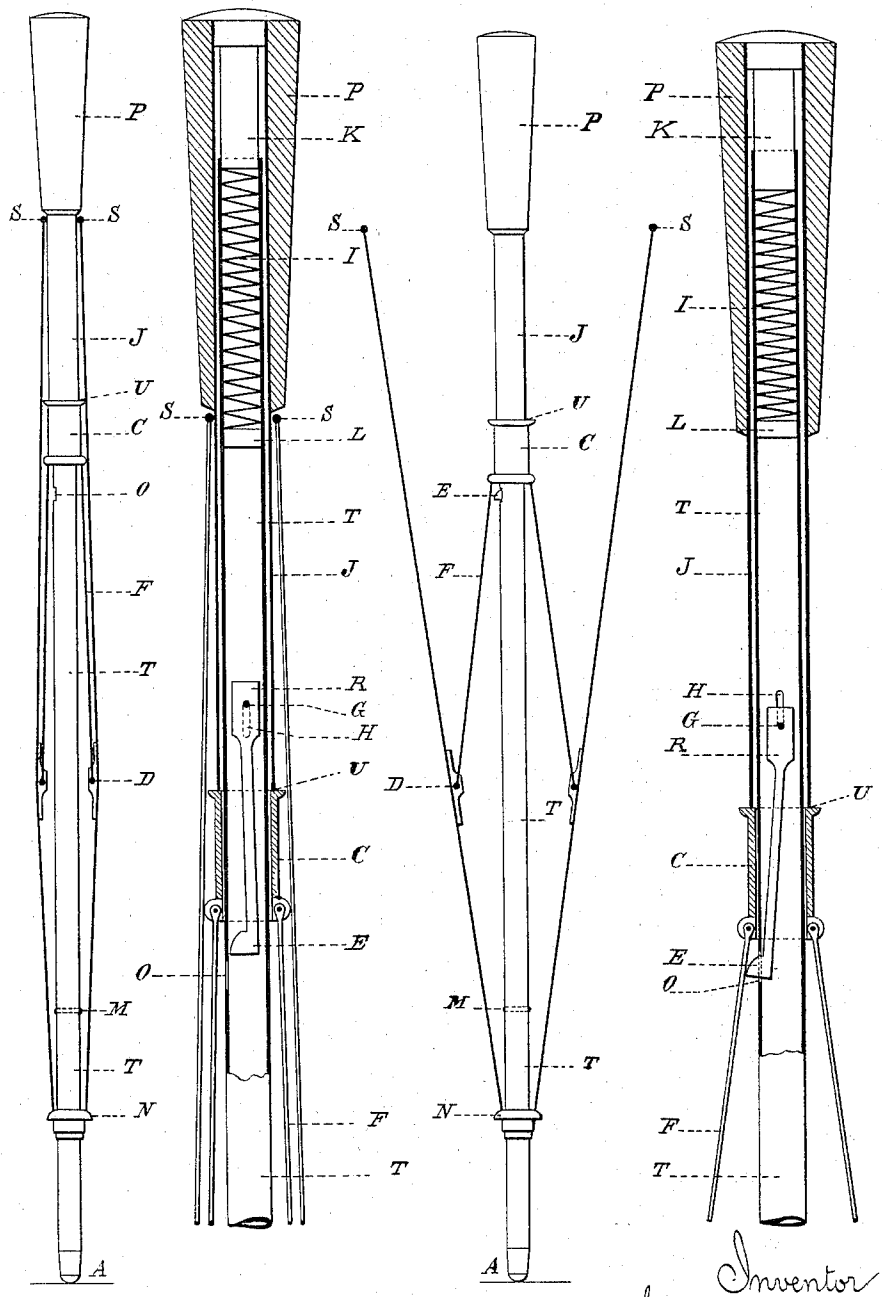
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E. CHARAGEAT.

UMBRELLA.

No. 589,933. Patented Sept. 14, 1897.

Fig. 1' Fig. 1 Fig. 2' Fig. 2



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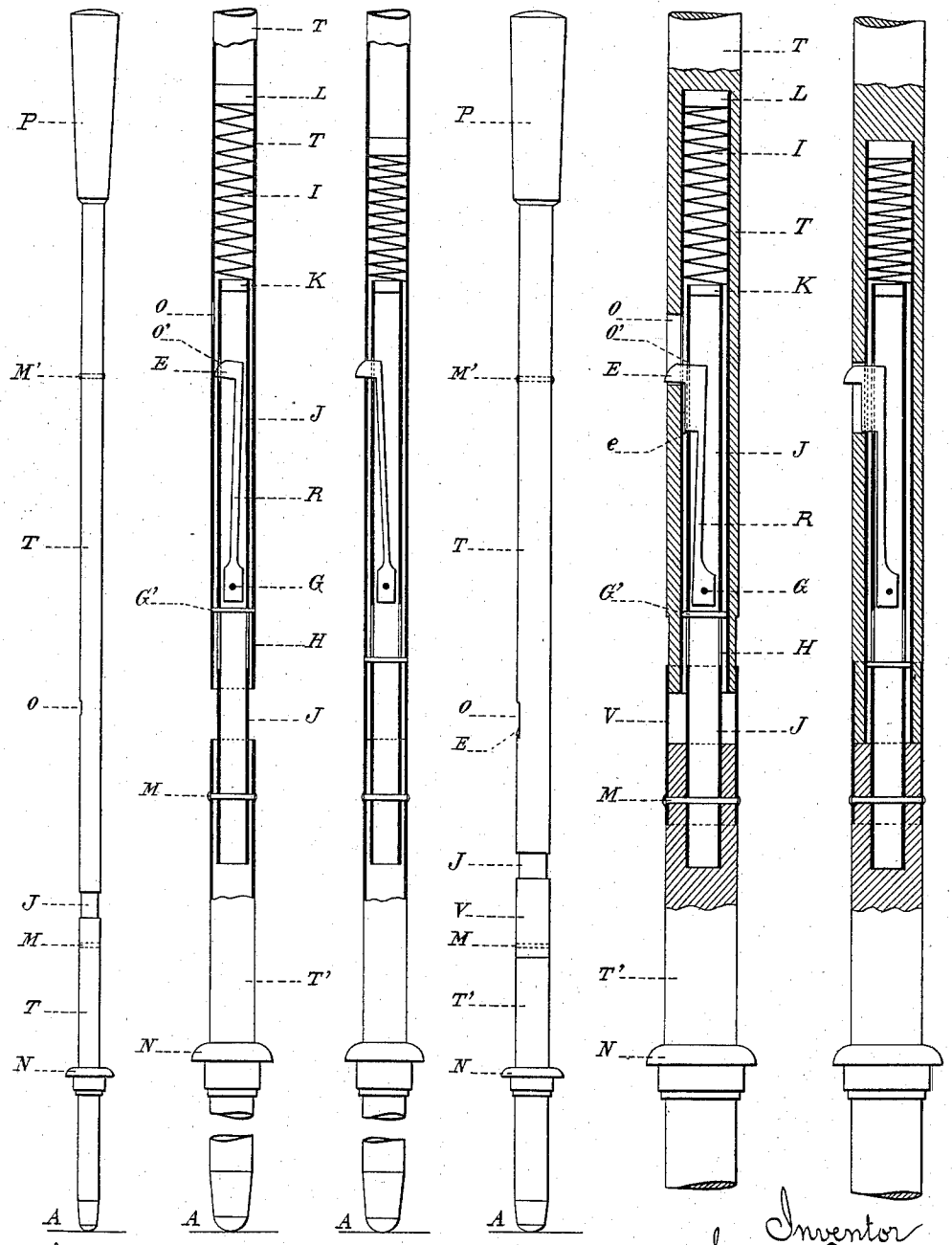
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Fig. 3' Fig. 3 Fig. 4 Fig. 5' Fig. 5 Fig. 6



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UNITED STATES PATENT OFFICE.

EMILE CHARAGEAT, OF PARIS, FRANCE.

UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 589,933, dated September 14, 1897.

Application filed July 22, 1896. Serial No. 600,121. (No model.) Patented in France December 23, 1895, No. 252,682.

To all whom it may concern:

Be it known that I, EMILE CHARAGEAT, a citizen of the French Republic, residing at Paris, in the Department of the Seine, France, have made certain new and useful Improvements in Umbrellas, of which the following is a specification.

The invention has been patented in France, No. 252,682, dated December 23, 1895.

In order to easily open umbrellas closing automatically, it has been necessary hitherto to place the slide, having a peculiarly-shaped shoulder, outside of the extremity of the ribs toward the handle. The ribs coming in close contact with the slide by the automatic closing it is necessary to press against the shoulder of the said slide with one hand while holding the handle in the other hand. That effort having to be too great with straight ribs (old system) it has been necessary in order to lessen the same to give a certain curve to the same. This has presented an inconvenience, slight in the beginning but very great now that buyers ask for close-rolling umbrellas. It is a fact that the clumsiness this curve gives the umbrella is not compensated for by the automatic closure. The slide, which is visible when placed outside of the frame, is not acceptable by the fashion of to-day. Several automatic closures have been tried wherein the ribs and forks have been shaped in the same manner as with the ordinary umbrellas. In that case the slide is inside the frame, a few centimeters below the extremity of the ribs. That makes it very difficult to get hold of the slide when it is desired to open the umbrella. It has even compelled the manufacturers to abandon the idea of making the ribs come close around the stick and to have them closing at a certain distance thereof in order that the hand can pass more easily to get hold of the slide. In order to obviate all these inconveniences, I have conceived the following system, enabling me to open all frames with automatic closures: first, using one hand only; second, almost without any effort; third, while almost entirely avoiding the curvature of the ribs; fourth, and while using a slide that can optionally be placed either inside or outside the frame. I obtain this result by using an umbrella-stick of wood or metal and formed of two parts sliding the one into the other, so that its length can be reduced at any time. The sliding one over another of these two parts can occur at any point of the stick.

In the accompanying drawings, Figures 1 and 2 are sectional views of the umbrella-stick with the parts in different positions. Figs. 1′ and 2′ are side views of the complete stick and frame with the parts in different positions. Figs. 3 and 4 are sectional views similar to Figs. 1 and 2 of a modification. Figs. 3′ and 5′ are side views. Figs. 5 and 6 are sectional views of still another modification.

Figs. 1 and 1′ show a sectional view (natural size) and an elevation view (on a reduced scale) of a metallic frame with automatic closure having forks or supporting-ribs F which are shorter than the part of the ribs comprised between their articulating-point D and their extremity S, finishing in a ball. Thus the slide C is completely within the frame.

The stick shown in Figs. 1 and 1′ consists of two tubes T and J and of the handle P. The tube T has two longitudinal openings H, diametrically opposed the one to the other, and the third slit O, which is also longitudinal. The object of these slits will be explained later. This first tube T is covered by a tube J, which is movable by a slight friction. These two tubes T and J are united and made inseparable by means of a joint-pin G, passing through the two longitudinal slits at H and then riveted upon the outside tube J, the length of which must exceed that of T inside the handle. The handle P, which completes the stick, is fixed upon the tube J. From the arrangement of these pieces it is obvious that the length of the stick can vary in proportion with the length of the longitudinal slit H. In fact when trying to bring the point A nearer or farther from the handle P, fixed to the tube J, the movement is limited by the opening H, through which the joint-pin G passes. In order to keep the stick at its full length, I insert a spiral spring I, pressing against the stopper L, fixed to the tube T, and the stopper K, fixed to the tube J, toward the bottom of the handle. This latter stopper is thin enough to move into the tube T.

It will be easily understood that when be-

ing compressed the spring will try to separate as much as possible these two stoppers. The frame when closed being fixed upon the stick, having its maximum length at the point N, and the slide C abutting at the point U against the projection of the tube J, and the extremity A of the stick resting against the ground or some other resisting body, if a pressure is exercised upon the handle P the tube J is caused to slide, and it pushes the slide, which thus opens the frame as far as shown in Fig. 2. At that moment the tendency of the spring I is to bring the stick to its maximum length, so that the frame would be entirely closed again. In order to prevent this retrograde motion, I have placed in the tube T a spring R, rigidly connected with the tube J by the joint-pin G, that passes through the same and carries it along in its to-and-fro motion. That spring, which has a peculiar shape, has a square hook at E, inclining toward the top, which when assuming the position of Figs. 2 and 2′ (showing the umbrella half open) engages the slot O, thus keeping the umbrella in its half-open position. When in that position, it will be easy for the hand to get hold of the slider and to continue opening the umbrella. When the slide moved by the hand continues its course, it meets the inclined part of the spring-hook and compels the same to retract from the opening O. The tube J, which has become free, thereby reassumes its original position under the action of the spring F and the stick is at its full length again, so that when closing the umbrella the slide will not encounter any obstructions any more and the ribs will take position against the stick, as if automatically closing.

Figs. 3, 3′, 4, 5, 5′, and 6, respectively, show views corresponding with those of Figs. 1, 1′, 2, and 2′, yet being a modification of the frame in which the mechanical arrangement serving to produce the shortening of the stick is placed at the lower extremity thereof. Figs. 3 and 4 show an umbrella-stick made of a metallic tube, and Figs. 5, 5′, and 6 a stick made of wood. The same letters of reference refer to the same parts as those of Figs. 1 and 2 in the various figures. In that modification the tube J instead of being outside of the umbrella-stick is inserted inside of the same, the latter being cut in two parts T and T′, and it is connected with the part T′ by means of the joint-pin M, which serves at the same time to limit the ascending course of the slide C. The spring R instead of being fixed to the tube T is in this case fixed to the tube J, which is provided with a slot corresponding to the slot H of the tube in Figs. 1 and 2. A pin G′, riveted upon the tube T, exercises one of the functions of the pin G, which consists in guiding the motion of the tube J in relation to the tube T. The shoulder E of the spring R penetrates the slot O of the tube T, and the tube J is of course provided with a slot O′ corresponding with the slot O, so that the shoulder E can pass. The other elements are arranged just as in the other construction.

The working is as follows: If, when the umbrella is in the position shown in Fig. 3, I press the same against the ground or some other resisting-point, the tube T slides over the tube J, fixed by means of the pin M upon the part T′. During that motion the tube T carries along the pin G′, which is displaceable for a space equivalent to the length of the slot H, until the shoulder E meets the slot O of the tube T and penetrates therein. The result of that motion is a shortening of said tube T, that produces the same effect as described hereinbefore, except that a pin is placed at the point M′, which serves as an abutting-point for the slide and compels the same to follow the motion of the stick in order to effect the preliminary opening of the frame. The slide C when ascending meets the shoulder E and brings the whole in its initial position.

The construction of Figs. 5 and 6 is the same as described with the sole exception that as a wooden stick is rather thick it will be well to cover the space between the two parts of the stick by means of a ring V, forming at the same time a cover and a guide, as shown in the drawings. On the other hand, the shoulder E will have to present a counter projection *e*, which must be as thick as the inside metallic tube, which it will be well to use for protecting the inside surface of the wooden stick, the shoulder itself serving only to enable the releasing by means of the slide. The other parts are the same as described hereinabove.

I claim—

1. An umbrella comprising a frame, a slide for partially opening the same and a stick formed of a main part and a handle part, the latter comprising a tubular portion moving on the main part, said tubular portion bearing on the slide to move the same a slight distance toward the point of the stick, substantially as described.

2. An umbrella comprising a frame, a slide connected thereto, the two-part stick arranged to be shortened and thereby to move the slide longitudinally of the stick toward the point to partially open the umbrella, the catch for holding the parts in this partially open position, said catch being located at a point intermediate of the extreme positions of the slide whereby the slide in moving from its position at the handle part of the stick toward the point will contact with and operate the catch to release the parts, substantially as described.

3. An umbrella comprising the frame, the two-part stick, the slide operated to partially open the frame by the movement of the handle part of the stick, the catch located at a point on the main portion of the stick over which the slide passes in moving toward the point from the handle so that said slide will release

said catch in the opening movement of the frame, and the spring for returning the parts to normal position when released by the catch.

4. In combination in an umbrella, the frame, the tubular main part of the stick, the tubular handle portion, sliding in connection therewith, the slide on the main part of the stick and the catch within the main part of the handle having its projection extending into the path of the slide at the point between the extreme positions of rest thereof, said catch acting to hold the parts in partially open position and to be released by the movement of the slide toward the point of the stick.

In witness whereof I have hereunto set my hand in presence of two witnesses.

EMILE CHARAGEAT.

Witnesses:
CLYDE SHROPSHIRE,
JULES TAYOLLET.