

**No. 707,808.**

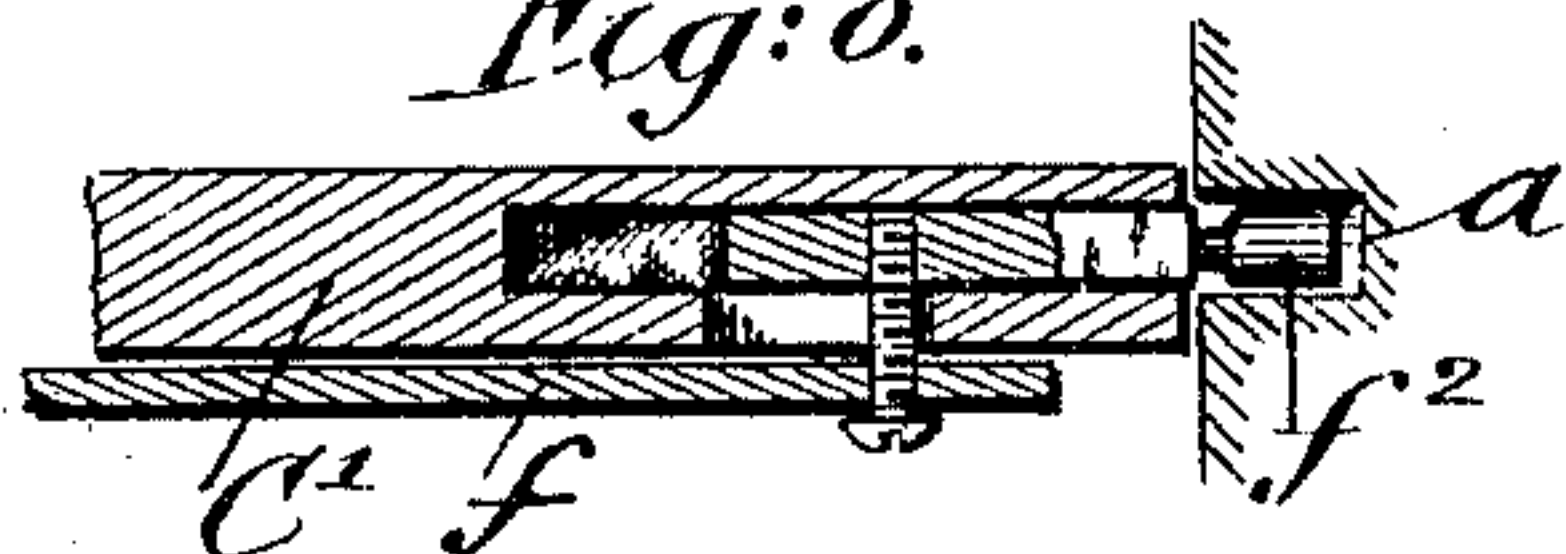
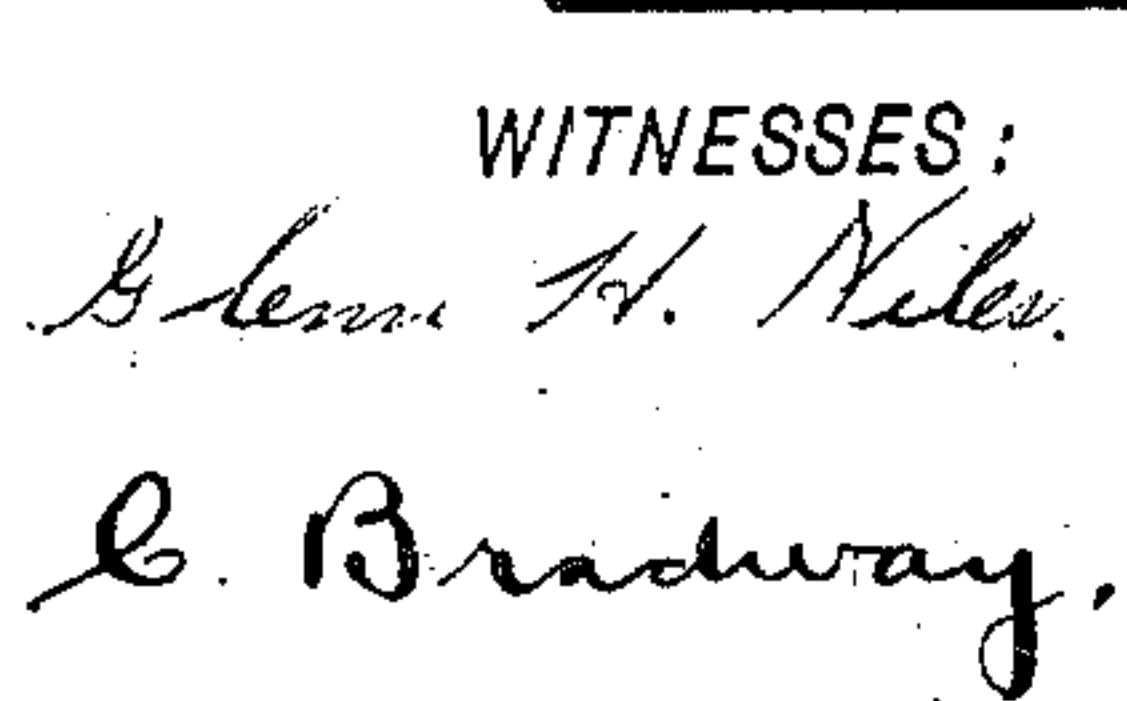
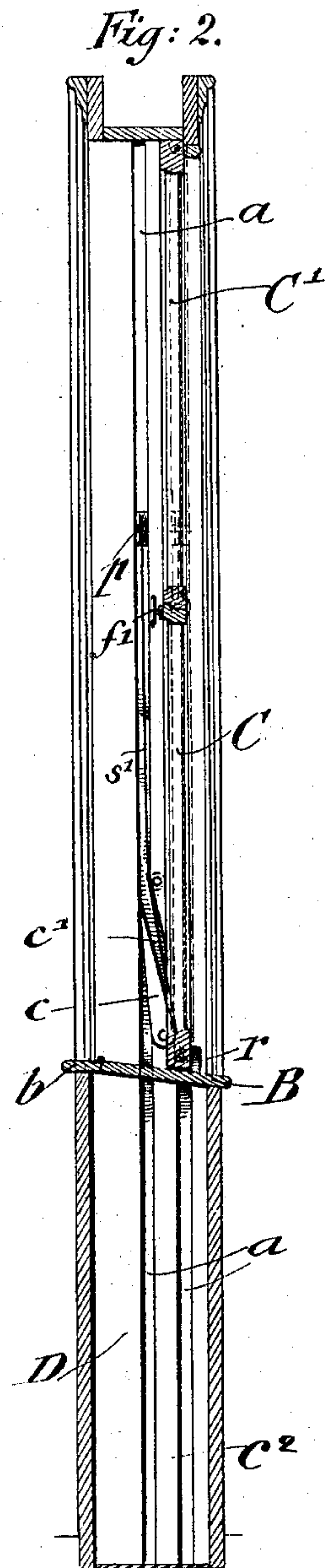
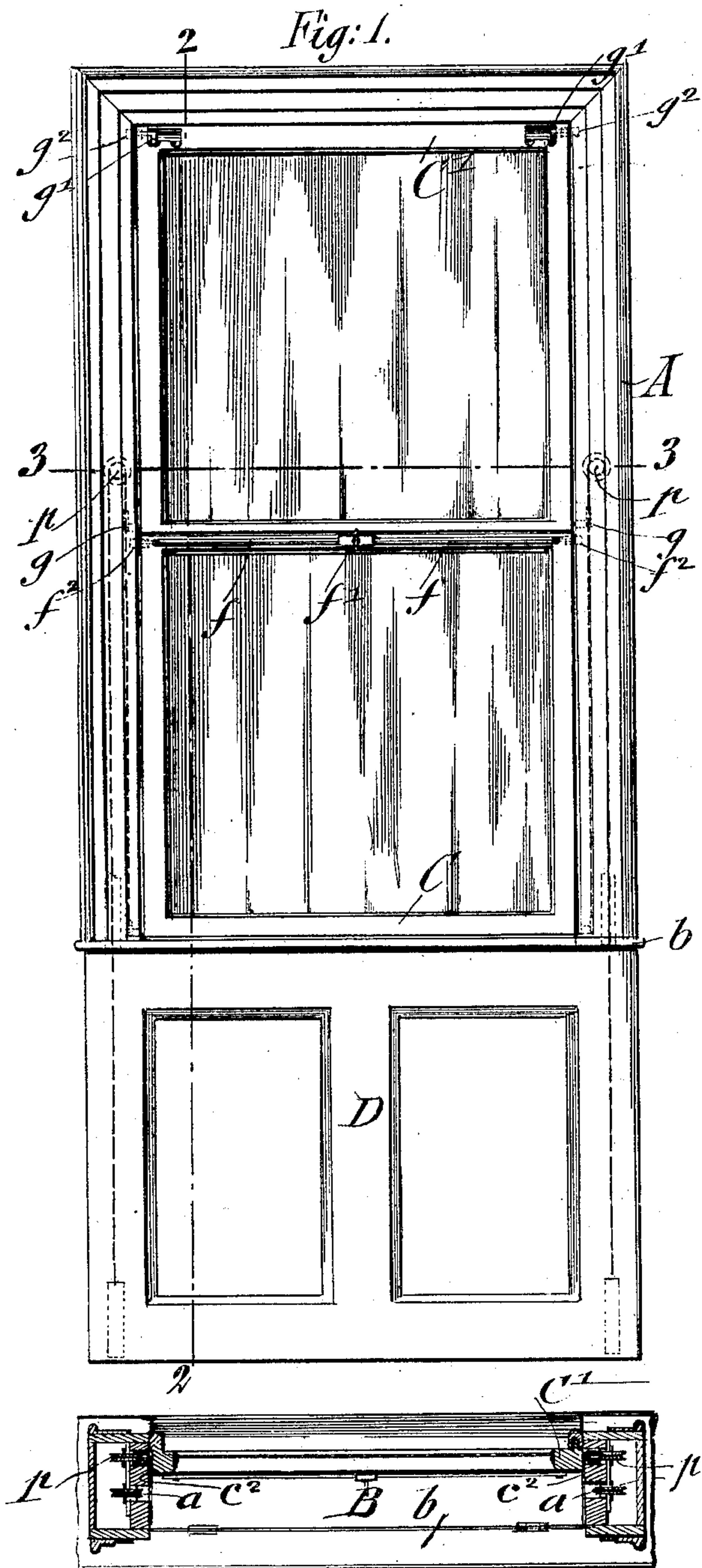
**Patented Aug. 26, 1902.**

H. VETTEL.  
WINDOW.

(Application filed June 20, 1902.)

(No Model.)

2 Sheets—Sheet 1.



INVENTOR  
*Hugo Kettel*  
BY *James Viles*  
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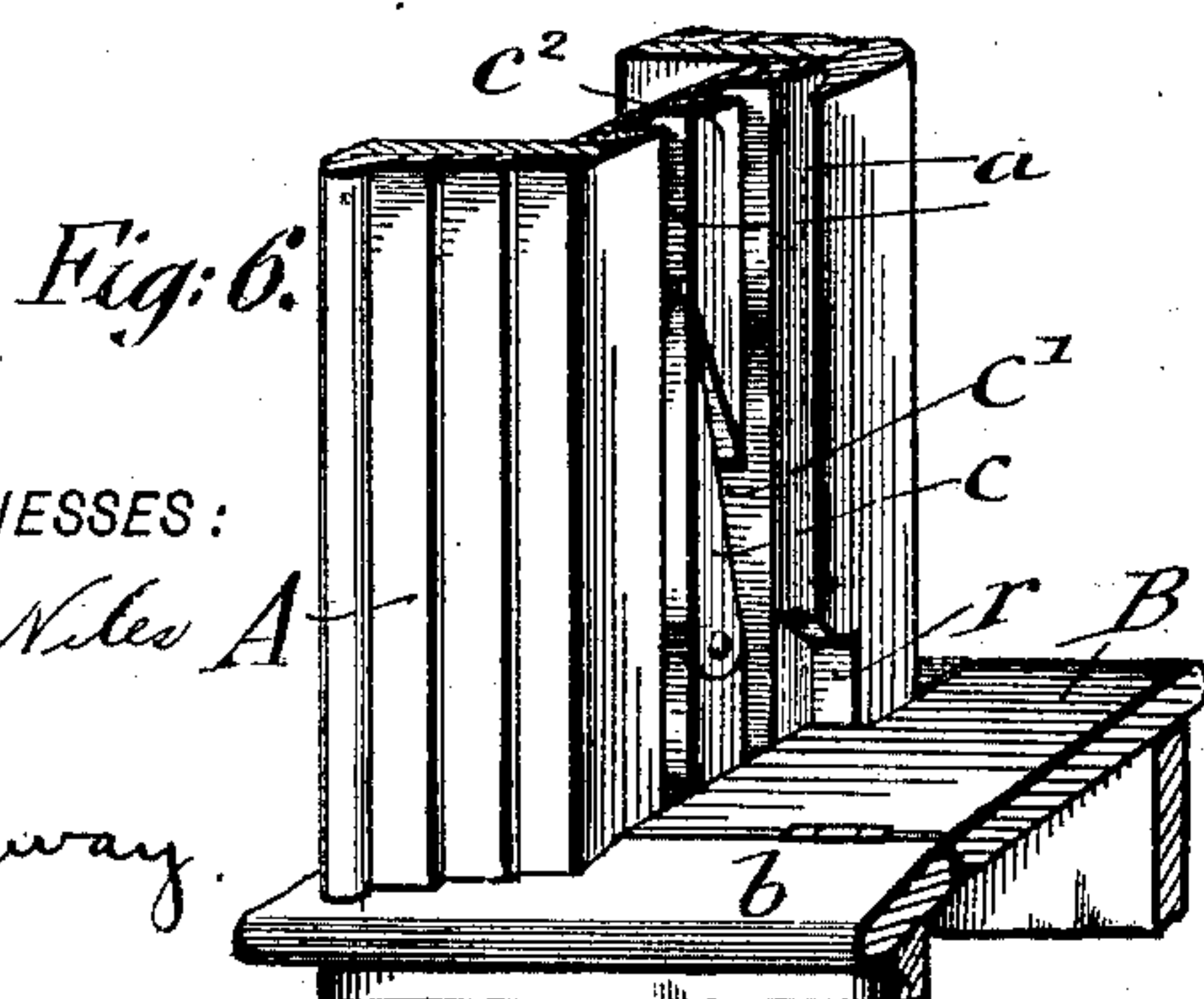
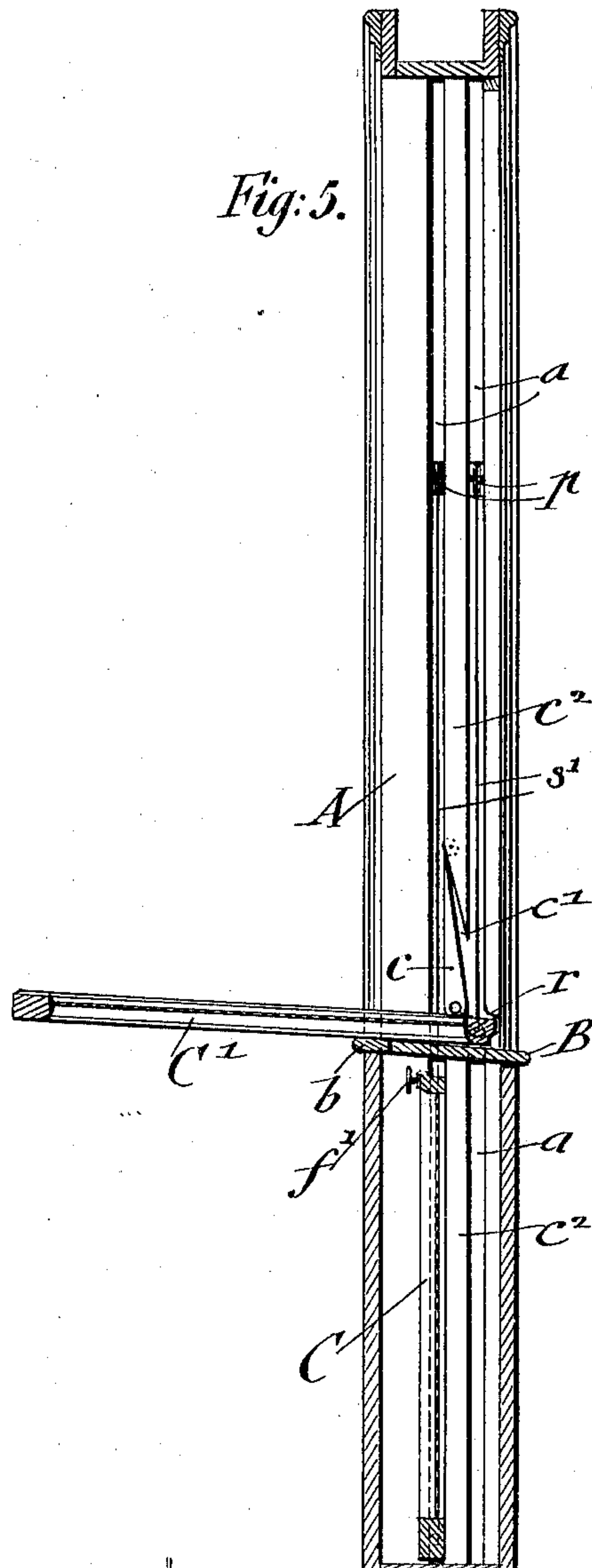
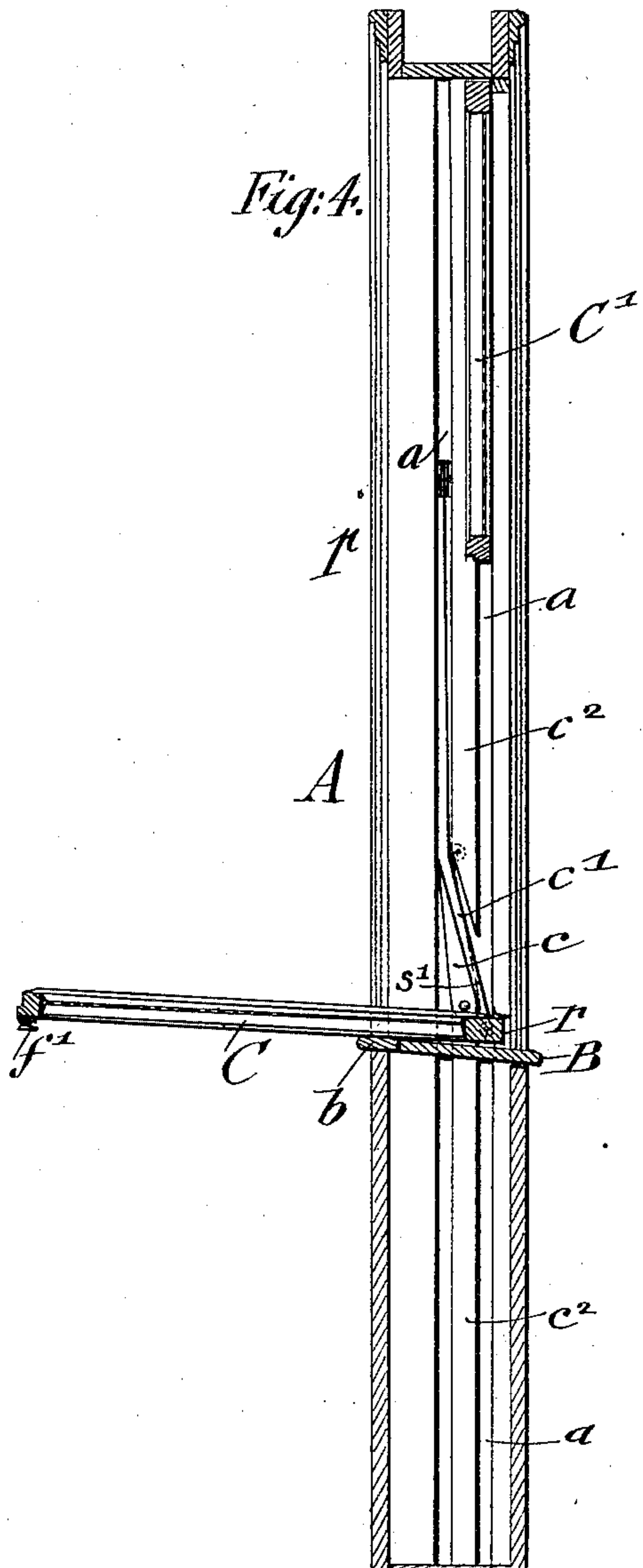
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2 Sheets—Sheet 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HUGO VETTEL, OF NEWARK, NEW JERSEY.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 707,808, dated August 26, 1902.

Application filed June 20, 1902. Serial No. 112,465. (No model.)

*To all whom it may concern:*

Be it known that I, HUGO VETTEL, a citizen of the United States, residing in Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Windows, of which the following is a specification.

This invention relates to certain improvements in windows whereby the sashes can be cleaned with great facility without the necessity of sitting on the window-sill to clean the outer surface, closed in a simple and very effective manner in one plane with each other, and dropped bodily into a casing below the window-sill when not required for use during the summer season; and for these purposes the invention consists of a window the casing of which is provided with parallel guide-grooves, sliding sashes, rollers provided on said sashes adapted to move in said guide-grooves, a storage-box below the window-sill, also provided with guide-grooves in the casing, and a hinged sill adapted to be opened for dropping the sashes into the storage-box below the same.

The invention consists, secondly, of pivoted switch-tongues located near the sill between the guide-grooves and adapted to be moved forward, so as to form inclined channels that permit the passage of the lower sash from the front guide-groove into the rear guide-groove, so as to be in vertical position below and in the same plane with the upper sash.

The invention consists, further, in the arrangement of a recess in the window-casing above the sill and pivot-rollers at the lower part of the upper and lower sashes, so as to permit the inward tilting of either sash when its lower rail arrives at the recesses of the casing, so as to permit the convenient cleaning of the outer surfaces of the glass panes of the sash; and the invention consists, lastly, of means for locking the sashes when they are placed vertically one below the other.

In the accompanying drawings, Figure 1 is a front elevation of my improved window. Fig. 2 is a vertical transverse section of the same on line 2 2, Fig. 1. Fig. 3 is a horizontal section on line 3 3, Fig. 1. Figs. 4 and 5 are vertical transverse sections through the window, showing, respectively, the upper and lower sashes tilted for inwardly cleaning.

Fig. 6 is a perspective view of the switch-tongue for shifting the lower sash from the front guide-groove into the rear guide-groove. Fig. 7 is a detail view of the lower corner of one of the sashes, showing the pivot of the same; and Fig. 8 is a detail view of one end of a shiftable rod and the roller connected therewith.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the casing of my improved window; B, the sill; C C', respectively, the lower and upper sashes, and D a storage-box that is arranged below the sill, the side walls of the box forming a continuation of the jambs of the window-casing and extending to the floor.

The sashes C C' are counterbalanced by sash cords and weights in the usual manner, with this difference, however, that the pulleys *p* for the sash-cords are arranged at a short distance above the meeting-rails of the sashes and not at the upper part of the window-casing, the sash-weight box being continued at both sides of the storage-box, so that the sash-weights can be lowered into the same below the window-sill, as shown by dotted lines in Fig. 1. The jambs of the window-casing are provided with parallel guide-grooves *a*, which are extended into the side walls of the storage-box D below the window-sill, as shown clearly in Fig. 2. This permits the lowering of both sashes into the storage-box when they are desired to be stored, so as to open the entire space within the window-frame for the purpose of ventilation. When the storing of the sashes is desired, the window-sill B, which is hinged to the stationary ledge *b* on the inner wall of the storage-box, is swung on its hinges so as to clear the guide-grooves *a* and permits thereby the lowering of both sashes into the storage-box, after which the window-sill is moved back into its normal position. The lowering of the sashes into the storage-box below the window-sill, however, has been proposed heretofore, and I do not desire to claim this feature.

The new features of my window construction are twofold—first, the locking of the lower sash into position vertically below the upper sash and in the same plane therewith;



secondly, the facility by which both sashes can be tilted in inward direction, so that the cleaning of the outer surfaces of the glass panes is facilitated and the cleaning of the same by sitting on the window-sill obviated.

For the purpose of permitting the shifting of the lower sash from the front guide-groove into the rear guide-groove pivoted switch-tongues *c* are arranged between the guide-grooves *a*, the thicker ends being pivoted to the casing near the sill in such a manner that the upper tapering end moves in a recess *c'* in the parting-strip *c<sup>2</sup>* between the grooves, as shown in Figs. 5 and 6. When the switch-tongues *c* are moved forward into the front guide-grooves, inclined channels are formed connecting the guide-grooves *a*, in which the pivot-rollers *e*, that are arranged at the lower corners of the lower sash *C*, may be guided from one groove to the other in the shifting of the sashes. When the sashes are arranged in the rear grooves, they are locked, as shown in Figs. 1 and 2, by means of shiftable locking-bars *f*, that are disposed on opposite sides in horizontal direction of the key *f'* and are adapted to move longitudinally, so as to project or withdraw the rollers *f<sup>2</sup>* at their ends that engage in the guide-grooves and lock thereby the upper rail of the lower sash firmly against the lower rail of the upper sash. The pivot-rollers *g* are provided at the lower corners of both sashes, and at the upper corners of the upper sash are provided the slide-bolts *g'*, that are guided in recesses of the frame of the sash, as shown in Fig. 1, said slide-bolts having rollers *g<sup>2</sup>* at their ends that enter the rear guide-grooves and hold thereby the upper sash in the plane of the rear guide-groove and prevent it from being tilted when in closed position or when being moved up and down along the guide-grooves of the window-casing. The jambs of the window-casing *A* are provided immediately adjacent to the window-sill *B* with recesses *r*, that form extensions in the rear guide-grooves, said recesses providing clearances for the lower rails of the sashes for permitting the tilting of the upper or lower sash into inward direction to a position of rest on the window-sill for the purpose of cleaning the outer surfaces of the glass panes from the inside of the window. For the purpose of tilting, the shiftable bars *f* or locking-bolts *g'* at the upper edges of the sashes have to be moved inwardly when one or the other sash has been lowered down to the sill, so that the same can be tilted in inward direction, the recesses *r* in the jambs of the window-casing permitting the swinging of the lower rail into the required position, as shown in Fig. 5. After the sash is cleaned it is lifted again into line with the guide-grooves, the bolts are thrown outwardly, causing the roller *g<sup>2</sup>* to engage the rear groove, and the sash may be then raised again to its normal position and locked or lowered into the box *D*.

When it is desired to place the sashes in the box *D*, the lower sash *C* must be shifted to the

front guide-grooves. This is done by withdrawing the rollers *f<sup>2</sup>* from the rear guide-grooves and the upper portion of the sash is moved forwardly a slight distance out of the plane of the upper sash. The switch-tongues *c* are moved forwardly, so as to provide channels to connect the guide-grooves. The lower sash is then moved upwardly, its pivoted rollers *g* moving in the inclined channels to the front guide-grooves, whereupon the rollers *f<sup>2</sup>* are moved into engagement with said grooves by moving the rods *f* outwardly under the action of the key *f'*. The sill *B* is then raised and the sash *C* is moved into the box. The rear guide-grooves are then cleared for the passage of the upper sash *C'*, so that the same can be placed into the box.

The switch-tongues *c* and recesses *c'* are shown clearly in perspective view, Fig. 6, while Fig. 7 shows one of the pivot-rollers *g* arranged at the lower corners of the sashes, which are attached by screws *s* to the sash-frame and which serve also for attaching sash-cords *s'* to the lower corners of the sash-frame. By this connection of the sash-cords with the pivots at the lower corners of the sashes the tilting of the sash is permitted without interfering with the sash cords and weights.

My improved window is devised to accomplish the following purposes: first, that both sashes can be placed in the storage-box; secondly, that both sashes can be locked in closed position in the same plane, one below the other; thirdly, that they can be conveniently tilted into the room for cleaning, and, lastly, that they can be adjusted into separate guide-grooves, as the ordinary sashes in use.

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

1. The combination of a window-casing provided with parallel front and rear guide-grooves and parting-strips having recesses adjacent to the window-sill, switch-tongues pivoted in said recesses and adapted to form inclined channels with the parting-strips, and sashes guided along said grooves and provided with pivots at their lower ends and locking devices at their upper ends, the lower of said sashes being permitted to be shifted from one guide-groove into the other by means of the switch-tongues, substantially as set forth.

2. The combination, with a window-casing provided with parallel guide-grooves, of switch-tongues located between said guide-grooves near the sill, said switch-tongues being pivoted at their lower ends to the window-casing, sashes guided along the guide-grooves and provided with pivots at their lower ends projecting into said guide-grooves, and shiftable rollers at the upper ends of the sashes adapted to move in said guide-grooves, substantially as set forth.

3. The combination of a window-casing provided with parallel front and rear guide-grooves, pivoted switch-tongues located in recesses in the parting-strips near the window-



sill, said rear guide-grooves having adjacent to the window-sill sliding sashes, pivot-rollers at the lower corners of said sashes, and locking devices having rollers at the upper corners of said sashes, said rollers being adapted to move in said guide-grooves, each sash being adapted to be tilted inwardly when the locking-pins are withdrawn and the lower rails of the same are placed in the recesses of the window-casing, substantially as set forth.

4. The combination of a window-casing provided with independent front and rear guide-grooves and recesses at the rear guide-grooves, sashes guided along the same, pivot-rollers at the lower ends of the sashes, weighted sash-cords connected with said pivot-rollers, switch-

tongues located in recesses in the parting-strips, said switch-tongues forming inclined channels for shifting the lower sash from the front guide-grooves into the rear guide-grooves and into said recesses of the casing so as to permit the tilting of the sashes for cleaning without interference with the sash-cords, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HUGO VETTEL.

Witnesses:

PAUL GOEPEL,  
HENRY SUHRBIER.