Dec. 3, 1935. A. T. HAGERTY 2,022,807

CURTAIN ROLLER

Filed Jan. 14, 1935

Fig. 1

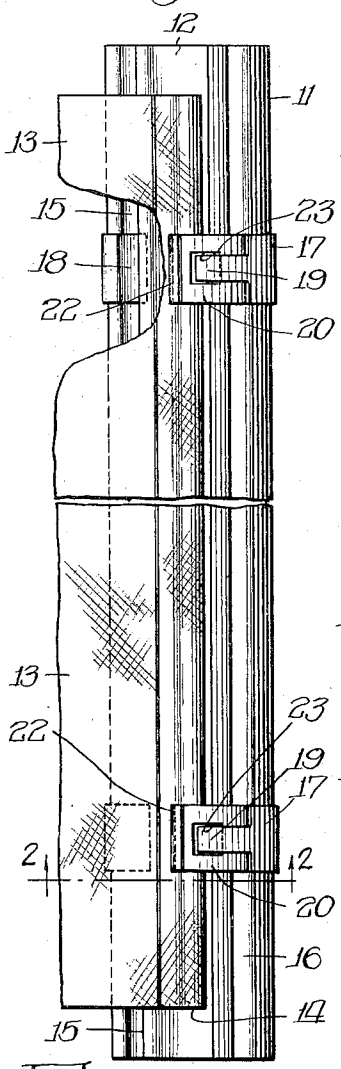


Fig. 3

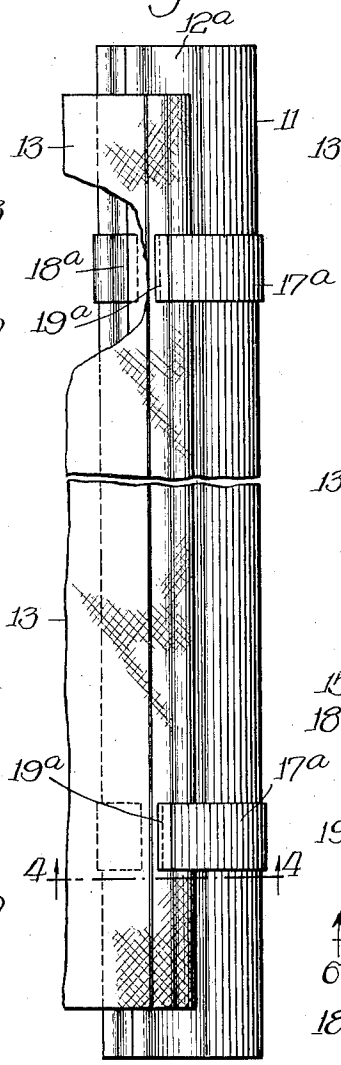


Fig. 5

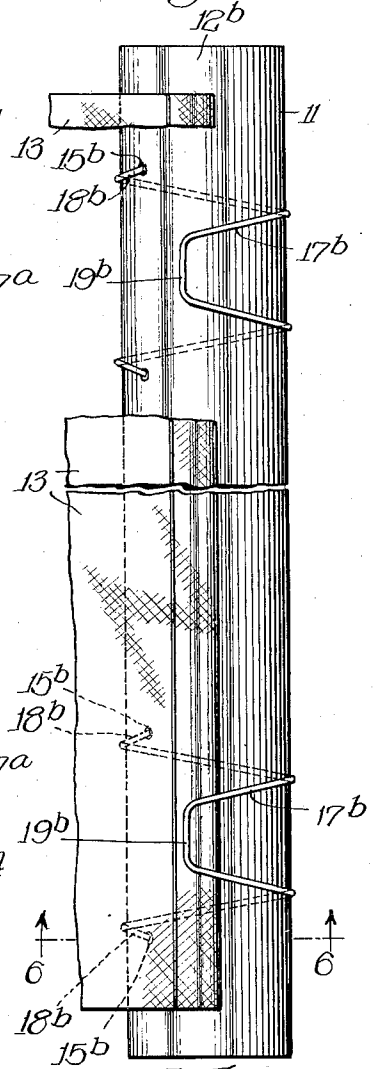


Fig. 2

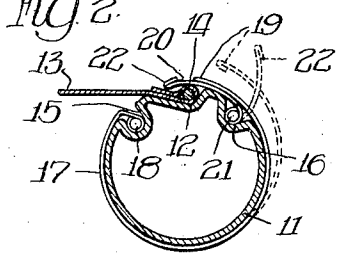


Fig. 4

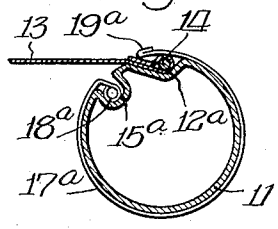
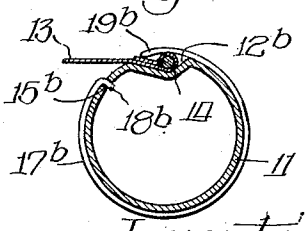


Fig. 6



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CURTAIN ROLLER

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Application January 14, 1935, Serial No. 1,683

3 Claims. (Cl. 156—25)

This invention pertains to spring curtains characterized by detachability of the curtain from the roller under abnormal stress. Typical are the vestibule curtains of railway cars wherein the roller is suitably journaled in the vestibule face plate of one car and the free edge of the curtain is releasably attached to the opposed face plate of the next adjacent car.

Provision has been made for releasing the free edge of the curtain from its attachment to the adjacent car and alternatively for the releasing of the other edge from the roller under excessive strain to prevent tearing of the curtain if the car is to be separated as by a defective coupling or by the act of uncoupling without first releasing the vestibule curtain.

The present invention is an improvement upon earlier means of effecting the emergency release of the curtain from the roller and has for its particular object a curtain and roller assembly embodying a releasable connection, simple in character, inexpensive and efficient for the purposes intended, i. e. a secure connection within the range of stresses incident to normal operation and reliable to effect release in an emergency.

To facilitate an understanding of the invention preferred and alternative embodiments of the same are hereinafter set forth by way of description predicated upon the accompanying drawing wherein,

Fig. 1 is a fragmentary elevation of a curtain roller and the edge of the curtain attached thereto;

Fig. 2 is a transverse section on the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 1 showing a modified assembly;

Fig. 4 is a transverse section on the line 4—4 of Fig. 3;

Fig. 5 is a view similar to Figs. 1 and 3 by illustrating a further modification; and

Fig. 6 is a section on the line 6—6 of Fig. 5.

It will be obvious that the essential features of the invention, as set forth in the appended claims, may be embodied in yet other structural forms without departure from the essence thereof; wherefore the description and drawing are to be taken in an illustrative rather than a limiting sense.

Having reference to Figs. 1 and 2, the roller 11 is shown as provided in one portion of its periphery with a longitudinally extending shallow groove 12 having divergent walls for the reception of the edge of the curtain 13 within the marginal hem of which is seated a rod 14.

Alongside and extending parallel to the groove 12 is a recess 15 which may be continuous throughout the length of the roller or formed at spaced intervals. This recess, whether single or multiple, is preferably formed of substantial depth with substantially parallel walls and opens in a direction intersecting the opening of the groove 12.

Upon the opposite side of the groove 12 is provided a second recess 16, single or in multiple, preferably having outwardly divergent walls.

A spring clip 17 has its beaded edge 18 snapped into the recess 15 and embraces the roller 11 with its free edge formed as a tongue 19 extending over the recess 16 and overlying the groove 12 and the rod 14 lying in said groove. A lever plate 20 has one beaded edge 21 fulcrumed within the recess 16 beneath the spring clip 17 and extending beyond the edge 19 of the spring clip to a position over-reaching with its beaded edge 22 the rod 14. This lever plate is apertured at 23 at a point immediately beneath the end of the tongue 19 of the clip 17, which tongue has its bearing upon the lever plate intermediate its fulcrum bead 21 and the edge of the aperture.

In assembling the curtain with the roller in Figs. 1 and 2, the roller is equipped with several spring clips 17 each of which embraces the same under spring action about the pivotal point 18. The lever plate 22 is swung about its fulcrum point 21 to the stable position shown in dotted lines, its aperture 23 taking over the tongue 19, thereby lifting and holding the free edge 19 of the spring clip 17 in its dotted line position. That edge of the curtain containing the rod 14 is then placed in the groove 12 and the spring action of the clip 17 snaps the released lever plate 22 into the position shown in full lines so that the edge of the spring clip and the lever plate both overlie the groove and rod and the lever plate is held in this position by the spring clip.

The roller construction of Figs. 3 and 4 is quite similar to that of Figs. 1 and 2 with the exception that the lever plate is omitted and the spring clip 17*a* may carry its full width to its beaded edge 19*a*, omitting the tongue of the former construction. As before this spring clip has its beaded edge 18*a* seated in a recess 15*a* and its free edge 19*a* overlies the rod 14 of the curtain. In this form of construction the beaded edge 19*a* will be lifted by a suitable tool, the rod 14 of the curtain inserted within the groove 12*a* and the spring clip released to hold the curtain edge with its rod securely in position against release under normal operation.

That form of construction shown in Figs. 5 and 6 differs from the construction of Figs. 3 and 4 in that instead of the recess 15a there are provided recesses in the form of apertures 15b into which the angularly bent ends 18b of the spring clip 17b are inserted, while said clip embraces the roller by spring action and its intermediate portion 19b overlies the groove 12b and edge of the curtain carrying the rod 14. In this structural form the spring clip is of wire and has its two terminals 18b spread apart, as clearly shown in Fig. 5, so as to engage with the roller at longitudinally spaced points whereby stability is insured.

Thus it will be observed that the spring clips are in each form of construction readily applied to and removed from the roller by snapping one beaded edge into its recess as a pivotal point and causing the face portion of the same to embrace and hold the roller under spring action alone; that the free edge of the clip is readily lifted to insert the rod and thereafter released to retain the rod against any normal pull on the curtain; that in the preferred construction of Figs. 1 and 2 the lever plate is available to lift and hold the edge of the clip in open position to receive the rod within the groove and then releasable to permit the clip spring to engage the rod; that such construction makes for economy of manufacture, convenience in operation and efficiency for the purposes to be served.

I claim:

1. A releasable curtain and roller assembly comprising a curtain having a rod along one edge in combination with a roller having formed therein a longitudinally extending groove for the reception of the rod and alongside thereof a recess, and spring clips embracing the roller at intervals with one terminal portion snapped into the recess and the other terminal portion overlying the groove and rod.

2. A releasable curtain and roller assembly comprising a curtain having a rod along one edge in combination with a roller having formed therein a longitudinally extending groove for the reception of the rod and alongside thereof a recess, a second recess alongside the groove opposite the first recess, a lever plate fulcrumed at one edge in the second recess with its other edge overlying the rod, and spring clips embracing the roller at intervals with one edge snapped into the first recess and the other edge overlying the groove and lever plate.

3. A releasable curtain and roller assembly comprising a curtain having a rod along one edge in combination with a roller having formed therein a longitudinally extending groove for the reception of the rod and alongside thereof a recess, a second recess alongside the groove opposite the first recess, an apertured lever plate fulcrumed at one edge in the second recess with its other edge overlying the rod, and spring clips embracing the roller at intervals with one edge snapped into the first recess and the other edge having a terminal tongue overlying the groove and lever plate in register with the aperture.

ANDREW T. HAGERTY.