(No Model.) 3 Sheets—Sheet 1.

W. RANDEL & C. A. FRENCH.

WINDOW CASING AND MEANS FOR SECURING SASH THEREIN.

No. 544,050. Patented Aug. 6, 1895.

Fig. 1.

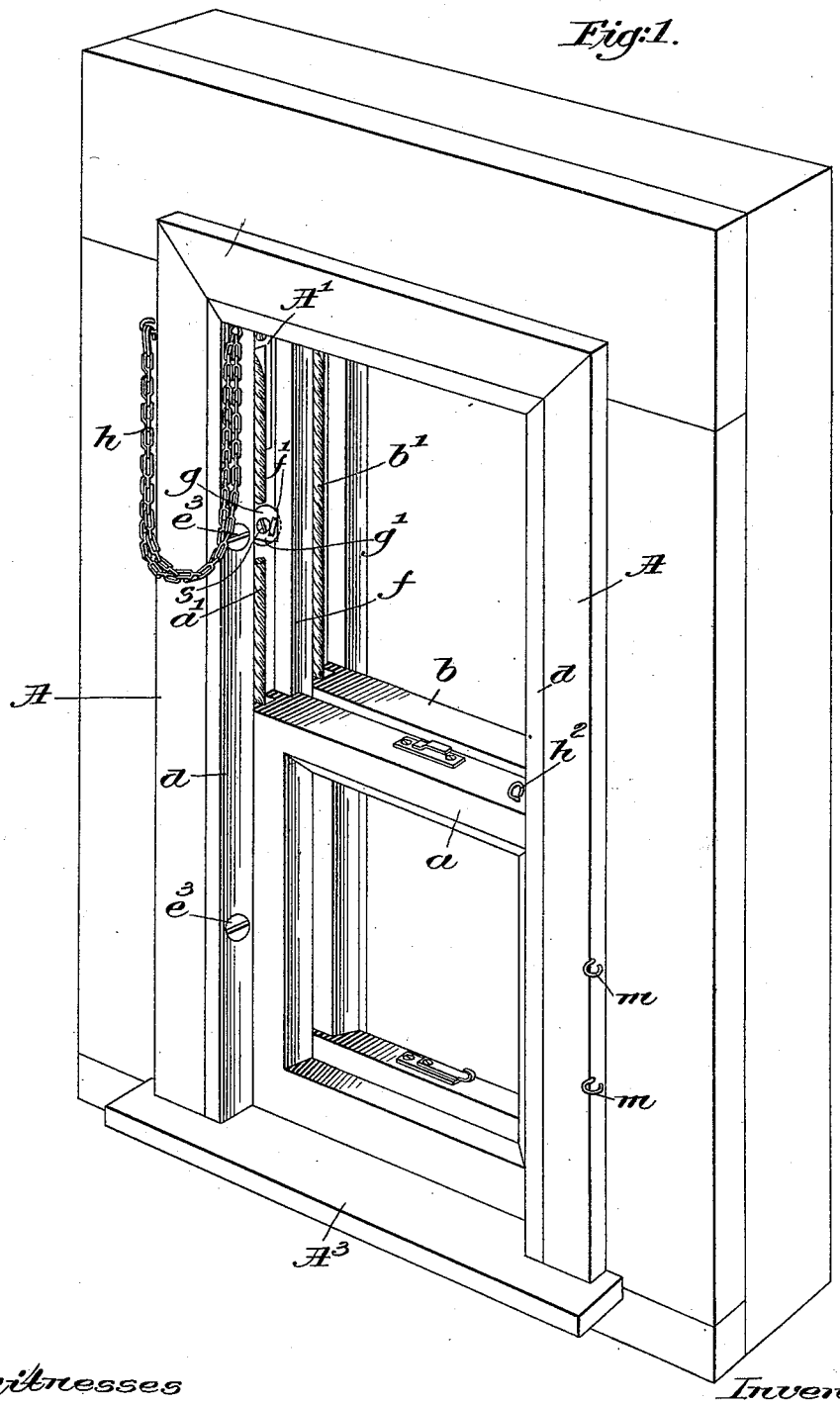

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Fig: 2.

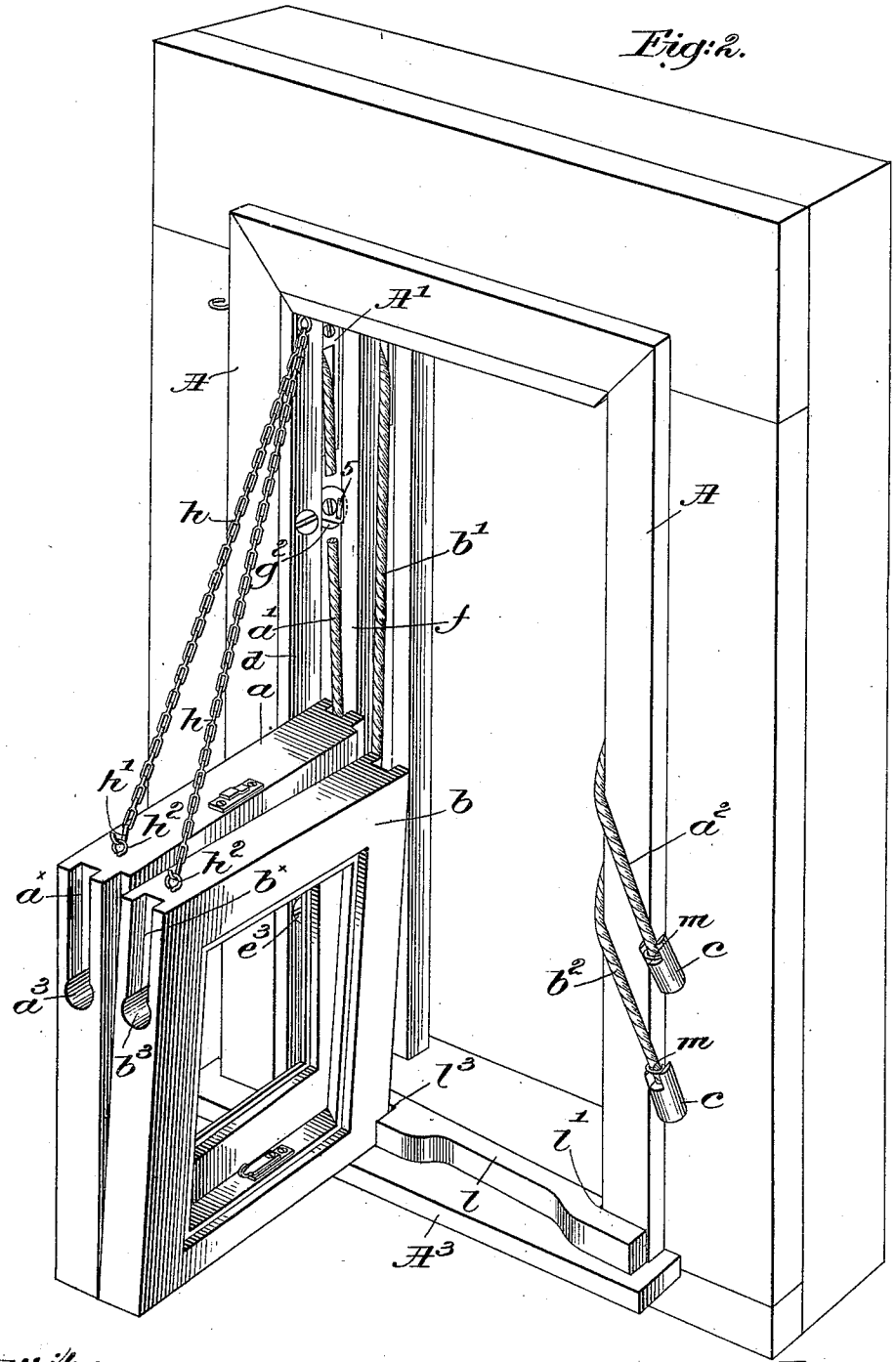

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Fig:3.

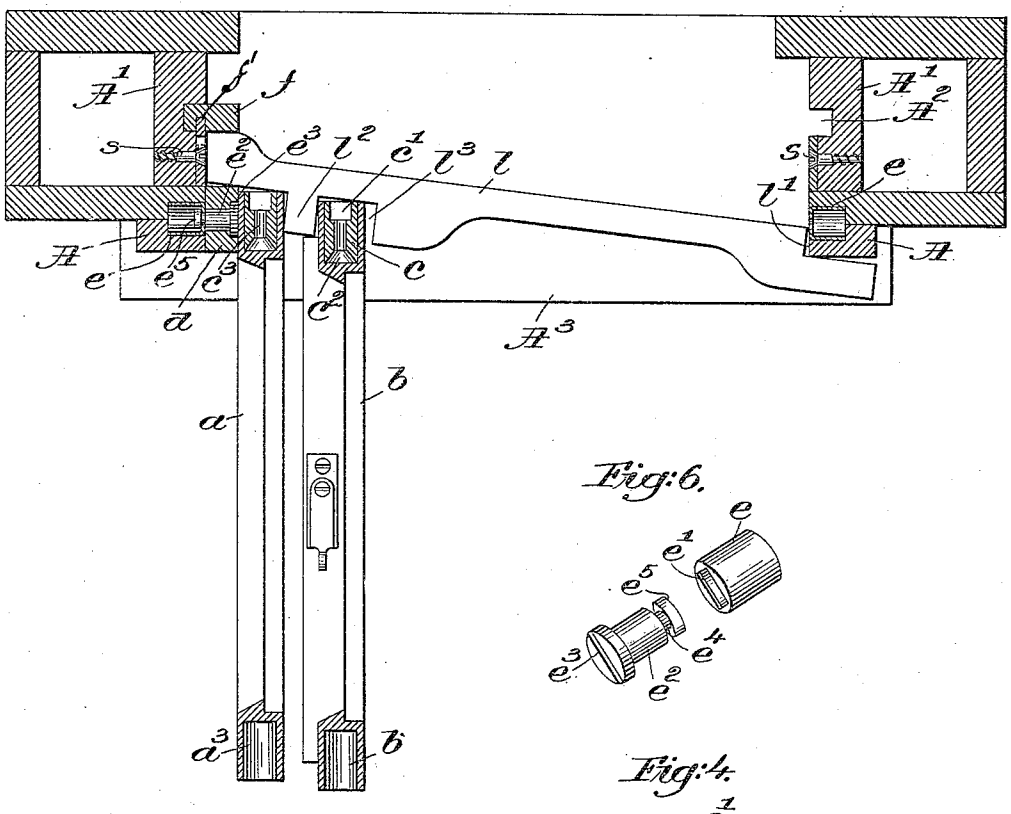


Fig:6.

Fig:4.

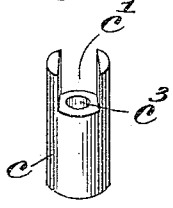
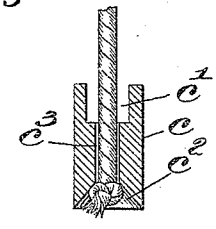


Fig:7.

Fig:5.



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UNITED STATES PATENT OFFICE.

WILLIAM RANDEL, OF ELIZABETH, NEW JERSEY, AND CHARLES A. FRENCH, OF BOSTON, MASSACHUSETTS.

WINDOW-CASING AND MEANS FOR SECURING SASH THEREIN.

SPECIFICATION forming part of Letters Patent No. 544,050, dated August 6, 1895.

Application filed December 11, 1894. Serial No. 531,472. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM RANDEL, of Elizabeth, county of Union, State of New Jersey, and CHARLES A. FRENCH, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Window-Casings and Means for Securing the Sash Therein, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In repairing or cleaning window-sashes it is either necessary to entirely remove the sash, which can only be done by unscrewing or otherwise disconnecting the usual inner stop and parting bead or strip, so that the sash can be lifted from the casing, or else the person doing the work must be exposed to considerable danger by getting wholly or partly outside of the window-casing.

Many offices and other buildings as now constructed are provided with such large window-sashes that it is almost an impossibility to properly clean the outside of the glass.

In a prior United States Patent granted to us, No. 428,180, we showed the inner stop-beads and the parting strips or beads as removably secured to the window-casing, and the sashes were so connected to the sash-cords that after the removal of the beads or strips the sashes could be removed from their place in the casing and reversed about the points of attachment of the sash-cords. For small windows such construction is fairly well adapted, but with large sashes the handling necessary to reverse them is attended with considerable danger on account of their great weight and size, and this present invention has for its object the production of means whereby the sashes, one or both, may be temporarily removed from the casing for cleaning or other purposes without necessitating their reversal, the sashes being swung in a substantially-vertical plane within the room, means being provided for holding the sashes in fixed position while being operated upon. We effect the removal of the sashes by making the inner stop-bead and the parting-bead at one or both sides of the casing readily removable and interpose a detachable connection between the edge of the sash and one or both of the sash-cords. The sash having been removed from its place, one of the sash-cords is disconnected and an auxiliary support held at one end at the top of the casing, and above the other edge of the sash is connected at its other end to the free side of the sash, so that the latter can swing laterally as if on a substantially-vertical pivot, and the pivotal corner or edge of the sash is held by a locking device, so that the sash will project within the room.

In accordance therewith our invention consists in various details of construction, hereinafter fully set forth and described in the specification, and particularly pointed out in the claims.

Figure 1 is a perspective view of a window-casing with our invention embodied therein, both sashes being shown as in place. Fig. 2 is a similar view with both sashes removed from their place in the window-casing and held in position within the room. Fig. 3 is a transverse sectional view of the parts in the position shown in Fig. 2. Fig. 4 is a perspective view of the detachable connection between the sash-cord and the sash. Fig. 5 is a vertical section thereof with the end of the sash-cord in place. Fig. 6 is a perspective view of the two parts of the inner stop-bead coupling, and Fig. 7 a similar view of the parting-strip fastener detached.

The window-casing A may be of any usual construction, and it is provided with inner and outer sashes a and b, the glass being omitted in the drawings, the window-casing being provided with usual boxes or wells for the sash-weights attached to the inner ends of the sash-cords a', a^2, b', and b^2.

The edges of the sashes are grooved or recessed at their upper ends, as at $a^\times$ $b^\times$, respectively, to receive therein the sash-cords above their point of attachment.

We have herein shown each sash-cord as detachably connected to the sash, but it will be obvious hereinafter that only one sash-cord of each pair need be made detachable.

The edges of the sashes have preferably cylindrical sockets a^3 b^3 therein to receive the detachable connections, (shown best in Figs.

4 and 5,) and consisting each of a hollow cylindrical shell c transversely slotted at c' and cupped or recessed at c^2 in its inner end to receive therein the knotted end of the sash-cord, as clearly shown in Fig. 5, the cord passing through the longitudinal bore c^3 of the shell.

The length of the shell c is such that when inserted in one of the sockets a^3 or b^3 of the sash its outer end will be substantially flush with the edge of the sash, as clearly shown in Fig. 3, the connections being therein illustrated as in place in their sockets in the inner edges of the sashes a and b, but with the sash-cords omitted. The shell c is so turned that the slot c' will be up and down, so that the sash-cord can enter the grooved portion of the sash above the socket, and thereby prevent its interference with the window-casing.

The sash-cord connections are held in place in the sashes by the sides of the casing, as will be clearly understood.

The inner stop beads or strips d are detachably secured to the casing by two-part couplings, one member thereof being shown as a hollow shell e having a slot e' in its outer end and adapted to be inserted in a suitable socket provided therefor in the side of the casing A, as shown in section in Fig. 3, and in Figs. 1 and 2 the stop-strip d is shown as held in place by two such couplings.

The other member of the coupling consists of a headed cylindrical shank e^2 rotatably inserted in a preferably counter-bored hole in the stop strip or bead d, its head e^3 preferably having a nick therein by which the shank may be rotated.

The inner end of the shank is reduced at e^4 and has fast thereon a transverse locking projection e^5, of suitable shape, to enter the slot in the end of the fixed member e, a partial rotation of the movable member e^2 locking the two members together by causing the projection to cross the slot, the reduced portion e^4 of the movable member being small enough to enter the slot and turn therein.

The movable members of the couplings are rotatably supported in the stop bead or strip, and the strip is secured in place by giving to the members e^2 a quarter-turn until the projections e^5 thereon lock within the fixed members e in the casing. To remove the stop-strips the movable members are rotated sufficiently to unlock them from their fixed members.

The sides A′ of the casing are preferably grooved, as at A^2, (see Fig. 3,) to receive therein the parting beads or strips f, each of which has preferably two or more undercut recesses f' in one side to be entered by a latch, shown as a segmental disk g, (see Fig. 7,) mounted to rotate in a similarly-shaped segmental holder g^2, and held in a recess in the side A′ of the window-casing, so that the outer face of the latch will be substantially flush therewith, the straight side g^3 of the holder lying adjacent to the edge of the groove A^2.

When the straight side g' of the latch g is parallel to the edge of said groove, the parting-strip is unlatched, but when the latch is given a partial turn a portion will project over the edge g^3 of the holder and enter the adjacent undercut recess f' in the strip or bead, thereby holding it in the groove A^2.

The holder and latch are maintained in place by a screw s, the head of which enters a countersink $g^\times$ in the latch, the latter also being provided with an eccentric recess or depression 5, into which may be inserted the finger-nail of the operator, the edge of a coin, or a suitable tool to turn the latch in or out of the recess in the parting-bead.

The latch and its holder being flush with the surface of the casing side, presents no obstruction to the sash as it is raised or lowered in its track, and a partial revolution of the latch will unlock or lock the parting-bead f.

When the inner stop-beads and parting-beads are in place in the casing, the appearance is little different from that of an ordinary window-casing, the beads forming with the sides of the casing tracks for the movement of the sashes, and if it is desired to remove the inner sash it is only necessary to remove the stop-bead at one side of the window, but if both sashes are to be removed one of the parting beads or strips must also be detached.

To show the full utility of our invention, both sashes are shown removed in Figs. 2 and 3, and when they are free from the window casing one of the sash-cords of each is detached by withdrawing the coupling c from its socket in the side of the sash, the bottoms of the sashes resting on the sill A^3; but for heavy sashes, and preferably for all sashes, we sustain the free edges thereof by an auxiliary support, (herein shown as a chain h,) connected at one end to the side of the casing near its top and adjacent the connected sash-cord, the other end of the auxiliary support having a hook h' to engage the screw eye or ring h^2, preferably inserted in the top of the sash near its free edge, as clearly shown in Fig. 2. Each of the sashes is thus held in upright position by the connected sash-cord and the auxiliary support, and the glass may be cleaned or repaired from within the room.

We prefer to have the sashes held fixedly while in their abnormal position, and we have shown in Figs. 2 and 3 a convenient form of locking device (shown as a bar l) shouldered at l' to rest against the corner of the casing, from which the inner stop-bead has been removed and cut away on its front side at the other end to leave a parting shoulder l^2 to enter between and separate the two sashes, the notch l^3 receiving the adjacent edge of the outer sash b. This end of the locking-bar enters between the inner stop-bead d and the parting-strip f, still connected to the window-casing, as very clearly shown in Fig. 3.

From the foregoing it will be evident that

it is not absolutely necessary to provide each side of the casing with detachable inner stop and parting beads, but such construction enables the operator to remove the sashes from either side.

Our invention is not only adapted to be applied to new window-casings, but it may be applied to any casings now in use by the simple removal of the nails or screws which are now used to secure the stop and parting beads in place and by substituting therefor the attaching devices herein shown and by interposing a detachable coupling between one or both edges of the sash and the co-operating sash-cord.

The movable member of the stop-bead coupling is preferably made, as herein shown, with a nicked head; but it will be obvious that the head might be allowed to project somewhat beyond the outer face of the bead and suitably shaped to be grasped by the fingers to be rotated, such construction coming within the spirit and scope of our invention.

In Figs. 1 and 2 we have shown the casing as provided with catches or hooks *m* to hold the loose ends of the uncoupled sash-cords and thereby keep them out of the way and in convenient position to be recoupled to the sash.

The auxiliary supports *h* may be hooked up out of the way when not in use, as shown in Fig. 1.

We claim—

1. The combination, with a window casing and a sash movable therein, and fixed cylindrical shell-like coupling members with slotted outer ends secured in round recesses in the sides of the casing, of a removable inner stop bead, rotatable coupling members mounted therein and having elongated shanks and projections on their inner ends to co-operate with the slotted outer ends of said fixed members and hold the bead in place, sash cords, and a detachable connection between one of said cords and the sash, whereby the latter can be swung into the room about its connected edge as a pivot when the stop bead is removed, substantially as described.

2. A window casing having a vertical groove in its side to receive a parting bead, a segmental holder provided with a projecting rim on its rounded side, inserted in the casing with its straight side adjacent the edge of the groove, and a segmental disk or latch rotatable on the holder and flush with the rim, combined with a parting bead adapted to enter the casing groove and having an undercut recess in its side, to be entered at times by the disk, substantially as described.

3. A detachable coupling, consisting of a cylindrical shell-like member having a slotted outer end, and adapted to enter a cylindrical recess, and a co-operating member having a cylindrical shank to form a journal provided with a projection on its inner end, to enter the slot in the outer end of the other member, partial rotation of one member relative to the other locking them together, substantially as described.

4. The combination, with a window casing and a sash movable therein, of a removably secured inner stop bead, sash cords, a detachable connection between the sash and the cord adjacent the said bead, whereby by removal of the bead the sash may be removed from that side of the casing and disconnected from the adjacent sash cord, an overhead auxiliary support for the free side of the sash, and a detachable locking device notched to receive the inner vertical edge of the sash when swung out about a vertical axis, and adapted to be held in place on the casing to lock the sash in place, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM RANDEL.
CHARLES A. FRENCH.

Witnesses:
JOHN C. EDWARDS,
EMMA J. BENNETT.