No. 610,205. Patented Sept. 6, 1898.

L. SUSSMAN & A. HILL.

WINDOW CLEANER.

(Application filed June 2, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

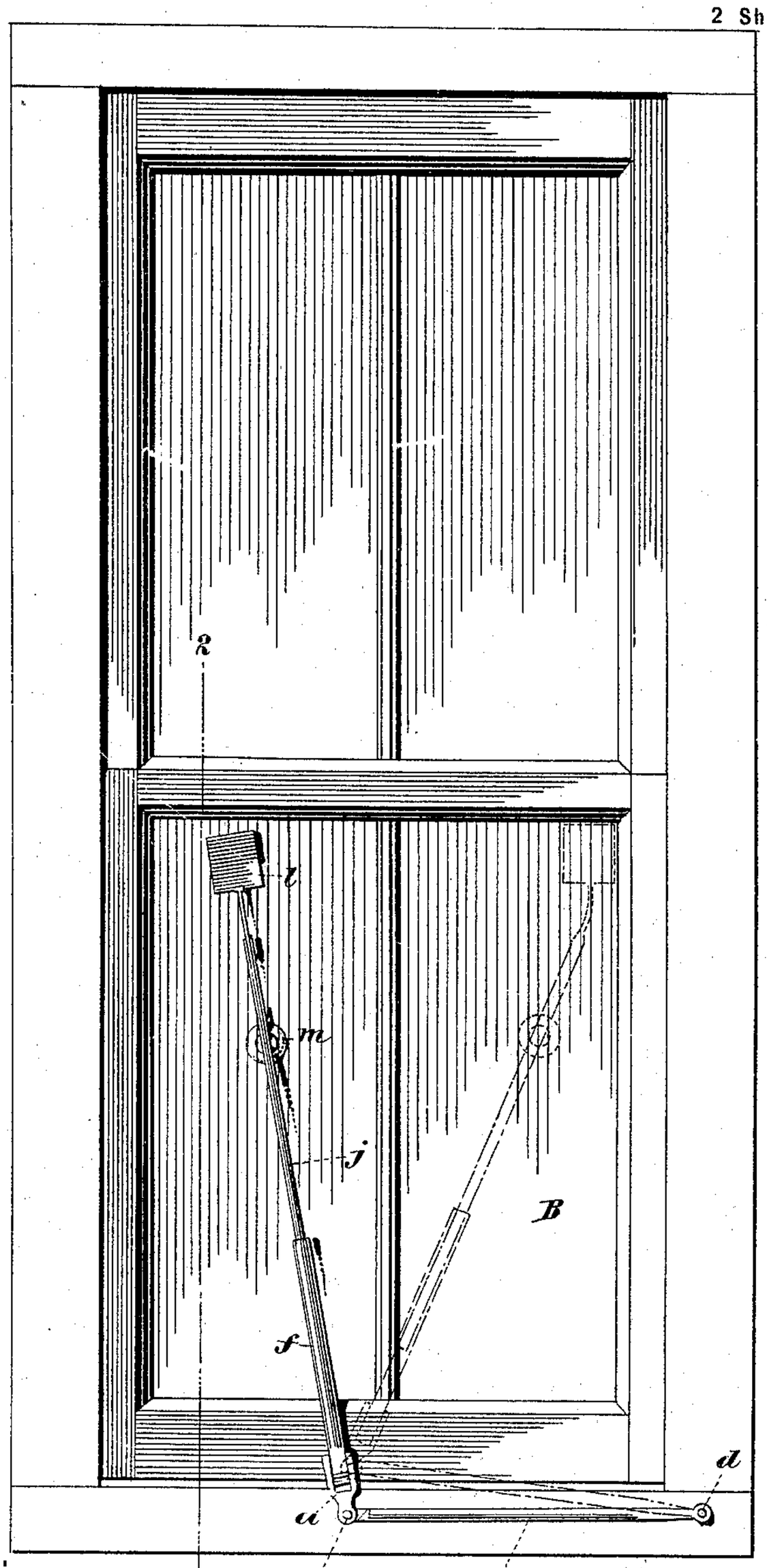

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Fig. 3.

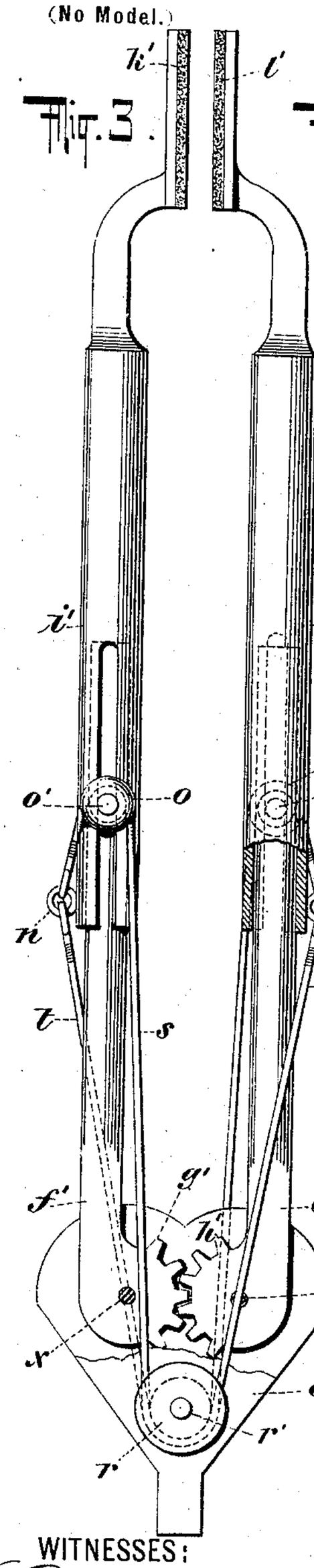


Fig. 2.

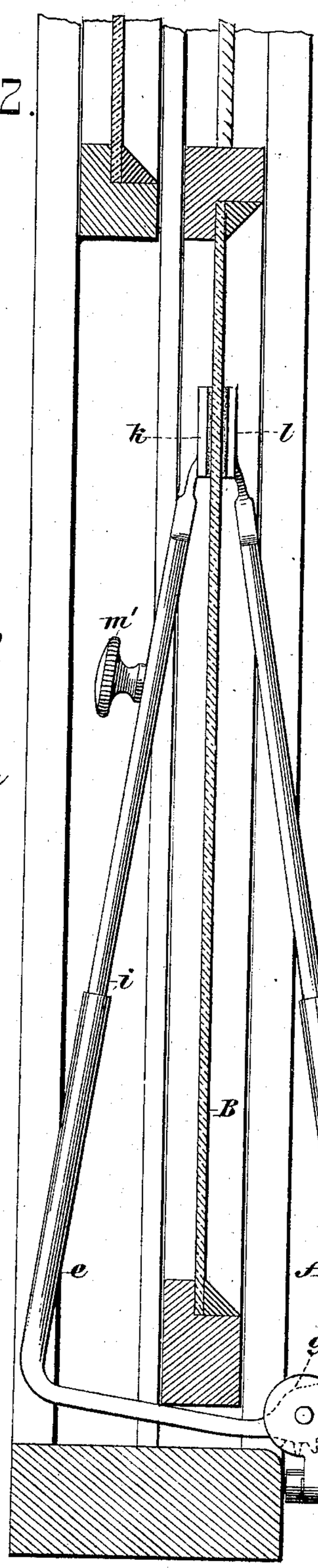
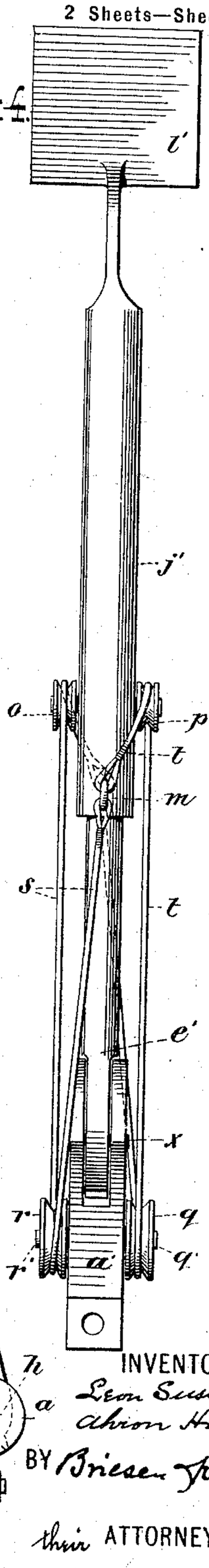


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEON SUSSMAN AND AHRON HILL, OF NEW YORK, N. Y.

WINDOW-CLEANER.

SPECIFICATION forming part of Letters Patent No. 610,205, dated September 6, 1898.

Application filed June 2, 1898. Serial No. 682,342. (No model.)

To all whom it may concern:

Be it known that we, LEON SUSSMAN, residing in the borough of Brooklyn, and AHRON HILL, residing at Greenpoint, borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Window-Cleaners, of which the following is a specification.

Our invention relates to window-cleaners, and has for its object to produce a simple and efficient device which will clean both sides of the window at once and which will not involve the necessity of going outside of the building in order to effect the cleaning of the outside of the window. It is well known that a great many accidents are due to the practice of cleaning windows from the outside. These accidents might well be avoided if proper apparatus were employed for the purpose.

Our invention will be understood by referring to the accompanying drawings, in which—

Figure 1 is an elevation of a window provided with a cleaner embodying our invention. Fig. 2 is a section thereof on line 2 2 of Fig. 1, the said figure being on a somewhat larger scale than Fig. 1. Fig. 3 is a front elevation, partly broken away, of another form in which our invention may be clothed; and Fig. 4 is a side elevation thereof.

Referring particularly to Figs. 1 and 2, *a* is a suitable mounting, which is preferably pivoted at *b* to a rod or support *c*, which is pivoted at *d* to the window-casing A. A pair of arms *e f* are pivoted to the mounting *a* and are provided with gears *g h*, which mesh with each other, so that the two arms may be brought together or separated. The arms *e f* are shown as hollow and receive rods *i j*, which slide freely in the said hollow arms, being frictionally held in their adjusted positions and are adjustable therein. The rods *i j* are each provided with a rubber or cleaner *k l*, which rubbers are adapted to engage opposite sides of a window-pane B in order to clean the same. It will readily be observed that the pivots *b d* permit the cleaner to be moved around, and the gears *g h* provide for a tight grip of the pane—that is to say, if the rubber *k* be pressed against the pane by the handle *m'* the rubber *l* will likewise be pressed against its side of the pane by reason of the fact that the gears *g h* mesh with each other.

In Figs. 3 and 4 we have shown a cleaner embodying our invention wherein the pivoted arms are rendered adjustable one from the other. In these figures the mounting is represented by the letter *a'*. To this mounting the arms *e' f'* are pivoted by pivots *x*. The arms *e' f'* have the usual gears *g' h'*, meshing with each other, as in the former case. The arms *e' f'* have the adjustable members *i' j'*, as in the former case; but these adjustable members are shown in Figs. 3 and 4 as tubular for variety's sake and carry the usual rubbers *k' l'*. The operation of the structure shown in Figs. 3 and 4 is similar to that shown in the remaining figures. However, in the remaining figures we have shown means whereby the members *i' j'* may be adjusted each from the other. To this end the member *j* is provided with a ring *m* or other fastener, the member *i* being likewise provided with a ring or fastener *n*. The non-adjustable members of the arm are each shown as provided with rollers *o p*. The mounting is likewise shown as provided with rollers *q r*. All these rollers *o p q r* are shown as pulleys running upon gibs or axles *o' p' q' r'*, the movable members *i' j'* of the arms carrying the rubbers being preferably slotted in order to admit them to slide over the non-adjustable members *f' e'*. The ring *m* on the adjustable member *j'* is connected to the ring *n* on the adjustable member *i'* by bands or flexible connections in the following manner: The band *s* is connected at one end to the ring *m*, thence runs downward and passes around the pulley *r* on the mounting *a'*, thence upward and around the pulley *o* on the arm *f'*, thence downward, where it is secured at its opposite end to the ring *n*. Another band *t* is connected at one end to the ring *m*, thence passes upward and around the pulley *p*, thence downward around the pulley *q*, thence upward, and is secured by its other end to the ring *n*. It will be observed that moving the member *i'* downward will cause the said member to pull upon the cords *s* and *t*, and thereby cause the member *j'* to be moved downward.

By this means both the said adjustable members may be adjusted by adjusting one of them by hand.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a window-cleaner, the combination of a mounting pivoted to swing in a plane approximating the plane of the window-pane to be cleaned and a plurality of arms carrying rubbers and pivoted to the said mounting in a plane or planes at an angle to the pivotal plane of the mounting.

2. In a window-cleaner, the combination of a pivoted mounting, a plurality of arms carrying rubbers pivoted to the said mounting at an angle to the pivotal plane of the mounting, the said arms being operatively connected together so that the same may be pressed toward each other by the movement of one or the other of the said arms.

3. In a window-cleaner, the combination of a pivoted mounting, a plurality of arms pivoted to the said mounting and geared together, substantially as described, and rubbers mounted upon the said arms, whereby the arms will be adapted to grasp and rub the window-pane between them, substantially as described and for the purposes set forth.

4. In a window-cleaner, the combination of a mounting, a plurality of arms pivoted thereto, the said arms comprising adjustable members and rubbers carried by the said adjustable members, whereby the said arms will be adapted to rub opposite sides of a window-pane and a mechanical connection intervening between the said arms, whereby the movements of adjustment of one arm will be repeated by the other arm, substantially as described.

5. In a window-cleaner, the combination of a plurality of adjustable arms, a mounting pivotally connected to the said arms and means for adjusting one of the said arms from the other arm, substantially as described and for the purposes set forth.

6. In a window-cleaner, the combination of a pair of arms provided with means for adjusting one of the said arms from the other arm and carrying rubbers and adapted to grasp a window-pane between them, each of the said arms comprising two members, one of which is adjustable with respect to the other and a cord or band connection intervening between the adjustable members of the said arms for mutually adjusting the said adjustable members one from the other.

7. In a window-cleaner, the combination of a plurality of arms, each comprising two members one of which is adjustable with respect to the other, a connection intervening between the adjustable members of the said arms, whereby one adjustable member may be adjusted from the other adjustable member and a connection intervening between the arms, whereby one arm may be moved by the movement of the other, substantially as described and for the purposes set forth.

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Witnesses:
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