May 29, 1956 F. H. OGDEN 2,747,591

RAISING AND LOWERING MEANS FOR LAWN UMBRELLAS

Filed Jan. 26, 1955 2 Sheets-Sheet 1

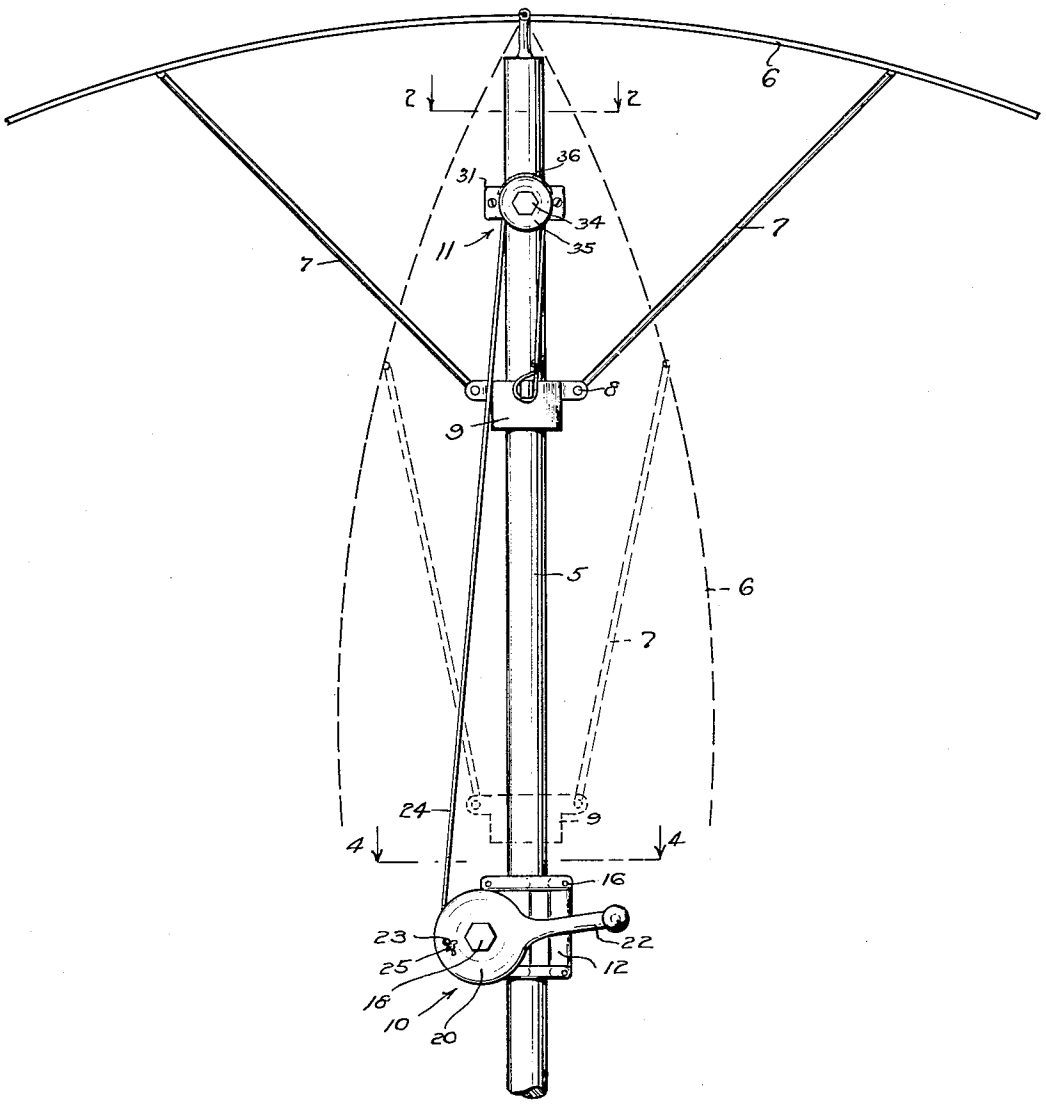


Fig. 1.

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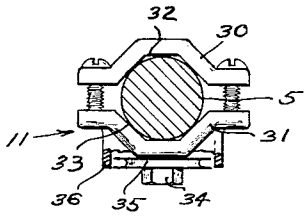


Fig. 2.

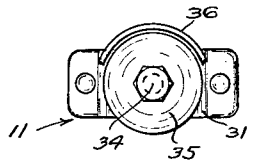


Fig. 3.

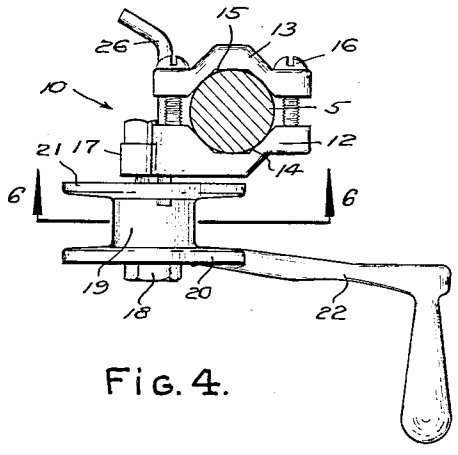


Fig. 4.

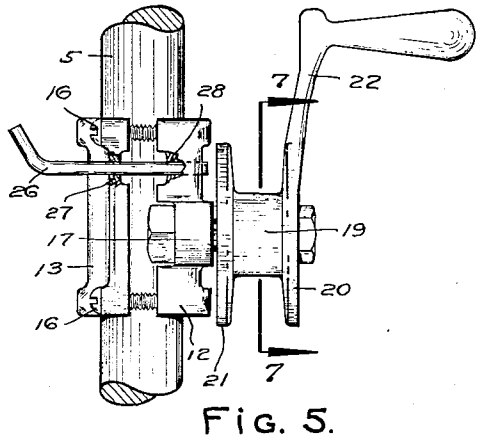


Fig. 5.

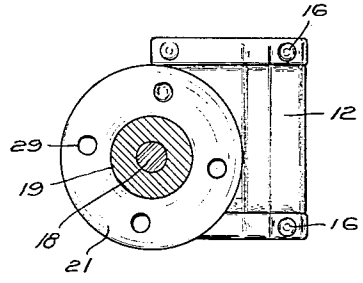


Fig. 6.

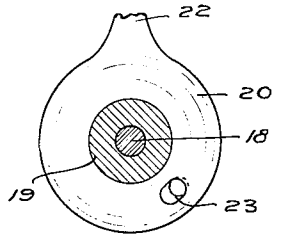


Fig. 7.

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RAISING AND LOWERING MEANS FOR LAWN UMBRELLAS

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Application January 26, 1955, Serial No. 484,141

2 Claims. (Cl. 135—20)

This invention relates to a means for raising and lowering the conventional beach or lawn umbrella, and has particular reference to a winding device whereby the umbrella may be elevated to the extended position and locked against shifting without the aid of the usual and well known spring latch.

The device contemplates novel clamp-on devices that are engaged with the usual standard or pole of the umbrella and with one of the clamp-on devices embodying a winding drum having an operating handle that is disposed within easy reach of an operator whereby the umbrella may be raised or lowered in a quick and easy manner without the necessity of reaching upwardly to release the normal spring latch which, in many instances, is extremely difficult, especially where the umbrella is supported centrally of a lawn table.

Novel features of construction and operation of the device will be clearly apparent during the course of the following description, reference being had to the accompanying drawings wherein has been disclosed a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

Figure 1 is a side elevation of the device in use upon an umbrella and with the umbrella being illustrated more or less diagrammatically,

Figure 2 is a transverse section taken on line 2—2 of Figure 1,

Figure 3 is a side elevation of an upper cable guide,

Figure 4 is a section taken substantially on line 4—4 of Figure 1 with the cable omitted,

Figure 5 is an end elevation of the winding device,

Figure 6 is a section taken substantially on line 6—6 of Figure 4, and

Figure 7 is a section taken substantially on line 7—7 of Figure 5.

Referring specifically to the drawings, the numeral 5 designates the usual and well known supporting standard or pole for the umbrella, here shown as being solid, although it will be apparent that the device of this invention is just as applicable to the tubular standards. Supported at the upper end of the pole 5 is the usual and well known umbrella 6 constructed in a conventional manner and shifted to the open or closed position under the influence of the usual and well known radial rods 7. The rods 7 are pivotally connected, as at 8, to the usual sliding collar 9. The collar 9 is shiftable along the pole 5 for spreading or lowering the umbrella 6. The collar 9 is normally retained in its elevated position by the usual and well known spring latch, here omitted, since the latch now forms no part of the means for maintaining the umbrella in the upper or spread position.

Means are provided to manually raise and lower the umbrella, consisting of a lower winding device, designated as a whole by the numeral 10, and an upper cable guide, designated as a whole by the numeral 11. The winding device embodies a pair of cooperating elongated

clamps 12 and 13. Each of the clamps 12 and 13 have their opposed faces grooved as at 14 and 15 for partial embracing and clamping engagement upon the pole 5. The clamps 12 and 13 are held in rigid clamping engagement upon the pole 5 by screws 16 that pass through the clamp 13 to have threaded engagement within threaded apertures of the clamp 12. At one side, the clamp 12 has been extended to provide a semi-cylindrical boss 17 that is apertured to receive a shaft 18 that extends forwardly of the clamp 12 for the rotatable reception of a winding drum 19. The shaft 18 is preferably rigidly mounted against rotation while the drum 10 is rotatable thereon. The drum 19 includes flanges 20 and 21 and with the flange 20 provided with a preferably integral winding handle 22. The flange 20 is further provided with a diagonally disposed aperture 23 for the anchoring reception of one end of a winding cable 24. The cable 24 at assembly has one free end pass through the aperture 23 to be subsequently knotted upon the outer face of the flange 20, as at 25. Means are provided to lock the drum 19 against rotation, consisting of a shiftable pin 26 that is slidable through aligned apertures 27 and 28 formed within the clamps 13 and 12. One end of the pin 26 is engageable within a selected aperture 29 formed within the flange 21 and serves to prevent rotation of the drum with respect to the winding device 10. The device 10 is mounted upon the pole 5 at a point that is within convenient reach of an operator.

The cable guide 11 embodies a pair of mating clamps 30 and 31 having their opposed faces grooved at 32 and 33 for the partial embracing and clamping engagement of the device upon the pole 5 at a point adjacent the upper end of the pole and at a point above the maximum upward movement of the sleeve 9, when the umbrella is fully extended. The clamp 31 is provided with a fixed stub shaft 34 for the rotatable reception of a grooved pulley 35. A concentric guard plate 36 is preferably cast integral with the clamp 31 and closely overlies the pulley 35 as a means to prevent the accidental displacement of the cable 24 to be passed therearound. The upper free end of the cable 24 is preferably anchored in any convenient manner upon the sleeve 9 such, for instance, as looping and tying the free end thereof about one of the pivotal connections 8 of the umbrella, thus avoiding any additional pins or other connecting means. The devices 10 and 11 are cast or stamped from suitable metal having rust-resisting qualities, since quite frequently umbrellas are employed in beach areas where the metal parts soon become rusted, and it is one purpose of this invention to provide a structure of this character that has a relatively long life and may be removed and replaced upon other umbrellas at will.

In the use of the device the umbrella is elevated and latched in the usual and well known manner, after which the cable guide 11 is rigidly mounted at a point slightly above the maximum upper position of the sleeve 9. The device 10 is then anchored at a convenient point of reach upon the pole 5 and with the drum 10 and the pulley 35 being substantially parallel to each other. The cable 24 is then passed through the aperture 23 and its end knotted at 25 to prevent displacement thereof. The opposite end of the cable is then trained about the pulley 35, brought downwardly and wound about one of the pivotal ears of the sleeve 9 and securely tied in position with the cable being relatively taut. It should be understood, of course, that when drawing the cable taut, the locked end 26 should be engaged within one of the apertures 29 of the flange 21. It will further be obvious that the lower end of the cable 24 has been wound about the drum a sufficient number of turns to permit the full lowering action of the umbrella, as shown in dotted lines in Figure 1. With the drum 10 locked again rotation by

the pin **26**, the usual spring latch for the sleeve **9** may be permanently disengaged or shifted to and held in inactive position. Now, when the umbrella is to be lowered, the operator grasps the handle **22** to prevent rotation of the drum **19** and shifts the lock pin **26** out of engagement with the flange **21**. Then, by holding the handle **22**, the operator may wind the drum and feed the cable **24** about the pulley **25** to the point where the umbrella has been fully collapsed. The elevated or extending of the umbrella is accomplished in a reverse manner by winding the drum **19** in a direction to wind the cable thereon, elevating the sleeve **9** to spread the umbrella to the desired tautness, at which time the pin **26** is shifted to locking engagement with the flange **21**.

It will be apparent from the foregoing that a very novel and highly desirable means has been provided for the control of the usual and well known beach or lawn umbrellas. It frequently happens that in disengaging the old and well known retaining latch for the sleeve **9**, the fingers or thumb of the operator are injured, and this invention completely avoids that difficulty. In other instances the umbrella may be supported centrally of a garden table and at such elevation as makes it extremely difficult to reach the device of the umbrella and usually requires that the umbrella be fully removed from the table to permit the operator to reach upwardly for release of the latch to permit the umbrella to be collapsed. This invention completely avoids the necessity of moving the umbrella from the table. The device is quickly and easily mounted to operative positions with the winding drum device **10** being positioned at an elevation convenient to the reach of an individual operating the device. The parts are few and simple, are strong, durable, cheap to manufacture and highly convenient in use. While the clamps and associated elements have been indicated as being cast or stamped from metal, it will be apparent that the devices may be formed of other materials, such as plastic. Further, the use of the invention requires no additions or changes in the umbrella structure.

It is to be understood, that the invention is not limited to the precise construction shown, but that changes are contemplated as fall within the spirit of the invention, as determined by the scope of the subjoined claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination with a lawn umbrella having a supporting pole and a cover connected thereto to be raised and lowered, a collar slidable upon the pole and having means connected thereto to raise and lower the umbrella, a cable winding device that is clamped upon the pole below the collar, a cable guide pulley clamped to the pole above the collar, a cable wound upon the winding device and extending upwardly and about the guide pulley and with the free end of the cable being connected to the collar, manual means for actuating the winding device to wind the cable thereon whereby to cause the collar to be elevated upon the pole for raising the umbrella and latch means associated with the winding device whereby to prevent the winding device from moving in a reverse direction when the umbrella has been raised, the latch means when released permitting the umbrella to be lowered by gravity as the cable is unwound from the winding device, the said winding device comprising a pair of mating clamping plates having opposed faces that are vertically grooved whereby to partially embrace the pole when the clamps are in clamping position, screws for binding the plates upon the pole, one clamping plate provided with an extension that is apertured for the non-rotatable support of a forwardly extending shaft, a winding drum rotatable on the shaft and with the drum having end flanges, one flange adjacent the clamping plate being provided with a plurality of spaced apart apertures, the other of said flanges being provided with an aperture for the anchoring connection of one end of the cable, the said last named flange being provided with a winding handle, the clamp plates each provided with a cylindrical opening and with the openings being in axial alignment, the said latch means comprising a latch pin slidable jointly in the openings whereby the pin may be shifted to engage in a selected aperture of the apertured first named flange whereby to prevent rotation of the winding drum accidentally when the umbrella is in the raised position.

2. In combination with a lawn umbrella having a supporting pole and a cover connected thereto to be raised and lowered, a collar slidable upon the pole and having means connected thereto to raise and lower the umbrella, a cable winding device that is clamped upon the pole below the collar, a cable guide pulley clamped to the pole above the collar, a cable wound upon the winding device and extending upwardly and about the guide pulley and with the free end of the cable being connected to the collar, manual means for actuating the winding device to wind the cable thereon whereby to cause the collar to be elevated upon the pole for raising the umbrella and latch means associated with the winding device whereby to prevent the winding device from moving in a reverse direction when the umbrella has been raised, the latch means when released permitting the umbrella to be lowered by gravity as the cable is unwound from the winding device, the said winding device comprising the said cable guide pulley being rotatably supported upon a two-part clamping device, the clamping device embodying a pair of mating clamp plates that have their opposed faces vertically grooved whereby to partially embrace the pole when the clamps are in clamping position, screw devices between the clamp plates whereby to shift them toward each other for binding engagement upon the pole, one clamp plate having a forwardly projecting shaft fixed with respect thereto, the said guide pulley being rotatable upon the shaft for guiding traverse of the cable and a concentric flange formed upon the last named clamp plate that overlies the pulley whereby to prevent accidental displacement of the cable from the pulley.

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