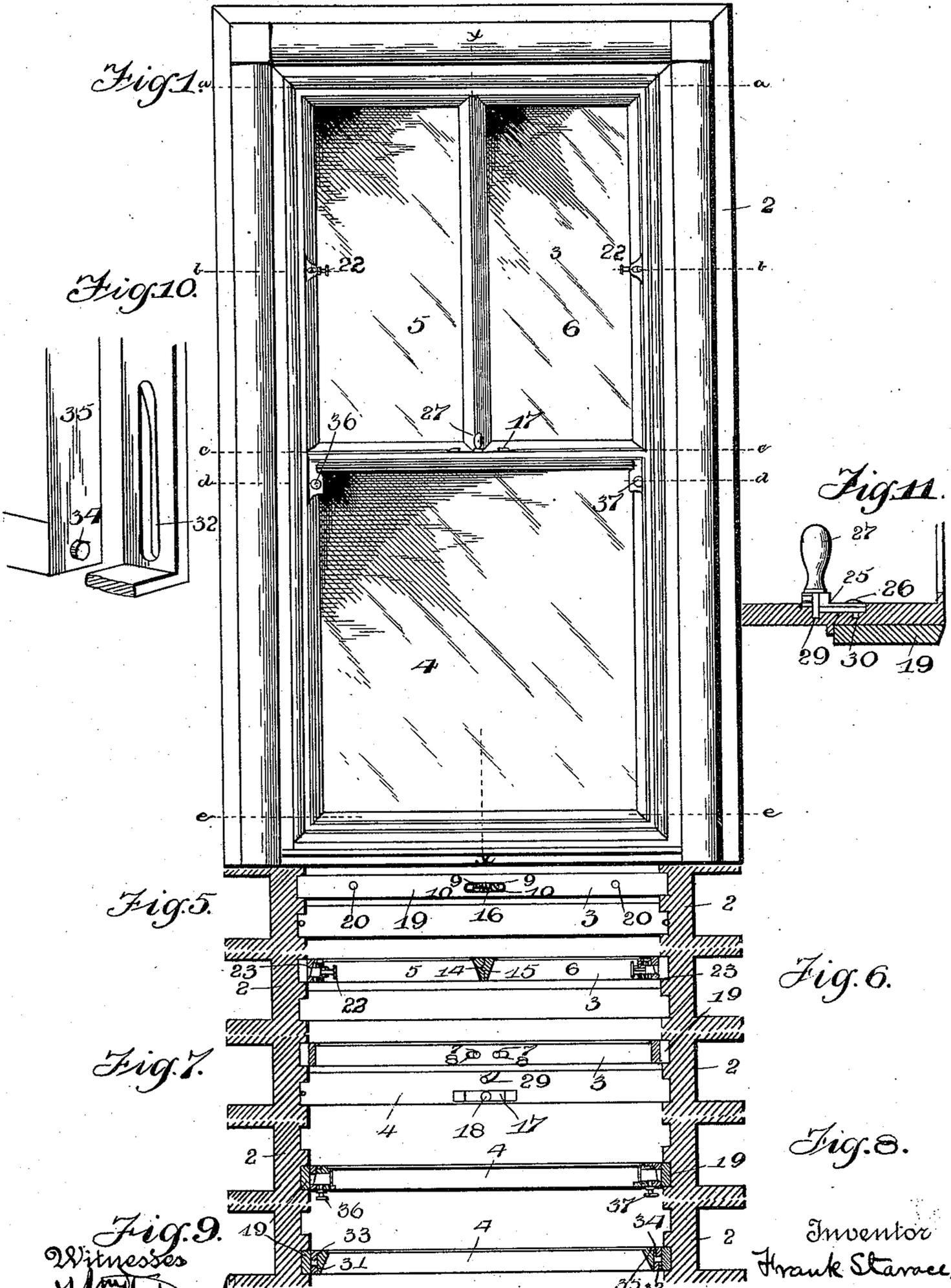


F. STARACE. WINDOW.

No. 574,283.

Patented Dec. 29, 1896.



Witnesses
W. J. Doyle
A. B. Suit

Inventor
Frank Starace
 By *H. B. Willson*
 Attorney

(No Model.)

2 Sheets—Sheet 2.

F. STARACE. WINDOW.

No. 574,283.

Patented Dec. 29, 1896.

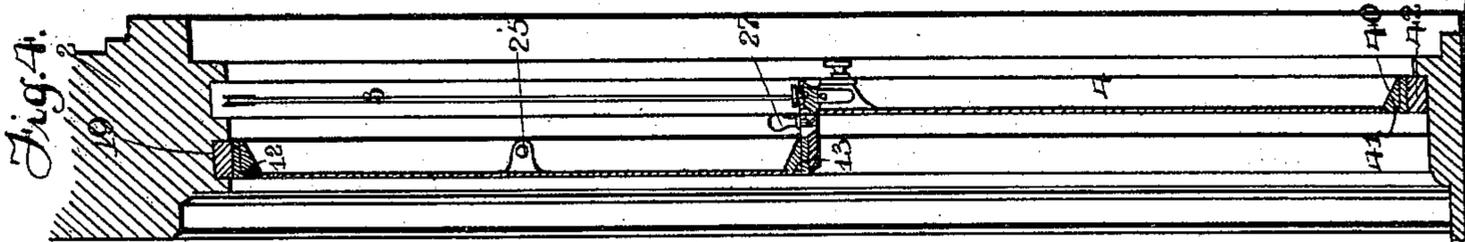


Fig. 4.

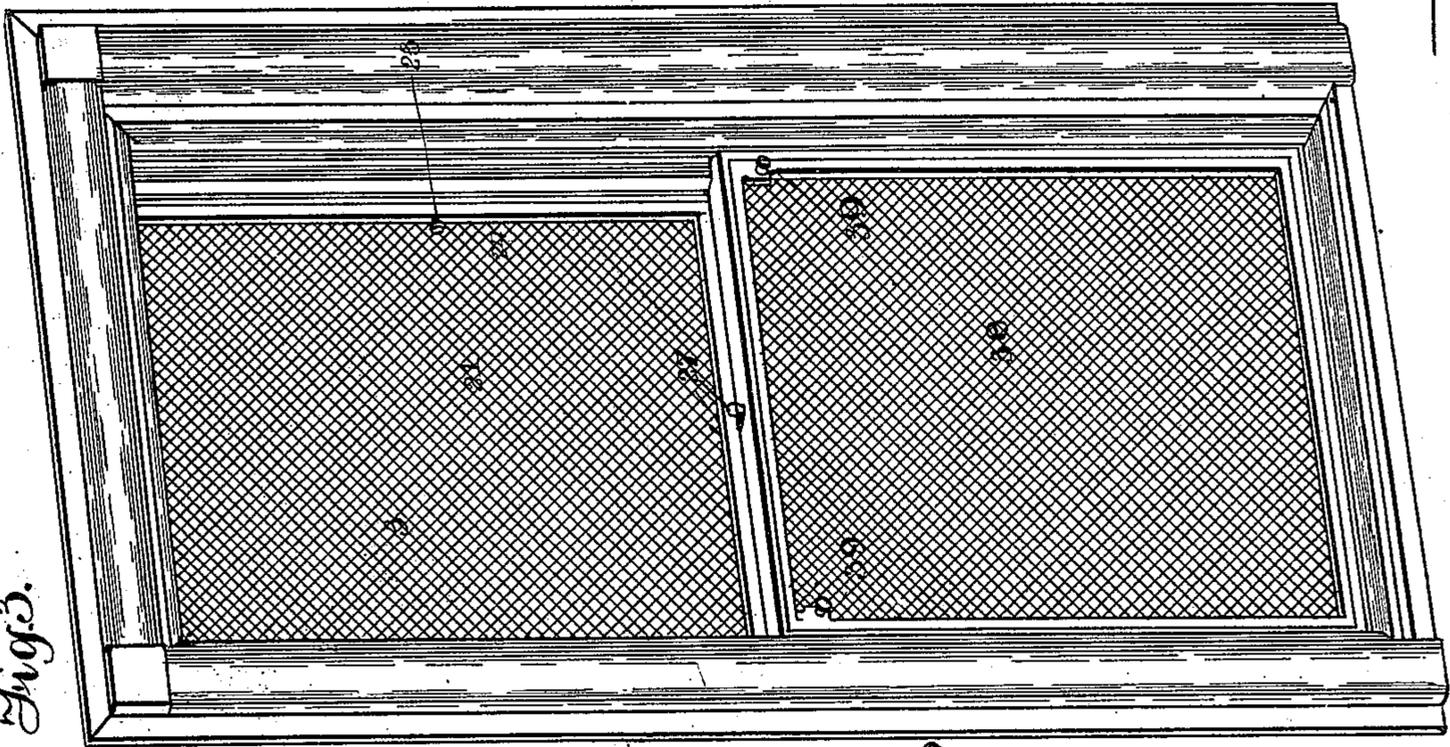


Fig. 3.

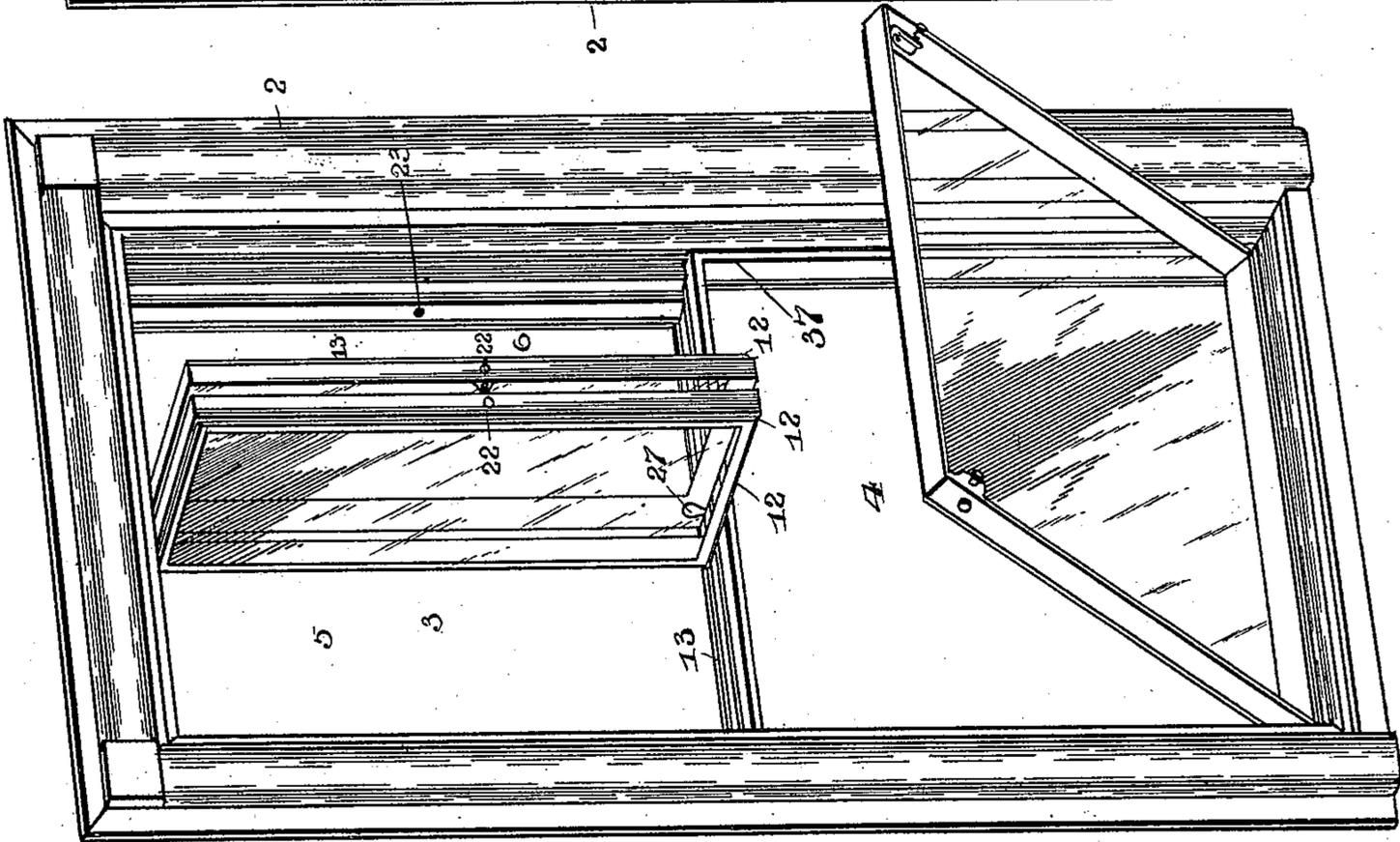


Fig. 2.

Witnesses
W. J. Doyle
A. B. Smith

Inventor
Frank Starace,
 By *H. B. Willson,*
 Attorney

UNITED STATES PATENT OFFICE.

FRANK STARACE, OF NEW YORK, N. Y.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 574,283, dated December 29, 1896.

Application filed July 14, 1896. Serial No. 599,149. (No model.)

To all whom it may concern:

Be it known that I, FRANK STARACE, a citizen of Italy, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Windows; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to windows, and more particularly to the construction of the upper and lower sashes, and the object is to provide a window in which the sashes are hinged to the sash-frames, so that the sashes can be opened without lowering or raising the sash-frames for ventilation, or to have access to the outside of the glass to clean it, or to remove the sash entirely and insert screens in the place occupied by the sash in the sash-frame.

To these ends the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same figures of reference indicate the same parts of the invention.

Figure 1 is a front elevation of my improved window. Fig. 2 is a perspective view with the sashes open. Fig. 3 is a similar view with the sashes removed and wire frames inserted in the sash-frames. Fig. 4 is a vertical cross-section on the line *x x* of Fig. 1. Fig. 5 is a horizontal section on the line *a a* of Fig. 1. Fig. 6 is a horizontal section on the line *b b*. Fig. 7 is a horizontal section on the line *c c*. Fig. 8 is a horizontal section on the line *d d*. Fig. 9 is a section on the line *e e*. Fig. 10 is a perspective view of the right-hand hinge, and Fig. 11 is a cross-section of the sash-lock connecting the bottom rail of the top sash and the top rail of the bottom sash.

2 represents the window-frame, and it is of the usual construction.

3 is the upper sash-frame, and 4 is the lower sash-frame, both of which slide vertically in the usual manner and are provided with counterbalance-weights after the ordinary form.

The upper sash-frame 3 is provided with two vertically-hinged panel-frames 5 and 6,

each one of which is formed with a pivot-stud 7, working in an elongated hole 8 in the bottom rail, and with a pivot screw-stud 9, each of which passes through an elongated hole 10 in the top rail of the sash proper, and these studs 7 9 form the hinge on which said panels swing, and the tops, bottoms, and outer sides of said panels have rabbeted recesses 12, which fit corresponding recesses 13 in the sash-frame to render the joints air, water, and dust proof, while the adjoining sides of the panels have a broken joint to accomplish the same purpose, the side rail of the panel 5 being formed with a semicircular recess 14 and the side rail of the panel 6 with a convex rib 15, which lies in the recess 14 when both panels are closed, as shown.

The pivot screw-studs 9 are connected by a spiral spring 16, which exerts its tension to draw the adjoining side rails together and keep the joint between them tight.

17 is a double-spring catch secured by a screw 18 on the top rail of the bottom sash-frame, and it serves to engage the lower rail of one or both of the panels 5 and 6 to hold them open, as shown in Fig. 2.

The upper sash-frame and its hinged panel-frames are preferably formed of metal, and the sash-frame is provided with wooden border-strips 19 19, secured thereto by countersunk-head screws 20, extending entirely around to give a finish to the whole and reduce the weight and friction of the sash when sliding in the window-frame.

By removing the screw-studs 9 9 and spring 16 from the upper rail the panels 5 and 6 may be readily removed and replaced by a wire-net frame 21, inserted as shown in Fig. 3.

22 is a bevel-faced spring-bolt, one end of which is located in each of the outer side rails of the panel-frames 5 and 6, and the bevel-face thereof engages an orifice 23 in the adjoining side rail of the sash-frame to lock the panels from the inside when they are closed, as shown in Fig. 6, and these orifices 23 also serve to engage similar bolts 24 on the wire frames 21 when inserted as above described.

25 is a spring-lever pivoted on a screw 26 on the inner top of the bottom rail of the upper sash-frame. The free end of this spring-lever is provided with a handle 27 and a downwardly-projecting pin 28, which engages a re-

cess 29 in the top rail of the bottom sash and when so engaged serves to lock both the top and bottom sash.

A recess 30 is formed in the top face of the bottom rail of the upper sash to receive the pin 28 of the spring-lever 25 after it has been released from the recess 29 in the lower sash and swung around horizontally to clear the lower sash.

The lower sash-frame 4 is provided with a socket 31, located on the inner side of the left-hand rail near its bottom, and with an inclined slot or recess 32 in the same position on the opposite side rail, and studs 33 34, secured to the panel-frame 35, work in these holes and form a horizontal hinge for the panel-frame in the sash-frame, and when closed, as shown in Fig. 1, two spring-bolts 36 37 hold it in place, and by releasing the spring-bolts the panel-frame may be lowered on its hinged studs to the position shown in Fig. 2, and by tilting up the right-hand end of the lowered panel the stud 34 will slide upwardly out of the inclined recess 32, and the panel may be entirely removed from the sash-frame and a wire-net frame 38 inserted, the spring-bolts 39 securing the same in place, as shown in Fig. 3. This lower sash-frame is formed with a continuous inner rabbeted recess 40, which breaks joints with a similar continuous rabbet 41 on the outside of the panel-frame to render said joints dust and water proof when the panel is closed in the sash-frame. This sash-frame is preferably formed of metal, and it is provided with wooden battens 42 on its sides and bottom for the same reasons given for the upper sash-frame.

The great convenience offered by this con-

struction in cleaning the outside of the windows, as well as the entire open space of the whole frame of both upper and lower sashes for ventilation, will be fully appreciated by those interested.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The sliding sash-frame 3, formed with the elongated holes 8 and 10, in combination with the hinged panel-frames 5 and 6, each of which is formed with the pivot-stud 7, and provided with the removable pivot screw-stud 9, by means of which said panel-frames are independently hinged in said sliding sash-frame, substantially as and for the purpose set forth.

2. The sliding sash-frame 3, comprising the elongated holes 8 and 10, in combination with the hinged panel-frames 5 and 6, each of which is formed with a rigid pivot-stud 7 and a removable pivot screw-stud 9, the adjacent studs 9 9 on the panels 5 and 6 being connected by a spring 16, substantially as and for the purpose set forth.

3. The combination with the frame 3, having elongated holes 8 and 10 of the panel-frames 5 and 6 provided with the removable screw-studs 9 9 and spring 16, and having their adjacent side rails formed with a recess 14 and a corresponding rib 15, substantially as and for the purpose set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

FRANK STARACE.

Witnesses:

A. G. PEARCE,
GIUSEPPE FISCO.