

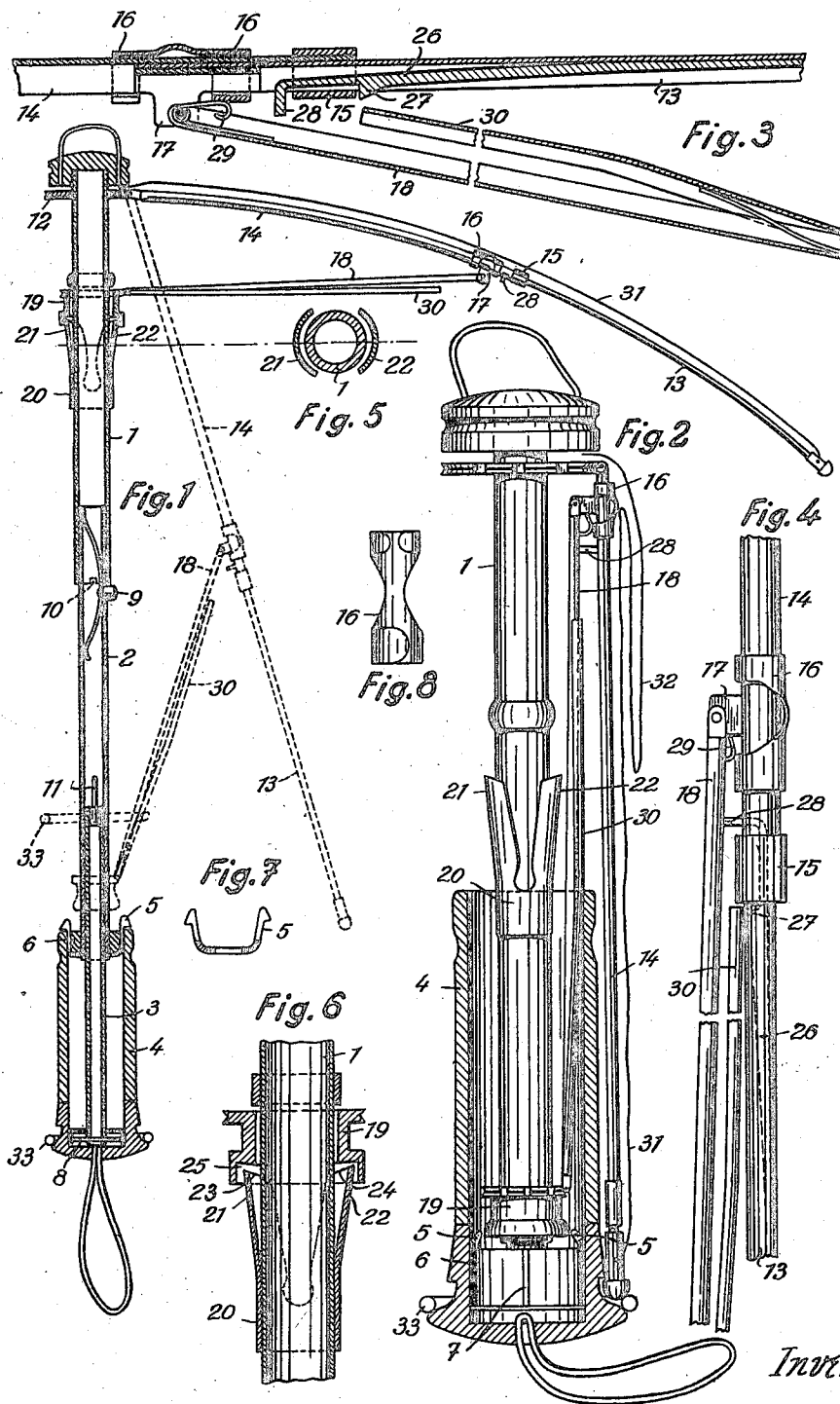
April 2, 1929.

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1,707,910

TELESCOPIC UMBRELLA

Filed June 20, 1927



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TELESCOPIC UMBRELLA.

Application filed June 20, 1927. Serial No. 200,212.

This invention relates to an umbrella of the kind wherein the handle, the staff and the ribs are formed with telescopically adjustable parts and wherein the hollow handle telescopes between the ribs and the stretchers, and the invention consists essentially in arranging the spring catch which retains the rib parts in extended position, close to the joint between the rib and the
 5 10 15
 10 15 20 25 30 35 40 45 50 55

stretcher so as to be positively engaged and released by the latter when the umbrella is folded. The invention includes other details of construction and combination of parts made with a view to simplify the frame and facilitate the operation of folding and extending the same.

Fig. 1 of the accompanying drawings represents a sectional view of the extended umbrella staff showing one of the ribs and the corresponding stretcher,

Fig. 2, a view of the telescoped staff on an enlarged scale, the handle being shown in section,

Fig. 3, a sectional view of the joint between the rib and the stretcher,

Fig. 4, an elevation of the same,

Fig. 5, a section of the staff across the catches for the runner,

Fig. 6, a sectional view on an enlarged scale of the runner and the catches,

Fig. 7, a sectional view of the catch for the handle, and

Fig. 8, a view of a clip which guides the rib parts and holds the cover.

The umbrella has a staff composed of three telescopically connected parts 1, 2 and 3 of which the latter is secured by means of a pin 8 to the bottom of the hollow handle 4. The part 2, which telescopes outside the part 3, has at its lower end a piston 6 whereby it is guided within the handle 4. The piston has a groove 7 in which a projection situated within the handle, engages for preventing rotary displacement between the parts. Connected to the piston 6 is a washer formed with catches 5 which may be pushed into the handle but which are adapted to engage over the edge of the same, as shown in Fig. 1, for retaining the part 2 in extended position. The part 1 moves outside the part 2 and is retained on the latter in extended position by means of a latch 9 supported by a spring located inside the part 2. The edge of the part 1 is notched as shown at 10 for engagement with the latch 9 and for preventing rotary displacement. The part 3 has a

pin 11 adapted to enter behind the spring of the latch 9 so as to release the latter when the parts are pushed together.

The runner is arrested by means of two spring catches 21 and 22 formed by the splitting of a sleeve 20 secured to the part 1. These catches close round the staff to let the runner pass and do not for this purpose have to enter the tube. The edges 23 and 24 of the catches are cut aslant so that the catches can easily be slipped in between the runner and the staff. The runner 19 is undercut, as shown at 25 (Fig. 6), for the reception of the catches which are thereby prevented from excessive spreading under the pressure of the extended cover.

The ribs are composed of an inner part 14 which is pivoted to the crown 12, and an outer part 13 which is slidable on the inner part. The part 13 is formed at its inner end with lugs 17 to which the stretcher 18 is pivoted. The rib parts are guided on the one hand by a collar 15 which is rigidly secured to the outer end of the part 14, and on the other hand by a clip 16 which embraces the two parts at opposite sides of the lugs 17 and which follows the part 13 up and down the part 14. The clip 16 is adapted for connection to the cover 31, as shown in Fig. 2, and is loose enough to allow of being held down by the cover in a non-protruding position. A spring 29 which bends about the pivot of the stretcher 18, bears against the latter and against the clip 16 and tends to open out the frame when the umbrella is closed. A catch 27 carried by a spring 26 on the part 13, snaps into engagement with the collar 15 for locking the rib parts in extended position. The spring 26 is prolonged beyond the catch and bent off so as to form a projecting lug 28 adapted to abut against the stretcher 18 when the umbrella is closed, thereby holding the catch 27 out of engagement with the collar 15 to allow the rib to contract. As the catch is situated close to the joint between the rib and the stretcher, i. e., at the point where the latter is subjected to very little lateral deflection, proper engagement between the lug and the stretcher is effectively ensured.

The stretchers 18 are pivoted to the runner 19 in the usual manner. At least one of the stretchers is provided with a resilient arm 30 which is fastened to the same near the runner and which diverges slightly from the stretcher. This arm bears against the rib

part 13 when the umbrella is closed, and its free end is then situated under the collar 15, as shown in Fig. 4, so as to engage the latter and retain the ribs normally in extended position until the catches 27 have been released during the opening of the umbrella. Normally, therefore, the umbrella can be opened and closed in the usual manner.

When it is desired to reduce the umbrella to its small size, which is done when the umbrella is closed, the catches 5 are depressed so as to allow the staff part 2 to be pushed into the handle 4. The handle slips over the stretchers 18 and depresses the arm or arms 30 so as to prevent them from engaging the collars 15. It also presses the stretchers against the staff and causes the catches 27 to be positively released from the collars. Thus, when the latch 9 has been engaged and released by the pin 11 and when the staff part 1 is pushed down over the part 2, the catches 27 are able to slip through the collars 15 and allow the ribs to be contracted together with the staff. In the reduced position of the umbrella, shown in Fig. 2, the cover 31 forms a fold 32.

To extend the umbrella for use, the handle is simply pulled out until it is disengaged by the catches 5, the ribs being at the same time extended to their normal positions and locked by the catches 27 when the umbrella is opened.

A ring 33, which is retained on the handle 4 when the umbrella is in use, is adapted to be pushed over the stretchers 30 to hold the frame in closed position.

I claim:

1. In an umbrella of the character described, the combination of a telescopic staff, a hollow handle to which one part of the staff is rigidly connected, a piston whereby another part of the staff is guided within the handle, ribs divided into two telescopically adjustable parts, stretchers pivoted to the inner ends of the outer rib parts, a runner on the staff holding the stretchers and adapted to enter the handle together with the stretchers, and spring catches carried by the outer rib parts adapted to lock the rib parts in extended position, said catches being adapted when the stretchers enter the handle, to be clamped against said stretchers under the influence of

the handle so as to be released and enable the stretchers, the outer rib parts and the catches to be displaced together relative to the inner rib parts.

2. The structure claimed in claim 1 and a resilient stop connected to the stretcher and adapted, by engagement with one of the rib parts to prevent normally the ribs from being contracted when the catches are released, the handle being adapted on the reception of the stretchers, to engage said stop and render it inoperative.

3. The structure claimed in claim 1 in combination with a resilient arm connected to a stretcher so as to place itself against the adjacent rib when the umbrella is closed, and an abutment arranged so as to be engaged by said arm for preventing normally the ribs from being contracted when the catches are released, the handle being adapted, on the reception of the stretcher, to engage said arm and render it inoperative.

4. The structure claimed in claim 1 and a clip embracing the rib parts as a guide for the same and arranged so as to follow the outer rib part, said clip being looped for connection to the umbrella cover and held down by the latter in a non-protruding position.

5. The structure claimed in claim 1 in combination with a sleeve secured to one of the staff parts so as to be passed by the runner, said sleeve being split into resilient parts which are spread apart so as to act as catches for the runner after the latter has passed the sleeve.

6. The structure claimed in claim 1 in combination with springs applied to the outside of the staff and bent off from the latter so as to act as catches for the runner, the springs being adapted to be pressed against the staff when passed by the runner, the runner being provided with a recess in which the catches are adapted to engage when supporting the runner.

7. The structure claimed in claim 1 in combination with a washer applied to the piston, and spring catches formed integrally with said washer and adapted to engage over the edge of the handle so as to retain the corresponding staff part in extended position.

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