No. 634,384. Patented Oct. 3, 1899.

A. WEINGAERTNER & J. L. SHUMATE.

SWINGING WINDOW SASH.

(Application filed June 5, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. I.

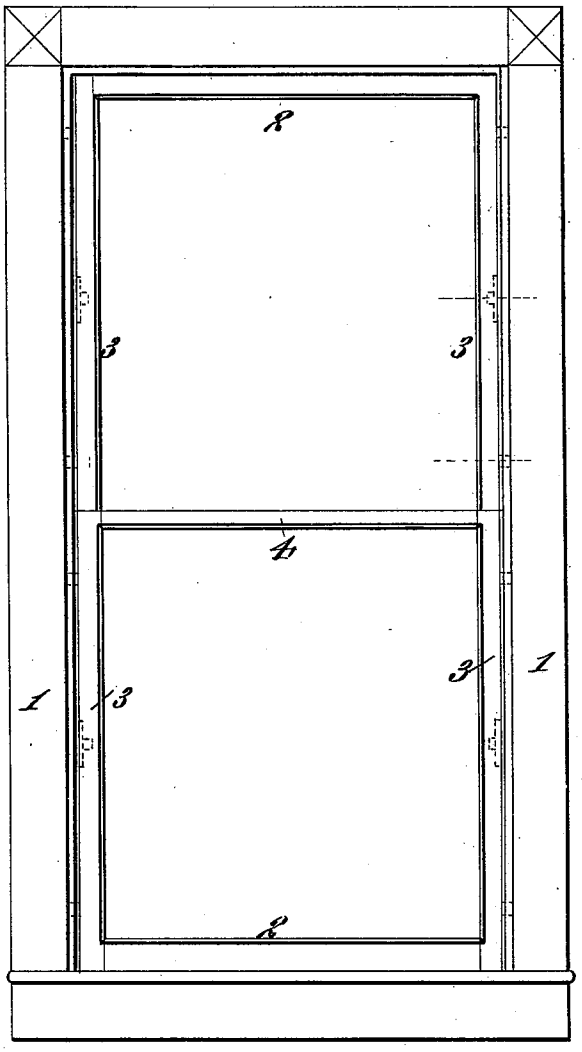


Fig. II.

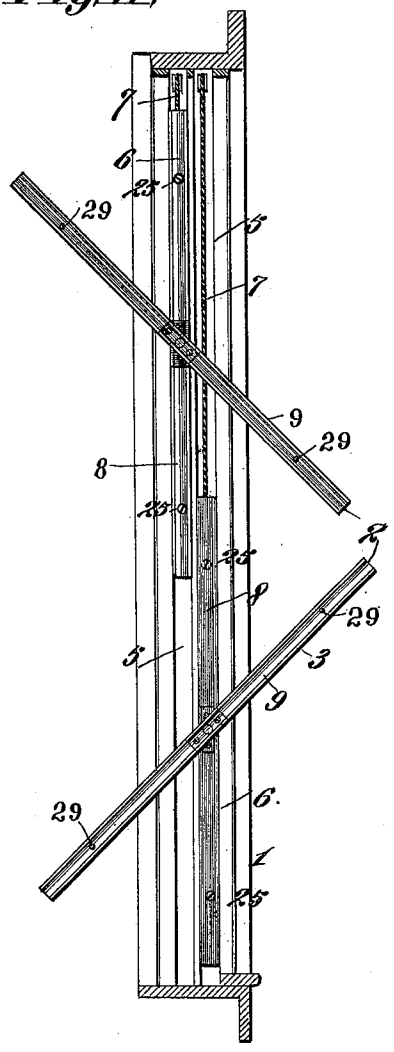


Fig. III.

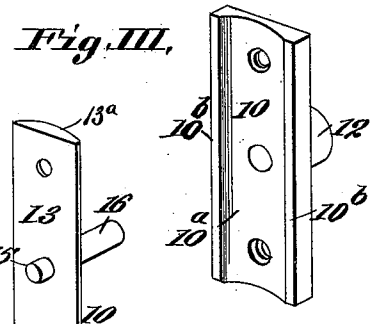
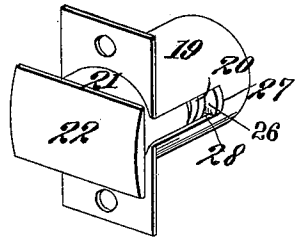


Fig. IV.



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Fig. V.

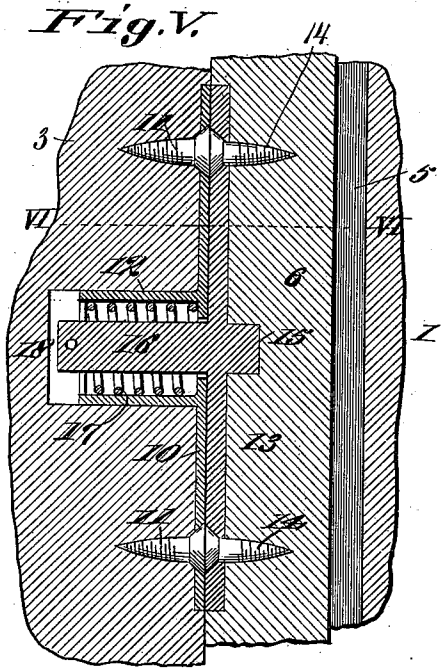


Fig. VII.

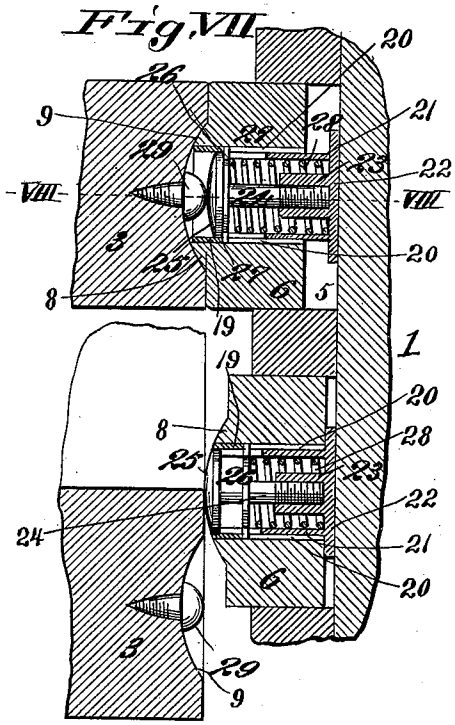


Fig. VI.

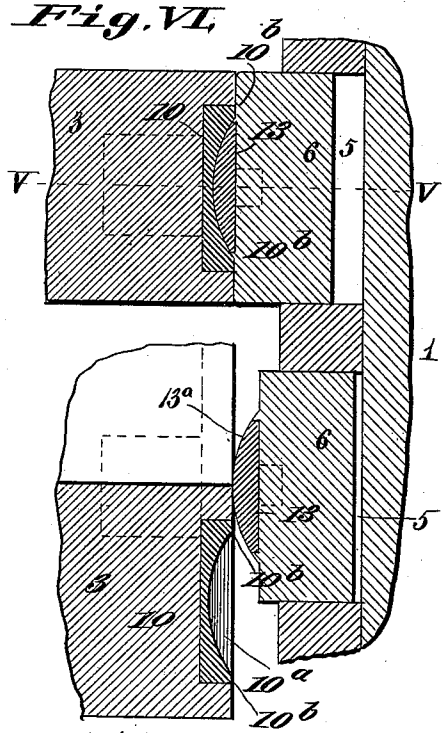
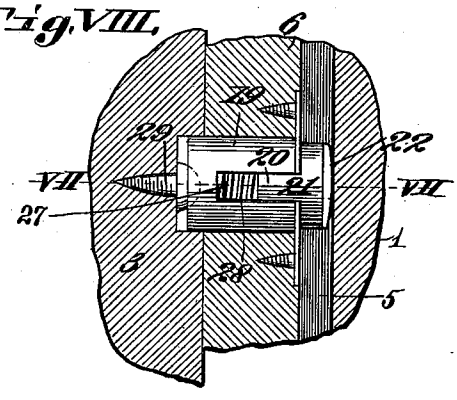


Fig. VIII.



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UNITED STATES PATENT OFFICE.

ALBERT WEINGAERTNER AND JOHN L. SHUMATE, OF ST. LOUIS, MISSOURI, ASSIGNORS TO THE SIMPLEX REVOLVING SASH COMPANY, OF SAME PLACE.

SWINGING WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 634,384, dated October 3, 1899.

Application filed June 5, 1899. Serial No. 719,369. (No model.)

To all whom it may concern:

Be it known that we, ALBERT WEINGAERTNER and JOHN L. SHUMATE, citizens of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Swinging Window-Sash, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to that character of window-sash shown and described in Letters Patent of the United States granted to Albert Weingaertner November 3, 1891, No. 462,609, the present improvement having particular reference to the pivot-plates and take-up slides adapted to overcome the play between the sash and the window-frame when the sash is closed.

The invention consists in features of novelty hereinafter fully described and claimed.

Figure I is a view in front elevation of a window equipped with sash constructed in accordance with our invention. Fig. II illustrates a window-frame in vertical section and showing the window-sash therein swung on their pivots into open positions. Fig. III is a perspective view of the pivot-plates separated. Fig. IV is a perspective view of one of the take-ups. Fig. V is an enlarged vertical longitudinal sectional view through one of the sash and the window-frame at the location of the sash-pivot, taken on the line V V, Fig. VI. Fig. VI is a cross-sectional view taken on the line VI VI, Fig. V, showing one of the sash in closed position and the other sash in open position. Fig. VII is a cross-sectional view taken on the line VII VII, Fig. VIII, through the take-ups, one of the sash being shown closed and the other being shown open. Fig. VIII is a vertical sectional view taken on the line VIII VIII, Fig. VII.

1 designates the frame of the window, which may be of any ordinary construction. The window-sash are of common configuration, having top and bottom rails 2, side rails 3, and meeting-rails 4. The window-frame is provided with the usual beading and parting strips, producing guideways 5.

6 designates slide-strips adapted to travel in the guideways 5 and connected to the balance-cords 7. Each slide-strip is provided with a rounding face 8, extending longitudinally thereof and facing the sash connected thereto. The side rails 3 of the sash are provided with concave grooves 9, extending longitudinally thereof, adapted to receive the rounding faces 8 of the slide-strips 6 when the sash are closed. (See Figs. II and VII.)

Fixed centrally of their length to each of the side rails of each of the sash is a plate 10. The plates 10 are preferably secured to the sash by screws 11 and are provided with barrels 12, set into sockets in the side rails.

13 designates pivot-plates secured to the slide-strips 6 by screws 14. These pivot-plates are provided with bosses 15, projecting from their rear sides and seated in the strips to prevent displacement. Each plate 13 is provided with a pivot-arm 16, that extends through the barrel 12 of the plate 10. Within each barrel 12 is a coil-spring 17, surrounding the pivot-arm 16 and held in place by a transverse pin 18 in the pivot-arm. When either sash is swung on its pivot, the pivot-arm 16 moves in the barrel 12, having free movement therein, and as the sash is swung the springs 17 permit outward movement of the slide-strips 6 away from the sash, whereas when the sash is closed the spring returns the parts to their normal closely-assembled positions.

Each plate 10 is provided with a concavity 10^a, that receives the convex face 13^a of the opposing pivot-plate 13. At the edge of each plate 10 is a flat surface 10^b, that lies flush with the edge of the side rail 3. The purpose of these flat surfaces 10^b is to provide wear-receiving faces, against which the pivot-plates 13 ride in moving to their seats or out of their seats in the concavities of said plates 10, thereby affording a metallic wearing-surface for the pivot-plates flush with the edges of the sash side rails instead of the pivot-plates wearing against the wooden sash-rails.

19 designates tubular boxes set into and secured in the slide-strips 6. These boxes are open at each end and are provided with longitudinal slots 20. (See particularly Fig. VIII.) There are four of these boxes to each sash, one above and one below each pivot.

Each tubular box 19 receives a take-up bolt 21, having a head 22, adapted to bear against the window-frame within the guideway 5. The bolts 21 are provided interiorly with necks 23, containing interior screw-threads that receive the inner ends of pins 24, provided with heads 25.

26 are washers on the pins 24, adapted to bear against the pin-heads 25 and having tongues 27 extending therefrom adapted to rest in the slots 20 of the tubular boxes 19 and bearing against the boxes at the inner ends of said slots. Within the take-up bolts 21 are coil-springs 28, arranged to bear against the inner sides of the heads 22 of said bolts and against the washers 26, the said springs being so arranged as to exert an outward pressure against the take-up bolts 21, causing the heads of said bolts to be normally held against the window-frame within the guideways 5 when the sash is in closed position, thereby preventing the sash from accidental movement or from rattling.

29 designates screws or pins seated in the concave outer faces or grooves 9 of the sash side rails in positions corresponding to those of the heads of the pins 24 when the sash are closed. The heads of these pins or screws projecting into the longitudinal grooves of the sash-rails contact with the heads 25 of the pins 24 when the sash are closed, and thereby press the said pins 24 outwardly through the tubular boxes 19 in corresponding directions for the purpose of taking up any play between the slide-strips 6 and the window-frame, which would otherwise be present, owing to the strips 6 approaching the sash-rails and finding their seats against said sash-rails, forming the concavo-convex joints between the sash-rail and slide-strips. The screw-thread connection between the pin 24 and the neck 23 of the take-up bolt allows for the lengthening or shortening of the combined pin and bolt in order that the existence of a greater or less amount of play between the window-frame and the sash may be overcome.

We claim as our invention—

The combination with a swinging window-sash and slide-strips, of pivots connecting said sash and strips, slotted tubular boxes located in said slide-strips, sliding bolts in said boxes, pins carried by said bolts, washers bearing against the heads of said pins having tongues seated in the slots of said boxes, springs within said bolts adapted to bear thereagainst and against said washers, and pins or screws located in the side rails of the sash adapted to bear against the heads of said bolt-carried pins, substantially as described.

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JOHN L. SHUMATE.

In presence of—
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E. S. KNIGHT.