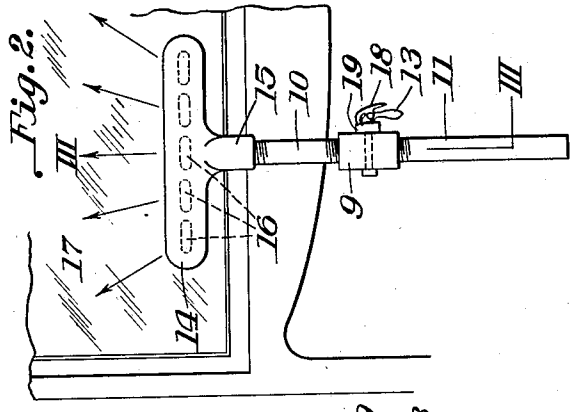
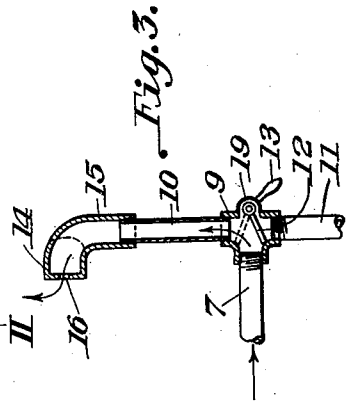
Jan. 6, 1931. J. R. ROBINSON 1,788,205

CLEANER

Filed Dec. 27, 1927





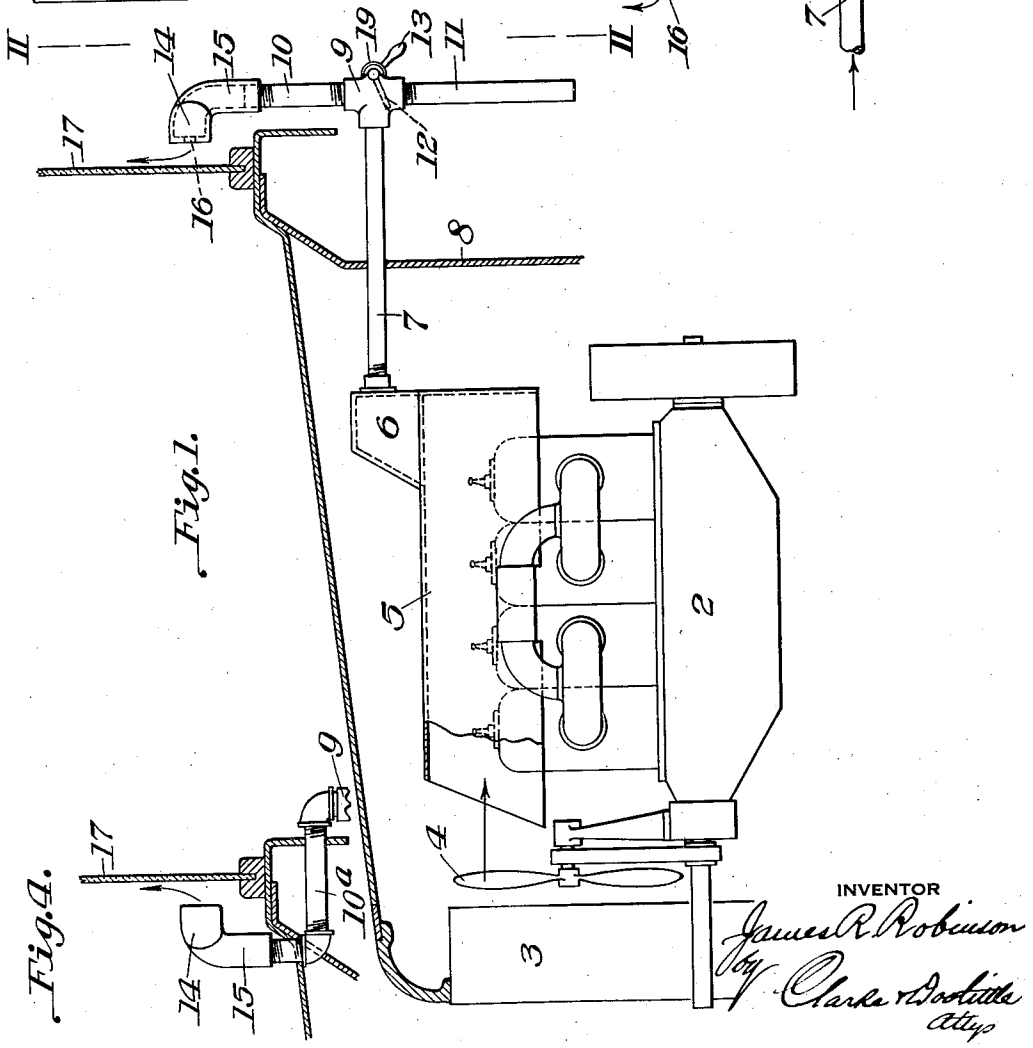


Fig. 1.

INVENTOR

James R. Robinson

By Clarke & Bartlett

Attys

Patented Jan. 6, 1931

1,788,205

UNITED STATES PATENT OFFICE

JAMES R. ROBINSON, OF PITTSBURGH, PENNSYLVANIA

CLEANER

Application filed December 27, 1927. Serial No. 242,918.

My invention consists of an improvement in wind shield cleaners for automobiles or other vehicle driven by motive power. It has in view to provide a readily applied attachment to the heating system utilizing engine heated air, whereby to direct the hot air against a portion of the wind shield, for melting an accumulation of snow or ice thereon, or for moisture evaporation.

One preferred embodiment of the invention is shown in the accompanying drawings in which:

Fig. 1 is a partial longitudinal sectional view through a portion of the engine and driver's compartment of an automobile;

Fig. 2 is a view of the device from the rear, on the line II—II of Fig. 1, showing the application of heated air against the wind shield;

Fig. 3 is a vertical section on the line III—III of Fig. 2;

Fig. 4 is a partial view like Fig. 1, showing application of hot air to the front of the shield.

Referring to the drawings, 2 is the engine of a motor vehicle mounted in the usual way with relation to the radiator 3 and fan 4. A hot air conducting box or shell 5 surrounds a portion of the engine cylinders or the exhaust manifold thereof, open at the front and in the line of circulation of air backwardly beyond the fan. Box 5 is provided with an outlet terminal 6 with which is connected a delivery pipe 7 extending backwardly within the car beyond partition 8.

Secured on the inner end of pipe 7 is a valve fitting 9 having an upper and a lower connection for pipes 10 and 11 respectively. Fitting 9 is provided with a valve 12 of any suitable construction mounted in the fitting for deflecting hot air upwardly through pipe 10 or downwardly through pipe 11 as the valve is lowered or raised by its operating handle 13. Mounted on the top of pipe 10 is a hollow distributing header 14 by its attaching neck or extension 15, the connections being of the usual kind utilized in pipe fitting, or otherwise as may be preferred for quick attachment and disconnection.

Header 14 is extended laterally as shown and is provided with openings 16 of any convenient shape for delivering hot air in the form of a wide or fan shaped diverging stream against the inner side of the shield 17 of the machine.

The header is of suitable size and shape for location across and closely adjacent the base of the wind shield glass, so as not to obstruct the vision of the driver, and at one side in the general line of sight. As shown it curves forwardly and occupies comparatively little room, and may be easily disconnected from the fitting 9 during warm weather, or the entire upper and lower distributing equipment may be removed from pipe 7.

By throwing valve 12 downwardly as shown all of the hot air may be directed upwardly, or by setting the valve at any intermediate position the heated air may be distributed both upwardly and downwardly.

By throwing the valve clear up as indicated in dotted lines, Fig. 3, the upper connection may be cut off and the full volume delivered to lower pipe 11.

Valve handle 13 may be provided with a locking attachment 18 for engagement with a toothed bearing 19 by which the valve may be positively located in any desired position, with facility for easy adjustment as used.

It will be obvious that the header 14 may also be located in front of the wind shield as in Fig. 4, in which case the connection 10*a* is suitably shaped for connection with the valve casing 9 and for fitting through the hood to the exterior.

My improved cleaner may be utilized in connection with any vehicle or other form of transporting or moving unit or vessel having a wind shield or protecting window, subject to vision obstruction by the weather. Thus, by collecting heated air from any available source, it may be adapted for the cleaning of a window or the like on a locomotive, trolley car, motor boat, etc.

The construction and operation of the device will be readily understood and appreciated from the foregoing description. It provides an easily applied means for heating the glass of a wind shield or other similar window sufficiently warm to cause melting of ad-

hering snow or ice on the outer front to allow flowing off or evaporation, so as to keep the vision area clear during adverse weather conditions.

The particular construction may be changed in design, dimensions, etc., to adapt it to various makes or sizes of car or other vehicle by the skilled mechanic. within the scope of the following claims.

What I claim is:—

1. The combination with a fan and a hot air conductor open at its intake end adjacent the fan and closed at its other end and operatively mounted on the engine of an automobile, of a pipe connected with the closed end of said conductor provided with a valve casing having an upward flow and a downward flow controlling valve, a branch pipe leading downwardly from the valve casing, and a branch pipe connected with the valve casing leading upwardly therefrom and provided with a perforated header for distribution of heated air against a wind shield.

2. The combination with a fan and a hot air conductor open at its intake end adjacent the fan and closed at its other end and operatively mounted on the engine of an automobile, of a pipe connected with the closed end of said conductor provided with a valve casing having an upward flow and a downward flow controlling valve, a branch pipe leading downwardly from the valve casing, a branch pipe connected with the valve casing leading upwardly therefrom and provided with a perforated header for distribution of heated air against a wind shield, and means for operating the valve provided with a holding device, whereby hot air may be proportionally distributed upwardly towards the wind shield or downwardly to the interior, or both.

3. In a motor vehicle having a fan and an internal combustion engine and a front transparent wind shield, an open ended conduit covering a portion of the engine terminating adjacent the usual fan adapted to receive a current of incoming air for heating, a hot air conduit leading from the other end of the conduit having a closed valve casing, a conduit leading upwardly from the valve casing provided with a hot air distributing header adjacent the wind shield, a conduit leading downwardly from the valve casing to the interior of the vehicle, and a valve in the casing having means for adjusting it to varying positions to fully open or close communication with either conduit, or to partially open or close communication to either.

4. In a motor vehicle having a fan and an internal combustion engine and a front transparent wind shield, an open ended conduit covering a portion of the engine terminating adjacent the usual fan adapted to receive a current of incoming air for heating, a hot air conduit leading therefrom from the other end of the conduit having a closed valve casing, a conduit leading upwardly from the valve casing provided with a hot air distributing header adjacent the wind shield, a conduit leading downwardly from the valve casing to the interior of the vehicle, a valve in the casing having means for adjusting it to varying positions to fully open or close communication with either conduit, or to partially open or close communication to either, and means for manipulating and holding said valve in either position.

In testimony whereof I affix my signature.

JAMES R. ROBINSON.