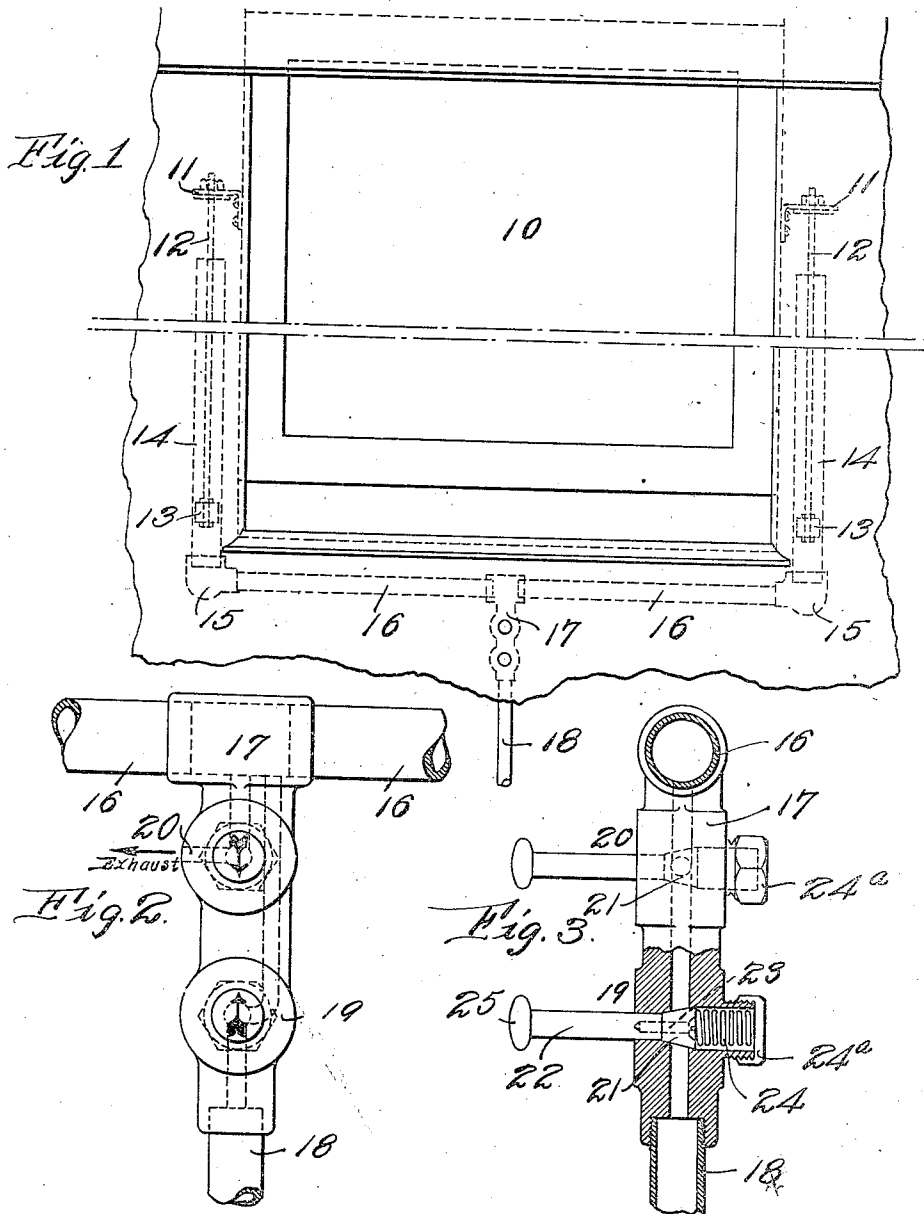


W. H. & R. S. STIVER.
 OPERATING MECHANISM FOR CAR WINDOWS.
 APPLICATION FILED MAY 28, 1910.

1,055,567.

Patented Mar. 11, 1913.



Witnesses

Walter Kelly.
 Emory L. Buff.

Inventors
 WILLIAM HENRY STIVER
 ROSS SHOEMAKER STIVER

By

N. E. G. & Co.

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM HENRY STIVER AND ROSS SHOEMAKER STIVER, OF ALTOONA,
PENNSYLVANIA.

OPERATING MECHANISM FOR CAR-WINDOWS.

1,055,567.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM HENRY STIVER and ROSS SHOEMAKER STIVER, citizens of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Operating Mechanism for Car-Windows, of which the following is a specification.

10 This invention relates to window operating devices, and more especially to an arrangement whereby the window is raised by air pressure preferably taken from the storage reservoir located on the car.

15 The object of the device is to provide a simple means of operating car windows by air pressure supplied from the brake system and controlled by a valve preferably located below the window sill and above the car seats inside the car.

20 Another object of this invention is to provide means for admitting sufficient air to balance the weight of the window at any fixed point or points and to provide means for exhausting air from the window operating pistons without affecting the fluid pressure supply.

25 With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the invention consists in the novel combination and arrangement of parts as will be hereinafter pointed out, illustrated, and claimed.

30 In the accompanying drawings, Figure 1 illustrates our invention applied to a car window. Fig. 2 illustrates a plan view of the valves used to control the operation of the window. Fig. 3 is a view partly in section of the valves shown in Fig. 2, and particularly shows the construction of the admission valve and valve seat.

Like references designate corresponding parts in the several figures of the drawings.

35 In the drawings, the numeral 10 designates the car window to which we have attached the window operating device. To the window sash we attach suitable brackets 11 which are secured to the upper end of pneumatically controlled piston rods 12. To the lower end of each piston rod 12 is attached a piston 13 which reciprocates in a cylinder 14. Each cylinder 14 is secured at its lower end to an elbow 15 to which is attached a

pipe 16 leading to the casing 17 of a controlling valve device. The lower end of the valve casing 17 is threaded to receive a pipe 18 which we prefer to place in direct communication with the compressed air reservoir. (Not shown.)

40 The valve device in its entirety consists of the casing 17, an inlet valve 19, and an exhaust valve 20. The valves proper designated by the numeral 21 are made separate from the stem and held to the latter by screw 23. This construction facilitates the renewing of the valve for repair purposes. A spring 24 held in place by a cap 24^a exerts a pressure on the top face of each valve sufficient to keep the same seated against the reservoir pressure.

We prefer to construct the two valves as shown in Figs. 2 and 3 and to have the exhaust valve placed above the admission valve, as there would be less likelihood of injury from the window coming down, as the push button would preferably be located immediately below the window sill.

45 The operation of the device may be described as follows: The fluid pressure from the storage reservoir passes up through the pipe 18 to the admission valve 19, which is controlled by a push button 25 on the stem 22. After passing this valve the pressure is exerted on the pistons 13 in the cylinders 14, which are preferably made of brass to prevent corrosion. With this pressure exerted on the pistons 13 the window will move up and the admission valve is then closed. To lower the window, exhaust valve is opened and the air in the cylinder passes out and the window descends by gravity.

We claim:

1. In a window operating mechanism the combination with the window, of a pair of cylinders, brackets carried by the window, pistons operating in the cylinders and having rod connections with said brackets, and a valve device for operating said pistons; said valve device comprising a casing having separate inlet and exhaust passages communicating with the cylinders, and normally closed and manually operated inlet and exhaust valves for each of said separate passages.

2. In a window operating mechanism the combination with the window, of two cylinders located one on each side of the win-

dow, brackets carried by the window, pistons operating in the cylinders and having rod connections with said brackets, and a valve device in communication with the cylinders for operating said pistons, said valve device comprising a valve casing provided with an air inlet passage and a manually operated push-valve for opening and closing the said passage, and a separate exhaust passage also located within the casing and provided with a manually operated push-valve

for opening and closing the said exhaust passage.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

WILLIAM HENRY STIVER.
ROSS SHOEMAKER STIVER.

Witnesses:

N. E. GEE.
ADAM LEAKE.