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DEVICE FOR TURNING AN UMBRELLA POLE

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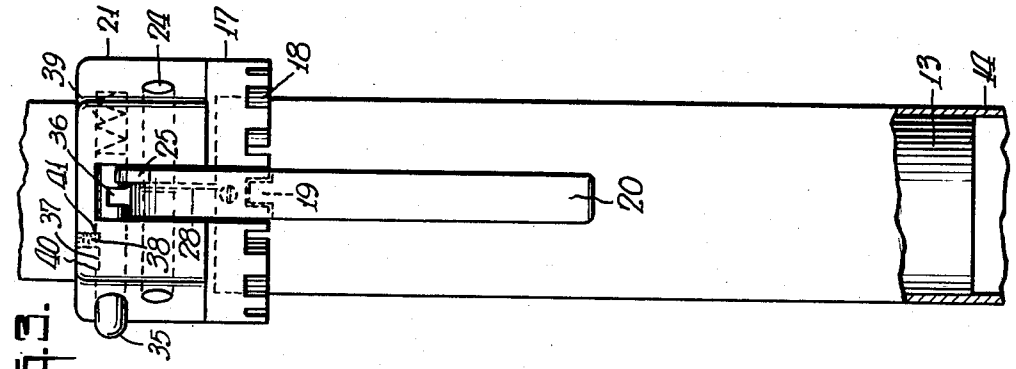


Fig. 3.

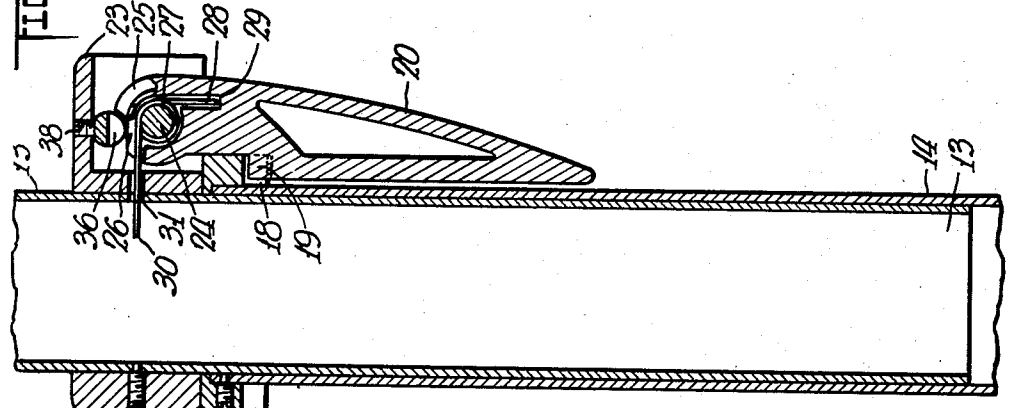


Fig. 2.

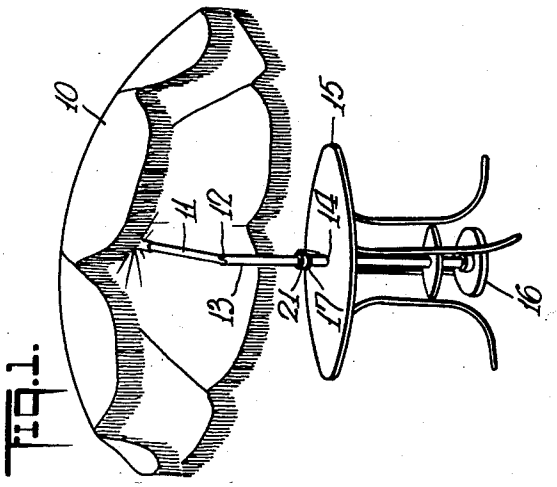


Fig. 1.

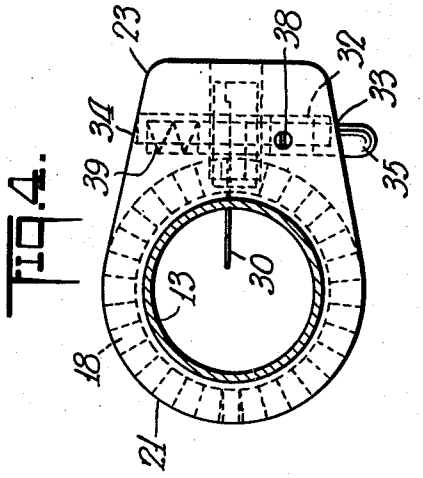


Fig. 4.

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DEVICE FOR TURNING AN UMBRELLA POLE

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4 Claims. (Cl. 287—91)

This invention relates to a pole turning device, and more particularly to a device for turning an umbrella such as the large tiltable outdoor garden or beach umbrellas to position them to provide shade irrespective of the location of the sun.

Beach and garden umbrellas have the canopy carried by an upper pole which is pivotally mounted on a lower pole so that the umbrella canopy can be tilted are well known. As heretofore constructed in order to turn such umbrellas to provide shade as the sun changes its position, it was necessary to manually grasp the umbrella pole and turn it. As beach and garden umbrellas are large and heavy, turning them in this manner is both arduous and difficult.

It is an object of this invention to provide a device for turning a pole, particularly an umbrella pole, which device is simple and compact in design and therefore relatively inexpensive to manufacture, is efficient in operation in that it effects turning movement of the pole with the exercise of little energy by the operator or user, and is relatively inconspicuous and hence does not detrimentally affect the appearance of the umbrella on which it is mounted.

Other objects and advantages of this invention will be apparent from the following detailed description thereof.

In accordance with this invention a housing is fixedly mounted on a rotatably mounted pole, such as an umbrella pole, this housing being positioned at a readily accessible point on the pole, e. g., in the case of a garden umbrella associated with a table at a point just above the table. The housing carries a spring pressed handle which normally lies contiguous to and in alignment with the pole where it is relatively inconspicuous but readily accessible. When in this position the handle locks the rotatable pole against turning movement. When it is desired to turn the pole, a button is pressed releasing the handle, unlocking the pole so that it can now turn and causing the handle to assume a position at right angles to the pole where it can readily be grasped by the user and the pole turned to any desired position. The handle is then moved to again lock the pole against turning and assume its relatively inconspicuous position.

In the preferred embodiment illustrated on the drawing, the invention is shown incorporated in a device for turning the supporting pole of a tiltable umbrella and the present description will be confined to the present illustrated embodiment of the invention. It will be understood, however, that the novel features and improvements are susceptible to other applications, such, for example, as the turning of other poles or shafts, etc. Hence, the scope of this invention is not confined to the embodiment herein described.

In the accompanying drawing, forming a part of this specification and showing, for purposes of exemplification, a preferred form of this invention without limiting the claimed invention to such illustrative instance,

Figure 1 is a perspective view of a tiltable garden umbrella embodying this invention;

Figure 2 is a fragmentary vertical section through the portion of the umbrella pole carrying the pole turning device of this invention;

Figure 3 is a fragmentary front elevational view of an umbrella pole having the turning device of this invention thereon; and

Figure 4 is a plan view of the turning device of this invention.

Referring first to Figure 1 of the drawing, **10** indicates

the canopy of a conventional tiltable umbrella carried by an upper pole **11** pivoted at **12** to a lower pole **13** which is rotatably mounted in a hollow base pole **14**. The latter pole passes through table **15** and has its lower end fixed in a heavy block or casting **16**. Thus, the block or casting **16** and table **15** support hollow pole **14** which in turn provides a bearing support for pole **13**, in which support this pole can turn freely when not locked thereto, as hereinafter more fully described.

Keyed or otherwise securely fixed to the top of hollow pole **14** is a collar **17**. The underside of this collar about the circumference thereof is provided with spaced notches **18** for receiving projection **19** on arm or handle **20**. A housing **21** is secured as by pin **22** or otherwise to pole **13**. This housing is positioned on this pole so that it rests on the top of collar **17** which provides a bearing support for the base of housing **21** and supports the latter during its rotary or turning movement.

Housing **21** is in the form of a collar encircling pole **13** and having a lateral extension **23** shaped as shown in Figure 4. Mounted in this extension is a pin **24** on which handle **20** is pivotally mounted. The upper portion of handle **20** is formed with a lug or projection **25**, the function of which will be hereinafter described. Also an opening **26** is formed in the portion of this handle in the locality of the pivot pin **24** in which opening a coil spring **27** is disposed extending about the pivot pin **24**.

Coil spring **27** has one end **28** seated in a slot **29** in handle **20**. The other end **30** extends through an opening **31** passing through housing **21** and the wall of hollow pole **13**. In this way a substantial length of the free end of the coil spring extends within the hollow pole **13** permitting location of the handle close to the pole **14** in a relatively inconspicuous position and yet providing sufficient space for the coil spring to partially uncoil when it functions to move handle **20** from the vertical position shown in the drawing to a horizontal position. When the spring thus partially uncoils end **28** functions to effect turning movement of handle **20** about pivot pin **24**.

Disposed above pivot pin **24** is an elongated opening **32** in the lateral extension **23**. This opening extends from side wall **35** to a point short of the opposite side wall **34**. Slidably mounted in this opening is a button member **35** having a notch **36** in its underside and an opening **37** in its top.

A pin **38** extends through the top of housing **21** into opening **37**. This pin permits limited sliding movement of button member **35** against the action of a spring **39** which is confined in the closed end of opening **32** by the button member **35**. Thus, the button member **35** can be moved inwardly compressing spring **39** until the end wall **40** of opening **37** abuts the pin **38**. When moved to this position notch **36** is aligned with projection **25**, permitting this projection to enter notch **36** so that under the influence of coil spring **27** the handle **20** moves into a horizontal position. In the normal position of the button member **35**, shown in Figure 3, projection **25** abuts this button member, hence preventing movement of handle **20** about its pivot **24**. Stop **41** abuts pin **38** when the parts are in the position shown in Figure 3 and limits the movement of this button member under the influence of spring **39** in a left-hand direction viewing Figure 3. Should it be desired to replace the spring **39** or the button member **35** this can readily be accomplished by removing pin **38**.

Handle **20** and associated mechanism, as shown in Figure 1, is disposed just above the table **15** where it is readily accessible to those sitting around the table.

When it is desired to turn the umbrella canopy it is only necessary to press button member **35** and move it inwardly. As soon as notch **36** is aligned with projection **25**, handle **20** springs automatically to a horizontal position under the influence of coil spring **27**, end **30** of this spring moving further into the hollow pole **13**, i. e., to the left in Figure 2 as the spring partially uncoils. The end of this spring is made long enough so that it never leaves the interior of pole **13**. When the handle **20** is in the horizontal position it can readily be grasped and pole **13** moved to position the canopy as desired. Once the desired position is reached, the handle **20** is turned downwardly about its pivot **24** and the projection **19** is

moved into a notch **18** aligned with the projection **19**. This locks the umbrella pole **13** in the position to which it has been moved, since pole **14** is fixed, i. e., not rotatable, and when projection **19** enters a notch **18** pole **13** can no longer turn relative to pole **14**. Movement of handle **20** downwardly restores the coil spring **27** to the tensioned condition under which it is maintained when the handle **20** is in the position shown in Figure 2.

Thus, it will be noted this invention provides a simple compact device for turning an umbrella pole, which device is relatively inexpensive to manufacture, is effective to turn the pole utilizing little energy for this purpose and is relatively inconspicuous.

Since different embodiments of the invention could be made without departing from the scope of this invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In a device for turning an umbrella pole, comprising, in combination, a housing adapted to be secured to said umbrella pole and having a lateral extension, a pivot pin in said extension, a handle mounted for pivotal movement on said pin, a coil spring on said pin constructed and arranged so that it tends to move said handle about said pivot pin, a slidable button member disposed above said pivot pin, said button member being provided with a notch and a projection on said handle, said projection when said handle is disposed substantially vertically abutting said button member so that movement of said handle about said pivot pin under the influence of said spring cannot take place, and said notch in said button member being so located that upon movement of said button member it is moved into position to receive said projection permitting the handle to move to a substantially horizontal position under the influence of said spring.

2. In a device for turning an umbrella pole, comprising, in combination, a housing adapted to be secured to said umbrella pole and having a lateral extension, a pivot pin in said extension, a handle mounted for pivotal movement on said pin and having a projection thereon, a coil spring on said pin constructed and arranged so that it tends to move said handle about said pivot pin, and a spring pressed slidable button member provided with a notch, said button member in one position being abutted by said projection on said handle and adapted to be slid so that said notch receives the projection permitting in the latter position movement of said handle under the influence of said spring.

3. In an umbrella, a fixed hollow pole, a second hollow pole mounted for turning movement in the said fixed hollow pole, a collar having notches about its periphery secured to the top of said fixed hollow pole, a housing on said second hollow pole arranged to turn relative to said collar, said collar providing a bearing support for said housing, a handle pivoted on said housing and having an extension thereon adapted when said handle is in a substantially vertical position contiguous to said fixed hollow pole to enter one of said notches and thus lock the housing and the second mentioned pole against turning movement, a coil spring in said housing engaging said handle and tending to move said handle from said substantially vertical position to a horizontal position in which the said extension no longer engages one of said notches, a spring pressed slidable button member having a notch therein, and a projection on said handle arranged to abut said button member when said handle is in said substantially vertical position and thus prevent said handle from moving under the influence of said coil spring to said substantially horizontal position, said button member being movable to a position where the notch therein receives said projection on said handle whereupon the said handle moves to said substantially horizontal position under the influence of said coil spring.

4. In an umbrella construction as defined in claim 3, in which the coil spring has a free end extending within the said second hollow pole which free end is movable in said hollow pole as the said coil spring is partially uncoiled and recoiled, said free end being of a length such that it remains within said hollow pole throughout the partial uncoiling and recoiling of said coil spring.

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