No. 818,764. PATENTED APR. 24, 1906.

A. E. HULL.

WEATHER STRIP.

APPLICATION FILED JUNE 30, 1905.

Fig. 1.

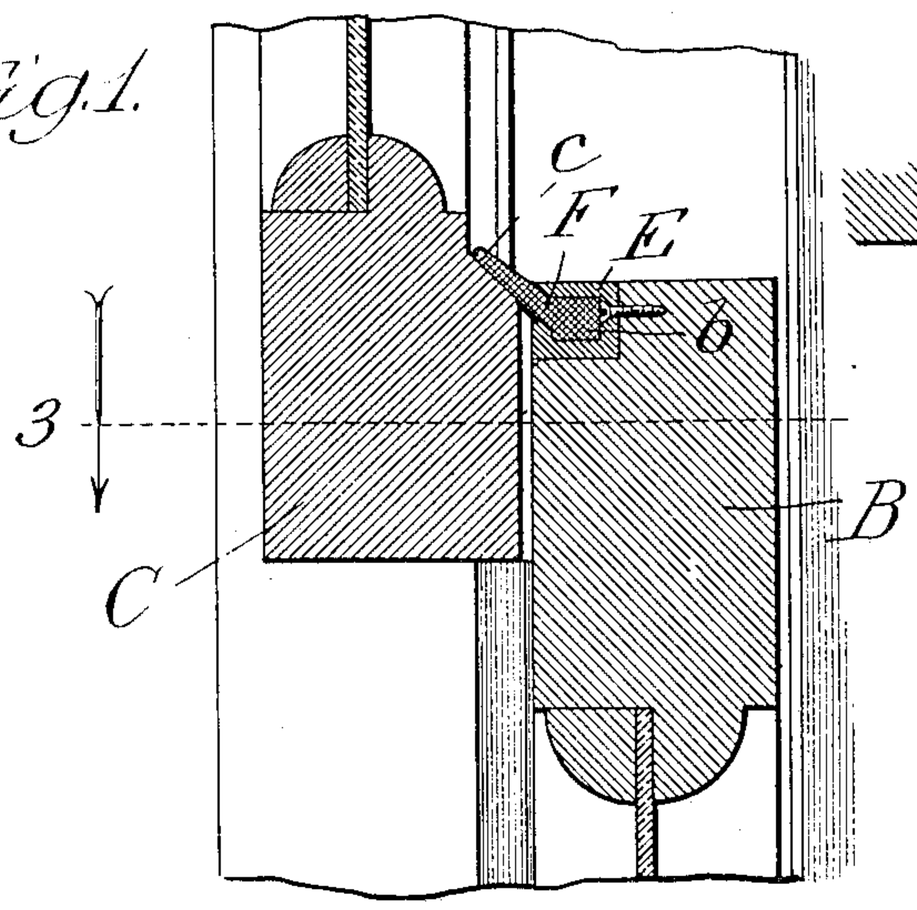


Fig. 3.

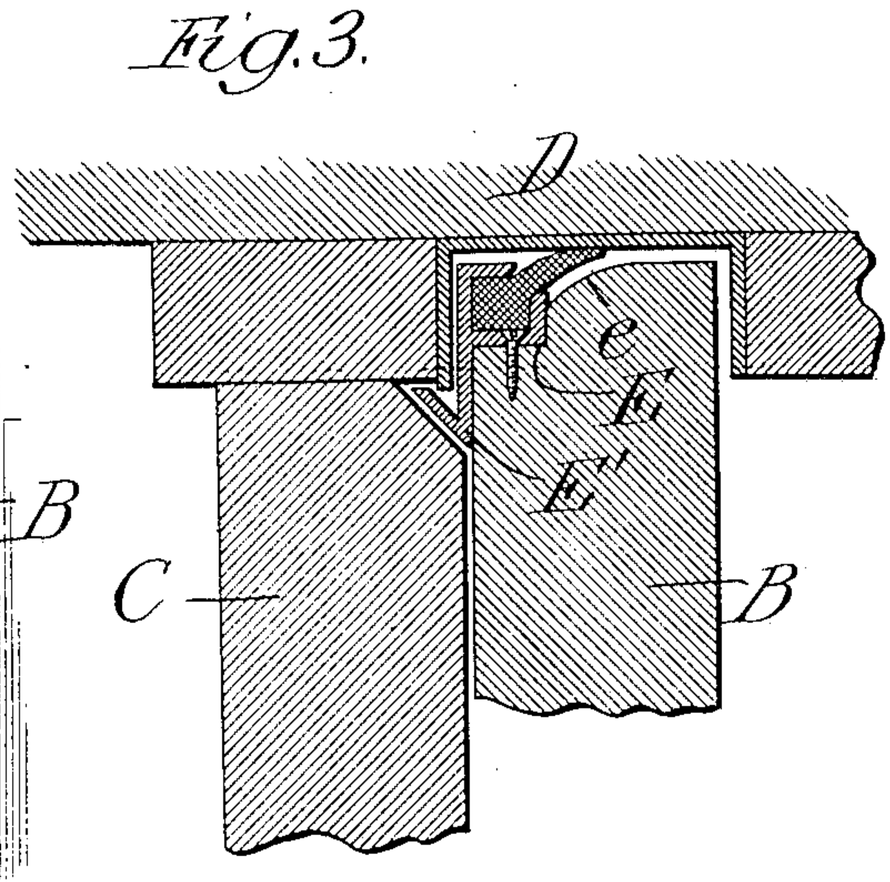
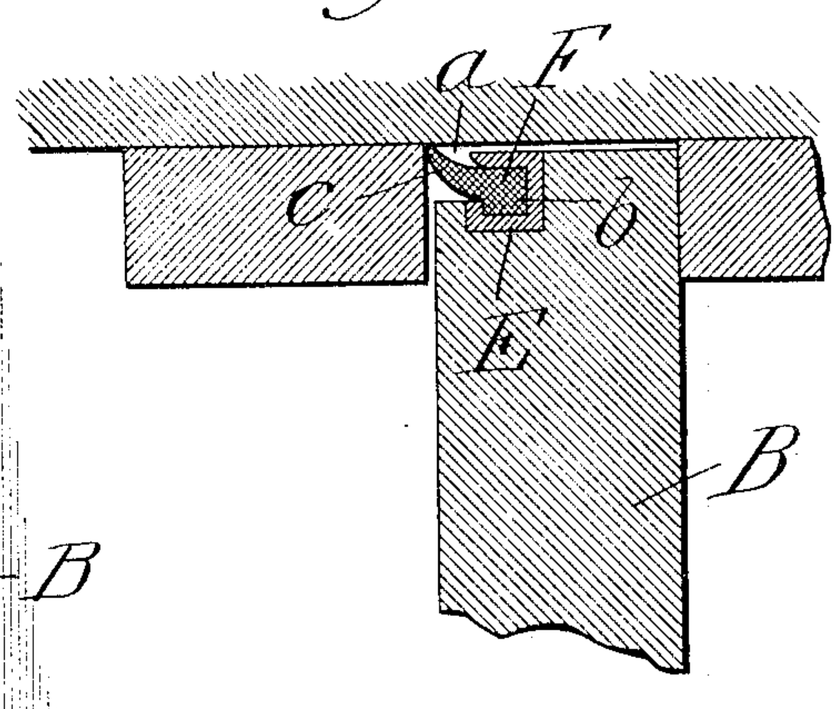


Fig. 4.



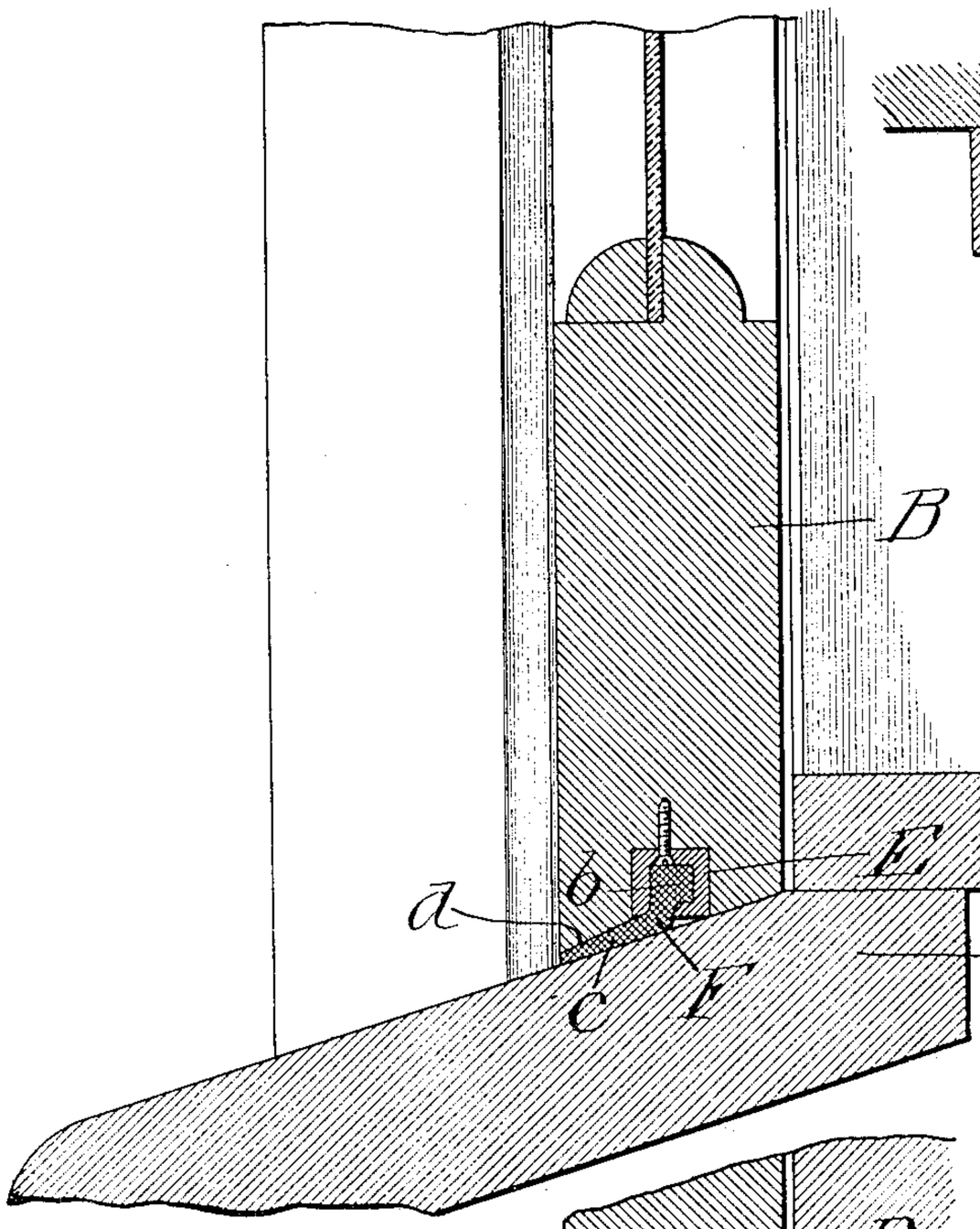
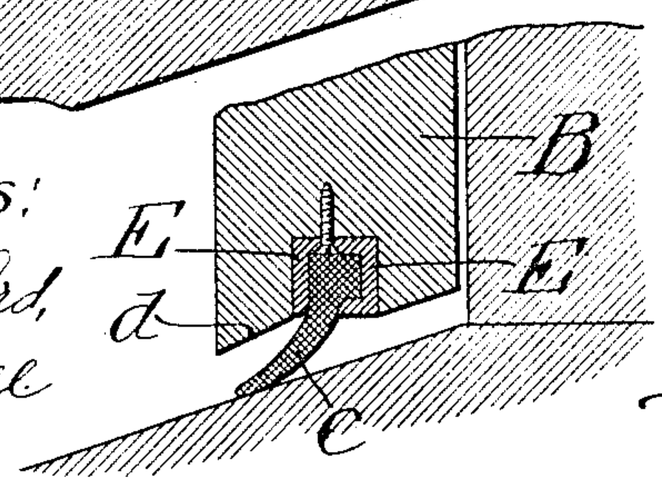


Fig. 2.



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UNITED STATES PATENT OFFICE.

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WEATHER-STRIP.

No. 818,764. Specification of Letters Patent. Patented April 24, 1906.

Application filed June 30, 1905. Serial No. 267,688.

To all whom it may concern:

Be it known that I, ARTHUR E. HULL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Weather-Strips, of which the following is a specification.

My invention relates to improvements in weather-stripping means for windows, doors, &c., generally, and more especially for the windows of passenger-cars.

The weather-strips hitherto usually provided upon car-windows consist of flexible strips of rubber, felt, or the like permanently incased at one edge in sheet metal and are fastened with nails to the window-casings. When a car is sent to the repair-shop to be revarnished, it is necessary of course to remove the window-sashes; but the weather-strips are generally left in place on account of the difficulty of removing them and undesirability of using the same strips over again after being once removed. On this account the weather-strips often become coated with varnish, which in hardening stiffens the rubber or the like and tends to destroy its usefulness.

My object is to provide improved weather-strips and improved means for holding them in place, all with the view of causing the flexible strips to be readily removable and replaceable, of housing them in a manner which will not mar the appearance of the window structure, and of rendering them particularly desirable for their purpose.

In the drawings, Figure 1 is a broken sectional view through the sill and lower and upper sashes of a car-window, showing the sashes closed; Fig. 2, a broken sectional view showing the lower sash slightly raised; Fig. 3, a broken section taken on line 3 in Fig. 1 and showing the preferred construction when employed in connection with a car-window; and Fig. 4, a sectional view similar to Fig. 3, but showing the construction best adapted for connections other than car-windows.

A is a sill-plate of a car-window; B, the lower sash; C, the upper sash, and D the window-casing at one side.

E is a weather-strip-retaining tube formed of metal or other suitable stiff material and of rectangular shape in cross-section, whereby it may be countersunk in the edge of the sash and present a smooth finish. At one corner the tube is provided with a longitudinally-extending slot *a*, the edges of the metal being rounded at the slot, as indicated. The weather-strip proper, F, may be of any suitable flexible material, preferably rubber, and is formed with an enlarged shouldered edge portion or bead *b*, preferably rectangular in cross-section and fitting the tube quite closely, but in a manner to be readily slid therein longitudinally. The other or outer edge portion *c* of the strip may be of somewhat tapering form, as indicated.

At the upper end of the sash D the tube E may be set into a recess in the sash, as shown at the top of Fig. 1, and fastened in place with screws or otherwise. A tube E may be set into a recess in the lower edge of the sash, between the sides of the latter, as shown in Figs. 1 and 2, the under edge portion of the sash beyond the tube being cut away, as indicated at *d*. Tubes E may be fastened in recesses in the side edges of the window-sash, as shown in Fig. 4. The flexible strips D at their enlarged edge portions *b* practically fill out the tubes E and are adapted to be passed into them from one end and slid longitudinally into position, the parts *c* extending out through the openings *a*. The upper strip F bears upon the lower rail of the upper sash when the window is closed, as indicated, and the lower strip as the window is closed slides upon the sill A and is pressed into the recess or cut-away portion *d*.

In the construction shown in Fig. 4 the part *c* of the strip bears at its edge against the inner window-stop and tends to press the sash against the outer stop.

In the preferred construction for car-windows (illustrated in Fig. 3) a channel-shaped metal jamb-strip is fastened in the casing between the window-stops and the tube E is provided throughout with an extension E′, which may be shaped in cross-section as shown in Fig. 3. The edge of the sash is preferably rounded, as indicated at *e*, and the extension E′ overlaps the edge of the outer window-stop to form a cinder-guard. Cinders or the like beating against the edges of the sash will, to a large extent at least, be deflected by the guard E′ and prevented from entering between the sash and outer window-stop.

The tubes E when set into and fastened in the sash-frame may form permanent unexposed parts of the sash. When the sashes

are removed to permit varnishing thereof, the strips F may be slid longitudinally out of the tubes E and inserted longitudinally into the tube again before the sashes are replaced. In the event that a weather-strip becomes injured it is an easy matter to replace it without danger of injury to the sash or casing. When in place, the weather-strips at the sides of the sash are completely housed and the upper and lower strips are not exposed in a manner to mar the appearance of the window.

What I claim as new, and desire to secure by Letters Patent, is—

1. Weather-stripping means for windows, comprising, in combination, a rectangular tube of stiff material countersunk in and permanently secured to the edge of the sash, and provided with a longitudinally-extending slot, and a strip of flexible material having a shouldered edge portion fitting said tube and longitudinally insertible into and withdrawable from said tube wherein said strip is steadily confined at said edge portion to project through said slot.

2. In combination with a car-window sash and its casing, of a tube of stiff material, fastened in a recess in the side edge of the sash, provided with a longitudinally-extending slot and with a longitudinally-extending cinder-deflecting guard at its outer side overlapping the outer stop portion of the casing, and a strip of flexible material having a beaded edge portion, confined in said tube, and a free edge portion projecting through said slot into contact with the jamb portion of the casing.

ARTHUR E. HULL.

In presence of—
J. H. LANDES,
A. N. THORIEN.