the shapes, materials, size, and arrangement of all organs or constituting parts of my said improved umbrella, opening and shutting automatically.

Having thus fully described my invention and the means of carrying the same into effect, what I claim is—

1. The combination of the two tubes *a b*, telescopically arranged to form the runner, the flat-wire helical spring *c* in said runner, and connections *h* and *g*, respectively, from said tubes to the branches or ribs, substantially as and for the purpose described.

2. The combination of the two tubes *a b*, telescopically arranged to form the runner, the flat-wire helical spring *c* in said runner, and connections *h* and *g*, respectively, from said tubes to the branches or ribs, one of said tubes constructed with grooves, and the other provided with corresponding pins, *f*, substantially as and for the purpose described.

3. The combination of the spring *l*, constructed with the inclined nose *x*, the brace or connection *h*, boss *y*, and stud *k*, all substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

E. G. CHARAGEAT.

Witnesses:

DAVID T. S. FULLER,  
ALBERT COHEN.