Nov. 12, 1940. E. OKUN 2,221,288

FOLDING UMBRELLA

Filed April 10, 1940 3 Sheets-Sheet 1

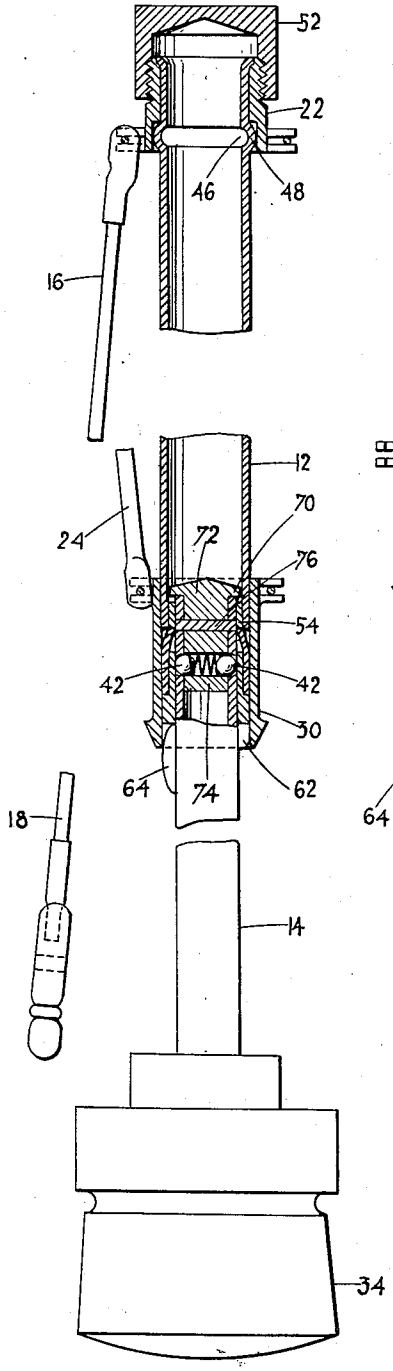


Fig. 1

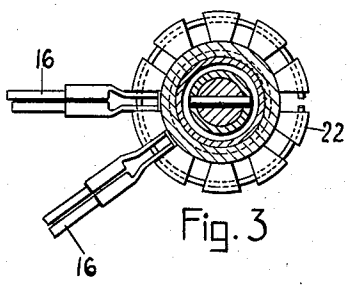


Fig. 3

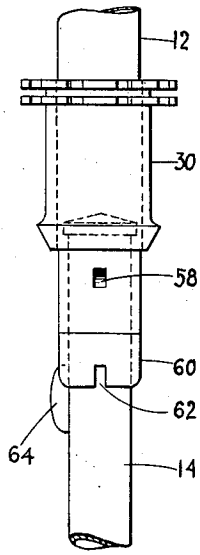


Fig. 2

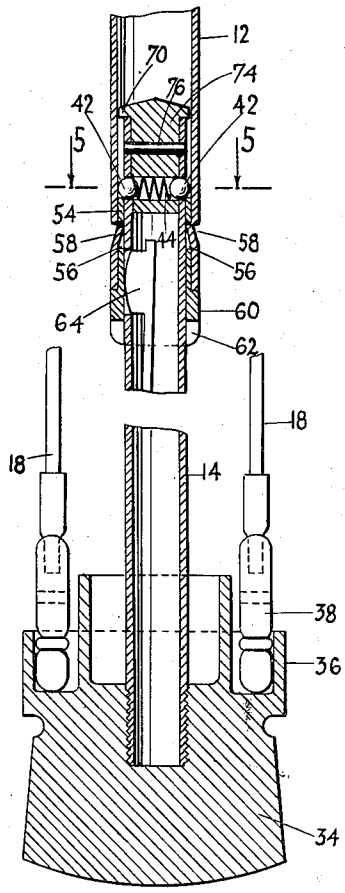


Fig. 4

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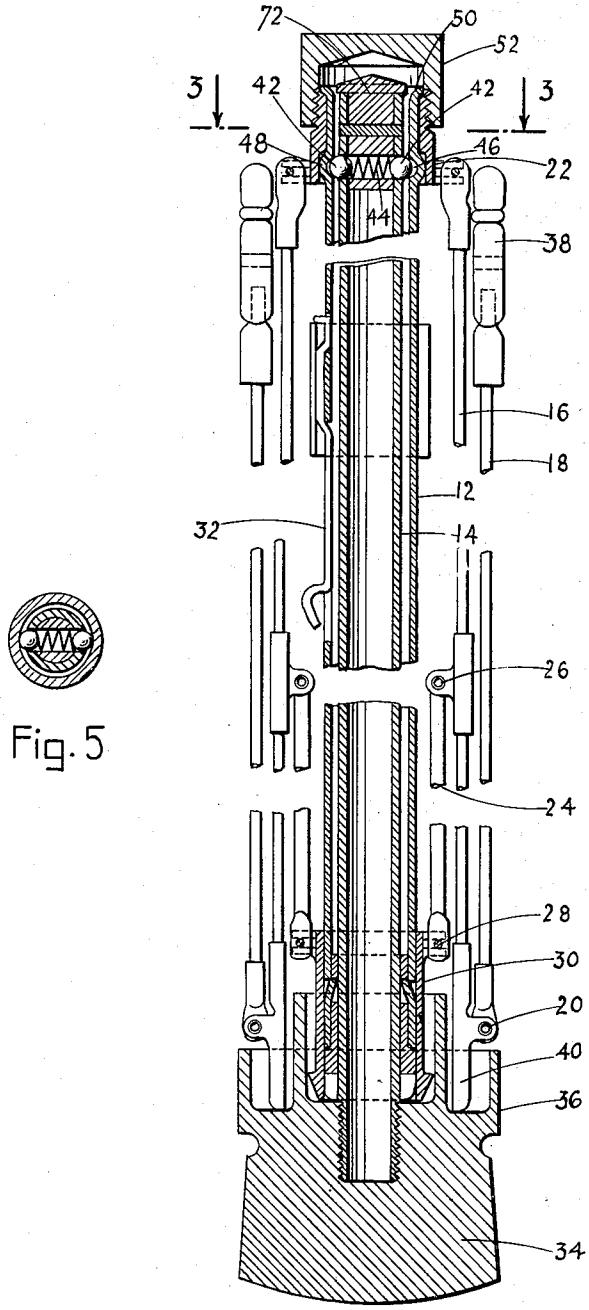


Fig. 6

Fig. 5

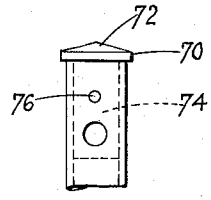


Fig. 7

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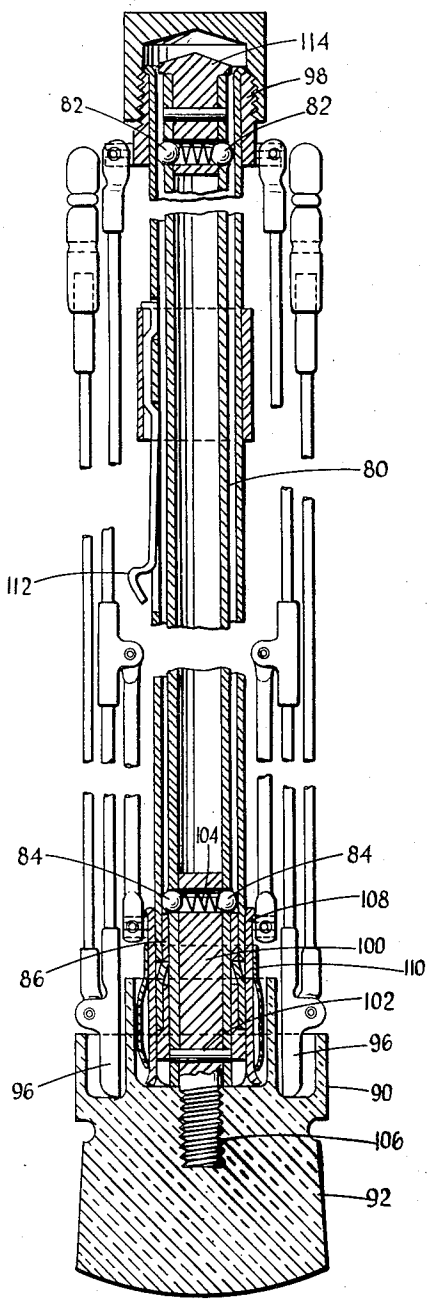
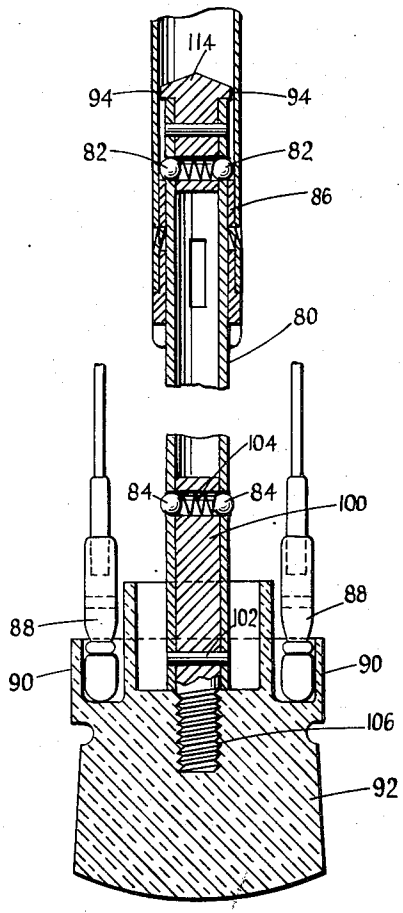


Fig. 8

Fig. 9



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Patented Nov. 12, 1940 2,221,288

UNITED STATES PATENT OFFICE

2,221,288

FOLDING UMBRELLA

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Application April 10, 1940, Serial No. 328,844

25 Claims. (Cl. 135—25)

This invention relates to folding umbrellas, and more particularly to the telescopic stick therefor.

The present application is a continuation in part of my co-pending application Serial Number 284,580.

The primary object of my invention is to generally improve folding umbrellas. A more particular object is to improve the telescopic umbrella stick used with such umbrellas.

Still another object of my invention is to improve the ease and convenience of operating a folding umbrella. It is customary to provide the handle of the umbrella with a skirt which fits around the tips of the ribs in order to hold the ribs bunched around the stick when the umbrella is closed but left in extended condition. Heretofore, the handle was made axially reciprocable for a short distance relative to the end of the stick, and was provided with a pull spring within the stick for normally pulling the handle over the tips of the ribs. Such an arrangement is shown in my Patent 2,177,458 issued October 24, 1939.

A further object of my invention is to make the operation of the umbrella more convenient by eliminating the aforesaid spring action and substituting mechanism whereby the handle, when pulled outwardly, will remain outwardly, yet when pushed inwardly to engage the rib tips will remain inwardly, thus holding the umbrella in closed condition.

Still another object is to simplify the attachment of the handle to the stick, making possible an inexpensive fixed screw mounting, the desired movement of the handle to engage or release the rib tips being obtained by relative movement of the two telescopic parts of the stick, instead of by movement of the handle itself relative to the stick. For this purpose the telescopic parts of the stick are provided with detent means adapted to hold the stick in either of two positions when extended, one of these positions being such that the rib tips are free of the handle, and the other being such that the rib tips are received within and confined by the handle.

In accordance with still another object of the invention, a part of such detent means may also be employed to hold the telescopic parts of the stick in a third position, namely, the shortened or telescoped position after the umbrella has been folded. At this time the skirt of the handle may be used to receive and confine the folded ribs at the hinges thereof.

To the accomplishment of the foregoing, and other more specific objects which will hereinafter appear, my invention consists in the umbrella elements, and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings, in which:

Fig. 1 is a partially sectioned side elevation of a folding umbrella embodying features of my invention, the umbrella being shown in extended condition with the handle disengaged from the rib tips;

Fig. 2 is a side elevation of a part of Fig. 1, but with the runner raised somewhat;

Fig. 3 is a horizontal section taken through the end of the umbrella at the rib retainer, this section being approximately in the plane of the line 3—3 of Fig. 6;

Fig. 4 is a section similar to Fig. 1, but with the handle raised to engage the rib tips;

Fig. 5 is a horizontal section through the umbrella stick taken in the plane of the line 5—5 of Fig. 4;

Fig. 6 is a section through the umbrella in folded condition;

Fig. 7 is an elevation of the normally concealed upper or inner end of the lower or inner member of the umbrella stick;

Fig. 8 is a section, similar to Fig. 6, but taken through a modified form of the invention; and

Fig. 9 is a section, similar to Fig. 4, but showing the said modification.

Referring to the drawings, and more particularly to Fig. 6, the umbrella comprises a telescopic stick including tubular members 12 and 14 slidable one within the other, and folding ribs made up of upper ribs 16 and lower ribs 18 hinged at 20. These ribs may be of the double spring wire type disclosed and claimed in my aforesaid Patent No. 2,177,458. The upper ends of ribs 16 are pivotally secured on a rib retainer 22, which in turn is fixedly mounted at the upper end of the umbrella stock. The ribs are adapted to be spread apart by appropriate spreaders 24, the upper ends of which are pivotally connected to ribs 16 at 26, and the lower ends of which are pivotally connected at 28 to a runner 30, which is slidable on the umbrella stick. A catch 32 is provided on the outer tube 12 of the stick to receive and hold the runner when the umbrella is spread. A handle 34 is secured to the lower end of the inner tube 14 of the stick, this handle preferably being provided with a skirt 36 adapted to receive and hold the ribs, whether the umbrella is in folded condition as shown in Fig. 6, or in extended condition as

shown in Fig. 4. With the umbrella in extended condition, as in Fig. 4, it is the ornamental tips 38 of the ribs that are received within the skirt 36. With the umbrella in the folded condition of Fig. 6, it is the hinge extensions 40 of the ribs that are received within skirt 36.

Referring to Fig. 6, the umbrella stick is held in telescoped condition by appropriate detent means. Specifically the lower or inner member 14 is provided with one or more balls 42. It is preferable to use two such balls, and they are normally spread apart or urged outwardly by a compression spring 44 disposed therebetween. The upper or larger diameter member 12 of the stick is internally grooved at 46 to provide a ledge to receive the balls 42, and the groove 46 is so located as to receive the balls when the stick has been telescoped to its full extent with the rib hinges received within the handle. It will be evident that although the stick tends to remain in telescoped position, it may, nevertheless, be extended by simply pulling the handle 34, and with it the inner member 14, downwardly with enough force to overcome the resistance of the detent balls 42.

The groove 46 is preferably formed by channeling the metal of tube 12 outwardly, thus also forming a bead 48 on the outside of the tube. Bead 48 may be utilized to positively locate the rib retainer 22 against downward movement. For this purpose, the lower end of the rib retainer is cut to a diameter somewhat larger than the tube 12, and large enough to be forced over bead 48. The rib retainer may then be driven downwardly over the upper end of tube 12 until it comes to a positive stop against the bead 48. The interior of the retainer 22 may be axially fluted or serrated, so that the metal bites into the wall of tube 12, thus locking the parts together against relative rotation. The upper end of tube 12 is flared outwardly against the upper end of the retainer, as is indicated at 50, thereby holding the retainer against upward movement. In this way, the retainer is locked in position against movement in any direction. The cap 52 may be conventional, and is threadedly received on the rib retainer after the fabric covering has been applied to the umbrella.

The detent balls 42 may also be used to fix one of the extended positions of the umbrella stick. Thus, referring to Fig. 4, the inner or lower tube 14 has been partially pulled out of the outer or upper tube 12, though not to its maximum extended condition. It is perhaps a half inch shorter than the maximum, this difference being used to cause the skirt 36 of handle 34 to engage and confine the rib tips 38, the ribs being at this time in extended condition, with the parts 18 in alignment with the parts 16. The handle 34 is held against upward movement by the rib tips 38. The upper tube 12 is provided with means 54 to engage the detent balls 42, thus holding the handle against downward movement. The means in this case is a ledge 54 formed by the upper end of a sleeve which is pushed into and forms a permanent part of the tube 12. The sleeve is preferably recessed or slotted at 56, and the outside of tube 12 may be incised at 58 to form sharp positive stops which are received in recesses 56, and which lock the sleeve against downward movement. The lower end of the sleeve is preferably enlarged and projects below the lower end of tube 12, as is indicated at 60 in Figs. 2 and 4, thus forming a rounded, finished end for tube 12, which end may be provided with a plurality, say, four notches 62 adapted to receive a lock 64. The lock 64 is resiliently mounted within tube 14, and may be manually pressed inwardly to telescope the stick, but this is ordinarily not necessary for reasons subsequently explained. The engagement of lock 64 with one of the notches 62, not only holds the stick in its fully extended position, as shown in Figs. 1 and 2, but also prevents relative rotation of the upper and lower parts of the stick.

The sleeve 54 serves an additional function in acting as a bearing for the lower tube 14 of the umbrella stick. It is customary to make the upper and lower tubes substantially different in diameter, in order to provide ample clearance therebetween. Heretofore, it has been the practice to roll or draw the lower end of tube 12 inwardly to a smaller diameter in order to provide a sliding bearing for tube 14. A finishing ring for notches 62 was then applied over the outside of tube 12. With the present construction, the lower end of tube 12 may be left uniform in diameter, thus reducing its cost, and the internal sleeve 54 acts as an excellent bearing for the inner tube 14.

When it is desired to release the ribs, in order to open or spread the umbrella, the handle 34 is pulled downwardly from the position of Fig. 4 to the position of Fig. 1. At this time the detent balls 42 are forced inwardly and ride within the sleeve 54. When the handle is moved to lowermost position, the lock 64 springs out into one of the notches 62, and acts as a detent, tending to hold the handle in lowermost position. It will be understood that in the position of Fig. 4, the lock 64 is compressed inwardly, and is held within the sleeve 54.

The outward movement of handle 34, that is, the maximum extension of the telescopic stick, is limited by a ledge or flange 70 formed at the upper end of tube 14. This bears against the inner end of sleeve 54, and positively prevents the inner member 14 from being pulled entirely out of the upper tube 12. The flange 70 is preferably formed as a part of a cap 72, which is desirably given a conical configuration. This is desirable in order to move readily past any obstructions which may be in the way, as, for example, if the catch 32 (Fig. 6) is deformed inwardly. Moreover, the cap 72 is preferably formed with a cylindrical or plug-like portion 74 which is driven into the upper end of tube 14. The plug and cap assembly is held in place not only because of its tight fit, but preferably also by using a pin 76 which is driven through tube 14 and the cap.

The plug portion 74 of the cap is drilled with a hole extending diametrically therethrough, and freely receiving the detent balls 42 and the spring 44 therebetween. In this way, a solid tubular passage is provided across the upper end of the member 14 for the detent balls and spring. The metal of tube 14 around the ball 42 is preferably spun inwardly slightly to prevent ejection of the balls entirely out of the stick under the influence of spring 44. This is of convenience when assembling or disassembling the parts of the umbrella during manufacture or servicing the same.

When the runner 30 is pulled downwardly to its lowermost position, substantially as shown in Fig. 1, it rides over the lock 64 and presses the same partially inward. The latch is moved in enough so that it acts merely as a spring detent, rather than as a positive lock. In other words,

if handle 34 is pushed forcibly upwardly the lock 64 is cammed inwardly, and the stick may be telescoped. However, when the runner 30 is pushed upwardly to spread the umbrella, it rides off the lock 64, which then springs outwardly further than is shown in Fig. 1, to a position such as that shown in Fig. 2, and at this time the locking action is positive, so that the umbrella stick cannot accidentally telescope while using the umbrella.

To assemble the umbrella stick the rib retainer 22 is permanently affixed to the upper end of the outer tube 12, and the sleeve 54 is permanently fixed in the lower end of tube 12, as was previously described. The inner tube 14, after being fitted with the cap 72 and the detent balls 42, is dropped downwardly through the outer tube 12. The handle 34 is then screwed on to the lower end of said inner tube 14. The screw threaded cap 52 may then be applied to the rib retainer, but is preferably applied only after the fabric has been added to the umbrella.

A modified form of the invention is shown in Figs. 8 and 9 of the drawings. In this case, instead of using a single pair of balls on the lower stick for cooperation with two different ledges in the upper stick, I employ two pairs of balls in the lower stick which cooperate with a single ledge in the upper stick. Specifically, the lower stick 80 (Figs. 8 and 9) is provided not only with the spring-pressed balls 82 near the upper end of the stick, but also another pair of spring-pressed balls 84 near the lower end of the stick. The lower balls 84 are so located as to cooperate with the ledge formed by the upper end of the inserted sleeve previously referred to, said sleeve being here numbered 86.

With the umbrella in extended condition, the operation is exactly as previously described, for then it is the upper balls 82 which cooperate with the sleeve 86. This is clearly shown in Fig. 9, in which the umbrella is assumed closed while in extended condition, the ornamental rib tips 88 being received in the skirt 90 of handle 92. It will be understood that the tips may be released, preparatory to opening the umbrella, by pulling handle 92 downwardly until the flange 94 at the top of inner stick 80 reaches sleeve 86. The parts will then be in a relation corresponding to that shown in Fig. 1.

When the present umbrella is folded, as shown in Fig. 8, the upper balls 82 serve no useful function, but the lower balls 84 come into action. When the rib hinge extensions 96 are received within handle skirt 90, the balls 84 reach the upper end of sleeve 86, thereby holding the parts in the closed relation shown in Fig. 8.

One advantage of the modification shown in Figs. 8 and 9 is in eliminating the need for the upper ledge or groove 46 of Fig. 1. It is a rather expensive operation to form this groove, and in my own manufacturing experience, I find that it is less expensive to add the second pair of detent balls than to form a groove in the outer tube. The inner and outer tubes are both left in simple straight (uniform diameter) condition.

An additional advantage of the modification shown in Figs. 8 and 9 is that a soft aluminum material may be used for the inner and outer tubes. The inserted sleeve 86 is made of brass or like relatively hard material, and will not wear out quickly. If the groove 46 (Fig. 1) is used, difficulty may result if the tube is made of soft aluminum because the groove may wear and lose its holding action.

In the modification of Figs. 8 and 9 there is no outwardly projecting bead to limit downward movement of the rib retainer 98. However, this is no serious disadvantage, and simply restores the present-day conventional practice, in accordance with which the rib retainer is merely driven with a force fit over the upper end of the outer tube. The retainer is preferably axially fluted, and is held against downward movement by its force fit, and by the flutings. The retainer is held against upward movement by spinning the upper end of the tube outwardly.

The lower detent balls 84 are supported much as in the case of the upper detent balls, a piece of brass rod 100 being driven into the lower end of tube 80, and locked in position, as by means of a pin 102. A hole is drilled diametrically through the tube and inserted rod, thus forming a continuous passage for the balls 84 and a spring 104 compressed therebetween. The metal of tube 80 around balls 84 is preferably excised or spun inwardly slightly to prevent escape of the balls, while at the same time permitting partial projection of the balls for the desired detent action.

The lower end of the inserted rod 100 is preferably threaded, as shown at 106, to threadedly receive the handle 92. There is a slight advantage in this construction over that shown in Fig. 4, in that the threaded hole in the handle may be made of currently standard size, instead of being made larger as is required when screwing the handle directly on the tube, as shown in Fig. 4.

It will be understood that the top insert or plug 114 (Figs. 8 and 9) is also made of brass or like moderately hard metal. If the umbrella stick is forcibly extended, no injury results, for the blow is taken by the brass flange striking the brass sleeve 86. Brass, while softer than the tempered spring steel wire used for the ribs (in accordance with my Patent 2,177,458), is quite hard compared to the aluminum tubing used for the umbrella stick.

In Fig. 8 the runner 108 is shown provided with a tubular finger-piece 110 which is slidable for a short distance on the runner, this tubular finger-piece having sloping or frustro-conical camming surfaces adapted to actuate the main catch 112 of the umbrella.

The parts of the umbrella stick are assembled as before, the inner tube being dropped through the upper end of the outer tube, following which the handle is screwed on the lower end of the inner tube.

It is believed that the construction and operation, as well as the many advantages of my improved folding umbrella stick will be apparent from the foregoing detailed description thereof. The stick is provided with appropriate spring detent means establishing three different positions of the stick; one for the folded umbrella, and two for the extended umbrella. The latter two positions are such as to either hold or release the rib tips, according to whether the umbrella is to be left closed or spread, all while in extended condition. There is no need to continue holding the handle outwardly against a spring, with consequent annoyance and confusion. After the position of the handle has been changed, the two hands of the operator may be used to appropriately gather or spread the umbrella ribs.

From the standpoint of manufacture, the new

structure has the advantage of eliminating a circular spring, previously needed inside the umbrella handle to hold the umbrella in telescoped position. It further eliminates a pull spring with associated brass sleeve and holding pins previously needed for slidably mounting the handle at the lower end of the stick. It is unnecessary to draw the lower end of the outer tube inwardly to a smaller diameter, and instead both tubes may be of uniform diameter, a sleeve being used to finish and protect the tube, and to cooperate with spring detents. The tubes may be made of soft metal because the detent parts which ride against the inside of the upper tube are smooth, round balls which do not scratch or wear the inside of the tube, and even more important, the parts of the complete stick which are subject to wear are made of relatively hard material. The inner end of the smaller tube is so capped as to provide a strong ledge or flange to limit extension of the stick, and to further provide a solid guide hole for the detent balls and spring, and also to provide a conical cap for the end of the tube.

It will be apparent that while I have shown and described my invention in a preferred form, many changes and modifications may be made in the structure disclosed without departing from the spirit of the invention, as sought to be defined in the following claims. In the claims the expression "collapsed ribs" is intended to include either folded ribs or slidably telescoped ribs, both types being used in this art.

I claim:

1. A telescoping stick for a folding umbrella, said stick comprising a tube, a stick member slidable within the tube, one or more balls carried in the stick member, spring means pressing said balls outwardly, and means at the lower end of the tube to receive the balls when the stick and tube have been moved to desired relation, said means comprising a sleeve forced into the lower end of the tube and secured thereto, the stick being slidable through said sleeve.

2. A telescoping stick for a folding umbrella, said stick comprising an upper larger diameter tube, a lower smaller diameter tube slidable within the upper tube, one or more balls carried in the lower tube near one end thereof, spring means pressing said balls outwardly, a peripheral ledge formed about the interior of the upper tube and so positioned as to receive the balls when the tubes are in desired relation, and a solid plug inserted at the aforesaid end of the lower tube and fixedly secured thereto, there being a hole extending diametrically through the tube and the plug to receive the aforesaid balls and spring.

3. A telescoping stick for a folding umbrella, said stick comprising an upper larger diameter tube, a lower smaller diameter tube slidable within the upper tube, one or more balls carried in the lower tube near one end thereof, spring means pressing said balls outwardly, means at the lower end of the upper tube to receive the balls when the tubes are in desired relation, said means comprising a sleeve forced into the lower end of the tube and secured thereto, the lower smaller diameter tube being slidable through said sleeve, and a solid plug inserted at the aforesaid end of the lower tube and fixedly secured thereto, there being a hole extending diametrically through the tube and the plug to receive the aforesaid balls and spring.

4. A telescoping stick for a folding umbrella, said stick comprising an upper larger diameter tube, a lower smaller diameter tube slidable within the upper tube, one or more balls carried in the lower tube near the upper end thereof, spring means pressing said balls outwardly, a peripheral ledge formed about the interior of the upper tube and so positioned as to receive the balls when the tubes are in desired relation, a solid plug inserted in the upper end of the lower tube and fixedly secured thereto, and a hole extending diametrically through the tube and plug to receive the aforesaid balls and spring.

5. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, one or more balls in the upper end of the lower tube, a spring urging said balls outwardly, means at the lower end of the upper tube to receive the balls, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the upper end of the lower tube being filled by a cap secured therein, a hole extending diametrically through the tube and cap to receive the aforesaid balls and spring, the upper end of the cap being larger in diameter than the lower tube to provide a flange for engaging the upper end of the sleeve in order to limit the extension of the umbrella stick.

6. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube, a sleeve inserted in the lower end of said tube, a lower smaller diameter tube slidable through said sleeve into the upper tube, an outwardly flanged tip at the upper end of said smaller diameter tube to bear against the upper end of the sleeve to limit the maximum extension of the umbrella stick, and means to positively hold said sleeve against being pulled out of the upper tube, said means comprising slots cut through one of the parts and mating tangs so struck from the other part at said slots as to form positive stops which prevent outward movement of the sleeve.

7. A telescopic umbrella stick for a folding umbrella, said stick comprising an upper tube made of aluminum or like soft metal, a sleeve made of brass or like moderately hard metal and having a stepped outer diameter the smaller part of which is dimensioned to be received within the tube, the small diameter portion of the sleeve being driven into the lower end of the tube and the large diameter portion of the sleeve acting to finish and protect the lower end of the tube, a smaller diameter stick member slidable through said sleeve into the tube, the upper end of the stick member having means to bear against the upper end of the sleeve in order to limit maximum extension of the umbrella stick, means to positively hold the sleeve in position in the tube, said means including slots cut through one of the parts and mating tangs struck from the other part at the slots, the bottom or enlarged portion of said sleeve being slotted to cooperate with a spring detent projecting from the lower stick member.

8. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle fixedly secured to the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition, spring detent means carried by the member, and a peripheral ledge formed about the interior of

the tube and so positioned as to receive the detent and to thereby hold the member within the tube with the tips of the collapsed ribs received in the aforesaid skirt.

9. A folding umbrella comprising a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle fixedly secured to the lower end of the member, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and spring detent means to hold the member and tube in such a relative position as to keep the handle in engagement with the tips.

10. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, means to hold the handle in engagement with the tips, said means comprising spring detent means including mating parts one of which is mounted in the lower tube and the other of which is mounted in the upper tube, said parts coming into engagement when the handle and lower tube have been moved upwardly enough to engage the tips, one of said tubes having another similar mating detent part differently located to engage the aforesaid detent part on the other tube when the stick is telescoped.

11. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and detent means to hold the tubes in either of two extended positions, in one of which the handle is held in engagement with the tips, and in the other of which the handle is disengaged from the tips to release the ribs.

12. A folding umbrella comprising a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle fixedly secured to the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition, and also to receive the tips of the ribs when the umbrella is closed in extended condition, and a plurality of spring detent means including mating parts some of which are mounted on the lower stick member and some on the upper tube, said parts coming into engagement in such a manner as to provide three different positions of the lower stick member relative to the upper tube, one of said positions holding the member within the tube with the tips of the collapsed ribs received in the handle skirt, another of said positions holding the tips of the ribs within the handle skirt when the umbrella is closed while in extended condition, and the third position holding the stick in a still further extended condition such that the tips of the extended ribs clear the aforesaid handle skirt.

13. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a lock in said lower tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and detent means to hold the handle in engagemnt with the tips, means at the lower end of the upper tube to receive the detent means when the handle and lower tube have been moved upwardly enough to engage the tips, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the length of said sleeve being such that the detent springs above the upper end of the sleeve when the skirt receives the rib tips, the lower end of said sleeve being exposed and being notched to receive the lock of the lower tube when the stick is fully extended, the upper end of the lower tube being larger in diameter than the lower tube to provide a flange for engaging the upper end of the sleeve in order to limit the extension of the umbrella stick.

14. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle at the lower end of the member, said handle having a skirit adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition, spring detent means carried by the member, said means consisting of one or more balls carried by the member near the lower end thereof and spring means pressing said balls outwardly, and a peripheral ledge formed about the interior of the tube near the lower end thereof and so positioned as to receive the balls and to thereby hold the member within the tube with the tips of the collapsed ribs received in the aforesaid skirt.

15. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle at the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition, spring detent means carried within the member near the lower end thereof, and a peripheral ledge on the interior of the tube and so positioned as to receive the detent means and to thereby hold the member within the tube with the tips of the collapsed ribs received in the aforesaid skirt, said ledge being formed by a sleeve forced into the lower end of the tube and secured thereto, the lower stick member being slidable through said sleeve.

16. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle at the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition and also adapted to receive the tips of the extended ribs when the umbrella is closed while in extended condition, spring detent means carried by the member near its upper end and also near its lower end, means at the lower end of the tube to receive either of the detents, the upper detent being received by said means when the extended rib tips are received within the handle skirt while the umbrella is closed in extended condition, and the lower detent being received by said means when the tips of the collapsed ribs are received in the handle skirit when the umbrella is telescoped.

17. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an

upper tube and a lower stick member slidable in the upper tube, a handle at the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition and also adapted to receive the tips of the extended ribs when the umbrella is closed while in extended condition, spring detent means carried within the member near its upper end and also near its lower end, means at the lower end of the tube to receive either of the detents, said means comprising a sleeve forced into the lower end of the tube and secured thereto, the lower stick member being slidable through said sleeve, the upper detent being received just above the sleeve when the extended rib tips are received within the handle skirt while the umbrella is closed in extended condition, the lower detent being received just above the sleeve when the tips of the collapsed ribs are received in the handle skirt when the umbrella is telescoped.

18. A folding umbrella comprising collapsible ribs and a telescopic umbrella stick including an upper tube and a lower stick member slidable in the upper tube, a handle at the lower end of the member, said handle having a skirt adapted to receive the tips of the collapsed ribs when the umbrella is in telescoped condition and also adapted to receive the tips of the extended ribs when the umbrella is closed while in extended condition, spring detent means carried by the member near its upper end and also near its lower end, said spring detent means each comprising one or more balls carried by the member with spring means pressing said balls outwardly, means at the lower end of the tube to receive either the upper or the lower balls, the upper balls being received by said means when the extended rib tips are received within the handle skirt while the umbrella is closed in extended condition, the lower balls being received by said means when the tips of the collapsed ribs are received in the handle skirt when the umbrella is telescoped.

19. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and means to hold the handle in engagement with the tips, said means comprising detent means in the upper end of the lower stick, means at the lower end of the upper tube to receive the detent means when the handle and lower stick have been moved upwardly enough to engage the tips, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the length of said sleeve being such that the detent means springs above the upper end of the sleeve when the skirt receives the rib tips.

20. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower small diameter tube slidable in the upper tube, a lock on the lower tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and means to hold the handle in engagement with the tips, said means comprising detent means in the upper end of the lower stick, means at the lower end of the upper tube to receive the detent means when the handle and lower tube have been moved upwardly enough to engage the tips, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the length of said sleeve being such that the detent means springs above the upper end of the sleeve when the skirt receives the rib tips, the lower end of said sleeve being exposed and being notched to receive the lock of the lower tube to hold the stick extended and to prevent relative rotation of the parts when the stick is fully extended to release the ribs.

21. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and means to hold the handle in engagement with the tips, said means comprising one or more balls in the upper end of the lower tube, a sprng urging said balls outwardly, means at the lower end of the upper stick to receive the balls when the handle and lower stick have been moved upwardly enough to engage the tips, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the length of said sleeve being such that the balls engage the upper end of the sleeve when the skirt receives the rib tips, the upper end of the lower tube being filled by a cap secured therein, a hole extending diametrically through the tube and cap to receive the aforesaid balls and spring, the upper end of the cap being larger in diameter than the lower tube to provide a flange for engaging the upper end of the sleeve in order to limit the extension of the umbrella stick.

22. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a lock in said lower tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and means to hold the handle in engagement with the tips, said means comprising one or more balls in the upper end of the lower tube, a spring urging said balls outwardly, means at the lower end of the upper stick to receive the balls when the handle and lower tube have been moved upwardly enough to engage the tips, said means comprising a sleeve forced into the lower end of the upper tube and secured thereto, the lower tube being slidable through said sleeve, the length of said sleeve being such that the balls spring above the upper end of the sleeve when the skirt receives the rib tips, the lower end of said sleeve being exposed and being notched to receive the lock of the lower tube, the upper end of the lower tube being filled by a cap secured therein, a hole extending diametrically through the tube and cap to receive the aforesaid balls and spring, the upper end of the cap being larger in diameter than the lower tube to provide a flange for engaging the upper end of the sleeve in order to limit the extension of the umbrella stick.

23. A telescoping stick for a folding umbrella, said stick comprising an upper larger diameter tube, a lower stick member slidable within the upper tube, spring detent means

carried in the member near the upper end thereof, a peripheral groove formed about the interior of the tube near its upper end and so positioned as to receive the detent means when the stick is telescoped, the exterior of the tube projecting outwardly at the groove to also form a peripheral bead, and a rib retainer forced over the upper end of the tube and held against downward movement by the bead.

24. A telescoping stick for a folding umbrella, said stick comprising an upper larger diameter tube, a lower smaller diameter tube slidable within the upper tube, one or more balls carried in the lower tube near the upper end thereof, spring means pressing said balls outwardly, a peripheral groove formed about the interior of the upper tube near its upper end and so positioned as to receive the balls when the stick is telescoped, the exterior of the tube projecting outwardly at the groove to also form a peripheral bead, and a rib retainer forced over the upper end of the tube and held against downward movement by the bead, the upper end of the tube being flared outwardly to hold the rib retainer against upward movement.

25. A folding umbrella comprising a telescopic umbrella stick including an upper larger diameter tube and a lower smaller diameter tube slidable in the upper tube, a handle fixedly secured to the lower end of the lower tube, said handle having a skirt adapted to receive the tips of the ribs when the umbrella is closed while in extended condition, and means to hold the handle in engagement with the tips, said means comprising spring detent means in the upper end of the lower tube, means at the lower end of the upper tube to receive the detent when the handle and lower tube have been moved upwardly enough to engage the tips, and a peripheral groove formed about the interior of the upper tube near its upper end and so positioned as to receive the same detent when the stick is telescoped.

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