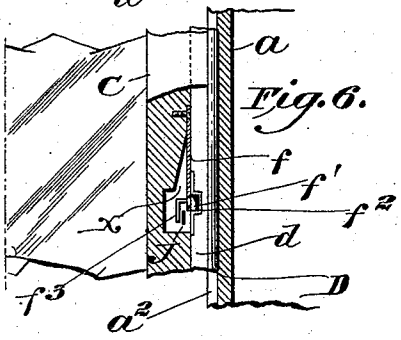
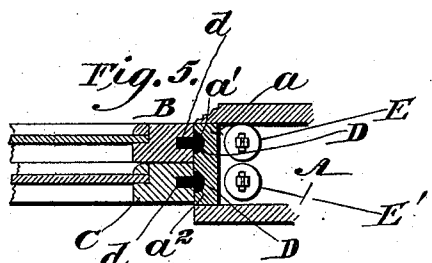
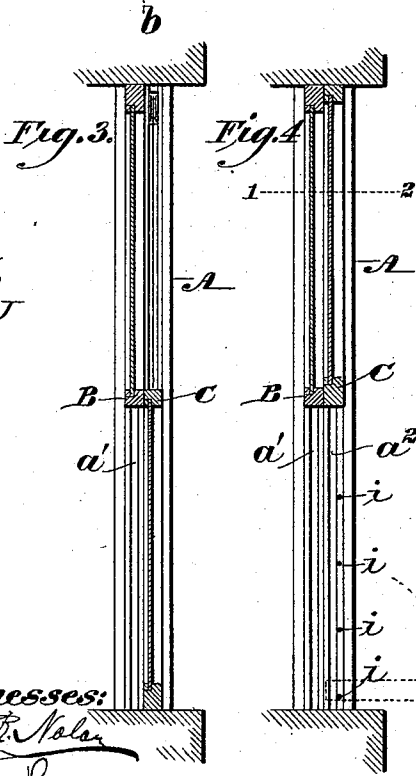
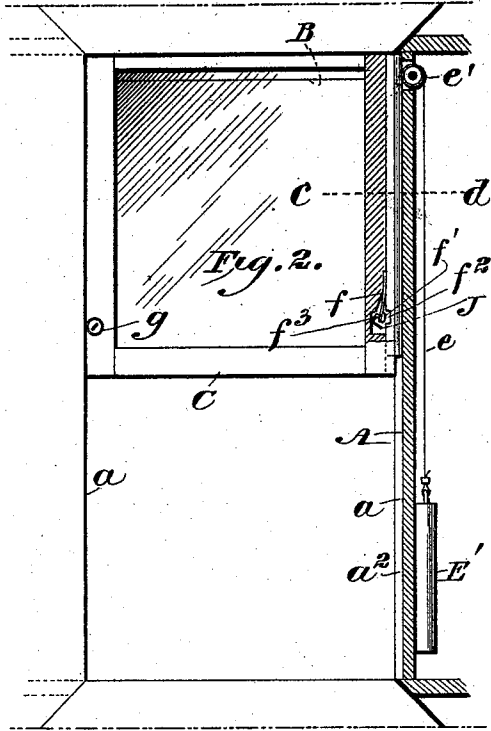
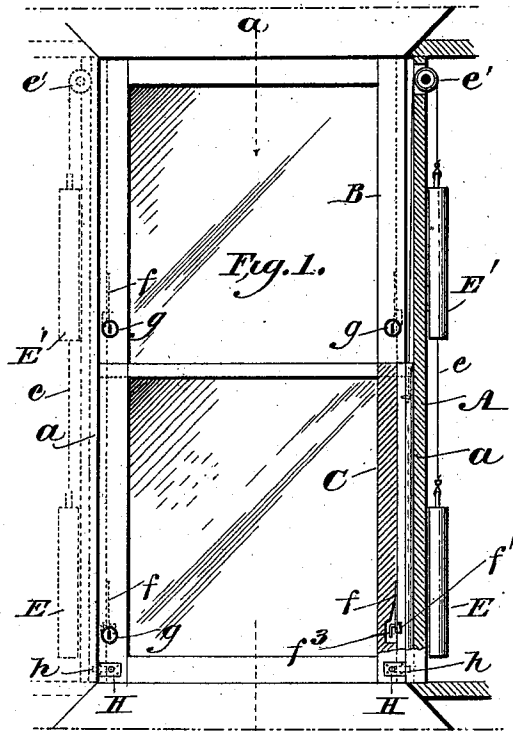


(No Model.)

W. B. ELTONHEAD.
WINDOW.

No. 486,223.

Patented Nov. 15, 1892.



Witnesses:
John T. Nolen
H. Alfred Boggs

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per Joshua Pusey
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM B. ELTONHEAD, OF WEST POINT, ASSIGNOR OF NINE-SIXTEENTHS
TO SAMUEL A. MURRAY, JR., OF PHILADELPHIA, PENNSYLVANIA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 486,223, dated November 15, 1892.

Application filed June 17, 1892. Serial No. 437,019. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. ELTONHEAD, a citizen of the United States, residing at West Point, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Windows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—
Figure 1 is a sectional elevation, the window-sashes being closed. Fig. 2 is a like elevation, the lower sash being raised. Fig. 3 is a vertical section on the line *a b*, Fig. 1. Fig. 4 is a similar section of Fig. 2. Fig. 5 is a section on the line *c d*, Fig. 2. Fig. 6 is a detail of spring-lock. Fig. 7 represents a key for said lock.

This invention relates to improvements in that class of windows in which the sashes are provided on their vertical edges with separable slide strips or bars that play in suitable longitudinal guideways in the jambs of the window-casing, whereby the said sashes are readily attachable to or detachable from the casing, as required. A window of this kind is illustrated in Letters Patent, No. 251,778, granted to F. W. Hettinger January 3, 1882.

The object of my present improvements is to simplify the construction of said patented window and to add to its advantages; and to this end the invention consists, substantially, in the novel arrangement of the parts shown in the drawings and hereinafter described.

In the drawings, A represents the window-casing, B the upper sash, and C the lower sash. The jambs *a* of the casing are each provided with two parallel longitudinal grooves *a' a''*, which are in the paths traversed by the upper and lower sashes, respectively. The vertical edges of the sashes are grooved lengthwise and in each of these grooves is fitted the tongue *d* of a strip or bar D, which is equal to or a trifle less than the sash in length, the strip itself being preferably semi-circular, or substantially so, in cross section and being fitted to the proper grooves in the window-stiles. The sash-balancing weights *E E'* are suspended in the usual manner from the cords or bands *e*, that pass over guide-pulleys *e'* in the stiles. These cords or bands are connected with the slide strips or bars of

the sashes in about the same way as such cords or bands are usually connected with the sashes—that is to say, the cords or bands of one pair of weights *E* are connected with the lower-sash strips or bars and the cords or bands of the other pair of weights *E'* are connected with the upper-sash strips or bars. The said strips or bars are temporarily fixed to the sashes, so that the latter may be run up and down similar to ordinary sashes. If, however, it be desired to remove a sash from the window-casing, it is merely necessary to run the sash to the top of the frame, disconnect the sash from its slide-bars, and then move the sash down. When the sash is disconnected from the bars, the latter are maintained in the raised position by means of the weights. As a very simple and efficient means whereby the sash may be connected with or disconnected from the bars, as occasion may require, I have devised the construction shown in the drawings—that is to say, affixed to the lower portions of the vertical edges of the upper and lower sashes, respectively, are strips *f*, of spring metal, which are provided on their lower or free ends with studs *f'*, that normally register with recesses *f''* in the lower portion of the vertical bars D, respectively, or rather in the tongues of these bars. The rails of the sashes are recessed at *x* to receive the metallic strips and permit their lateral movement for the purpose of disengaging the studs thereon from the recesses in the vertical bars. The stud on each strip is provided with an angular portion *f'''*, which projects beyond the inner side of the strip, the recess in the sash being formed to receive this angular portion. Thus if a flat key, such as that represented in Fig. 7, be inserted through a suitable opening in the face of the sash-rail, so as to lie on the inner side of the vertical member of the angular portion, and the key then be properly turned, the strip will be retracted, and therewith the stud *f'*, with the effect mentioned. When the key is removed, the strip and its stud will automatically resume their normal or vertical position. The sashes are each provided with suitable escutcheons *g*, Figs. 1 and 2, at the points where the key is inserted. It will be seen that when the sash is applied to the casing and run up the studs automati-

cally engage the recesses in the slide-bar D, and thereby lock the sash to the latter.

I have provided the bottom sash at its lower corners with spring catches or locks H of any
5 suitable character and have provided the
jamb of the casing in the line or path traversed by the bolts *h* of the lock during the sliding of the sash in the lower portion of the casing with a series of holes *i*, with which said
10 bolts may be engaged, as desired, in order to lock the sash in any of its positions of vertical adjustment. I have not deemed it necessary to show the internal operating mechanism of the locks H, as that may be of any
15 of the well-known types. I so dispose the lowest holes in each jamb that when the sash is freed from its strip and is run down, as above described, the bolts may be projected into the two opposite holes, and thereby act as pivots
20 by which the sash may be swung inwardly if desired, as represented by the dotted lines in Fig. 4. The upper sash may be freed from its edge bars and run down in like manner and then be moved inward, so as to rest upon
25 the lower inswung sash.

It will be obvious that the upper sash may be provided with bolts similar in construction and operation to those of the lower sash.

Having thus described my invention, I
30 claim as new and desire to secure by Letters Patent—

1. The combination of the sash, the spring-controlled studs secured to its vertical edges, the window-casing in which the jambs are provided with longitudinal guide-grooves, the
35 slide-bars mounted in said grooves and provided with longitudinal tongues that are adapted to grooves or ways in the vertical

edges of the sash, said tongues being provided on their edges with recesses with which the studs are adapted to engage, together with the weight devices connected with said bars, substantially as described.

2. The combination of the sash, the spring-plates secured thereto, the studs and their angular operating portions, the window-casing in which the stiles are provided with longitudinal guide-grooves, the slide-bars mounted in said grooves and in longitudinal grooves in the vertical edges of the sash, said bars being provided with recesses with which the said studs are adapted to engage, together with the weight devices connected with said bars, substantially as described.

3. The combination of the sash, the spring-controlled studs on its vertical edges, the window-casing in which the stiles are provided with longitudinal guide-grooves and with the series of perforations *i*, the slide-bars mounted in said grooves and in longitudinal grooves in the vertical edges of the sash, said bars being provided with recesses with which the said studs are adapted to engage, the lock devices fitted in the lower corners of the sash and adapted to engage the
65 said perforations, together with the weight devices connected with the slide-bars, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two
70 subscribing witnesses.

WILLIAM B. ELTONHEAD.

Witnesses:

JOHN R. NOLAN,
JOSHUA PUSEY.