J. NULL.

WINDOW CLEANER.

APPLICATION FILED APR. 20, 1909.

934,007. Patented Sept. 14, 1909.

FIG. 1.

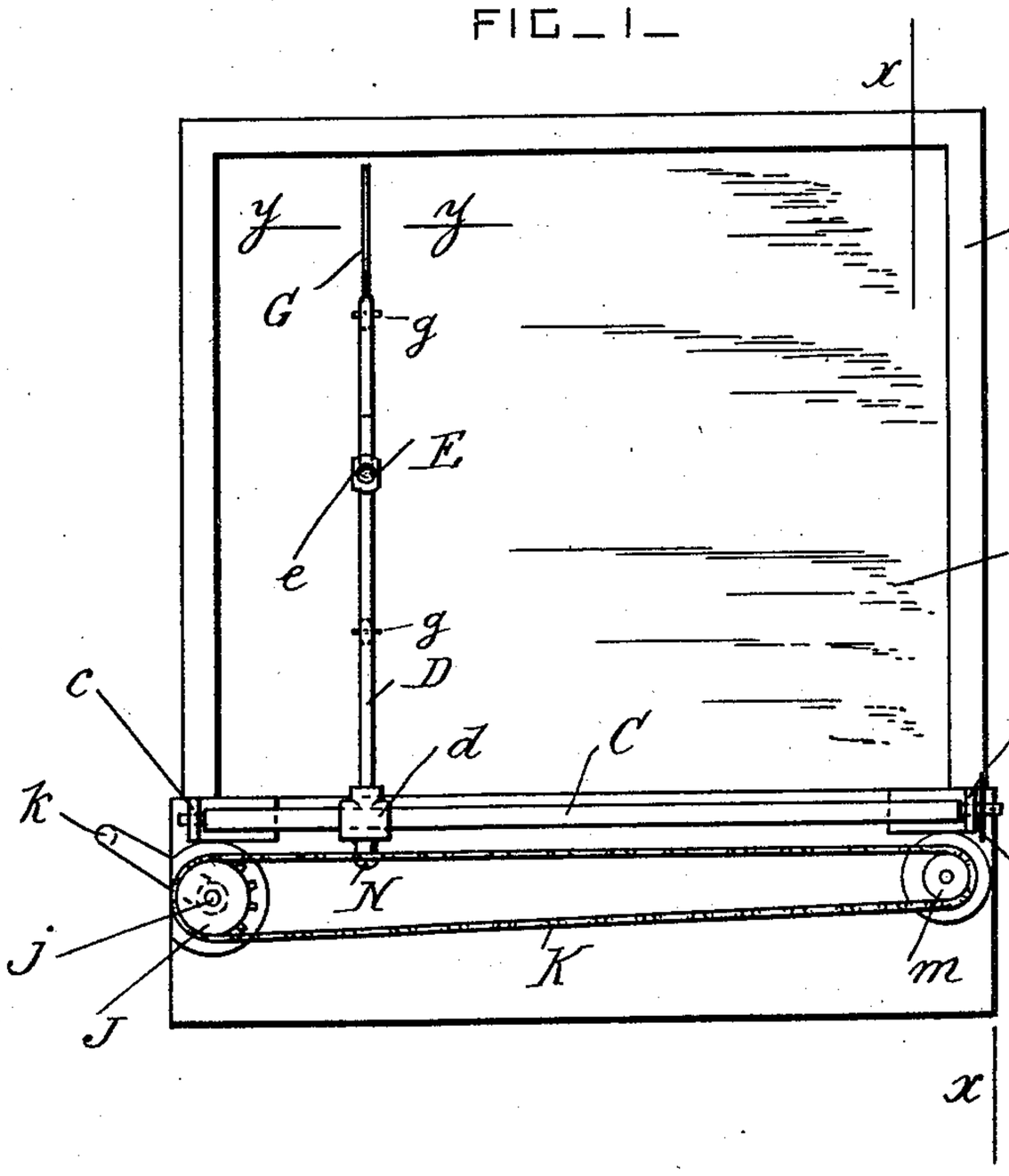


FIG. 2.

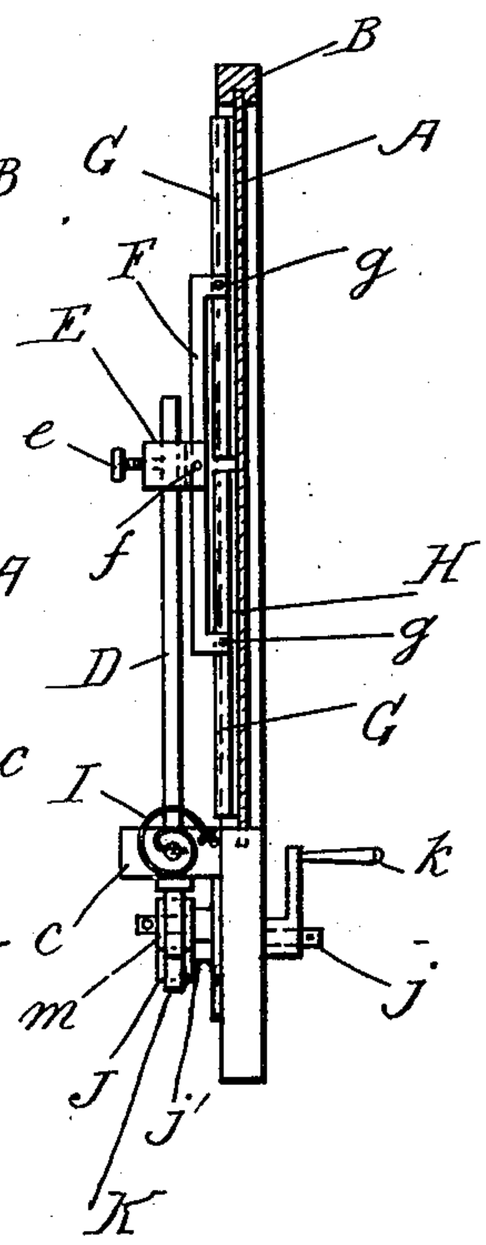
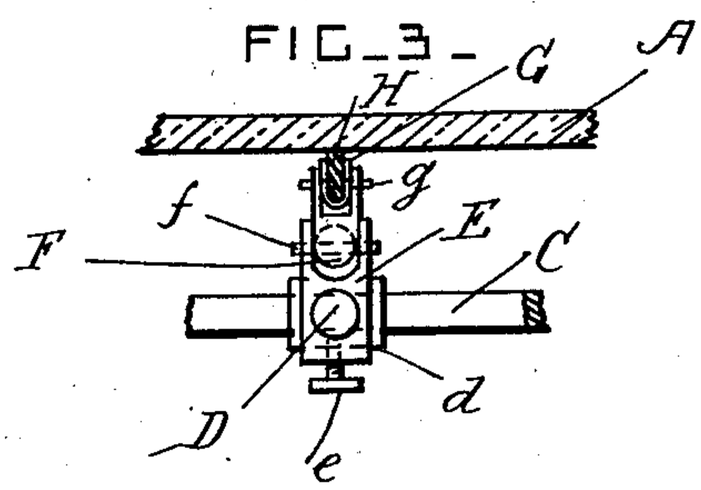


FIG. 3.



Witnesses

L. B. Middleton

Wm. H. Bates

Inventor

Jesse Null.

By Herbert W. D. Jenner.

Attorney

UNITED STATES PATENT OFFICE.

JESSE NULL, OF EVANSTON, ILLINOIS.

WINDOW-CLEANER.

934,007. Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 20, 1909. Serial No. 491,075.

To all whom it may concern:

Be it known that I, JESSE NULL, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Window-Cleaners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cleaning devices for windows, and more particularly for the window-panes or wind-screens used in front of automobiles; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of a window provided with cleaning devices according to this invention. Fig. 2 is an end view, partly in section on the line *x*—*x* in Fig. 1. Fig. 3 is a cross-section taken on the line *y*—*y* in Fig. 1, and drawn to a larger scale.

A is a window-pane or transparent wind-screen, such as used in front of an automobile, and B is its supporting frame.

C is a rectangular shaft journaled in bearings *c* secured to the lower part of the frame B, so that it is free to oscillate in said bearings.

D is an arm provided at its lower end with a socket *d* having a rectangular hole which is slidable longitudinally on the shaft C.

E is an adjustable socket slidable on the arm D, which is preferably cylindrical, so that the socket E can be adjusted circumferentially and longitudinally. The socket E is secured to the arm by any approved fastening device, such as a set-screw *e*.

F is a forked bar having its middle portion pivoted to the socket E by a pin *f*.

G are holders formed of thin sheet metal, channel-shaped in cross-section, and having their middle parts pivoted to the forked end portions of the bar F by pins *g*.

H are cleaners, such as strips of cleaning material, india rubber, felt, or brushes, which are secured in the channel-shaped holders G and which bear against the surface of the window-pane A.

I is a spring secured to one of the bearings *c* and connected to the shaft C, so as to press the cleaners against the window-pane.

J is a drive-wheel secured on one end portion of a shaft *j* which is journaled in bearings *j'* on the frame. This shaft projects through a hole in the frame under the window-pane, and it is provided on its other end portion with a crank *k* or any other means for revolving it by hand from inside the automobile.

K is a flexible connection or band, such as a belt or drive-chain, which passes over the drive-wheel J. The band K extends under the shaft C, and *m* is a guide wheel or sheave for supporting the other end portion of the band.

N is a fastening screw which connects the band K to the socket *d*.

The cleaning devices are arranged outside the window, and when the window-pane becomes coated with snow or dust, it is cleaned from inside the automobile by revolving the crank so as to slide the cleaners back and forth over the external surface of the window-pane.

What I claim is:

1. In a window cleaner, the combination, with a shaft adapted to be journaled at one side of a window sash, of an arm slidable longitudinally on the said shaft and moving with it circumferentially, cleaning devices pivoted to the free end portion of the said arm, a spring connected to the said shaft and operating to press the cleaning devices against the window-pane, and means for sliding the said arm longitudinally on the said shaft.

2. In a window cleaner, the combination, with a shaft adapted to be journaled at one side of a window sash, of an arm slidable longitudinally on the said shaft and moving with it circumferentially, a socket mounted on the said arm, a bar having its middle portion pivoted to the said socket, two holders having their middle portions pivoted to the end portions of the said bar, cleaners carried by the said holders, a spring connected to the said shaft and operating to press the said cleaners against the window-pane, and means for sliding the said arm longitudinally on the said shaft.

3. In a window cleaner, the combination, with a shaft adapted to be journaled at one side of a window sash, of an arm slidable longitudinally on the said shaft and moving with it circumferentially, cleaning devices pivoted to the free end portion of the said arm, a spring connected to the said shaft

and operating to press the cleaning devices against the pane, a flexible driving connection secured to the said arm, wheels for supporting and actuating the said flexible connection, and means for revolving one of the said wheels from the opposite side of the window-pane from the said shaft.

In testimony whereof I have affixed my signature in the presence of two witnesses.

JESSE NULL.

Witnesses:
J. P. WARBLE,
PRATT UNDERWOOD.