

No. 606,995.

Patented July 5, 1898.

J. KIRCHMER, JR.
WINDOW CLEANER.

(Application filed Oct. 15, 1897.)

(No Model.)

Fig. 1.

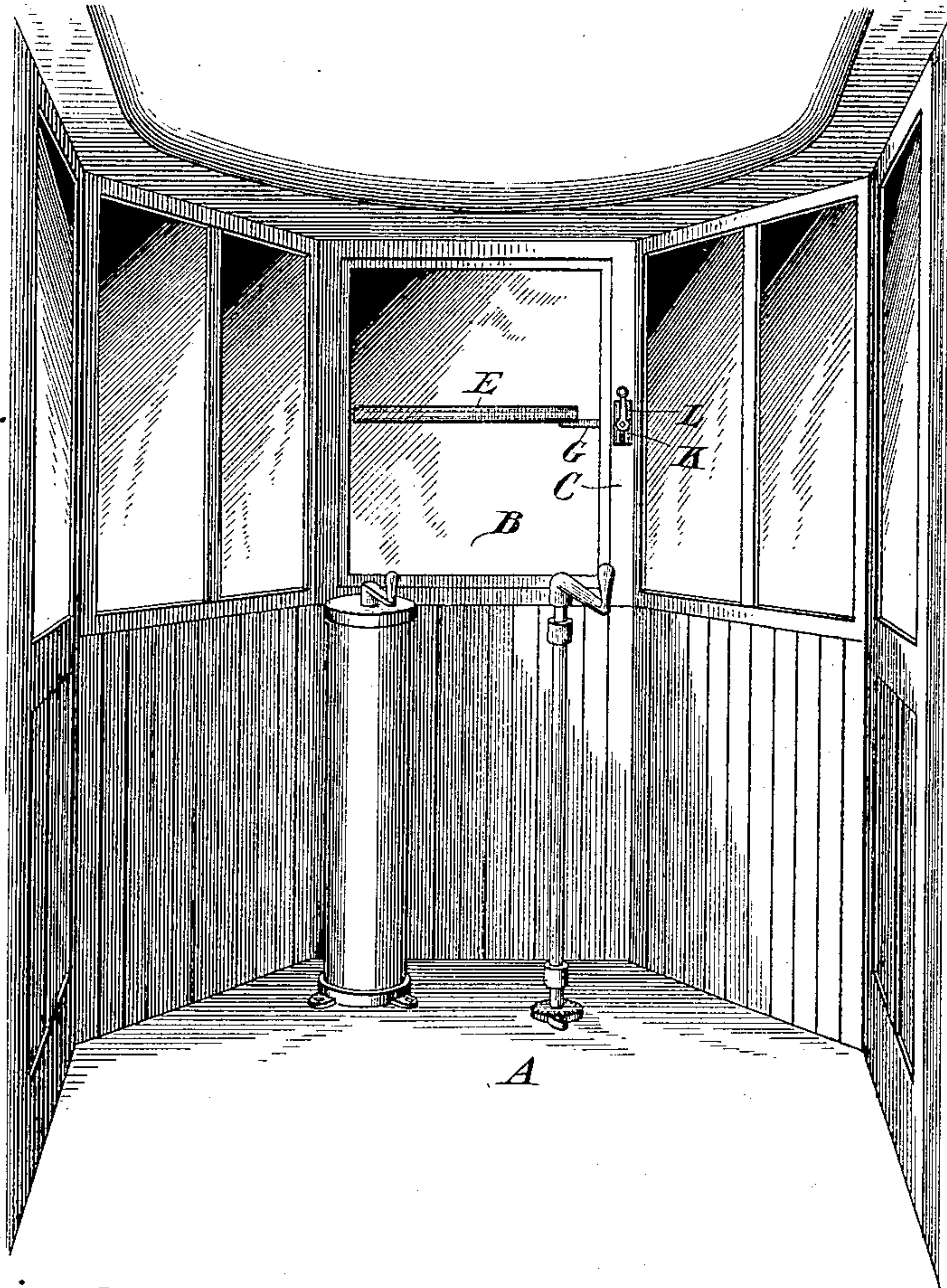


Fig. 2.

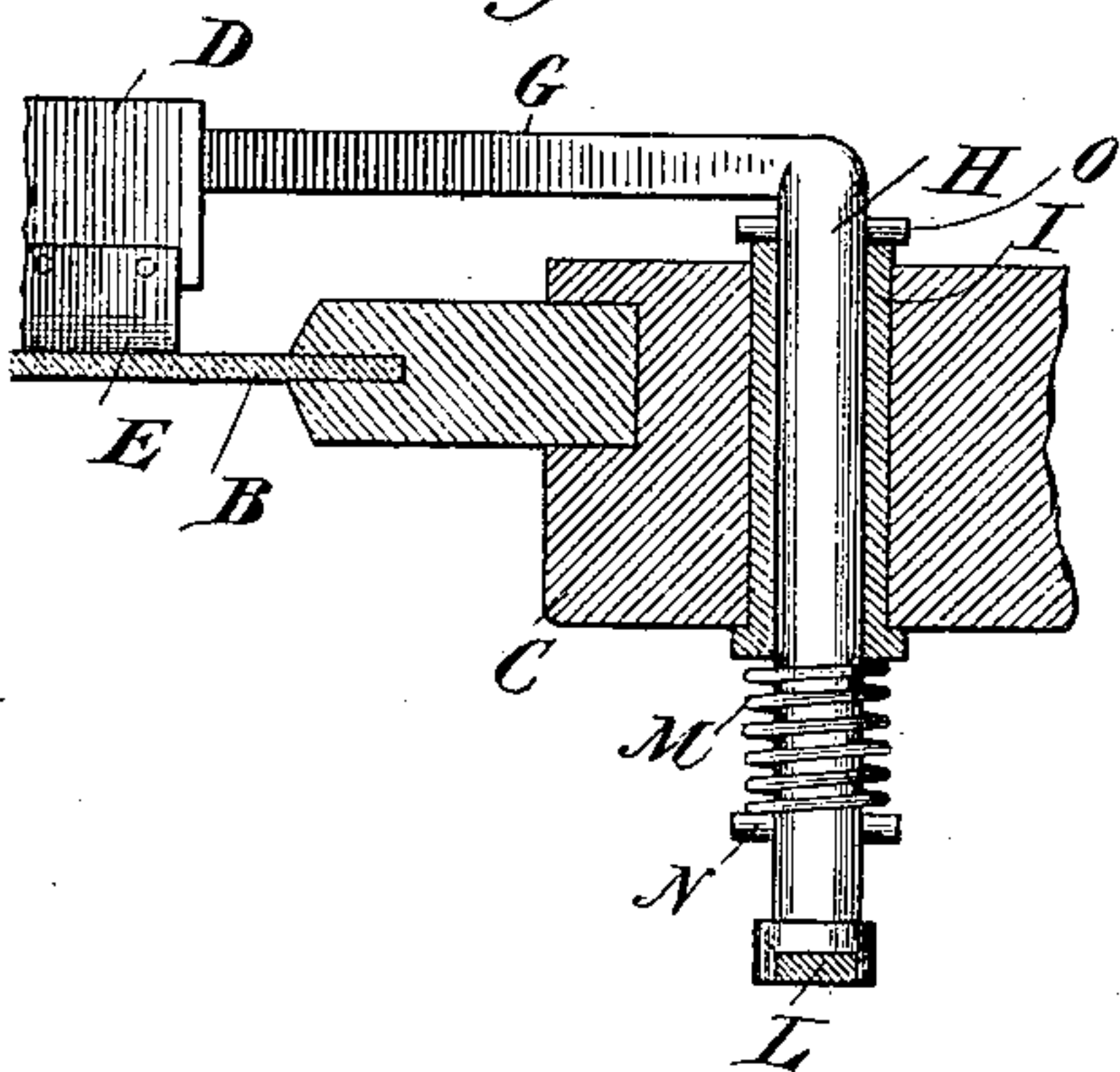


Fig. 3.

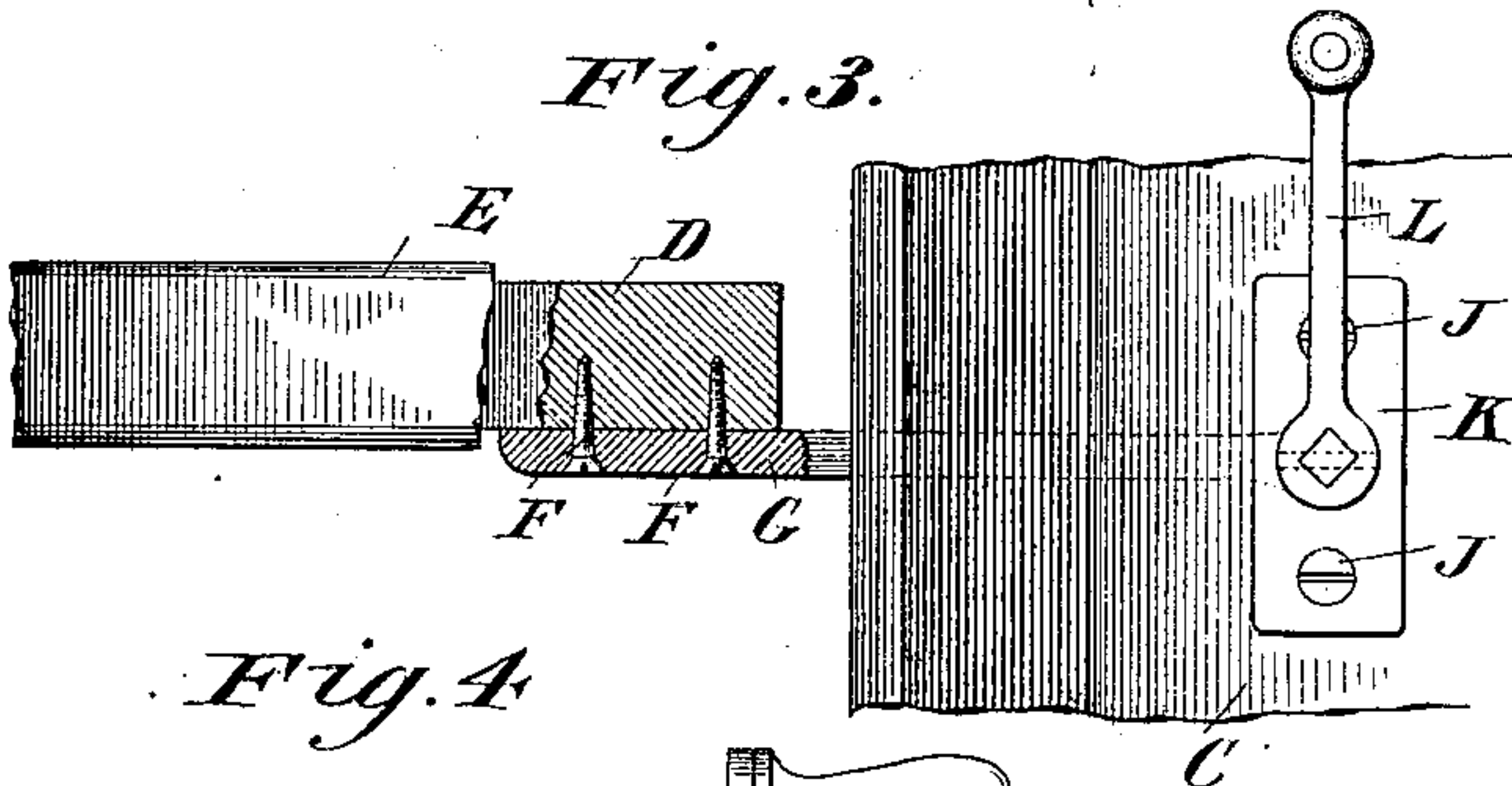
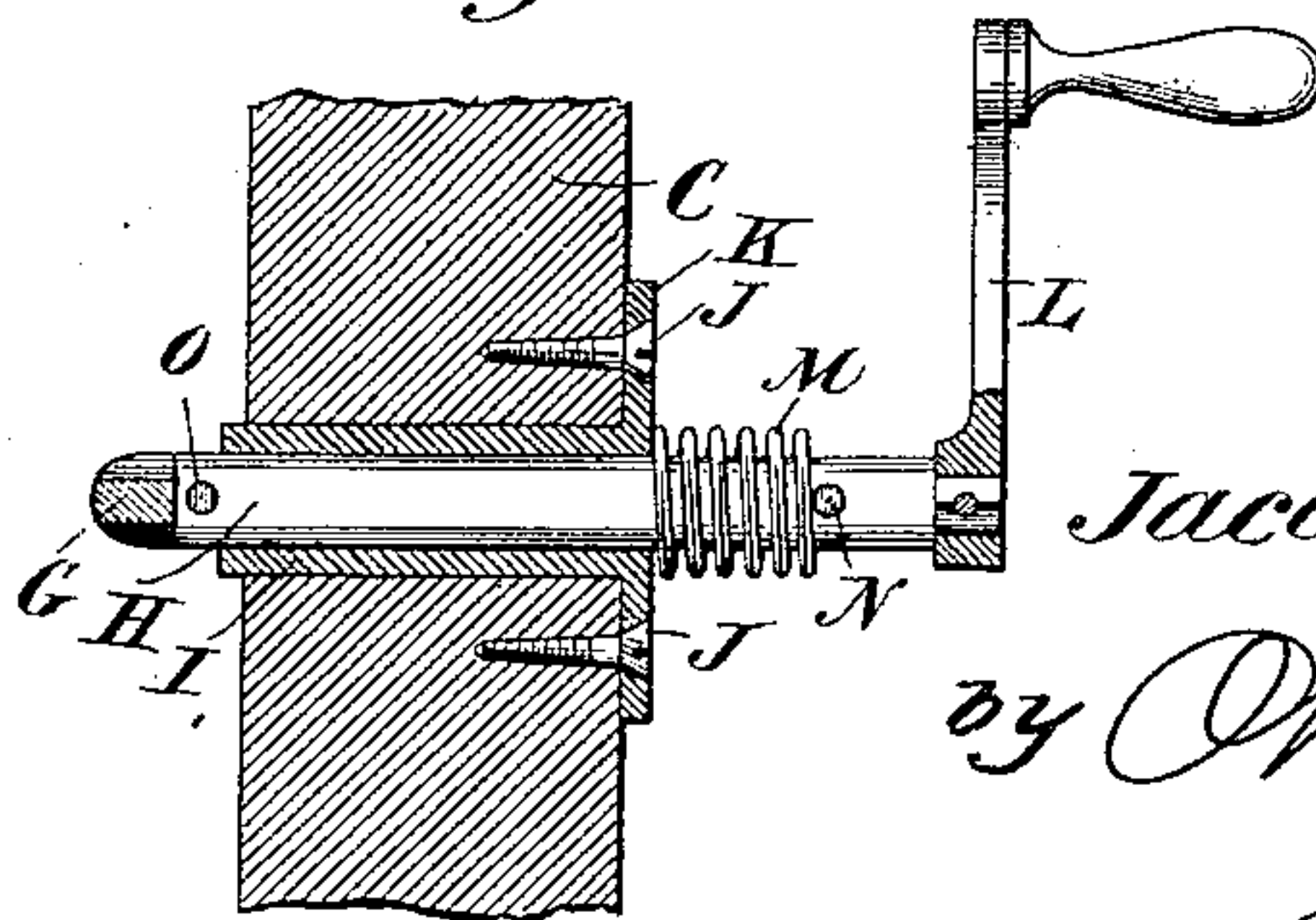


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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WINDOW-CLEANER.

SPECIFICATION forming part of Letters Patent No. 606,995, dated July 5, 1898.

Application filed October 15, 1897. Serial No. 655,306. (No model.)

To all whom it may concern:

Be it known that I, JACOB KIRCHMER, Jr., residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Vestibule-Cleaner, of which the following is a specification.

My invention is in the nature of a device for cleaning the snow and ice off the windows of the vestibules of electric or other cars, and has for its object to furnish the motorman with a device for this purpose operating upon the outside of the glass, but provided with means inside the vestibule for operating it.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the claim.

In order to enable persons skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, having reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the interior of a vestibule of an electric or other similar car. Fig. 2 is a fragmentary detail view, being a horizontal section through a portion of the window sash and frame on the plane passing through the center of the pivotal bar. Fig. 3 is a detail view, partly in elevation and partly in section, showing, on an enlarged scale, the inside of the frame in which the pivot is mounted and the adjacent window-sash and cleaner. Fig. 4 is a detail view, being a vertical section through the window-frame on the central line of the pivotal bar.

Like letters of reference mark the same parts wherever they occur in the different figures of the drawings.

Referring to the drawings by letters, A is the interior of a vestibule provided with the ordinary side and look-out windows, the latter being marked B and being inclosed in the frame C.

D is the body or main frame of my cleaner, and it is provided on its face with rubber E, which bears against the glass B of the look-out window on the outside.

The frame C of the cleaner is secured by

screws F to the bar G, which is projected at a right angle from the pivotal bar H, mounted in the thimble I, secured in an opening in the window-frame by means of screws J, passing through its flanged end K.

On the inner end of the bar H is provided a crank L for turning it, and a spring M, coiled around said bar, has its bearings against the flanged end of the thimble I and a thin peg N passing through the bar H. The pin O passes through the bar H on the outside of the window-frame and prevents the bar being pressed too far inward by the spring M.

In the operation of my invention the cleaner when properly set up will be pressed against the outside of the glass of the window B by means of spring M, whose normal tendency is by pressing against the thin peg to hold the cleaner thus in contact with the outside of the glass. By turning the crank L, which is located, as shown in Fig. 1, within easy reach of the hand of the motorman, the cleaner may be oscillated on the bar H over the outer surface of the glass, thus removing all snow and ice therefrom.

The advantages attending the use of my invention are numerous and will be obvious from the foregoing description.

As is well known, the front or look-out window must necessarily be clean enough to permit the motorman to see clearly ahead of the car. Otherwise the window would have to be opened, to the great discomfort of the motorman in cold weather. In such weather the accumulation of snow and ice on the outside of the window is such as to almost universally render it necessary in the most disagreeable weather to leave the window open. By the use of my invention all this difficulty is removed and the motorman by simply grasping the crank from the inside and moving it in the arc of a circle can quickly and easily clean the outer surface of the window, so that it may remain closed and protect him from the weather.

When my invention is in place upon a vestibule and it is desired to open the window, it is only necessary to turn the crank at right angles to the position shown in Fig. 1, which will cause the cleaner to lie in an upright position along the window, where it will not in-

terfere with the opening of the window or the removing of the sash. In turning the cleaner to this position the motorman will press the bar H outwardly against the action of the
5 spring M until the cleaner is removed a sufficient distance from the outside of the glass to swing clear of the window sash and frame into its vertical position, as before described.

While I have illustrated and described the
10 best means now known to me for carrying out my invention, I wish it to be understood that I do not restrict myself to the exact details of construction shown and described, but hold that any slight changes or variations such as
15 might suggest themselves to the ordinary mechanic would clearly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is— 20

The combination of the thimble I secured in the window-frame by screws J, the pivotal bar H, the handle L on the inner end of the pivotal bar within the vestibule, the spring M for normally holding the bar H in its nor- 25 mal position, the arm G extending at right angles to the outer end of the bar H, and the cleaner D mounted upon the outer end of said arm, substantially as described.

JACOB KIRCHMER, JR.

Witnesses:

IDA WINDISCH,
LOUISE MILLER.