Dec. 17, 1968 B. KOHAUT 3,416,672

ARRANGEMENT FOR HANGING CURTAINS

Filed Dec. 13, 1966 2 Sheets-Sheet 1

Fig. 1.

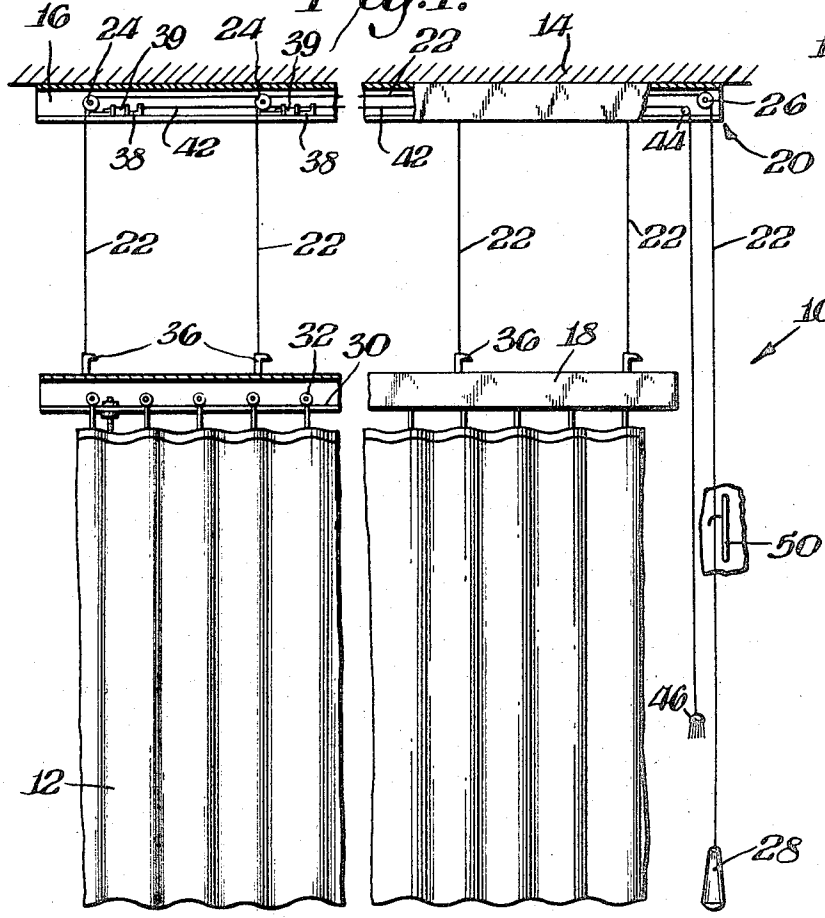


Fig. 2.

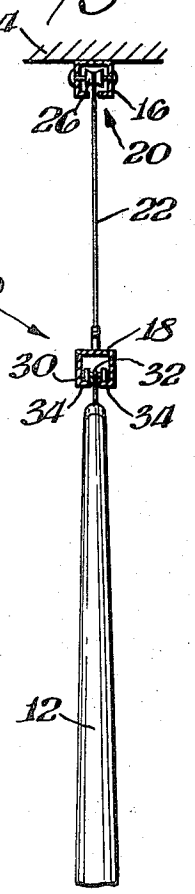


Fig. 3.

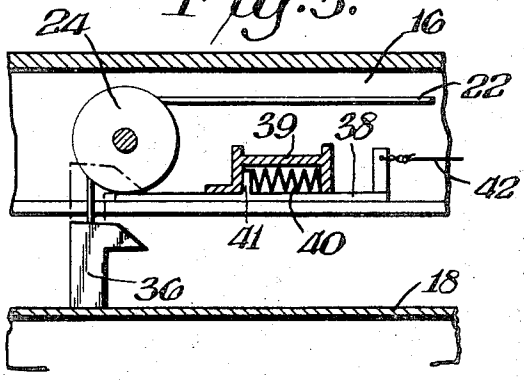
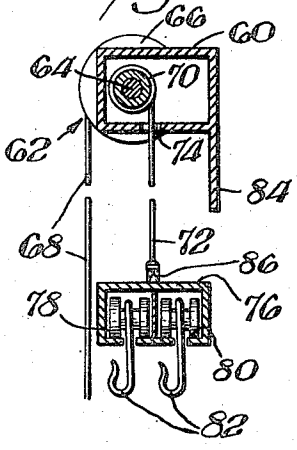


Fig. 4.



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ARRANGEMENT FOR HANGING CURTAINS

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Fig. 5.

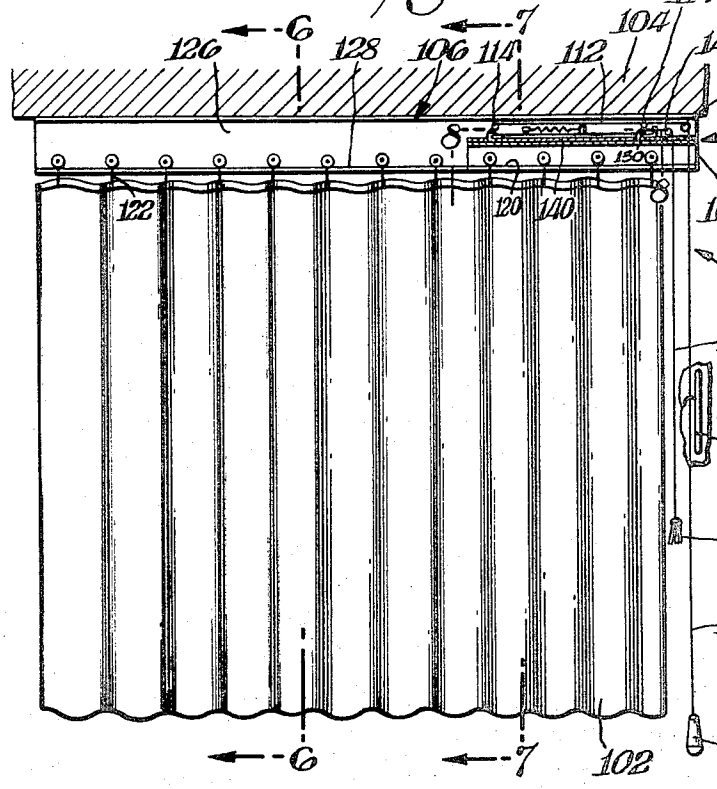

Fig. 6. Fig. 7.

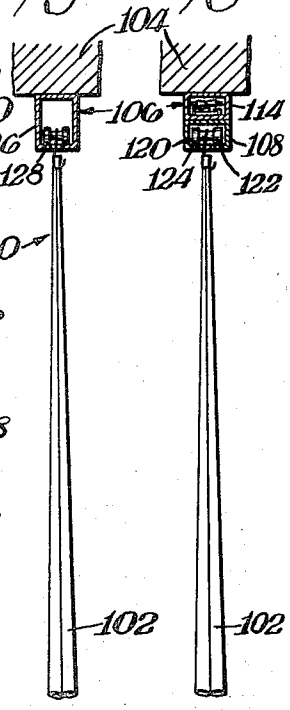

Fig. 9.

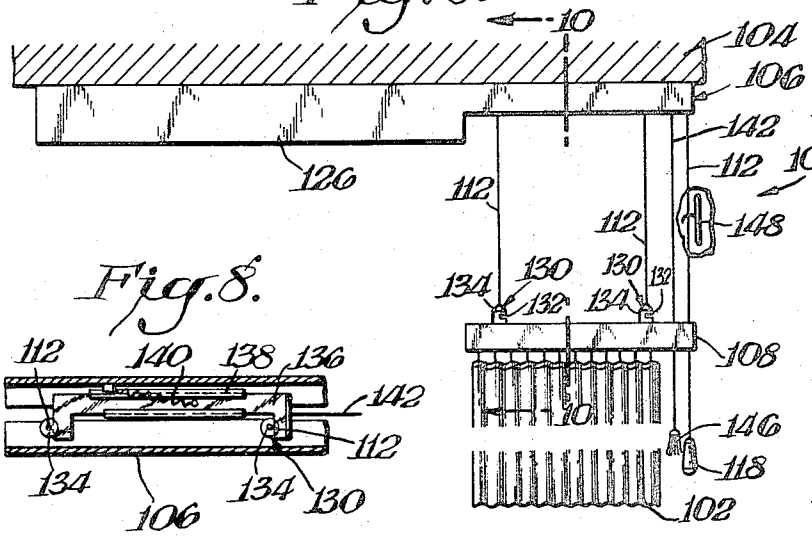

Fig. 10.

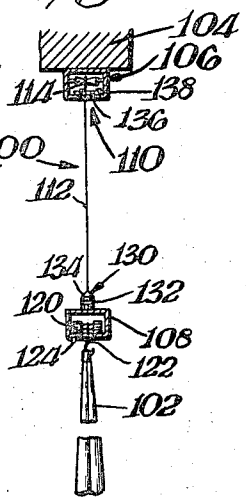

Fig. 8.

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3,416,672

ARRANGEMENT FOR HANGING CURTAINS

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3 Claims. (Cl. 211—103)

ABSTRACT OF THE DISCLOSURE

An arrangement for hanging curtains including a movable curtain rod having a guide track, and an assembly for lowering the rod from its normal position to facilitate securing a curtain to the track.

Background of the invention

The present invention relates to an arrangement for hanging curtains and more particularly to an arrangement having a curtain supporting rod movable between an elevated in-use position and a lowered position.

Usually, curtains are suspended from rods fixed to ceilings, lintels, frames or the like so the curtain can be moved along the rod. With this type of arrangement the curtain hanging process involves a procedure which is laborious, time-consuming and unsafe. Usually, the person hanging the curtain must climb a ladder or chair in order to hang the curtain from the elevated rod. In the past falls from this precarious position have caused serious injury to the person hanging the curtain.

Accordingly, it is an object of the present invention to provide a reliable curtain hanging arrangement which facilitates the curtain hanging operation.

In accordance with the present invention an improved arrangement is provided for hanging curtains. The arrangement comprises a curtain rod having at least one guide track which is conveniently raised or lowered by a lifting assembly and which can be locked in place against a stationary anchor rail when the curtain rod is in a normal in-use position.

The curtain hanging operation is easily accomplished by first unlocking the curtain rod from the stationary anchor rail and then lowering the rod by manipulating the lifting assembly. The curtain can then be attached to the curtain rod at ground level, thus eliminating the need for ladders, platforms, tables and the like. After securing the curtain to the guide track the rod and curtain are raised to the elevation of the anchor rail by means of the lifting assembly. The curtain rod is then locked in place against the anchor rail and remains in this position until removal or change of the curtain is desired.

Locking the curtain rod to the stationary anchor rail functions to relieve the load of the curtain on the lifting assembly. For locking purposes, guide pieces, tongues, pins or studs may be mounted on the curtain rod to engage catches or similar devices on the stationary rail when these members abut each other. One of the elements of the lock may be movable to facilitate releasable locking engagement between the members when lowering of the curtain rod is desired.

The elevating assembly may comprise cables or cords fixed to the movable curtain rod and trained about several pulleys and guide rollers on the stationary anchor rail. The free end of the cord is positioned adjacent one side of the curtain and manipulation of this cord elevates or lowers the movable curtain rod. Such positioning of the cord, pulleys and guide rollers operates to conceal the elevating assembly when the curtain rod is its normal position.

To simplify manufacture of the curtain hanging arrangement, both the curtain rod and the stationary anchor rail may have the same length and each can be provided with corresponding cross-sectional areas. For example, a box profile slotted on one side may be utilized to construct both the curtain rod and the anchor rails. In the case of a curtain rod having a single guide track each box profile can have a U-shaped cross-section with inwardly directed shoulders or projections fixed to the sides of the profile.

Additionally, the movable curtain rod can be completely hidden by the anchor rail when the curtain rod is in its elevated position. For such purposes, the front wall of the stationary anchor rail may be extended downwardly so the movable curtain rod and the curtain attaching hooks or gliders in the guide track on that rod are covered by the front wall of the stationary curtain rail, thus eliminating the need for a valance. On the other hand, a separate valance may be used by simply attaching the valance to the stationary anchor rail, if desired.

The curtain hanging arrangement may also be constructed so the movable rod comprises only a small portion of the entire curtain rod construction. The guide track on the movable curtain rod portion is arranged to mate with the guide track on the fixed curtain rod portion so the curtain can travel along the entire length of the curtain rod. In this application of the invention, the entire length of the curtain is first positioned within the movable curtain rod portion before that portion is lowered to facilitate removal of the curtain.

Brief description of the drawing

Novel features of the present invention will become apparent to one skilled in the art from a reading of the following description in conjunction with the accompanying drawings wherein similar reference characters refer to similar parts and in which:

FIGURE 1 is an elevational view of an arrangement according to the present invention with parts broken away to show detail;

FIGURE 2 is an end elevational view of the arrangement shown in FIGURE 1;

FIGURE 3 is a detailed sectional view of the locking assembly of the arrangement shown in FIGURE 1;

FIGURE 4 is a sectional view of another embodiment according to the present invention;

FIGURE 5 is a sectional view of still another embodiment of the present invention;

FIGURE 6 is a sectional view taken along line **6—6** of FIGURE 5;

FIGURE 7 is a sectional view taken along line **7—7** of FIGURE 5;

FIGURE 8 is a sectional view taken along line **8—8** of FIGURE 5;

FIGURE 9 is an elevational view of the arrangement shown in FIGURE 5 with the movable curtain rod portion in a lowered position; and

FIGURE 10 is a sectional view taken along line **10—10** of FIGURE 9.

Detailed description

FIGURE 1 illustrates an arrangement **10** for hanging a curtain **12** from a support surface **14**. The arrangement comprises an inverted U-shaped anchor rail **16** secured to the support surface **14** by suitable fasteners (not shown). A movable curtain rod **18** is connected for movement toward and away from the stationary anchor rail **16** by an elevating assembly **20** comprising a series of cables or cords **22** secured to the movable curtain rod **18**. Each of the cables extends upwardly from the curtain rod and is trained about a pulley **24** journaled to the anchor rail **16**. Each cable runs from its associated pulley to a master pulley **26** rotatably secured to the anchor rail at one end

thereof. From the master pulley **26** the cables **22** extend downwardly to a weight **28**.

The movable curtain rod **18** has a track **30** for guiding curtain attaching elements **32** along the rod. As shown in FIGURE 2, the curtain rod **18** has a substantially inverted U-shaped cross-section and the sides of this cross-section include inwardly directed projections **34** that form the guide track. The curtain attaching elements **32** may comprise roller hooks, roller rings, roller clips or any other convenient means for attaching the curtain **12** to the rod.

A locking assembly is provided for locking the movable curtain rod **18** to the stationary anchor rail **16** when the curtain rod is in its elevated position adjacent the anchor rail. The locking arrangement comprises locking lugs **36** secured to the movable curtain rod at spaced intervals along its length. Each of the locking lugs has an enlarged end portion with an inclined surface to facilitate locking of the movable curtain rod to the stationary anchor rail, as explained more fully below. The locking assembly also includes a spring biased locking pin **38** for each locking projection **36**. As shown in FIGURE 3, each locking pin **38** is slidably attached to the stationary anchor rail **16** by a bracket **39** fixed to the anchor rail. The locking pin is urged to the full extent of its outward travel by a coil spring **40** which reacts between a projection **41** on the pin and the bracket **39**. Each locking pin is connected to an adjacent pin by a cable **42** which is trained about a pulley **44** located next to the master pulley **26**. The cable runs from the pulley **44** downwardly to a pull **46** attached to the free end of the cable.

Assuming the movable curtain rod **18** is locked in place against the stationary anchor rail **16**, the curtain **12** can be removed from the curtain hanging arrangement **10** in the following manner. First, the pull **46** connected to the cable **42** is drawn downwardly thereby causing the locking pins **38** to move to the right, as viewed in FIGURE 1, against the force of the coil springs **40**. As the cable **42** is drawn downwardly, the operator grasps the cable **22** of the elevating assembly to prevent the movable curtain rod **18** from dropping when it is released from locking engagement with the stationary anchor rail. Next, the operator allows the curtain rod **18** to move downwardly under the influence of gravity until the rod is at a convenient elevation to facilitate removal of the curtain material **12**. When the curtain rod **18** is so positioned the cable **22** may be wound around a cleat **50** located adjacent the cable, as illustrated in FIGURE 1. The curtain **12** is detached from the curtain attaching elements **32** and the new curtain then is attached to these elements. Finally, the operator releases the cable **22** from the cleat **50** and draws that cable downwardly until the locking lugs **36** on the movable curtain rod contact the pins **38** on the stationary anchor rail. The inclined surface at the end of each locking lug urges the locking pin inwardly against the force of the coil spring **40** until the enlarged terminal portion on the lug clears the pin. Each coil spring **40** then snaps its respective pin outwardly under the enlarged terminal portion of the locking lug to thereby lock the movable curtain rod to the stationary anchor rail.

Another embodiment of the present invention is illustrated in FIGURE 4 and includes a stationary anchor rail **60** secured to a support surface in the area the curtain is to be hung. In this embodiment of the invention an elevating assembly **62** comprises a transverse shaft **64** journaled to the framework of the anchor rail. A spool or reel **66**, at one end of the shaft **64**, has a cable **68** fixed thereto and movement of the cable causes the spool to rotate the shaft, as explained more fully below. The shaft **64** of the elevating assembly **62** also carries a series of smaller spools **70** fixed to the rod at spaced intervals along its length. Each of the spools **70** has a cable **72** attached thereto and those cables extend downwardly through openings **74** in the anhcor rail **60** and are attached to the curtain rod.

The arrangement illustrated in FIGURE 4 also includes a curtain rod **76** movable between an elevated normal position adjacent the anchor rail, and a lowered position spaced from the anchor rail. The movable curtain rod **76** has a pair of guide tracks **78, 80** and curtain attaching elements **82** travel along the guide tracks in the same manner as described above in conjunction with the embodiment shown in FIGURES 1–3.

In operation, the movable curtain rod **76** is raised and lowered by manipulating the cable **68** of the elevating assembly **62**. When the cable **68** is pulled downwardly the spool **66** is caused to rotate which in turn rotates the transverse shaft **64**. Rotation of the shaft causes the smaller spools **70** to draw the cables **72** in an upward direction, the cables being wound upon their associated spools as the shaft rotates. As can readily be understood, the movable curtain rod **76** finally abuts the anchor rail **60**. A downwardly extending portion **84** on the anchor rail **60** completely covers the movable curtain rod **76** and the curtain attaching elements **82**, thus eliminating the need for a valance or similar decorative plate.

The movable curtain rod **76** includes a series of locking lugs **86** similar in design to the lugs **36** described above in conjunction with the embodiment shown in FIGURES 1–3. Locking pins (not shown) are provided to engage the locking lugs to releasably lock the movable curtain rod **76** to the anchor rail **60** in the same manner as described above in conjunction with the embodiment shown in FIGURES 1–3.

FIGURES 5–10 illustrate another arrangement **100** for hanging curtain material **102** from a support surface **104**. This arrangement comprises an anchor rail **106** secured to the support surface **104** by suitable fasteners (not shown). A movable curtain rod portion **108** having a substantially smaller length than the overall length of the anchor rail is connected for movement toward and away from the rail by an elevating assembly **110** comprising a pair of cables **112** secured to the movable curtain rod portion **108**. The cables **112** extend upwardly from the movable curtain rod portion and each cable is trained about a pulley **114** journaled to the framework of the anchor rail **106**. Each cable runs from its associated pulley **114** to a master pulley **116** rotatably secured to the anchor rail **106** at one end thereof. From the master pulley **116** the cables **112** extend downwardly to a weight **118**.

The movable curtain rod portion **108** has a track **120** for guiding curtain attaching elements **122** along that curtain rod portion. As shown in FIGURES 7 and 10, the movable curtain rod portion **108** has a substantially inverted U-shaped cross-section and the sides of this cross-section include inwardly directed shoulders **124** that form the guide track. As previously described, the curtain attaching elements **122** may comprise roller hooks, roller rings, roller clips or any other convenient means for attaching the curtain material **102** to the movable curtain rod portion **108**.

The anchor rail **106** also carries a fixed curtain rod portion **126** having a length which is approximately equal to the difference between the overall length of the anchor rail and the movable curtain rod portion. The fixed curtain rod portion **126** is integral with the anchor rail **106** and comprises the lower half of that rail. The fixed portion has a track **128** for guiding the curtain attaching elements **122** along that portion of the curtain rod. As explained more fully below, when the movable curtain rod is in its elevated in-use position the guide track **120** of the movable rod portion mates with the guide track **128** of the fixed portion**126**.

A locking assembly is provided for locking the movable curtain rod portion **108** to the stationary anchor rail **106** when the movable rod is elevated to a position adjacent the anchor rail. The locking assembly comprises locking lugs **130** secured to the movable curtain rod portion **108** at spaced intervals along its length. Each of the locking lugs has a slot **132** and a terminal inclined surface **134** to facilitate locking of the movable curtain rod portion **108** to the stationary anchor rail, as explained more

fully below. As shown in FIGURE 8, the locking assembly includes a U-shaped locking plate **136** slidably attached to the stationary anchor rail **106** by bracket structure **138**. The locking plate **136** is urged to the left, as viewed in FIGURE 8, by a coil spring **140** connected between the framework of the anchor rail and the locking plate. The plate **136** is also connected to a cable **142** which is trained about a pulley **144** located adjacent the master pulley **116**. The cable **142** runs from the pulley **144** downwardly to a pull **146** attached to the free end of the cable.

The curtain **102** is removed from the curtain hanging arrangement illustrated in FIGURES 5–10 in the following manner. First, the curtain material is moved from the fixed curtain rod portion **126** to the movable curtain rod portion **108**. When the entire curtain is within the confines of the movable curtain rod portion the pull **146** connected to the cable **142** is drawn downwardly thereby causing the locking plate **136** to move to the right, as viewed in FIGURE 8, against the force of the coil spring **140**. As the cable **142** is drawn downwardly the operator grasps the cable **112** of the elevating assembly **110** to prevent the movable curtain rod portion **108** from dropping when it is released from locking engagement with the stationary anchor rail. The operator then allows the movable rod portion **108** to move downwardly under the influence of gravity until that rod portion is at a convenient elevation to facilitate removal of the curtain material. When the movable curtain rod portion **108** is so positioned the cable **112** may be wound around a cleat **148** located adjacent the cable, as illustrated in FIGURE 9.

Next, the curtain material is detached from the curtain attaching elements **122** and the new curtain is then attached to these elements. Finally, the operator releases the cable **112** from the cleat **148** and draws that cable downwardly until the locking lugs **130** on the movable curtain rod portion **108** contact the legs of the locking plate **136** on the stationary anchor rail. The inclined surface **134** at the end of each locking lug urges the locking plate away from the legs against the force of the coil spring **140**. Eventually, the coil spring **140** urges the locking plate **136** toward the locking lugs so that the legs of the locking plate are disposed within the slots **132** in the locking lugs thereby locking the movable curtain rod portion **108** to the stationary anchor rail.

The curtain rods and anchor rails of the present invention may be constructed of metal, wood, moldable plastic materials and the like. Thermoplastic synthetic materials are particularly useful since guide tracks fabricated from these materials provide smooth frictionless surfaces upon which the curtain attaching elements can easily move.

I claim:

1. An arrangement for hanging curtains comprising an anchor rail, a curtain rod connected for movement toward and away from the anchor rail, a track on the curtain rod for guiding curtain attaching means along the rod, an elevating assembly connected to move the curtain rod between an elevated in-use position adjacent the anchor rail and a lowered position spaced from the anchor rail, and a releasable locking assembly for locking the movable curtain rod to the anchor rail when the rod is elevated to its in-use position, the locking assembly including lugs on the curtain rod and movable locking means on the anchor rail connected to engage the lugs when the curtain rod is elevated to its in-use position, the elevating assembly having cables connected to the locking lugs on the curtain rod to facilitate movement of the rod.

2. An arrangement for hanging curtains comprising an anchor rail, a curtain rod connected for movement toward and away from the anchor rail, a track on the curtain rod for guiding curtain attaching means along the rod, the anchor rail having a substantially greater length than the movable curtain rod, and an elevating assembly connected to move the curtain rod between an elevated in-use position adjacent the anchor rail and a lowered position spaced from the anchor rail.

3. An arrangement for hanging curtains as in claim **2** wherein the anchor rail includes a fixed curtain rod portion having a guide track that mates with the guide track of the movable curtain rod when the movable rod is elevated to its in-use position.

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U.S. Cl. X.R.

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