

C. E. PRICKETT.
WINDOW CLEANING APPARATUS.
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942,743.

Patented Dec. 7, 1909.

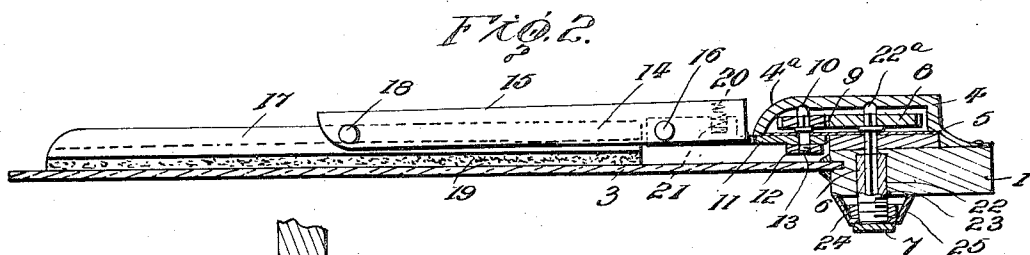
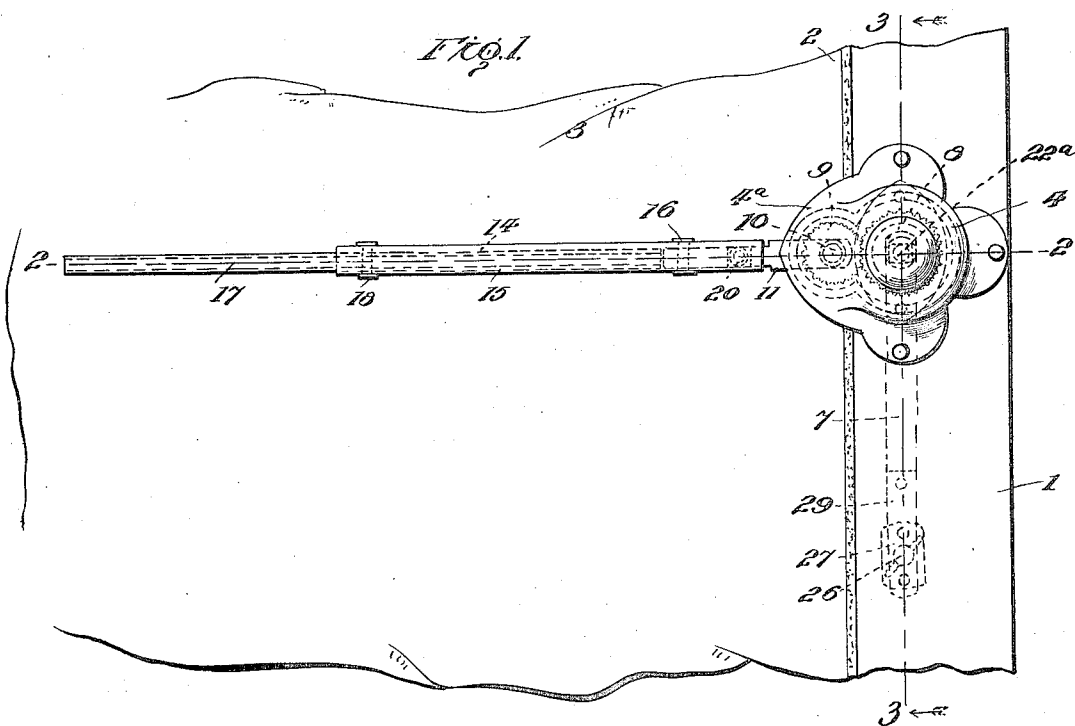


Fig. 3

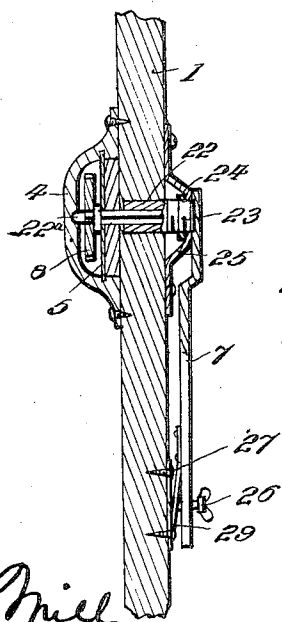


Fig. 5

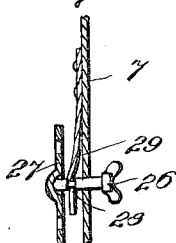
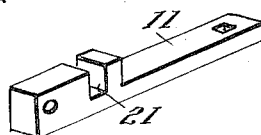


Fig. 4



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CLINTON E. PRICKETT, OF ALLEGHENY, PENNSYLVANIA.

WINDOW-CLEANING APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CLINTON E. PRICKETT, citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Window-Cleaning Apparatus, of which the following is a specification.

This invention comprehends certain new and useful improvements in window-cleaning apparatus of that type designed particularly for use in connection with car windows or the like, and which admits of the outside of the pane being conveniently cleaned, and the invention has for its object a simple, durable and efficient construction of device of this character, which may be advantageously employed on the front windows of street cars or the wind shields of automobiles or the like, and which permits the motorman to quickly remove any rain or snow accumulated upon the window pane, so as to afford a clear view ahead, thereby avoiding accidents and saving time and annoyance by obviating the necessity of running the car slowly or stopping the car to clean the window by hand.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features thereof in the appended claims.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a front elevation illustrating the application of my improved window-cleaning apparatus; Fig. 2 is a horizontal section thereof, the section being taken on the line 2—2 of Fig. 1; Fig. 3 is a vertical section on the line 3—3 of Fig. 1; Fig. 4 is a detail perspective view of the arm support; Fig. 5 is an enlarged sectional view illustrating the means for locking the handle in position.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

In the present instance, for the purpose of illustrating the application and operation

of my improved window-cleaning apparatus, I have shown the same attached to a portion of the stile 1 of a sash 2 that is of any conventional form and provided with a pane of glass 3, the cleaning elements being mounted in front of the sash, while the operating handle is located upon the rear side thereof, that is within the interior of the car, in convenient reach of the motorman.

4 designates a casing or housing which is mounted in proximity to the window pane 3, and in the present instance is secured to the front face of the stile 1, preferably near the upper end thereof. The housing projects inwardly beyond the inner edge of the stile, as indicated at 4^a, and extends partially over the window pane in spaced relation thereto, as will be observed by reference to Fig. 2, the housing being closed at its rear side through the instrumentality of a plate 5 that contacts with the stile and is co-extensive with the projecting portion 4^a, so as to effectually close the housing and prevent admission of moisture or the like thereto. Journaled at its forward end in the casing is a longitudinally disposed drive shaft 6 that passes through an opening formed in the stile with its other or rear end extending beyond the rear face of the stile and equipped with a perpendicularly disposed operating handle 7 which admits of the shaft being readily rotated by hand. A gear wheel 8 is keyed or otherwise rigidly mounted upon the shaft within the housing and meshes with a relatively small second gear wheel 9, the latter being mounted upon a longitudinal spindle 10 which is journaled in the projecting portion 4^a of the housing. The rear end of the spindle is threaded, as shown, and passes through the plate 5 and terminates in slightly spaced relation to the window pane, as indicated at 13, this end of the spindle carrying a perpendicular arm support 11, which is retained thereon through the instrumentality of a nut 12. The arm support is arranged in slightly spaced relation to the window pane and has its free end projecting beyond the portion 4^a of the housing and embraced by two rearwardly disposed substantially parallel flanges 14 formed at the side edges of a cleaning arm 15. A bolt or like fastening element 16 is passed through the flanges 14 intermediate of the ends thereof and also through the arm support 11, in order to connect the cleaning arm thereto in such a manner as to render

the cleaning arm susceptible of moving back and forth with the arm support and at the same time turning about an intermediate transverse axis relative thereto. The side flanges 14 also embrace a portion of a wiper bar 17 that is arranged in longitudinal alignment with the arm support and cleaning arm, the flanges terminating near the middle point of the wiper bar and the latter being pivotally connected thereto through the instrumentality of a transverse bolt 18 or the like. The wiper bar 17 is equipped at its rear edge, that is the edge adjacent to the pane 3, with a flexible strip 19 of rubber, felt, leather or other similar material which is arranged to bear against the window pane and is designed to be swept thereacross upon the operation of the device in order to remove rain water, snow or other foreign matter accumulated on the outer surface of the pane. It will be manifest that in order to insure an effectual removal of this accumulated matter the wiper bar must be pressed evenly against the pane and with some force. This object is attained in the present invention by providing an expansion spring 20 which is seated in a socket 21 provided at an intermediate point in the arm support 11 and which is interposed between the latter and the adjacent end of the cleaning arm 15, so as to exert pressure thereon to rock the arm about its transverse pivot 16 and swing the opposite end of the arm rearwardly toward the pane to yieldingly but forcibly hold the wiper bar thereagainst.

For convenience the drive shaft 6 is constructed in forward and rear sections 22^a and 22, the section 22^a being polygonal in cross section at its rear end and arranged to fit in a correspondingly formed opening in the adjacent end of the rear section 22, to establish a telescoping and longitudinally extensible connection between the parts and thus render the shaft susceptible of application to window stiles or other supports of different thicknesses. The rear end of the section 22 projects beyond the corresponding face of the stile 1, as best seen in Fig. 3, and has the operating handle 7 affixed to the extremity thereof. The projecting end of this rear section is preferably exteriorly threaded, as indicated at 23, and has a nut 24 working thereon and arranged to be received in a cupped plate 25 that is mounted upon the projecting end of the said section and interposed between the nut and the operating handle 7. The plate 25 is secured to the rear face of the stile by screws or like fastening means, and inasmuch as the nut 24 is disposed in the cupped portion of the plate and between the same and the stile, it will be observed that the nut serves as a stop to maintain the section 22 against rearward longitudinal movement, as would result in its disengagement from the forward section

22^a and its withdrawal from position in the stile 1. In assembling the parts the plate 25 is first slipped on the section 22 against the operating handle 7, the nut 24 being then applied to the section on the opposite side of the plate from the operating handle, after which the forward end of the section is inserted in the opening in the stile to telescope with the meeting end of the forward section 22^a, the fastening devices being then inserted to secure the plate rigidly in position and maintain the parts against accidental displacement.

26 designates a pin which extends perpendicularly through the extremity of the operating handle 7 and is slidably mounted therein with its extremities terminating on opposite sides thereof. The rear end of this pin is preferably winged to admit of ready manipulation while the pin is formed near its forward end and in front of the handle 7 with an annular groove 28 that is engaged by the bifurcated end of a flat spring 29 secured to the operating handle as shown. The flat spring normally acts upon the pin 26 to shift the same longitudinally forwardly and seat the forward extremity thereof in a keeper plate 27 that is secured in proper position upon the stile 1, or some other adjacent part of the framework of the car window. By virtue of this arrangement the parts of the cleaning apparatus are maintained rigidly in position when not desired for use.

In the practical use of my improved window-cleaning apparatus, when sufficient rain or other foreign matter has accumulated upon the outside of the pane 3 to prevent the motorman from seeing the track ahead, the pin 26 is retracted from the keeper 27 to release the handle 7 which is then turned in the desired direction to effect the turning of the drive shaft 6, such movement being transmitted to the spindle 10 through the instrumentality of the gear wheel 8 and the meshing pinion 9. Inasmuch as the arm support 11 is rigidly mounted upon the spindle, it is also turned thereby, thus sweeping the wiper bar 17 across the outer surface of the pane 3 to effect the cleaning of the same and render the glass again transparent. After operation, the handle 7 is returned to its normal position and the pin released, so as to be moved by the flat spring 29 into engagement with the keeper 27 to sustain the parts rigidly in position against accidental movement.

From the foregoing description, in connection with the accompanying drawing, it will be apparent that I have provided an improved window-cleaning apparatus which is particularly susceptible of use upon railway cars or wind shields of automobiles or the like, since it may be quickly operated to effectually remove any matter obscuring the

glass; which embodies peculiar means for holding the wiper bar forcibly and evenly against the pane; which is simple and durable in construction, and which consists of comparatively few parts that may be easily and cheaply manufactured and readily assembled.

Having thus described the invention, what I claim is:

1. A window-cleaning apparatus comprising a spindle provided with an arm support, a journal for the spindle, a cleaning arm pivotally connected to the arm support, a wiper bar pivotally carried by the cleaning arm, means for turning the cleaning arm about its pivot to hold the wiper bar evenly and forcibly against the windowpane, and means for turning the spindle.

2. A window-cleaning apparatus comprising a spindle provided with an arm support, a journal for the spindle, a cleaning arm pivotally connected at an intermediate point to the arm support, a wiper bar pivotally carried at one end of the cleaning arm, means interposed between the other end of the cleaning arm and the arm support for rocking the former about its axis to hold the wiper bar against the windowpane, and means for turning the spindle.

3. A window cleaning apparatus comprising an arm support, a cleaning arm connected thereto to turn about a transverse axis, a wiper bar carried by the cleaning arm, means for rocking the cleaning arm relative to the arm support to press the wiper bar against the window pane, and means for actuating the arm support to sweep the wiper bar across the pane.

4. A window-cleaning apparatus comprising a spindle provided with an arm support, a journal for the spindle, a cleaning arm pivotally connected at an intermediate point to the arm support, a wiper bar pivotally carried at one end of the cleaning arm, an expansion spring interposed between the other end of the cleaning arm and the arm support to rock the former about its pivot and hold the wiper bar effectually against the window pane, and means for turning the spindle.

5. A window-cleaning apparatus comprising a drive shaft, provided with a handle, a gear wheel rigidly mounted upon the drive shaft, a spindle, journals for the drive shaft and spindle, a relatively small pinion mounted upon the stub shaft and meshing with the gear wheel, the spindle being provided with an arm support, a cleaning arm pivotally connected to the arm support, a wiper bar carried by the cleaning arm, and means for rocking the cleaning arm about its pivot to hold the wiper bar effectually against the window pane.

6. A window cleaner embodying an arm support, a cleaning arm pivoted thereto and spring-pressed to turn about its pivot, a wiper bar carried by the cleaning arm and held thereby against the window pane, and means for actuating the arm support to sweep the wiper bar across the pane.

7. A window cleaner embodying an arm support, a wiper bar, a cleaning arm pivotally connected to both the arm support and the wiper bar, means for turning the cleaning arm relative to the arm support to hold the wiper bar against the window pane, and means for actuating the arm support to sweep the wiper bar across the pane.

8. A window cleaning apparatus embodying an arm support, a cleaning arm formed with side flanges embracing the arm support and pivotally connected thereto, a wiper bar carried by the cleaning arm, means for turning the cleaning arm about its pivot to hold the wiper bar against the window pane, and means for actuating the arm support to sweep the wiper bar across the same.

9. A window cleaner embodying an arm support, a wiper bar, a cleaning arm having side flanges embracing both the arm support and the wiper bar and pivotally connected thereto, means for turning the cleaning arm relative to the arm support to hold the wiper bar against the window pane, and means for actuating the arm support to sweep the wiper bar across the pane.

10. A window cleaning apparatus comprising an arm support, a cleaning arm pivotally connected at an intermediate point thereto, a wiper bar carried at one end of the cleaning arm, means interposed between the other end of the cleaning arm and the arm support for rocking the former relative to the latter to hold the wiper bar against the window pane, and means for actuating the arm support to sweep the wiper bar across the pane.

11. A window cleaning apparatus comprising a drive shaft, a rotatable arm support, an operative connection between the arm support and the drive shaft, a cleaning arm pivotally connected to the arm support, means for turning the cleaning arm relative to the arm support, a wiper bar carried by the cleaning arm and held thereby against the window pane, and an operating handle for turning the drive shaft, the drive shaft being longitudinally extensible as and for the purpose specified.

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

CLINTON E. PRICKETT. [L. s.]

Witnesses:

T. C. ALLISON,
P. NEESON.