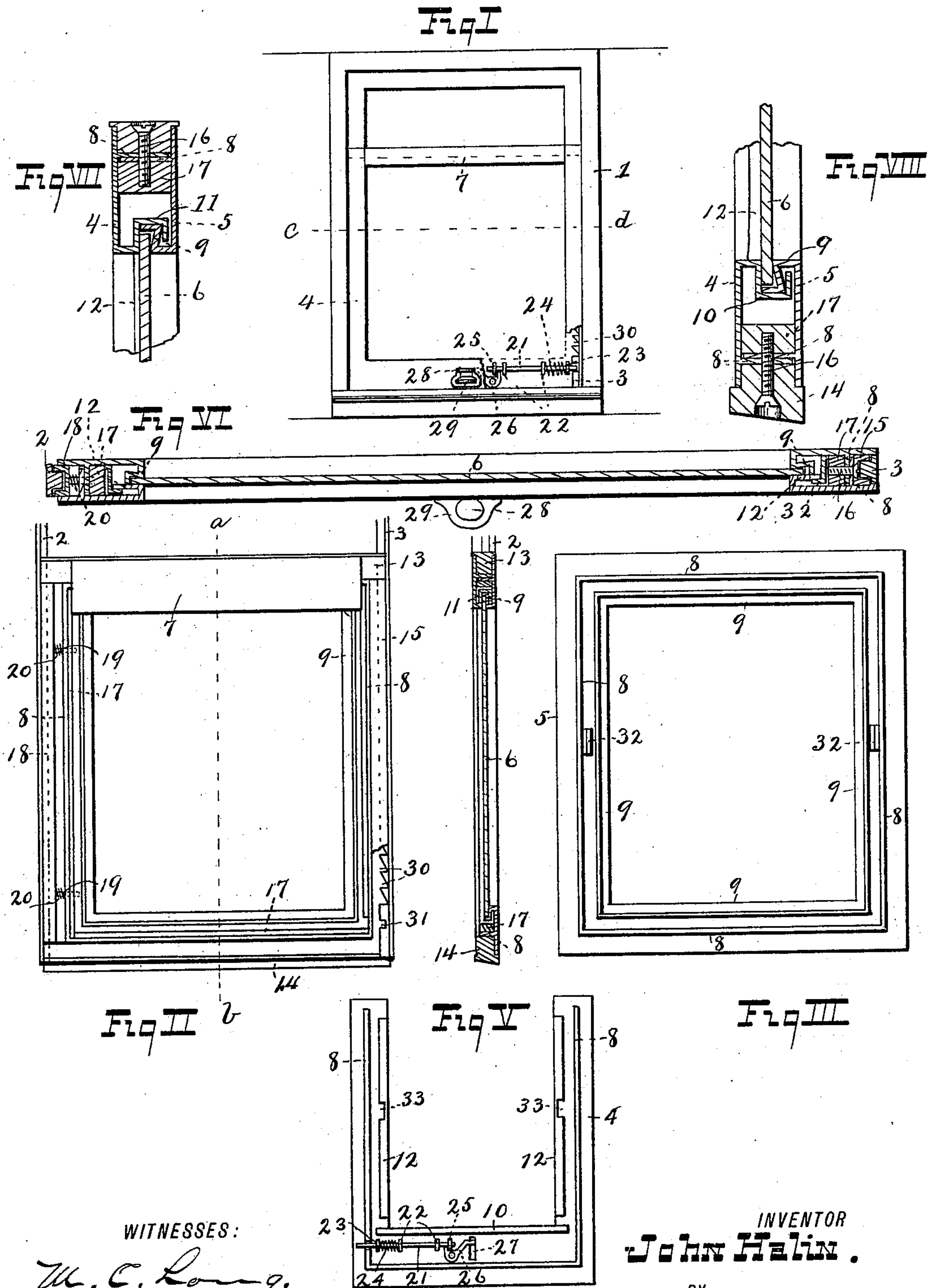


(No Model.)

J. HALIN.
CAR WINDOW.

No. 598,925.

Patented Feb. 15, 1898.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN HALIN, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-HALF TO
JOHN BENSON AND CHARLES GABRIELSON, OF SAME PLACE.

CAR-WINDOW.

SPECIFICATION forming part of Letters Patent No. 598,925, dated February 15, 1898.

Application filed November 5, 1897. Serial No. 657,466. (No model.)

To all whom it may concern:

Be it known that I, JOHN HALIN, a citizen of the United States, residing in Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Car-Windows, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in window-sashes.

My invention is particularly adapted to be employed in the construction of car-windows.

In car-windows as now constructed it is difficult to obtain a sash that will not be too loose or too tight in the window-frame due to the action of the weather on the wooden frame of the sash.

The object of my invention is to provide a window-sash that may be readily fitted to the window-frame and after it has been fitted in place will be easy to raise or lower, and yet will always make a good fit with the window-frame.

My invention provides, further, a window-sash comprising two principal parts, between which the glass is secured, combined with novel means for uniting the two parts, the uniting means being rendered invisible from either the inner or the outer side of the car or dwelling.

My invention comprises, further, the peculiarities of construction hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure I represents a front elevation view of the sash fitted in an ordinary car-window frame, a portion of the lower part of the sash being broken away so as to show a portion of the locking mechanism. Fig. II represents a front elevation view of the sash and guide-strips, the front principal part of the sash-frame being removed and a portion of one of the guide-strips being broken away. Fig. III represents a front elevation view of the rear principal part of the sash-frame, all of the cleats being removed. Fig. IV represents a back or inner view in elevation of the front principal part of the sash-frame. Fig. V represents a vertical sectional view taken on the dotted line *a b* of Fig. II. Fig. VI represents a horizontal sectional view

taken on the dotted line *c d* of Fig. I. Fig. VII represents a transverse vertical sectional view of the upper end of the sash, taken on the dotted line *a b* of Fig. II. Fig. VIII represents a similar view taken on the same line of the lower end of the sash.

Similar numerals of reference indicate similar parts throughout the several views.

My invention is adapted to be used very successfully in the construction of sashes the framework of which is of metal, such as sheet or cast aluminium, only such parts being made of wood as will facilitate the fitting of the sash to the casing. The drawings illustrate the form deemed best adapted in the construction of the metal sashes. Referring thereto, 1 indicates the window-casing, which may be of the ordinary construction, the ordinary wooden sash-guides being replaced by the T-shaped guide-strips 2 and 3, which are secured vertically upon the inner sides of the window-casing. The sash is composed substantially of two principal parts—the front part of the frame 4 and the rear part of the frame 5. The two parts of the sash-frame 4 and 5 are provided with means, hereinafter described, for holding them clamped securely together. The glass pane 6 is held securely between the two parts 4 and 5 in a manner described farther on.

7 indicates a supplemental part of the sash-frame, secured independently from the front part 4 to the rear part 5 of the sash-frame.

The rear part of the sash-frame 5 is constructed as follows: A flat rectangular plate is provided with a rectangular opening there-through a trifle smaller than the size of the glass pane to be used. Upon the inner side of the plate and projecting at right angles therefrom are four flanges 8, which run parallel with the respective edges of the plate at a distance of, say, one-half inch therefrom, the adjacent ends of contiguous flanges being joined together. The seat for the glass pane is indicated by the numeral 9 and is formed as follows, attention being directed particularly to Figs. V, VI, VII, and VIII: The edges of the plate around the rectangular opening in the plate are first bent at right angles inwardly, then toward the adjacent outer edge of the plate, but inclining, for the

reason hereinafter indicated, toward the plate, and then again at right angles from the plate inwardly or toward the front of the sash-frame. A rectangular seat 9 is thus formed, in which the glass 6 is placed.

The front part of the sash-frame 4 is of the same size as the rear part 5 and is constructed in the same manner, with the following exceptions: The upper end of the plate immediately above the central rectangular opening is removed, its place when the sash is together being occupied by the transverse supplemental part 7. The plate forming the body of the part 4 is provided with the inwardly-projecting flanges 8, the same as with the rear part 5, but are located nearer the edges of the plate, so that when the front and rear parts of the frame are united the flanges 8 upon the rear side of the plate 4 will lie outside, but against the flanges 8 upon the plate 5. A further difference exists in the manner of forming the edges of the plate 4 adjacent to the central opening. The side edges are formed as follows: The plate is bent rearwardly or toward the glass at right angles to the plate, and then at right angles parallel with the plate toward its outer edges. The edge of the plate adjacent to the lower end of the central opening is bent at right angles inwardly toward the glass, then at right angles toward the lower outer edge of the plate 4, and then at right angles inwardly, and, finally, bent at right angles toward the central opening at a point where when the two parts 4 and 5 are together the seat 9 will lie in the channel formed by the two last bends in the plate 4. In Fig. VIII is clearly shown the construction just described.

The strip 7 is a rectangular plate transversely disposed. Parallel with its upper edge, at the same distance therefrom as the plate 4, is a flange 8, located, when the plate 7 is secured to the plate 5, outside of but adjacent to the flange 8 upon the plate 5. The lower edge of the plate 7 is bent in the same manner exactly as described with reference to the portion indicated in the drawings by the numeral 10 of the plate 4. This bent lower portion of the plate 7 is indicated by the numeral 11. The flanges upon the vertical inner edges of the plate 4 are indicated by the numeral 12.

When the plates 4 and 7 are secured, as described, to the rear plate 5, a rectangular longitudinal channel will be formed exterior to the flanges 8 on each side of the sash-frame. In the channel formed thereby in the upper end of the sash is fitted a horizontal wooden strip 13. In the lower end of the sash is fitted the horizontal wooden strip 14. The strips 13 and 14 and a vertical wooden strip 15, located in the channel in the right side of the sash-frame, are secured in place by means of screws or bolts 16, which extend through the strips and the flanges 8 of the plates 4, 5, and 7 into wooden strips 17, located within the flanges 8 of the plate 5 and secured

parallel thereto. The strip 15 is provided with an external longitudinal groove fitted to the tongue on the guide-strip 3. Each end of each of the strips 13 and 14 is provided with a vertical groove fitted to the tongues on the strips 2 and 3, respectively. In the channel formed in the left side of the frame is located a vertical strip 18, having an external vertical groove fitted to the tongue on the guide-strip 2. The strip 18 has extending inwardly from it and secured thereto two or more pins 19, which are longitudinally movable in openings provided therefor through the flanges 8 and the left wooden strip 17. Located between the outer flange 8 on the left side of the plate 4 and the strip 18 are the coil-springs 20 upon the pins 19. The tension of the said springs is such as to force the strip 18 outwardly against the strip 2.

Upon the rear side of the plate 4, between the flange 8 and the bent portion 10 and upon the left side of the plate, is located a sliding bolt 21, supported by bearings 22, secured to the rear side of the plate 4. The bolt 21 is transversely disposed and is provided to the left of the bearings, as viewed in Fig. IV, with a collar 23. Between the collar 23 and the nearest bearing 22 is located a coil-spring 24, which encircles the bolt 21, and the tension of which is such as will force the bolt outwardly. To the right end of the said bolt, as viewed in the same figure, is secured a collar 25. Pivoted upon the rear side of the plate 4 is a bell-crank lever 26, one end of which engages the inner side of the collar 25 and the other end of which extends through an opening 27 in the plate 4 and has its outer end formed into a finger-hold, (indicated by 28.) Below the finger-hold 28 and secured to the external side of the plate 4 is another finger-hold 29. The bolt 21 extends through the adjacent flange 8 and is adapted to have its outer end engage with notches 30, provided in the tongue on the strip 3, for the purpose of supporting the sash when in the raised position. A notch 31 is also provided in the said tongue to receive the outer end of the bolt 21 to prevent the raising of the window unless the bolt is withdrawn.

My invention is operated as follows: The seat 9 is provided with a layer of putty upon the side adjacent to the glass pane 6. The plate 7 is then secured to the plate 5, the bent portion 11 thereof being made to embrace the seat 9, as shown in Fig. VII. The strip 13 is then placed in the upper channel formed by the plates 5 and 7 and secured therein. The pane of glass is then placed in position against the putty in the seat 9. The front plate 4 is then placed in position and the strips 14 and 15 arranged in their appropriate places and secured therein by means of the screws 16. The strip 18 is then placed in the left-hand channel, the pins 19 being inserted in the openings provided for them and having upon them the springs 20. The guide-strips 2 and 3 are then fitted to their positions and the

whole placed in the window-casing, the guide-strips being secured in position on the casing in any desirable manner. If there should be any play due to wear, it will be compensated for by the spring-actuated strip 18. In order to more securely hold the two plates 4 and 5 together, near the middle of the sides of the plate 5, upon its rear side, are secured two inwardly-extending cleats 32, the inner ends of which are bent inwardly toward each other and are adapted to engage the bent portions 12 of the plate 4, the said bent portions being provided with the slots 33 to receive the cleats 32.

My invention may be modified in many ways without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-window, the combination with the rear part of the sash-frame provided with a seat for holding the pane of glass and inwardly-extending flanges, of the front part of the sash adapted to hold the pane of glass in the said seat and having inwardly-extending flanges adapted to overlap the flanges of the rear part, and means for tying the flanges of the two parts together, substantially as described.

2. In a car-window, the combination with the front and rear parts of the sash-frame between which the pane of glass is clamped, of guide-strips located between the said front and rear parts and engaging with guide-strips secured to the inner sides of the window-casing, one of the said first-named guide-strips being laterally movable with respect to the sash-frame, and springs for forcing the said movable strip outwardly toward the adjacent casing guide-strip, substantially as described.

3. In a car-window, the combination with the rear part of the sash-frame provided with

inwardly-projecting flanges, of the front part of the sash-frame provided with flanges adapted to overlap the flanges of the rear part, a guide-strip located outside the flanges between the two parts on one side of the sash-frame and another guide-strip movable laterally between the two parts outside the said flanges upon the other side of the frame, and springs for forcing the said movable guide-strip outwardly, substantially as described.

4. In a car-window, the combination with the sash-frame comprising front and rear parts between which the pane of glass is secured, of guide-strips located one at each side of the sash-frame between the front and rear parts thereof, one of the guide-strips being movable laterally, means for forcing the movable guide-strip outwardly, guides secured to the inner sides of the casing for engaging with the guide-strips, and a locking device for securing the sash-frame in a desired position with respect to the casing, substantially as described.

5. In a car-window, the combination with the rear part of the sash provided with the seat 9 and the flanges 8, of the front part of the frame provided with the flanges 8 adapted to overlap the flanges 8 of the rear part and having the bent portions 12 adapted to hold the glass in its seat 9 and the bent portion 10 for embracing the seat 9, the part 7 provided with the flange 8 and the bent portion 11 adapted to embrace the seat 9, and means for locking the parts 4, 5 and 7 together, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN HALIN.

Witnesses:

JOHN BENSON,
CHAS. GABRIELSON.