

G. H. HENKEL.
 WINDOW CLEANING DEVICE.
 APPLICATION FILED OCT. 7, 1912.

1,065,525.

Patented June 24, 1913.

FIG. 1.

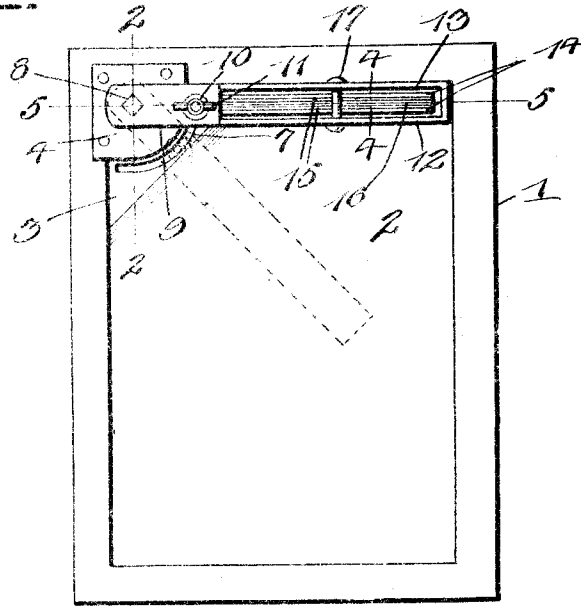


FIG. 2.

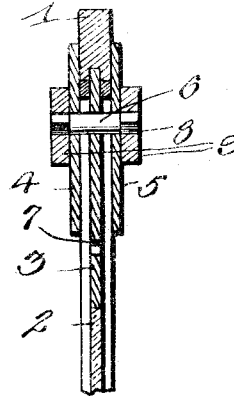


FIG. 3.

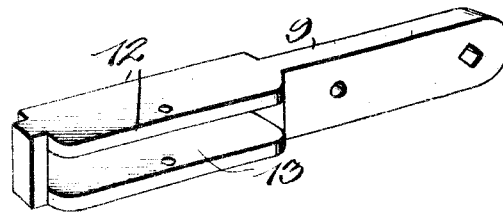


FIG. 4.

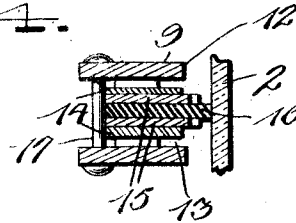
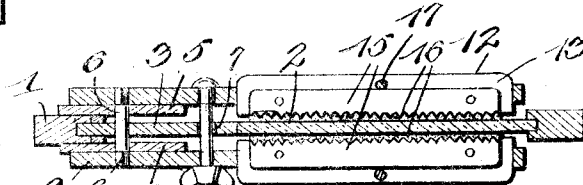


FIG. 5.



Witnesses

Chas. L. Grunbauer.
 A. J. Hind.

Inventor
 G. H. Henkel,

Watson E. Coleman,
 Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. HENKEL, OF NASHVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF TO PERRY G. FRANKLIN, OF NASHVILLE, TENNESSEE.

WINDOW-CLEANING DEVICE.

1,065,525.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed October 7, 1912. Serial No. 724,372.

To all whom it may concern:

Be it known that I, GEORGE H. HENKEL, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Window-Cleaning Devices, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to new and useful improvements in window cleaning devices and more particularly to a device for cleaning the motorman's window of a street railway car, and my object is to provide a device of this character which will readily remove the water from the window in wet weather and also remove the frost and ice therefrom in cold and snowy weather.

A further object of the invention resides in providing a device which will form no obstruction to the sight of the motorman and which may be readily and quickly operated, when desired.

A still further object of the invention resides in providing a device which is extremely simple and durable in construction, inexpensive to manufacture and one which will be very efficient and useful in operation.

With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application, Figure 1 is an elevation of a front window of a car looking from the inside and showing my device applied to use thereon. Fig. 2 is a vertical section therethrough as seen on line 2-2, Fig. 1. Fig. 3 is a perspective view of one of the arms used on the device. Fig. 4 is a section through one of the arms as seen on line 4-4, Fig. 1; and Fig. 5 is a horizontal section therethrough as seen on line 5-5, Fig. 1.

In describing my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a sash adapted for use as the front or motorman's window of a street car in which is mounted the pane 2 and also mounted in the upper left hand corner of

the sash in substitution for a removed portion of the pane is a triangularly formed plate 3. Secured to the inner and outer faces of the sash in the upper left hand corner thereof are the additional plates 4 and 5 which have extending therethrough a pivot pin 6 and the plate 3 is provided with an arcuate slot 7 which is struck from the same point as center as that which contains the aforesaid pivot pin. The inner and outer projecting ends of the pivot pin 6 are squared as shown at 8 and have mounted thereon the ends of a pair of arms 9. These arms, of course, extend on the inner and outer faces of the pane 2 and are connected together by means of a bolt or the like which extends through the arcuate slot in the plate 3. The head of the bolt is connected with the outer arm and the inner end of said bolt is threaded and has a winged nut 11 engaged therewith.

Each of the arms 9 is provided with a substantial pocket or the like beyond the point of engagement of the bolt 10 therewith, said pocket being formed by increasing the width of the side walls as shown at 12 and forming a longitudinal channel or slot 13, therein. These substantial pockets are adapted to contain the cleaning members provided, each of which consists of a pair of outer plates 14 between which is clamped a pair of metallic scraping plates 15 and a rubber cleaning strip 16. The rubber cleaning strip 16 is held between the pair of scraping plates 15, the outer engaging edge of the strip projecting slightly beyond the engaging edges of said scraping plates and the engaging edges of the latter plates are notched. These parts are clamped or secured together by means of bolts or the like and together may be termed a cleaning block, the same being adapted to be received in a pocket of one of the aforesaid arms. A pin or bolt 17 extending transversely of the pocket at the rear edge thereof is adapted to contact with the rear edge of the cleaning block which is inserted in the pocket and said pocket is slightly greater in width and length than said cleaning block so as to allow a play therein as the arms of the device are operated. It will, of course, be understood that when the arms of the device are secured together, these cleaning blocks will be held flatly against the oppo-

site faces of the pane and the play thereof will allow the blocks to cover different portions of the pane as the arms are operated upwardly and downwardly.

5 In practice, the arms of the device are normally held in their horizontal positions as shown in full lines in Fig. 1 of the drawing and should the pane, at any time, become so covered with rain drops as to prevent the motorman seeing clearly ahead, the
10 arms may be swung downwardly and thence upwardly, as shown in dotted lines in Fig. 1. The rubber strip 16 of the cleaning block will, through such a movement, remove the
15 water from both sides of the pane and allow the motorman to have a clear vision. Should the pane become thoroughly covered with frost and ice, it will only be necessary to turn the winged nut 11 on the bolt 10 so
20 as to draw the arms closer toward one another and a downward and upward movement of the arms will then permit the notched edges of the scraping plates 15 to contact with the opposite faces of the pane.
25 The same will, obviously, scrape all ice and frost therefrom, and the rubber strip 16 will entirely remove the same.

From the foregoing it will be seen that I
30 have provided a simple, inexpensive and efficient means for carrying out the objects of the invention and while I have particularly described the elements best adapted to perform the functions set forth, it is obvious
35 that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the

spirit or sacrificing any of the principles of the invention.

Having thus described this invention, what I claim is:—

40 1. In a window cleaner, the combination with a support comprising a plurality of spaced plates adapted to be secured to a window frame, one of said plates being adapted to be substituted for a removed
45 portion of the transparent pane thereof; of a pair of arms pivotally carried on the other plates of the support, connecting means between said arms, and cleaning members carried on said arms. 50

50 2. In a window cleaner, the combination with a support comprising a plurality of plates adapted to be mounted on a window sash, the intermediate plate thereof being adapted for substitution for a removed
55 portion of the transparent pane thereof, said last mentioned plate being also provided with an arcuate slot; of a pair of arms pivotally carried on the other of said plates and having their inner faces slightly spaced
60 from one another, means extending through the arcuate slot of the intermediate plate and said connecting arms to adjust the position of the latter with respect to one another, and cleaning members carried on said arms. 65

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GEORGE H. HENKEL.

Witnesses:

F. G. LANGHAM,

J. W. EASTMAN.