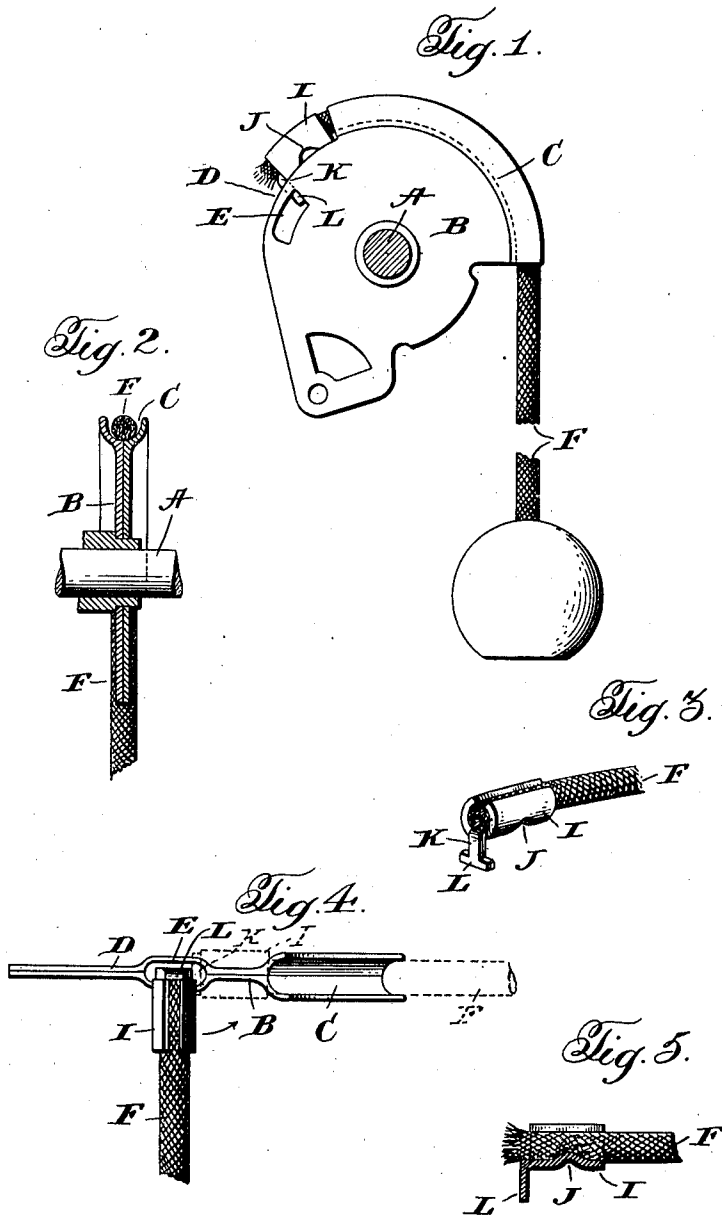


A. A. TIRRILL.
 OPERATING CORD OR CHAIN FOR SWITCHES.
 APPLICATION FILED APR. 13, 1910.

1,031,399.

Patented July 2, 1912.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALLEN A. TIRRILL, OF SCHENECTADY, NEW YORK.

OPERATING CORD OR CHAIN FOR SWITCHES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALLEN A. TIRRILL, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Operating Cords or Chains for Switches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in operating cords or chains, and particularly to an improved connecting device for fastening the cord or chain to an operating mechanism.

While the invention is capable of use in other connections, the same is designed primarily and is especially useful in connection with ceiling or wall switches; wherein an operating cord or chain is suspended to occupy a position of ready access to the person operating a switch mounted upon or embedded in the ceiling or wall of a room, etc. In switches of the character referred to, it is now usual to employ a rotatable actuating part adapted to be engaged by the suspended cord or chain, and the present invention has particular reference to fastening instrumentalities for readily and detachably connecting the cord or chain to said rotatable element or part. The invention, however, contemplates a movable actuating part provided with a recessed or slotted portion, a cord or chain for operating said part, and a detachable connecting device between the cord or chain and said part comprising a ferrule secured to the cord or chain having an offset headed portion adapted to engage and interlock with the slotted or recessed portion of the movable actuating part.

The novel details in the construction and arrangement will be apparent from the accompanying drawings, wherein a convenient embodiment of the invention is illustrated, when considered in connection with the detailed description hereinafter contained.

In the drawings, Figure 1 is a fragmentary end view of a switch mechanism showing a switch shaft and the movable actuating part, in the present instance, a rotatable sheave provided with my improved operating cord or chain, Fig. 2 is a sectional view of Fig. 1, Fig. 3 is a perspective view of the connecting end of the cord or chain, Fig. 4 is a detail elevation showing the manner of connecting the cord or chain to the rotatable

sheave, and Fig. 5 is a longitudinal view through Fig. 3.

Referring more specifically to the drawings, wherein like reference characters designate corresponding parts in the several views, A represents a switch shaft, and B a rotatable actuating sheave operatively connected in any desired manner to the switch shaft, whether by a direct or indirect connection, the latter constituting no part of the present invention. The periphery of the sheave is concaved or grooved as at C transversely to form a seat for the operating cord to be presently referred to. A portion of the periphery of the sheave is, however, formed flat, as represented at D, and this flat portion or flange has a slot E formed therein, the longitudinal disposition of which is circumferentially of the sheave.

The operating cord, cable or chain, of any desired structural formation, is indicated at F and at the upper end of the same I provide the connecting device now to be described. This connecting device comprises a split ferrule I, provided with a transversely disposed inwardly projecting indented intermediate portion J, the ferrule being adapted to be firmly compressed around the cord to clamp the cord within the ferrule and to embed the internal rib constituted by the indentation J transversely into the cord to constitute an efficient interlock of the parts. It will be observed that by the special fastening just referred to, the upper end of the cord forms in effect a head above the indentation J resisting any tendency of the cord to be pulled longitudinally through the ferrule. At the outer end of the ferrule, the same is offset approximately at right angles to form a neck or stem portion K in turn provided with a T-head L, this head being transversely disposed with reference to the ferrule and operating cord and occupying a position beyond one side thereof.

The manner of engaging the cord with the rotatable actuating sheave is illustrated quite clearly in Fig. 4, where it is seen that the ferrule in its introducing movement is arranged axially of the sheave with the T-head alined with the slot in the periphery of the sheave. When the T-head is passed through the slot, the ferrule and cord are turned into the position shown by dotted lines which engages the head beneath the peripheral portion of the sheave adjoining the walls of the slot, as is obvious.

From the foregoing description, it will be apparent that by the means provided herein, a strong, simple and efficient connection is obtained, and a connection which may with great ease and facility be made or broken at the will of the user. This ready attachment or detachment of the operating cord or chain not only permits repair of the cord, but enables the substitution of different styles or colors of operating cords or chains to suit the whim or desire of the user, or in keeping with the surroundings attending the use of the device.

It will be apparent to those skilled in the art that the invention is capable of embodiment in forms and devices other than that herein specifically disclosed.

I claim:

1. In combination with a movable actuating part of a switch provided with a slotted portion above an open space, means for operating the same including a cord, and an attaching device carried by the cord provided with an offset portion adapted to engage said slotted portion of the actuating part and enter said open space therebeneath, substantially as described.

2. In combination with a movable actuating part of a switch provided with a slotted portion above an open space, means for oper-

ating the same including a cord, and an attaching device carried by the cord provided with a T-shaped offset portion adapted to engage said slotted portion of the actuating part with the head of the T entered into said open space therebeneath, substantially as described.

3. In combination with a rotatable actuating sheave of a switch provided with a grooved periphery and a slotted portion, means for operating the sheave including a cord lying in the periphery of the switch, and a device carried by the cord having an offset T-shaped portion adapted to detachably engage through said slotted portion when turned into registration with the slot.

4. In combination with the movable part of a switch, an operating cord therefor, means for detachably connecting the operating cord to said movable part, said connection including a separable headed stem and slot engagement angularly disposed to prevent disengagement.

In testimony whereof I affix my signature in presence of two witnesses.

ALLEN A. TIRRILL.

Witnesses:

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