

(No Model.)

W. W. WRIGHT.
WINDOW.

No. 394,148.

Patented Dec. 4, 1888.

Fig. 1.

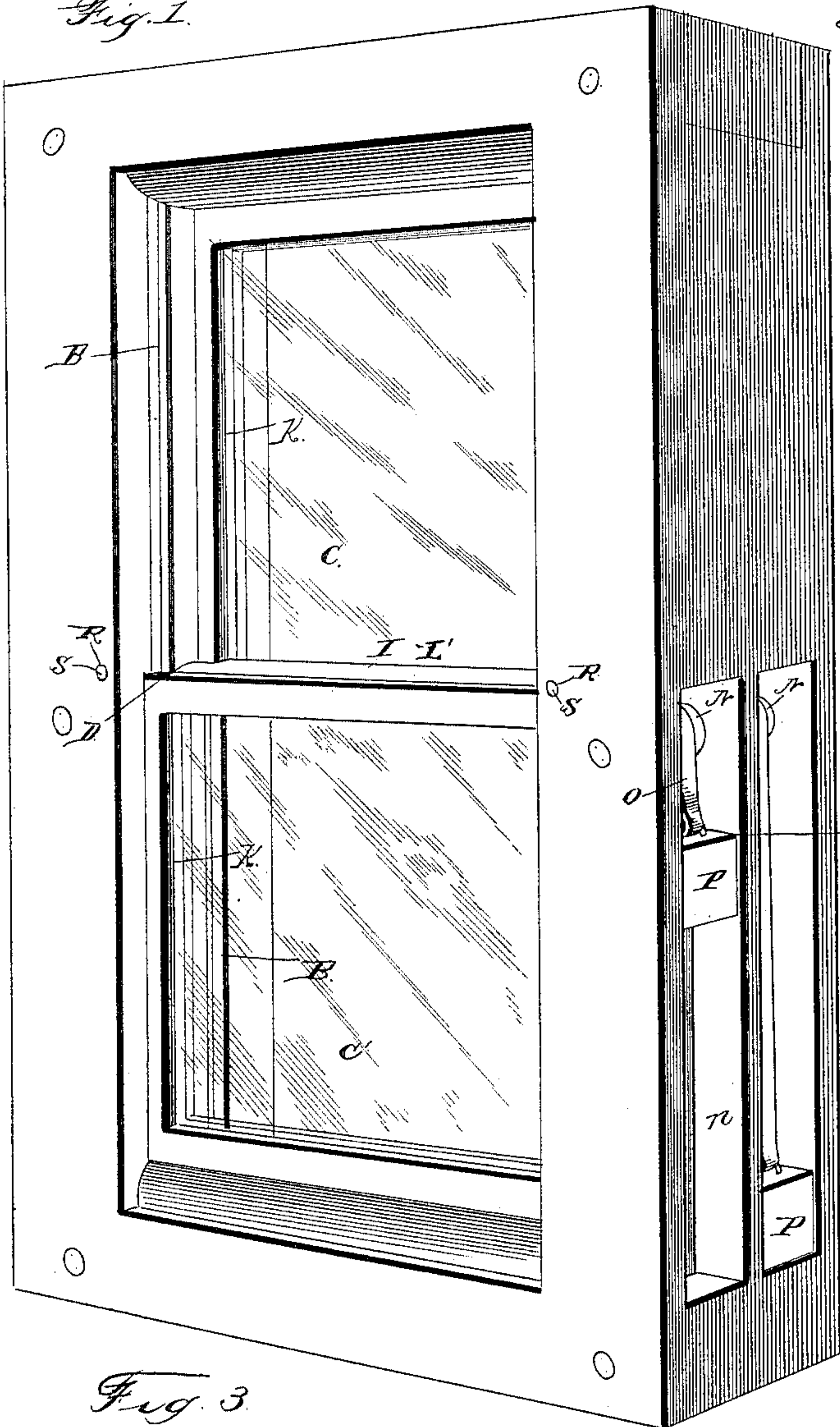


Fig. 2.

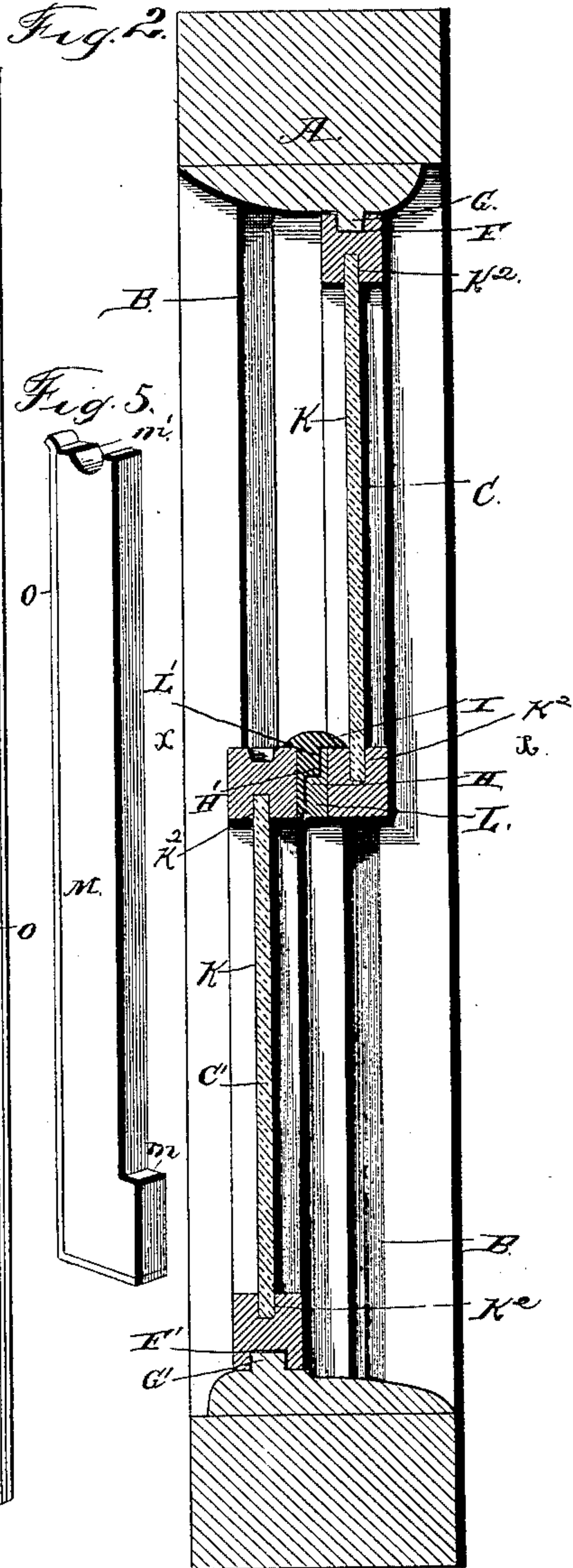


Fig. 3.

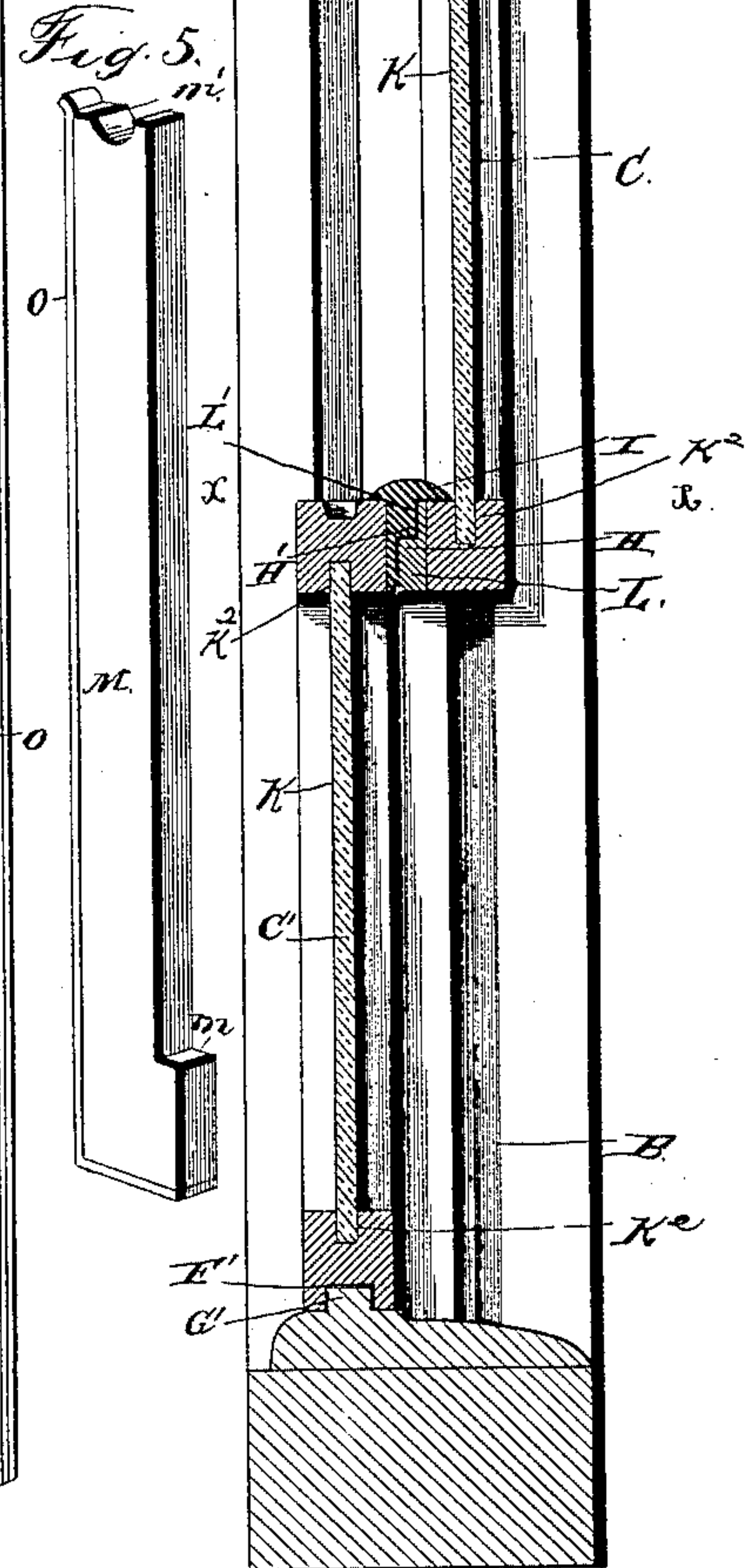
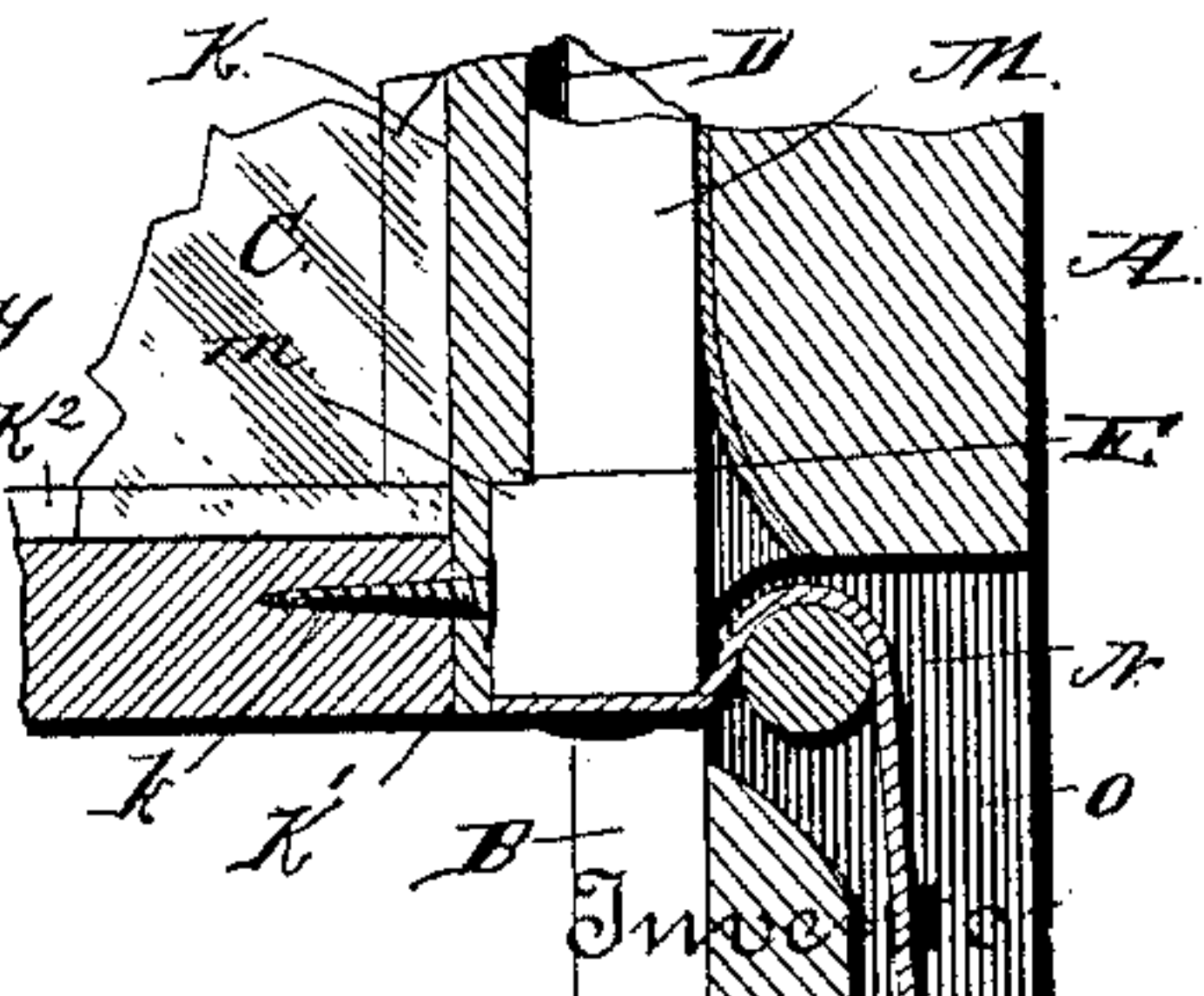
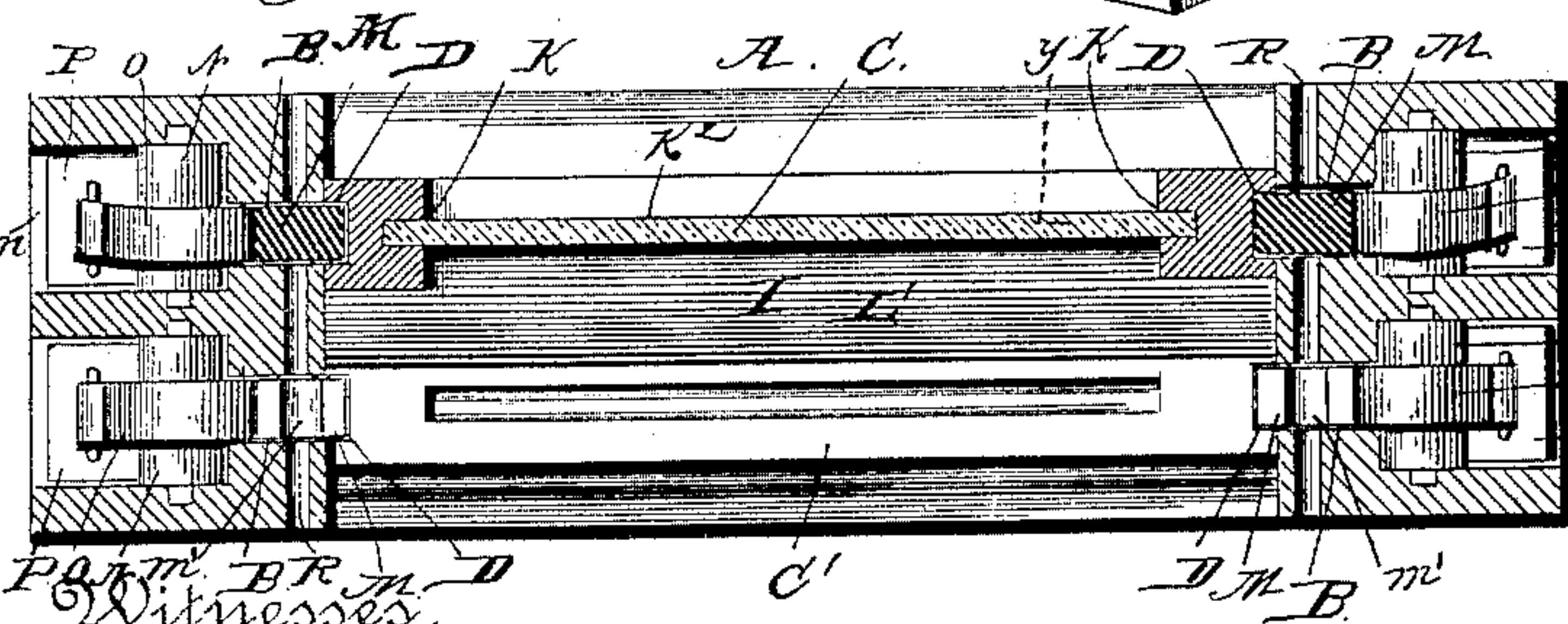


Fig. 4.



Witnesses.
Geo. H. Wright.
C. E. Wright.

Fig. 4. W. W. Wright
By his Attorneys
C. H. Snowdon.

UNITED STATES PATENT OFFICE.

WILLIAM W. WRIGHT, OF WILLINK, NEW YORK.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 394,148, dated December 4, 1888.

Application filed January 6, 1888. Serial No. 259,946. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WRIGHT, a citizen of the United States, residing at Willink, in the county of Erie and State of New York, have invented new and useful Improvements in Windows, of which the following is a specification.

My invention relates to improvements in windows, having for its objects to simplify and improve their construction; and it consists in a certain novel construction and combination of devices, hereinafter explained and fully illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the casement and sashes provided with my improvements. Fig. 2 is a central vertical section of the same. Fig. 3 is a horizontal section on line *x x* of Fig. 2. Fig. 4 is a detail section on line *y y* of Fig. 3. Fig. 5 is a detail view of a removable tongue.

Referring by letter to the drawings, A designates the casement, of any ordinary or preferred shape; but instead of providing outside and inside stay-beads and a parting-bead to form guide-grooves for the edges of the sashes I provide two vertical grooves, B B, in each side of the casement. These grooves are not wide enough to receive the edges of the sashes, however.

The upper and lower sashes, C C', are provided in their side edges with grooves D D of the same width as and aligned with the grooves B, and the lower ends of the said grooves D are provided with shoulders E E. The upper sash, C, is provided with a groove, F, in its upper edge to receive a rib, G, on the top of the casement, and the lower sash, C', is provided with a similar groove, F', on its lower edge to fit over a rigid rib, G', on the sill of the casement. It will be seen that when the upper sash is raised and the lower sash is lowered their upper and lower edges, respectively, form perfectly tight joints with the casement.

The meeting-rail of the upper sash is provided with a shoulder, H, on its inner side, and the meeting-rail of the lower sash is provided with a similar shoulder, H', on its outer side to engage or mesh with the shoulder H. The lower sash is further provided with an

outwardly-extending flange, I, which operates at its outer edge close to the glass of the upper sash, and when the sashes are in their closed positions closes down upon the meeting-rail of the upper sash. Thus a tight joint between the sashes is effected.

The frames of the sashes are constructed in a peculiar manner, as follows: The side bars are grooved in their inner edges, as seen at K, and are provided at their ends with recesses K', in which are fitted the ends of the horizontal upper and lower bars. The said upper and lower bars are also provided with grooves K² in their inner sides, and they are secured at their ends in the recesses K' by means of screws *k*, (or nails or their equivalents,) which are passed through the side bars and engaged in the ends of the upper and lower bars. To replace a broken pane of glass, therefore, it is only necessary to remove one of the upper or lower bars (by withdrawing the screws) and slide the pane into the grooves in the side bars.

The inner side of the lower bar of the upper sash is covered with a strip, L, having the shoulder H thereon, as before described, and the said lower bar of the sash and the strip L comprise the meeting-rail of the upper sash. The upper bar of the lower sash is covered on the outer side with a molding, L', having the shoulder H' and the flange I, and the said upper bar and the molding comprise the meeting-rail of the lower sash.

M M designate removable tongues, which are disposed in the outside grooves of the sashes, and they are provided with shoulders *m m* near their lower ends to engage the shoulders in the slots, thereby preventing the tongues from being raised out of the grooves, but allowing them to be slipped downward out of the same. The tongues are thus attached to the sashes and slide at their outer edges in the grooves in the casement.

N N represent pulleys mounted in recesses *n n*, which communicate with the grooves in the casement at about the center of the height of the said casement, and over these pulleys pass the straps O O. These straps (or cords may be used, although straps are preferred) are attached to the lower ends of the tongues M, and are provided on their outer ends with

counterbalancing-weights P P. These weights obviously draw the tongues upward, and consequently balance the sash.

The upper ends of the tongues are provided 5 with notches $m' m'$, and R represents horizontal bores which are formed in the sides of the casement and intersect the grooves B B at right angles. These bores are arranged just above the upper ends of the tongues M, 10 when the latter are in their lowered positions, and S S represent keys which are passed through the bores and engage in the notches in the ends of the tongues. Therefore, when it is desired to remove the sashes, draw them 15 down as far as possible, insert the keys over the tongues, slide the sashes up, (now independent of the tongues,) and remove them by inclining their upper edges either inward or outward. There is another advantage in hav- 20 ing the removable tongues besides that of allowing the sashes to be readily removed, and that is, the grooves in the casement being narrow, less air can penetrate than when the edges of the sashes operate in grooves. Fur- 25 ther, owing to the fact that the edges of the sashes overlap the grooves in the casement on both sides, shoulders are formed, around which it is almost impossible for the air or weather to pass.

30 It will be seen that in warm weather sash-frames containing a screen may be substituted for one or both of the sashes, or, if preferred, the glass may be removed from one of the sashes and a screen substituted therefor by 35 slipping its edges down into the grooves in the sides of the frame, thus allowing one frame to serve two purposes. The grooves in the sash-frames may be lined with felt, if desired, to cushion the glass and prevent it from 40 rattling and being broken when the sash is violently moved or jarred.

A further advantage of this window is that it is more readily, and hence cheaply, made. When beads are employed to guide the sashes, 45 the casement is grooved to receive the parting-bead, and this, as well as the outside and inside stay-beads, must be nailed or otherwise secured in place. These beads must also fit 50 very close to the sashes, in order to prevent the entrance of the cold air, and therefore it often happens that the sashes jam or stick in some way. The grooves in the casement required in my device are readily formed by

tools now in use, and there are no beads to be removed when the sashes are to be detached. 55

It will be understood that these removable tongues may be attached to any window now in use by simply grooving the sashes and the frames of casements; also, it is not necessary that the keys should be passed through the 60 casement at any particular point, as the center which is mentioned above, but they may be passed through at any point to suit the requirements of the case.

Having thus described my invention, I 65 claim—

1. The combination, with the casement having the grooves B and the bores intersecting the said grooves, of the sashes having grooves D, provided with shoulders E, the tongues fit- 70 ting in the grooves D and having notches in their upper ends, the said tongues being engaged at their outer edges in the grooves B, and having shoulders m , engaged with the shoulders E, the counterbalancing-weights 75 connected to the tongues, and the keys arranged in the bores in the casement and engaging the notches in the upper ends of the tongues to hold them in their lowered posi- 80 tion while the sashes are raised to disengage them, substantially as and for the purpose specified.

2. The combination of the upper sash-frame, comprising the side bars grooved to receive the glass and having recesses K' at their ends, 85 the upper and lower bars similarly grooved and secured at their ends to the said recesses, and the strip L, secured to the said lower bar and having a shoulder, H, and the lower sash comprising the grooved and recessed side 90 bars, the grooved upper and lower bars secured at their ends in the recesses in the side bars, and the molding L' , attached to the outer side of the top bar and having a shoulder, H, to engage the shoulder H' on the up- 95 per sash, and a flange, I, to bear on the upper side of the lower bar of the upper sash, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 100 presence of two witnesses.

WILLIAM W. WRIGHT.

Witnesses:

W. D. JONES,
J. B. RAGAN.