Dec. 8, 1936. L. RAAB ET AL 2,063,624

UMBRELLA

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FIG. 1.

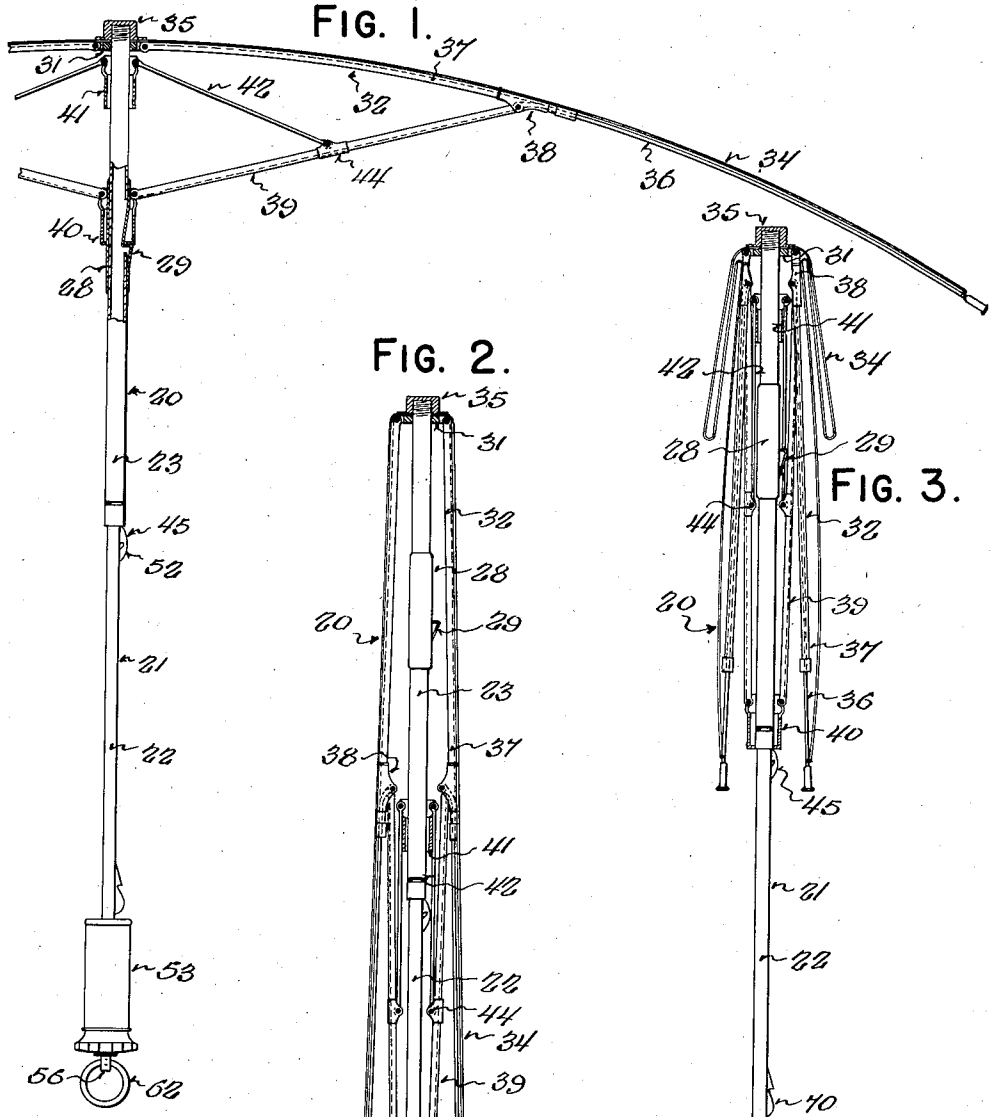


FIG. 2.

FIG. 3.

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FIG. 4.

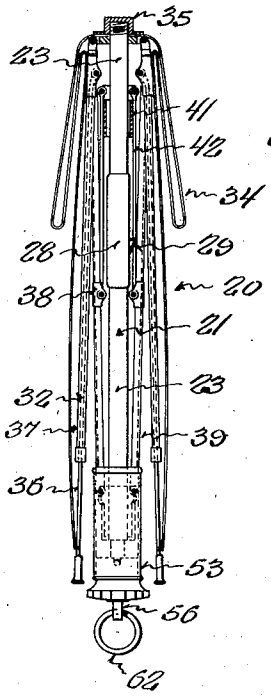


FIG. 5.

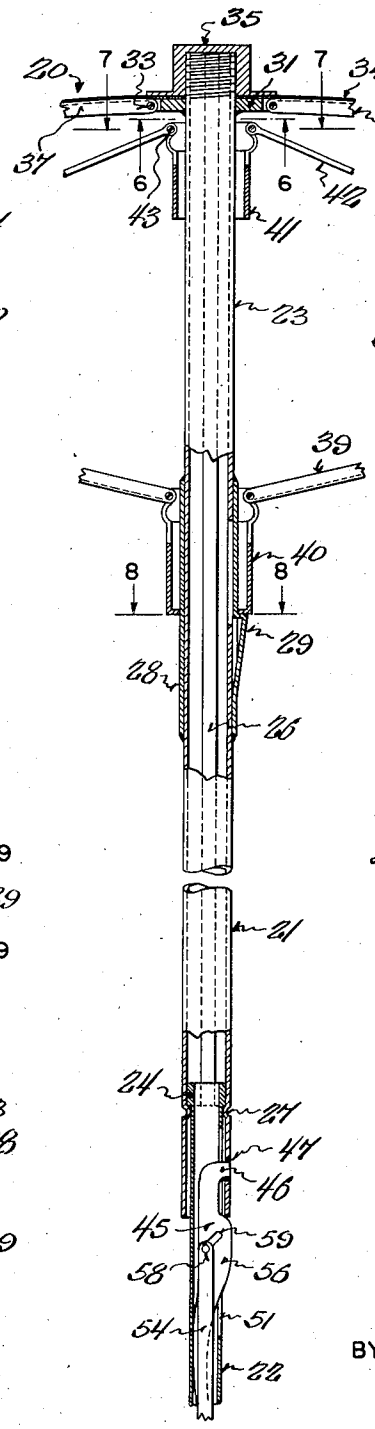


FIG. 6.

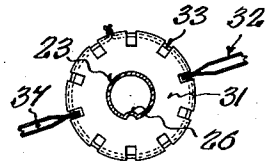


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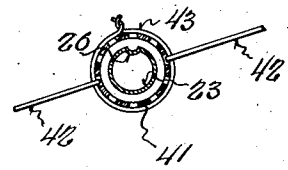


FIG. 8.

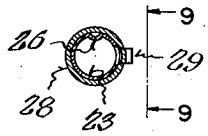
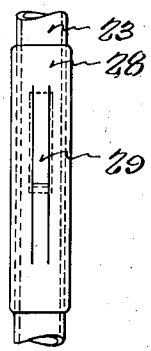


FIG. 9.



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FIG. 10.

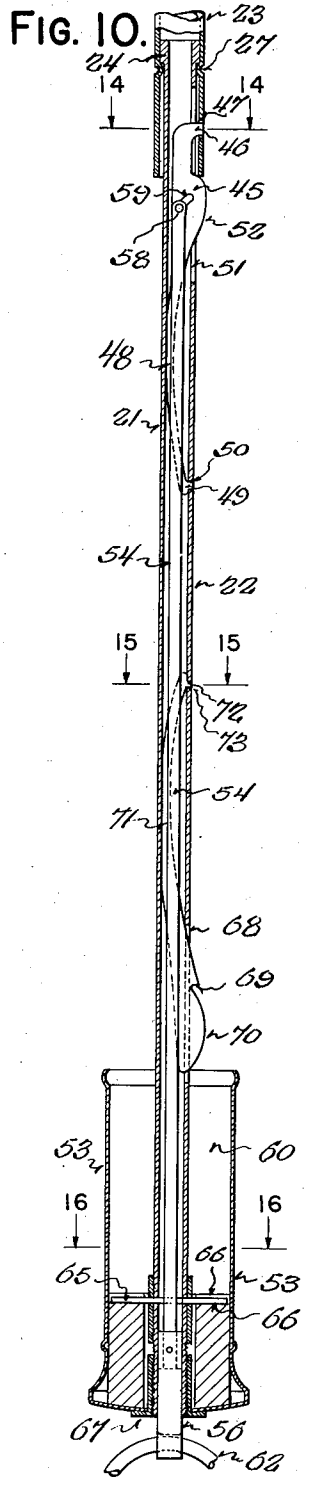


FIG. 11.

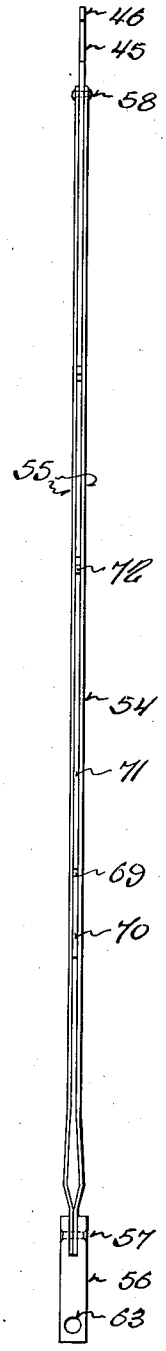


FIG. 12.

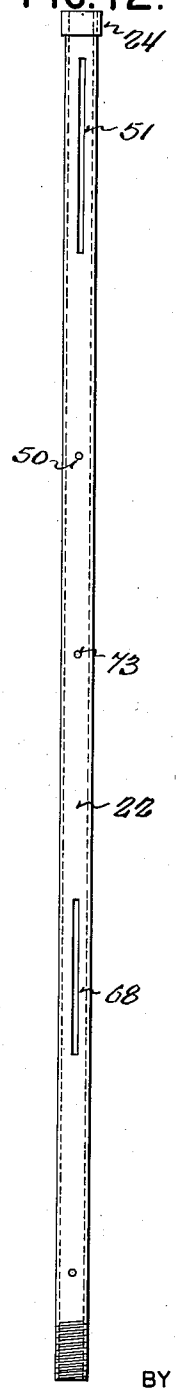


FIG. 13.

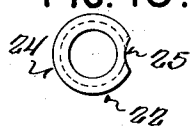


FIG. 14.



FIG. 15.

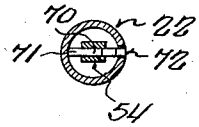
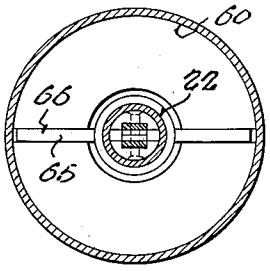


FIG. 16.



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Patented Dec. 8, 1936 2,063,624

UNITED STATES PATENT OFFICE

2,063,624

UMBRELLA

Louis Raab and Henry Karcher, Milwaukee, Wis.

Application December 30, 1935, Serial No. 56,735

2 Claims. (Cl. 135—46)

This invention appertains to umbrellas, parasols, etc., and more particularly to umbrellas of the folding or collapsing type.

One of the primary objects of our invention is to provide an umbrella which can be readily and easily collapsed into an exceedingly small compass, whereby the same can be conveniently carried or shipped and placed in a brief case, traveling bag, or the like.

Another salient object of our invention is to provide an umbrella which can be lowered or raised substantially in the usual manner and which normally can be carried in the ordinary way, but which can be further collapsed when necessary or desirable into its small compass.

A further object of our invention is to provide means for positively holding the telescoping parts of the central rod or staff against collapsing movement when the umbrella is being carried in its normal lowered position or normal raised position, with means actuated from the handle of the rod or staff for quickly permitting the collapsing of the rod or staff to allow further folding of the umbrella.

A still further object of our invention is to generally improve the construction of the collapsible umbrella, whereby to provide a durable and efficient device, one that will be simple and easy to manipulate, and one which can be manufactured and placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement, and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a fragmentary central section through an umbrella constructed in accordance with our invention, showing the same in its raised position, with the central rod or staff in elevation throughout its major length.

Figure 2 is a view similar to Figure 1, with the umbrella in its closed position and ready to be carried in the normal manner.

Figure 3 is a view similar to Figure 2, with the umbrella collapsed, the rod or central staff being still shown in its extended position.

Figure 4 is a view similar to Figure 3, with the umbrella in its completely collapsed position.

Figure 5 is an enlarged, fragmentary, central sectional view through the umbrella illustrating various details of construction.

Figure 6 is a detail sectional view taken on the line 6—6 of Figure 5 looking in the direction of the arrows, illustrating the means of pivotally connecting the inner ends of the ribs with the rod-carried retaining ring.

Figure 7 is a detail sectional view taken on the line 7—7 of Figure 5 looking in the direction of the arrows, illustrating the means of pivotally connecting the brace links with the sliding sleeve.

Figure 8 is a detail transverse section taken substantially on the line 8—8 of Figure 5 looking in the direction of the arrows, illustrating the means for holding the runner for the ribs in its elevated position.

Figure 9 is an enlarged, fragmentary, detail side elevation of the central rod or staff, the view being taken substantially on the line 9—9 of Figure 8 looking in the direction of the arrows, illustrating the means of forming the catch for holding the sliding runner in its raised position.

Figure 10 is an enlarged, fragmentary longitudinal section through the central rod or shaft, illustrating the handle-operated latch for holding the parts of the telescoping handle in its extended position.

Figure 11 is an enlarged, detail edge elevation of the operating member and latch for holding the runner in its elevated position.

Figure 12 is an enlarged, detail side elevation of the inner telescoping section of the central rod or shaft.

Figure 13 is a top plan view of the forward end of the inner telescoping section of the central rod or staff.

Figure 14 is a detail transverse section taken through the handle on the line 14—14 of Figure 10 looking in the direction of the arrows, illustrating the catch for holding the telescoping sections of the rod or staff against movement.

Figure 15 is a detail transverse section through the rod or staff taken on the line 15—15 of Figure 10, looking in the direction of the arrows.

Figure 16 is an enlarged, detail sectional view through the handle for the central rod or staff taken substantially on the line 16—16 of Figure 10, looking in the direction of the arrows.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the numeral 20 generally indicates our improved collapsible umbrella, which comprises a central rod or staff 21. This central rod or staff includes inner and outer telescoping sections 22 and 23.

These telescoping sections can be of tubular construction, if so preferred, and in order to eliminate the rotating of the sections relative to one another, for a purpose which will be later set

forth, the inner section 22 can be provided with a retaining ring or head 24 having a groove 25 therein. The outer section 23 can be provided with a struck-in rib 26 throughout its entire length, which is received within the groove 25. The inner end of the outer telescoping section 23 can be provided with a struck-in annular rib 27, which forms a stop for the ring 24, so as to limit the outward sliding movement of the rod or staff sections. If preferred, the outer section 23 can be provided with a re-inforcing sleeve 28 rigidly connected therewith intermediate its ends, and this sleeve can have struck therefrom a resilient latch 29, for a purpose which will be later set forth.

The extreme forward end of the outer rod or staff section 23 has rigidly secured thereto a ring 31, the periphery of which is slotted for the reception of the inner ends of the umbrella ribs 32. These ribs are pivotally retained in place on the ring 31 by means of a wire 33 which passes through openings in the ring and in openings in the ribs. After the cover 34 is applied to the ribs, a tip or cap 35 is threaded on the outer end of the rod section 23 beyond the ring 31 for engaging over the inner portion of the cover.

Particular attention is now invited to the ribs 32, and the same include inner and outer collapsible or telescoping sections 36 and 37. The sections 37 are of a substantial U-shape in cross section and slidably receive and support the inner sections 36.

The umbrella cover 34 can be made in any preferred manner, and the outer edge of the cover is secured by threads to the outer ends of the rib sections 36. An intermediate portion of the cover is secured to slides 38 mounted on the outer rib sections 37. These slides are connected to the inner ends of the inner rib sections 36 and have pivotally connected thereto the umbrella stays 39.

The inner ends of the umbrella stays are pivotally connected to the runner 40 and by raising and lowering the runner 40, the umbrella can be raised or lowered. When the runner is in its extreme outer or raised position, the same rides on the re-inforcing sleeve 28 and beyond the resilient catch 29, which holds the runner against lowering movement. Obviously, resilient catch can be depressed by the finger when it is desired to move back or lower the runner and the umbrella.

Freely slidable on the central rod or staff 21 is a sleeve 41 which pivotally carries brace links 42. The links 42 can be connected to the sleeve 41 in the same manner that the ribs 32 are connected with the ring 31. Hence, the sleeve is slotted to receive the links and a wire 43 passes about the sleeve and through openings in the links. The opposite ends of the links are pivotally connected, as at 44, to the stays 39 intermediate their ends.

In use of our improved umbrella, the inner handle section 22 is pulled out from the outer handle section 23 and is held against collapsing movement by a latch 45, which forms one of the important features of our invention. The latch 45 is provided at one end with a nose 46, which is adapted to snap into a keeper opening 47 formed in the inner end of the sliding section 23. Due to the fact that the handle sections are held against rotation by the rib 26 fitting in the groove 25, the correct positioning of the nose 47 and the keeper opening 46 is insured when the handle sections are pulled apart.

The latch 45 also embodies a curved resilient body portion 48 having a lug 49 formed on its inner end. This lug is received within an opening 50 formed in the handle section 22. The arcuate body portion 48 normally bears against the inner face of the rod section 22, and hence normally urges the nose 47 out of a slot 51 formed in said handle section 22. A curved fingerpiece portion 52 is formed on the body of the latch adjacent to the nose 47 and normally projects through the slot 51, and this portion 52 forms means for manually depressing the latch adjacent at the point of mounting the latch in the rod section 22. Due to the curve of the portion 52, the outer rod section 23 will readily ride over the same and normally hold the nose in a depressed position.

We have provided novel means for actuating the latch 45 from the outer end of the handle or hand grip 53, and this means includes an operating rod or link 54 slidably mounted in the rod section 22. The operating link 54 is preferably constructed from thin metal straps 55 rigidly secured together at their outer ends to a cylindrical plunger 56 by means of a pin or rivet 57. The inner ends of the metal straps 55 carry a cross-pin 58, which is slidably mounted within an inclined slot 59 formed in the body portion of the latch 45.

Hence, by moving the operating member 54 longitudinally of the rod section 22, the pin can be forced from one end of the inclined slot 59 to the other, resulting in the moving back and forth of the latch 45.

The handle or hand-grip 53 can be of any preferred ornamental character, but the same is preferably formed from a sleeve so as to provide an interior hollow chamber 60. The outer end of this chamber 60 can receive a filler block 61, and the outer end of the handle section is rigidly anchored to the filler 61 and to the hand-grip in any preferred manner. The plunger 56 is slidably mounted in the handle section 22 and can be provided with a manipulating fingerpiece or the like, and, as shown, a carrying ring 62 is inserted through an opening 63 in said plunger.

By pushing in on the operating rod 54, the pin 58 will travel up in the slot 59 and swing in the nose 47, allowing the collapsing of the handle.

As stated, the central rod or staff 21 can be secured to the handle 53 in any preferred manner, but, as shown, the inner rod section 22 carries a cross-pin 65 which is received in a diametrically extending groove 66 formed in the filler 61. A ferrule 67 is threaded onto the rod section 22 and bears against the outer end of the handle 53 and functions to pull the pin 65 in the slot 66.

When the umbrella is in its raised position, as shown in Figure 1, and it is desired to lower the same, the spring latch 29 is manually depressed and the runner 40 is pulled toward the handle until the same assumes the position shown in Figure 2. This will pull down on the stays 39 and consequently swing the ribs 32 toward the central rod.

The umbrella can be carried in this position if so desired, and in order to hold the runner 40 against movement, a latch 68 is provided. This latch 68 is carried by the rod 22 adjacent to the handle 53 and includes a nose 69, which is adapted to snap under the flange formed on the outer end of the runner. This latch has formed therein a thumbpiece portion 70, where-

by the detent can be depressed when it is desired to again raise the umbrella.

By referring to Figure 10, it will be noted that the thumbpiece is curved so that the runner can slide over the same when the umbrella is further collapsed.

This latch **68** includes an arcuate body portion **71**, which bears against the inner surface of the rod section **22**, and the extreme inner end of the body portion is provided with a lug **72**, which is received in an opening **73** formed in the rod section **22**. This effectively anchors the latch body **71** in place, and it is to be noted that the latch body is received between the flat straps **55** of the operating rod **54**.

When it is desired to collapse the umbrella into its smallest form, the latch **68** is depressed and the runner **40** is slid toward the tip end of the rod. The stays **39** being substantially in a vertical position and parallel with one another will push up on the slides **38** and bring about the collapsing or the telescoping of the rib sections **36** with the rib sections **37**.

After the ribs have been collapsed to their fullest extent, the rod **21** is moved to its telescoped position, and this is accomplished by pushing in on the operating rod **36** to release the catch **45**. The rod sections **22** and **23** are now moved toward one another, and the runner **40** will ride into the chamber **60** formed in the handle **53**, as shown in Figure 4 of the drawings. By providing the chamber **60** for the runner, the umbrella can be collapsed into an exceptionally small compass, and the stays bearing against the wall of the chamber tend to hold the umbrella in its collapsed position. However, a cover (not shown) is slipped on the umbrella to protect the same and hold the parts against accidental movement.

When it is desired to open the umbrella, the rod sections are again pulled apart, after which the runner **40** is pulled toward the handle **53**, after which the umbrella can be raised in the ordinary manner.

From the foregoing description it can be seen that we have provided an exceptionally simple collapsible umbrella, which will be easy and simple to manipulate.

Changes in details may be made without departing from the spirit or the scope of this invention, but what we claim as new is:

1. In a collapsible umbrella, a central telescoping rod including inner and outer sections, a handle connected with the outer end of the inner rod section, means for preventing the telescoping of the rod sections when the same are in their extended position, including a spring-pressed latch having a latch nose and a rounded manipulating portion extending through a slot in the inner rod section, the outer rod section having a keeper notch for receiving said latch nose, means for preventing relative turning movement of the rod sections, and an operating bar pivotally and slidably connected to the latch disposed within the inner rod section and extending through and outward of said handle.

2. In a collapsible umbrella, a central telescoping rod including inner and outer sections, a handle secured to the outer end of the inner rod section, a runner slidably mounted on said sections, a latch normally holding the sections of the rod against telescoping movement, an operating bar disposed in the inner rod section operatively connected to the latch and extending through the handle, said operating bar including spaced flat bar sections, a movable latch slidably received between said bar sections and normally projecting through the outer rod section for holding the runner against movement when the umbrella is in one of its positions.

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