

(No Model.)

A. R. KOLB.
WINDOW CLEANER.

No. 487,888.

Patented Dec. 13, 1892.

Fig. 2.

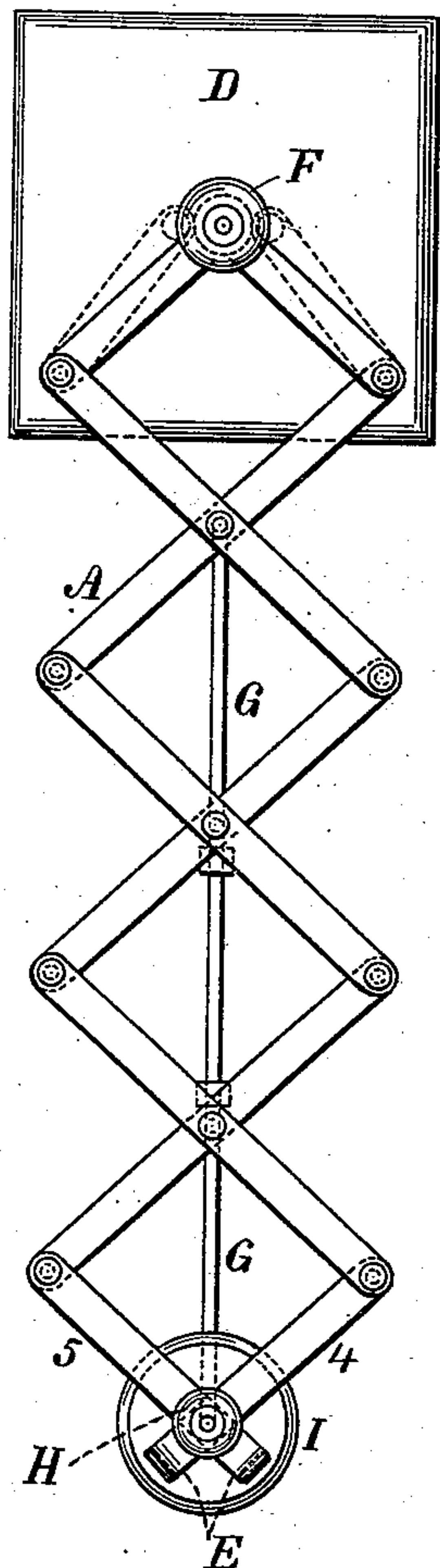


Fig. 1.

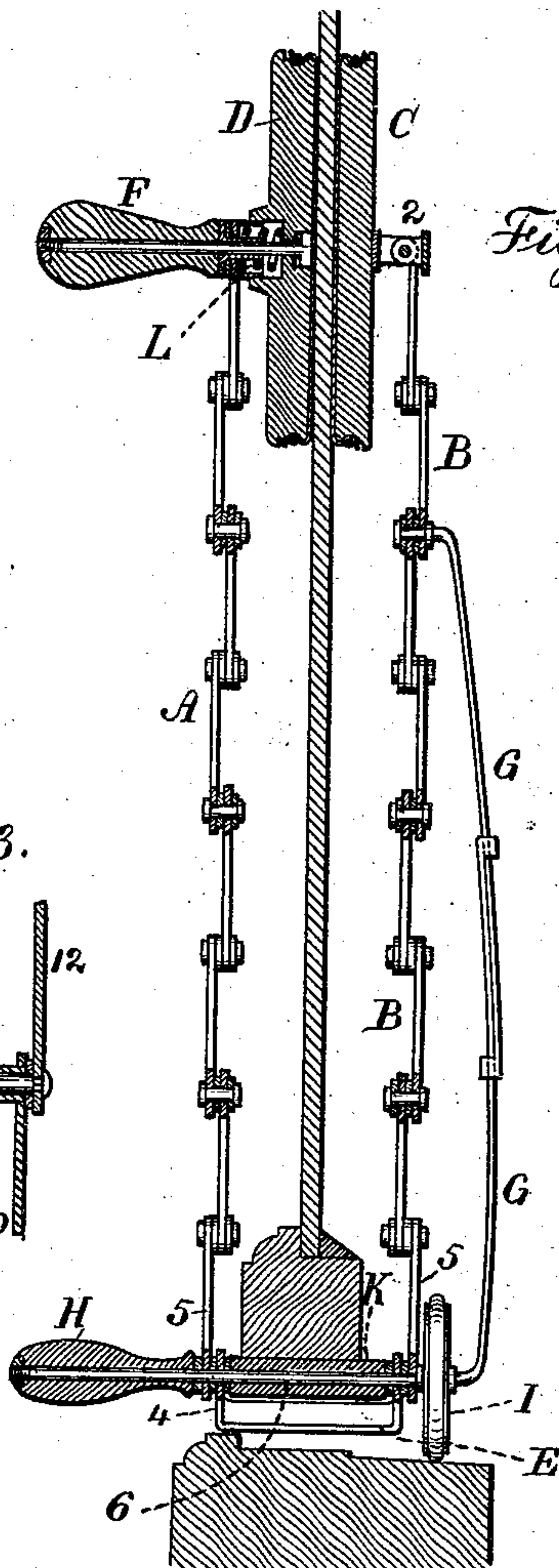


Fig. 3.

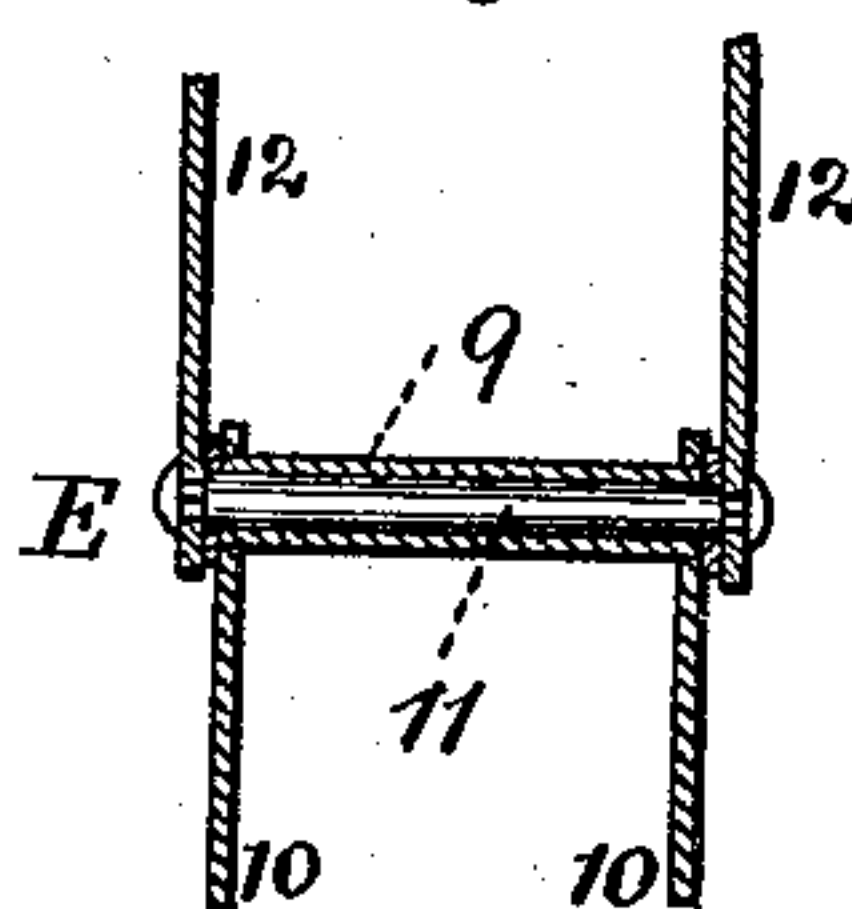


Fig. 4.

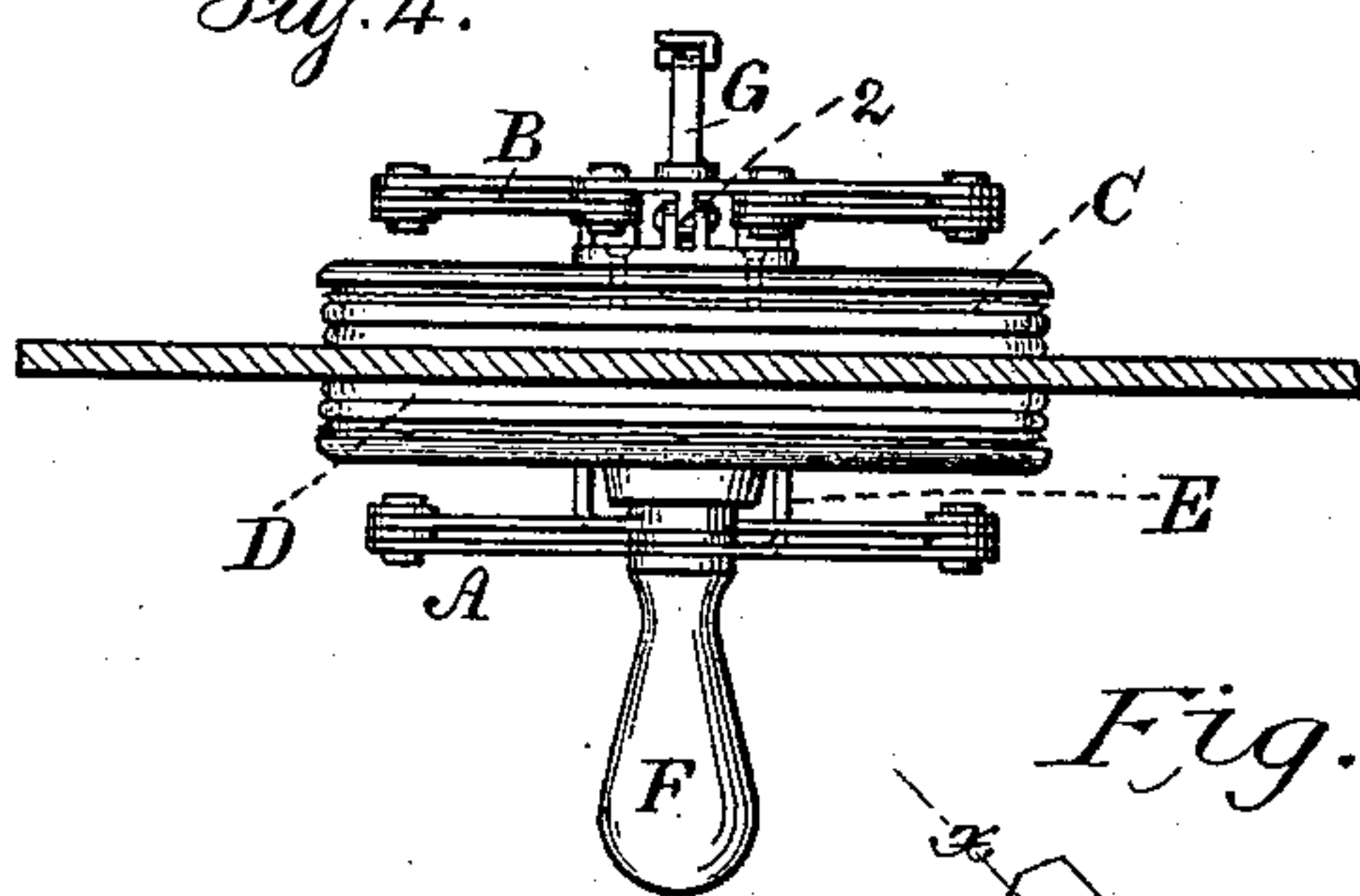


Fig. 5.

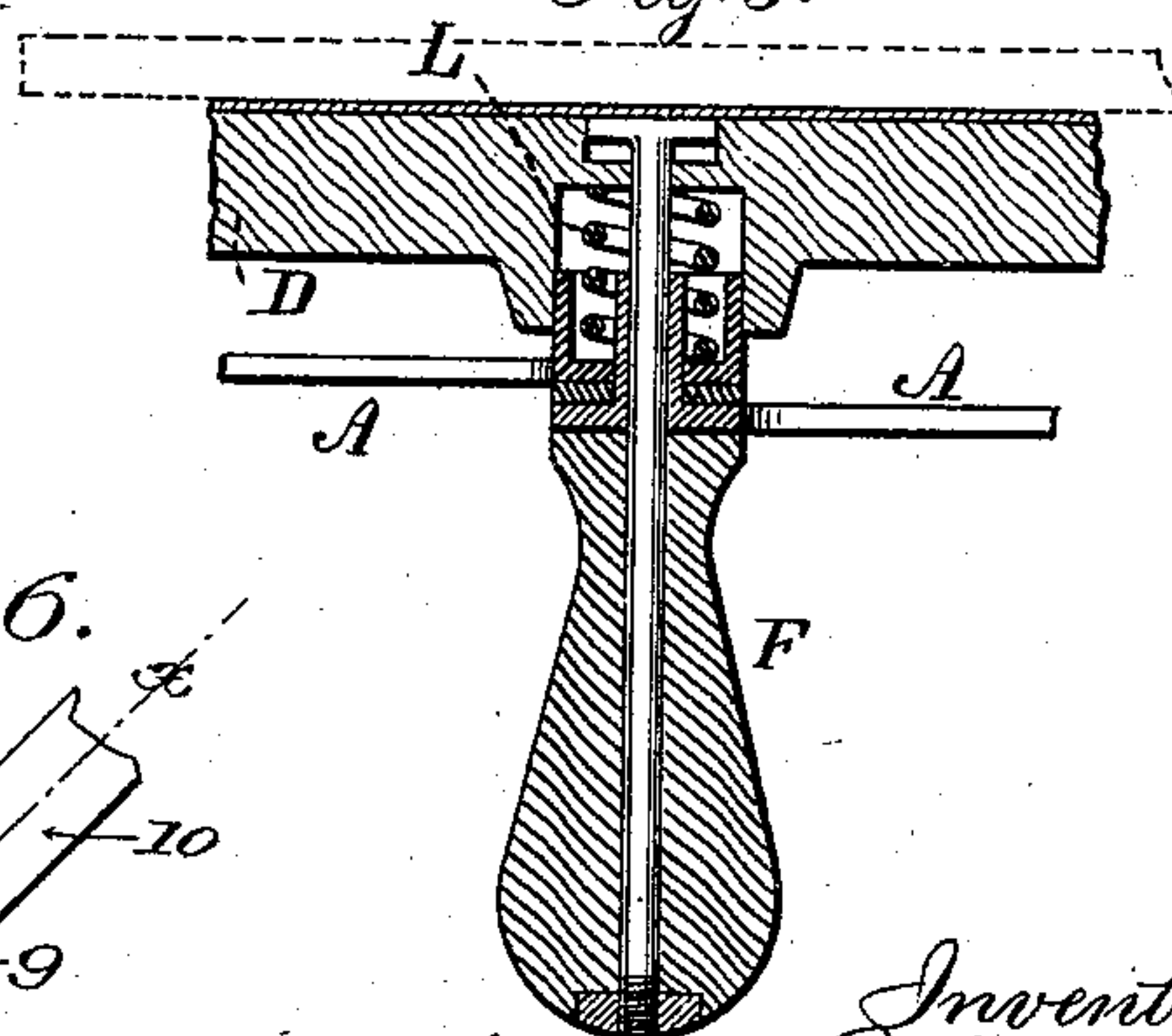
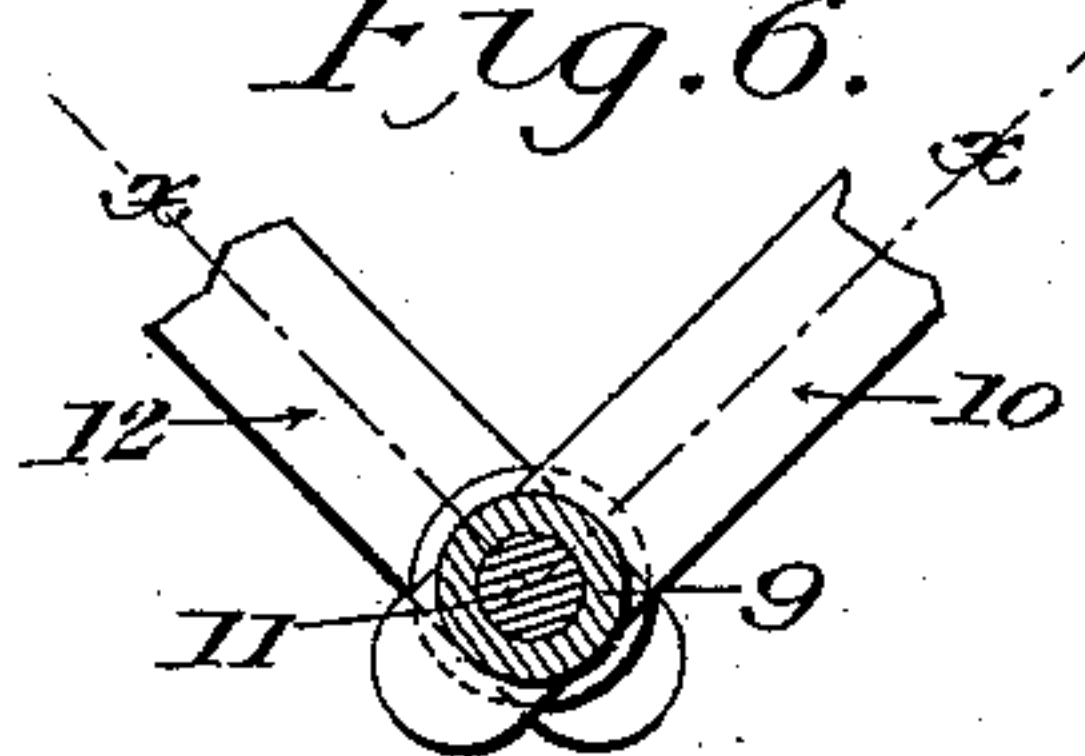


Fig. 6.



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WINDOW-CLEANER.

SPECIFICATION forming part of Letters Patent No. 487,888, dated December 13, 1892.

Application filed February 4, 1892. Serial No. 420,327. (No model.)

To all whom it may concern:

Be it known that I, AUGUST R. KOLB, a citizen of the United States, residing in the city and State of New York, have invented an Improvement in Window-Cleaners, of which the following is a specification.

Difficulty is experienced in cleaning the outer surfaces of the glass of windows, especially in cold weather, and sashes are often too large to allow the center portions of the glass to be conveniently reached by the arm and hand from above or below such sash. Holding devices for cleaners have been made to act at both sides of the glass simultaneously; but these have not been adapted to pass up between one sash and the other, and in consequence of the construction of these cleaners it has been necessary to have one sash raised or depressed to a considerable extent during the cleaning operation.

The object of the present invention is to connect the two cleaning devices, so that they can be moved simultaneously outside and inside the glass with the sash nearly closed to its place, thereby allowing for the upper part of one of the cleaning-pads passing in between one sash and the other sufficiently to reach all parts of the glass.

In the drawings, Figure 1 is a vertical section of a sash, representing the cleaning device in position for use. Fig. 2 is an elevation of such cleaning device; and Fig. 3 is a section at the line xx , Fig. 6, through the connection between the two parts of the cleaner, representing a modification of such device. Fig. 4 is a plan view of the cleaning device with the window-pane in section. Fig. 5 is a detached section, in larger size, of the handle on the inside pad; and Fig. 6 is a section through the tube and rod of the modification shown in Fig. 3.

Extension-ladders, gates, and numerous devices have been made of a series of parallel cross-bars united together at their centers and ends and usually known as "lazy-tongs." The two portions of my cleaner are made upon this plan—that is to say, the bars or levers of the lazy-tongs A on one side and B on the other side are respectively connected together at the ends and middle portions—and there are cleaning-pads C and D at the end portions of the respective lazy-tongs A and B, and the

bars forming the lazy-tongs A and B are connected at E at their other ends, so that the lazy-tongs are opened or closed simultaneously, so that when the pad D inside the window is moved by hand the pad C outside the window is similarly moved through the agency of the two sets of lazy-tongs.

The pads C and D may be of any suitable character. I have represented them as flat, with grooved edges, so that a cloth, chamois, or other substance can be applied to the surface of each pad and secured thereto by a cord or elastic around and within the grooved edge, and either or both pads may be connected to the lazy-tongs by a hinged joint 2, so that the pad is free to accommodate itself to the plane of the glass, and the connection can be made of the hinge 2 to the pad at the end central pivot of the lazy-tong bars, or the connection may be made at two places by short bars, as indicated by the dotted lines, Fig. 2.

The lazy-tongs A and B are to be sufficiently far apart to allow for the thickness of the intervening sash, and the bars of the respective lazy-tongs are connected together at the opposite ends to the pads in any suitable manner, so that the lazy-tongs are opened and closed together.

In Figs. 1 and 2 the bars 4 and 5 are U-shaped and form the end members of the lazy-tongs A and B, such U-shaped bars being pivoted at 6. Hence when a movement of any extent is given to the ends of the bars 4 and 5 by the other bars in one of the lazy-tongs a similar movement is given to the bars of the other lazy-tongs. Hence it is only necessary to open the window sufficiently to pass one pad and its lazy-tongs outside the window, with the other pad against the inside of the glass, and nearly close the sash, only leaving sufficient space for the center portions of the U-shaped bars 4 and 5 to move freely, and in cleaning the glass the pads can be moved up and down with regularity and the cleaner slid along gradually across the sash, and in so doing the entire surface of the glass can be cleaned with rapidity, or the cleaners can be swung from side to side and extended or drawn down gradually until the entire surface of the glass has been properly wiped.

In Fig. 3 a modified connection between one set of lazy-tongs and the other is shown. In this the tube 9 is connected at its ends to the bars 10, and the rod 11, that passes through the tube 9, is connected at its ends to the bars 12. Thereby the tube 9 and its bars 10 form one U-shaped connection and the rod 11 and its bars 12 form the other U-shaped connection, and the rod 11 can turn in the tube 9 as the lazy-tongs are distended or contracted, and the operations heretofore described in moving the pads take place. There may be a handle F applied to the inner pad D.

Usually the spring of the lazy-tong bars will be sufficient to allow the pads to be drawn asunder in applying them to the sash and the pressure of the outer pad upon the glass is given by the spring of the bars; but when desired a spring of suitable character is employed, such as that hereinafter described.

It is advantageous to provide a handle at the lower end of the cleaner, as at H, so that the entire cleaner can be managed by the two hands, and where desired a wheel I, with or without a rubber tire, can be employed at the lower part of the lazy-tongs to rest on the window-sill and be rolled along thereon as the cleaning is performed, and a roller K may be applied at the end pivotal connection of the lazy-tongs to come into contact with the edge of the sash.

When desired the spring for pressing the outer cleaner against the glass may be made in two parts, as shown at G, the end of one part being looped around the body of the other part, so that the spring can be extended or shortened as the lazy-tongs are distended or contracted. This spring is shown as a flattened right-angular extension from the pivot-rod at the end crossing of the lazy-tong bars. A spring L may be applied to either or both pads, such spring acting between the pad and the joint of the lazy-tong bars, as

seen in Fig. 5, so as to press the pad to the glass with the desired force.

I claim as my invention—

1. The combination, with the cleaning-pads, of two sets of lazy-tong bars, each carrying at one end a pad and a connection at the other end between one set of lazy-tong bars and the other, so that the said lazy-tongs are distended or contracted simultaneously by moving one of the pads, substantially as set forth.

2. The combination, with the cleaning-pads, of two sets of lazy-tong bars with which such pads are connected and U-shaped connections between one set of lazy-tong bars and the other, substantially as set forth.

3. The combination, with two cleaning-pads, of lazy-tong bars with which the pads are connected, U-shaped bars connecting the respective sets of lazy-tongs, and a spring to press the outer pad upon the glass, substantially as set forth.

4. The combination, with the lazy-tong bars and cleaners, of a wheel to bear upon the sill in the cleaning operation, substantially as specified.

5. The combination, with the cleaning-pads and lazy-tong bars, of a handle attached to one of the pads and a spring to press the pad to the glass, substantially as specified.

6. The combination, with the cleaning-pads and lazy-tong bars, of a handle adjacent to and connected with one pad and a handle near the junction of the sets of lazy-tong bars, substantially as specified.

7. The combination, with the lazy-tong bars and cleaners, of a roller to bear upon the lower edge of the sash in the cleaning operation, substantially as specified.

Signed by me this 1st day of February, 1892.

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Witnesses:

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