

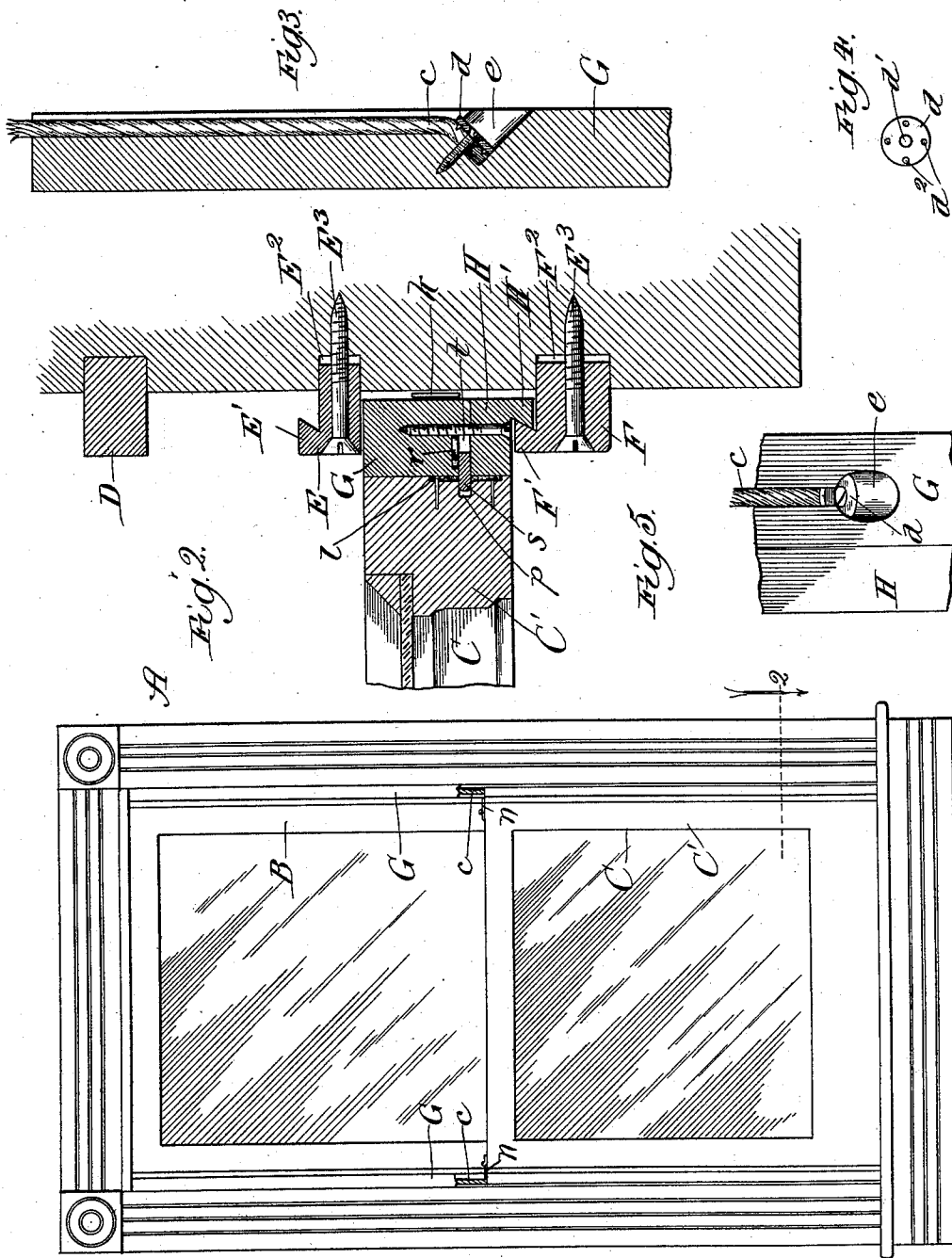
(No Model.)

2 Sheets—Sheet 1.

J. ORT.
WINDOW.

No. 578,940.

Patented Mar. 16, 1897.



Witnesses:
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Inventor:
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(No Model.)

2 Sheets—Sheet 2.

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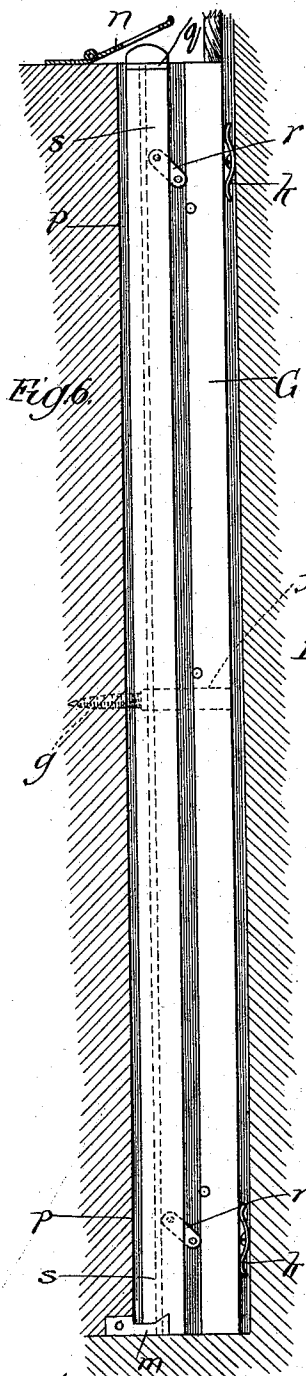


Fig. 8.

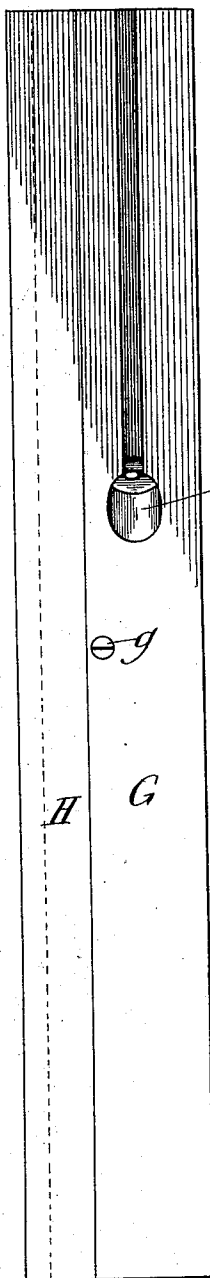


Fig. 9.

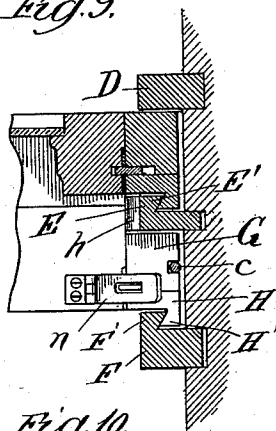


Fig. 10.

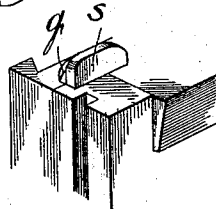


Fig. 11.

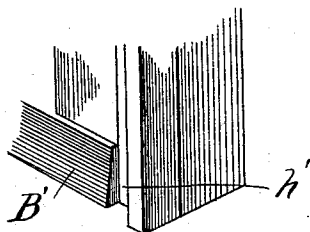
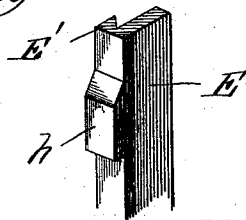


Fig. 12.



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UNITED STATES PATENT OFFICE.

JACOB ORT, OF WAHOO, NEBRASKA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 578,940, dated March 16, 1897.

Application filed July 18, 1896. Serial No. 599,754. (No model.)

To all whom it may concern:

Be it known that I, JACOB ORT, a citizen of the United States, residing at Wahoo, in the county of Saunders and State of Nebraska, have invented a new and useful Improvement in Windows, of which the following is a specification.

My object is to provide a window of improved construction having sashes which may be raised and lowered to open and close in the usual way and mounted upon supports to swing and permit its outer surface to be reached from the inside of a room to facilitate cleaning, all the joints being dust-proof and draft-excluding.

In the drawings, Figure 1 is an elevation of a window casing and sashes provided with my improvement, parts being broken away to display details; Fig. 2, an enlarged broken plan section taken on line 2 of Fig. 1; Figs. 3, 4, and 5, views showing details of the connection employed for attaching the weight-cords; Fig. 6, an enlarged broken section of a sash-stile and a pulley-stile or jamb, and also showing a detachable suspending or hanging stile provided with a movable tongue for effecting a tight joint between the sash-stile and suspending-stile; Fig. 7, a broken perspective view of the upper end portion of the movable strip or tongue; Fig. 8, a view of the jamb side of the suspending-stile; and Figs. 9, 10, 11, and 12, broken sectional and perspective views of details of construction.

A is a window-casing, and B and C the upper and lower window-sashes, respectively. Each jamb or pulley-stile A' of the frame is provided with an outer stop D, a parting-stop E, fitting into a groove E², and an inner stop F, fitting into a groove F². The stops are secured to the pulley-stile preferably by means of screws E³.

Each sash is provided at its opposite edges with detachable suspending or supporting stiles extending the length of the sash and formed, preferably, in two longitudinal parts G and H. The strips or parts G are provided with longitudinally-extending recesses *t*, within which are sheathed tongues or strips *s*, movably connected (see Fig. 6) to the strips G, as by means of pivoted links *r*, and provided near their upper ends with forward-projecting thumb-pieces *q*.

The sash-stiles C' are provided with longitudinally-extending grooves *p* to receive the movable draft-excluding tongues *s*, and are recessed at their tops to allow the thumb-pieces *q* to set flush with the tops of the sashes when the tongues are in the locking positions. Each sash is also provided at its top with hasps *n*, adapted to engage the strips *s* above their thumb-pieces *q* to secure them in their locking positions, as hereinafter described, and at its bottom with locking devices *m*, affording sockets to receive the lower ends of the strips. Each strip *s* is in the nature of a tongue, which fits and moves in the grooves on the sash-stiles and suspending-stiles and tends to insure a tight joint between them; but the better to effect this purpose I prefer to employ strips of felt or rubber *l*, the edges of which fit closely against the strips *s*, the felt or the like material being preferably attached to the sash-stile, as shown.

Each sash is pivotally mounted at opposite sides, midway between its upper and lower ends, upon pins or screws *g*, passing through the supporting-stiles and fastened in the sash-stiles. The pins may pass loosely through bearing-sleeves *f* in the supporting-stiles G. When the tongues *s* are swung downward upon the links *r*, as shown in the figures, they extend across the joints between the sash-stiles and suspending-stiles and lock them together. Upward pressure against the thumb-pieces *q* raises the strips *s* and causes them to move wholly into the recesses *t* out of engagement with the sashes, whereby the latter may be swung in the supporting-stiles upon the pivot-pins *g*.

The locking devices *n* and *m* serve the purpose of holding the movable tongues in their locking positions. I prefer, however, to provide, in addition thereto, springs *k*, confined between the suspending-stiles and pulley-stiles, which springs serve to bind the parts together and to steady the sash in its vertical movement in the frame. In many windows it will not be necessary to employ both the locking devices *n* and *m* and the springs *k*, and in such case one or the other may be dispensed with.

To insure a tight joint between the supporting-stiles and the pulley-stiles, the parting-stops E and the inner stops F are pro-

vided with outward-projecting engaging strips E' and F', respectively, having their sides toward the jambs beveled to form re-entrant angles or dovetail grooves. The sus-
 5 pending-stiles are provided with similar inward-projecting engaging strips or tongues H', having their faces opposite the jambs beveled to correspond with those upon the stops.

As shown in Fig. 11, there are small recesses h' at the ends of the meeting-rails B' of the sashes when the supporting-stiles are in place upon the sashes, due to the fact that the suspending-stiles are made thick enough to project beyond the stops to allow the win-
 10 dow to be turned readily upon its pivots; and Fig. 12, which represents a portion of a parting-stop taken at the middle of its length, shows it provided with a short strip h, thus causing it at this point to extend flush with
 15 the suspending-stile. It will thus be seen that the only place and time that the sliding sash contacts with the stops on their outer sides is at the ends of the meeting-rails when the windows are closed. The window-stops
 20 are placed at a great enough distance apart to allow some space at the outer side of the suspending-stiles, and the latter are made of sufficient thinness to allow space between them and the pulley-stiles. It will thus be
 30 seen that when the screws E³ are turned into the jamb to secure the stops in place the effect is to draw the sash away from its outer stops, the pressure being transmitted through the beveled surfaces of the engaging strips.
 35 Thus is afforded a convenient means of regulating the freedom of vertical movement of the sash and of counteracting the effect of too light or too heavy weights consequent upon changes caused by shrinking or swelling
 40 of the frame.

In Figs. 3, 4, and 5 is shown improved means for connecting the weight-cords to the sashes, or in this case to the suspending-stiles G. It comprises a disk d, provided with a screw-
 45 opening d', and upon one side with rope-engaging points d². To fasten a cord to a sash, a disk d is placed upon a screw and the latter turned part way into the wood. A loop of the cord is then placed beneath the disk and the
 50 screw turned in, clamping the cord between the disk and the wood. The device is preferably sheathed within the wood in a recess e, as shown.

Both the upper and lower sashes of a window may be constructed as described, though, if desired, the thumb-pieces upon the strips s may be at the lower ends thereof on the upper
 55 sash, and the strips so mounted that they will lock the sash-stiles to the supporting-stiles when forced upward and unlock the same parts when drawn downward. Practically the supporting-stiles form part of the sashes to be raised and lowered therewith in the or-

dinary opening and closing of the window, and the sashes would only be unlocked and
 65 swung on their pivots when the window is being cleaned to facilitate the operation.

The construction shown and described not only renders the window dust and draft proof, but prevents the sashes from binding and renders them steady and noiseless.

Minor changes in the details of construction may be made without departing from the spirit of my invention as defined by the claims.

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

1. In a window, the combination with a sash and frame, of separable suspending-stiles in which the sash is mounted to swing, said suspending-stiles being free to move vertically
 80 between the window-stops, movable sash-locking and draft-excluding tongues between the sash-stiles and suspending-stiles, engaging strips H' upon said suspending-stiles having their sides opposite the jambs beveled to
 85 afford reentrant angles, and window-stops in the casing provided with engaging strips F' having their sides toward the jambs beveled to afford reentrant angles to engage said first-mentioned angles, substantially as and for
 90 the purpose set forth.

2. In a window, the combination with the frame, of a sash having its stiles provided with longitudinal grooves p, separable supporting-stiles, in which the sash is mounted
 95 to swing, provided with longitudinal grooves t, sash-locking and draft-excluding tongues between the sash-stiles and supporting-stiles and pivotally connected with the latter to move within said recesses, draft-excluding
 100 strips of felt, or the like, contacting with said tongues, locking means for the tongues, engaging strips H' upon said supporting-stiles having their surfaces opposite the jambs beveled to afford reentrant angles, and window-
 105 stops in the casing provided with engaging strips F', having their sides toward the jambs beveled to afford reentrant angles to engage said first-mentioned angles, said stops being adjustable to regulate the freedom of the ver-
 110 tical movement of the sash, substantially as and for the purpose set forth.

3. In a window, the combination with the frame and sashes of separable supporting-stiles in which the sashes are mounted to
 115 swing, outer and inner stops extending flush with said supporting-stiles, and parting-stops extending flush with said supporting-stiles and provided with short strips or projections h which contact with the ends of the meeting-
 120 rails when the windows are closed, substantially as and for the purpose set forth.

JACOB ORT.

In presence of—

J. N. HANSON,
 RICHARD SPENCER.