

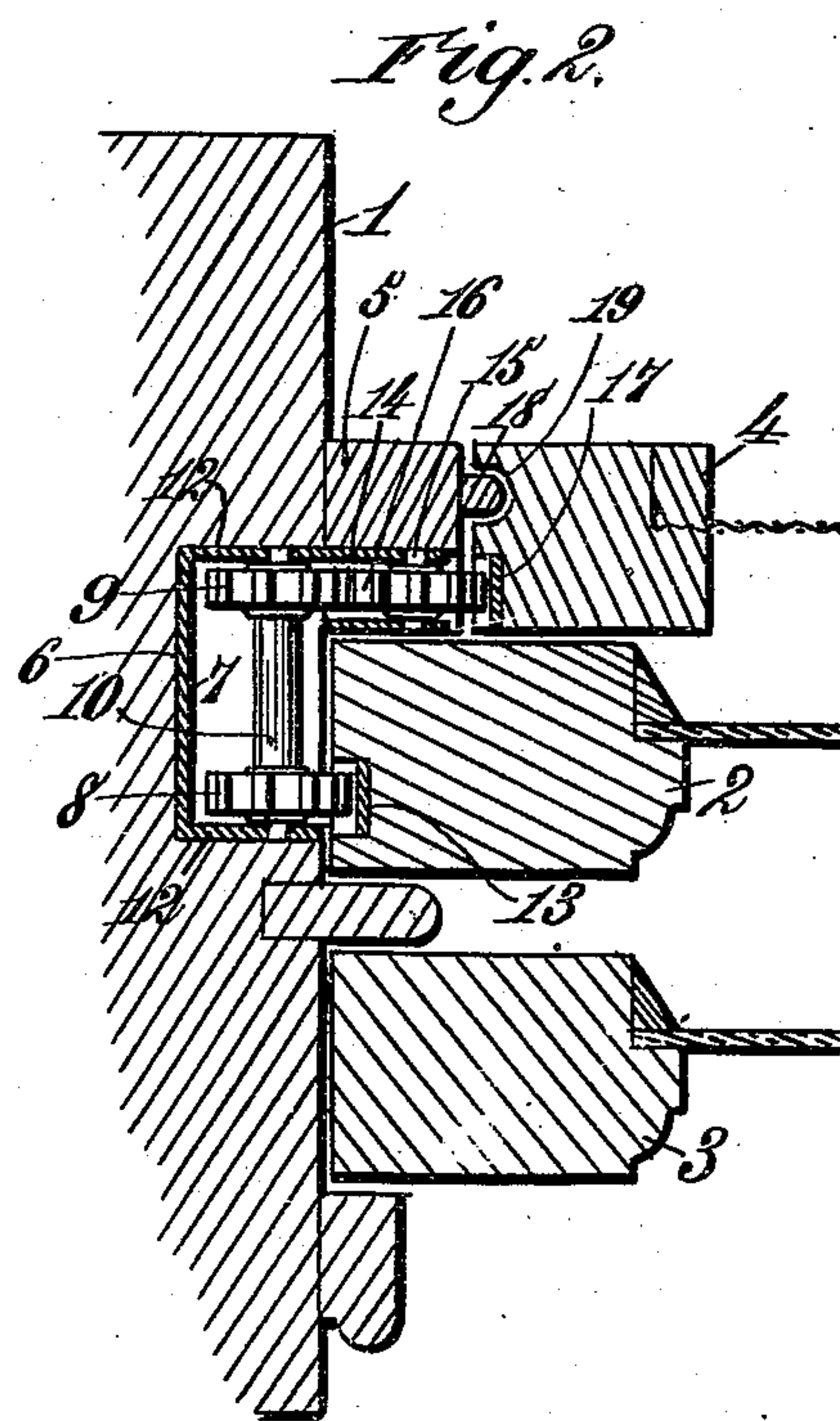
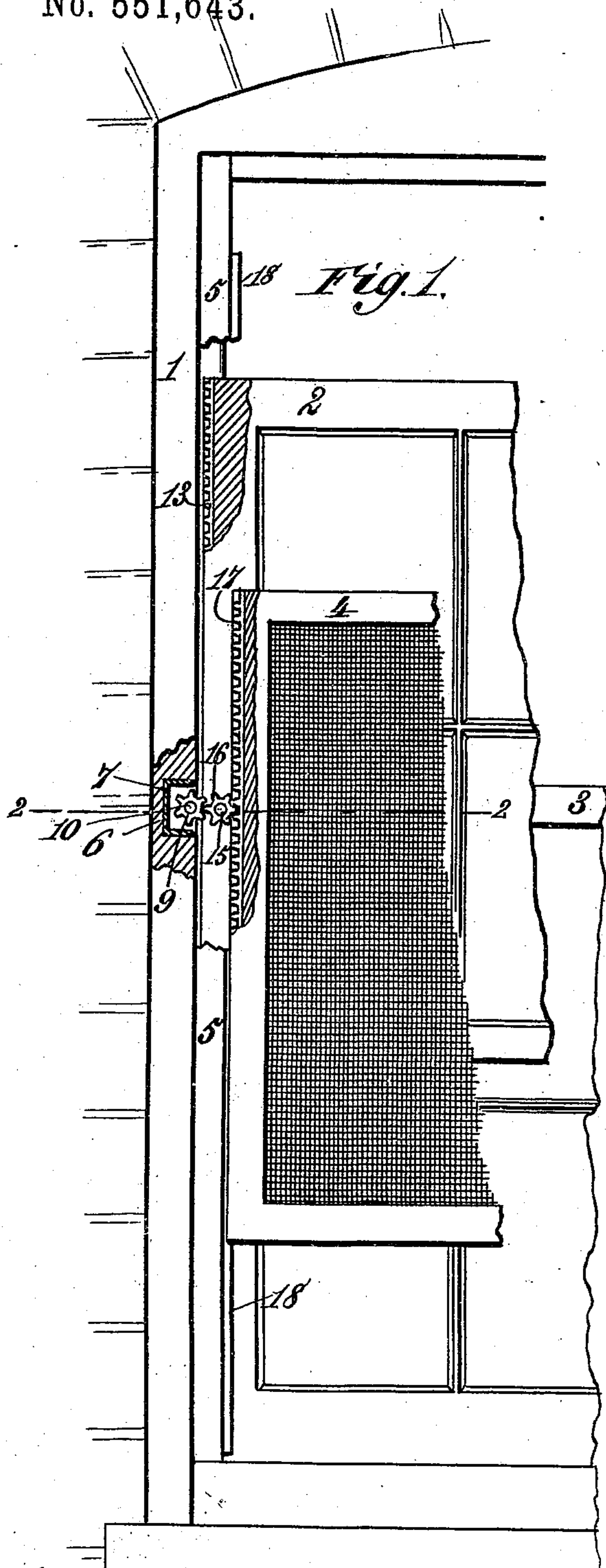
(No Model.)

F. S. LEARY.

SCREEN OPERATING MECHANISM FOR WINDOW SCREENS.

No. 551,643.

Patented Dec. 17, 1895.



Witnesses:
Robert G. Smith
Thos. A. Green

Inventor:
Frank S. Leary.
By James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

FRANK S. LEARY, OF CLEBURNE, TEXAS.

SCREEN-OPERATING MECHANISM FOR WINDOW-SCREENS.

SPECIFICATION forming part of Letters Patent No. 551,643, dated December 17, 1895.

Application filed June 20, 1895. Serial No. 553,446. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. LEARY, a citizen of the United States, residing at Cleburne, in the county of Johnson and State of Texas, have invented new and useful Improvements in Screen-Operating Mechanism for Window-Sashes, of which the following is a specification.

This invention relates to that type of window-screens which are raised by the movement of the upper window-sash frame by devices or means which, as ordinarily arranged, are exposed to view, detract from the desirable appearance of the window, and are therefore objectionable.

The objects of my invention are to avoid the objection alluded to, and to provide new and improved means whereby the window-screen is positively raised and lowered by gear connections with the upper-sash frame, and the gearing is so arranged and housed that it is entirely concealed from view, which is very desirable, while the movement of the upper sash in one direction moves the screen in the reverse direction, the construction being such that the motion-transmitting gearing does not in any manner interfere with the use of ordinary window-sashes balanced by weights or springs, or the use of sashes of which the upper one only is movable.

To accomplish these objects my invention consists essentially in the combination, with a window-frame, a movable sash, and a movable window-screen, of a pair of wheels rotated by the movement of the sash, and a motion-reversing wheel rotated by one of said pair of wheels and in engagement with the screen for raising and lowering the same as the sash is lowered and raised.

The invention also consists in the combination of a pair of pinions journaled in a chamber or recess in the window-jamb, a rack mounted on the edge of the movable sash-frame, a motion-reversing gear arranged in operative connection with one of said pinions, and a window-screen having a rack in operative connection with said gear, whereby the window-screen is positively raised when the upper sash is lowered and conversely.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a broken front elevation of suf-

ficient of a window-frame and adjuncts to enable my invention to be clearly understood; and Fig. 2 is an enlarged detail sectional view taken on the line 2 2, Fig. 1.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a jamb of a window-frame; 2, the upper sash; 3, the lower sash; 4, a vertically-movable window-screen, and 5 the ordinary blind-stop.

The window-frame, the sashes, and the screen may be of any ordinary construction suitable for the purpose in hand. The sashes may be balanced by weights or springs, or the lower sash may be a fixture and the upper sash only movable, if desired.

The window-jamb is constructed with a chamber or recess 6, of approximately rectangular form, and in this recess is arranged a metallic boxing or frame 7, of sufficient depth to receive a pair of pinions 8 and 9, which are rigidly secured to, or otherwise mounted upon, an axle or shaft 10, having its extremities journaled in the sides 12 of the metallic boxing or frame 7. The two pinions 8 and 9 are separated from each other, so that they can be placed in operative connection respectively with the upper sash 2 and the window-screen 4. For this purpose the upper sash is provided at one edge with a rack 13, set in a groove in the sash-frame, and engaging the teeth of the pinion 8. The boxing or housing 7 is constructed at one end with projecting cheek-pieces 14, supporting the axle or shaft 15 of a motion-reversing gear 16 which engages the pinion 9, and also engages a rack 17 secured in a groove in the edge of the window-screen 4.

The blind-stop 5 is provided with a vertical guide-rib 18 of any suitable form in cross-section, which enters into a groove or guide-way 19 in the edge of the sash near rack 17. The guide-rib 18 guides the window-screen in its vertical movements and retains it in proper position in the window-frame.

The motion-reversing gear 16 is employed for the purpose of reversing the direction of motion imparted by the pinion 9, so that by the lowering movement of the upper sash 2 the window-screen 4 is raised, and conversely

when the upper sash is raised the window-screen is lowered. The provision of the gearing described and shown causes the window-screen to be positively raised and lowered by the movement of the upper-sash frame.

The construction and arrangement of parts described and shown are such that the gearing does not in any manner interfere with the use of ordinary window-sashes balanced by weights or springs, or with the use of sashes of which the lower one only is movable.

The arrangement of the gearing as shown and described places it entirely out of view, so that it is invisible and does not detract from the desired general appearance of the window-frame sashes and screen, in which respect my invention is very advantageous, and is superior to prior exposed mechanisms for raising a window-screen by the movement of the upper-sash frame.

The gearing herein described and shown is composed of toothed wheels; but it will be obvious that instead of the wheels being provided with teeth, they may have smooth peripheries, one wheel, as 8, being rotated by frictional contact with the edge of the upper sash 2, and the other wheel 9 serving to rotate the wheel 16 by friction while the wheel 16 is in frictional contact with the window-screen 4, all of which will be obvious, and for which reason I do not deem it necessary to illustrate the same in the drawings.

I have only illustrated the gearing at one side of the window, but obviously the gearing can be duplicated at the opposite side, and this is preferable in order to secure a perfect and smooth operation of the window-screen.

Having thus described my invention, what I claim is—

1. The combination with a window-frame, a movable sash, and a movable window-screen, of a pair of wheels rotated by the movement of the sash, and a motion reversing wheel rotated by one of said pair of wheels and in engagement with the screen for raising and lowering the same as the sash is lowered and raised.

2. The combination of a pair of pinions journaled in a chamber or recess in the window-jamb, a rack mounted on the edge of the movable sash-frame, a motion reversing gear arranged in operative connection with one of said pinions, and a window-screen having a rack in operative connection with said gear, whereby the window-screen is positively raised when the upper sash is lowered and conversely.

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

FRANK S. LEARY.

Witnesses:

W. L. HALEY,
L. M. LAYTON.