

(No Model.)

F. E. BROWN.  
WINDOW FRAME AND SASH.

No. 585,949.

Patented July 6, 1897.

Fig. 1.

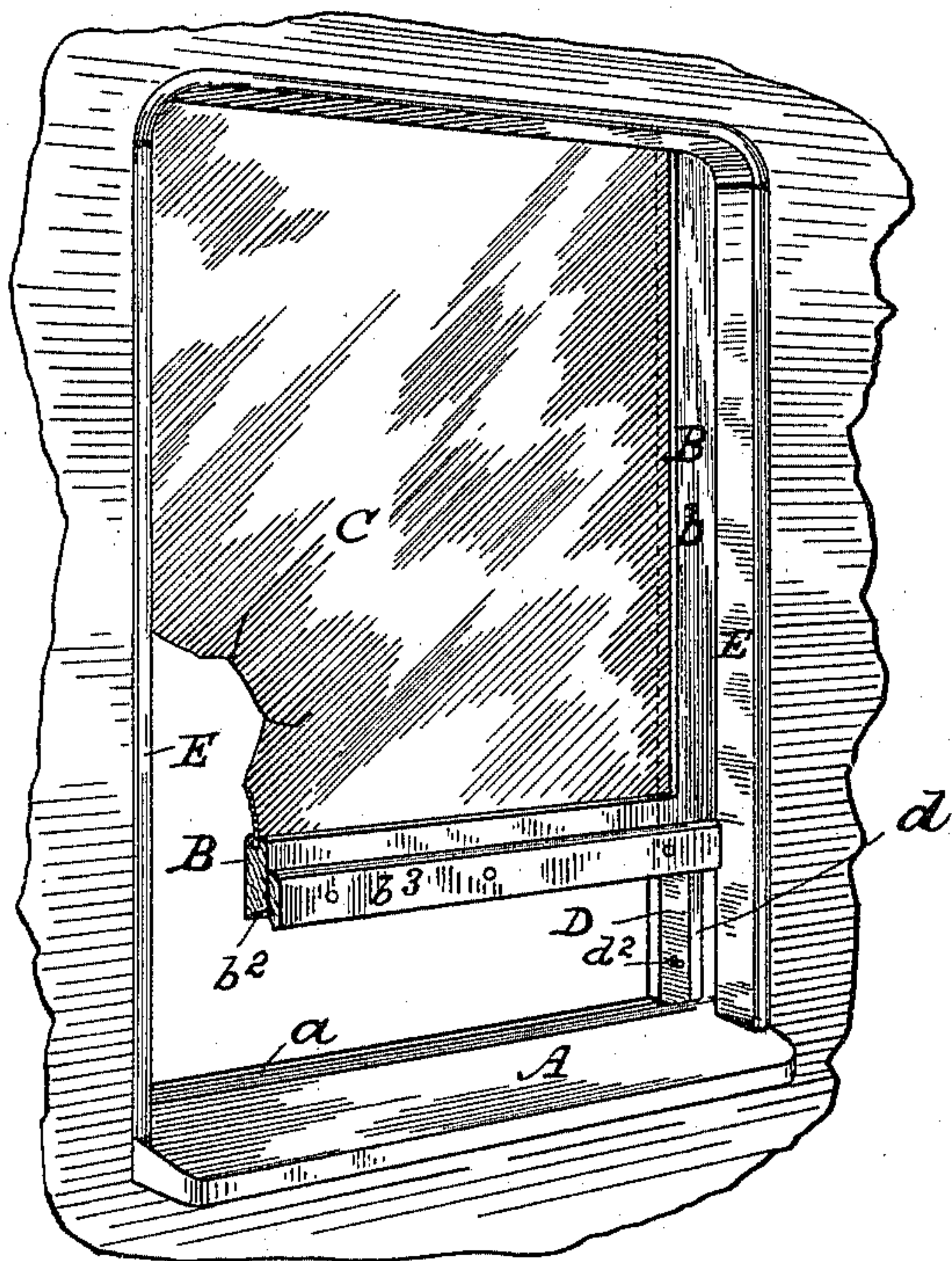


Fig. 2.

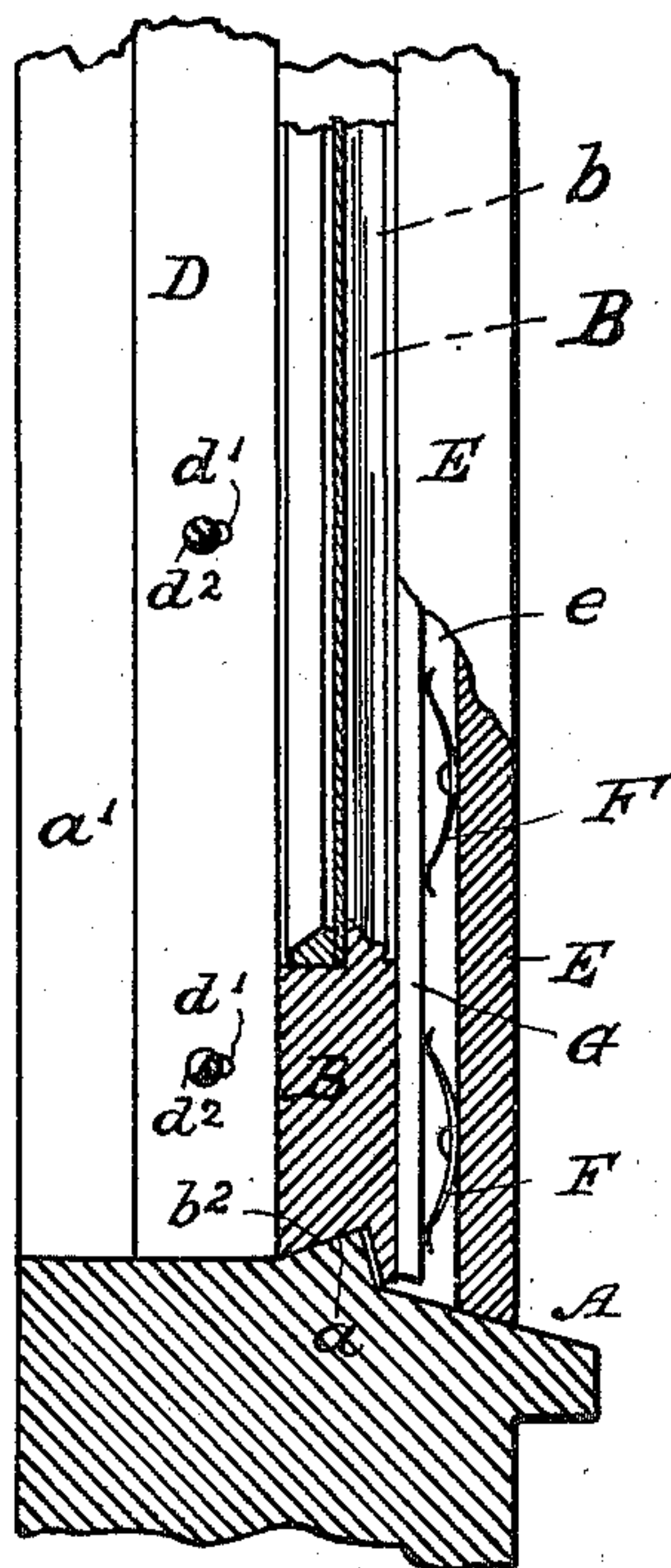


Fig. 3.

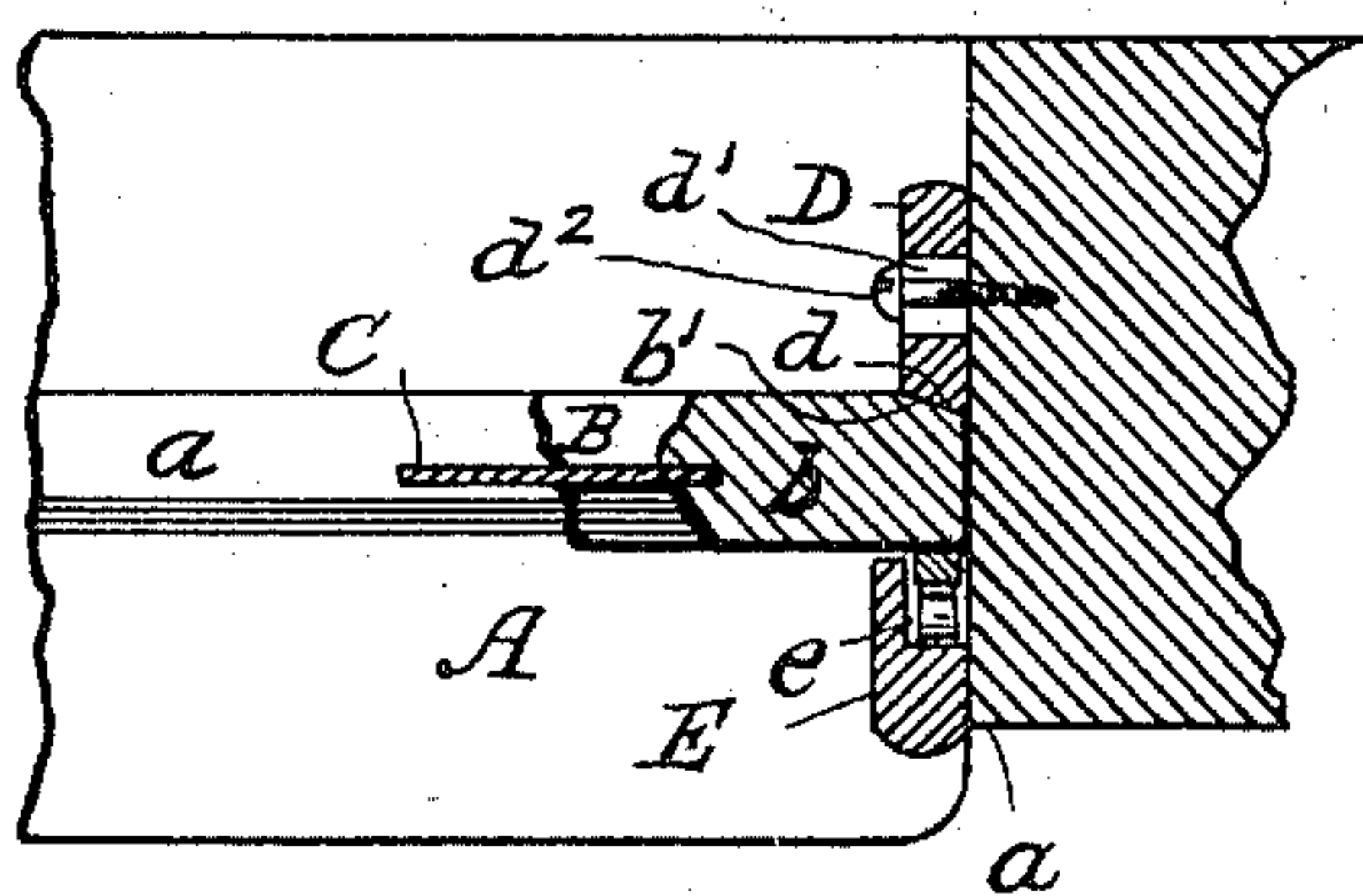
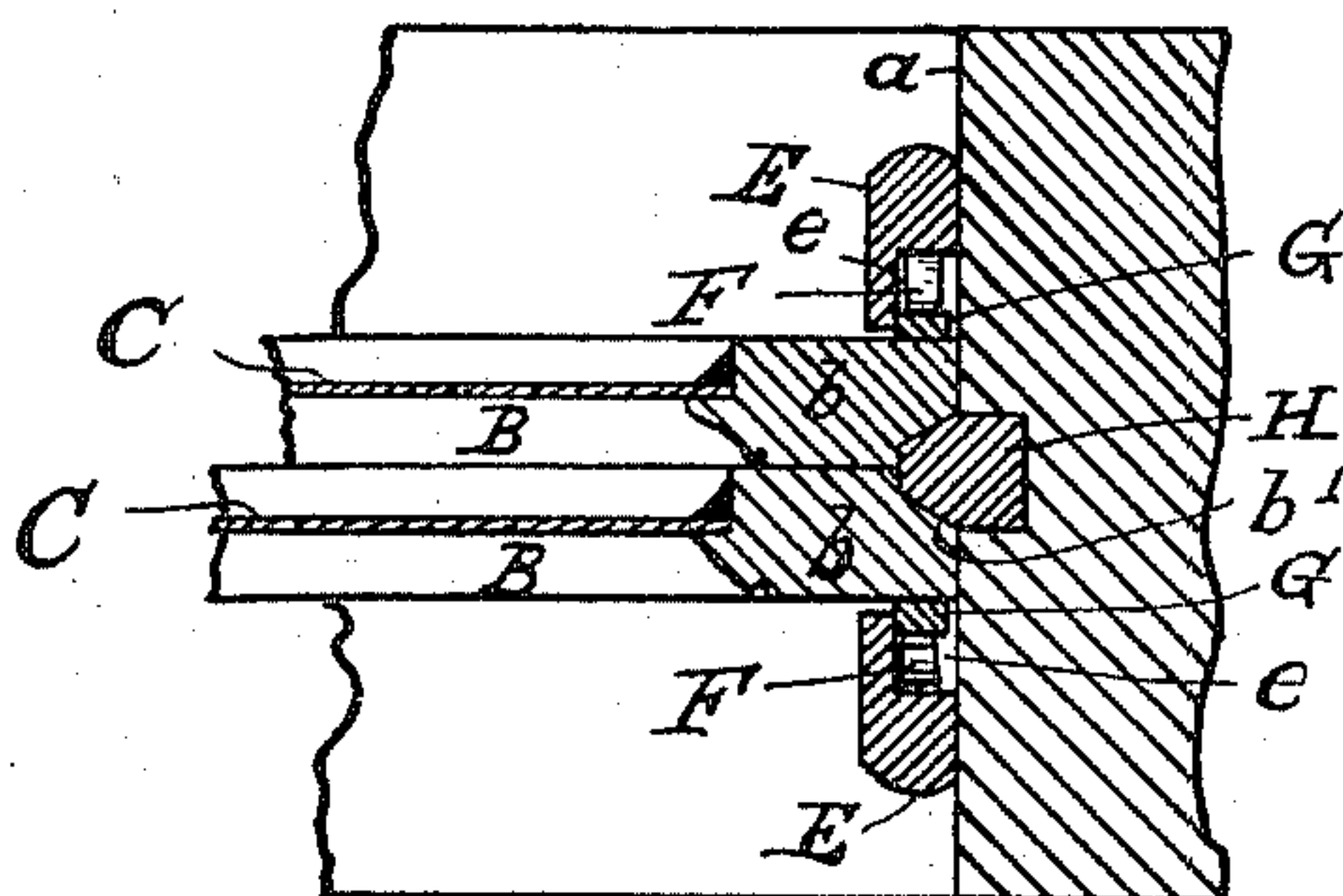


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK E. BROWN, OF CONCORD, NEW HAMPSHIRE.

## WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 585,949, dated July 6, 1897.

Application filed October 5, 1895. Serial No. 564,701. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK E. BROWN, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Window Frames and Sashes; and I do hereby 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.

This invention relates to windows of houses, steamers, railway-cars, or any windows from which it is desirable to exclude all the air possible, as also the dust and dirt.

Windows invariably admit more or less air, dust, and dirt, whether it be those of railway-cars, steamers, or private houses.

By the liberal use of outside windows house-owners who can afford the additional expense can manage to keep out the greater part of winter winds; but while double windows somewhat assist in keeping out the cold from a house they will not serve as good a purpose as a dust-guard, and even what little good they might accomplish in this direction is not available, as outside windows are removed through the warmest and most dusty seasons of the year, when the dust and dirt have easy access to the house through the single sashes, which are of necessity made rather loose in order to render them easy of operation.

In windows in steamers and cars (especially those of the latter, where sash-weights are never used) the sashes cause frequent annoyance aside from their ready admission of dust, as they seem prone to "stick" and refuse to respond to the efforts of those who would open or close them.

The objects of my invention are to provide simple and inexpensive means for overcoming all the foregoing difficulties and to render such improved appliances applicable to single sashes, thus doing away with the inconvenience and expense of outside windows upon houses.

The invention will be fully set forth in the following specification and claims and clearly illustrated in the drawings accompanying and forming a part of the same, of which—

Figure 1 is a perspective view showing a car-window in which the sash is represented

in broken elevation and to which my improvements are applied, Fig. 2 being a sectional elevation of the same. Fig. 3 is a sectional plan view illustrating my improvements as when applied to a car-window, and Fig. 4 is a similar view representing the application of my improvements to a house-window or any window which may be provided with an upper and lower sash.

Similar letters of reference designate corresponding parts throughout the several views.

A represents the sill, and  $a'$  the side frames, of the window.

B is the sash, and C the window-glass.

The vertical portions  $b$  of the sash B are beveled on one edge, as seen at  $b'$  in Figs. 3 and 4, and on the vertical portion  $a'$  of the window-frame are adjustable cleats D, having that edge adjacent to the sash beveled, as at  $d$ , corresponding to the bevel  $b'$  of the latter, slots  $d'$  being formed at intervals in said cleat for the reception of screws  $d^2$ , by which said cleat may be adjusted toward or away from a window-sash, as may be required.

Upon the opposite side of a sash cleats E are secured to the portions  $a$  of the window-frame, and in order that a gentle pressure of the window-sash against the adjustable cleat D may be maintained the cleats E are recessed on their under side, as at  $e$  in Figs. 2 and 3, and within the recess are secured at intervals throughout its length suitable springs F, which act upon bearing-strips G, resting for this purpose between the springs and the window-sash and within said recess  $e$ , thus insuring an easy-working window-sash, as its slideway is yielding.

The sill A is provided with a double-inclined tongue  $a$ , its outside edge being on an acute angle, while that portion which forms its top or inside edge is obtuse, having reference in both cases to the vertical plane, the former angle being less and the latter greater than a right angle, and the bottom horizontal edge of the sash B may be grooved to exactly correspond with and fit the tongue  $a$  of the sill, as shown at  $b^2$  in Fig. 2, or the bottom of the said sash may be finished on an angle to fit the obtuse portion of said tongue  $a$ , and a strip, either of wood or metal, may be attached by screws to the part B of said sash, said strip, which is shown at  $b^3$ , Fig. 1, being made to



project downward and fit the acute incline of said tongue *a*.

It is characteristic of the improvement that the weight of the sash holds the inclined walls of the tongue and groove in close contact. The object of making one of the walls of the tongue approximately horizontal and the other approximately vertical, as shown, is that the weight of the sash may be sustained upon the former to obviate danger of splitting and to more effectually exclude water and dust by the latter. The yielding slide-ways at the side of the sash coöperate by making a comparatively close joint without preventing the weight of the sash from tightly closing the described joint at its bottom.

I am aware that a centrally-situated V-shaped groove has been formed in a sash to fit a similarly-shaped rib on a sill, and I do not claim such device. The vertex of my groove is situated at one side of the central vertical plane of the sash-bar to provide a bearing having a width of more than half said bar, and the longer side or bearing-wall of this is situated toward the inside of the window in order that the shorter side, which is more nearly vertical, may be adjacent the outer portion of the sill and adapted to more effectually exclude rain, snow, or dust. The springs *F* coöperate in this result, but do not materially interfere with the direct downward bearing of the sash upon the obtuse incline.

When my invention is applied to the upper and lower sashes of house-windows, the top of the window-frame will be provided with a tongue similar to that of the sill, and the upper sash will also be grooved or otherwise formed to closely fit it when said sash is raised or closed, and in such case my improved beveled cleat or way will occupy a position between the sashes, as seen at *H* in Fig. 4, with the yielding bearing-strips *G*, within the recessed cleats *E*, secured at opposite sides of the sashes, affording a good close joint. This construction of the adjacent horizontal portions of the window-frame and sash or sashes causes the latter to bear quite naturally against the beveled cleat or cleats, and when properly adjusted the parts will assume the

relative positions shown in Fig. 2, and long-continued use will only tend to increase the wind and dust proof qualities of my improved window; and another advantage may be mentioned, to wit: In car-windows or any wherein sashes are used without weights the tension of the springs *F* may be sufficiently increased to cause them to bear with so much force against the bearing-strips *G* that the sash will remain at any desired elevation without other support.

Having described my improvements, what I claim is—

1. In a window, the combination of a frame, a sill having a slope, a tongue at the upper edge of said slope having inclined walls formed thereupon or attached thereto, the outer incline being relatively narrow and making an acute angle with the vertical plane and the inner incline being wider and making an obtuse angle to the said plane and a sash having a double-inclined groove corresponding with that of said double-inclined tongue, and springs *F* pressing the narrow inclines in close contact, all substantially as described whereby dust or water is excluded and the sash suitably supported in vertical direction.

2. In a window, the combination of a frame, a sill having a slope, a tongue or rib at the upper edge of said slope having inclined walls, the outer incline being relatively narrow and making an acute angle with the vertical plane and the inner incline being wider and making an obtuse angle to the said plane and a sash having a double-inclined groove with its vertex in front of the central vertical plane of the sash and fitting said double-inclined groove, whereby the width of the sash-bearing is increased and a more efficient obstruction to dust and rain is provided, and springs *F* and beveled cleats *H*, said springs tending to force the sash against both the tongue and the cleat, substantially as described.

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

FRANK E. BROWN.

Witnesses:

J. B. THURSTON,  
C. L. CUSHMAN.