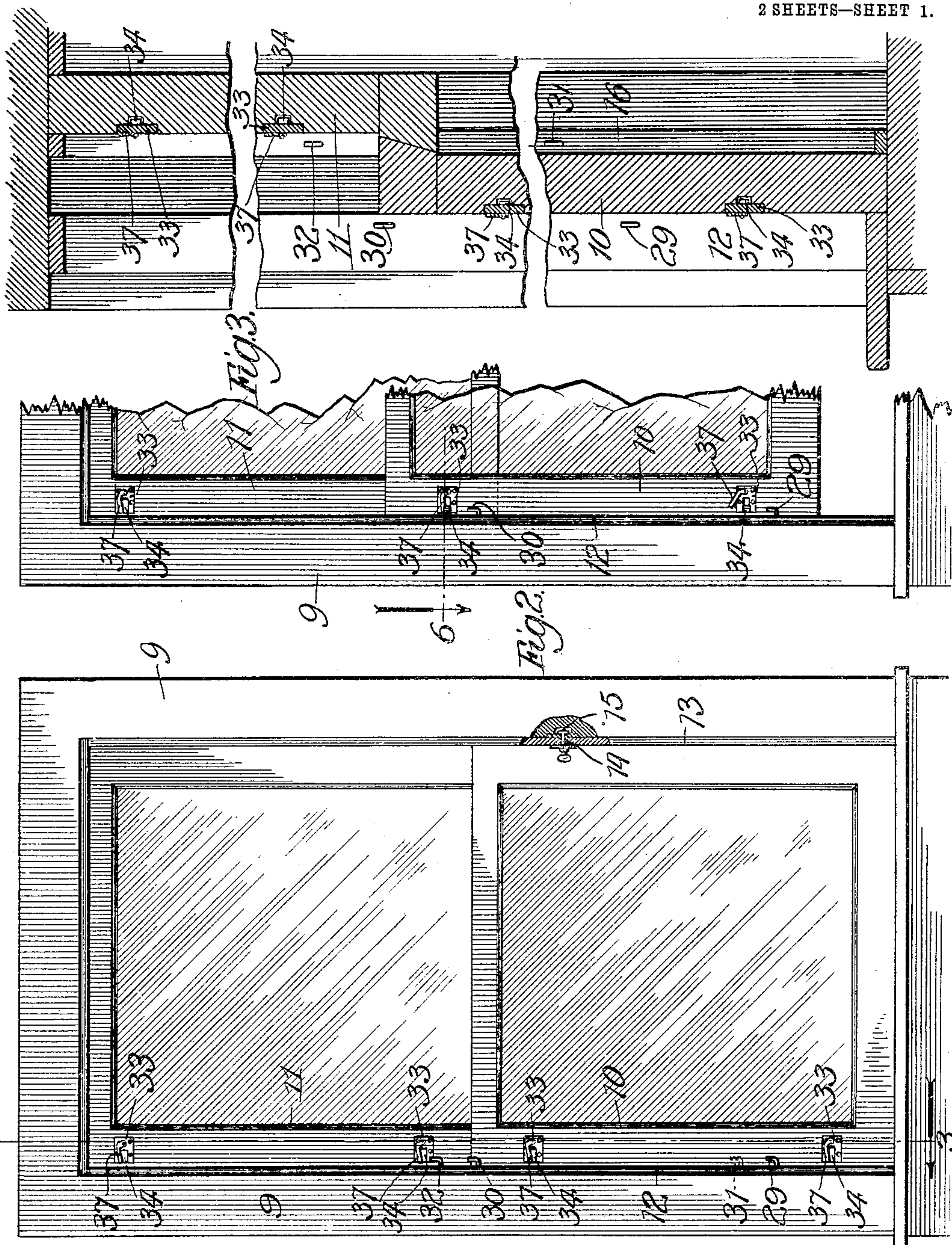


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HINGE DEVICE FOR WINDOW SASHES.
APPLICATION FILED JAN. 21, 1909.

929,976.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

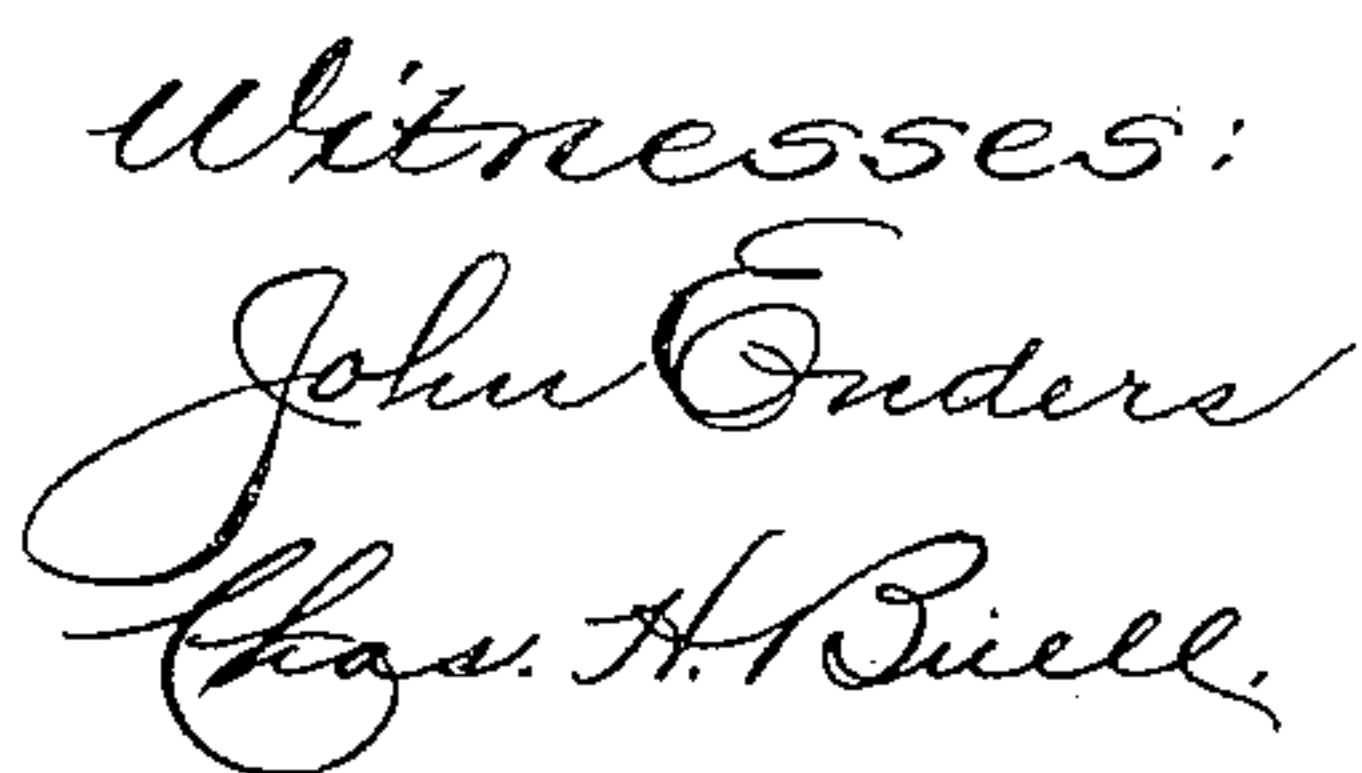


Witnesses:
John Enders
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Fig. 1.
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929,976.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES F. O'CONNOR, OF CHICAGO, ILLINOIS.

HINGE DEVICE FOR WINDOW-SASHES.

No. 929,976.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed January 21, 1909. Serial No. 473,566.

To all whom it may concern:

Be it known that I, CHARLES F. O'CONNOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Hinge Device for Window-Sashes, of which the following is a specification.

My invention relates to an improvement in the class of windows in which each window involves a vertically movable sash (usually an inner and lower and an outer and upper sash) equipped with means for adapting it to be swung inwardly into the room provided with it to render accessible therein its outer as well as its inner surface for purposes of cleaning, thereby to avoid all necessity for the dangerous practice of cleaning the outer surfaces of windows, particularly in elevated position, from the outside of buildings containing them.

Referring to the accompanying drawings—Figure 1 is a view in front elevation, slightly broken away to show a detail, of a two-sash window provided with my improvement; Fig. 2 is a broken view showing the two sashes as in Fig. 1, but with the lower sash sufficiently raised to adapt it to be placed in hinged condition for rendering it reversible; Fig. 3 is an enlarged broken section on line 3, Fig. 1; Fig. 4 is a view like that presented in Fig. 1, with parts broken away to show details of construction, but showing the lower sash swung inwardly on its hinges; Fig. 5 is an enlarged broken view showing the parts of the lowermost hinge-member on the lower sash by full lines in normal condition with the sash down, and dotted lines in their condition of engagement with the pintle or support provided on the window-casing to be engaged by that member; Fig. 6 is an enlarged section on line 6, Fig. 2; Fig. 7 is a broken section on line 7, Fig. 6; and Fig. 8 is an enlarged broken section on line 8, Fig. 4.

The window-casing 9 is of any usual or suitable construction adapting it to hold a lower inner sash 10 and an outer upper sash 11 in a manner to adapt each to be raised and lowered. An inner permanent stop 12 extends along one side of the casing, and a similar stop 13 extends along its opposite side, for confining the lower sash; but the lower part of the stop 13 which extends upwardly beyond the inner sash is a removable section containing a rotatable key 14 to register with a socket 15 provided in the adjacent side of the casing to receive the key

when the sash 10 is down. Behind the stop 12 is a permanent stop 16 for one side of the outer sash, and for the opposite side thereof is provided, behind the stop 13 (Fig. 8), a stop 17 formed with a lower removable section confined in place by a latch 18 pivotally hung to overlap it from the lower end of the upper section of that stop.

The lower end of the removable section of the stop 17 carries a stud 19 (Fig. 4) to enter a socket 20 in the base of the casing. Each sash is hung in the usual manner on ropes, or the like, passing over pulleys in the casing-sides and carrying in the latter sash-weights (not shown) for the ordinary counterbalancing purpose. The rope 21 for the side of the lower sash adjacent to the stop 13 is detachable from the sash, being provided with an eye 22 on its free end to engage with a hook 23, or pin, at the lower end of a longitudinal groove 24 provided in the outer face of the respective sash-rail; and when the rope is detached to permit swinging the lower sash, as hereinafter described, its eye 22 is engaged with a hook 25 depending on the casing-side just below the fixed upper portion of the stop 13, where it is covered by and let into the upper end of the removable section of that stop. The rope (not shown) of the upper sash, which corresponds with the lower-sash rope 21, is equipped, like the latter, with an eye on its free end to engage detachably with a hook or pin, in the lower end of a longitudinal groove, like the groove 24, in the face of the respective upper-sash rail.

On the stop 12 are secured and properly spaced apart two upwardly-projecting hooks 29 and 30, and similar hooks, 31 and 32, are provided on the stop 16, these hooks affording pintles or hinges, the other parts of which are on the adjacent rails of the sashes. Near each end of the side-rail of each sash adjacent to the casing-side provided with the permanent stops 12 and 16, is countersunk into and firmly secured in the rail-face a slotted metal plate 33 forming a hinge-leaf and having pivotally secured in the outer end of its slot an arm 34 terminating at its free end in a vertical socket-head 35. The arm contains in its upper side, near its pivotal end, a vertical recess or notch 36 to receive, for the purpose hereinafter explained, the free-end portion of a latch 37 pivoted at one end to the face of the plate 33 adjacent to the inner end of its contained slot. When, in the normal condition of the window, the arms 34 are turned

into the slots of and thus housed in the plates 33 flush with their outer surfaces, the latches 37 are turned to the position shown in Fig. 5, in which they overlap the pivotal arms 34 and thus hold them against displacement by protrusion.

To swing the lower sash, it is raised sufficiently to carry the plates 33 upon it respectively above the planes of the pintles 29 and 30, the key 14 is turned to unlock the lower section of the stop 13, which is thereupon removed, and the rope 21 is detached at its eye 22 from the pin 23 and attached to the hook 25, to hold the respective sash-weight against dropping; then the latches 37 are raised to remove them from obstructing the arms 34 of these plates and permit the arms to be turned on their pivots out of the slots to extend each at a right-angle to the face of its plate, and the latches 37 are lowered to enter the recesses 36 in the extended arms for locking them or rendering them rigid in their out-turned condition. In that condition the sockets on the ends of the arms register, respectively, with the pintles 29 and 30, and by lowering the sash these sockets are seated about the pintles, when the sash may be turned on its hinges, thus formed, to the position, in which it is represented in Fig. 4, of projecting inwardly, or into the room, in which its outer surface is thus accessible for cleaning.

The upper sash is swung, (while the lower sash is in its swung position) in the same way as that described of the lower sash. It is first lowered to bring its upper edge below the upper end of the removable section of the stop 17, when the latch 18 is turned to release

that section, which is then removed. The upper sash is then turned slightly for access to the hooked end of its rope, and the latter is unhooked and its eye is applied to the hook 25 to hold the sash-weight. The arms 34 of the plates 33 on the upper sash are then turned outwardly, and fastened by the latches 37 therefor, and the sash is lowered to engage the sockets on the arms with the pintles 31 and 32, whereupon the upper sash may be swung inwardly into the room.

To return a sash to normal condition, its rope that was detached is re-attached, the sash is raised off its pintles and the arms 34 are returned into their slots in the plates and secured by adjusting the latches 37, and the removable stop-section for the sash is adjusted into place.

Of course, as will be understood, where a window contains only one vertically-movable sash, a single set of the described means for adapting it to be swung is provided.

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

The combination of a metal plate provided with a slot extending into it from one lateral edge, an arm pivotally confined in the outer end of said slot and terminating at its free end in a socket, with a notch in the arm between its ends, and a latch pivotally supported on the plate to engage said notch in its outwardly-turned position relative to the slot, for the purpose set forth.

CHARLES F. O'CONNOR.

In presence of—

R. SCHAEFER,
L. KIRKLAND.