March 10, 1931. C. GREENBLATT 1,796,148

COMBINED SCREEN AND WINDOW LIFT

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Fig. 1.

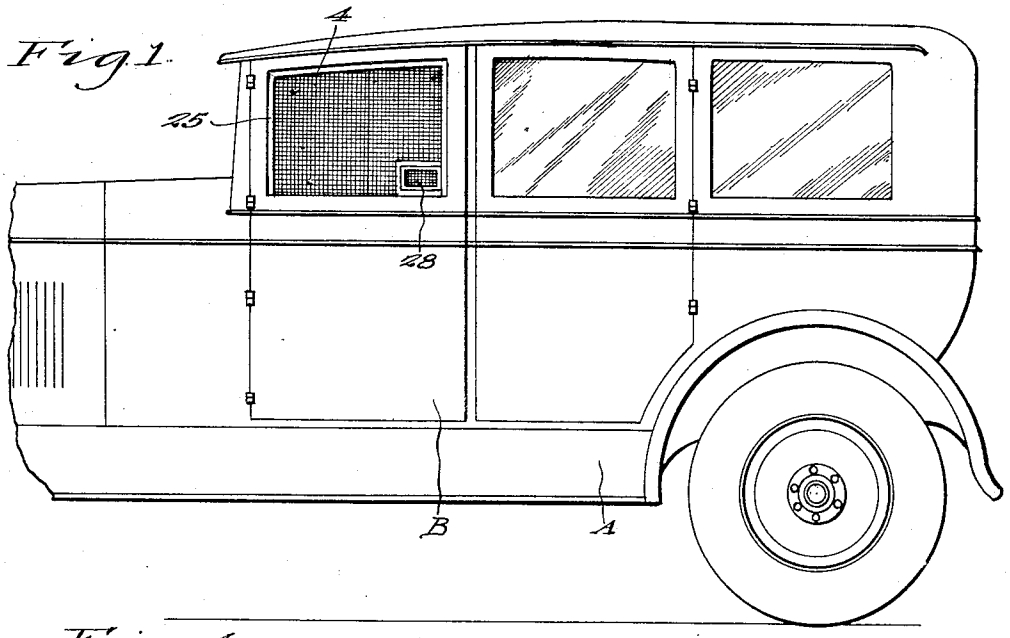


Fig. 4.

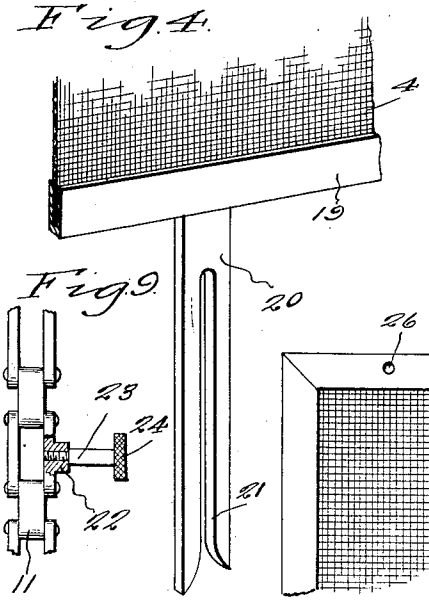


Fig. 6.

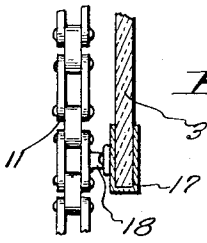


Fig. 9.

Fig. 7.

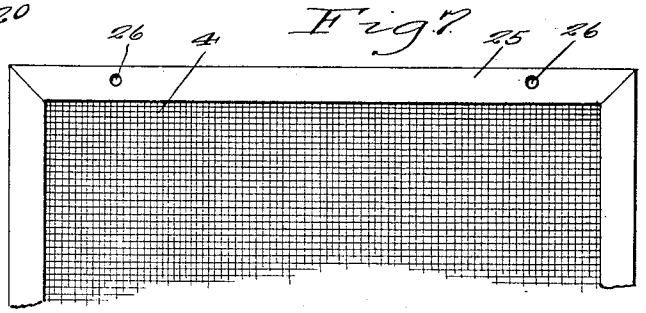


Fig. 5.

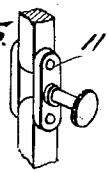
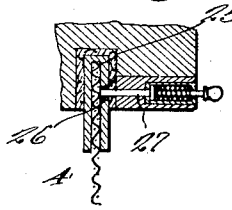


Fig. 8.



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WITNESS:

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Fig. 3

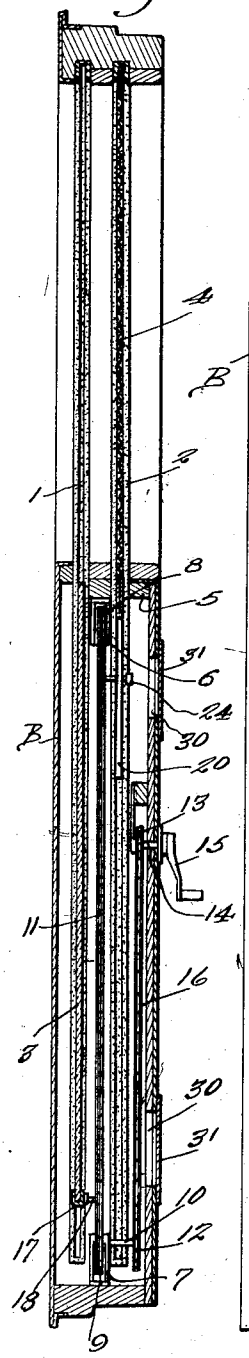
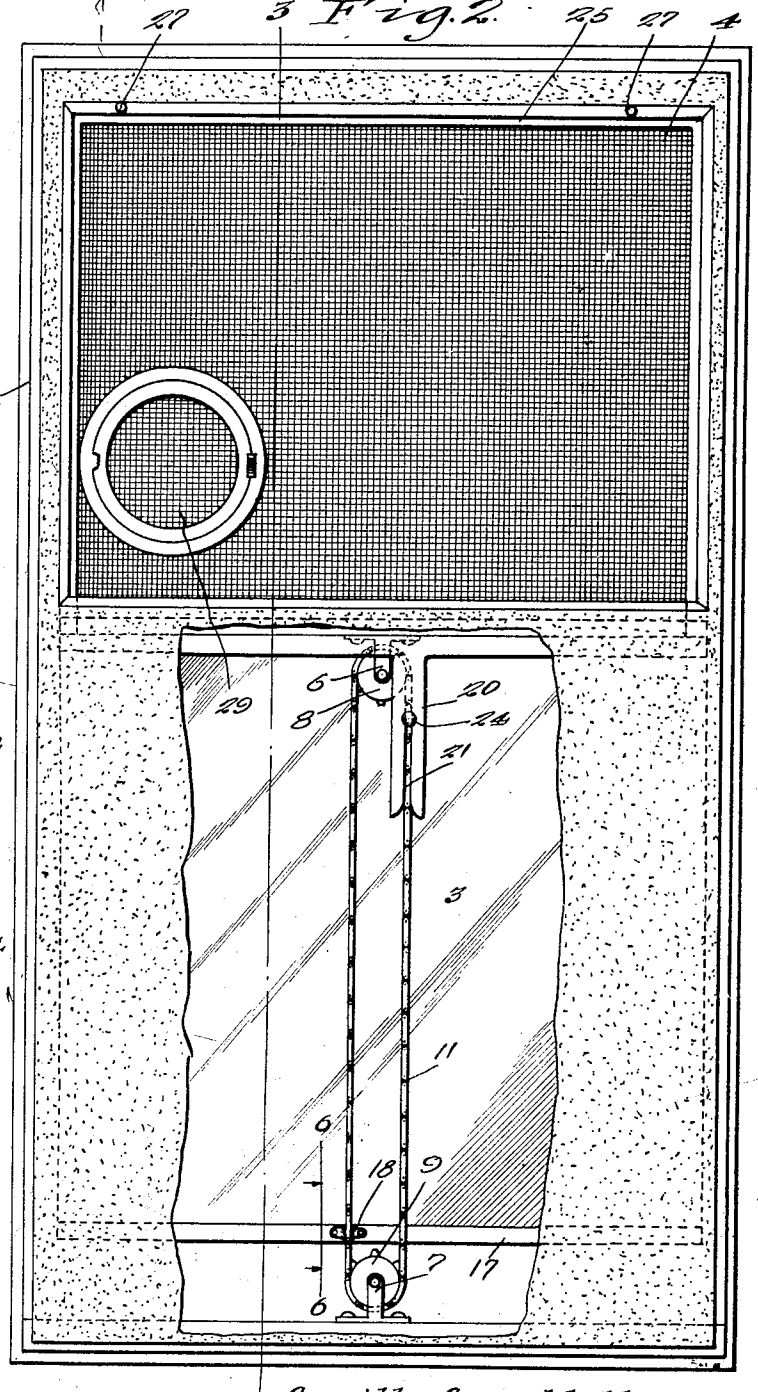


Fig. 2.



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UNITED STATES PATENT OFFICE

CAMILLE GREENBLATT, OF LOUISVILLE, KENTUCKY

COMBINED SCREEN AND WINDOW LIFT

Application filed April 4, 1928. Serial No. 267,365.

This invention relates to combined screen and window lifts and its general object is to provide a lift for moving a screen and window glass in a manner whereby the glass and screen can be moved simultaneously for alternately raising or lowering the same and the glass may be moved independently of the screen with the latter in either its upper or lower positions.

A further object of the invention is to provide a device of the character set forth, which connects with a window glass and screen for moving the same alternately to a position to cover a window opening, and which will disconnect from the screen when the latter has been moved to a position to cover said opening.

A still further object of the invention is to provide means to releasably hold the screen in operative or closed position until it is desired to remove the same from said position.

Another object of the invention is to provide a device for alternately moving a window glass and a window screen to open and closed positions with respect to a window opening and when the screen is moved to its closed position and secured accordingly, the window glass may thereafter also be moved to closed or partially closed position.

A further object of the invention is to provide a combined window screen and glass with lifting means therefor and with the parts so arranged whereby the screen, glass and lifting means can be housed in the bottom of an automobile door whether the screen and glass is operated alternately or independently.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a fragmentary side elevation showing the application of one form of my invention to a motor vehicle.

Figure 2 is an interior view of the door of the vehicle with the interior covering thereof broken away to illustrate the glass and screen operating means.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 2.

Figure 4 is a fragmentary perspective view showing the screen in section and means for connecting the same for operation.

Figure 5 is a detail view of the lug for connecting the screen for movement with the endless chain of the operating means therefor.

Figure 6 is a sectional view taken approximately on line 6—6 of Figure 2, looking in the direction of the arrows.

Figure 7 is a fragmentary view of the screen.

Figure 8 is a fragmentary view in section showing one of the spring pressed bolts for holding the screen in its closed position.

Figure 9 is a detail view of the lug for operating the screen and showing the lug secured to the endless chain.

Referring to the drawings in detail, the letter A indicates an automobile for the purpose of illustrating the application of the present invention, but I want it understood that the device can be applied to any vehicle or structure without departing from the spirit of the invention and while I have shown the invention applied to the door of the vehicle, it will be obvious that it can be associated with any other part thereof as well as the windshield if desired.

Referring more particularly to Figures 1 to 9 inclusive, it will be noted that the door which is indicated by the letter B is provided with the usual window opening and in the

present instance is formed with guide-ways 1 and 2 disposed upon opposite sides thereof, and these guide-ways may be provided with felt or other shock absorbing material as shown. The bottom strip of the window opening is provided with slots through which extend the guide-ways, and mounted for movement in the guide-ways as well as through the slots of the bottom strip of the window is a window glass 3 and a screen 4.

Secured to the bottom strip is a block 5 which has secured thereto and depending therefrom a bracket 6 including arms, while secured to the bottom strip of the door is a similar bracket 7 arranged in alignment with the bracket 6 as best shown in Figure 3. Mounted for rotation on a shaft disposed in the arms of the bracket 6 is a sprocket wheel 8 which cooperates with a sprocket wheel 9 secured to a shaft 10 mounted for rotation in the bracket 7, and these sprocket wheels have trained thereabout a sprocket chain 11. The shaft 10 is also provided with a sprocket 12 secured thereto and this sprocket 12 cooperates with a sprocket 13 fixed to a stub shaft 14 suitably journaled in the door and has secured thereto a handle 15 for operating the same as will be apparent. A sprocket chain 16 is trained about the sprockets 12 and 13 and by this construction, it will be obvious that upon rotating the handle 15, the respective sprocket chains will be operated, for moving the window glass and screen in a manner which will be presently described.

Fixed to the bottom of the window glass 3 is the usual reinforcing channel strip 17 which has arranged midway its ends and secured thereto a substantially U-shaped member 18 riveted or otherwise secured to one of the links of the sprocket chain 11 as best shown in Figure 6 of the drawings whereby upon movement of this sprocket chain, the window glass will be raised and lowered in the usual manner.

Secured to the bottom of the screen 4 is a channel strip 19 which has depending therefrom an arm 20 formed with a longitudinally disposed slot 21 providing spaced fingers having outwardly flared lower ends as best shown in Figure 4 of the drawings. One of the other links of the sprocket chain 11 is formed with a boss 22 provided with a threaded opening which extends through a portion of this last mentioned link for the purpose of detachably receiving the shank 23 of a knob 24. The knob 24 is serrated whereby it can be easily secured and removed from the threaded opening. The arm 20 is arranged in the path of the shank 23 so that the shank will be disposed between the fingers of the arm for raising the screen in the manner as suggested in Figure 2. The top piece of the window opening of the door is provided with guide-ways for receiving the top of the window glass and screen, and the screen is formed with a frame 25 which has in the top piece thereof a pair of spaced openings 26 for the purpose of receiving spring pressed bolts 27 which are mounted for slidable movement in the top piece of the window opening, as best shown in Figure 8. These spring pressed bolts will retain the screen in its closed or operative position as shown in Figure 2 with the result, the window can be raised or lowered as desired or retained at any position with respect to the window opening without interfering with the screen.

As shown in Figures 1 and 2 of the drawings, I have provided the screen with a hand passage and the passage as shown in Figure 1 is rectangular in formation and closed by a spring pressed door 28, while the passage as shown in Figure 2 is circular and is closed by a like shape door 29. When it is desired to extend the hand through these passages for signalling or other purposes, slight pressure upon the doors 28 or 29 will open the same and when the pressure is relieved, the doors will be closed by the springs thereof. A handle may be employed for the doors, if desired, and these handles may be spring pressed, in any well known manner, instead of the doors as above set forth.

In the form of the invention just described, it will be obvious that the screen and window glass are moved in opposed relations with respect to each other upon operating the handle 15, and the screen may be retained in its closed or upper position as shown in Figure 2, or the screen may be retained in its lower position and in this event, the shank 23 is removed from the sprocket chain 11. In order that the shank may be removed as set forth, I have provided openings 30 in the interior covering of the door, and these openings are provided with closures 31. The openings communicate with the compartment formed in the door below the lower window opening piece, and not only provide means for removing or replacing the shank, but through these openings access may be had to any of the parts of the window and screen operating means.

While I have shown the glass 3 fixed to the chain 11 for movement thereby through the medium of the U-shaped member 18 and channel strip 17, I want it understood that the glass can be detachably connected to the chain in the same manner as shown for the screen and operated by the same means employed for operating the screen with the result by this construction, it will be possible to also operate the screen independently of the glass when the latter is disconnected from the chain.

I also want it understood that the screen can be connected with the chain or lift in the same manner as that shown for the glass.

From the above description and disclosure of the drawings, it will be obvious that

I have provided a combined screen and window lift for motor vehicles and the like and which is capable of moving a screen and window glass in accordance with the desires of the user and when the screen is in its closed or operative position, signals may be given by the hand of the driver of the vehicle due to the novel hand passages provided in the screen, yet these passages are closed by doors to prevent the ingress of insects and the like within the vehicle.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A combined screen and window operating device for a motor vehicle, comprising a screen and window glass, guideways slidably receiving said screen and window glass, a sprocket chain, sprockets for said sprocket chain, means for operating said sprocket chain, means for securing the window glass to the sprocket chain, means for detachably securing said screen in closed position, an arm included in said screen and being slotted to provide fingers, a headed stud adapted to be received by said fingers and being threadedly secured to said sprocket chain, said headed stud being enclosed with the sprockets and chain, and a closure for an opening aligned with the path of travel of the sprocket chain whereby access may be had to the stud for removing and replacing the same so as to allow independent movement of the window glass and alternate movement of the window glass and screen.

2. A combined screen and window operating device for a motor vehicle, comprising guideways, a window glass mounted for slidable movement in some of said guideways, a screen including a frame mounted for slidable movement in the other guideways, a channel strip secured to said window glass, a U-shaped member secured to the channel strip, a bracket including depending arms, a second bracket including arms, said brackets being mounted in alignment and superposed with respect to each other, sprockets journaled between the arms of the brackets, a sprocket chain trained about said sprockets and being secured to the U-shaped member, an arm formed with and depending from the screen frame and being centrally and longitudinally slotted, a boss formed with one of the links of the sprocket chain, a shank threadedly secured in said boss, a serrated knob formed with said shank, the slot of the arm providing fingers adapted to detachably receive said shank, a shaft secured to one of said sprockets, a handle, means for rotating the shaft from said handle for operating the sprocket chain to alternately raise and lower the window glass and screen frame, and means for retaining the screen in closed position, whereby the window glass can be operated independently of the screen and including spring pressed bolts mounted for slidable movement in openings arranged adjacent the ends of the top of the screen frame.

In testimony whereof I affix my signature.

CAMILLE GREENBLATT.