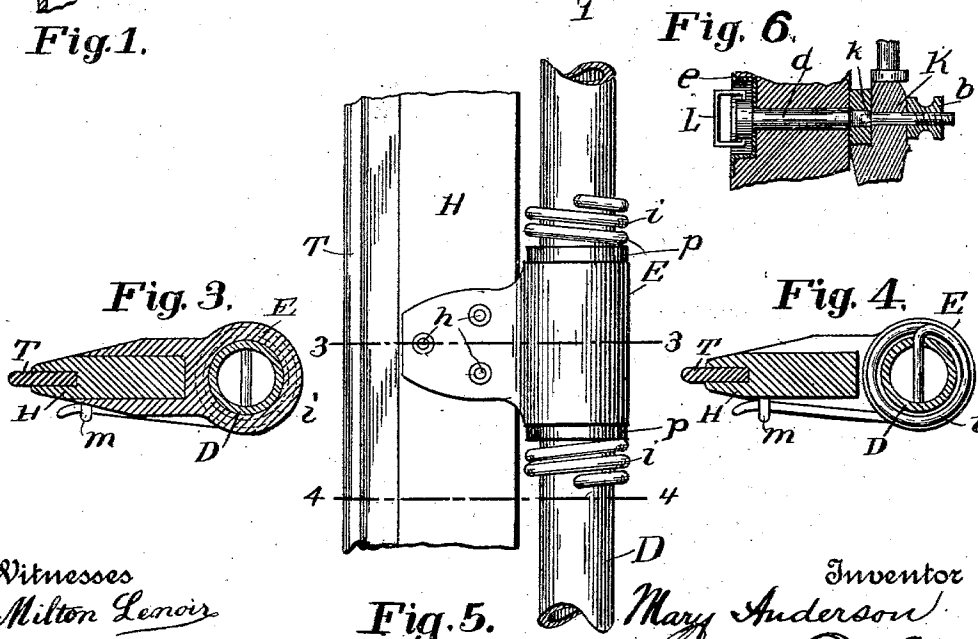
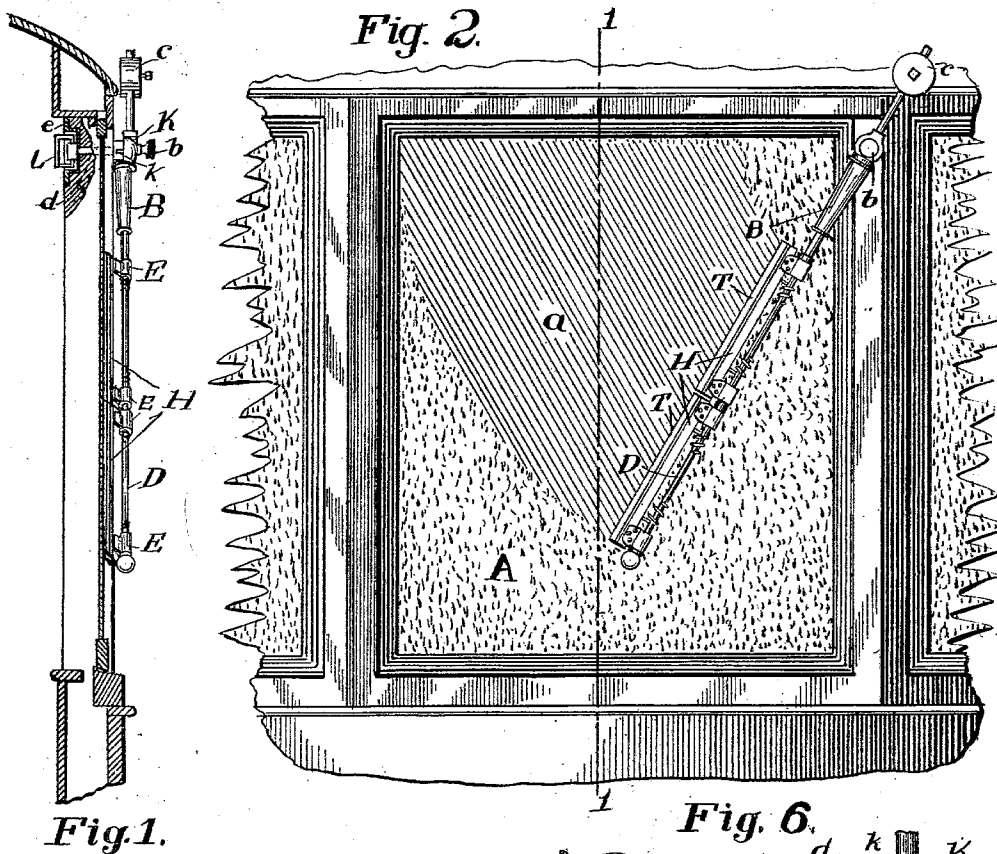


M. ANDERSON.
WINDOW CLEANING DEVICE.
APPLICATION FILED JUNE 18, 1903.

NO MODEL.



Witnesses
Milton Lenoir

Walter T. Estabrook

Fig. 5.

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UNITED STATES PATENT OFFICE.

MARY ANDERSON, OF BIRMINGHAM, ALABAMA.

WINDOW-CLEANING DEVICE.

SPECIFICATION forming part of Letters Patent No. 743,801, dated November 10, 1903.

Application filed June 18, 1903. Serial No. 182,125. (No model.)

To all whom it may concern:

Be it known that I, MARY ANDERSON, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Improvement in Window-Cleaning Devices, of which the following is a specification.

My invention relates to an improvement in window-cleaning devices in which a radially-swinging arm is actuated by a handle from the inside of a car-vestibule; and the objects of my invention are as follows: first, to provide a device operating on the outside of the glass to remove snow, rain, or sleet from the center vestibule-window of modern electric-motor cars and operable from the inside of the vestibule, at the same time providing means whereby the window-cleaning devices are rendered easily removable when not required, thus leaving nothing to mar the usual appearance of the car during fair weather; second, to provide means for maintaining a uniform pressure upon the glass throughout the entire area swept by my improved window-cleaning device; third, to so construct my improved window-cleaning device as to make it up of two or more independent parts, so that an obstruction to one will not affect the other or others.

With these several objects in view my invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical section through the center vestibule-post on line 1 1 of Fig. 2. Fig. 2 is a view in front elevation, showing the apparatus in position. Fig. 3 is a section on line 3 3 of Fig. 5. Fig. 4 is a section on line 4 4 of Fig. 5. Fig. 5 is a fragmentary detail, enlarged, of the arm; and Fig. 6 is a detail showing the manner in which the spindle *d* is placed in the frame and the manner in which the arm is secured to the spindle.

The arm is composed, mainly, of the socket *B* and the tubing *D*, secured therein. The tubing *D* or its equivalent, which might be a solid bar of metal, if desired, is adapted to carry the cleaners, of which there may be one or more, preferably two, as shown in the drawings. These consist, preferably, of the

wooden strips *H*, which carry a rubber *T*, adapted to sweep across and clean the window-pane. These strips *H* are journaled to the tubing or bar *D* by means of bearings *E*, which are secured thereto by screws or rivets *h h* and which are confined between collars *p p*, secured to the bar or tubing *D*. Springs *i i*, secured at one end, preferably by being passed through the tubing *D*, are coiled around the tubing several times and then secured to the wooden strips *H H* by means of staples *m m*, which springs maintain the rubbers *T T* with yielding and uniform pressure upon the glass, so that when the arm is swung from its center of support opposite one corner of the glass the cleaner sweeps and cleans an area, as indicated by the hatched lines *a* in Fig. 2. This arm is removably secured to the head *K* on the spindle *d*, with which it interlocks, as shown at *k* in Fig. 1, and the arm is removably held thereon by a set-screw or similar means *b*, so that when the cleaner is not required it may be removed with facility by simply unscrewing the thumb-screw *b* and removing the arm. To counterbalance the arm, a counterweight *c* is adjustably connected with the extension *C* of the arm. In this way the weight is equally balanced on each side of the pivotal support of the arm, thus distributing the weight and affording uniformity of motion.

On the inner end of the spindle *d* is journaled the handle *L*, which latter is located in the flush-plate *e*, so that when not in use it can be pushed in out of the way.

From the foregoing description it will be seen that a simple mechanism is provided for removing snow, rain, and sleet from the glass in front of the motorman, and it is simply necessary for him to take hold of the handle *L* and turn it in one direction or the other to clean the pane, the spring action upon the cleaners operating to hold the rubbers in yielding contact against the glass with sufficient pressure to clean the latter and at the same time with sufficient yielding action so as not to be rendered inoperative by striking an obstruction. In this way the difficulty of not being able to see through the front glass in stormy weather is effectually obviated.

It is evident that slight changes might be resorted to in the form and arrangement of

the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but

5 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a spindle, of an arm removably secured thereto, an adjustable
15 weight for counterbalancing one end thereof, and cleaners yieldingly pivoted to the main portion of the arm.

2. The combination with a spindle, and a
15 handle journaled to one end thereof, of an arm secured to the opposite end of the spindle, a cleaner pivotally mounted on the arm, and springs secured to the arm and pressing yieldingly against the cleaner whereby to hold it yieldingly against the object to be cleaned.

3. The combination with a spindle having 20 a head thereon, of an arm removably secured to the head, and a yieldingly - supported cleaner carried by the arm.

4. The combination with a suitable support, and an arm connected therewith, of a plurality 25 of cleaners yieldingly supported on the arm as an axis in alinement with each other and means whereby to swing the arm to cause the cleaners to sweep in an arc from the single support, across the surface to be cleaned. 30

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MARY ANDERSON.

Witnesses:

NETTIE ANDERSON,
WILLIAM A. JACKSON.