

C. P. CARRINGTON & T. & R. L. SUSEMIHL.
FOLDING UMBRELLA.

APPLICATION FILED NOV. 20, 1912.

1,068,564.

Patented July 29, 1913.

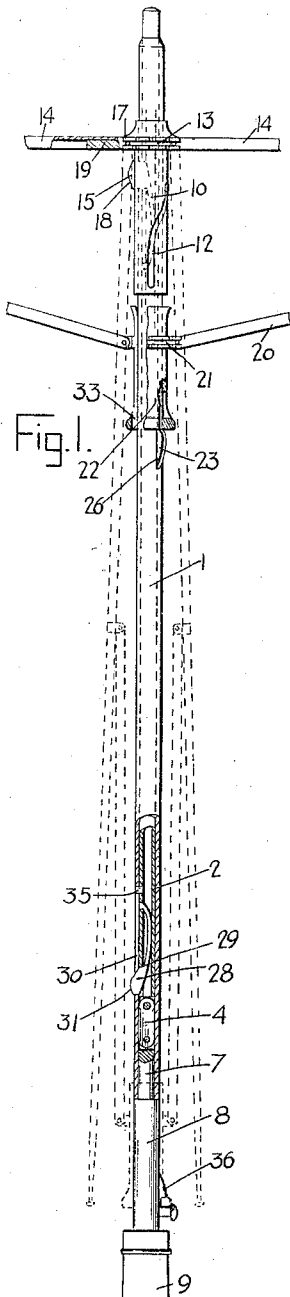


Fig. 1.

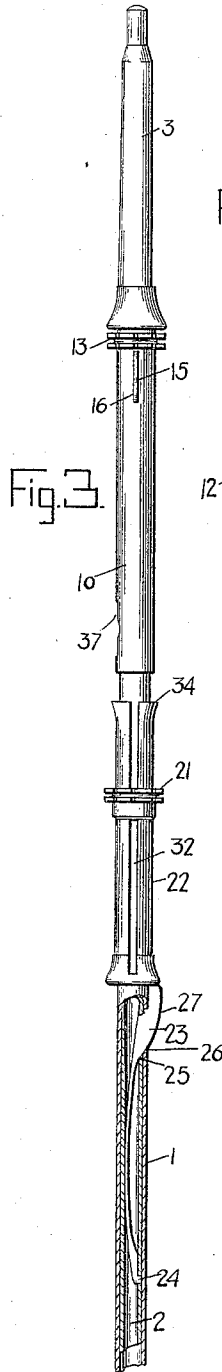


Fig. 3.

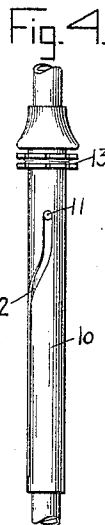


Fig. 4.

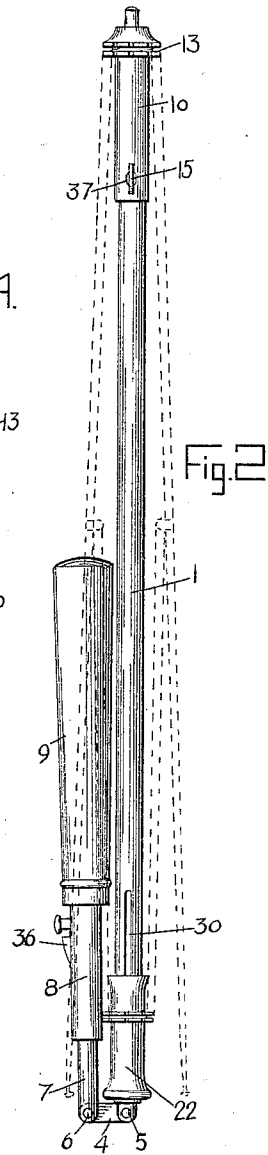


Fig. 2.

WITNESSES
E. H. Reichbach.
W. H. Anderson

INVENTORS,
CHARLES CARRINGTON,
RICHARD L. SUSEMIHL,
THEODOR SUSEMIHL.

BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE,

CHARLES P. CARRINGTON, THEODOR SUSEMIHL, AND RICHARD L. SUSEMIHL, OF
NEW YORK, N. Y.

FOLDING UMBRELLA.

1,068,564.

Specification of Letters Patent.

Patented July 29, 1913.

Application filed November 20, 1912. Serial No. 732,453.

To all whom it may concern:

Be it known that we, CHARLES P. CARRINGTON, a citizen of the United States, THEODOR SUSEMIHL, a subject of the Emperor of Germany, and RICHARD L. SUSEMIHL, a citizen of the United States, and residents of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Folding Umbrella, of which the following is a full, clear, and exact description.

The present invention relates to umbrellas and more particularly to so-called folding umbrellas, that is to say, umbrellas so constructed that the sticks may be shortened for the purpose of shortening the umbrella so that it may be carried in a suit case.

The invention particularly relates to that type of folding umbrella in which the stick is formed of two members, a tubular outer member and a jointed inner member, the inner jointed member slidingly fitting within the tubular outer member so that it may be withdrawn to uncover the joint, and turned back upon itself for shortening, and when pushed into the tubular outer member, the joint will be covered and the stick held in position for supporting the umbrella for use.

The particular object in view is to provide a simple arrangement of parts permitting the umbrella to be shortened by withdrawing the tip or ferrule portion within the frame, and to provide means whereby the relative movement of the umbrella and stick which acts to withdraw the tip and ferrule within the frame will automatically cause a release of the catch which holds the members of the stick in operative relation to each other, thus permitting the jointed member of the stick to be withdrawn to uncover the joint to permit the handle portion of the jointed inner member to be turned back for shortening.

Further objects of the invention will be disclosed in connection with the following description of its construction, organization and mode of operation.

With the foregoing objects in view, the present invention consists of the umbrella and the devices and combinations of devices which will be hereinafter particularly described and claimed.

The present invention is illustrated in the accompanying drawings, in which—

Figure 1 shows in partial elevation and partial sectional view so much of an umbrella structure embodying the invention as will serve to illustrate the same, a portion of the ribs and braces being shown in full lines in the open position, and representing in dotted lines the position of the ribs and braces and other parts when the umbrella is closed, but before shortening; Fig. 2 shows also an elevation of the stick and other parts, showing the handle portion of the jointed inner member turned back upon itself in shortening and with the tip and ferrule portion withdrawn into the frame, also illustrating in dotted lines the ribs and braces in folded or closed position; Fig. 3 shows an elevation and partial sectional view, somewhat enlarged, of the upper stick portion, illustrating the position of certain parts when the umbrella is open; and Fig. 4 is a detailed view of the sliding sleeve turned a quarter turn relatively to the same element shown in Fig. 3.

The umbrella comprises a stick consisting of two members, an outer tubular member 1, and an inner jointed member 2, the latter of which may also be formed tubular in cross section and the inner jointed member of a diameter to closely fit the bore of the outer tubular member, but to slide freely therein. The outer tubular member carries at its upper end a tip and ferrule portion 3. The jointed inner member is formed of two sections connected by a link 4 by means of the rivets 5 and 6, and the handle portion is preferably formed in two diameters, the part 7 being of the diameter of the bore of the tubular member 1, and the part 8 being of a diameter corresponding to the external diameter of the tubular member 1 and carries any suitable grip or handle 9.

A sleeve 10 is fitted to the umbrella stick near its upper end, and is arranged to have a sliding movement thereon, and is held thereto by means of a pin or stud 11 which takes into a spiral slot 12 formed in the sleeve 10. The pin and slot permit the sleeve 10 to slide along the stick, but prevents it from sliding off of the stick, the sliding movement being limited by the length of the slot 12, and by reason of the

shape of the slot 12, the sleeve 10 as it moves along the stick will have imparted thereto a partial turning movement with relation to the stick for a purpose which will be hereinafter set forth. The sleeve 10 carries a notch 13 of the usual form, and the ribs 14 are pivotally connected to the notch 13 in any usual or convenient manner. For the purpose of holding the sleeve 10 to the umbrella stick with the tip and ferrule portion 3 projecting from the upper end thereof, there is provided a suitable catch 15 which is attached to the tubular outer member 1 of the stick and is arranged to project through a slot 16 cut in the upper end of the sleeve 10 immediately adjacent and beneath the notch 13, as shown clearly in Figs. 1 and 3 of the drawing, and it is intended that the closing of the umbrella shall automatically release the sleeve 10 from its retaining catch 15 by the folding of the ribs to the dotted line position shown in Fig. 1, and for this purpose, the slot 16 in the wall of the sleeve 10 is immediately below the pivotal connection 17 of one of the ribs 14 so that said rib when brought into the dotted line position will engage and depress the retaining catch 15, thus releasing the sleeve 10 or depressing the catch sufficiently so that its beveled outer edge 18 will permit the sleeve 10 to pass over the same. In the event that the ribs 14 are of the usual grooved or channeled construction that one which is intended to operate the catch 15 will be provided with a filling block 19 positioned to engage the outer edge of the catch 15.

The ribs 14 are supported by braces 20 which are pivotally connected thereto in the usual manner as shown in dotted lines in Figs. 1 and 2, and are also pivotally connected at their lower ends to a notch 21 which is carried by a runner 22, the arrangement being such that the sliding of the runner 22 along the stick operates to raise or lower the ribs 14 according as the runner is moved up or down along the stick of the umbrella. When moved up toward the sleeve 10, the runner is adapted to be engaged by a spring catch 23 which is connected at its lower end 24 to the upper portion of the jointed inner member of the stick as shown clearly in Fig. 3 of the drawing, and projects through a slot 25 formed in said upper portion of the jointed inner member of the stick, and also through a slot 26 formed in the tubular outer member of the stick, and it is formed with an outer curved edge 27 which permits the runner to pass over and depress it when moved upward, and which will spring out in the position shown in Fig. 3 to engage the lower end of the runner to hold it in its elevated position, as shown clearly in Fig. 3.

The inner jointed member 2 is provided with a spring catch 28 which passes through an opening 29 in the inner member 2 and engages a slot 30 in the tubular outer member 1, so that the inner jointed member and the tubular member of the stick are held in locking engagement with each other, with the tubular member covering the joint in the jointed member. The head of the catch 28 projects a relatively slight distance beyond the surface of the tubular member 1, and is rounded as shown at 31, so that a light inward depression of the catch 28 places it in such a position that a pull on the jointed inner member to draw it from the tubular member causes the head of the catch 28 to be still further compressed so that it passes entirely within the tubular member. It is intended that the preliminary compression of the spring catch 28 be automatically accomplished by the runner 22 by imparting relative longitudinal movements to the sleeve 10 and the runner 22 which produces a relative turning movement to the sleeve, runner and stick, and this brings an unslotted portion of the runner 22 over the projecting rounded edge 31 of the catch 28, whereby the runner depresses the catch 28, and a further pull on the jointed inner member releases it from the tubular outer member and permits it to be withdrawn to uncover the joint.

In the normal operation of the umbrella, it is intended that the runner 22 may pass freely over the catch 28 without affecting it, and for this purpose, the runner is provided with a longitudinal slot 32 and a groove 33 (see Fig. 1). Normally, the sleeve 10 and runner 22 are so positioned that the slot 32 passes over the catch 28, but the turning movement of these parts brings an unslotted portion of the runner over the catch 28 as hereinafter described. The upper end of the runner is preferably formed flaring, as shown at 34, so that it may more readily engage and depress the catch 23.

In order to limit the movement of the jointed inner member with relation to the tubular outer member, the jointed inner member will be provided with a stud or pin 35 which engages the slot 30. This pin acts as a guide to retain the outer tubular member and jointed inner member in a coupled position and to prevent a relative rotation of these parts, and at the same time limits the movement of the jointed inner member in and out of the tubular outer member. The part 8 of the handle portion of the jointed inner member will be provided with a suitable retaining catch 36 to engage the runner as shown in dotted lines in Fig. 1 in order to hold the umbrella closed, which catch may be of any usual or preferred construction. The sleeve 10 at or near its lower end will be provided with a slot 37 adapted

to receive the catch 15, and which slot has a relative angular position of 90°, or a quarter turn from the slot 16, so that when the sleeve 10 is moved upward along the stick to the position shown in Fig. 2, and turned by the spiral slot and stud connection, it places the slot 37 in position to permit the catch 15 to spring therethrough. In this position, the catch prevents the relative turning of the sleeve 10 and stick and relieves the umbrella structure from any torsional strains which might be brought upon the ribs and braces were the sleeve 10 permitted to turn relatively to the runner 22.

In operation, with the parts in the position shown in Fig. 1, the stick is held rigid and the sleeve 10 locked thereto by the catch 15, and the runner 22 is free to move along the stick to be engaged with the catch 23 to hold the braces and ribs in an extended position, or to be drawn backward as shown in dotted lines in Fig. 1 and engaged with the catch 36, all in the manner common to the usual umbrella structures. When it is desired to shorten the umbrella, the folded ribs are grasped tightly near their upper jointed ends, and this causes the rib 16 to depress the catch 15, thus releasing the sleeve. At the same time the catch 36 is depressed to release the runner 22. A pull now being exerted upon the handle portion and the umbrella structure in opposite directions, causes the sleeve 10 and the runner to move upwardly toward the tip and ferrule portion of the stick, which is thereby withdrawn into the sleeve 10, and this relative longitudinal movement imparts to the sleeve 10 and the runner 22 a quarter turn as hereinbefore described, and brings an unslotted portion of the runner over the catch 28, depressing it so that when the sleeve 10 has reached the limit of its movement, the runner 22 depressing the catch 28 permits a further pull on the handle 9 to withdraw the jointed inner member of the stick from the tubular outer member to an extent sufficient to uncover the joint therein, after which it may be turned back to the position shown in Fig. 2. Thus the umbrella is shortened at both ends, and reduces in length to substantially the length of the ribs.

Having described our invention, we claim as new and desire to protect by Letters Patent of the United States:

1. In an umbrella, in combination, a stick, a sleeve slidably mounted thereon, a notch carried by said sleeve, a runner slidably mounted on said stick, a notch carried by said runner, ribs and braces pivotally connected respectively to the notch on the sleeve and the notch on the runner and also pivotally connected together, a spring catch mounted on the stick and engaging the sliding sleeve, said catch arranged to be depressed to release the sleeve by the closing

of the umbrella whereby to permit the sleeve, and runner and said stick to move longitudinally relatively to each other.

2. In an umbrella, in combination, a stick, a sleeve slidably mounted thereon, a notch carried by said sleeve, a runner slidably mounted on said stick, a notch carried by said runner, ribs and braces pivotally connected respectively to the notch on the sleeve and the notch on the runner and also pivotally connected together, a spring catch mounted on the stick and engaging the sliding sleeve, said catch arranged to be depressed to release the sleeve by the closing of the umbrella whereby to permit the sleeve, and runner and said stick to move longitudinally relatively to each other, and means for turning the sleeve and stick relatively to each other during the relative longitudinal movements.

3. In an umbrella, in combination, a stick, a sleeve slidably mounted thereon, a notch carried by said sleeve, a runner slidably mounted on said stick, a notch carried by said runner, ribs and braces pivotally connected respectively to the notch on the sleeve and the notch on the runner and also pivotally connected together, a spring catch mounted on the stick and engaging the sliding sleeve, said catch arranged to be depressed to release the sleeve by the closing of the umbrella whereby to permit the sleeve, and runner and said stick to move longitudinally relatively to each other, said sleeve provided with a spiral slot engaging a pin carried by said stick whereby to cause said sleeve to turn as it is moved longitudinally of the stick.

4. In an umbrella, in combination, a stick comprising an outer tubular member and a jointed inner member slidably fitting the outer tubular member, a latch for locking the members together with the joint of the inner member within the tubular member, a sleeve and runner mounted upon the stick and to slide thereon, ribs and braces pivotally connected to the sleeve and runner respectively and to each other, means to detachably connect the sleeve to the stick, means for imparting a relative turning movement to the sleeve and runner stick as the sleeve is moved along the stick, and means for releasing the catch which holds the members of the stick together when the sleeve and runner are simultaneously moved in one direction along said stick whereby to permit the jointed inner member of the stick to be withdrawn from the tubular member.

5. In an umbrella, in combination, a stick comprising an outer tubular member and a jointed inner member slidably fitting the outer tubular member, a catch for locking the members together with the joint of the inner member within the tubular member,

a sleeve and runner mounted upon the stick
and to slide thereon, means permitting an
independent longitudinal movement of the
runner along the stick without acting upon
5 the catch which locks the members of the
stick together, and means whereby when the
sleeve and runner are moved simultaneously
along the stick in one direction, the runner
releases the catch holding the members of
10 the stick together.

In testimony whereof we have signed our
names to this specification in the presence of
two subscribing witnesses.

CHARLES P. CARRINGTON.
THEODOR SUSEMIHL.
RICHARD L. SUSEMIHL.

Witnesses:

A. H. DAVIS,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
