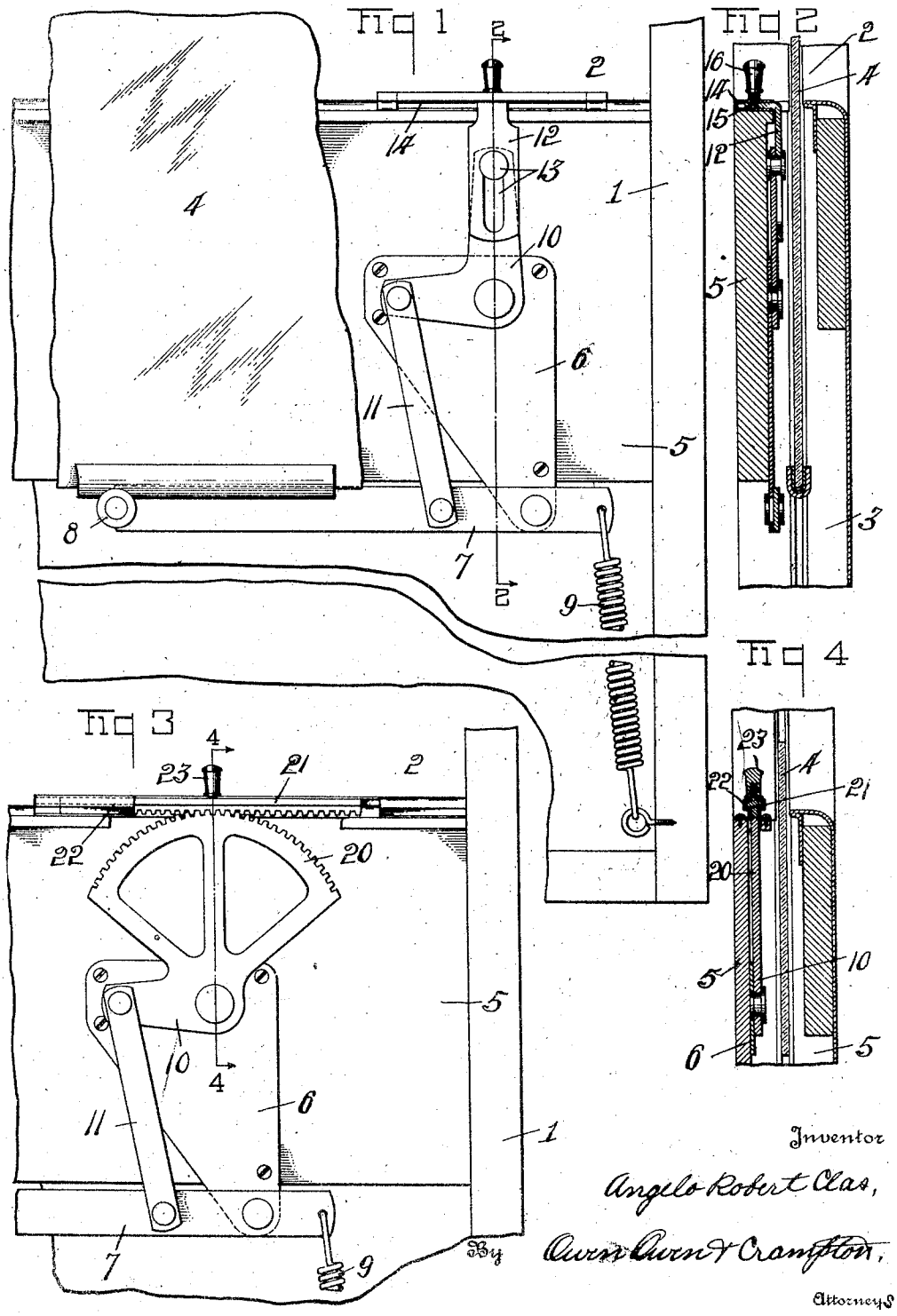
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A. R. CLAS

WINDOW CONTROL MECHANISM

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WINDOW-CONTROL MECHANISM.

Application filed September 24, 1923. Serial No. 664,353.

To all whom it may concern:

Be it known that I, ANGELO ROBERT CLAS, a citizen of the United States, and resident of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Window-Control Mechanism, which invention is fully set forth in the following specification.

This invention relates to mechanism for raising and lowering windows, and is particularly intended for use in connection with the windows of automobiles.

The object of the invention is the provision of a novel mechanism of the class described, which is simple and inexpensive in its construction, composed of few parts, and capable of being easily and quickly attached as a unit to the window frame in the narrow space customarily provided therefor below the window opening.

The invention is fully described in the following specification, and while, in its broader aspect it is capable of embodiment in numerous forms, two embodiments only thereof are illustrated in the accompanying drawing, in which,

Fig. 1 is a fragmentary outer side elevation of a window frame and associated window with the latter in partly lowered position and with a mechanism embodying the invention associated therewith. Fig. 2 is a vertical section thereof on the line 2—2 in Fig. 1. Fig. 3 is a view similar to Fig. 1 showing a slightly modified form of window raising mechanism, and Fig. 4 is a section on the line 4—4 in Fig. 3.

Referring to the drawing, 1 designates a window frame forming the window opening 2 in its upper portion and a chamber 3 in its lower portion into which latter the glass or other window member 4 may be lowered from closing relation to the opening and in which the control mechanism for the window member is disposed, as is customary.

At the upper inner side of the chamber 3 is located the customary lock-board 5, which extends crosswise of the window frame, and a bracket plate 6 is screwed or otherwise suitably secured to the inner side of this board with its lower end projecting, in the present instance, a short distance below the board. An arm 7 is pivoted to the lower extended end of the plate 6 for vertical rocking movements at the inner side of the lock-board in parallel relation thereto and has its outer end extending toward the center of the lock-board and provided with a roller 8 on which the lower edge of the window member 4 rests. The opposite end of the arm 7 projects a short distance from the arm pivot and is connected by a spring 9 to a subjacent portion of the frame 1 to serve as a means for counterbalancing the weight of the window member on the arm 7.

An operating lever 10 of bell crank form is fulcrumed to the plate 6 a distance above the arm 7 and has one arm projecting therefrom in the general direction of projection of the arm 7 from its pivot and connected by a link 11 to said arm whereby the arm and lever are caused to have rocking movements in unison. The other arm of the lever 10 projects upward from its pivot and is connected to a horizontally shiftable control member 12 by a pin and slot connection 13, whereby a horizontal shifting of the control member 12 imparts a rocking movement to the lever. The upper end of the control member 12 is guided for horizontal reciprocatory movements in a guide member 14 mounted on the top edge of the lock board 5. A stud 15 projects upward from the upper end of the member 12 through a longitudinally extending slot in the guide 14 and carries a handle 16 above the guide. This handle projects into the lower portion of the window opening 2 at the inner side of the window member and may be grasped by the operator and moved along the top of the lock rail in one direction or the other to effect a raising or lowering of the window member 4, as may be desired.

In Figs. 3 and 4 I have shown a slightly modified form of the invention, in that the lever 10 has its upwardly projecting arm made in the form of a segmental pinion 20 and engaged by a rack-bar 21, which is mounted in a guide 22 for shifting movements longitudinally of the upper edge portion of the lock-board 5. A stud projects upward from the rack-bar through a slot in the guide 22 and carries a handle 23.

It is evident that in either form of the invention, a shifting of the control handle lengthwise of the lock-board 5 communicates a rocking movement to the lever 10 and from it to the arm 7 to effect or permit a desired raising or lowering of the window member 4. It is found in practice that my

said control mechanism is exceedingly easy and simple to operate and that it is of such a nature that it can be easily and quickly installed in a window frame or removed therefrom for the purpose of substitution or repair.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claim.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is,—

A unitary window regulating mechanism for vehicles consisting of a support, a window supporting arm pivoted intermediate its ends to said support and adapted to engage the lower edge of a window at one end thereof, counterbalancing spring means connected to the opposite end of said arm adapted to engage a stationary part of the vehicle, a bell crank lever fulcrumed on said support, means connecting said lever and arm whereby rotation of said lever in one direction raises the window and in the other direction permits lowering thereof, a connection between said lever and arm whereby movement of said lever in one direction or the other controls the raising and lowering of the window, a gear integral with said lever, a rack bar meshing with said gear for operation thereof, and a guide on the vehicle structure for receiving the rack bar thereby to hold said bar in operative engagement with the gear.

In testimony whereof I have hereunto signed my name to this specification.

ANGELO ROBERT CLAS.