UNITED STATES PATENT OFFICE.

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PORTIÈRE-TRAVINGERING MECHANISM.

1,217,883.


To all whom it may concern:

Be it known that we, FENLEY H. ROOPE, and JAMES H. REED, citizens of the United States, residing, respectively, at Lynn and Swampscott, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Portière-Traversing Mechanism; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in portière traversing mechanism and more particularly to mechanism of this character which is employed for supporting and operating comparatively large and heavy portières and curtains.

One object of the present invention is to provide mechanism of an improved type which is simple in construction and capable of sustaining the heaviest curtains, and in which the portière supporting and traversing mechanism is entirely concealed from view.

A further object of the invention is to provide a simple and efficient power actuated mechanism for opening and closing the portières, and which is conveniently controlled by the operator.

With the above objects in view the several features of the invention consist in certain novel features of construction, combinations and arrangements of parts, the advantages of which will be obvious to those skilled in the art from the following description.

In the accompanying drawings illustrating the preferred form of the invention; Figure 1 represents an elevation partially diagrammatic of the portière traversing mechanism showing one type of installation; Fig. 2 is a detail illustrating a side elevation of the traverse bar, the runners supported thereon, and the mechanism for sliding the runners upon the bar; Fig. 3 is a detail showing a section upon the line 3--3 of Fig. 2; Fig. 4 is a detail showing a section upon the line 4--4 of Fig. 2; Fig. 5 is a detail illustrating an elevation of one of the runners and showing the manner in which the runner is supported upon the traverse bar; and Fig. 6 is a plan view partially diagrammatic, showing the operative connection between the traverse cord and runners.

In the illustrated embodiment of the invention the opening is closed by a pair of curtains indicated at 1 and 2, respectively, which are supported upon a traverse bar 4 by a plurality of runners 5 slidingly mounted upon the traverse bar. The runners are operated in the usual manner by a traverse cord indicated generally at 6 and having the two portions 7 and 8, as shown in Fig. 6, connected respectively to inside runners 10 and 11 in order that upon a movement of the traverse cord the runners shall be moved in opposite directions. The runners 10 and 11 support the inside corners of the curtains 1 and 2, respectively, and upon operating the traverse cord the curtains are opened or closed, depending upon the direction in which the traverse cord is moved.

It is desirable that the portière supporting and traversing mechanism shall be entirely concealed from view and to this end the traverse bar 4 is supported at its opposite ends in openings formed in brackets 13 and 14 and a pair of moldings 16 and 17 of any suitable design and shape extend throughout the length of the traverse bar and are spaced apart by the brackets 13 and 14 to completely enclose the traverse bar, the runners and operating mechanism, as shown clearly in Figs. 1 to 4, inclusive. As shown clearly in Fig. 3, the bracket 13 is designed for attachment to the wall and is provided with a flanged opening to receive one end of the traverse bar and a pulley 15 journaled upon a vertical axis and about which the traverse cord passes. The opposite end of the traverse bar is supported in a flanged opening in the bracket 14 which is provided with a pair of grooved pulleys 18 and 19 journaled upon a horizontal axis and supporting and guiding the portions 7 and 8 of the traverse cord, respectively. It is desirable that the portière supporting and traversing mechanism shall be simple in construction and occupy a minimum of space, and at the same time be capable of supporting with safety the heaviest portières. To this end the traverse bar 4 is substantially rectangular in shape and the distance from top to bottom of the bar considerably exceeds the width in order to give the bar the requisite strength against a vertical pull and at the same time occupy a minimum space between the moldings. The curtains are supported by a plurality of runners, each having an
opening through which the bar passes and provided with recessed bosses 20 at its opposite ends in which are located anti-friction members 21. It will be noted from an inspection of Figs. 2 and 5 that the anti-friction balls 21 are loosely supported in the recesses and that when the runners are assembled upon the traverse bar the balls are retained in position between the runners and the upper face of the traverse bar which is hollowed out to form a track for the balls, as shown clearly in Fig. 5. The curtain is supported by a depending hook 23 which is swiveled in the lower portion of the runner and engages with a ring 24 secured to the upper edge of the curtain. The runner is provided at its opposite ends with a pair of upstanding ribs 25 which are slotted to allow the two oppositely traveling portions of the traverse cord to pass therethrough, the two inside runners being secured to opposite portions of the traverse cord, as shown in Fig. 6. With this construction the heaviest curtains are opened and closed with facility and ease, the runners moving smoothly upon the traverse bar without cramping or binding when a pull is exerted upon the traverse cord. Furthermore, with this construction when it is desired to clean or renew the curtains they may be readily disconnected by removing the rings from the hooks 23 without removing the traverse bar or runners.

As these curtains frequently close an opening of considerable size it follows that they are quite heavy and must be moved for some distance in order to be completely opened or closed. To this end it is desirable that a power actuated mechanism be employed for operating the curtains and that this mechanism shall be conveniently controlled from a location in close proximity to the doorway or other opening. In the present invention an electric motor 27 is connected directly to the traverse cord 6 through a winding drum 28 mounted upon the motor shaft, as shown clearly in Fig. 1. The motor is supported vertically by a suitable bracket 30 beneath the floor and the traverse cord passes from the bracket 14 down behind the wall, around idler pulleys 32 and on to the winding drum 28. The traverse cord is endless, the two portions being wound upon the drum 28 in opposite directions, and upon operating the motor the curtains are opened or closed, depending upon the direction of rotation of the motor. The motor has not been shown in detail as any suitable type of reversing motor may be employed and controlled by a switch 35 mounted at one side of the doorway and connected to the motor through suitable leads indicated at 36.

It will be observed that the end bracket-plates 13 and 14 together with the moldings 16 and 17 and the track bar 4 form in effect a tubular casing which houses all the operating parts except the depending portions of the operating cord 6 and the motor, so that the hanger devices proper are embodied in a unitary structure which is capable of being conveniently and readily put into place between the door jambs and up against the top board of the door frame. The hanger structure may, as is obvious, be thus put into place without specially constructing or materially mutilating the door frame, and, when so located, the top board of the door frame closes the upper side of the tubular structure, thereby leaving the tubular structure open at one point, namely along its lower edge, where a comparatively narrow slot is provided into which the hooks 23 depend. It will be observed also that by employing rectangular flat bars 4 for the track we not only provide for a maximum of strength in the track and the utmost compactness, but also insure the runners 5 (which are shaped to loosely embrace the track bar) against wobbling as they move along the track. This provision for preventing the runners laterally oscillating on the track bar not only insures ease of running, but also prevents the depending hooks 23 from swaying laterally when the portières are pressed upon by wind or otherwise, thereby enabling us to extend the hooks down into the slot between the moldings and enabling us to reduce this slot to a narrow diameter, so that there will be nothing visible of the hanger mechanism excepting the portière rings 24. This construction not only enables us to provide a hanger mechanism which will protect and obscure all the operating mechanism, but which at the same time will be operable with the least friction and noise. All these advantages tend to adapt our device for the special use for which we designed it, namely, for fine residences where large and elegant portières are in use and where it is absolutely indispensable that the apparatus shall not only be ornamental but shall give no impression either in operation or in appearance of mechanical apparatus for hanging or operating the portières.

While it is preferred to employ the specific construction and arrangement of parts shown and described, it will be understood that this construction and arrangement is not essential except so far as specified in the claims, and may be changed or modified without departing from the broader features of the invention.

The invention having been described, what is claimed is:

1. A portière traversing mechanism comprising a traverse bar of substantially rectangular cross section, a pair of brackets having openings therein to receive respectively the opposite ends of the bar and pulleys.
leys supported thereon above the bar, a traverse cord passing over the pulleys above the bar, a plurality of runners slidably supported upon the bar and having upstanding slotted ribs which receive the traverse cord, anti-friction members interposed between the runners and the traverse bar, a hook depending from each runner for supporting a portière and a pair of moldings secured at opposite ends to the brackets and enclosing the traverse bar, runners and traverse cord.

2. A portière traversing mechanism comprising a traverse bar of substantially rectangular cross section, a pair of brackets having openings therein to receive respectively the opposite ends of the bar and pulleys supported thereon above the bar, a traverse cord passing over the pulleys above the bar, a plurality of runners slidably supported upon and closely embracing the bar and having upstanding slotted ribs which receive the traverse cord, anti-friction members interposed between the runners and the traverse bar, and a hook depending from each runner for supporting a portière.

3. A device of the class set forth, comprising a traverse bar, a vertical end plate connected to each end thereof and extending above and below the bar, moldings fastened to the side edges of these plates in parallel relation to the bar, the lower edges of the moldings being supported by these plates to form a longitudinal slot opening downwardly, carriers adapted to travel on said traverse bar and provided with curtain-supporting hooks depending into said slot, pulleys carried by the end plates, and an operating rope running over said pulleys and connected to the carriers, the pulleys and upper end of the carriers and the rope being housed in the space formed by the moldings and the end plates above the traverse bar.

4. A device of the class set forth, comprising a traverse bar of rectangular cross section, a vertical end plate connected to each end thereof and extending above and below the bar, moldings fastened to the side edges of these plates in parallel relation to the bar, the lower edges of the moldings being supported by these plates to form a longitudinal opening below and parallel to the bar, carriers fitting the bar and adapted to travel back and forth thereon, each carrier being provided with a curtain-supporting hook depending into the longitudinal opening between the lower edges of the moldings, and means whereby the carriers are slid back and forth on the bar in substantially the manner set forth.

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