

(No Model.)

2 Sheets—Sheet 1.

J. EHRCKE.
WINDOW.

No. 508,924.

Patented Nov. 21, 1893.

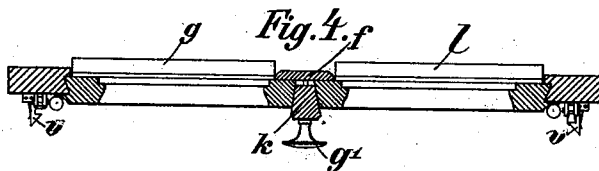
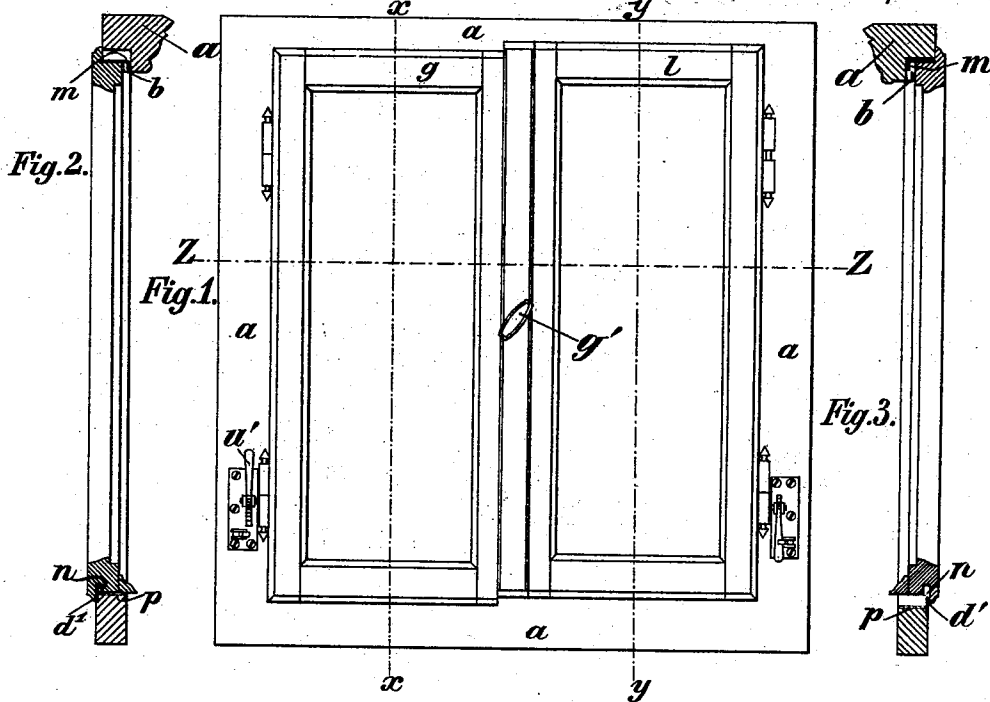


Fig. 5.

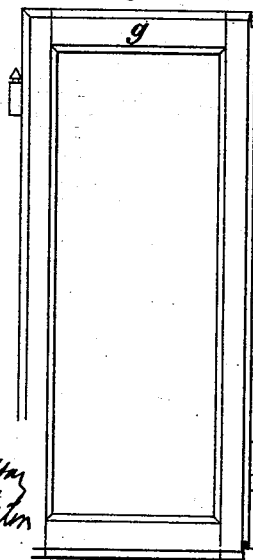


Fig. 6.

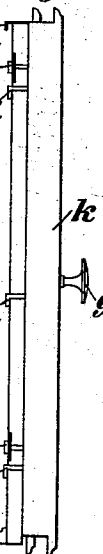
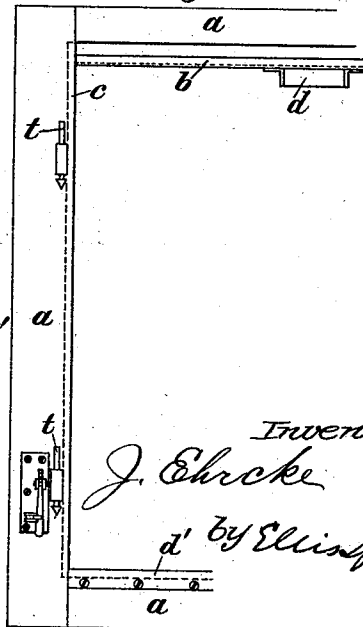


Fig. 7.



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(No Model.)

2 Sheets—Sheet 2.

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Patented Nov. 21, 1893.

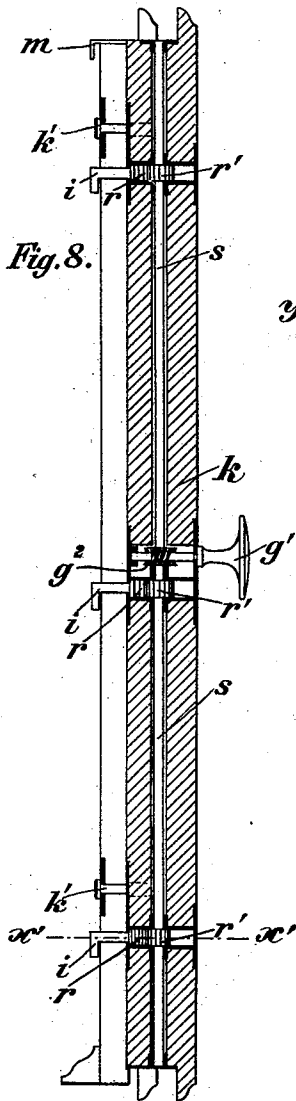


Fig. 8.

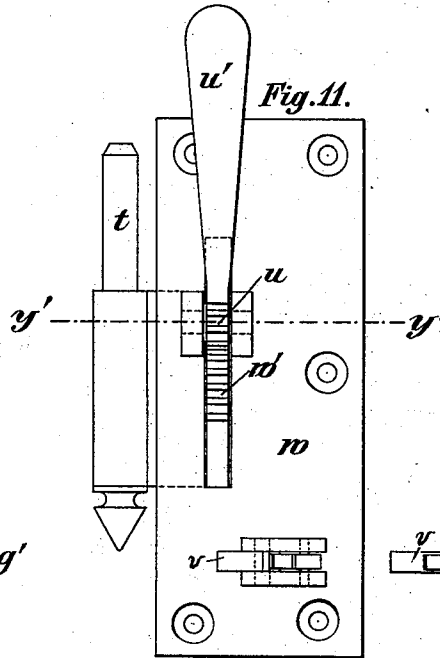


Fig. 11.

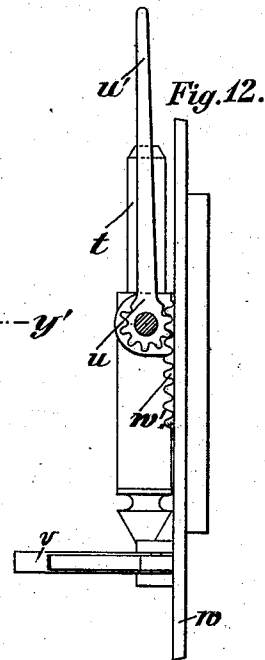


Fig. 12.

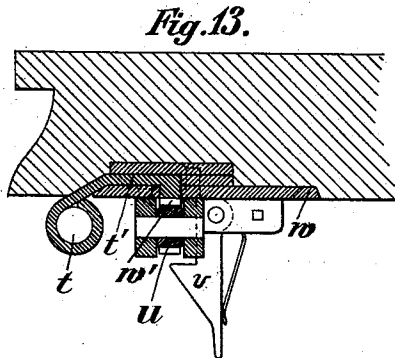


Fig. 13.

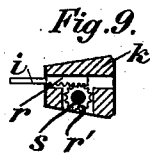


Fig. 9.

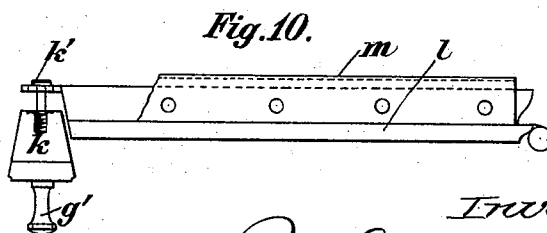


Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHANNES EHRCKE, OF BADRESCH, NEAR OERTZENHOF, GERMANY.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 508,924, dated November 21, 1893.

Application filed August 26, 1892. Serial No. 444,244. (No model.)

To all whom it may concern:

Be it known that I, JOHANNES EHRCKE, a subject of the Grand Duke of Mecklenburg-Strelitz, residing at Badresch, near Oertzenhof, in the Grand Duchy of Mecklenburg-Strelitz and German Empire, have invented certain new and useful Improvements in Windows, of which the following is a specification.

The subject of the present invention is a window, the peculiarity of which consists in providing a careful tightening of all the joints, so that no draft or damp air can get into the interior of buildings.

Upon the accompanying drawings:—Figure 1 is the front view of a closed window; Fig. 2, a section from x to x of Fig. 1; Fig. 3, a section from y to y of Fig. 1; Fig. 4, a section from z to z of Fig. 1; Fig. 5, a view of the left casement; Fig. 6, a view of the wedge-shaped center piece; Fig. 7, a view of the window frame; Fig. 8, a longitudinal section through the connection of the center piece with the right casement; Fig. 9, a cross section from x' to x' of Fig. 8; Fig. 10, a view of the center piece and right casement, from above; Figs. 11 and 12, a front view and a side view of the lifting mechanism; Fig. 13, a cross section from y' to y' of Fig. 11.

The characteristic feature of the constructing of the window is, that the window cannot be simply opened after unfastening the bolt, as has hitherto been the case, but each casement, before being opened has to be raised by means of a special contrivance (Figs. 11, 12 and 13) out of grooves in which it has rested by its own weight (Fig. 2) and then only can the opening of the window be effected (Fig. 3). On the upper cross bar of the window frame a , there is an angle iron b , the inner arm of which lies flush with the support c (Fig. 7) for the casements. On the lower side of this window frame there is a flat iron rail d' corresponding to the angle iron b . In the middle of the upper border of the window frame a , crossed on the inside by the angle iron b , the cage d (Fig. 7) is provided, for the purpose of receiving a jamb f (Fig. 5) which is firmly attached to the left casement g . The jamb f is somewhat longer than the casement g , so that the latter can be slid in an upward direction. On the jamb f there are one or

more staple plates h , in which the hooks i , attached to the wedge shaped or prismatic center piece k , can catch (Fig. 8). The center piece k is connected with the right casement l by the bolts k' (Figs. 8 and 10) in such a way, that the sliding of the prismatic center piece is possible. Both the casements have on the upper longitudinal edges, angle irons m (Figs. 2, 3 and 8), which correspond to the angle iron b , and they have, underneath, a groove n which corresponds to the flat iron rail d' . When the casement, hung on the hinges t , are closed (Fig. 8) they sink a little way in consequence of their own weight, whereupon the angle iron m hooks itself into the angle iron b and forces the flat iron d' into the groove n , (Fig. 2). At the same time also the hooks i enter the staple plate h (Figs. 5 and 6). If the wedge shaped or prismatic angle piece k is now brought toward the jamb f , the two casements g and l are forced away sideways from each other, and thus all the joints which are suitably provided with india rubber packing p , are closed in a perfectly tight manner.

The bringing of the prismatic center piece k toward the jamb f is effected by the following arrangement: In the case of small windows, top casements and so forth, where one hook i is necessary, a screw is screwed into it and is fastened to a handle. By suitably turning the handle the screw draws the suspended hook i and thus brings the center piece k toward the jamb f . In the case of large windows (Figs. 8, 9 and 10), where several hooks i are necessary, in order to effect a uniform drawing of the center piece k to the jamb f , the hooks i run out into toothed racks r , which stand in gear with the pinions r' , which are fixed upon a common shaft s . The shaft s is turned by suitably turning the handle g' which is provided with a screw-wheel which gears with the worm g fixed to the shaft s (Fig. 8), so that upon turning the shaft s , the suspended hooks i are moved in a uniform and regular manner in a direction (Fig. 9) toward the center piece k and thus at the same time the approach of the center piece k to the jamb f is effected.

In order to be able to open the casements, they must be raised as mentioned at the beginning hereof, for which purpose the hinges

t can be raised and held fast in their raised position, by the contrivance shown in Figs. 11, 12, and 13. The hinge *t* with its slide is guided in the plate *w* which is screwed on; the slide *t'* is provided with a rack *w'* which is in gear with the pinion *u* placed at the end of the lever *u'*, so that by pressing down the lever *u'* the hinge *t* and thus also the window is brought from the position of Fig. 2 to the position of Fig. 3. The lever *u'* can be held fast in its lower position by the hook *v*, and thus the windows can be easily opened and shut. When the latter has been done, the lever *u'* is released from the hook *v* and the casements sink down again in consequence of their own weight (Fig. 2).

I claim—

1. In combination with the window frame having angle irons secured thereto at top and bottom, the sash adapted to rise and drop into place when closed, said sash having angle irons and recesses adapted to be engaged by the angle irons of the frame, substantially as described.

2. In combination with the window frame,

the angle iron *b* and *d'* carried thereby, the angle irons *m* and recesses *n* carried by the sash and means for raising the sash to allow them to be closed, substantially as described.

3. In combination with the frame having angle irons, the sash having the angle iron and recesses adapted to engage the irons of the frame, a bar rigidly connected to one sash, and a wedge bar, loosely connected to the other sash, and means for drawing the said bars together, substantially as described.

4. In combination the bar *f*, secured to one sash, and provided with catches, the bar *K* loosely held to the other sash, hooks carried thereby for engaging the catches of the bar *f*, and a handle provided with a screw threaded shank, for operating the hooks to draw the bars together, substantially as described.

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

JOHANNES EHRCKE.

Witnesses:

PAUL FISCHER,

PAUL BRINKMANN.