Aug. 25, 1931. G. J. WRIGHT 1,820,292

REAR CURTAIN OPERATOR DEVICE

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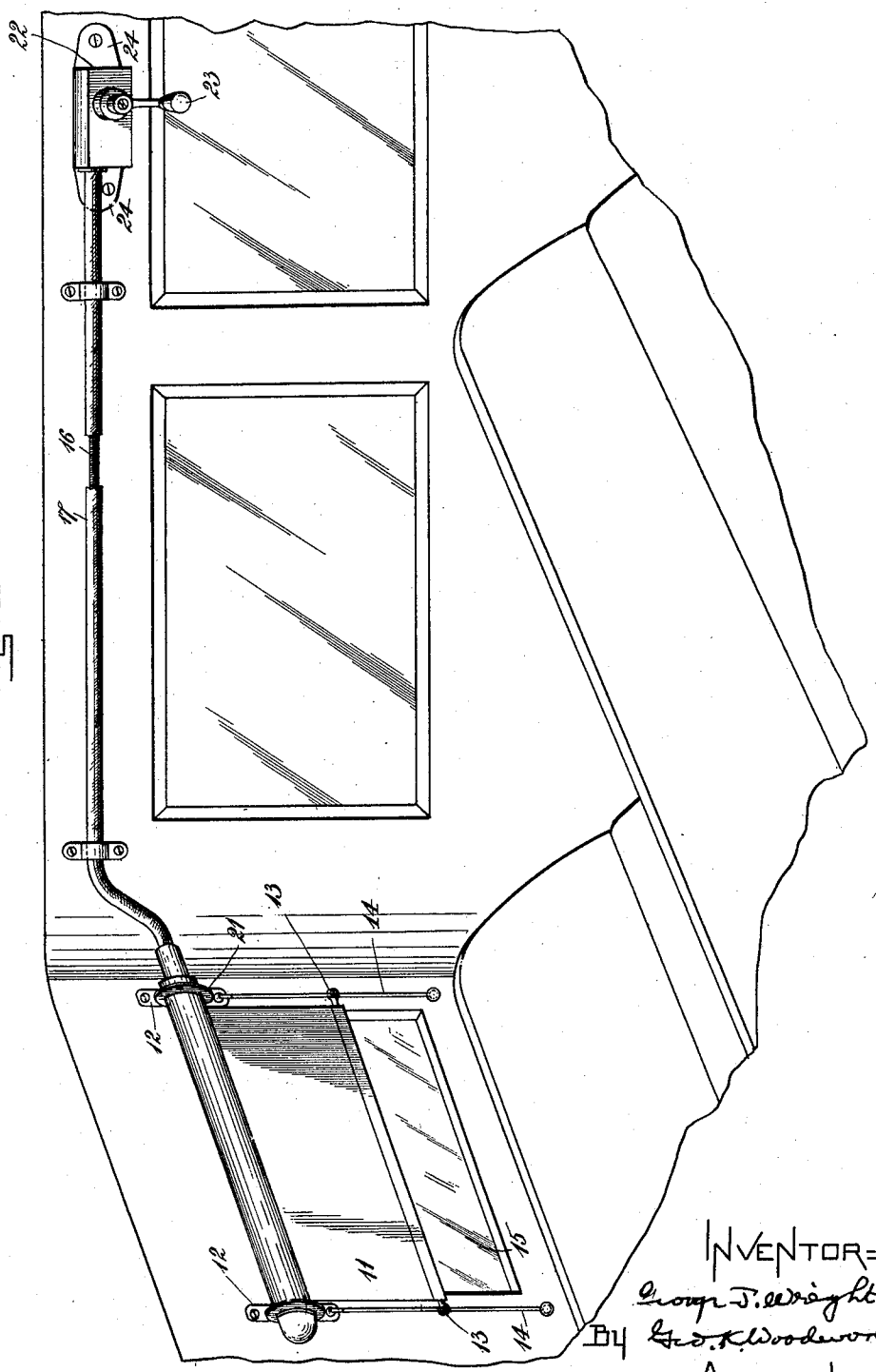



Fig. 1.

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Fig. 2.

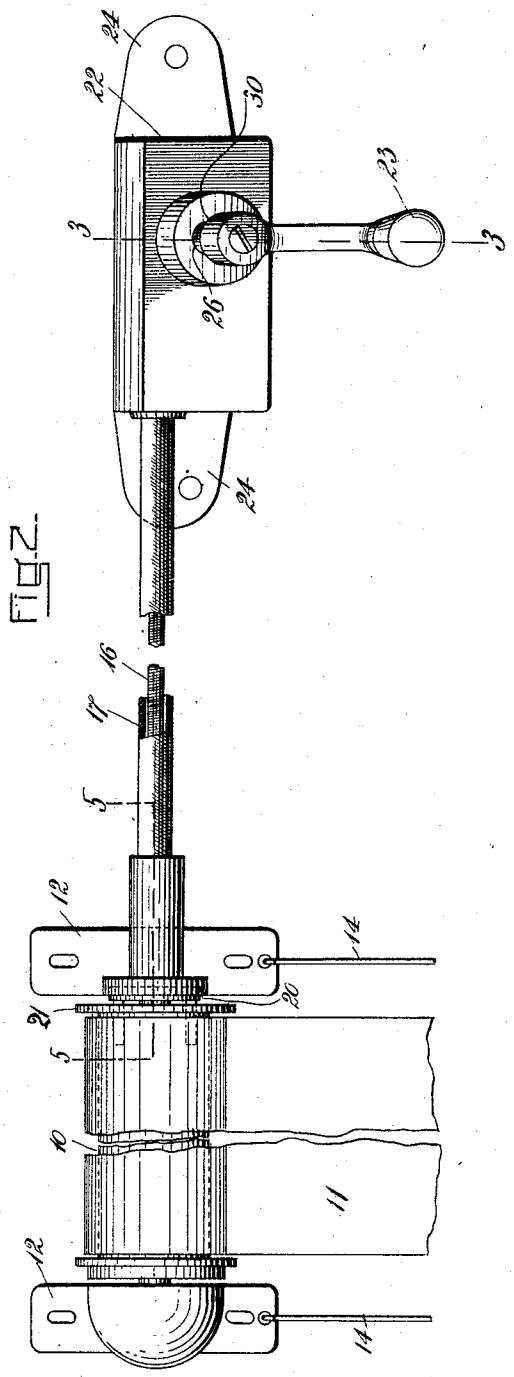



Fig. 4.

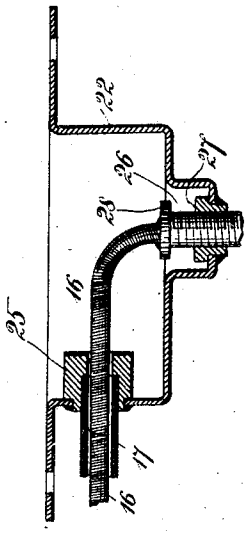



Fig. 3.

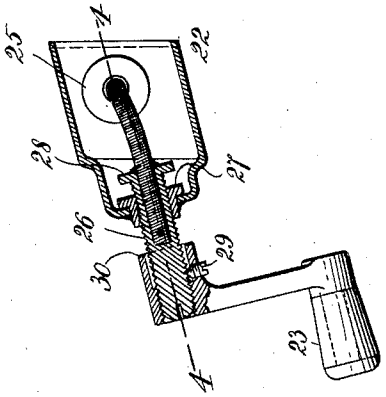
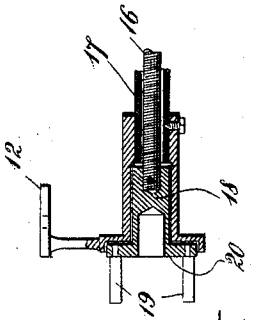



Fig. 5.




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# UNITED STATES PATENT OFFICE

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## REAR CURTAIN OPERATOR DEVICE

Application filed September 25, 1930. Serial No. 484,346.

The present invention, which is an improvement on that disclosed in my United States Letters Patent 1,749,621, dated March 4, 1930, has for its object the provision of a very simple device located within convenient reach of the driver of a motor vehicle for raising and lowering the rear curtain thereof without causing the overrunning of the curtain in either direction.

It will be obvious that a device of this character in order to be practicable must be so constructed that the driver shall be able to raise and lower the curtain without having his attention distracted. In my patent aforesaid, I have shown an arrangement of gearing for connecting the operating crank to the flexible shaft which actuates the curtain, together with an adjustable stop mechanism whereby several turns of the crank in one direction will raise the curtain and several in the opposite direction will lower it, without overruning. In order to reduce the expense of manufacture in the rear-curtain operator-device, I have eliminated the gearing whereby the crank is indirectly connected to the flexible shaft, and have arranged matters so that said crank is directly connected to said shaft without the interposition of gearing, and at the same time have provided an adjustable stop mechanism whereby several turns of the crank in one direction will enable the driver to raise the curtain, and several in the other will enable him to lower it, without giving any thought whatever to the operation, the arrangement being such that when the rotation of the crank is stopped in one direction the driver will know that the curtain is down to its full extent, and when it is brought to a stop in the opposite direction, that it has been completely rolled up.

One embodiment of my invention which has given excellent results in practice is shown in the accompanying drawings in which—

Figure 1 is a perspective view of a portion of the interior of a two-seated automobile provided with my improved rear-curtain operator-device;

Fig. 2 is a side elevation of said operator device;

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 2;

Fig. 4 is a central longitudinal section taken on the line 4—4 of Fig. 3;

Fig. 5 is a longitudinal section taken on the line 5—5 of Fig. 2.

In the particular drawings selected for more fully disclosing the principle of my invention, 10 is a rear-curtain roller having a curtain 11 rolled thereon and mounted in the brackets 12, 12, said curtain being guided in its travel by the rings 13, 13 which move along the cords 14, 14 stretched parallel to the sides of the rear window 15. A flexible shaft 16 enclosed within a suitable tubular casing 17 is operatively connected with the curtain roller, such connection in the present instance being illustrated as a trunnion 18 having its bearing in one of the brackets 12 and rigidly connected in any suitable manner to said shaft, said trunnion having two pins 19 projecting from the plate 20 which is integral therewith and taking into sockets in the end of the plate 21 of the curtain roller. It is to be understood, however, that I do not limit myself to this particular mechanism for adjustably connecting the rearward end of said shaft to the curtain roller.

Located within convenient reach of the driver is a support 22 for the forward end of the flexible shaft, and for the crank 23, the said support consisting in the present instance of a box-like housing attachable to the wall of the car by the flanges 24. The forward end of the shaft 16 has its bearing in the bushing 25 secured in the side wall of said housing, and after passing through said bushing said shaft makes an angular turn and enters a bore in the inner end of the threaded stud 26, being securely attached to said stud in any suitable manner. The stud 26 has threaded engagement to a portion of said support, viz, the interiorly threaded bushing 27 which is attached to the front wall of said housing, and, as will be noted from Fig. 3, said stud extends through said support and has an abutment or rotation-limit-

ing member 28 secured at or near the inner end thereof.

The operating crank herein shown as having threaded engagement with the outer end of the stud 26 is adjustably attached to said stud in any suitable manner, so that when so attached, it will be directly connected to the flexible shaft as distinguished from being connected indirectly thereto through interposition of bearing or the like. In the present instance a set-screw 29 passing through the boss of said crank is employed for securing the crank in adjusted position to said stud.

The operation is as follows: With the shaft disconnected from the curtain roller, the curtain is rolled up by hand and then the crank is turned so as to bring the abutment 28 against the face of the bushing 27. The shaft is then coupled to the curtain roller and the righthand bracket 12 secured in position, and then the crank is rotated in the opposite direction until the curtain is unrolled sufficiently to cover the rear window, thereupon the set-screw 29 is loosened and the crank adjusted on the stud 26 so that the inner face of the crank boss 30 abuts the outer face of the bushing 27 when the set-screw is again tightened and the crank thereby secured in its adjusted position on said stud. When the crank is so adjusted in the manner above set forth, several turns in one direction will roll up the curtain, further rotation after said curtain has been rolled up being prevented by the abutment 28 coming against the inner face of the bushing 27, and several turns in the opposite direction will unroll the curtain sufficiently to cover the window without any overrunning, further rotation in the last mentioned direction being prevented by the inner face of the boss 30 coming into contact with the outer face of the bushing 27.

Having thus described an illustrative embodiment of my invention without however limiting the same thereto, what I claim and desire to secure by Letters Patent is:—

1. An automobile rear-curtain operating-device comprising in combination a rear window curtain roller, a flexible driving shaft, a coupling between one end of said shaft and said roller, a crank connected directly and adjustably to the other end of said shaft, said crank being located within convenient reach of the driver, and means for limiting the amount of rotation of said crank.

2. An automobile rear-curtain operating-device comprising in combination a rear window curtain roller, a flexible shaft operatively connected at its rearward end to said roller, a support for the forward end of said shaft, a stud having threaded engagement with said support and rigidly connected to the forward ends of said shaft, said stud extending through said support and having an abutment on the inner end thereof, a crank, and means adjustably securing said crank to the outer end of said stud.

3. An automobile rear-curtain operating-device comprising in combination, a rear-window curtain roller, a flexible shaft, a coupling between the rearward end of said shaft and said roller, a support for the forward end of said shaft, means for limiting the amount of rotation of said shaft in one direction, a crank located within convenient reach of the driver, and means for securing said crank directly to the forward end of said shaft in longitudinally-adjustable position with respect to said means to limit the amount of rotation of said shaft in the other direction.

In testimony whereof, I have hereunto subscribed my name this 19th day of September 1930.

GEORGE J. WRIGHT.