Nov. 9, 1937. J. F. LEVAN 2,098,827

CURTAIN FIXTURE

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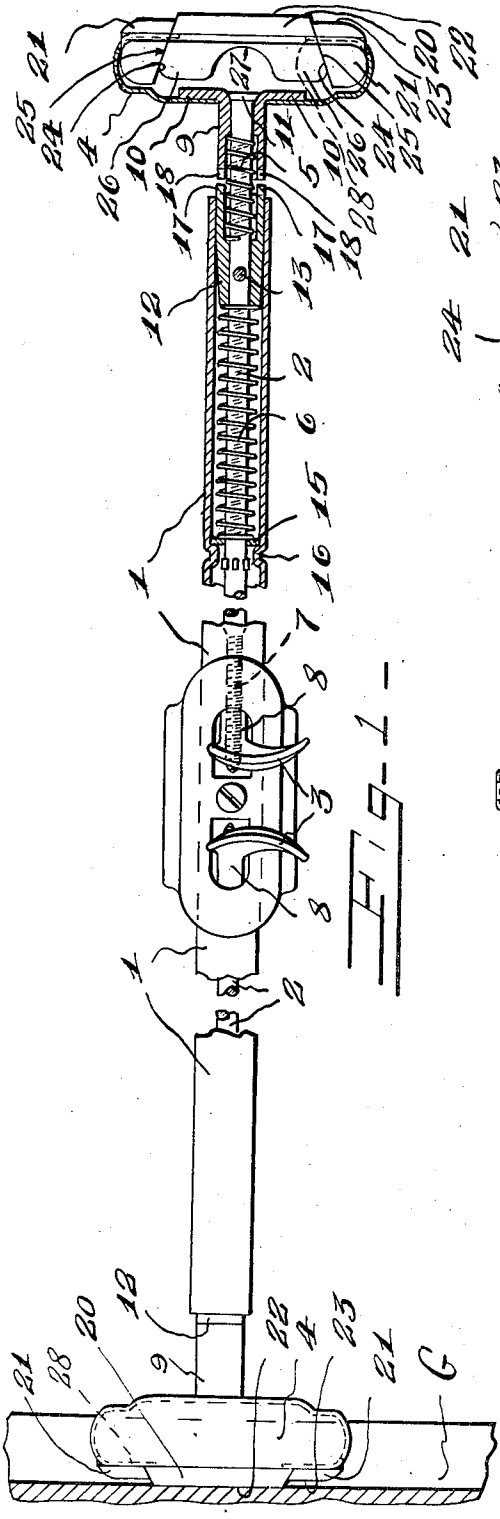


Fig. 1.

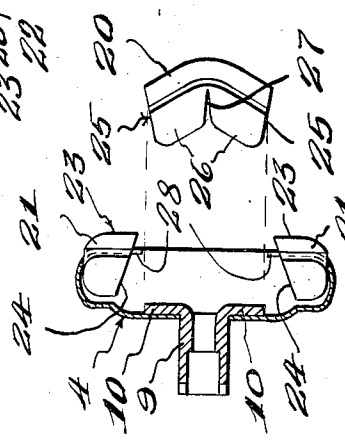


Fig. 2.

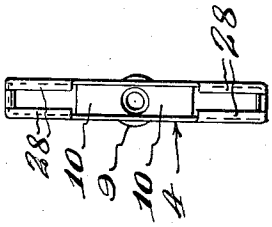


Fig. 3.

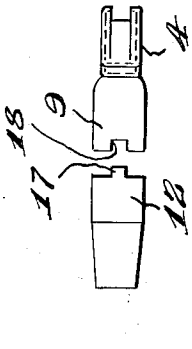


Fig. 4.

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CURTAIN FIXTURE

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Application July 22, 1936, Serial No. 91,951

10 Claims. (Cl. 156—26)

This invention relates to curtain fixtures of the type carried at the lower ends of curtains, such as those used in railway cars and motor vehicles, and having heads movable in curtain guides and frictionally engaging the guides to hold the curtain in any adjusted position, the heads being withdrawable inwardly out of such frictional engagement with the guides to change the position of the curtain, that is to raise and lower the curtain.

It has for its object a mounting for the head by which the heads are thrust in frictional engagement with the curtain guides after the heads have been adjusted to the distance between the curtain guides and to engage the guides with the required amount of friction.

It further has for its object the construction of the head by which the friction shoe can be readily removed and replaced.

It further has for its object the features hereinafter pointed out.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation, partly in section, of this curtain fixture, one curtain guide being shown and the other omitted.

Figure 2 is a sectional view of one of the heads of the fixture, the friction shoe being shown as displaced and doubled preparatory to being applied to the head.

Figure 3 is an edge view of the head, the friction shoe being removed.

Figure 4 is a detail view of a coupling between the stem of the head and the operating rod.

This curtain fixture comprises, generally, a sleeve 1 to which the lower end of the curtain is secured, a pair of rods 2 slidably mounted in the sleeve 1 and adjustably connected to pinch handles 3 at their abutting ends, a head 4 on the outer end of each rod and carrying means for pressing on the curtain guide G, the head being swivelled on the rod and capable of slight axial movement relatively to the rod, the heads and the rods also having means for interlocking to prevent relative rotary movement of the head to the rod, when the head is in the guide and the rod adjusted, a spring 5 tending to press the head outwardly and unlock the interlocking means so that the rod and head have relative turning movement when the head is out of the guide or the head is free of the rod, and springs 6 tending to thrust the rods and the heads outwardly, as a unit, and hold the heads in frictional engagement with the guides.

The sleeve 1 is usually mounted in a hem at the lower end of the curtain and the pinch handles extend to the outer side of the hem through a suitable opening therein. The rods 2 are provided with screw threads 7 at their inner ends which turn through threaded openings in the hubs 8 of the handles 3. Each head 4 consists of a channel-shaped body having a friction shoe therein, the head having a hollow stem 9 mounted on the end of the companion rod. The stem is secured to the head in any suitable manner, as by prongs 10, extending through the bottom of the head 4 and bent down into position to overlie the bottom and secured thereto in any suitable manner. The rod is headed over at 11 on the inner end of the stem and holds the head from outward axial displacement. The stem 9 is thus rotatably mounted or swivelled on the rod.

A sleeve 12 is mounted near the end of each rod and secured thereto, as by a pin 13, the end of the sleeve being opposed to the end of the stem 9.

The spring 5 encircles the rod and is located in counterbores in the stem 9 and the sleeve 12 and thrusts against the bottoms of the counterbores, the spring 5 tending to thrust the head 4 outwardly and also to permit sliding movement thereof inwardly. The stem 9 and the sleeve 12 are provided with interlocking means to hold the head 4 and the rod 2 from relative turning movement, when the rod 2 is properly adjusted relative to the pinch handle to apply the proper tension to the head 4, that is, to cause the spring 6 to apply the proper tension to the head 4 against the curtain guide. The spring 6 encircles each rod 2 and thrusts at one end against the inner end of the sleeve 12 and at its other end against an abutment 15 slidable on the rod and coacting with the abutment 16 on the interior of the sleeve 1.

The interlocking means are here shown as clutch faces on said parts 9, 12, as lugs or jaws 17, on the sleeve 12 and complemental notches 18 in the stem 9. When the proper adjustment is made of the rods 2, and the heads 4 placed in the curtain guides, the spring 5 is compressed to interlock the jaws 17 in the notches 18. However, when the heads are demounted from the guides, the springs 5 separate the stems 9 from the sleeves 12 and permit relative turning movement of the head 4 and rod 2 for the purpose of re-

newing the friction shoes, or, if necessary, of readjusting the rods 2 relative to the pinch handles. Also, the axial adjustment of the rods is not upset by turning or manipulation of the head when removing and replacing the friction shoes, as presently described.

One of the features of the invention is a friction shoe removably mounted in each head for the purpose of being readily removed and replaced when worn. The head is formed up out of sheet metal into channel shape with end walls and with the channel facing outwardly. 20 designates the removable friction shoe, this being of flexible resilient material, as rubber, which is insertable in the channel by being doubled, or bent into arcuate form and while doubled, inserted in the channel, and released so that it straightens under its resiliency and snugly holds itself in the channel. Preferably, blocks 21 of fibrous material or rubber are mounted in each end of the channel and the friction shoe 20 is mounted between these blocks with its outer surface 22 slightly higher than the surface 23 of the blocks; and the blocks are formed with undercut beveled surfaces 24 which coact with complemental surfaces 25 at the ends of the shoe 20. As here shown, the shoe 20 is bifurcated or formed with prongs 26 at its ends which are spaced apart by a cut-out 27 so that the shoe can be doubled, as shown in Figure 2, to shorten it to such an extent that the prongs can be inserted between the blocks 6. When so inserted and the shoe is released of the force holding it doubled, the shoe reacts under its resiliency and brings its surfaces 25 under the undercut surfaces 24 of the blocks and thus holds the shoe in position. The shoe 20 is held from slipping inwardly relatively to the blocks 21, because the shoe is under compression by reason of it having been doubled in order to be placed between the blocks and straightens under its resiliency, so that the surfaces 25 at the ends of the shoe 20 frictionally thrust against the surfaces 25 of the fiber blocks and hold the shoe 20 from inward displacement. The shoe can be removed by applying a sufficient pulling force thereto. The edges of the wall of the channel are formed with angular lips or flanges 28 at their margins which enter grooves in the blocks 21.

Owing to the arrangement of the blocks 21 relatively to the friction shoe 20, the heads 4 will tilt about one or the other of the blocks 21, as a fulcrum, when an attempt is made to pull down or push up the curtain without using the pinch handles, as is frequently done. By so tilting, the friction, between the head or between the friction shoe 20 and the curtain guide, is relieved, and the shoe will slide in the guide without becoming dislodged from the guide. When an attempt is made to raise or lower the curtain without using the pinch handles 3, which are located at the center of the fixture and curtain, the operator usually grabs the curtain at one side or the other of the pinch handles and thus tilts the fixture out of horizontal line in one direction or the other. This tilting also tilts the heads 4 causing each of them to fulcrum on one or the other of the blocks 21.

What I claim is:—

1. A curtain fixture comprising a sleeve to which the lower end of a curtain is secured, rods slidable in the sleeve and having pinch handles by which they are slidable axially, and springs for resisting inward sliding movement and pressing the rods outward, a head slidably mounted on the outer end of each rod, said head being adapted to slidably coact with a curtain guide, and a spring tending to press the head outwardly relatively to the rod into engagement with the guide.

2. A curtain fixture comprising a sleeve to which the lower end of a curtain is secured, rods slidable in the sleeve and having pinch handles by which they are slidable axially, and springs for resisting the inward sliding movement and tending to press the rods outward, a head slidably mounted on the outer end of each rod, said head being adapted to slidably coact with a curtain guide, and a spring tending to press the head outwardly relatively to the rod into engagement with the guide, the rod and head being adjustable axially as a unit.

3. A curtain fixture comprising a sleeve to which the lower end of the curtain is secured, rods slidable in the sleeve and having pinch handles at their inner ends, springs tending to thrust the rods outwardly, a head secured to the outer end of each rod for coacting with a curtain guide, the head being slidable axially of the rod and rotatable about the rod, and a spring acting on the head and tending to shift it axially outwardly relative to the rod, the head and the rod having means for interlocking to hold the rod and head from relative rotary movement, when the head is moved axially inwardly along the rod by reason of the engagement of the head in the guide, said interlocking means being moved out of interlocking engagement when the head is out of the guide, and the spring is free to shift the head outwardly axially.

4. A curtain fixture comprising a sleeve to which the lower end of the curtain is secured, rods slidable in the sleeve and having pinch handles by which they are slidable axially inwardly, springs tending to thrust the rods axially outwardly, the rods being adjustable axially relatively to the pinch handles, a head swivelled on the end of each rod and having a stem encircling the end of the rod, a sleeve on the rod in abutting relation to the stem, a spring interposed between the stem and the sleeve and tending to thrust the stem away from the sleeve, and means for holding the head from swivelling relatively to the rod when the head is compressed toward the sleeve when the head is engaged with a curtain guide.

5. A curtain fixture comprising a sleeve to which the lower end of the curtain is secured, rods slidable in the sleeve and having pinch handles by which they are slidable axially inwardly, springs tending to thrust the rods axially outwardly, the rods being adjustable axially relatively to the pinch handles, a head swivelled on the end of each rod and having a stem encircling the end of the rod, a sleeve on the rod in abutting relation to the stem, a spring interposed between the stem and the sleeve and tending to thrust the stem away from the sleeve, the stem and the sleeve having interlocking means tending to hold the head and the rod from relative turning movement, when the head is slidably coacting with a curtain guide and the spring compressed and to permit relative turning movement when the head is out of the guide.

6. In a curtain fixture of the class described having heads movable in curtain guides, each head being formed with a lengthwise channel on its outer side, a pair of blocks in each end of the channel, and a removable shoe located in the channel between the blocks and being mounted

to thrust in a direction endwise of the shoe against the blocks into frictional engagement therewith, whereby the blocks are held from sliding movement inwardly.

7. In a curtain fixture of the class described having heads movable in curtain guides, each head having a lengthwise channel with closed ends in its outer side, and a removable shoe in the channel, the shoe being flexible and resilient and having prongs for entering the channel between the closed ends thereof when the shoe is flexed and doubled upon itself to bring the prongs between the closed ends, said prongs being pressed outwardly in a direction lengthwise of the shoe due to the resiliency of the shoe and engaging the closed ends when the shoe is straightened.

8. In a curtain fixture of the class described having heads movable in curtain guides, each head being formed with a lengthwise channel on its outer side, a pair of blocks in each end of the channel, and a removable shoe located in the channel between the blocks and held in position partly by the blocks, the shoe being flexible and resilient and having prongs for entering the channel between the blocks when the shoe is flexed and doubled upon itself to bring the prongs between the blocks, the prongs being pressed outwardly in a direction lengthwise of the shoe under the resiliency of the shoe and engaging the blocks, when the shoe is straightened.

9. In a curtain fixture of the class described having heads movable in curtain guides, each head being formed with a lengthwise channel on its outer side, a pair of blocks in each end of the channel, and a removable shoe located in the channel between the blocks and held in position partly by the blocks, the shoe being flexible and resilient and having prongs for entering the channel between the blocks when the shoe is doubled upon itself to bring the prongs between the blocks, the prongs being pressed outwardly in a direction lengthwise of the shoe under the resiliency of the shoe and engaging the blocks when the shoe is straightened, said blocks being formed with undercut surfaces presented toward each other and the prongs having surfaces for engaging the undercut surfaces, when the shoe straightens after the prongs have been inserted in the channel between the blocks.

10. In a curtain fixture of the class described comprising a sleeve to which the lower end of the curtain is secured, rods slidable in the sleeve and having pinch handles by which they are slidable axially inwardly, springs tending to thrust the rods axially outwardly, a head on the end of each rod for coacting with the curtain guide, the head being formed with a lengthwise channel in its outer side, a pair of fiber blocks in each end of the channel and a friction shoe located in the channel between the blocks and projecting farther out of the channel than the blocks, whereby each head tilts in the guide when the curtain is operated without using the pinch handles about one or the other of the blocks, as a fulcrum, and thus relieves the friction between the shoe and the guide.

JOHN F. LEVAN.