(No Model.)

G. T. PETERS.

SASH BALANCE.

No. 479,657. Patented July 26, 1892.

Fig. 1.

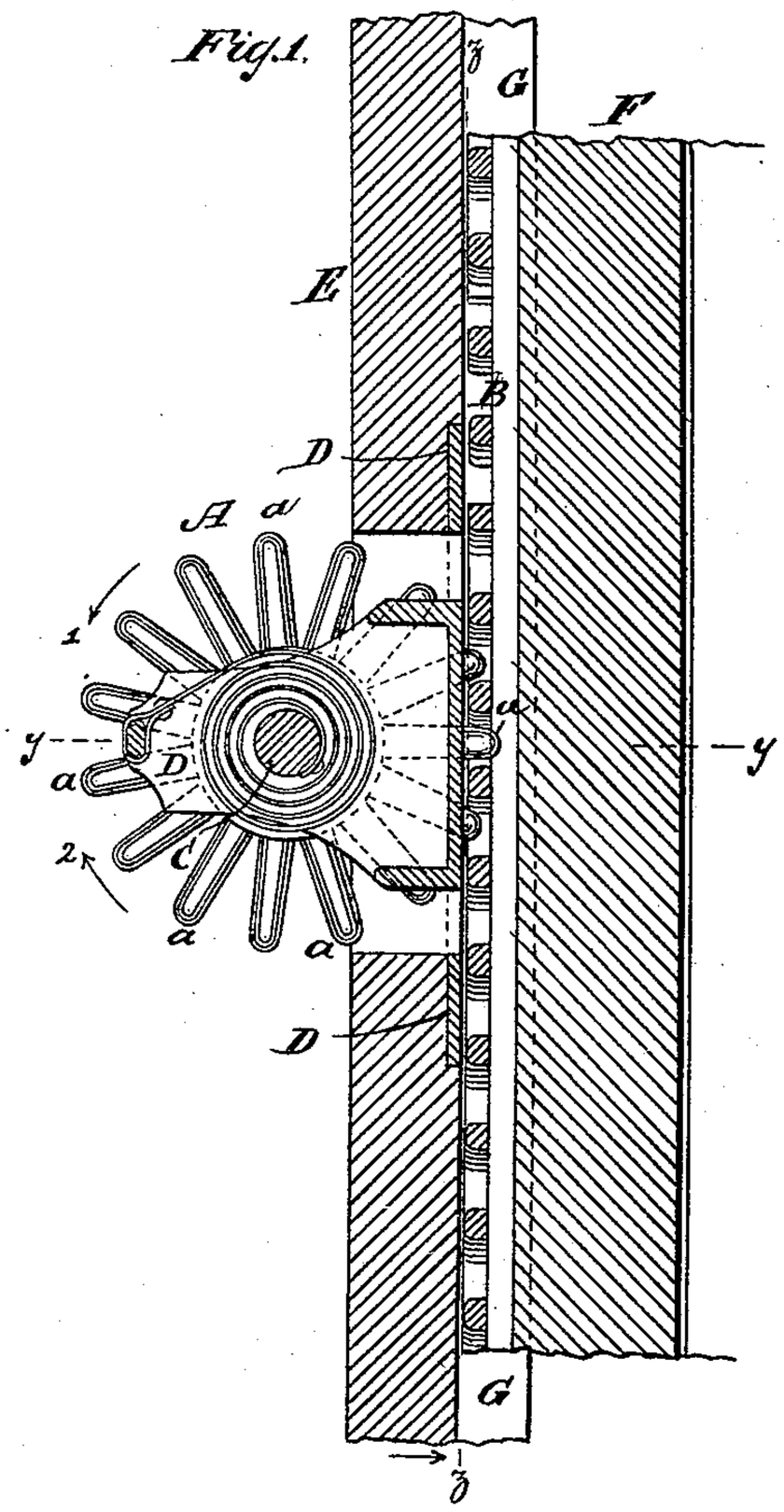


Fig. 3.

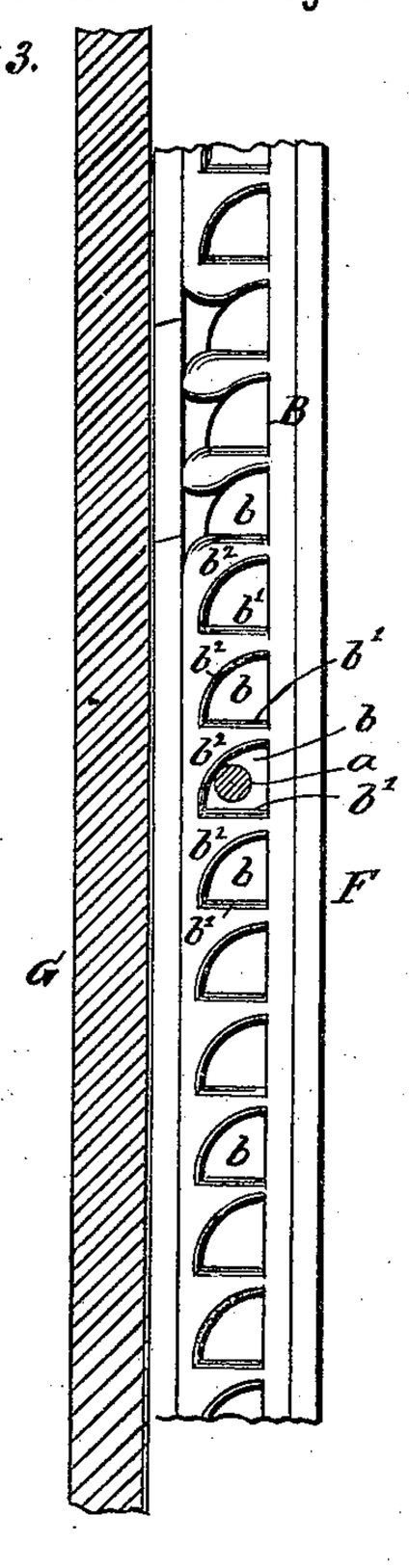
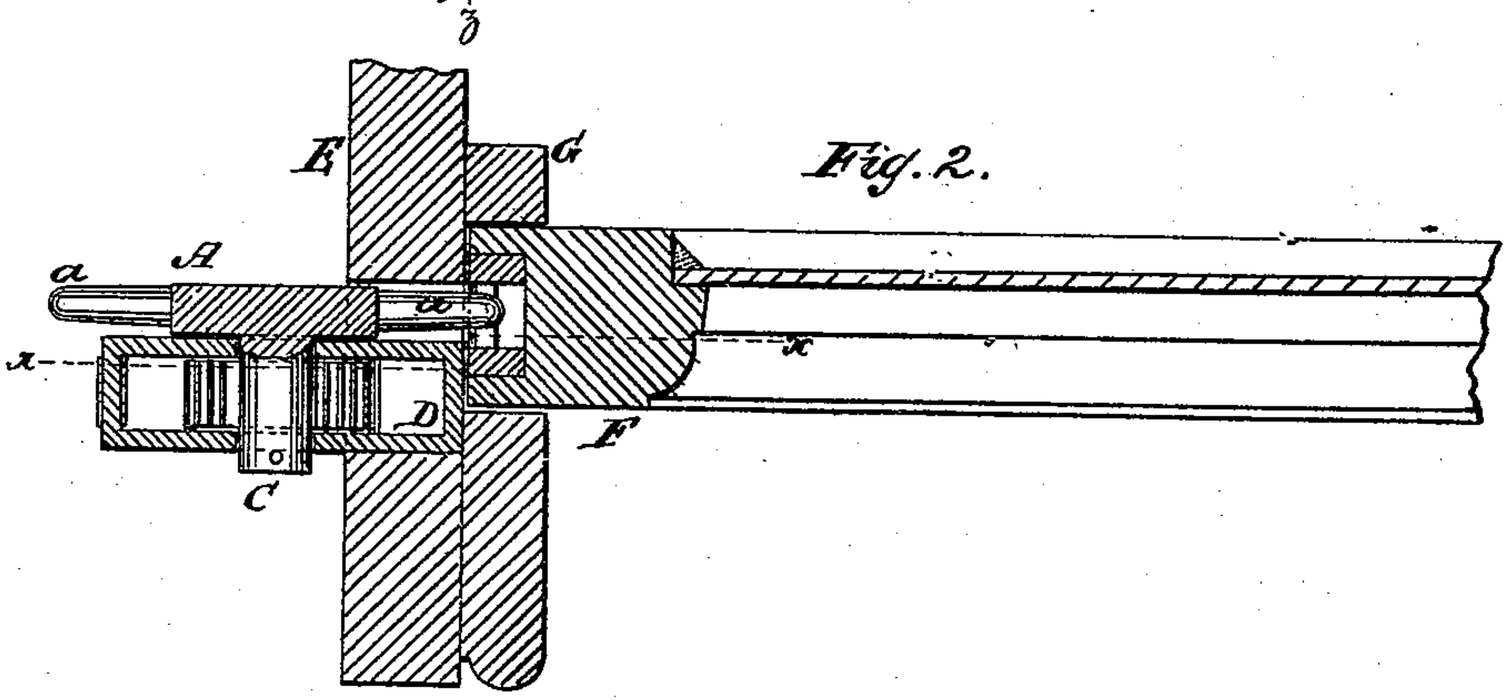


Fig. 2.



WITNESSES!

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE T. PETERS, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO HIMSELF AND CLIFFORD SHAW, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 479,657, dated July 26, 1892.

Application filed April 21, 1892. Serial No. 430,117. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. PETERS, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Rack-Bar and Gear Movements for Window-Sash and other Purposes, of which the following is a specification.

This invention relates to a rack-bar and gear movement composed of a cog-wheel with round or cylindrical spokes and a rack-bar with recesses having a rectilinear bottom edge and a quarter-circular top edge.

In the accompanying drawings, Figure 1 represents a vertical section of a window sash and frame provided with my rack-bar and gear movement, the plane of section being indicated by the line $x\ x$, Fig. 2. Fig. 2 is a horizontal section in the plane $y\ y$, Fig. 1. Fig. 3 is a vertical section in the plane $z\ z$, Fig. 1.

In the drawings the letter A designates a cog-wheel, the cogs of which are made in the form of round or cylindrical spokes $a\ a$, and B is a rack-bar, which is provided with recesses or openings $b\ b$, intended to engage the spokes $a\ a$ of the cog-wheel A. As seen in Fig. 3, the recesses are formed with rectilinear bottom edges b' and quarter-circular top edges b^2.

The cog-wheel A is mounted on a shaft C, which has its bearings in a bracket D, and when my rack-bar and gear movement is to be used as a sash-balance I secure the bracket D to the window-frame E, and the rack-bar is let into or secured to the edge of the sash F, so that when the sash is adjusted in the frame E the spokes a of the cog-wheel A engage the recesses b in the rack-bar B. When the cog-wheel is turned in the direction of arrow 1, Fig. 1, the spoke a which at the moment is in full action bears against the quarter-circular top edge b^2 of the recess b in the rack-bar B, and by the pressure exerted by the spoke on this quarter-circular edge the sash F is forced against the parting-strip G and held in close contact with the same by the weight of the sash itself when the motion of the wheel A stops, and at the same time the friction between the cog-wheel and the rack-bar is reduced to a minimum, since the contact of each of the round spokes a of my cog-wheel with rack-bar is reduced, practically, to a right line. When the cog-wheel is turned in the direction of arrow 2, Fig. 1, the sash remains in close contact with the parting-strip, and since the spokes a of the cog-wheel have considerable freedom of motion in the recesses b of the rack-bar B my movement is not disturbed by the warping or shrinking of the parts to which the same is attached.

What I claim as new, and desire to secure by Letters Patent, is—

A rack-bar and gear movement composed of a cog-wheel with round or cylindrical spokes and a rack-bar with recesses having a rectilinear bottom edge and a quarter-circular top edge, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE T. PETERS.

Witnesses:
WM. C. HAUFF,
E. F. KASTENHUBER.