No. 896,929. PATENTED AUG. 25, 1908.

E. H. McCLOUD.

SUPPORT FOR ROLLING CURTAINS OR SHUTTERS.

APPLICATION FILED AUG. 31, 1906. RENEWED DEC. 6, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

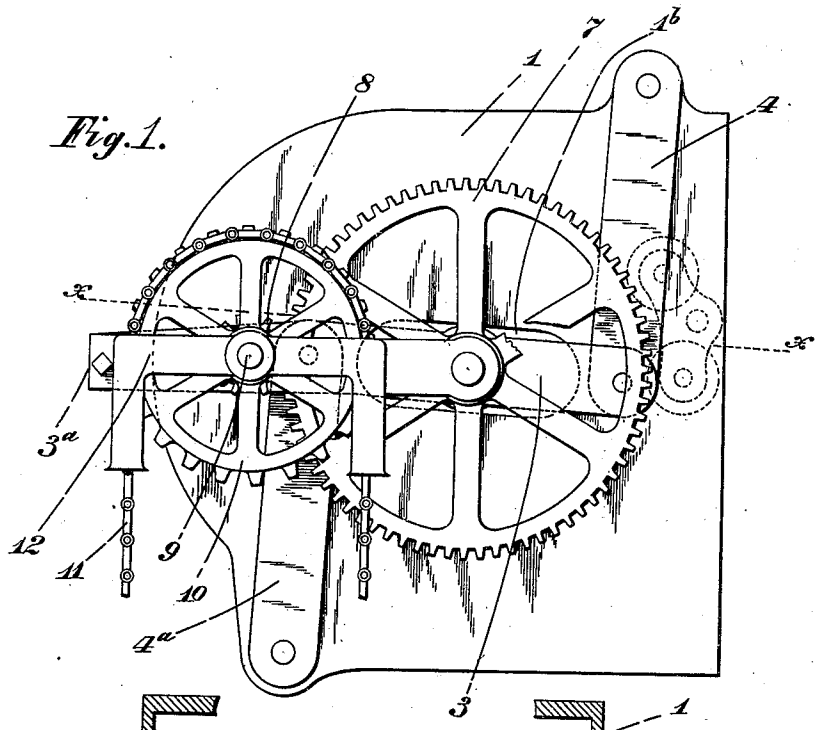



Fig. 3.

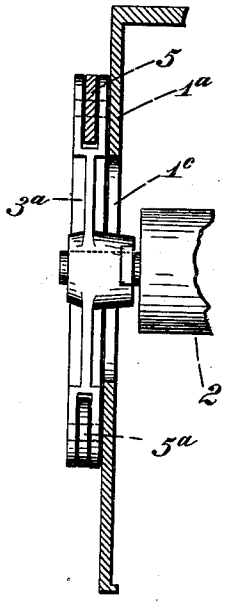
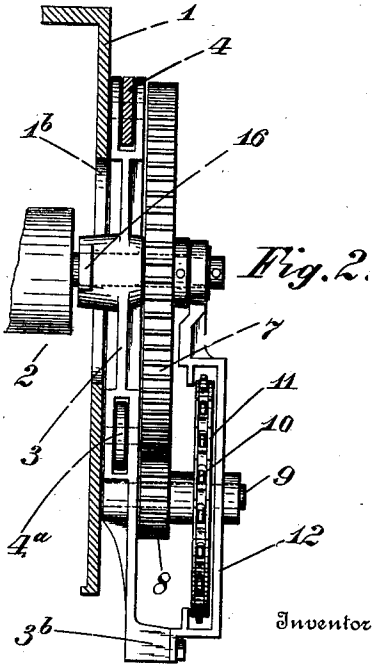



Fig. 2.




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2 SHEETS—SHEET 2.

Fig. 4.

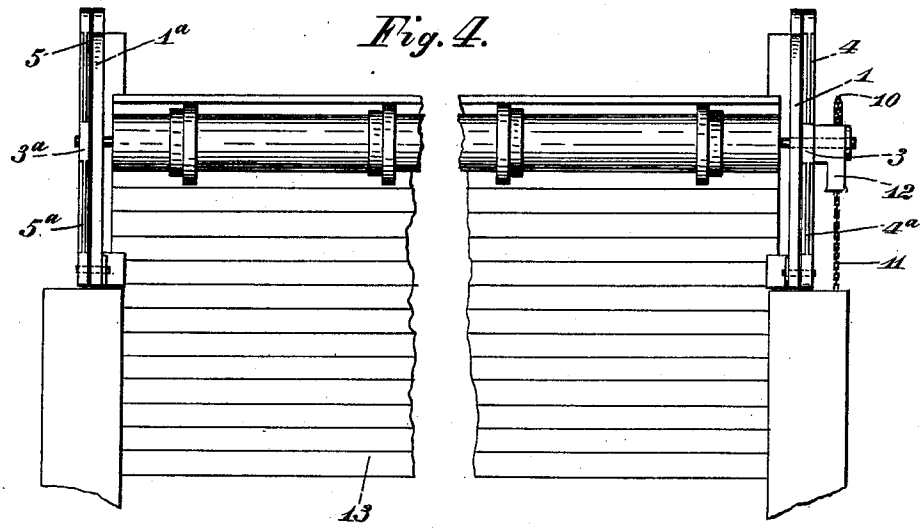
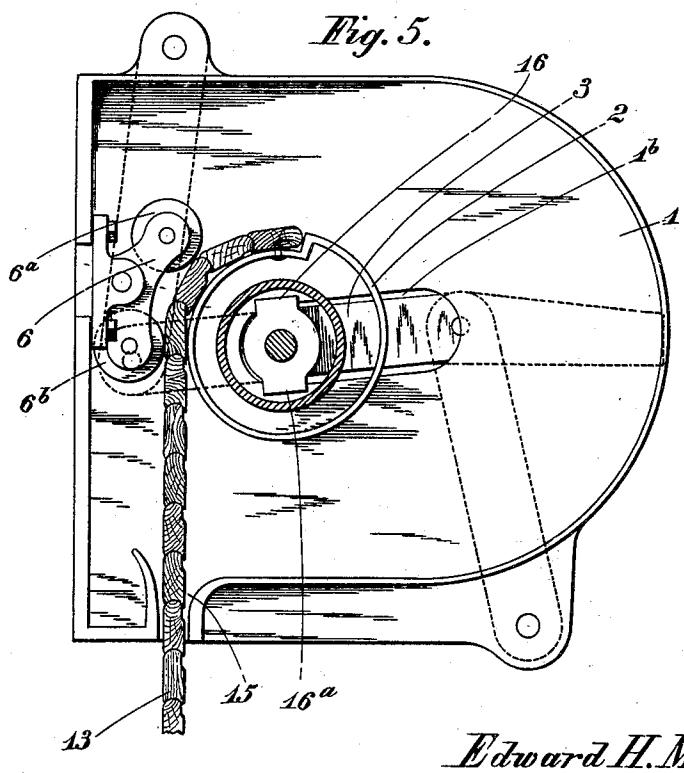



Fig. 5.




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# UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO, ASSIGNOR TO THE KINNEAR MANUFACTURING COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF WEST VIRGINIA.

## SUPPORT FOR ROLLING CURTAINS OR SHUTTERS.

No. 896,929. Specification of Letters Patent. Patented Aug. 25, 1908.

Application filed August 31, 1906, Serial No. 332,757. Renewed December 6, 1907. Serial No. 405,423.

*To all whom it may concern:*

Be it known that I, EDWARD H. McCLOUD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Supports for Rolling Curtains or Shutters, of which the following is a specification.

The object of this invention is to provide improved means for compensating for the diminution or increase in the size of the roll of a curtain so as to keep the unrolled portion substantially tangent to the roller and therefore facilitate the movement of the curtain in a channel.

The invention is embodied in the improved construction hereinafter described and claimed for permitting the roller to move laterally as the curtain is wound and unwound, the invention not being confined in its practical application to the forms and proportions shown in the accompanying drawings.

In said drawings—Figure 1 is a view in elevation of the right-hand end bracket containing the invention; Fig. 2 is a horizontal section on the line *x*—*x* Fig. 1; Fig. 3 is a similar section of the left-hand bracket; Fig. 4 is a fractional view showing the assembled parts in connection with a curtain; Fig. 5 is a vertical sectional view.

In the views 1 and $1^a$ designate end brackets upon which can be secured a suitable hood if desired. These brackets are provided with slots $1^b$ and $1^c$ parallel to each other and slightly inclined to the horizontal and from the outer portions of the brackets inwardly.

2 designates the curtain roller, and 13 the curtain attached thereto, said roller having suitable studs or bearings at its opposite ends. These studs or bearings project through the slots $1^b$ and $1^c$ of the end brackets and enter carrier bars 3 and $3^a$ at the outer sides of the brackets 1 and $1^a$. The carriers 3 and $3^a$ are supported by means of the limbs or links 4 and $4^a$ and 5 and $5^a$, all of substantially equal length, the links 4 and 5 being pivotally attached to the upper portions of the outer sides of the brackets and to the inner ends of the carrier bars 3 and $3^a$, and the links $4^a$ and $5^a$ being pivotally attached to or supported on rests at the lower portions of the outer sides of the brackets beyond the carriers, and to the outer ends of the carrier bars 3 and $3^a$, so that when said links are swung the intermediate points of the carrier bars, where the bearings are supported, will move in a substantially straight line inclined from the outer portions of the brackets inward. The aim of this construction is to secure a normal tendency of the roller and curtain to gravitate or press laterally inward. By reason of this tendency to inward movement the unrolled portion of the curtain, while being wound or unwound, can be kept substantially tangent to the edge of the roll while in the channel, the mouth of which is in the plane indicated by the character 15 Fig. 5. Coöperating with and resisting the inward pressing of the curtain and its roller, and to maintain the curtain in a position tangent to the roll while in the channel, is a roller device or bearing comprising a rocking bracket-arm 6 pivoted at its middle in the rear of the hood, and containing at its opposite ends anti-friction rollers $6^a$ and $6^b$ against which the curtain bears. The mounting of the rollers $6^a$ and $6^b$ on the rocking bracket-arm permits the device to accommodate itself to the changing form of the surface of the curtain, especially when it is of the slatted variety, at the place where it passes the device.

The means for operating the curtain comprises a large spur gear 7 secured on the outer end of the right-hand stud journal of the curtain roller, as seen in Fig. 1, a pinion 8 journaled on a pin 9 projecting from an extension $3^b$ of the carrier bar 3, a sprocket wheel 10 also on the pin 9 and turning with the pinion 8, and a sprocket chain 11 running over the sprocket wheel 10. The pin 9 can be further supported by a bracket 12 secured to the extension of the carrier bar 3 and to the stud journal of the curtain roller. It will be observed from this construction that the mechanism for operating the curtain moves with the roller and curtain.

It will be observed that, in the instance shown, where these links 4, $4^a$ and 5, $5^a$ engage the bearing carriers they move in oppositely-curved arcs of circles and consequently cause the bearings and roller to move in substantially a straight line laterally.

The curtain 13 is depicted as being of wood, but I do not know of any reason why my invention cannot be used in connection with other constructions of curtains.

Lugs on the bearing carriers, as indicated

at 16, 16ª, to engage the end brackets, can be employed to prevent longitudinal disturbance of the roller with reference to the brackets.

What I claim and desire to secure by Letters Patent is:

1. In combination with a curtain roller and curtain, of means for supporting the same comprising brackets, carriers to receive the bearings of the roller, and swinging supports pivotally connected to each of said carriers, said supports being pivoted to swing laterally with reference to the roller and adapted to guide the latter in substantially a straight line.

2. In combination with a curtain roller and curtain, of means for supporting the same comprising brackets, carriers to receive the bearings of the roller, and swinging supports for each of said carriers, said supports being pivoted to swing laterally with reference to the roller and adapted to guide the latter in substantially a straight line inclined to the horizontal.

3. Means for supporting a curtain roller and curtain thereon, comprising, in combination, brackets, means forming channels for the curtain, carriers to receive the bearings of the roller, and swinging supports for each of said carriers adapted to permit the bearings to move in a substantially straight line inclined to the horizontal and downwardly toward the channels.

4. Means for supporting a curtain roller and curtain thereon, comprising, in combination, brackets, carriers to receive the bearings of the roller, swinging supports for each of said carriers adapted to permit the bearings to move in a substantially straight line inclined to the horizontal, and a bearing adapted to limit the downward movement of the roller.

5. In combination with a curtain roller and curtain, of means for supporting the same comprising brackets, carriers to receive the bearings of the roller, swinging supports for each of said carriers, said supports being pivoted to swing laterally with reference to the roller and adapted to guide the latter in substantially a straight line inclined to the horizontal, and a roller to bear on the curtain to limit the downward movement of the curtain roller.

6. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a carrier to receive the bearing of the roller, a support for said carrier adapted to permit the bearing to move in a substantially straight line inclined to the horizontal, and a rocking bracket having bearings at opposite ends adapted to engage the curtain to limit the downward movement of the roller.

7. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a carrier to receive the bearing of the roller, and links to support said carrier attached to said carrier at opposite sides of the bearing, said links extending in opposite directions from said carrier and attached at fixed points.

8. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a carrier to receive the bearing of the roller, links to support said carrier pivotally attached to said carrier at opposite sides of the bearing and extending in opposite directions and pivotally supported at fixed points.

9. Means for supporting a roller and curtain thereon, comprising, in combination, a carrier to receive the bearing of the roller, links to support said carrier pivotally attached to the carrier at opposite sides of the bearing and extending parallelly in opposite directions and pivotally supported at fixed points.

10. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a carrier to receive the bearing of the roller, links to support said carrier pivotally attached to the carrier at opposite sides of the bearing and extending parallelly in opposite directions and inclinedly with reference to the carrier and pivotally supported at fixed points.

11. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a bracket, a carrier to receive the bearing of the roller, links to support said carrier pivotally attached to the carrier at opposite sides of the bearing and extending parallelly in opposite directions and inclinedly with reference to the carrier and pivotally supported on the bracket.

12. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a bracket having an opening through which the bearing of the roller projects, a carrier to receive said bearing, links to support said carrier pivotally attached to the carrier at opposite sides of the bearing and extending parallelly in opposite directions and inclinedly with reference to the carrier, and pivotally supported on said bracket.

13. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a pair of brackets having openings, the roller extending between said brackets and having its bearings projecting through said openings, carriers on the outer sides of said brackets to receive said bearings, and links pivotally attached to said carriers and extending in opposite directions therefrom and pivotally supported on said brackets.

14. Means for supporting a curtain-roller and curtain thereon, comprising, in combination, a pair of brackets having openings, the roller extending between said brackets and having its bearings projecting through said openings, carriers on the outer sides of

said brackets to receive said bearings, links pivotally attached to said carriers and extending in opposing directions therefrom and pivotally supported on said brackets, and devices carried by one of said carriers for operating the curtain.

15. Means for supporting a curtain roller and curtain thereon, comprising, in combination, a bracket, a carrier to receive the bearing of the roller, supports for said carrier at opposite sides of the bearing for causing said bearing to move in a substantially straight line laterally, and means movable with the carrier for operating the curtain.

16. Means for supporting a curtain roller and curtain thereon, comprising, in combination, a pair of brackets provided with openings, the roller being supported between said brackets with its bearings projected into said openings, bearing carriers on the outer sides of said brackets, and supports for said carriers for causing the journals to move in a substantially straight line, said supports being on opposite sides of the bearing, and means movable with one of the carriers for operating the curtain.

17. Means for supporting a curtain roller and curtain thereon, comprising, in combination, a bracket, a carrier to receive the bearing of the roller, and supports for said carrier at opposite sides of the bearing for causing said journal to move in a substantially straight line laterally.

18. In means for supporting a curtain roller, the combination with the bearings of the roller, of carriers to receive the bearings, oppositely extending supports pivotally engaging said carriers at opposite sides of the axis of the roller, and rests beyond the carriers for said supports on which the supports can swing.

19. In means for supporting a curtain roller, the combination with the bearings of the roller, of carriers to receive the bearings, oppositely extending supports pivotally engaging each of said carriers at opposite sides of the axis of the roller, and rests beyond the carriers for said supports on which the supports can swing.

20. In means for supporting a curtain roller, the combination with the bearings of the roller, of carriers to receive the bearings of the roller, oppositely extending supports pivotally engaging said carriers at opposite sides of the axis of the roller, rests beyond the carriers for said supports on which the supports can swing, and means for operating the roller carried by the said carrier.

21. In means for supporting a curtain roller, the combination with the bearings of the roller, of carriers to receive the bearings of the roller, oppositely extending supports pivotally engaging said carriers at opposite sides of the axis of the roller, rests beyond the carriers for said supports on which the supports can swing, and means for operating the roller movable with the lateral movement of the roller.

22. In means for supporting a curtain roller, the combination with the bearings of the roller, and brackets associated therewith, of carriers to receive the bearings, oppositely extending supports pivotally engaging said carriers at opposite sides of the axis of the roller, rests beyond the carriers for said supports on which the supports can swing and means on one of the carriers engaging a bracket to limit longitudinal movement of the roller.

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