

April 3, 1928.

1,665,031

K. HERMAN

WINDOW CLEANER AND CLEARER

Filed Sept. 20, 1927

Fig. 1.

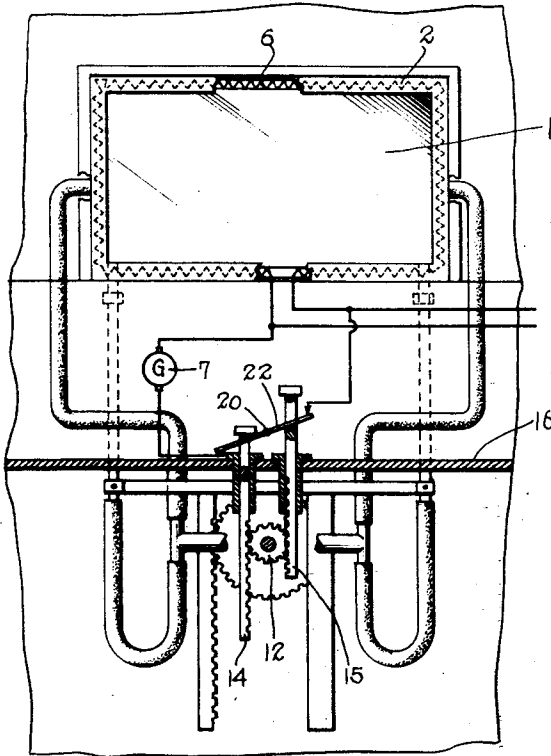


Fig. 2.

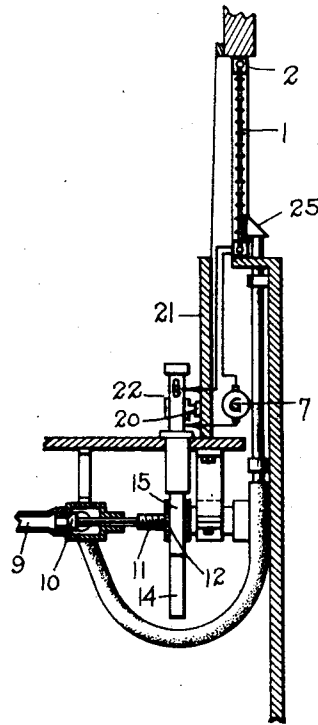


Fig. 3.

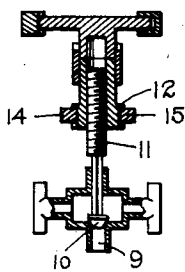


Fig. 4.

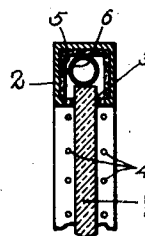
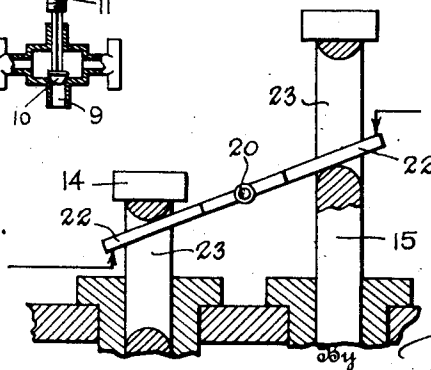


Fig. 5.



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WINDOW CLEANER AND CLEARER.

Application filed September 20, 1927. Serial No. 220,759.

This invention relates to improvements in window clearers and cleaners and improvements in prior Patents Nos. 1,605,436 and 1,605,839 and application Serial No. 150,611.

In the prior patents and application disclosures are made of arrangements which function to clear and clean windows and windshields of railway or road vehicles of all kinds on windows of outhouses wherein clear vision is essential, as for instance, pilot house windows and display windows for stores.

The present invention involves improvements over the foregoing devices in that in addition to the use of the air blast a heating element is included which may operate in conjunction with the air blast to heat the same or may be caused to function independently.

More specifically the novelty resides in the provision of a heating element within the distributing pipe or nozzle provided for the blast, the heating element being arranged to function through means actuated by the movement of the air control valve.

Other features and advantages will more clearly hereinafter appear by reference to the accompanying drawings forming a part of this specification and wherein like numerals of reference designate corresponding parts throughout the several views, in which

Fig. 1 is a side elevation of the assembly with the electric control of the heating unit partially diagrammatic.

Fig. 2 is a vertical section of the disclosure in Fig. 1.

Fig. 3 is an enlarged section of the valve element.

Fig. 4 is a transverse section of the casing and heating element, and

Fig. 5 is an enlarged view of the switch element.

With reference now to the specific embodiment, an observation window is illustrated at 1 the peripheral edge of which is enclosed by a casing 2 more clearly shown in Figure 4. This casing entirely encloses the window, being formed of suitably shaped piping, slotted centrally at 3, to engage the edge of the glass 1. This tubular casing 2 is formed with a series of perforations 4 adjacent the slot whereby a blast may be expelled therethrough and directed according to the prearranged inclination of the perforations along the glass surface.

A lining of insulating material 5 is provided for the casing and prevents injury to the structure by contact with the heating element 6 which is shown as comprising a continuous heating coil supplied by proper current from the source 7.

Inasmuch as the blast control and control for the heating element function together the arrangement of the former is illustrated in detail, although described and claimed in a copending application. The blast is supplied from a suitable source 9 and controlled by a valve 10 reciprocated by rotation of threaded stem 11, through internally threaded gear 12. The gear 12 is turned by racks 14 and 15 which project upwardly through the flooring 16, the racks being on opposite sides of the gear and operating to alternately rotate the gear in reverse directions. By reference now to Fig. 5, the arrangement of the switch with reference to the valve control will be seen. A support 20 projects outwardly from the framing 21 and includes a bearing for the oscillating switch arm 22 mounted thereon. The extremities of the switch arm 22 extend through slots 23 formed in the racks 14 and 15 which arrangement provides means for play on the part of the moving elements.

Other arrangements of valves and switches might be substituted in lieu of the present structure, it being obvious that the present illustration is more for the purpose of demonstrating the general function of the device.

Also the illustration of such features as the reciprocating wiper 25 and the actuating means therefor forms no part of this invention, it being merely intended to more fully present the idea involved.

It is to be understood that, while I have shown the device applied in the specific manner foregoing, varied application may be made as occasion may arise. Changes in the details of construction may be made when necessary and I therefore reserve unto myself all rights to make necessary improvements, alterations or changes in the invention.

What I claim as new and useful and desire to secure by Letters Patent, is:

1. In combination with a window, a blast nozzle, a supply pipe communicating with

said nozzle, a valve in said supply pipe, a heating element, and a control for said heating element actuated by said valve.

2. The substance of claim 1 characterized in that the heating element is arranged within the blast nozzle whereby the passing fluid is heated during transit.

3. The substance of claim 1 characterized in that the blast nozzle includes an elongated perforated body having an insulated lining and the heating element is arranged therein.

4. The substance of claim 1 characterized in that the blast nozzle includes a casing which encloses the peripheral edge of the window and is provided with perforations adjacent both faces of same.

5. In a device of the class described, a blast device, a heating element, a valve for said blast device, a control for said heating

element, and means actuated by said valve for operating the control for said heating element.

6. The substance of claim 5 characterized in that the heating element includes a heating coil, a source of current, and a switch, which latter is operably connected to said valve.

7. In combination with a window, a perforated casing enclosing the peripheral edge of said window, insulating material lining the interior of said casing, a continuous heating element in said casing, a control for said heating element, a fluid supply in communication with said casing, and a control means for said fluid supply, the latter also controlling the control for said heating element.

In testimony whereof I affix my signature.

KARL HERMAN.