

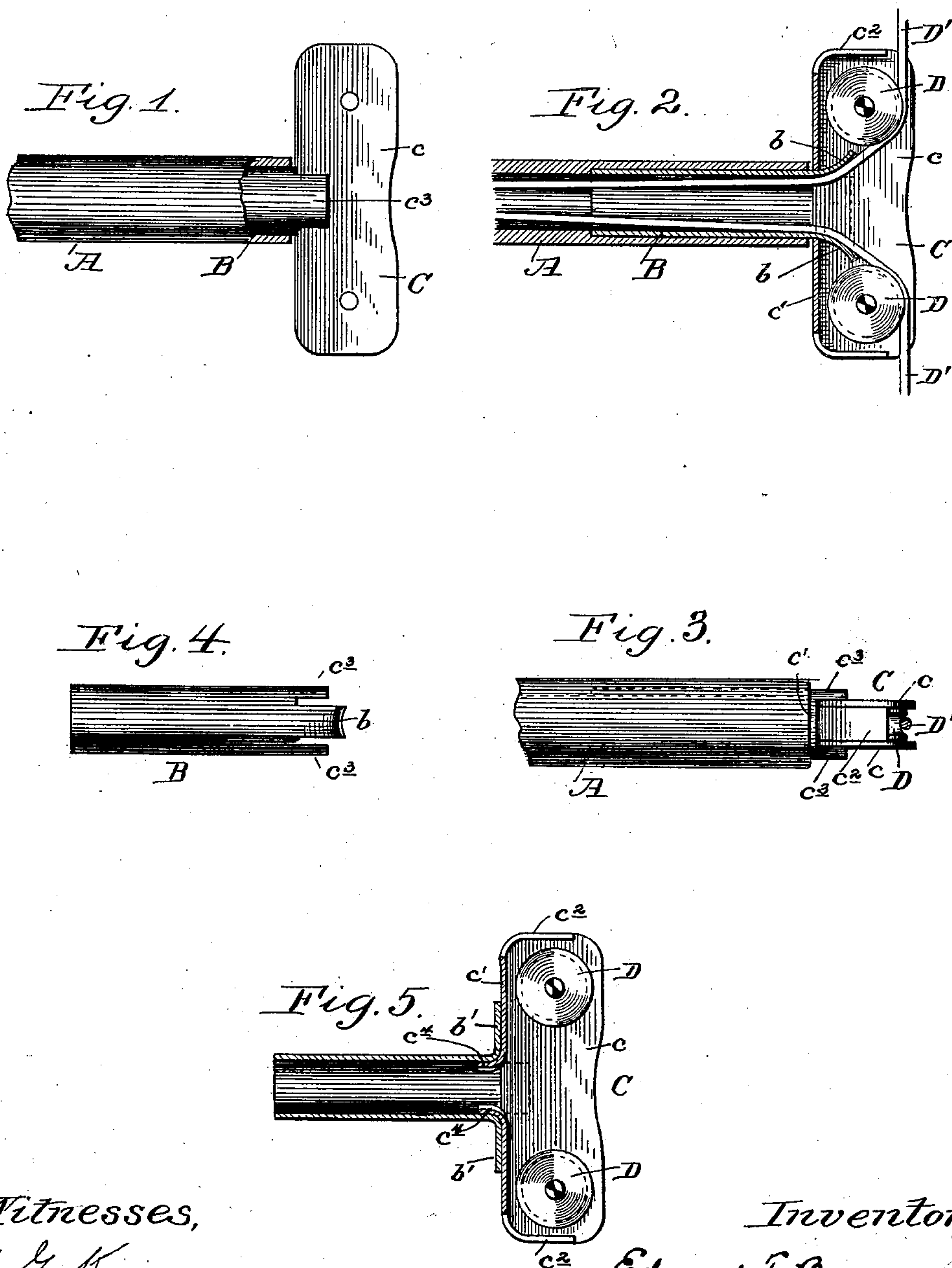
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Patented Feb. 26, 1901.

E. T. BURROWES.
TIP FOR CABLE FIXTURES.

(Application filed Mar. 22, 1898.)

(No Model.)



Witnesses,
W. G. Kearney
Chas. W. Parker.

Inventor,
Edward T. Burrowes
By R. S. Bacon
Atty.

UNITED STATES PATENT OFFICE.

EDWARD T. BURROWES, OF PORTLAND, MAINE, ASSIGNOR TO THE
CURTAIN SUPPLY COMPANY, -OF CHICAGO, ILLINOIS.

TIP FOR CABLE FIXTURES.

SPECIFICATION forming part of Letters Patent No. 668,810, dated February 26, 1901.

Application filed March 22, 1898. Serial No. 674,818. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. BURROWES, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Tips for Cable Fixtures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved tip for wire cable or cord curtain-fixtures, and is embodied in the construction and arrangement of parts hereinafter described, and defined in the claims.

Generally speaking, the invention relates to that particular class of curtain-fixtures wherein squaring-bands are employed, the same passing through a hollow stick at the lower margin of the shade and engaging the guides or tips at the ends of the shades with sufficient friction to maintain the shade in various positions of adjustment against the constant winding tendency of the spring of the curtain-shade roller.

Heretofore it has been suggested to employ a tip of substantially funnel shape and also a tip having a double-grooved roller at its end, over which the squaring-bands pass. In tips for fixtures of the squaring-band type it is desirable to have the same so arranged and fashioned that the bend of the cords or bands where they leave the tube will be on an extended arc or curve. This is necessary for the reason that wire cables are usually employed and that if the bend in the cable is too abrupt it will soon crystallize the metal of the cable, causing it to fray out, and thus render the fixture inoperative. In the funnel-shaped type the cable moves on a fixed surface throughout the bending portion, thereby creating an unnecessary amount of friction, while in the roller-tip type the roller of necessity is of large diameter and often projects, on account of its diameter, too far back or toward the center of the curtain. It has been suggested heretofore also to place two antifriction-rollers in the tip, with their inner peripheries on a plane substantially parallel with the plane of the inner walls of

the tube. In such construction the cable is given a very abrupt turn and soon deteriorates.

My invention is designed to overcome the objections as to friction and abruptness of turn in this class of tip; and it consists, generally speaking, in a tip having at points considerably beyond the plane of the tube friction-rolls, which are also located at some distance outwardly beyond the ends of the tube and curved surfaces between the ends of the tube and the rolls, so that the cable will pass from the tube in a large arc or incline onto the rollers, thereby permitting the cable to pass out of the tube without abrupt bending and with a frictional contact sufficient only to overcome the pull of the roller-spring.

The invention further consists in constructions and arrangements hereinafter referred to.

In the drawings I have shown a form of the invention for the purpose of illustration, but desire it understood that the same is not limited to the construction therein delineated.

Figure 1 is a side elevation of the tip. Fig. 2 is a longitudinal section through the same, showing the parts in elevation. Fig. 3 is a plan view. Fig. 4 is a detail view of the stem, and Fig. 5 is a longitudinal section through a modified form.

In the drawings, A represents a section of a hollow curtain-stick.

B designates a cylindrical hollow shank loosely fitted within the ends of the stick, the inner end abutting against a shoulder formed on the inner wall of the stick. This shank has its outer end formed with two oblique oppositely-arranged fingers *b*, which are bent up from the metal of the shank, and thereby have the curved contour of the interior of the cylindrical shank on their inner faces—that is to say, the inner faces of these fingers are concave. The fingers *b* are cut from the metal of the shank back to a point somewhat beyond the end of the shank, leaving the sides of the shank extending outwardly some distance beyond the point of bending of the fingers.

C designates a hollow boxing constructed conveniently of a single piece of metal hav-

ing the two sides c arranged parallel, the same being united by a back portion c' . This back portion has at opposite ends the extensions c^2 , extending above the ends of the sides and being bent over between the same to form end closures for a portion of the boxing. The rear wall of the boxing has an opening formed therein through which the fingers b are passed, the same projecting a short distance into the boxing. The projecting sides c^3 of the shank embrace the outer sides of the boxing, and while in this position the shank is, by any suitable means, such as solder or the like, rigidly secured to the boxing. In the opposite ends of the boxes are the rolls or wheels D , conveniently mounted on shafts or pins which are journaled in bearings in the sides of the box. These rolls or wheels are so arranged that their peripheries are respectively wholly above and below the plane of the inner walls of the shank, so that a cord or cable passing from the shank will require an initial bend before engaging the periphery of the roll.

D' designates the squaring-bands passing through the shank onto the curved guiding-fingers and over the rollers.

In operation it will be noticed that the squaring-bands make their first turn or bend on the stationary curved guide-fingers and from there engage the rollers, which are preferably grooved, and complete the right-angle bend, thereby forming a bend of large radius. In Fig. 5 I have shown a construction somewhat similar to the construction shown in the other figures, with this variation—that the fingers b' instead of projecting into the boxing are carried out along the back and are there secured, the cords in this instance extending directly from the tube to the roller. I have found, however, in forming the box of this type that by striking up the metal from above and below the opening in the rear, thereby forming the ears $c^4 c^4$, and by curving these ears properly and introducing them into the end of the shank, where they are secured, a smooth corner is formed at the union between the box and shank over which the cords may easily pass onto the rollers.

By the construction above described the disadvantage of having normally either an unnecessary or an insufficient amount of friction is overcome, as well as that of an abrupt bending of the cables, and I have found that the life of the cable is materially increased and the ease and effectiveness of the fixture improved thereby.

I have used the term "cable" in this specification to designate what is commonly termed a "cable;" but I desire it understood that the term is intended to comprehend not only a wire cable, but any style of flexible band, such as cords, flat bands, chains, and the like.

I am aware that various changes in the construction and arrangement of parts can be

made and substituted for those shown and described without departing from the nature and principle of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A tip for cable curtain-fixtures consisting of a shank, a box secured to the end of the shank, rollers journaled in the box having their peripheries arranged respectively wholly above and below the plane of the inner wall of the shank and curved guiding-surfaces located between the rollers and shank and over which the cables pass, substantially as described.

2. In a tip for cable fixtures, the combination with a shank, of a boxing secured to the end of the shank, of rollers mounted in the opposite ends of the boxing with their peripheries arranged respectively wholly above and below the plane of the inner wall of the shank, and guiding-surfaces at the junction between the boxing and shank.

3. In a tip for cable fixtures, the combination with a shank having on its end oppositely-extending curved fingers, a boxing on the end of the shank into which the fingers project, and rollers in the boxing arranged outwardly beyond the plane of the shank and fingers, substantially as described.

4. In a tip for cable fixtures, the combination with a shank having its outer end portion struck up to form outwardly-curved fingers, of a boxing fitted between the side walls of the shank and into which the fingers project and rollers mounted in the opposite ends of the boxing beyond the fingers.

5. In a tip for cable fixtures, the combination with a hollow shank member, of a boxing member secured thereon, guide projections from one member extending into the other member and rollers mounted in the opposite ends of the boxing, substantially as described.

6. A tip for cable fixtures consisting of a shank, a boxing secured to the shank consisting of a single piece of metal having its back portion extended up between its side portions and forming closures for the ends of the boxing, rollers mounted in the ends of the boxing and guides at the union between the boxing and the shank.

7. In a cable fixture for curtains a tip comprising a carrying member or box, curved friction-surfaces at or near the cable-passage thereof, and wheels mounted in the carrying member opposite each other and arranged above and below the plane of the walls of the cable-passage.

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

EDWARD T. BURROWES.

Witnesses:

H. W. ROBINSON,
F. L. RICKER.