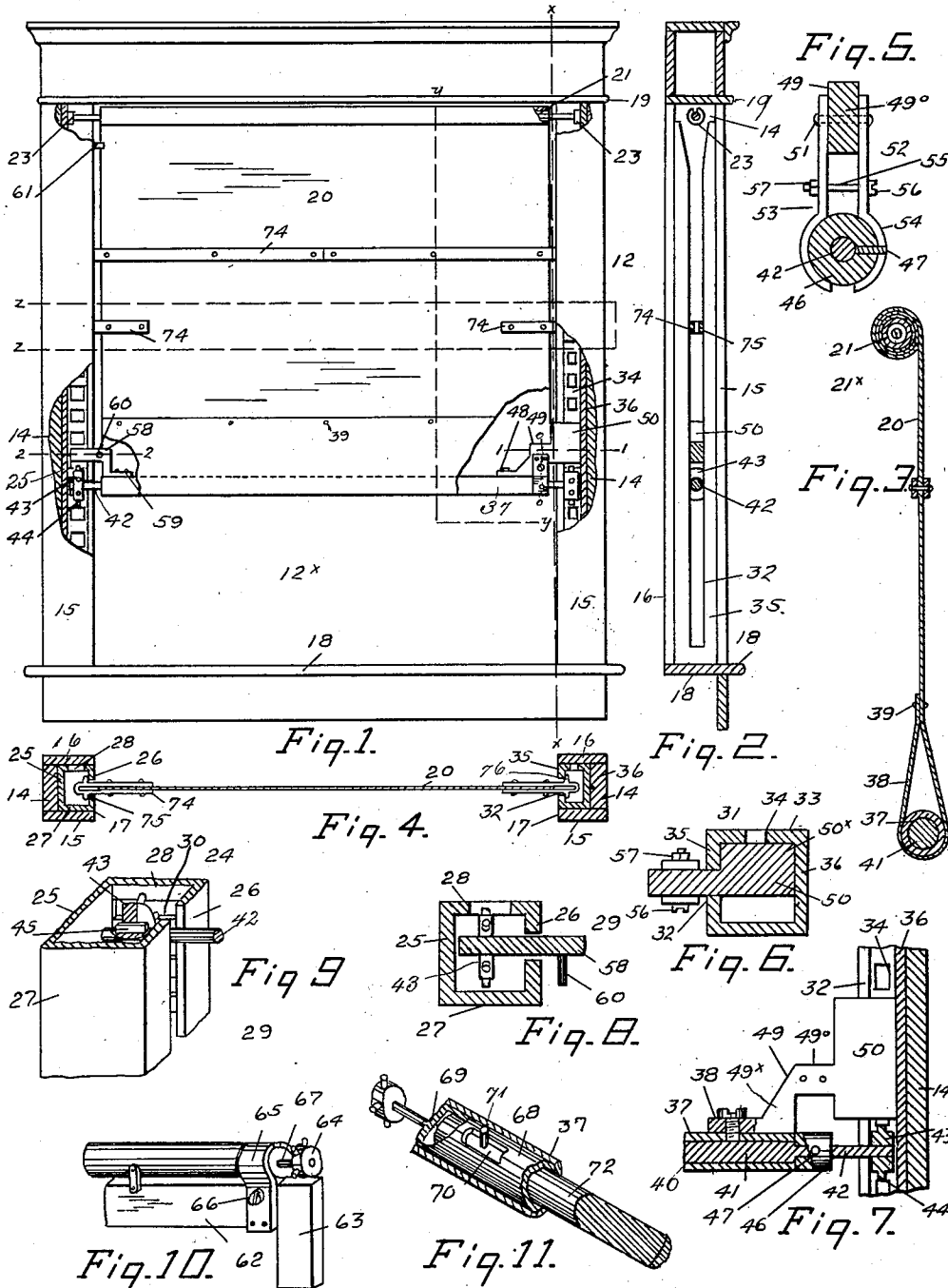


R. ANDLAUER.
CURTAIN FIXTURE.
APPLICATION FILED MAR. 4, 1911.

1,033,224.

Patented July 23, 1912.



Witnesses.
C. L. Brown
H. M. M.

Inventor.
Raymond Andlauer
By R. H. Manning
Attorney.

UNITED STATES PATENT OFFICE.

RAYMOND ANDLAUER, OF KANSAS CITY, KANSAS.

CURTAIN-FIXTURE.

1,033,224.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed March 4, 1911. Serial No. 612,426.

To all whom it may concern:

Be it known that I, RAYMOND ANDLAUER, a citizen of the United States of America, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Curtain-Fixtures; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

The invention relates to curtains for windows or doors, particularly for closing the door and window openings to cars, motor vehicles and like conveyances, the curtains for which are more or less subject to the elements, and it has for its object, first, to provide a curtain for sustaining impact of the wind, and which may be simultaneously raised and lowered with the least effort; second, to equalize the movement of one end of a curtain, when the power to raise or lower is at the other end; third, to adjust the position of the free end of the curtain and regulate the adjustments; fourth, a curtain which is applicable to various sized openings.

The invention consists in the novel construction and combination of parts, such as will be first fully described, and then specifically pointed out in the claims.

In the drawings: Figure 1. is a front view of a window frame, and with the curtain partially raised in position, portions of the outer face plate of the frame being broken away, and also the combined metal boxing and rack, showing the main features of the invention. Fig. 2. is a transverse, sectional view of the window frame, taken on the line *x, x*, on Fig. 1. Fig. 3. is a transverse, vertical, sectional view of the curtain and rollers, taken on the line *y, y*, on Fig. 1. Fig. 4. is a horizontal, sectional view of the window frame and curtain, taken on the line *z, z*, on Fig. 1. Fig. 5. is a transverse, sectional view of the roller clamp, taken on the line *o, o*, on Fig. 1. Fig. 6. is a transverse, horizontal, sectional view, taken on the line *1, 1*, on Fig. 1. Fig. 7. is a detail, side view, on an enlarged scale, of the guide plate on the lower or free end of the curtain, also showing the combined boxing and rack, the end of the roller and pinion on the right hand side of the window frame in vertical section.

Fig. 8. is a transverse, vertical, sectional view, taken through the guide plate on the left hand side of the window frame on line 2, 2, Fig. 1, showing the pinion and adjustments. Fig. 9. is a detail, isometric view of a portion of the combined boxing and rack, showing the adjustable pinion wheel in section. Fig. 10. is a detail, isometric view of a portion of the roller in the free end of the curtain, showing a modification of the guiding means. Fig. 11 is a view in perspective of a modification of the adjustments for the pinion wheel in the rack.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

Referring to the drawing, 12 indicates a window frame, and as shown for convenience in illustration, of a box frame. The window opening 12^x, formed as usual between the vertical standards 14, spaced apart the requisite distance. Upon the outer and inner surfaces of standards 14 are the vertical face plates 15 and 16, respectively, of the window frame, as seen in Figs. 1 and 4, and which extend inwardly a considerable distance beyond the lines of the inner surfaces of standards 14, and between which plates are formed the recesses 17.

18 indicates the window sill, and 19 the transverse plate forming the top plate to the window opening 12^x.

20 indicates the curtain, which is composed of any suitable material. As shown, I employ a fabric which is secured at its upper end to a spring-actuated, winding roller 21, of the usual description, and which winds the fabric, such as cloth, upon its outer surface and upon itself, in folds, as the roller turns in one direction, and unwinds in the reverse direction. The roller 21 is such as is employed generally, and which is actuated by the spring power to effect a continuous winding action, which is not deemed necessary to illustrate. The roller 21 is supported rotatably in the brackets 23, on the inner surface and upper end portions of the standards 14, immediately below the lower surface of the top plate 19, the ends of the roller terminating a slight distance inwardly from the line of the inner surfaces of the face plates 15. The curtain in width extends from the line of one end of roller 21 to the line of the other end.

In the recess 17, on the left hand side of

the window frame is secured. the vertical boxing 24, which consists of a longitudinal plate bent in a rectangular form in cross section. This boxing consists of the inner and outer side portions 25 and 26, respectively, and the forward and rear end portions 27 and 28, respectively, which is approximately of the same dimensions as the inner surfaces of the recesses, the outer surface of the side plate 26 being upon a line transversely with the inner surfaces of the face plates 15 and 16, of the window casing. The boxing 24 extends from the upper surface of the sill 18, upwardly to within a short distance of the top plate 19, of the window opening, and are secured fixedly within recesses 17. In the outer side 26, of the boxing, at point equidistant from the lines of the ends 27 and 28, of said boxing, is a vertical guide opening 29, narrow in width. In the rear end portion 28, of the boxing 24, are horizontal openings 30, spaced equal distances apart and in vertical series, these openings extending nearly the width of the end portion 28 and forming with said end a rack for the purpose further explained.

In the recess 17, on the right hand side of the window frame, is a rectangular-shaped boxing 31, of the same dimensions as tube 24, and provided with a vertical opening 32, opposite to the opening 29, in the boxing 24. The rear end of tube 31 forms a rack 33, the opening 34 forming the rack being about one-half the length of the opening 30, in the boxing 24, and located equidistant from the lines of the respective forward and rear sides 35 and 36, of the boxing 31.

At the lower, free end of the curtain 20 is a non-rotatable, round curtain stick, 37, of the same length as the roller 21, over which stick 37 is extended the free end of the curtain to form a loop 38, the end portion of the curtain being secured to the body of the curtain a short distance above the curtain stick 37, by the rivets 39. In the curtain stick 37 is a shaft opening 40, extending longitudinally through the roller, through which opening extends rotatably the shaft 41. The ends 42, of shaft 41, are reduced in circumference and extended through the openings 29 and 32, in the respective boxings 24 and 31, and upon said ends are pinions 43, the teeth 44, on said pinions, engaging with the respective rack openings 30 and 34, in the ends 28 and 33, of the boxings 24 and 31. The pinion 43 on the end 42, of shaft 41, in the boxing 31, is fixed thereto and is rotatable with the shaft, while in the end portion 42, of the shaft, in boxing 24, is a spline 45, upon which the pinion 43 is adjustable the length of the rack opening 30 (see Fig. 9).

Upon the end portion 42, of shaft 41, ad-

jacent to the opening 32, in the boxing 31, is a fixed collar or sleeve 46, the same size as curtain stick 37, and in which sleeve is a screw 47, extending to the shaft 41, as seen in Fig. 5, and securing said sleeve from movement. With the upper surface and end of stick 37, toward the boxing 31, is secured by the screws 48, the arm 49, carrying guide plate 50. The inner portion of this arm extends horizontally upon the curtain stick 37, and a portion 49°, extended in a vertical direction a short distance, then bent at right angles and extended horizontally in the direction of the opening 32, and to which is connected the inner edge portion of the flat plate 50, which extends within the opening 32, and is guided in its vertical movements by the sides of said opening, the plate 50 extending upwardly a considerable distance above the line of the portion 49°, of the arm 49, and downwardly a short distance below the line of the lower surface of said portion 49°, and inwardly in the line of the inner surface of the side 36, of boxing 31, as seen in Fig. 7 to form a guiding block in rigid connection with the curtain stick. In the opposite surface of the portion 49° of the arm 49, are connected by the bolts or rivets 51 the upper ends of the clasp plates 52 and 53, the lower ends 54 of which plates are curved inwardly in arcs of circles, and grasp the surfaces of the sleeve 46, on the end 42, of shaft 41. A clamping screw 55 extends through the plates 52 and 53, having a nicked head 56, on the plate 52, and a nut 57, on the end of the screw, which bears upon the outer surface of plate 53. The rear surface of the plate 50, within the boxing 31, is extended to and in frictional contact with the end 33, of said boxing having the rack 34, to afford resistance to distortion of the arm as seen at 50°, in Fig. 6. The guide 58, on the end of roller extending toward the opening 29, in tube 24, consists of an arm portion 59, secured to the upper surface of the roller, the upper portion of which extends upwardly a short distance and then bent at right angles and extended within the opening 29, of the boxing, and directly above the pinion 43, the sides of the opening 29 guiding the vertical movements of said arm, the pinions preserving the horizontal alinement of the roller 37. On the side of the arm 58 is a pin 60, and upon the inner surface of the standard 14, at the upper end thereof, is a pin 61, with which the pin 60 comes into contact and checks the further movement of the curtain stick 37, when raised to its full height in the window opening.

The guiding means for the curtain stick 37 may be modified in the manner shown in Fig. 10, in which the guiding means as shown in Fig. 1 are removed from the roller, and a longitudinal strip 62 secured to and

beneath the roller, which is provided with a downward extension 63, the ends of which play in the tubes 24 and 31, beneath the pinions 64. The clutch plates 65 are the same as clutch plates 51 and 52, inverted in position, and upon the adjustment of screw 66, the rotation of the shaft 67 is controlled, and likewise the upward movement of the curtain.

Instead of a spline 45, for adjustment of the pinions, the roller 37 may have a telescopic end portion 68, closed at its outer end 69, to which the reduced end of the shaft separated from the main portion of the shaft may be attached. This telescopic portion 68 is provided with a longitudinal guide opening 70, a pin 71 secured to shaft 72 extends through said opening, permitting the distance required between the pinions to be regulated according to the width of the window openings between the standards.

The curtain horizontally is stiffened by straps 74, which extend upon the opposite surfaces of the curtain, and may be of any length desired. These plates are narrow in width, and doubled together at 75, and the ends riveted to the curtain as seen in Fig. 4, and the folded, outer ends inserted in the respective openings 29 and 32, of the boxings 24 and 31, and a lug 76 extends outwardly from said folded parts, which move on the inner surfaces of the sides 26 and 35, of the respective tubes and prevent buckling or bowing of the curtain from the force of the wind. The boxings 24 and 31 are applicable to any opening for doors or windows, especially to the side entrances to passenger or street cars in which the sides to the openings may not be recessed.

In operation the curtain 20 being suspended from the adjustable roller 21, a movement upwardly or downwardly of the hand communicated to the lower roller 37, moves the free end either upwardly or downwardly, as required, and this movement is controlled as to its freedom by adjusting the clamping screw 47, which causes the clamping plates to retard the rotation of shaft 41 in the desired manner. The action of the invention, it is obvious, controls any curtain whether of fabric or metal, and whether automatically raised in position or not, the devices themselves acting to position the curtain at any desired point of adjustment, and with the requirement of little force.

I am aware that sliding blocks within the guideways for the pinions have been employed, but I am not aware that such blocks have been rigidly connected with an arm which has a rigid connection with the curtain stick. Ordinary devices have been employed in which the curtain roller was journaled in the sliding blocks, pivoted guide arms being well known, but none of the devices referred to afford the positive relation-

ship to the curtain stick as shown in my invention for the reason that the vertical movement of the curtain stick in order to prevent engagement at its ends with the guideways must have a uniform vertical movement with the guide block.

The invention is applicable to vehicles or conveyances of all kinds, as well as to window and door openings of a general character, the parts being quickly assembled, and attached to a curtain, and window or door opening, at minimum cost. The racks 30 may be used in any grooved casing, without employing the boxing, if preferred, these boxings being shown with the racks as an integral part thereof.

Such other modifications may be employed as are within the scope of the appended claims.

Having fully described my invention, what I now claim as new and desire to secure by Letters Patent is:

1. The combination in a curtain fixture with a curtain stick having a longitudinal shaft opening of a rotary shaft of increased length thereto within said shaft opening, pinions on the ends of said shaft, vertical guide boxings for said pinions having vertical guide openings through which the ends of said shaft extend, racks in said boxings with which the pinions engage, sliding guide blocks within the said boxings, guide arms rigidly connected at their inner ends with the ends of the curtain stick and having upwardly extended outwardly bent portions extending within the guide openings in said boxings one of which arms is rigidly connected at its outer end with the sliding guide block in one of said boxings.

2. A curtain fixture comprising a curtain stick having a longitudinal shaft opening, a rotary shaft of increased length thereto within said shaft opening, pinions on the ends of said shaft, vertical guide boxings for said pinions having vertical guide openings through which the ends of said shaft extend, racks in said boxes with which said pinions engage, arms having upwardly extended outwardly bent portions connected at their inner ends with the ends of the curtain stick and a vertically disposed guiding plate connected with the outwardly extended portion of said arms extending within the guide openings of said guide boxings and shaft clamping plates on the said arms adapted to clamp said shaft on the curtain stick.

3. A curtain fixture comprising a curtain stick having a longitudinal shaft opening, a rotary shaft of increased length thereto within said shaft opening, pinions on the ends of said shaft, vertical guide boxings for said pinions having vertical guide openings through which the ends of said shaft extend, racks in said boxings with which

the pinions engage, arms secured at their inner ends to the ends of the curtain stick having upwardly extended outwardly bent portions, guiding plates for the curtain
5 stick within the guide openings in said boxings connected with the outer ends of said arms, a fixed collar on one end of said rotary shaft adjacent to the end of the curtain stick and clamping plates on one of the said arms embracing said collar.

RAYMOND ANDLAUER.

Witnesses:

ROBERT O. McLIN,
ANNIE L. GREER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
