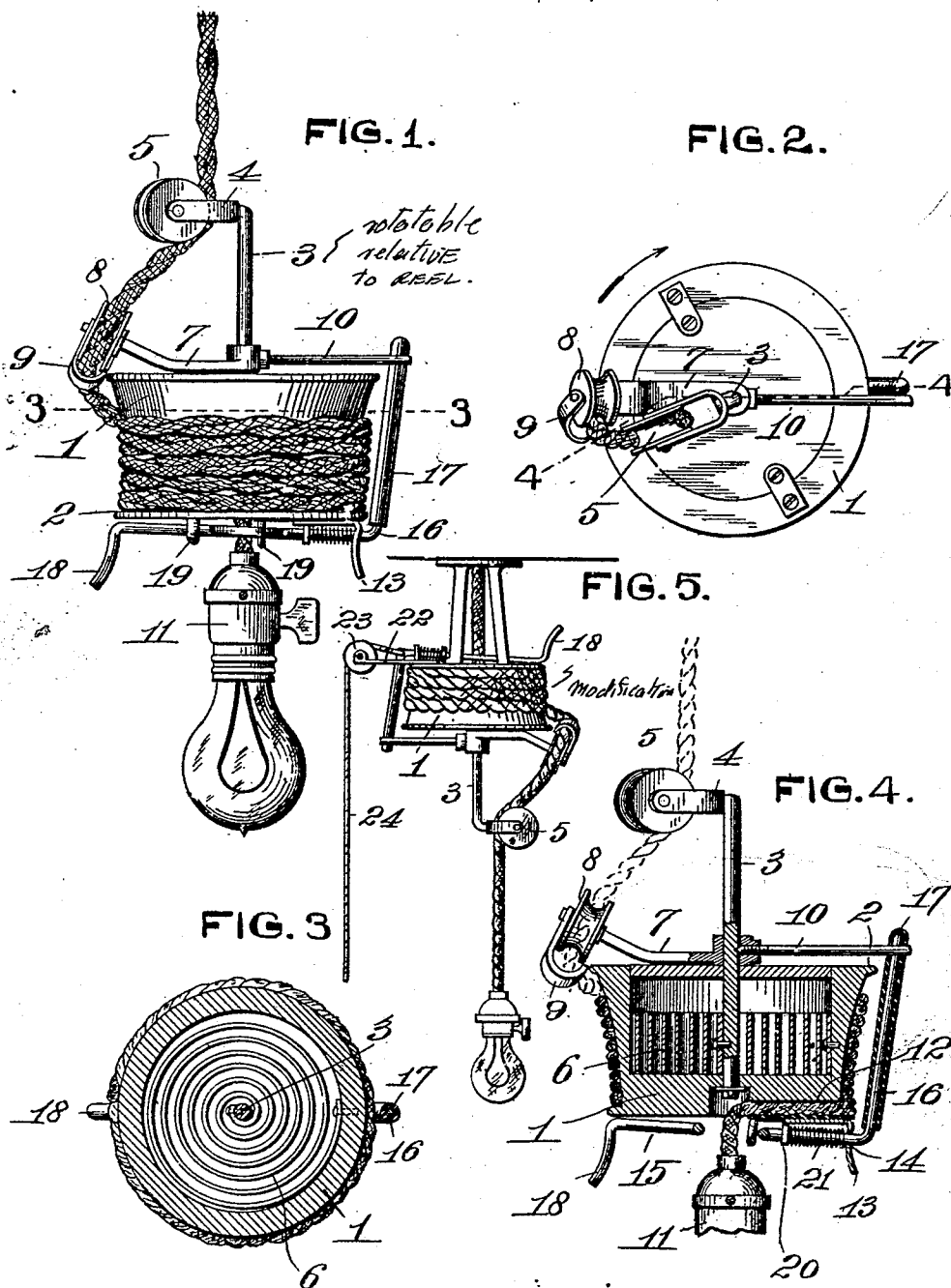


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H. M. GROASH, DEC'D.  
H. TROLL, PUBLIC ADMINISTRATOR.  
SLACK ADJUSTER FOR ELECTRIC LAMPS.  
APPLICATION FILED OCT. 10, 1905.



ATTEST.  
H. G. Fletcher.  
M. P. Smith

INVENTOR.  
H. M. Groash.  
BY *Nigdon & Langley*.  
ATTY'S.

# UNITED STATES PATENT OFFICE.

HARRISON M. GROASH, OF ST. LOUIS, MISSOURI; HARRY TROLL, PUBLIC ADMINISTRATOR OF SAID HARRISON M. GROASH, DECEASED.

## SLACK-ADJUSTER FOR ELECTRIC LAMPS.

No. 853,238.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed October 10, 1905. Serial No. 232,193.

*To all whom it may concern:*

Be it known that I, HARRISON M. GROASH, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Slack-Adjusters for Electric Lamps, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a slack adjuster for electric lamps, the object of my invention being to construct a simple, inexpensive, and compact device for taking up or letting out the slack wire that leads to an incandescent lamp from the ceiling or overhead fixture.

A further object of my invention is to construct a drum on which the electric wires will automatically wind whenever the incandescent lamp is elevated, and from which drum the wire will unwind when the lamp is lowered.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more clearly set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of my improved slack adjuster; Fig. 2 is a plan view of the adjuster seen in Fig. 1; Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1; Fig. 4 is a vertical section taken on the line 4—4 of Fig. 2; Fig. 5 illustrates a modified construction of the adjuster, the same being adapted to be fixed to the ceiling, and to be operated by a depending cord.

Referring by numerals to the accompanying drawings:—1 indicates a hollow drum horizontally arranged, its lower end being smaller in diameter than its upper end, and being provided on its top and bottom edges with flanges, 2, that retain the electric wires when they are wound upon the exterior face of the drum. Passing diametrically through the center of the drum, and arranged to rotate therein is a shaft, 3, the upper end of which is bent laterally and bifurcated, as indicated by 4, and in said bifurcated end is arranged for rotation a grooved pulley, 5. Located within the hollow drum is a convolute spring, 6, the inner end of which is rigidly secured to the shaft, 3, and the upper end of

which is rigidly secured to the side wall of the hollow drum. Rigidly fixed to the shaft, 3, just above the drum, 1, is the inner end of an arm, 7, the upper end of which carries a rotatably arranged grooved pulley, 8, and a guard, 9, extends around the under side of this pulley. Carried by the inner end of the arm, 7, and extending in an opposite direction past the edge of the drum, 1, is a finger, 10, that acts as a stop for parts hereinafter described.

The electric wires to the incandescent lamp, 11, lead downwardly from the ceiling, or overhead fixture, around the under side of the pulley, 5, from thence around one side of the pulley, 8, through the guide, 9, and from thence said wires wind upon the exterior of the drum, 1, in an opposite direction to the winding of the spring, 6, and the lower end of said wires extend through a groove, 12, formed in the under side of the drum, 1, and finally said wires project downwardly from the center of said drum and are secured in the usual manner to the socket of the lamp, 11.

Rigidly fixed to the under side of the drum, 1, adjacent one edge thereof, is a downwardly pending finger hold, 13, in which is formed an aperture, 14.

15 indicates a releasing bar that extends transversely across the under side of the drum, 1, and through the aperture, 14, and the end of said releasing bar, adjacent this aperture, is bent upwardly, as indicated by 16, along the side of the drum, 1, its upper end terminating at a point above the plane occupied by the finger, 10. This upwardly bent bar, 16, is preferably covered with insulation, 17. The opposite end of the bar, 15, is bent downwardly to form a finger hold, 18, which is arranged directly opposite the fixed finger hold, 13. Suitable guides, 19, are secured to the under side of the drum, 1, through which the releasing bar, 15, slides. Fixed upon this releasing bar a short distance from the finger hold, 13, is a washer, 20; and wound upon said bar, between the washer, 20, and the finger hold, 13, is an expansive coil spring, 21.

In the modification, seen in Fig. 5, the drum, 1, is fixed in any suitable manner to the ceiling, and the electric wires extend downwardly to and around said drum, and from thence downwardly to the lamp, 11.

The finger hold, 13, is dispensed with, and in its place is located a bearing, 22, carrying at its outer end a grooved pulley, 23. A manipulating cord, 24, is secured at its upper end to the releasing bar, 15, and extends from thence over the pulley, 23, and from thence downwardly to a point where it can be readily grasped by the hand.

The operation of my improved slack adjuster is as follows: The tendency of the spring, 6, is to unwind, and to cause the shaft, 3, and drum, 1, to rotate in opposite directions; but this rotation is prevented as long as the finger, 16, of the releasing bar is engaged against the outer end of the finger, 10. When it is desired to draw the lamp downwardly, the operator places a finger upon the finger hold, 13, and with the thumb presses inwardly upon the finger hold, 18, of the releasing bar, 15. This action compresses the coil spring, 21, and moves the upwardly turned end of the releasing bar away from the end of the finger, 10. The drum, 1, is now drawn downwardly, and, as it is held against rotation by the thumb and finger, the spring, 6, will wind up inside said drum, and the shaft, 3, will be rotated; thus carrying the arm, 7, and grooved pulley, 8, around above the upper edge of said drum, and the electric wires wound upon the exterior of said drum will unwind therefrom, as said drum is moved downwardly. Thus, the wires that have been wound upon said drum being unwound therefrom allows the lamp to be lowered to the proper point, and when this point has been reached, the operator releases the pressure of the thumb from the finger hold, 18, and the releasing bar, 15, resumes its normal position; and the upper end of the arm, 16, engages the outer end of the finger to prevent a reverse rotation of the shaft, 3, and parts carried thereby. To elevate the lamp and take up the slack in the wires leading thereto, the operator, after engaging the finger holds, 13 and 18, and moving the arm, 16, out of the path of travel of the finger, 10, raises the drum, 1, and, as a result, the spring, 6, will follow its natural tendency to unwind; and this action causes the shaft, 3, and parts carried thereby to rotate; and the slack in the electric wires

will be wound upon the exterior of the drum, 1.

In the modification shown in Fig. 5, the releasing bar is manipulated by pulling downwardly upon the cord, 24, and, when so pulled, the rotating parts are free to rotate and wind the electric wires upon or unwind them from the drum, 1, to raise or lower the lamp. The spring, 6, automatically acts to wind the electric wires upon the drum, and said spring is held against unwinding by the engagement of the arm, 16, with the finger, 10.

The device is very simple, can be made ornamental so as to present a pleasing appearance, and is very efficient in taking up or letting out the slack of wires to a hanging incandescent lamp.

The horizontally arranged drum and the guide, which causes the wires to wind on said drum, provide very simple and efficient means for taking up the slack in electric light wires, and it is especially applicable for wires hanging downwardly from the ceiling, or from an overhead fixture.

I claim:

A device of the class described, comprising a vertically disposed shaft, a hollow drum arranged for rotation thereon, a convolute spring on the interior of the drum, one end of which is fixed to the shaft and the opposite end being fixed to the drum, a guide roller journaled on the upper end of the shaft, a horizontally disposed arm fixed on the shaft immediately above the drum, a guide roller carried by the outer end of the arm, a horizontally disposed finger fixed to the arm and projecting beyond the edge of the drum, a spring actuated stop arranged for horizontal movement on the bottom of the drum, and one end of which stop is bent into a vertical plane with its upper end adapted to engage against the end of the finger carried by the arm above the drum.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

HARRISON M. GROASIL.

Witnesses:

M. P. SMITH,  
JOHN C. HIGDON.