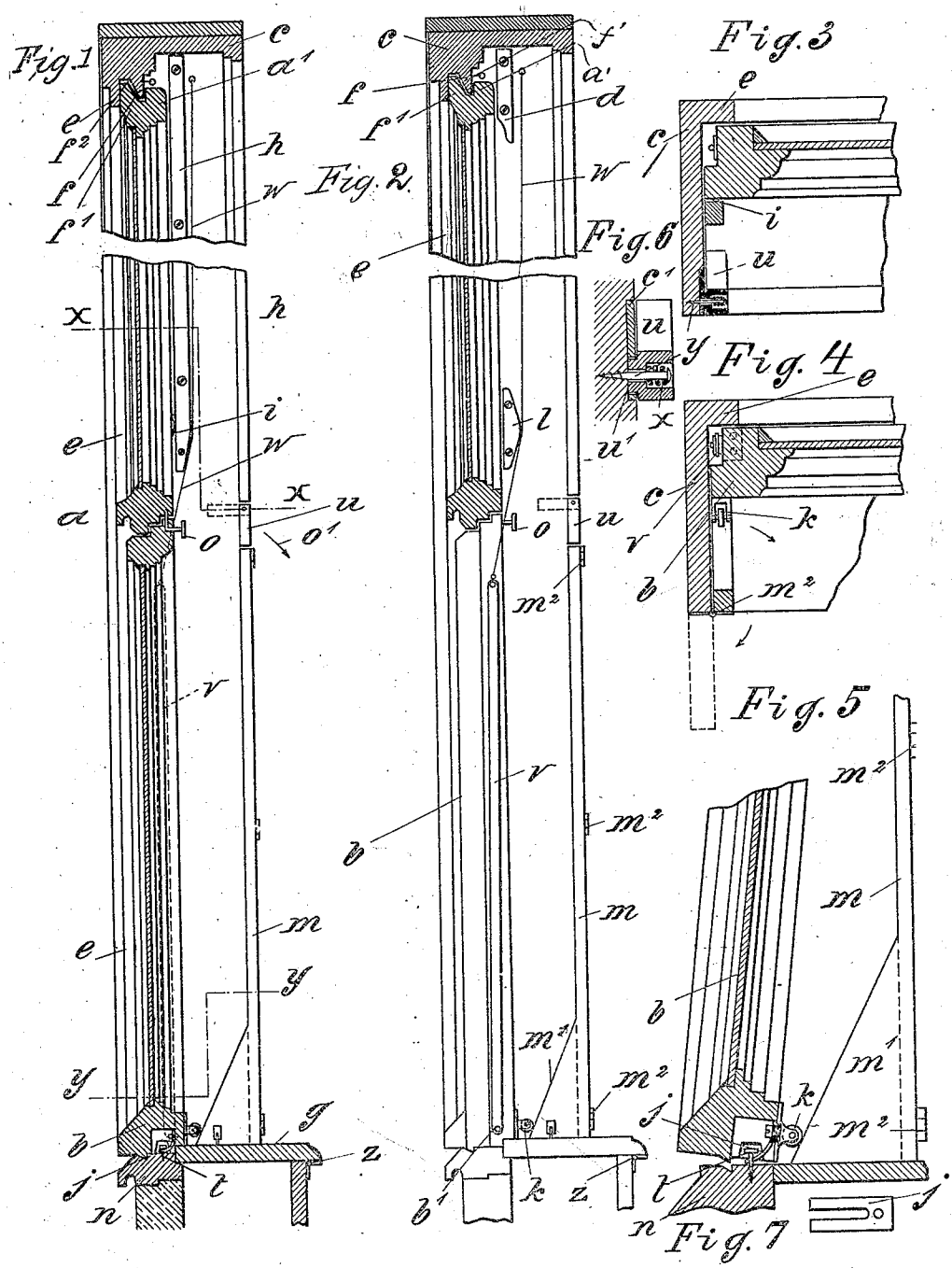
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F. SCHAETZKE.

WINDOW SASH AND TIGHTENER.

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WINDOW SASH AND TIGHTENER.

No. 828,513. Specification of Letters Patent. Patented Aug. 14, 1906.

Application filed March 25, 1904. Serial No. 200,028.

To all whom it may concern:

Be it known that I, FELIX SCHAETZKE, a subject of the German Emperor, and a resident of Bochum, Germany, have invented certain new and useful Improvements in Window Sashes and Tighteners, of which the following is a specification.

The present invention has for its object to do away with the sliding-grooves usually arranged along the sides of sash-windows by securing and tightening the sashes in their closing position by means of a displacement of the sashes themselves effected by means of parts of a ledge fastened to the casement or sash-frame which bring about a displacement of the sashes during the slide, a slanting slide instead of a vertical slide, whereby the sashes are brought before a tightening-ledge which covers the clefts or chinks.

In Figures 1 to 7 of the accompanying drawings a sample construction of the invention is illustrated. Fig. 1 shows a longitudinal section through the sash-window; Fig. 2, a longitudinal section through the upper sash and a side view of the lower sash. Fig. 3 shows a cross-section on the broken line *x x* of Fig. 1; Fig. 4, a cross-section on the broken line *y y* of Fig. 1, and Fig. 5 a longitudinal section through the lower part of the lower sash turned into the room and in a slanting position. Figs. 6 and 7 show a section and a plan view of details of construction.

The two sashes *a* and *b*, which are in Fig. 1 of the drawings shown in their closed position, possess, as can be seen, no lateral guiding-pins; but their planks are quite smooth and there is sufficient space between them and the sash-frame *c* that in their up-and-down movement they do not come in contact with the frame. The tightening of both sashes is effected by a projecting ledge *e*, provided on the sash-frame, against which the sashes are pressed during their slide and shortly before they reach the closing position by the arrangement that the cross-bar of the upper sash *a* is provided with a sliding-ledge *f*, which fits into a wedge-shaped groove of the casement or sash-frame *c*. If the sash *a* is raised, the slanting surfaces of the said wedge-shaped parts glide past each other and produce a slanting slide—in other words, a pressure of the whole sash against the tightening-ledge *e*; but in order that on pushing up the sash *a* the entrance of the sliding-ledge *f'* into the groove f^2 of the sash-frame *c*—in other words, a sliding on each other of the slanting surfaces of the parts *f f'*—may be facilitated the edge *a'* of the frame of the window-sash may be rounded at the top and a sliding-ledge *d*, preferably of the shape shown in Fig. 1, but which may also be of the shape shown in Fig. 2, with a slant at the bottom, be provided on the sash-frame *c*, Fig. 2, on whose slanting edge the rounded edge *a'* glides very easily, so that it is very easy to move the sash *a*; but instead of this, as shown in Fig. 1, a longitudinal ledge *h* may be arranged on the casement *c*, extending down to the lower edge of the upper sash, which ledge may be easily fixed by means of screws, in which case the sash is pressed against the ledge *e* by elastic springs *i*, arranged between the ledge and the sash. The same sliding arrangements between the sash and the casement may also be made for the lower sash *b*, the means used there, however, for attaining a good tightening, and shown in the drawings, are slightly different, though on the same principle. Instead of between the cross-bars the sliding arrangements may also be affixed to the sides. Thus, for instance, on the front side of the lower sash *b* there is arranged on either side a glide-roller *k*, resting on a slanting surface or track formed by a ledge *m m'* at the side of the casement. Also by this arrangement there is effected a slanting slide and engagement of the tightening-grooves provided on the weather-board *n* or on the lower cross-beam of the sash *b*, which brings about a pressure of the same against the ledge *e*. The same effect is produced in the middle of the window by the lock-bolt *o*, so that the window is tightly closed all around.

If the lock-bolt *o*, which unites the cross-ledge of the frame of the sash *b* with the upper sash *a*, is opened, the lower sash *b*, whose cord *w* does not extend down to the bottom, but is fastened at *b'* to a flat iron slat *v*, fastened to the sash-frame, can be turned into the room in the direction of the arrow *o'*. Such a position of the sash *b*, in which it is turned into the room, is shown in Fig. 5, from which it can be seen that the sash has its supporting-point at *j*. As the turning into the room of the sash *b* is checked by the ledge *m m'*, which projects into its track or way, but which can be turned sidewise on the hinge-joints m^2, the sash can of course only be turned till it strikes against the ledge *m* in

case the ledge *m m'* has not previously been brought into the position indicated in Fig. 4 by dotted lines and an arrow.

In order to be able to turn the sash quite into the room to bring it, for instance, into a horizontal position for the purpose of cleaning it, it is necessary to remove, besides the ledge *m m'*, a third ledge *u*, which may be of the same breadth as the ledge *m* and which, as shown in Figs. 1 and 2, likewise prevents the sash *b* from being turned into the room. This may be effected by means of the ledge *u*, which pivots on a horizontal peg *y*. (See Fig. 3.) The peg, which may be an ordinary wooden screw, is fastened in the sash-frame *c*. Around its projecting shaft is placed a screw-spring *x*, which by pressing on the one side against the head of the peg and on the other against the material of the ledge *u* tends to press a projection *u'* of a quadrangular shape of the ledge *u* and which projects toward the sash-frame into an opening of a corresponding shape of the flat iron piece *c'*, let into the sash-frame. If the ledge *u* is seized and drawn forward so far that the projection *u'* gets out of the opening of the plate *c'*, the ledge *u* can be turned ninety degrees by a corresponding movement of the fingers, (see position indicated by dotted lines in Figs. 1 and 2 and also the position in full lines in Fig. 3,) and it can then be released. The spring *x* presses then the projection *u'* back into the opening of the plate *c'*. In this position the sash *b* can be turned into the room.

The object of the slat *u* is to provide a safety device in the case that slat *m* be for any reason not closed, for if it should happen that it has been forgotten to bring slat *m* into the closing position or if it is turned out of it by playing children it might happen that in stormy weather the sash be pressed forward into the room by the power of the wind, and thus cause damage or accidents; but by providing the slat *u*, which cannot be easily reached by children and can be brought into the position shown by a dotted line in Fig. 1, cases of this kind cannot easily happen.

In order to prevent after turning the ledge *m* in the direction indicated by an arrow in Fig. 4 (see the position of the ledge indicated by a dotted line) the sash *b* from being suddenly and without this being intended drawn up by the weights on the cords *w*, the sash requires to be provided with a checking device—for instance, a forked piece of sheet metal *j*, with a slit arranged in a recess—which on the sash being turned into the room catches under the head of a nail or hook *t*, fastened to the weather-board *n*, and thereby prevents a non-intended flying up of the sash.

The nail or hook *t*, owing to its head being larger than the slit in the part *j*, prevents a flying up of the sash when it has been turned down into the room into a horizontal position, for it might happen that weights draw up the sash when it has been turned down into the room into a horizontal position, so that the lower cross-beam of the sash would fly up; but owing to the fact that the slit of the part *j* touches the head of the nail or hook *t* it is impossible to draw up the sash with its lower slat.

As can be seen from the drawings, on turning the ledge *m m'* out of the way both sashes *a b* can one after the other be lowered down to the window-seat, so that the whole upper half of the window is open. After turning the window-seat *g* on the peg of the hinge-joint *z* or after drawing the peg out both sashes may be lowered into the parapet of the window. Only by raising the lower sash in front of the ledge *h* the whole bottom half of the window may be opened. If ledge *h* is not put on, there should at least be provided a short gliding-piece *l*, with slanting sides, (shown in Fig. 1 by a dotted line,) on the casement immediately above the sash *b* in order that the cords *w* have an abutment and tend to draw the lower sash on its being raised out of the plane of the upper.

What I claim as my invention, and desire to secure by United States Letters Patent, is—

1. In a sash-window, the combination of a tightening-ledge *e* arranged all around the sash-frame *c* on the outside of the frames of the sashes *a b* with beveled sliding-ledges *f m'* provided at the top and bottom of the sash-frame *c*, along which the sashes glide by means of pressing devices *f' k* arranged on the latter, substantially as set forth.

2. In a sash-window, the combination of a tightening-ledge *e* arranged all around the sash-frame *c* on the outside of the frames of two sashes *a b*, a sliding-ledge *f* arranged on the upper cross-bar of the upper sash *a* and engaging with a groove in the sash-frame; a lower sash *b* with a roller *k* lying in the plane of the slideway of a turnable ledge *m' m* arranged on the sash-frame, a ledge *u* turning on a horizontal pivot *y* and which can be turned into and out of the track of the lower sash on the latter being turned down into the room, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FELIX SCHAETZKE.

Witnesses:
WILLIAM ESSENWEIN,
PETER LIEBER.