No. 700,517. Patented May 20, 1902.

T. LINDSAY & L. L. WHITE.

LAMP HANGER.

(Application filed Sept. 5, 1901.)

(No Model.)

Fig. 1.

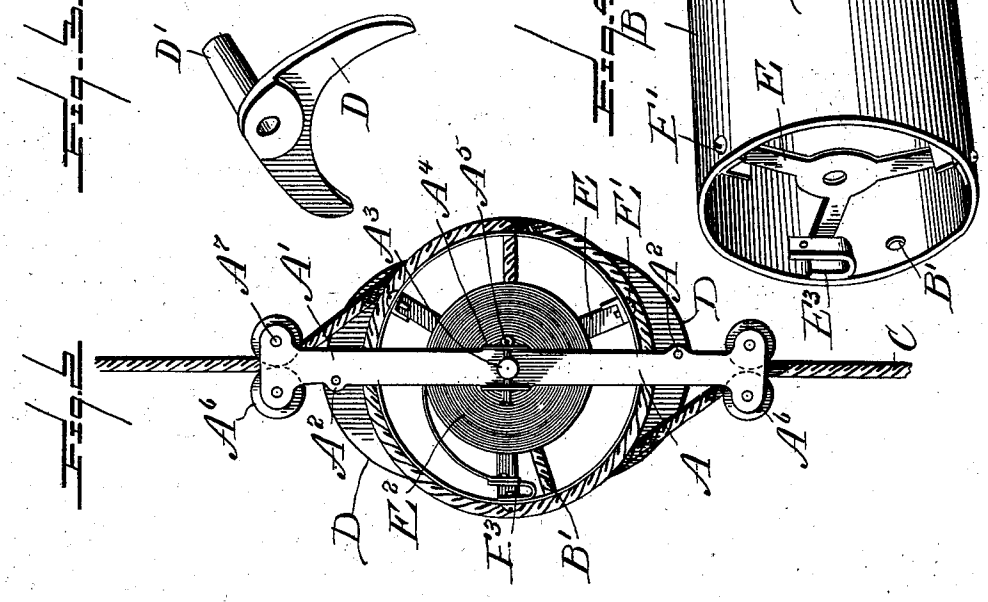
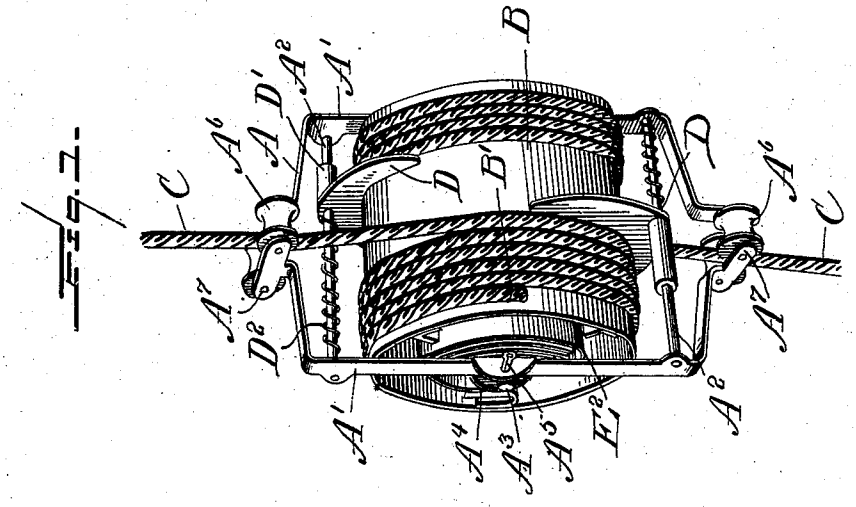


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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LAMP-HANGER.

SPECIFICATION forming part of Letters Patent No. 700,517, dated May 20, 1902.

Application filed September 5, 1901. Serial No. 74,431. (No model.)

To all whom it may concern:

Be it known that we, THOMAS LINDSAY and LEONARD L. WHITE, citizens of the United States, residing at Wilmerding, in the county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Lamp-Hangers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to lamp-hangers, and particularly to a construction embodying a spring-drum adapted to have wound thereon the suspending device or cord for the lamp.

The invention has for its object to provide means independent from the drum for guiding the winding of the supporting cord or device upon the drum in order to prevent the overlapping or entanglement thereof in the raising or lowering movement of the lamp supported by the hanger.

A further object of the invention is to provide a spring-actuated guide adapted to move transversely to the face of the drum in order to place a constant tension against the cord as the same is wound upon the drum-face, causing the winding in a continuous spiral line and avoids the necessity of any grooving of the face of the drum.

A further object of the invention is to provide an improved means for supporting the winding-spring within the body of the drum.

Other objects and advantages of the invention will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 represents a perspective of the invention with the inclosing case removed. Fig. 2 is an end elevation illustrating the application of the winding-spring. Fig. 3 is a detail perspective of the guiding device, and Fig. 4 is a similar view of the drum.

Like letters of reference indicate like parts throughout the several figures of the drawings.

The present invention is adapted for supporting any character of device by means of a spring-actuated drum, but particularly for use with electric lamps, wherein the conducting-wires form the supporting cord or medium.

The invention is further intended as an improvement upon Patent No. 669,283 of March 5, 1901, granted to Thomas Lindsay, and is adapted to dispense with the more difficult and expensive construction of grooved drum by substituting therefor a drum having a smooth periphery and an improved form of guiding device which is entirely independent of the movement of the drum.

In the drawings, the letter A represents a frame, which may be of any suitable configuration and in the complete article is adapted to be inclosed in a casing. The opposite side members A′ of the frame are secured together by cross-bars A^2 at their upper and lower portions, while between these bars a spindle or axle A^3 is held against rotation by the frame in any suitable manner—for instance, by means of a pin A^5, passed through opposite lugs A^4, formed on the side bars A′, and through an aperture in the end of the axle. Upon this axle a drum B is rotatably mounted and is provided with a continuous plain periphery upon which the supporting device for the lamp is adapted to be wound. In order to guide and dispose this supporting cord or device to the center of the drum, the ends of the side bars A′ are provided with rollers A^6, rotatably supported upon pins A^7, connecting the side bars A′, so that the cord in approaching the drum is directed to a central position lengthwise of the drum. It will be understood that one end of this cord or suspending device is connected to a fixed support, while the opposite end supports the lamp or device to be carried by the hanger, and the cord C is preferably a continuous piece and is passed through the drum in a line from one side to the diametrically opposite side, openings or apertures B′ being provided for this purpose at the edges, so that the winding movement is from the outer edge of the drum inward upon both ends of the cord.

In the winding of the cord it is desirable that each strand or winding should lie in close contact with the preceding and adjacent one, so as to produce a continuous spiral winding

to prevent the entanglement of the cords or the overlapping of the same and to economize in the length or capacity of the drum necessary for any particular length of cords. The improved construction of guide for exerting a pressure upon the cord transversely of its length and of the drum B consists of the finger D, which may be segmental or of any other preferred configuration, and is slidably mounted by a collar D′ upon the cross-bar A^2 at each side of the drum, while surrounding this bar a spiral spring D^2 is disposed in order to normally press the guide toward one end of the bar, while the accumulation of the cord wound upon the drum gradually forces the guide against the tension of the spring, thus producing the desired pressure to force each strand or winding of the cord into contact with the adjacent one. This produces a structure entirely independent of the drum and obviates the necessity of the spiral grooving on the drum, which has not been found desirable in the use of a sheet-metal drum as herein illustrated.

By reference to Fig. 1 it will be seen that the guides D move in opposite directions upon the two windings upon the drum in order that the strands of each winding may be pressed toward the edges of the drum.

In order to provide a construction of winding-spring which will not interfere with the suspending cord or device or injure the insulation thereof when the electric conductor is used, a spider E is provided and supported within the drum in any desired manner—for instance, by screws E′ passing through the drum. The spring E^2 is secured at one end to the lip or lug E^3, carried by the spider and at its opposite end to the fixed axle or spindle A^3 of the drum, so that the unwinding of the cord from the drum rotates the end of the spring carried by the cage to place the spring under tension, and thus restore the parts to their initial position when relieved of the weight of the lamp. The tension of this spring is varied or determined according to the weight of the lamp or other device supported by the hanger.

From the foregoing description the operation of the invention will be apparent, and it will be seen that in the beginning of the winding action upon the drum the cord extends from the aperture B′ to the guide-rollers opposite the center of the drum, while the sliding guide D presses against the cord during the winding movement, thus causing the same to be disposed in a spiral position with the strands in close contact with each other. In the unwinding movement of the cord the guide D follows the cord by means of the spiral spring D^2, so that this guide is constantly in engagement with one side of the strand or cord to control and guide the winding action of the same.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described the invention, what is claimed is—

1. In a lamp-hanger, the combination with a spring-actuated drum, of a supporting-cord adapted to be wound thereon, a guide-finger independent from the drum and adapted to move longitudinally thereof, in contact with the cord wound thereon, and means independent of the drum for imparting yielding pressure of the guide-finger against the cord-windings; substantially as specified.

2. In a lamp-hanger, the combination with a spring-actuated drum, of a supporting-cord adapted to be wound thereon, a guide-finger independent from the drum and adapted to move longitudinally thereof, and a spring for normally forcing said guide toward one edge of said drum; substantially as specified.

3. A lamp-hanger comprising a frame, a spring-actuated drum rotatably mounted therein, a supporting-cord wound upon said drum, a cross-bar at one side of said drum, a guiding-finger adapted to contact with said cord and slidably mounted upon said cross-bar, and a spring for pressing said finger in one direction; substantially as specified.

4. A lamp-hanger comprising a frame, a spring-actuated drum rotatably mounted therein, a supporting-cord wound upon said drum, a cross-bar at one side of said drum, a guiding-finger adapted to contact with said cord and slidably mounted upon said cross-bar, a spring for pressing said finger in one direction, an opposite guide-finger upon the opposite side of drum, and a spring for pressing said opposite finger in the direction opposite to that of the first-mentioned finger; substantially as specified.

5. A lamp-hanger comprising a frame, a spring-actuated drum rotatably mounted therein, a supporting-cord wound upon said drum, a cross-bar at one side of said drum, a guiding-finger adapted to contact with said cord and slidably mounted upon said cross-bar, a spring for pressing said finger in one direction, an opposite corresponding guide-finger upon the opposite side of the drum, a spring for pressing said opposite finger in the direction opposite to that of the first-mentioned finger, and guide-rollers supported by the frame adjacent to the longitudinal center of said drum; substantially as specified.

6. In a lamp-hanger, the combination with a supporting-drum, a cord adapted to be wound thereon and passed therethrough, of a spider having arms adapted to be removably secured to said drum and carrying the outer end of the actuating-spring for the drum at a distance from the inner face thereof, a spindle for said drum to which the opposite end of said spring is secured, and means for securing said spindle against rotation; substantially as specified.

7. In a lamp-hanger, the combination with

a supporting-drum and cord adapted to be wound thereon, of a spider having arms adapted to be secured to said drum and carrying one end of the actuating-spring for the drum at a distance from the inner face thereof, a spindle for said drum to which the opposite end of said spring is secured, a frame for said drum having lugs opposite one end of said spindle, and a securing-pin passed through said lugs and spindle; substantially as specified.

8. A lamp-hanger comprising a frame, a spring-actuated drum centrally mounted therein, cross-bars at opposite sides of said drum, a supporting-cord extending from the opposite edge portions of said drum, guide-fingers lidably mounted upon said cross-bars, and a coiled spring surrounding said cross-bars and adapted to force said fingers toward the opposite ends of the drum; substantially as specified.

9. A lamp-hanger comprising a frame, a spring-actuated drum centrally mounted therein, cross-bars at opposite sides of said drum, a supporting-cord extending from the opposite edge portions of said drum, guide-fingers slidably mounted upon said cross-bars, a coiled spring surrounding said cross-bars and adapted to force said fingers toward the opposite ends of the drum, and oppositely-disposed guide-rollers carried by said frame at each side of said drum and at the longitudinal center thereof; substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS LINDSAY.
LEONARD L. WHITE.

Witnesses:
J. M. POLLOCK,
ALBERT R. TREVASKIS.