(No Model.)

C. A. WELLINGTON.

WINDOW AND CASING FOR CARS, &c.

No. 589,453. Patented Sept. 7, 1897.

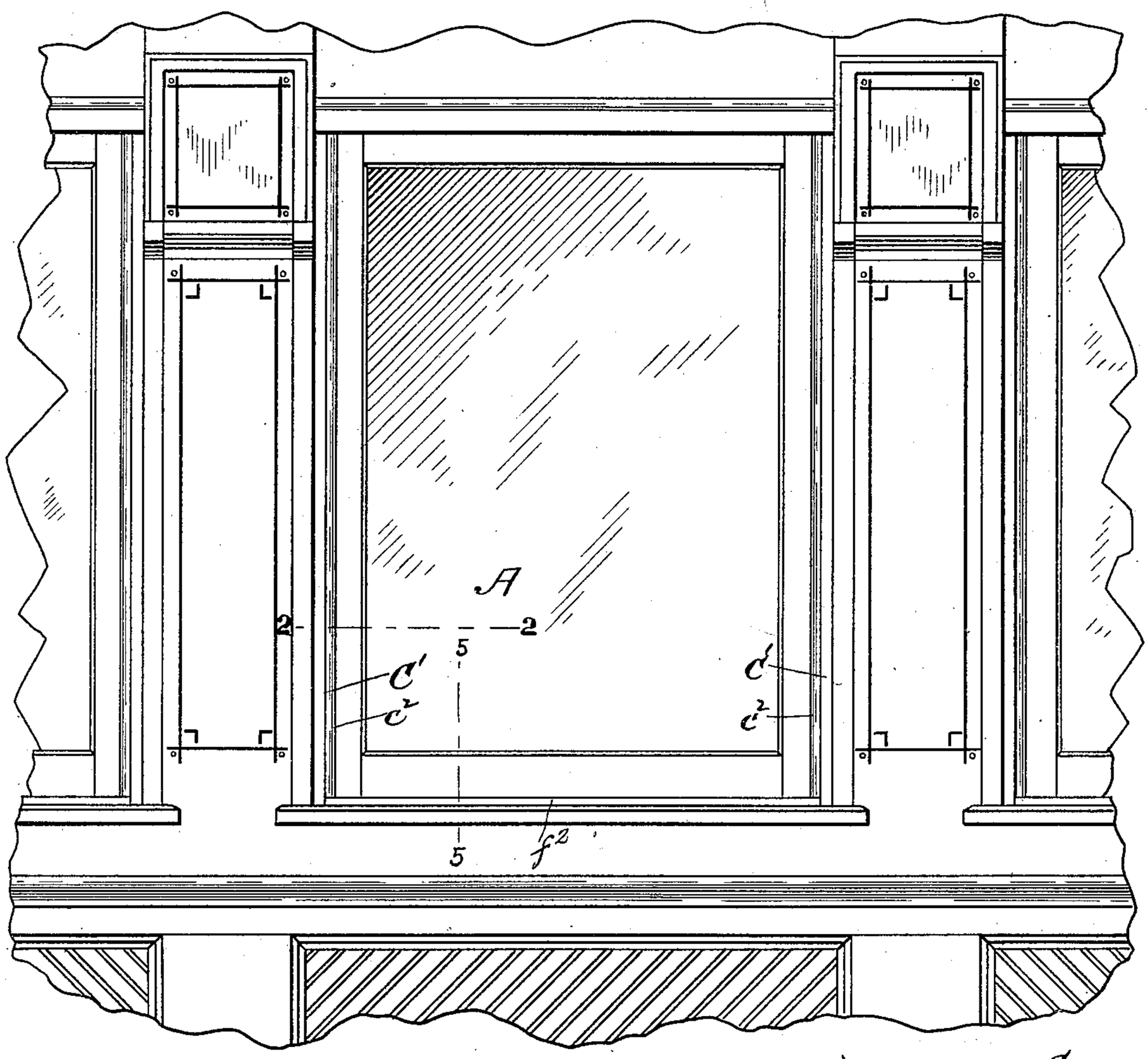

Fig. 1.

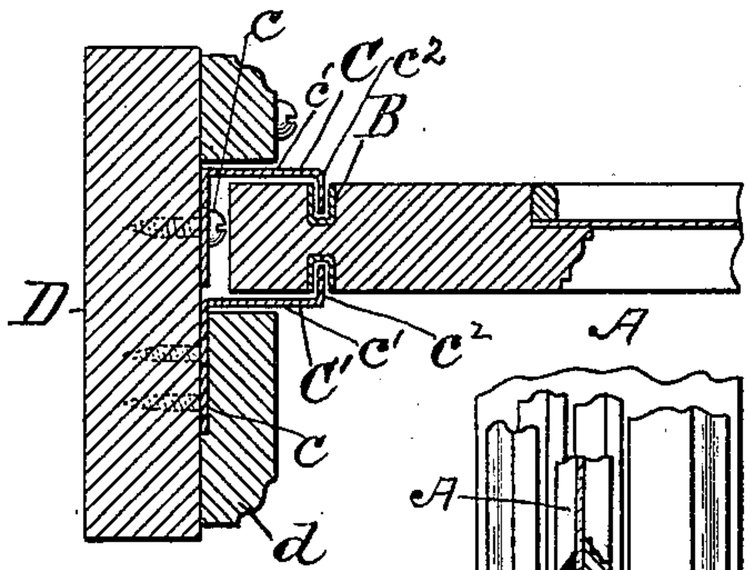

Fig. 2.

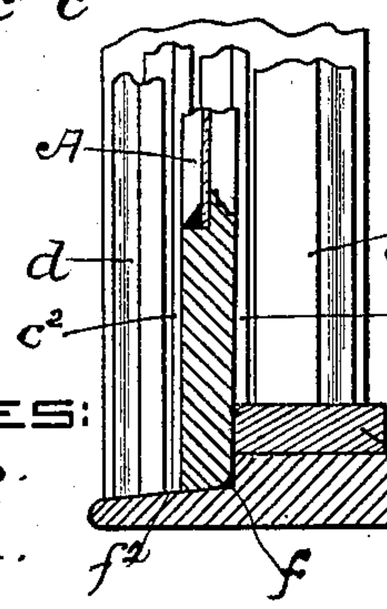

Fig. 5.

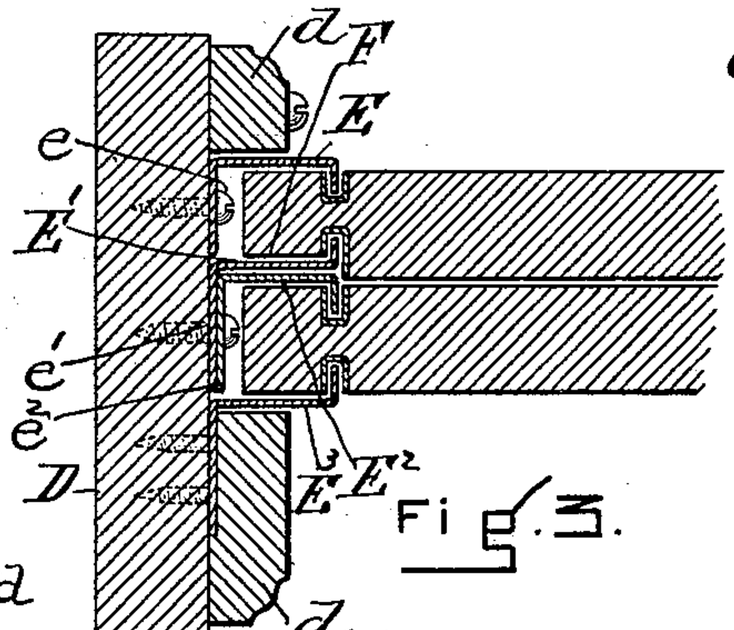

Fig. 3.

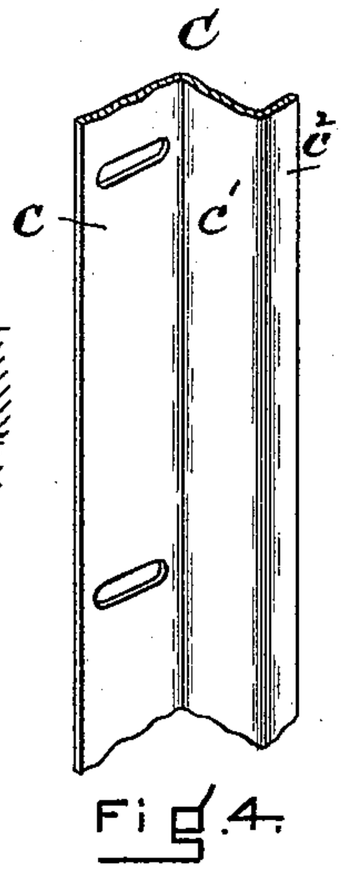

Fig. 4.

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UNITED STATES PATENT OFFICE.

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WINDOW AND CASING FOR CARS, &c.

SPECIFICATION forming part of Letters Patent No. 589,453, dated September 7, 1897.

Application filed March 24, 1897. Serial No. 629,077. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WELLINGTON, a citizen of the United States, residing at Lexington, in the county of Middlesex and State of Massachusetts, having invented a new and useful Improvement in Windows and Casings for Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention comprises a casing and window for cars and other purposes, the casing being made of metal strips having angular feet or bases, which afford means for fastening them to the window-frame, parallel yielding sections extending from the side of the window-frame and inwardly-projecting ends which extend toward each other and which enter metal-lined grooves on each surface of the window near each edge thereof, but removed considerably from the frame, the object of the invention being to provide a means for holding a window which shall not be affected by changes in temperature or changes in humidity, which shall be slightly yielding, which shall always preserve their shape, and which shall prevent dust or air from circulating around the edges of the window.

Referring to the drawings, Figure 1 is a view in elevation of a portion of a side of a car representing the car-window, its casing, and frame. Fig. 2 is a transverse view upon the dotted line of Fig. 1. Fig. 3 is a transverse view to illustrate the application of the invention to ordinary house-windows. Fig. 4 is a view in perspective of one of the metal frames or housings. Fig. 5 is a detail view in vertical section across the lower part of the window and the window-sill, to which reference will hereinafter be made.

A is a car-window. It has upon its inner and outer sides near each side edge a deep metal-lined groove B, which preferably are oppositely arranged in relation to each other. (See Fig. 2.) These grooves are formed by first sawing out or otherwise removing portions of the wood to provide relatively wide deep recesses, in which are secured the metal linings, each formed from a flat strip bent to the shape of a U. These strips are of sufficient depth to form a continuous lining, which shall seat itself at the inner end of the grooveline, the sides and the edges of which shall be flush with the surface of the window.

C C′ represents the metal sections of the casing or housing. As represented in Fig. 2, they are practically counterparts, each having a base or foot *c*, which is fastened by screws to the frame D or to a cleat *d*, there being two cleats, which are separated from each other by a space somewhat wider than the thickness of the window and the thickness of the two sections of the metal casing. These sections C C′ also have portions *c*′, which extend outwardly from the feet and are parallel with each other, and the sections c^2, which are bent inwardly toward each other and which enter the metal-lined grooves B of the window, these inwardly-turned sections being slightly wider than the depth of the grooves, so that their inner edges bear against the bottoms of the grooves, and so as to hold the portions *c*′ of the metal sides from contact with the sides of the window.

I prefer that the window shall be somewhat less in width than the distance between the two frame-sections D, the side edges of the window not bearing against either of the side frames, said contact being prevented by the inward extension c^2, against the sides of which the window bears to some extent.

I prefer that the spaces between the window and the cleats be somewhat wider than the portions *c*′ of the metal frame, in order that there may be some degree of yielding movement or flexibility to the metal casing, and in order also that the window may not bear against the inner surface of the said portions, as above specified.

In Fig. 3 I have illustrated the invention as modified for use in connection with sliding windows of two parts—that is, windows having lower and upper sashes which slide by each other—and the casing when so employed is slightly modified.

The space between the cleats *d* is made sufficiently wide to receive two sashes and a metal housing or frame for each, and the section E of the housing for the upper window preferably has its foot *e* shaped as represented in Fig. 3 and united to the wooden frame at the point therein represented. The casing-section E′ preferably has its foot *e*′ turned as

represented in Fig. 3 and the section E^2 of the casing for the lower sash has its foot e^2 turned as shown in said figure and is made somewhat shorter, so that the said foot e^2 may lie against the foot e' and be fastened to the frame D by the same screws.

The section E^3 of the casing for the lower window is like that already described in connection with Fig. 2. The sash of the upper window is also cut away at F between its metal-lined recesses and the side edges to provide room for the portions C of the two casings, which are at that point practically back to back, and these two sections and their laterally-turned ends take the place of the separate guide-strips which are ordinarily used between the two sashes, but they do not act in the same way, as they do not guide the side surfaces of the windows, the entire guiding and holding of the windows being upon the inner edges and sides of the sections of the metal casing which enter the metal-lined grooves, and this construction, therefore, very much lessens the friction between the window and its housing, as well as furnishing a dust and wind proof connection with the window-frame and one that is not affected by the weather.

I would say that while I prefer that the grooves of the windows be metal-lined, yet they may be lined with other material or they may not be lined at all. As a rule, however, I prefer that the grooves be metal-lined. I would also say that I prefer that the screw-holes through the feet of the metal housings be in the nature of elongated slots, in order that the two sections, or either of them, may be adjusted in relation to each other and set with as much tension as may be desired against the window-sash.

I prefer that the lower cross-piece of the window be slightly tapered or beveled at f along its lower front corner and that the upper piece f' of the window-sill be set so that its edge next the window-casing be practically within the line of the front portion of the sash, so that upon the closing of the same the inclined or beveled section shall come into contact with the upper corner thereof and force the lower portion of the sash backward slightly, this backward or outward movement being permitted by the yielding of the metal housing, and especially the outer sections thereof, and this causes a tight joint between the sill and the lower part of the window-frame to be produced in the act of shutting the window and to be constantly maintained by the pressure of the yielding metal casing against the window. The outer sections of the metal casing extend to or very nearly to the cross-piece f^2.

It will be noticed that the metal housings are attached to the window-frame in the following way—that is, the outer housing-section upon each side is first attached to the window-frame, the window then placed upon the same and the lower housings then located, adjusted, and fastened to the window-frame or to the inner cleats d, and this will permit the ready attachment of the housings and original placing of the window-sash and its ready removal upon the removal of the inner housings only.

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

1. The combination of the window having the metal-lined groove B, with the stationary casing or housing comprising the metal plates C, C′, having feet by which they are secured to the window casing or frame, parallel sections c' and inwardly-turned sections c^2 to enter the metal-lined or other grooves of the window, as and for the purposes described.

2. The combination of the window having the metal-lined groove, with the metal casing C, C′, having the yielding portions c' which are held from contact with the window and with the cleats upon the outside thereof, and the ends c bent toward each other and bottomed in the metal-lined or other grooves and holding the window from contact with the portions c' of the casing, as and for the purposes set forth.

3. The combination of the windows arranged to slide by each other, having metal-lined grooves arranged therein as specified, the metal housing E, E′ engaging the grooves of the upper sash, the metal housing E^2, E^3 engaging the grooves of the lower sash, the upper sash being cut away at F to afford room for the parallel portions of the casing-sections E′, E^2, as and for the purposes set forth.

4. The combination of the window-sash having the inclined or beveled surface f, the yielding holders and the sill-piece having the surface f' against which the window-casing is closed and held by the yielding side holders.

5. The combination in a window-casing of the window having grooves therein substantially as specified, the holder C′ having a foot extending inward from said window and fastened to the window-casing, and the housing or holder C having the inward-extending foot attached to the window-casing, as and for the purposes described.

6. The combination of the window having grooves substantially as specified, with side housings C, C′ engaging said window as specified, the inner housing being removable from the inner side of the window-casing to permit the placing and removal of the window in relation to the outer housing, as and for the purposes described.

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