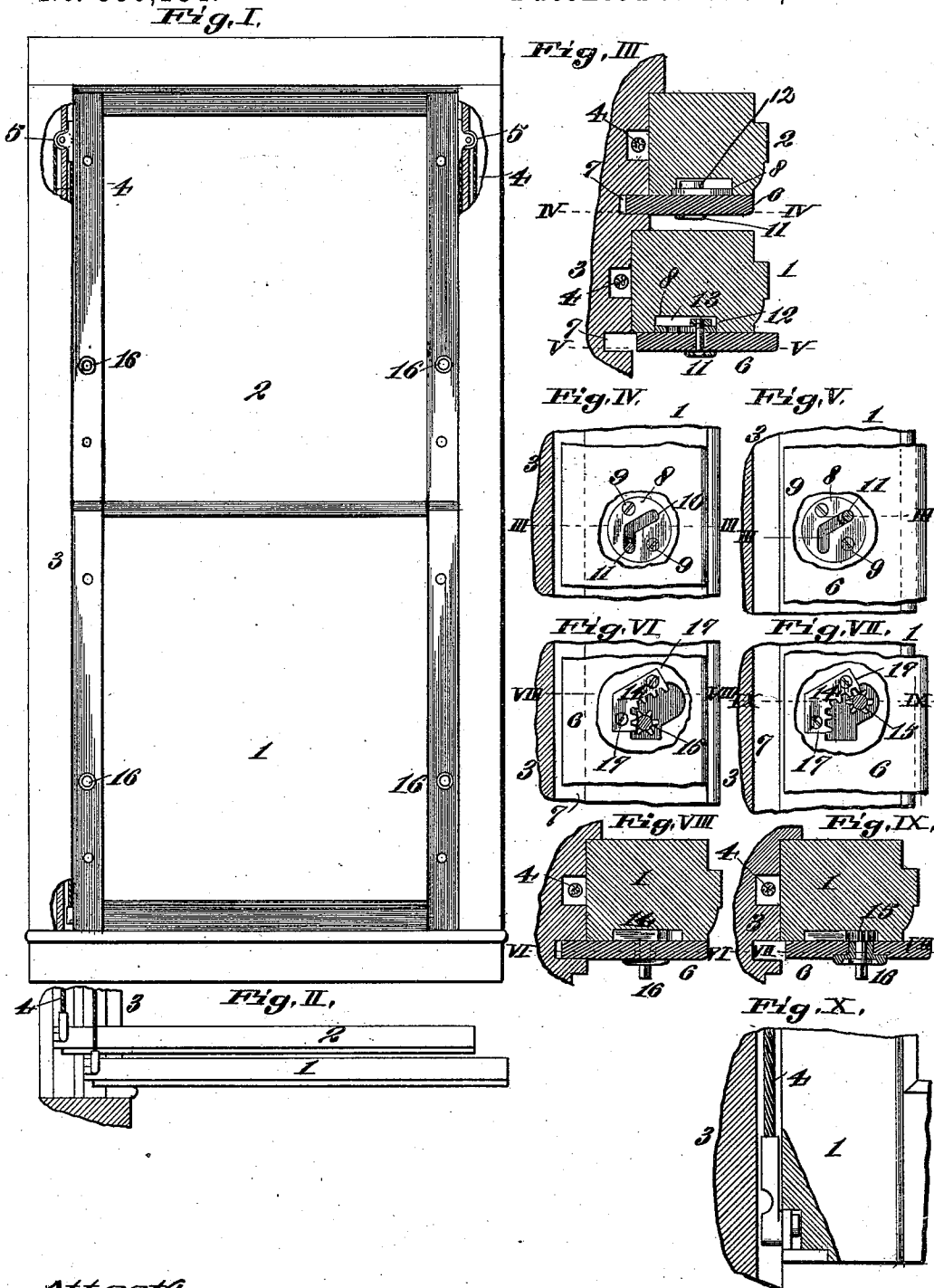


(No Model.)

J. LEHNBEUTER.
REMOVABLE WINDOW SASH.

No. 550,184.

Patented Nov. 19, 1895.



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UNITED STATES PATENT OFFICE.

JOSEPH LEHNBEUTER, OF ST. LOUIS, MISSOURI.

REMOVABLE WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 550,184, dated November 19, 1895.

Application filed November 21, 1894. Serial No. 529,445. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LEHNBEUTER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Removable Window-Sashes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improvement in removable window-sashes wherein strips are used to hold and guide the sash and to permit its removal from the frame when it is to be cleaned.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

Figure I is an elevation, part in section, illustrative of my invention. Fig. II shows part of the window-frame and shows the upper and lower sashes in their outer or cleaning position. Fig. III is an enlarged horizontal section, the upper half of the figure being taken on line III III, Fig. IV, and the lower half of the figure being taken on line III III, Fig. V, the slotted plate of Fig. IV, however, being shown in edge view in Fig. III. Fig. IV is a section taken on line IV IV, Fig. III, with a portion of the strip broken away. Fig. V is a similar view taken on line V V, Fig. III. Fig. VI is a section taken on line VI VI, Fig. VIII. Fig. VII is a section taken on line VII VII, Fig. IX. Fig. VIII is a section taken on line VIII VIII, Fig. VI. Fig. IX is a section taken on line IX IX, Fig. VII. Fig. X is a detail side view, part in section.

Referring to the drawings, 1 represents the lower, and 2 the upper, sash of a window. 3 represents the window-frame.

4 represents the weight-cords passing over pulleys 5, as usual.

6 represents strips, which in this instance are secured to and carried by the sash and are adapted to be moved into grooves 7, formed in the window-frame. The strips are so secured to the sash as to enable them to be moved into the grooves 7 of the window-frame, as shown in the upper part of Fig. III and in Figs. IV, VI, and VIII, when they serve to hold the sash in using position and to guide the sash in its vertical movement,

and the strips are capable of being moved out of engagement with the frame, as shown in the lower part of Fig. III and in Figs. V, VII, and IX, when the sash can be moved out of vertical position and into a position where it can be readily cleaned, as shown in Fig. II.

My preferred means of securing the strips to the window-sash is by means of plates 8, which I have shown in the form of disks, and which are secured to the sash by means of screws 9. These plates have angular slots 10 to receive pins 11, that pass through the strips 6, and on the inner ends of the pins are washers 65 or nuts 12, that fit in recesses 13 in the sash, as shown in the lower part of Fig. III. The plates and pins thus hold the strips to the sash, while the slots in the plates permit the strips to be moved into and out of engagement with the window-frame, as explained.

As a means for moving the strips I have shown them provided with racks 14, corresponding in shape to the slots 10, and which are engaged by pinions 15 on shafts that are provided with non-circular ends 16 to receive a suitable key. The pinions are carried by and located on the inside of the strips 6, and the racks 14 are secured to the window-sash by means of screws 17 or otherwise.

By utilizing the strip to hold and guide the sash when in using position and permitting the sash to be moved out into cleaning position I attain the advantages set forth in my application for patent filed herewith, and by securing the strips to the sash the work can be done at the factory, and all that is necessary to do in putting the sash in place is to form the groove in the frame.

I claim as my invention—

In a removable window sash, the combination of a sash, slotted plates secured to the sash, strips movably secured to the sash by means of pins fitting and working in the slots of said plates and means consisting of a rack of the same shape as the slots secured to the strips and a pinion carried by the sash and in engagement with the rack, for moving the strips substantially as and for the purpose set forth.

JOSEPH LEHNBEUTER.

In presence of—
E. S. KNIGHT,
W. FINLEY.