Nov. 27, 1951 N. BRATT 2,576,171

APPARATUS FOR RAISING CURTAINS, SHADES AND BLINDS

Filed March 2, 1949 2 SHEETS—SHEET 1

FIG. 1.

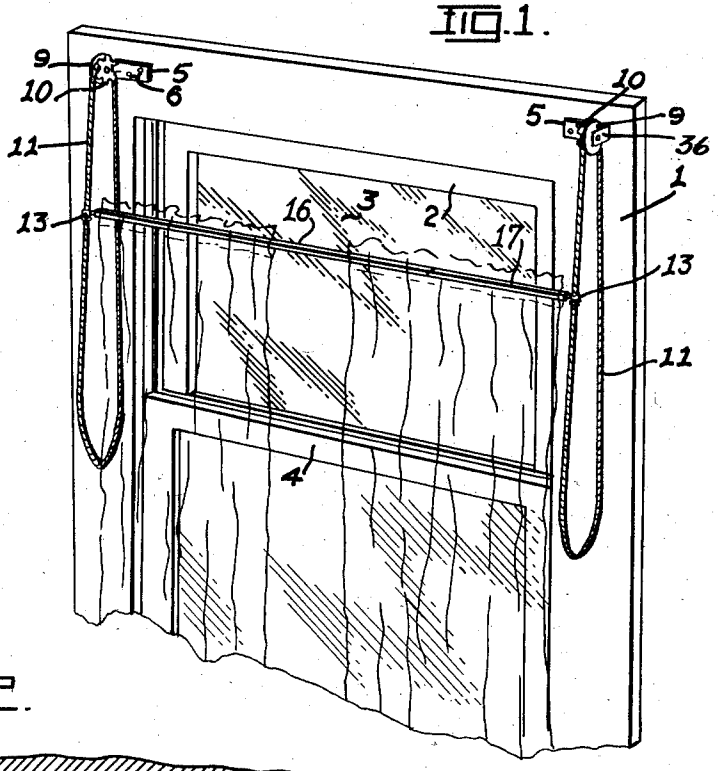


FIG. 2.

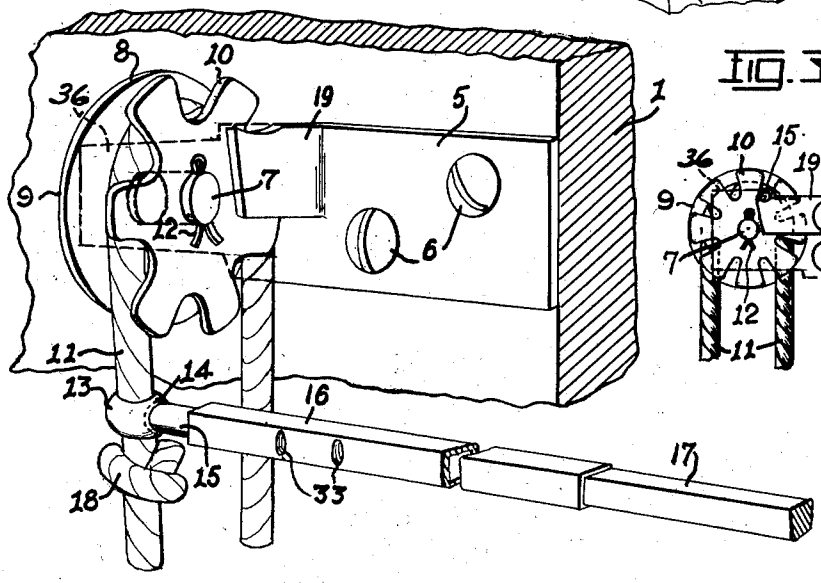


FIG. 3.

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FIG. 4.

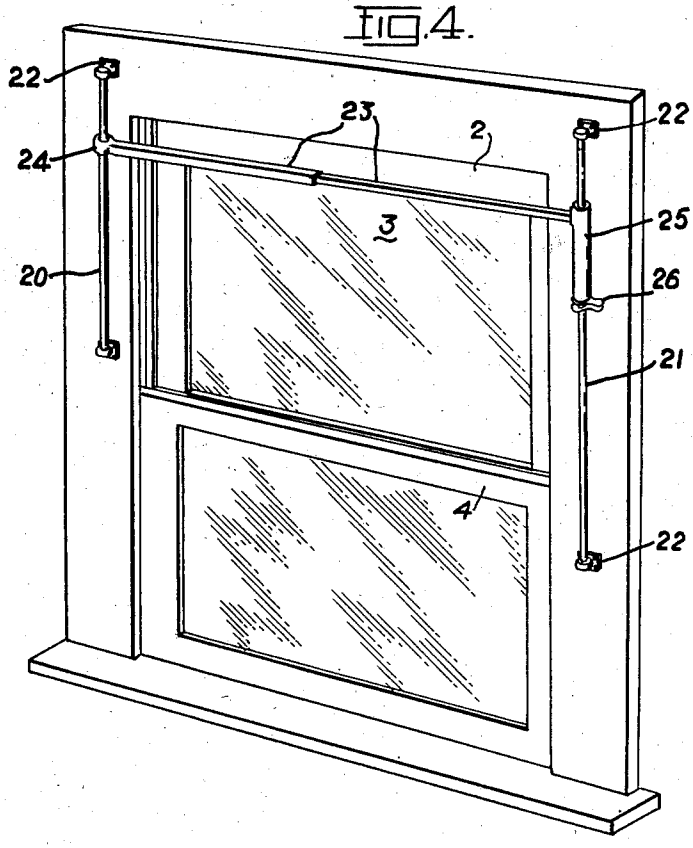


FIG. 5.

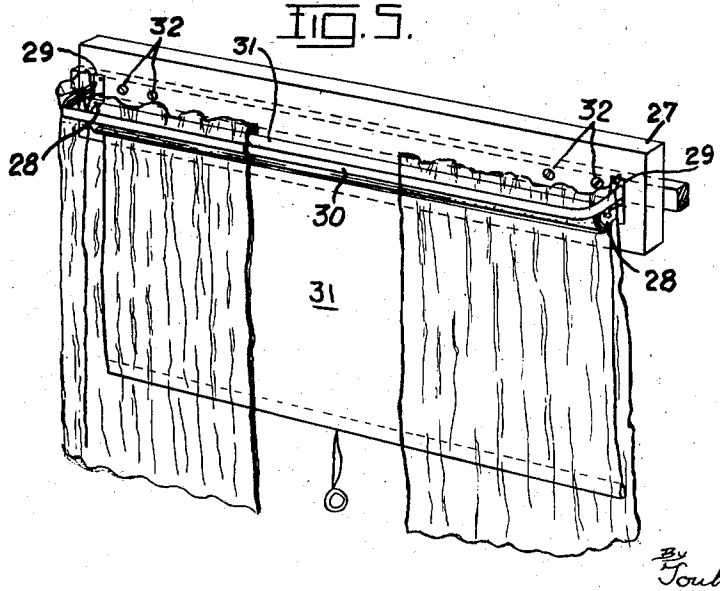
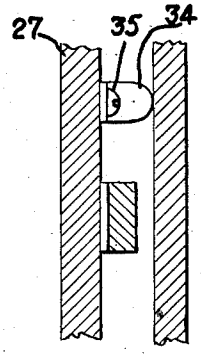


FIG. 6.



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APPARATUS FOR RAISING CURTAINS, SHADES, AND BLINDS

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6 Claims. (Cl. 211—105.1)

1

The present invention relates to house and store appurtenances, particularly to curtains, shades and other window adornment.

The work of hanging curtains or shades is tedious, particularly where the windows are many, as in stores, and sometimes hazardous as when the windows are high and require the use of a stepladder. In certain types of window frame coverings such as the so-called "cornice" structures which support heavy drapes, as well as the curtains and shades, the weight of the assembly is often considerable, requiring strong fasteners at the outer window frame and expert deftness in mounting the members.

The primary object of my invention is to provide apparatus for mounting or hanging curtains, shades, drapes, Venetian blinds and cornice assemblies which, excepting the original job of initially securing the fasteners to the frame, does not require stepladders or other hazardous appliances.

Another object is to provide an apparatus for hanging curtains, shades, etc. which will permit ready access to all parts of the curtain or shade for inspection, repair, cleaning or replacement and does not require the mounting of any temporary platform, stepladder or the like.

Still another object is to provide an apparatus for supporting heavy curtains, shades, drapes, etc. in such a way that they can be released from their window frame supports while the operator stands on the floor.

Another object is to provide an apparatus for detachably mounting a curtain, shade or other window adornment and in which the height of the curtain or shade can be adjusted at will without disturbing the fasteners or other supports.

Still another object is to provide an apparatus for detachably and adjustably mounting curtains, shades, drapes, etc., separately or as an assemblage, on fixtures in a window outer casing, and in which the detaching or adjusting features can be accomplished without the operator or workman having to elevate himself from the floor to the level of the curtain and shade assemblage.

A further object is to provide a hoisting apparatus of relatively miniature size for curtains, shades, etc. and utilizing an operating cord or a rigid rod for elevating or lowering the curtain or shade as a whole.

A final object is to provide an apparatus for elevating or lowering curtains, shades, drapes, etc. by use of a pulley and cord and in which the curtain and drape rod and the shade are maintained in their elevated position without any continuous pull on the cord by which these elements were raised.

2

The invention will be better understood when reference is made to the following description and the accompanying drawings in which:

Figure 1 represents a perspective view of apparatus for raising curtains, shades, etc., improved in accordance with one aspect of my invention;

Figure 2 is an enlarged perspective view of one form that the curtain and shade elevating mechanism may take, together with a locking device for maintaining the elevated position of the curtain rod without causing stretch of the hoisting cable or cord;

Figure 3 is an elevational view of the elevating mechanism, somewhat smaller than Figure 2, and looking from the right toward the right side of Figure 2;

Figure 4 is a perspective view of another form of curtain and shade mounting apparatus contemplated by my invention;

Figure 5 represents the application of the invention to an assembly of curtain, shade and drape elements and showing the facility with which these heavy elements can be arranged, while standing on the floor, and then hoisted to any desired position while maintaining a predetermined arrangement between the elements;

Figure 6 is an end view of one of the details of the elements shown in Figure 5.

Referring more particularly to Figure 1, reference character 1 designates the upper portion of an outer window frame or casement containing the usual window sash 2 and the window pane 3. These windows are illustrated as being of the vertically slidable type as indicated by the horizontal ledge 4. In order to properly curtain a window of this type or to provide shades, it is customary to affix fasteners either on the uppermost horizontal frame member or else on the inside upper edges of the vertical frame members so as to receive the curtain rod or the stems of the shade. Whenever it is desired to clean the curtains or perhaps to renew the shades, a stepladder is normally employed and the housewife or workman has to mount the stepladder, which in the case of a tall window, may place them in a precarious position. Just the simple task of stepping up and down the ladder, of itself, is tedious work, particularly when a large number of windows must be serviced as in the case of certain types of stores and factories. Moreover, in the case of house curtains which must be neatly arranged on the curtain rod and the frills

above the rod uniformly spread, it is a well known fact that even though the curtains have been properly positioned on the rod before being affixed in its elevated position, the neat appearance of the curtain and frills is often spoiled during the act of raising the curtain rod to its elevated position on the outer window frame.

In accordance with one aspect of my invention, I provide a hoisting structure which permits the curtain rod to be threaded through the loops of the curtains and the pleats or frills properly arranged and then the curtain rod is elevated to the desired height without causing any disarrangement of the curtains on the rods. The hoisting mechanism is shown more clearly in Figures 2 and 3 and may consist of a bracket 5 which can be screwed as indicated at 6 to the upper horizontal member of the outer window frame. The strap or bracket 5 is provided at the left hand end (as seen in Fig. 2) with a transversely extending portion 36 (shown in Figure 1) in which is fixedly mounted a stub shaft 7. A pulley 8 is adapted to rotate on this shaft, one of the flanges of the pulley having preferably a circular periphery 9, and the other having a notched periphery as indicated at 10.

The inner or working surface of the pulley may be formed by tapering sides and having a curvilinear groove at the bottom in order to receive and pinch a cord 11 which extends over the pulley. The pulley 8 is restrained from sliding off the shaft 7 in any suitable manner, for example by the use of a cotter pin 12 extending through an opening in the shaft. The purpose of the notches 10 will be set forth hereinafter. The cord 11 is attached loosely to receive a metal ring 13 having a curvilinear shape at the outer periphery in order to provide considerable metal thickness at a position about midway of the length of the ring. A countersunk opening indicated at 14, of any desired depth, is provided at one side of the ring, at the exterior surface, this opening being adapted slidably to receive a rod 15 which may constitute an extension of a curtain rod 16. The latter is preferably of a square, tubular shape and is adapted telescopically to receive a square rod of solid section 17 which telescopes into the tubing 16 so as to effect different lengths as is customary with regard to curtain rods. The rod 17 terminates at the right-hand end (referring to Fig. 2) in the round rod 15 similar to that described hereinbefore and the latter is swivelly received by a ring 13 through which a cord or cable 11 is threaded.

In order to position the rings 13 with respect to the cord 11, knots 18 are provided in each of the cords at the proper heights so that the rod elements 16, 17 remain substantially horizontal. The cords or cable 11 are preferably of the endless type, i. e. form loops, and as stated hereinbefore, the upper portions lie within the V-shaped grooves formed between the flanges 9 and 10 of the pulley 8.

In operation, the curtain rod elements 16, 17 are threaded in the usual manner through the hand loops of the curtains, this operation being done while the housewife or workman stands on the floor and the rod has been lowered to a convenient position. When the curtain or curtains have been properly spread along the rod elements, the far side lengths of the cord or cable 11 are pulled downwardly to cause the curtains to be raised. As the circular portions 15 of the rod approach the curved notches of the pulley flange 10, the nearest notch will receive the respective rods 15 and as each pulley continues to turn, the circular portions 15 will become more elevated until the curtain rod has reached the proper height. At this time any suitable and well known mechanism could be employed for holding the pulley 8 in its instantaneous rotated position, such mechanism being usually operated by swinging the descending cord length to one side or the other of the vertical axis of the pulley 8. In the event that a locking device on the pulley is not desired, suitable catches or grips may be provided on either length of the cord or cable to prevent any further movement thereof and therefore serving to hold the curtain rod in its desired uppermost position.

However, in accordance with another feature of my invention, there is provided a mechanism which restrains the curtain rod from dropping unless deliberately lowered, this mechanism operating on a principle which does not involve a cord gripping or a pulley locking device. It employs the principle of causing the curtain rod by its own weight to rest against a stationary projection and the latter prevents the rod from dropping. Thus, in Figure 2 there is a projection 19 extending at right angles to the strap 5, parallel to the inner flange of the pulley but spaced therefrom a sufficient distance in order to receive the rod 15 as the latter is caused to move, first upwardly and then around the back of the pulley by continual pulling of the far side of the cord 11. This position of each rod extension 15 is shown in Figure 3 and it is obvious that since the entire curtain rod is to the side of the vertical axis of the pulley opposite from the side over which it was lifted, there could be no tendency for the rod to reverse the direction of the pulley 8, but instead, the rod tends to rest on the upper edge of each projection or fixed support 19. These projections may be formed integral with the strap and constitute an upset portion.

When it is desired to lower the curtain rod, it is necessary merely to pull on the nearer length of the cord 11 which will cause the notched flange 10 to elevate the rods 15 and, finally, bring these rods over the front edge of the pulley to be lowered to any desired height. It is obvious that the distance between the flanges of the pulley can readily accommodate the knots 18.

A swivel action is obtained between the ring 13 and each rod 15 at the opening 14, which tends to prevent the curtain rod elements 16, 17 from rotating so that even though the rod 15 does move in a transverse direction along the top of the pulley 8 and then in a slight downward direction at the rear side of the pulley until it contacts the upper edge of the projection 19, little or no movement of the rods 16, 17 out of the vertical line will be noticed. The curtain therefore remains upright.

It is apparent that when the pulley is either locked in any suitable and well known manner as explained hereinbefore, or when the curtain rod is caused to rest on the upper edges of the projections 19, in accordance with one of the features of my invention, any tendency for the cable or cord 11 to stretch is avoided. This prevents undue wear in the cord. The loop lengths of the cord are preferably such that the lower loops extend not much below the middle sash of the double windows so that the loops can be readily grasped by an adult and yet be out of reach of children.

In Figure 4 there is shown another embodiment of my invention. In this case, rigid rod guides 20, 21 are vertically mounted along the side outer

frame members of the window, suitable fittings 22 being employed for this purpose. These rods may be formed of tubular material to reduce expense. The curtain rods are of any suitable telescopic type as indicated at 23 and one of the curtain lengths terminates in an eyelet 24 which is slidably received by the vertical guide 20. The other rod element is provided with a tubular element 25 which extends at right angles to the curtain rod and is slidably received by the vertical guide 21. A locking catch 26 of any well known and suitable type is secured to the member 25, this catch also serving the purpose of a handle in moving the tubular member, and therefore the rods 23, in the vertical direction.

In operation the rods 23 are threaded through the hemmed loops of the curtains and in order to elevate the curtain in its pre-arranged condition, it is simply necessary to loosen the catch 26 and to move the curtain on its rod to any desired height. In practice, the extension 25 would be so long in the vertical direction that the rods 23 can be moved to their most elevated position while the operator or housewife is still standing on the floor. Thus, as in the case of the structure described in Figures 1 to 3, there is no necessity for using a stepladder or other elevated platform for affixing the curtains in their uppermost position except when the upper fixtures 22 are being screwed into the frame.

While I have described the structures in Figures 2 and 4 as being most applicable to the use of curtain rods, it is obvious that shades could also be hoisted in the same manner by merely terminating the pins of the shade either in rings 13 for encircling a cord 11 or a vertical guide 12, and in addition, by providing a tubular member 25 in case the rigid form of elevating mechanism is desired.

It is further obvious that drapes can also be hoisted in the same manner by using the flexible cord-pulley mechanism in Figure 2 or the slidable ring arrangement of Figure 4.

In case it is desired to hoist a combined curtain and shade combination, a structure such as shown in Figures 5 and 6 can be employed. A bar or plate 27 is provided to which is affixed the usual shade brackets 28 and the usual curtain rod fixtures 29. The curtain rods may be of the telescopic strip brass type having a U-shape indicated at 30 so as to extend out beyond the shade 31. The plate 27 may be screwed as indicated at 32 to the threaded openings at 33 of the rod shown in Figure 2. Thus the window shade and the curtains can be arranged in their respective positions and then lifted to their proper elevated position by pulling down on the far lengths of the cord 11 of Figure 2 in the same manner as was explained with respect to the curtain rods 16, 17.

In order to assure that the bar or plate 27 will remain vertical and thus prevent any tilting effect of the curtains, a pair of metal skids 34 may be screwed as indicated at 35 to the rear side of the bar at the upper edge so as to maintain the proper distance between the upper surface of the bar and the surface of the outer window frame when rods 16, 17 are at their most elevated position and the rods 15 are resting on the projection 19. Thus the bar 27 remains in substantially the same position when both elevated and lowered and no disarrangement of the curtains is caused.

It is obvious that the bar or plate 27 provides a suitable carrier not only for shade and curtain rods which are fixedly mounted in place, but also for cornice structures which usually involve

heavy drapes covering the curtains. All of these elements can be properly positioned while the workman remains standing on the floor and the entire assembly will have the same relative positions when the structure is elevated as explained hereinbefore.

It may also be desired to mount a Venetian blind on the plate 27 and hoist the same by the use of the cord 11 or by the rigid form of hoisting mechanism shown in Figure 4. This is particularly desirable as it permits ready cleaning of the upper parts of the Venetian blind which can be lowered to a standing position and these parts are normally accessible only by the use of a stepladder.

It will be understood that various modifications and arrangements in structure could be made without departing from the spirit of my invention and, accordingly, I desire to comprehend such modifications and substitutions of equivalents as may be considered to come within the scope of the appended claims.

I claim:

1. In apparatus for positioning a curtain rod, a bracket having a projection, and adapted to be fixed on the top of a window frame, a support to which the rod is detachably secured, and means for elevating said support to a position as determined by the proper height at which the curtains are to be hung, said means including a pulley mechanism mounted on the bracket over which a cord extends, said support being secured to the cord at a position such that when the cord is moved over the pulley the rod support is raised to its predetermined height and comes to rest on said projection to remove strain on the cord.

2. Apparatus for hanging curtains, including a curtain rod, in combination, a flat plate support to which the rod is detachably secured, means for hoisting the plate support to a predetermined height for hanging the curtains, said means including a pulley mechanism operable by an endless cord which is secured to said support and extends over said pulley, and means comprising a fixed projection cooperating with said pulley for detachably holding said support at the predetermined height, said cord also serving to detach the support from the holding device when it is desired to lower the support and the curtain rod.

3. Apparatus for hanging curtains, including a curtain rod, in combination, a flat plate support to which the rod is detachably secured, means for hoisting the plate support to a predetermined height for hanging the curtains, said means including a pulley mechanism having a notched flange operable by an endless cord which is secured to said support and extends over said pulley, and means cooperating with said notched flange for detachably holding the support at the predetermined height, said cord also serving to detach the support from the holding device when it is desired to lower the support and the curtain rod, and means for maintaining the support in the same vertical plane when the latter is in the elevated or in the lowered position.

4. Apparatus for hanging curtains, including a curtain rod, in combination, a hoisting pulley fixture positioned in the region of at least one end of the rod, an endless cord attached to that end of the rod and extending over the pulley, flanges on said pulley, and means comprising a fixed curtain rod support which is arranged to coact with one of said flanges on said pulley for holding the curtain rod in a fixed stationary

elevated position whereby no stretching effect on the cord is introduced at this position of the curtain rod.

5. In apparatus for positioning a curtain rod, a wall bracket adapted to be mounted on the top of a window frame, means for elevating the rod to the proper height at which the curtains are to be hung, said means including a pulley over which a cord extends, said rod being secured to said cord, said pulley being rotatably mounted on said bracket, a notched flange on the pulley, a projection formed on said bracket in horizontal alignment with the base of each notch as it moves to its elevated position, said rod being caused to engage one of the notches of the flange as the cord is pulled in one direction, and to come to rest on the projection of said bracket when the rod has reached a predetermined elevated position.

6. In apparatus for positioning a curtain rod, a wall bracket adapted to be mounted on the top of a window frame, means for elevating the rod to the proper height at which the curtains are to be hung, said means including a pulley over which a cord extends, said rod being secured to said cord, said pulley being rotatably mounted on said bracket, a notched flange on the pulley, a projection formed on said bracket in horizontal alignment with the base of each notch as it moves to its elevated position, said rod being caused to engage one of the notches of the flange as the cord is pulled in one direction, and to come to rest on the projection of said bracket when the rod has reached a predetermined elevated position, and means operable by pulling the cord in the opposite direction for removing the rod from said projection in order to permit lowering of the rod.

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