

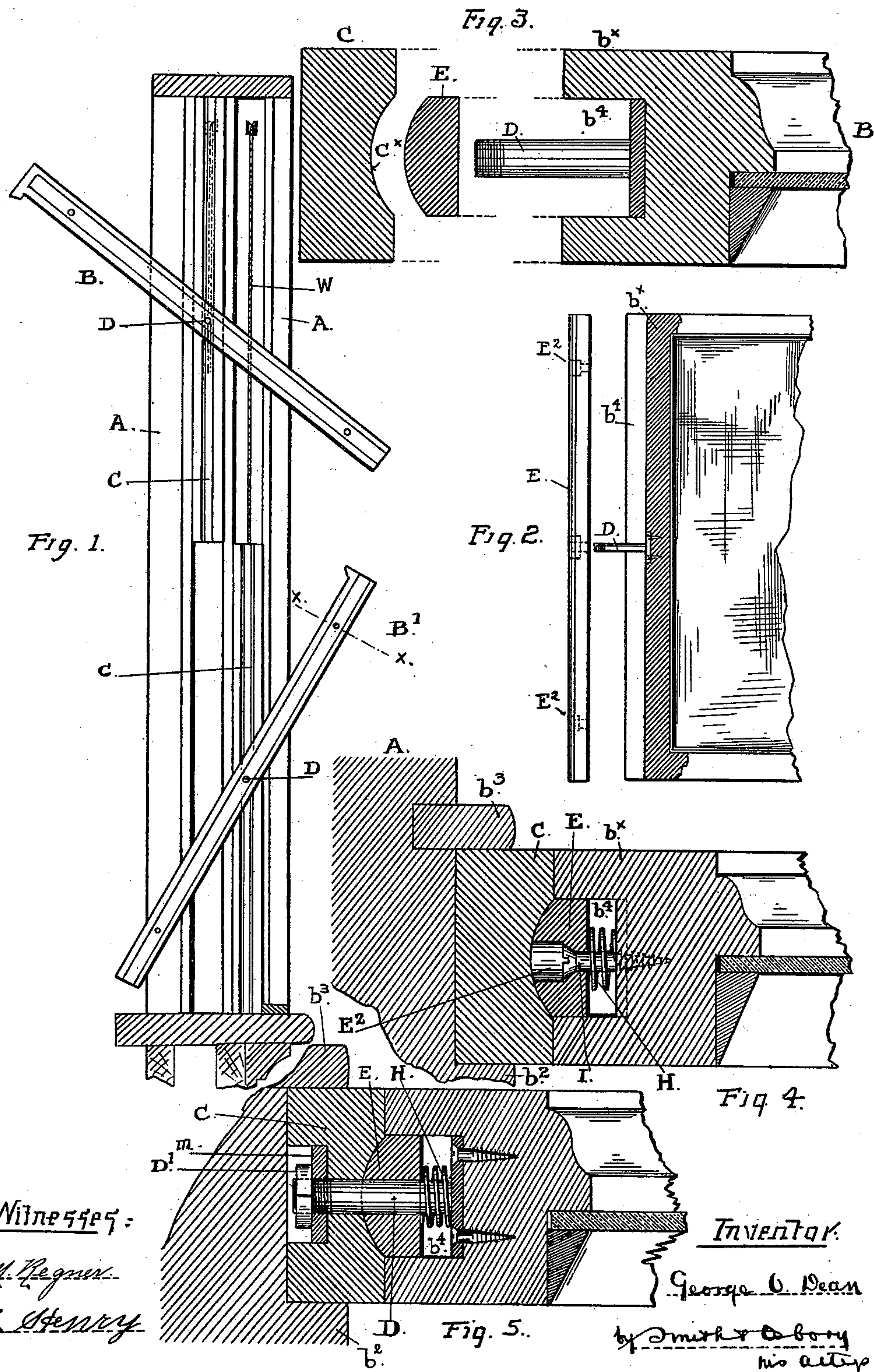
No. 637,502.

Patented Nov. 21, 1899.

G. O. DEAN.
REVERSIBLE WINDOW.

(Application filed Feb. 16, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

GEORGE O. DEAN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO ALBERT C. HAMPTON, OF SAME PLACE.

REVERSIBLE WINDOW.

SPECIFICATION forming part of Letters Patent No. 637,502, dated November 21, 1899.

Application filed February 16, 1899. Serial No. 705,697. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. DEAN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Reversible Windows, of which the following is a specification.

This invention relates to improvements made in reversible sliding windows of that class or description in which the sashes are mounted on pivots in supporting shoes or strips that are adapted to slide in the window-frame in the usual manner; and the said improvements comprise certain novel parts and combination of parts, as hereinafter described, and pointed out in the claim, having for their object mainly to maintain a close weather-tight joint between the sash and the sliding shoes to render the working contact and pressure between the faces of the joint adjustable in degree as may be required and to render the parts readily applicable to the ordinary sliding windows already in use.

The following description explains at length the nature of the said improvements and the manner in which I proceed to construct, apply, and carry out the same, reference being had to the accompanying drawings, that form part of this specification.

Figure 1 is a sectional view of one side of a window-frame and its sashes in vertical transverse section, showing the upper sash turned to a reversed position to bring the outer side of the glass into the room and the lower sash partly turned. Fig. 2 is a front view, partly in section, of one side of the sash and the locking-strip separated from the stile. Fig. 3 is a horizontal cross-section, on an enlarged scale, of the parts separated from one another, the section being taken on the line of the pivot. Fig. 4 is a similar cross-section taken at $x\ x$, Fig. 1, but on an enlarged scale. Fig. 5 is a similar cross-section taken through the sash and parts at the pivot.

A indicates the pulley-stile of a window-casing, B the upper sash, and B' the lower sash.

C C are the shoes, which in windows of this style are placed between the stiles b^x of the sash and the window-casing and are fitted to slide smoothly in the recess or run between

the stops b^2 of the window-frame and the parting-strips b^3 of the casing. These shoes in the present construction bear against the faces of the pulley-stiles, and the front face makes a close joint with the side stile of the sash, against which it is fitted.

D is a pivot uniting together the shoe and the side stile of the sash, it being understood that there are two shoes to each sash and that the construction and arrangement of parts on one side of the window casing and sash correspond to those on the opposite side, so that the sash is adapted to turn on the pivots as a center between the two shoes, which are confined in the casing by the parting-strips and stops, while the shoes themselves support and carry the sash as the shoes are moved up or down in the window-frame.

E is a yielding locking-strip interposed between the outer face of the shoe and the stile of the sash and adapted by its form and construction to lock or confine the sash in vertical position between the shoes and also to produce a tight joint along the line of junction between the shoe and the face of the sash-stile or the two meeting faces of those parts. The edge of this stile b^x is grooved or mortised, as illustrated at b^4 , and in that groove the strip E is fitted to play in and out, and at the same time it has a close working fit in that groove. In the front or outer face of the shoe a recess C^x , preferably of concave shape in cross-section, receives the projecting face of the locking-strip E, that is of corresponding shape to fit closely against the shoe and form a tight joint for the entire length of the strip.

Coiled springs H, interposed between the back of the strip E and the bottom of the groove in the sash at intervals apart in the length of the sash, press the strip against and keep it in contact with the face of the shoe. A proper degree or amount of pressure to insure a tight joint and at the same time allow the strip to readily yield and move back without binding when the sash is turned on the pivots is secured by means of stop pins or screws I, placed at intervals in the length of the strip and taking through the strip into the stile behind it. Usually one of these stop-screws is set through each spring and is

provided with an enlarged head fitting a countersunk or recessed hole E^2 in the front face of the strip, by which construction the screws form both adjustable stops to limit the outward throw of the strip, and thus regulate the pressure of the springs at the several points where they are applied in the length of the strip, and also guides to insure an even movement of the strip for its entire length.

Usually one spring is placed around the central pivot D and at least one near each end of the strip to secure an even pressure throughout the length of the strip. The construction of the pivot is adapted to obtain suitable strength to hold the weight of the sash and support it without binding in the frame. The stud D is let through a recessed hole in the shoe and is threaded on the end for a nut D'. Before it is secured to place a washer *m* is set under the nut, and the sash and the shoe are drawn together by screwing up the nut before the parts are inserted in the window-casing. This construction has the advantage, among others, of not becoming loosened or being moved when the sash is swung on the frame and also of being strongly fixed in window-sashes of light construction, where the stile is ordinarily of narrow width or narrow dimensions. As thus constructed it will be seen that the shoes fit closely in the casing and have a continuous bearing against the back or bottom of the run, as well as between the stops and the parting-strips for the entire length of the shoe; also, that the locking-strip maintains a close weather-tight and water-tight joint between the sash-stile and the shoe and has the additional function besides of locking or holding the sash in position in line with the shoes under all ordinary

lateral pressure that may be applied to the inner or the outer side of the sash. 40

The springs and the few metal parts that connect the pieces together for operation are inclosed within the sash-stile or between that part and the shoe and do not come in contact with the faces of the sash-run in the casing, so that they are not exposed to the weather and are not subject to wear, on the one hand, or the casing to abrasion or wear by those parts, on the other hand. 50

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

In a reversible swinging and sliding window, the combination, with the sash having grooved stiles, of the yielding locking-strips having rounded outer faces and fitted in the grooved stiles to move therein, the adjustable stop-screws fixed in the sash-stiles at intervals apart in the length thereof and adjustably attaching the locking-strips to the stiles, said stop-screws having enlarged heads countersunk into the outer faces of the strips, the springs adapted to press the latter members outward uniformly for the whole length thereof under the adjustment of the stop-screws, the slidable shoes fitted to the sash-runs in the window-frame, pivot-bolts uniting the sash to the shoes and forming the pivots for the sash to swing on, and the counterweights connected to the shoes to balance the sash, as described. 65 70

In testimony that I claim the foregoing I have hereunto set my hand and seal.

GEORGE O. DEAN. [L. S.]

Witnesses:

EDWARD E. OSBORN,
A. C. HAMPTON.