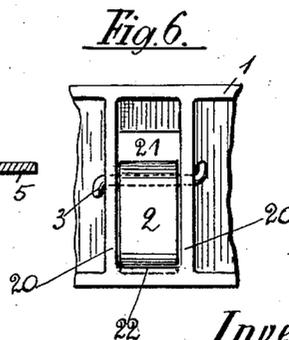
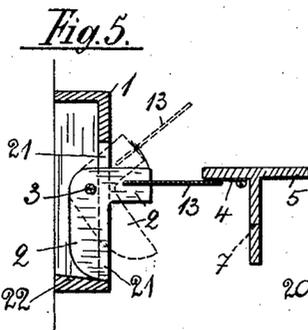
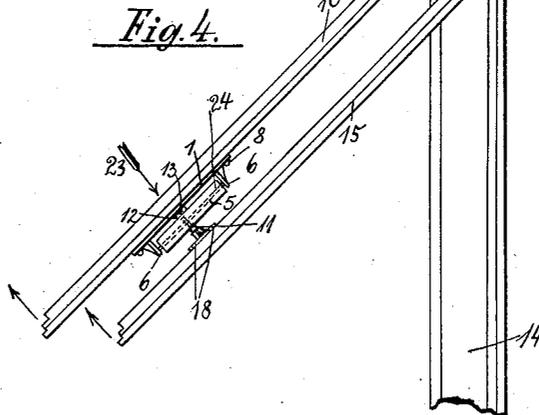
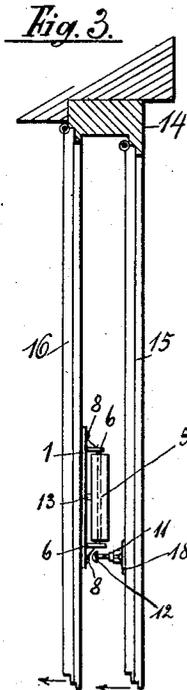
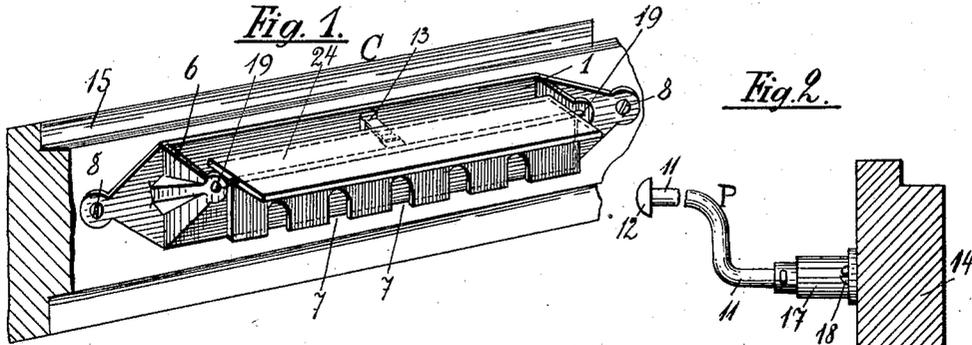


E. SÜHSMANN.
 WINDOW LOCK.
 APPLICATION FILED JULY 24, 1911.

1,021,642.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.



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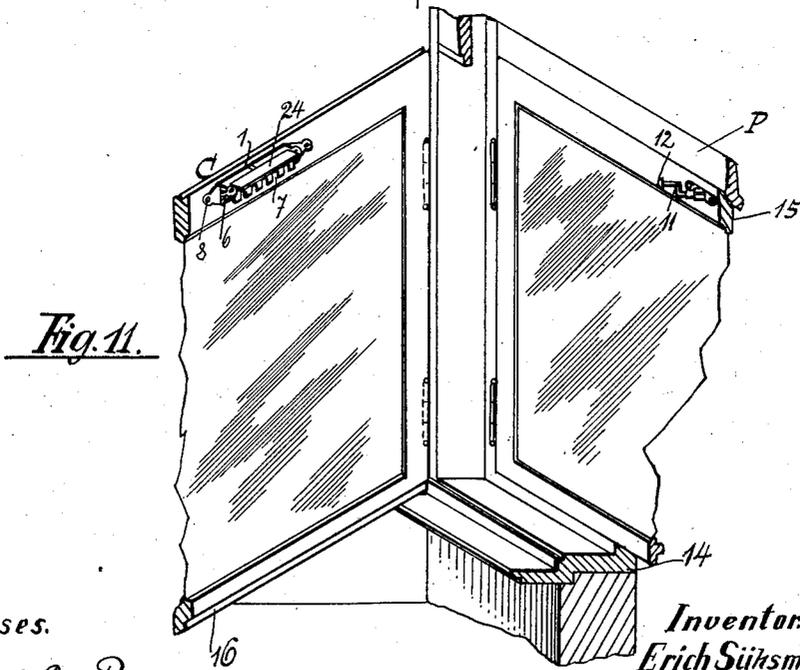
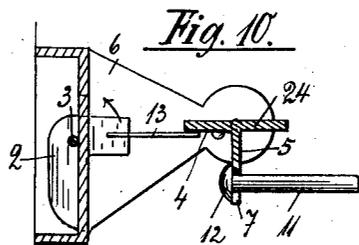
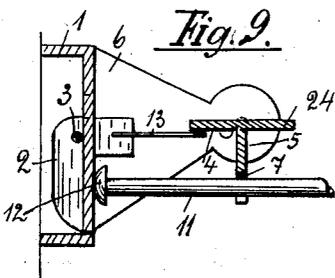
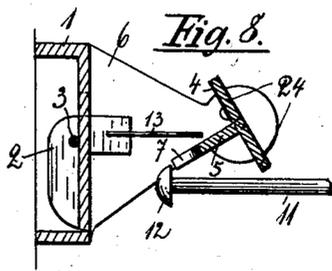
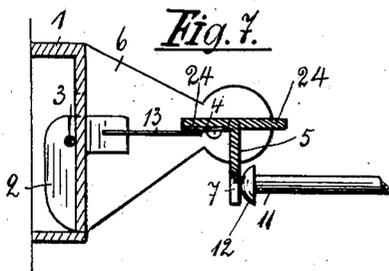
WINDOW LOCK.

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2 SHEETS—SHEET 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ERICH SÜHSMANN, OF BERLIN, GERMANY.

WINDOW-LOCK.

1,021,642.

Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed July 24, 1911. Serial No. 640,330.

To all whom it may concern:

Be it known that I, ERICH SÜHSMANN, a citizen of the Empire of Germany, residing at Berlin, in the Empire of Germany, have invented a new and useful Window-Lock, of which the following is a specification.

My invention relates to a novel lock for double windows and is principally designed for use in connection with swinging windows in contradistinction to sliding windows.

I will now proceed to describe my invention with reference to the accompanying drawing, in which—

Figure 1 is a perspective view of a spring controlled retainer and a part of an inner-sash window, Fig. 2 is an elevation of a stud and a cross section through the upper part of a counter-sash window, Fig. 3 is a horizontal section on a reduced scale through one upright of a window-frame and a plan view of one counter-sash window and one inner-sash window, both of them being closed, Fig. 4 is a similar section, the two windows being half-open, Fig. 5 is a vertical cross section on an enlarged scale through the turnable retainer and the base of its support and an elevation of the turnable spring with its weighted arm, Fig. 6 is the rear view of the middle portion of the above mentioned base and shows the weighted arm of the spring, Fig. 7 is a vertical section through the turnable retainer and its support in a plane before that of Fig. 5, Figs. 8, 9 and 10 are similar sections and illustrate various relative positions of the parts, and Fig. 11 is a perspective view on a reduced scale and shows a part of the lower left counter-sash window in its closed position and a part of the lower left inner-sash window in its half-open position.

Similar characters of reference refer to similar parts throughout the several views.

My invention is to be applied to double windows, such as are used in Berlin and other places. The double-window may comprise a window-frame 14, two lower counter-sash windows 15 (of which only the left hand one is shown at Fig. 11), two upper counter-sash windows similar to 15 but not shown, two lower inner-sash windows 16 (of which only the left hand one is shown

at Fig. 11) and two upper inner-sash windows similar to 16 but not shown. It is to be remarked here, that in general the lower sash-windows are made much higher than is shown at Fig. 11 for the sake of clearness. In Figs. 3 and 4 the two left-hand sashes 15 and 16 are shown to be so cut out at their free vertical edges, that the corresponding edges of the right-hand sashes working together with them are made to overlap them. As the double-window opens inwardly into the room, it will be understood, that for opening the double-window first the right-hand inner-sash window will be opened, then the left-hand inner-sash window 16, thereupon the right-hand counter-sash window and at last the left-hand counter-sash window 15. For closing the double-window, the operation is reversed.

On the inside of the upper part of each counter-sash 15 is fastened a stud P consisting of a foot 17, a cranked or angular portion 11 and a head 12. The foot 17 is shown to be fastened to the sash by means of two wood-screws 18, 18.

On the outside of the upper part of each inner-sash 16 is disposed a spring-pressed retainer C, which comprises a metallic support and a recessed portion 5. The support is shown to consist of a base 1 fastened to the sash 15 by means of two wood-screws 8, 8 and of two arms 6, 6, in the free ends of which the two pivots 19, 19 of the retainer 5 are mounted to rock. The retainer 5 may be made from T-iron, so that it possesses two wings 24, 24 and the pivots 19, 19 are in the line of intersection of the retainer and the two wings. The retainer 5 will normally be brought by its own weight into its vertical position shown at Figs. 1 and 5 on being released. The base 1 has in its middle two parallel vertical ribs 20, 20 (Fig. 6) and between them an aperture 21. A pin 3 is passed through the two ribs 20, 20 and is secured by bending off its ends, as is clearly shown at Fig. 6. On this pin 3 a bell-crank lever 2 is mounted to rock, which has fastened in its horizontal arm a spring 13 (Figs. 1 and 5). It will be seen, that the lever 2 forms a weighted arm of the spring 13, which is normally held in its horizontal position, since the lower end of

the vertical arm of the lever 2 bears against a suitable projection 22 of the base 1. When the retainer 5 occupies its normal position shown at Fig. 5, the spring 13 is to be in contact with the lower surface of its left-hand wing 24. When the retainer 5 is turned in a contraclockwise direction, its left wing 24 will bend the spring 13 downward until it releases the same, whereupon the spring 13 will recoil. The spring 13 can freely turn upward with its weighted arm 2, as is indicated by the dotted lines in Fig. 5. When the retainer 5 is turned in a clockwise direction, its left wing 24 will turn the spring 13 on it upward, until it releases the same, whereupon the spring will be returned by its weighted arm 2 into the normal position shown. The retainer 5 is shown to have five recesses 7, 7, into any of which the stud 11 can engage.

The device described above operates as follows: When the windows are in a closed position, as illustrated in Fig. 3, the stud 11 occupies a position near one end of the retaining device 5. When the windows are opened, as in Fig. 4, the differential movement of the stud 11 with respect to the retaining device 5, which is due to the disposition of the window hinges, brings the stud 11 abreast of the lower recessed portion of the retaining device 5. When the windows are brought together, the head 12 will tilt the retaining device 5 and during the subsequent differential movement resulting from continuous opening movement or closing movement of the two windows, the stud 11 will slide along the lower recessed portion of the tilted retaining device 5 until the stud registers with one of the recesses 7. At such time, the device 5 will return by gravity to the position shown in Fig. 5 with the stud 11 projecting through one of the recesses and the head 12 inside or behind the device 5 and between the same and the window 16, as shown in Fig. 4. The spring 13 resists tilting movement of the device 5 in a contraclockwise direction and the windows are locked in an open position as shown in Fig. 4. This locking engagement will serve to keep the windows in an open position against the action of the wind, in either direction.

When it is desired to close the windows, the device 5 can be tilted by hand to release the engagement of the same with the stud 11, and then the windows can be closed in the usual manner. If it is desired to release the two windows, it is only necessary to move them away from one another by hand. Then the head 12 will strike the retainer 5 (Fig. 10) and turn it in a contraclockwise direction, so that its left wing 24 will depress and bend the spring 13, until the head 12 leaves the retainer 5. Then the two win-

dows are free and the spring 13 will return to its normal position. Where so preferred, a steel plate 4 may be fastened to the lower surface of the left wing 24 in Fig. 5 for working together with the spring 13, so as to avoid all wear of the wing 24. When for example the inner-sash window 16 is fully opened or brought into a position at right angles to the window-frame 14 and is then held by hand, while at the same time the counter-sash window 15 is by hand fully opened, it is evident, that the head 12 will again strike and turn the retainer 5, then release the same, whereupon the stud 11 can engage in the next recess 7. In this manner it is possible to bring the double-window into any position corresponding to the five recesses of the retainer 5 and to lock it.

The window-lock can be varied in many respects without departing from the spirit of my invention. The spring-pressed retainer may be disposed on the counter-sash window and the stud on the inner-sash window.

I claim:

1. A locking device for inner and outer hinged windows comprising in combination, a retainer hinged to one window and having recesses spaced apart from each other, and a stud mounted upon the other window and arranged to engage and tilt the retainer during relative differential movement of the windows until said stud registers with one of said recesses, whereby the retainer is released and the windows are coupled, substantially as described.

2. A locking device for inner and outer swinging hinged windows comprising in combination, a tilting retainer on one window having recesses spaced apart from each other, a spring to prevent tilting of said retainer in one direction, and a stud mounted upon the other window and arranged to engage and tilt the retainer during relative differential movement of the windows until the stud registers with one of said recesses, substantially as described.

3. A locking device for inner and outer swinging windows comprising in combination, tilting retainer means mounted on one window, and locking mechanism mounted on the other window and arranged to engage and tilt the retainer means during relative differential movement of the windows until said locking and retainer means are in locking engagement with respect to each other whereby the windows are coupled together, substantially as described.

4. A locking device for inner and outer swinging windows comprising in combination, movable locking means on one window, and rigid locking means on the other window coacting with said movable means dur-

ing relative differential movement of the windows to lock the two windows in desired opened position, substantially as described.

5 A locking device for inner and outer swinging windows comprising in combination, movable locking means on one window movable freely in one direction, a spring for resisting movement of said means in an-

other direction, and locking means on the other window coacting with said first named locking means to rigidly couple the windows in any desired opened position. 10

ERICH SÜHSMANN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
