W. H. FORSYTH.

REINFORCED CURTAIN ROLLER.

APPLICATION FILED JUNE 12, 1911.

1,037,886. Patented Sept. 10, 1912.

Fig. 1

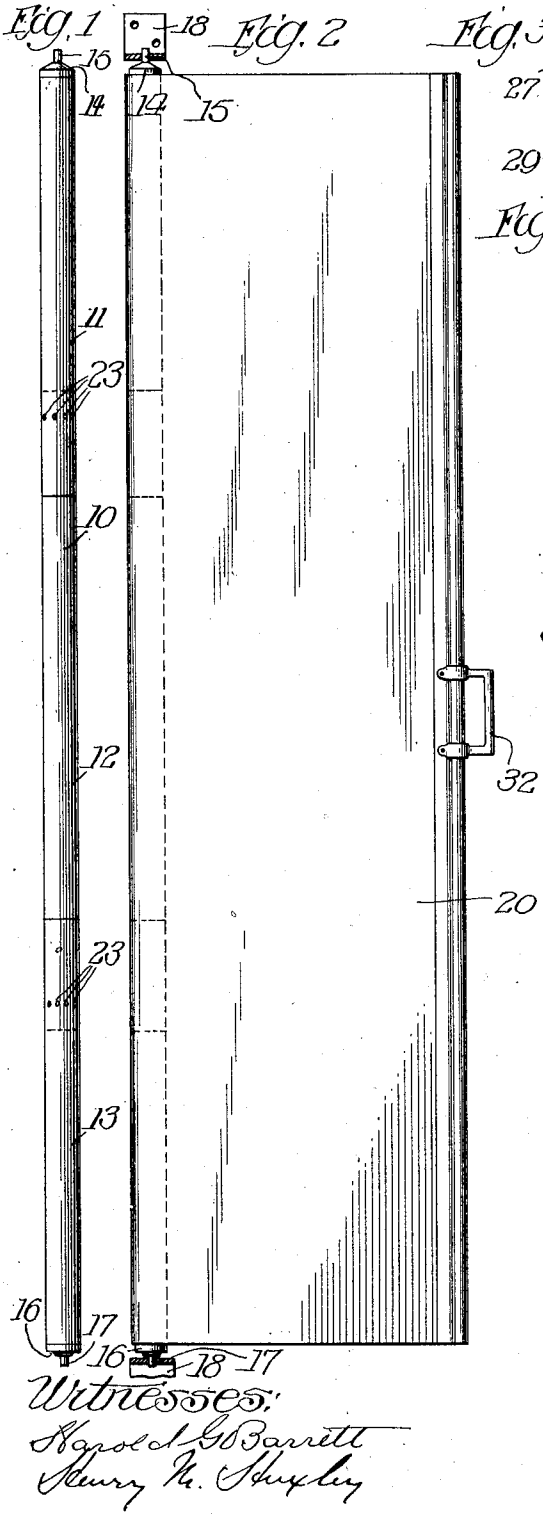


Fig. 2

Fig. 3

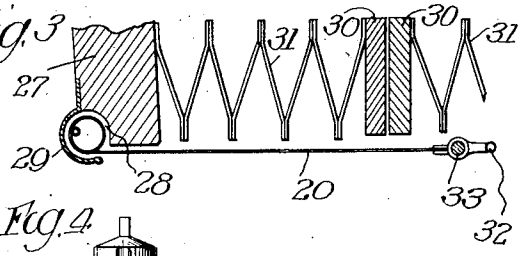


Fig. 4

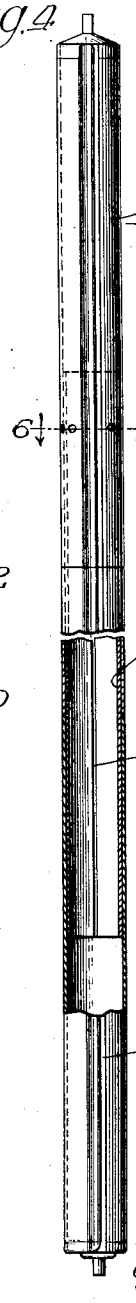


Fig. 5

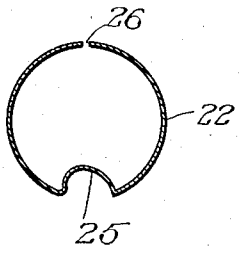
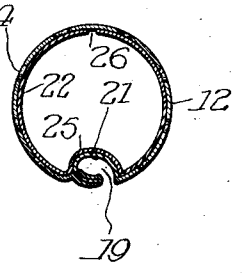


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM H. FORSYTH, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

REINFORCED CURTAIN-ROLLER.

1,037,886. Specification of Letters Patent. Patented Sept. 10, 1912.

Application filed June 12, 1911. Serial No. 632,660.

To all whom it may concern:

Be it known that I, WILLIAM H. FORSYTH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reinforced Curtain-Rollers, of which the following is a specification.

My invention relates to curtain rollers, and is particularly applicable for rollers used in connection with curtains for covering the diaphragms of vestibuled cars. The curtain roller which is ordinarily used in connection with the diaphragm curtain is of excessive length, being from five (5) to six (6) feet long, so that such a roller is subjected to great liability of bending, particularly inasmuch as the tension is applied through a handle which is attached to the curtain rod at a point substantially opposite the center of the curtain roller. When two vestibuled cars have been coupled together, and the diaphragm curtain is in position, the handle, above mentioned, is attached to a suitable hook. At various times, such as when rounding curves, considerable strain is transmitted through the curtain to the curtain roller. It has been very difficult to construct a curtain roller which at the same time will have the necessary rigidity to retain its proper alinement, and to make such a roller at a moderate cost of manufacturing.

It is the object of my invention to construct a roller which can be easily and cheaply manufactured, while having the necessary rigidity to maintain its alinement when subjected to the strains above mentioned. I accomplish this object by making the roller in the form of a metallic tube, preferably in sections, and providing within this tube an inner reinforcing tube, which is located in the central portion of the roller but may extend, if desired, to the ends of the same. This inner tube is attached to the outer tube by means which will hereafter be described. These and other advantages of my invention will be more readily understood by reference to the accompanying drawings, which show a preferred embodiment of my invention, and in which—

Figure 1 is an elevation of my improved curtain roller; Fig. 2 is an elevation showing the diaphragm curtain attached to the curtain roller, the latter being held in position by suitable brackets; Fig. 3 is a horizontal section through a portion of a car vestibule, showing the face plate, diaphragm vestibule post, and the diaphragm curtain in its normal operating position; Fig. 4 is an enlarged fragmentary elevation of the curtain roller, a portion of the roller being shown in section, whereby the reinforcing inner tube is disclosed; Fig. 5 is a transverse section through the inner reinforcing tube, and, Fig. 6 is a transverse section, taken on the line 6—6 of Fig. 4.

The curtain roller 10 is composed of a plurality of sections 11, 12 and 13, which I have shown as being three in number, but which may be increased if so desired. One end of the roller is provided with a cap member 14 having the pintle 15, while the other end has a similar cap member 16 through which the end of the mandrel 17 projects in the usual manner. The pintle 15 and the end of the mandrel 17 are held in position by the brackets 18.

As clearly shown in Figs. 4 and 6, the roller 10 is provided with a longitudinal groove 19 for the purpose of retaining the edge of the curtain 20. This groove is formed by bending the sheet metal of which the outer tube of the curtain roller is composed in an inward direction, thereby forming the inwardly projecting rib 21. In order to reinforce the central portion of the curtain roller the inner tube 22 is placed in position, this inner tube preferably extending through the entire length of the central section 12 and projecting into the adjacent ends of the sections 11 and 13. In order to securely retain the reinforcing tube 22 in position a number of holes 23 are punched through the outer tube into the inner tube, and these holes are then preferably filled with solder 24, as shown in Fig. 6. It will now be apparent that not only is the central portion of the roller 10 strengthened, but the central section 12 is efficiently connected with its adjacent sections 11 and 13.

The reinforcing inner tube 22 is preferably made with a groove 25, which engages the rib 21 of the outer tube. Preferably opposite to the groove 25 is the slot 26 which allows the inner tube 22 to have a certain amount of resiliency and to accurately engage the inner wall of the outer tube of the curtain roller. When the inner tube 22 is

disengaged from the outer tube the spring of the former causes its diameter to be slightly greater than that of the outer tube.

In Fig. 3 is shown my improved roller in operation. The brackets 18, 18 are applied to the vestibule post 27, in which a recess 28 is formed for the accommodation of the roller 10. The outside of the roller is protected by means of the guard 29. Extending between the face plate 30 and the vestibule post 27 is the diaphragm 31. When the diaphragm curtain 20 is in its operative position, the handle 32 attached to the curtain rod 33 is fastened to a suitable hook on the car adjacent to the one on which the curtain roller 10 is placed. It will thus be evident that as the distance between the vestibule posts 27 on adjacent cars is varied, the diaphragm curtain 20 will be correspondingly taken up by or unrolled from the curtain roller 10, and the strain incidental to these operations will be transmitted through the curtain to the central portion of the curtain roller. By means of my invention I have found that the curtain roller successfully resists such strains and retains its perfect alinement.

It will be apparent to those skilled in the art that many changes could be made in the detailed construction of the parts which I have described without departing from the spirit or scope of my invention.

What I claim is:

1. In a curtain roller, the combination of an outer tube comprising a plurality of sections, and an inner reinforcing tube extending through one of said sections and into each of the adjacent sections, substantially as described.

2. In a vestibule curtain roller, the combination of an outer tube comprising a plurality of sections having an inwardly projecting rib, and a reinforcing tube extending through one of the sections and into adjacent sections of said outer tube, said inner tube having a groove for the accommodation of the rib of said outer tube, substantially as described.

3. In a vestibule curtain roller, the combination of an outer tube, and a reinforcing tube within said outer tube and extending through its central portion, whereby the outer tube is prevented from bending when tension is applied to said central portion, said tubes having an interlocking engagement one with the other, substantially as described.

4. In a vestibule curtain roller, the combination of an outer tube comprising a plurality of sections, and a reinforcing tube extending through one or more of the central sections of said outer tube into the adjacent section, whereby said roller is prevented from bending when subjected to tension at its central portion, said tubes having interengaging indentations charged with solder, substantially as described.

5. In a vestibule curtain roller, the combination of a metallic tube having an inwardly projecting rib and comprising a plurality of sections, and a reinforcing inner metallic tube having a groove for the accommodation of said inwardly projecting rib and located within one of the central sections of said outer tube, the ends of said inner tube engaging sections adjacent to said central section, whereby the central portion of said roller is adapted to resist tension applied substantially at right angles to its longitudinal axis, substantially as described.

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