No. 666,053. Patented Jan. 15, 1901.

B. HAUSMANN.

SLIDABLE AND SWINGING WINDOW SASH.

(No Model.) (Application filed May 3, 1900.)

3 Sheets—Sheet 1.

Fig. 2.

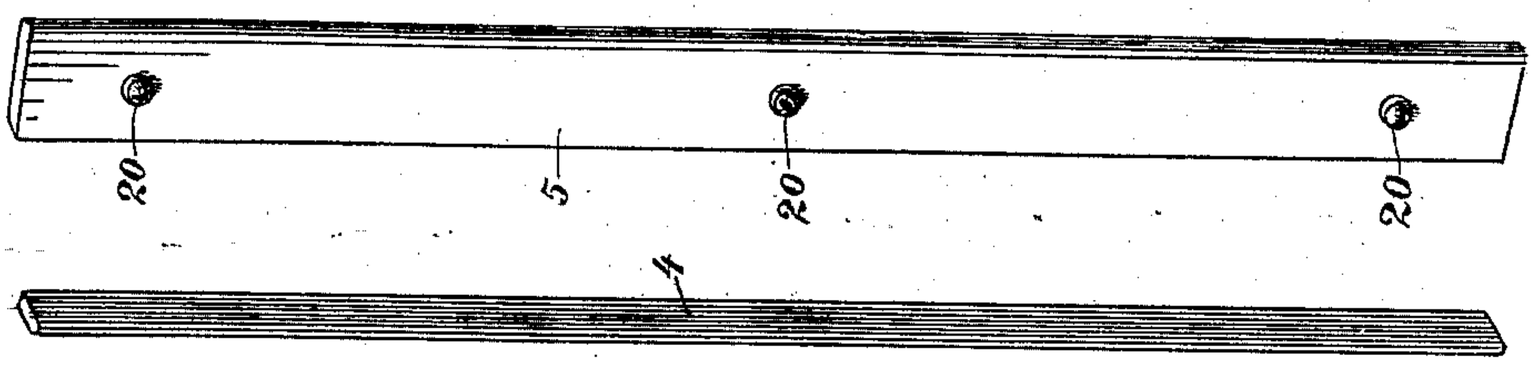

Fig. 1.

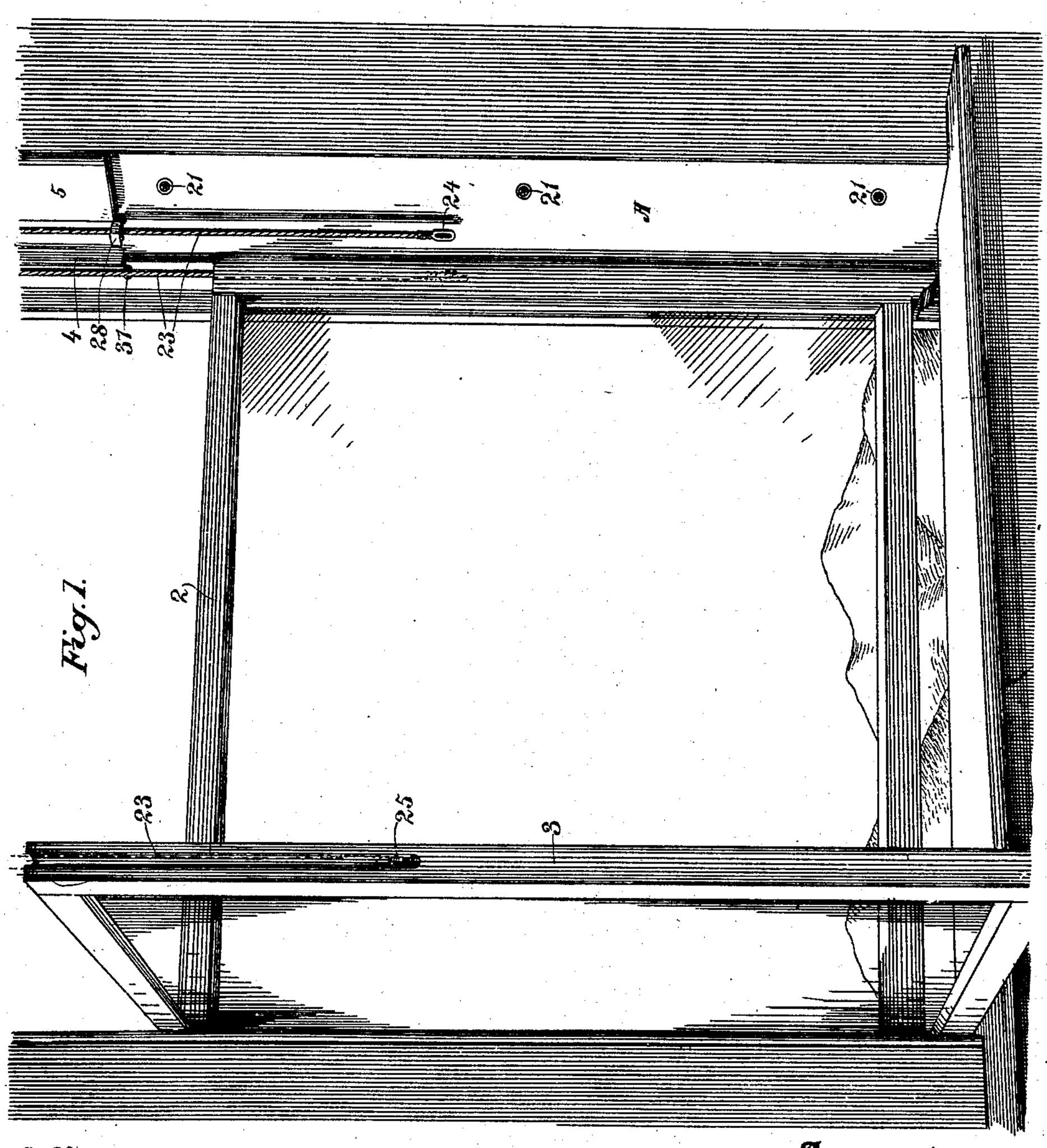

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Fig. 3.

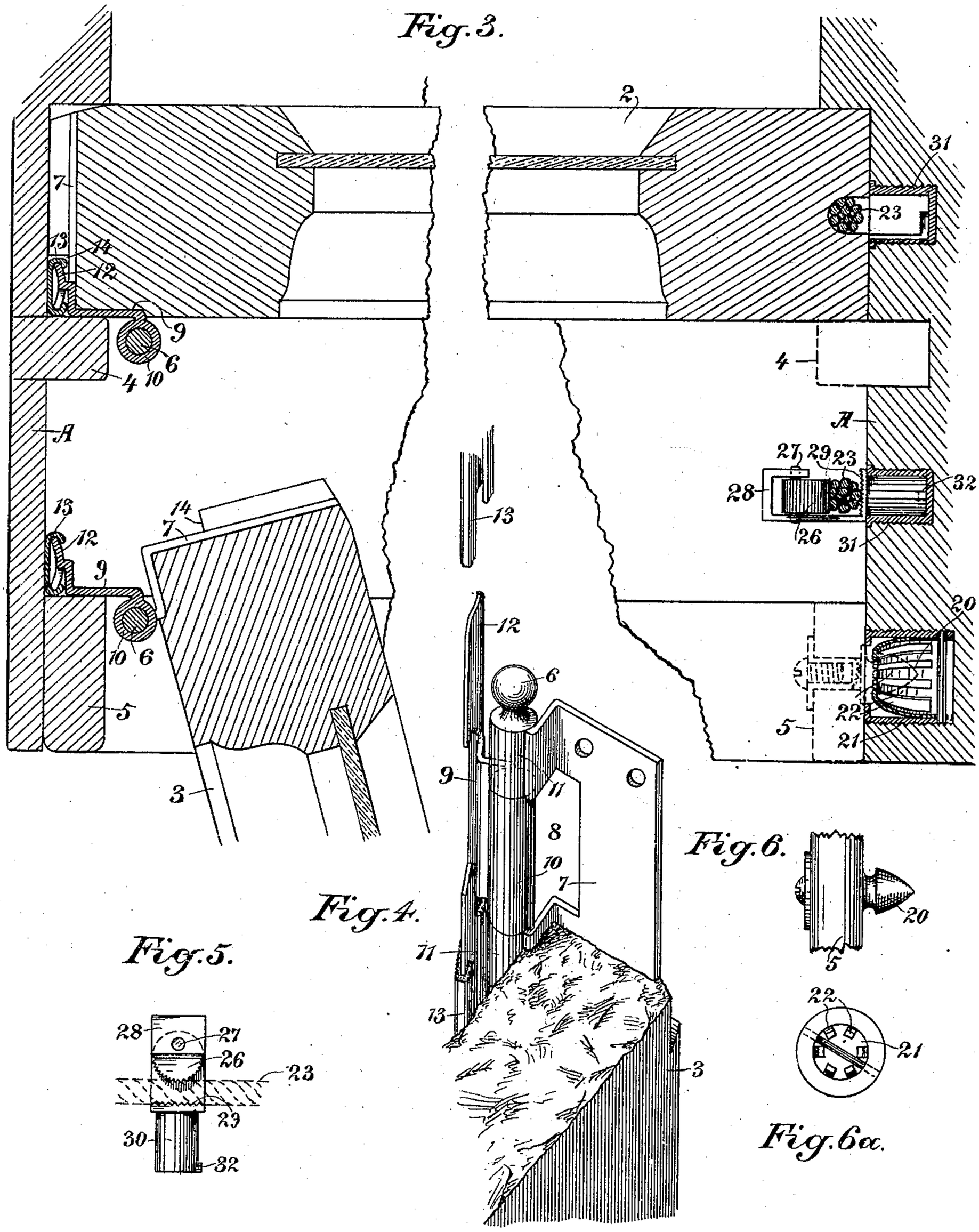

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 6a.

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Fig. 7.

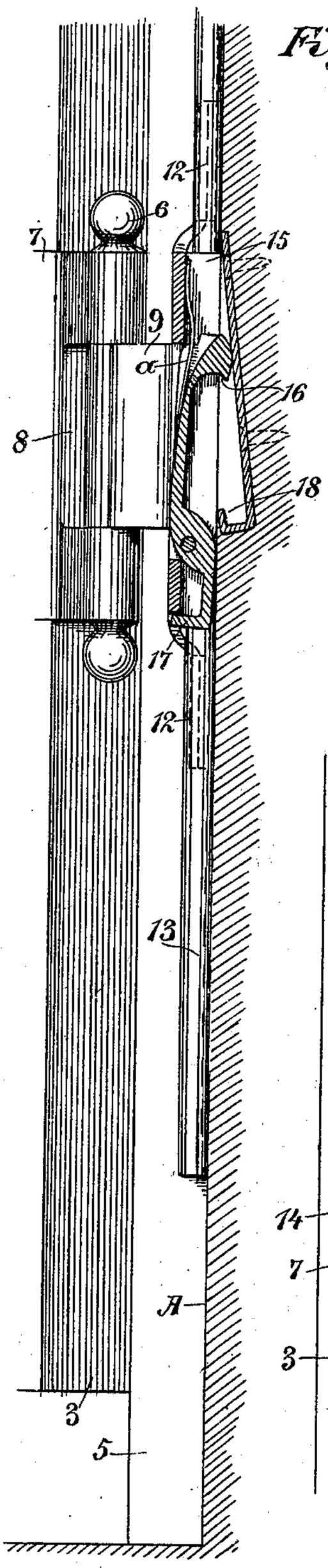

Fig. 8.

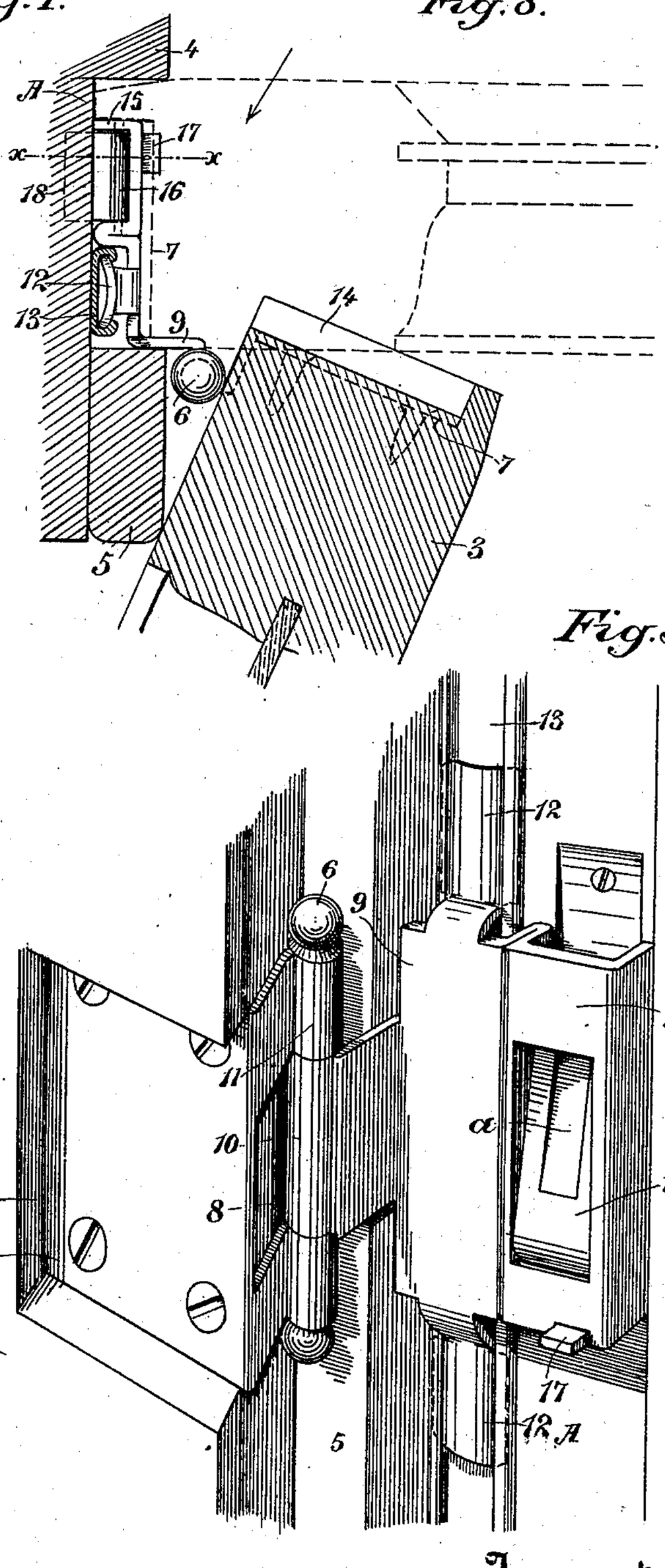

Fig. 9.

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UNITED STATES PATENT OFFICE.

BERNARD HAUSMANN, OF SAN FRANCISCO, CALIFORNIA.

SLIDABLE AND SWINGING WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 666,053, dated January 15, 1901.

Application filed May 3, 1900. Serial No. 15,305. (No model.)

To all whom it may concern:

Be it known that I, BERNARD HAUSMANN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Slidable and Swinging Window-Sashes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a mechanism for sliding window-sashes and means for disengaging such sashes from suspending-cords on one side, so that they are turnable about hinges on the other side to swing inwardly for the purpose of obtaining access to the outside of the sash and for other reasons.

It consists in a novel construction of the hinges and the slidable parts in connection with which the sash moves up and down, in a means for holding the sash in place when disengaged from the cord of the opposite counterbalance-weight, and a means for detaching and securing said cord so as to hold it and weights attached thereto in place while the sash is opened about its hinges.

My invention also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view showing the upper sash drawn to the bottom and the lower sash open, the counterbalance-cord of the latter disengaged and secured, and the lower part of the parting-bead and stop removed. Fig. 2 shows the parting-bead and stop. Fig. 3 is a horizontal section taken through both sashes, showing upper hinges and the lower sash open and means for securing the counterbalance-cord and the stop. Fig. 4 is a perspective view of the hinge-slide and guide and part of the sash. Fig. 5 is a view of the cord-locking device. Fig. 6 is a side view showing that part of the fastening device carried by the stop. Fig. 6ª shows the other portion of the fastening. Fig. 7 is a vertical section of part of the sash, showing the lower hinge and the support for the sash when the latter is opened. Fig. 8 is a horizontal section of the same. Fig. 9 is a perspective view looking from the outside with the sash open.

In the construction of windows of that class which slide up and down it is also desirable that they be made to open about hinges, so that access may be had to the outside for the purpose of cleaning and for other reasons. To do this, the window-sashes must be hinged in some manner, so that they can be turned about their hinges, and a means provided for allowing the opposite edge of the sash to be moved by detaching a portion of the stop and parting-bead upon that side, a means for disengaging the counterbalance-weight cord and securing it while thus disengaged from the sash, means for supporting the sash above the level of the window-seat, and means for attaching the hinges, the slides and guides, and other parts so that they may be applied to any window with the least possible amount of cutting or alteration in the parts.

A represents the pulley-stiles of a window.

2 and 3 are the upper and lower sashes, respectively.

4 is the parting-bead, which is fixed vertically between the two sashes, and 5 is the stop, which forms one side of the channel within which the sash slides.

The hinges about which the sash is opened are so constructed that the sash will swing clear of the parting-bead and stop when the opposite side is released, and it opens about the pintles of the hinges, which are situated beyond the line of the parting-bead and the stop, respectively, as shown at 6, Fig. 3. That portion of the hinge 7 which is fixed to the edge of the sash is bent at right angles and is let into the edge and side of the sash a depth equal to its own thickness, so that it lies flush with the remainder of the sash. The central portion of this part of the hinge is cut away, as shown at 8, to allow the corresponding portion 9 of the other leaf of the hinge to fit into it, so that when the sash is in its normal position the two leaves of the hinge are approximately in line with each other. The central socket or sleeve 10 of the hinge is here shown as carried by the leaf 9, and the upper and lower sleeves 11 are carried by the angular portion of the leaf 7. The leaf 9 carries upon its inner edge the slide 12. This slide is fitted and slidable up and down in a guide 13. This guide is in the form of a channeled strip of metal, having inturned edges which inclose and hold the edges of the slide 12, so that the latter may move up and down easily within the guide, the latter being

screwed or otherwise securely fastened to the pulley-stile, as shown. I prefer to make the slide 12 curved or segmental in shape, which gives it a greater stiffness, and by thus removing the center away from the back of the guide 13 there is no danger of its contacting with screw-heads which might project a little above the surface of the guide.

When the sash is in position to slide in the window, the parts 12 and 13 lie in a channel which is made in the contiguous edge of the sash, as shown plainly at 14, Fig. 8.

When the sash is to be opened, the edge opposite to the hinge is temporarily disengaged from the counterbalance-weight cord upon that side, and as the sash is then not sufficiently held by the remaining-weight cord or chain upon the hinge side it will be necessary to provide a support which will hold the sash sufficiently above the level of the window-seat to prevent its resting or rubbing thereon and to allow it to swing freely and without injury to the woodwork of the sill. For this purpose I have shown an extension 15 to one side of the lower hinge and slide, and within this extension is fulcrumed a lever, the upper end of which forms a hook 16, and the end below the fulcrum-pin has an outwardly-projecting tongue 17. The pulley-stile has a recess or depressed chamber made in it, in which is secured a plate having an upturned hook 18, the position of which is such that when the hook 16 engages with the upturned portion 18 the lower edge of the sash will be held sufficiently above the window-seat to allow it to swing freely and without defacing the sill. The upper portion of the hook 16 will drop into the depression in the pulley-stile and engage with the part 18 as soon as the tongue 17 is released by the turning of the sash either by gravitation or by the assistance of a spring, as shown at *a*, Fig. 7. When the sash is closed, the hinge-plate 7 contacts with the projecting tongue or spur 17 and presses it in flush with the face of the case 15, by means of which the hook 16 is correspondingly withdrawn into this case and held vertically, so that the sash can slide freely up and down; but as soon as the tongue 17 or hook 16 is released by the turning of the sash it is free to drop down and to engage with the plate 18. The operation of these parts is thus made automatic without further attention. In order to free the opposite edge of the sash when it is to be swung about its hinges, the lower parts of the parting-bead 4 and stop 5 are made removable to a height sufficient to allow either or both the sashes to swing freely beneath the remaining upper portion. The parting-bead fits into the usual groove or channel, in which it is retained in any suitable manner. The stop 5 has fixed in it a conical or acorn-shaped head 20, and in the corresponding side of the window-frame is fixed a socket-piece 21, which is formed with elastic tongues 22, fixed around the interior, so that when the head 20 is pushed into this socket the tongues yield to allow the head to pass and then close in about the neck or smaller portion beyond the head, thus locking the parts firmly together. Two or three of these may be fitted between the bottom and top of the removable part of the stop, and it is only necessary to pull the stop away from the stile and the tongues will yield and allow the heads 20 to be withdrawn. The operation of removing and replacing the stop is thus easily performed and it is very secure when in place.

The window-cord or equivalent chain 23 fits in a groove in the edge of the sash opposite to the hinge and has a loop or equivalent fastening 24 at the end. This engages with a hook or corresponding attachment 25 at the lower end of the groove in the sash, as shown in Fig. 1, and when thus attached the sash may be closed into the position in which it is slidable.

When the sash is to be opened inwardly after the stop or bead has been removed, the loop or eye 24 can be disengaged from the hook 25; but in order to retain the cord in place and prevent its running up on account of the counterweight on its other end I have shown a fastening which consists of a serrated roller 26, journaled upon an eccentrically-placed pin 27, this pin extending through the sides of a yoke or holder 28, which is open upon one side to allow the cord 23 to pass between the roller and the opposite corrugated edge 29. This yoke has a pin or extension 30, which is adapted to enter a hole or socket formed in the pulley-stile, as shown at 31, Fig. 3, and the pin has a lug or stop, as shown at 32, which, entering a corresponding slot in the socket-piece 31, permits it to be turned and held, so as to prevent the device from being drawn or pulled out by the greater weight attached to the cord or chain. The device when in position lies as shown in Fig. 3, and when it is desired to swing the sash inwardly the cord or chain is slipped between the eccentrically-journaled roller and the opposite corrugated side of the holder. By means of a slide-lift of the sash the cord or chain will then contact with the roller, which, turning against it, will bind it firmly and prevent its moving. This allows freely the detachment of the cord and the complete turning in of the sash about its hinge, as previously described.

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

1. The combination in a hinged slidable window of a hinge formed in two parts, each bent at right angles carrying the respective portions of the pintle-sockets upon the edges, one leaf of the hinge being secured to the edge of the sash, and the other carrying a slide at the edge opposite the pintle, and a guide secured to the pulley-stile having inturned lips between which the slide is guided and movable, said slide having its side por-

tions engaging the guide and having its central portion out of contact therewith.

2. In a hinged sliding window and in combination, a guide consisting of a sheet of metal forming a back with inturned lips or edges and an open channel between them, said guide being secured to the pulley-stile, a slide consisting of a concavo-convex plate slidable within the guide, with one leaf of a hinge fixed to and movable with it, said leaf being bent at right angles and having a pintle-socket formed upon its edge, a second leaf of the hinge correspondingly bent with the remaining portion of the pintle-sockets at its upper and lower portions, and in line with the socket of the first-named part, said leaf being secured to the edge of the sash whereby the latter is turnable about the hinge-pintle to open clear of the stops and parting-bead.

3. The combination in a window of a guide fixed vertically to the pulley-stile, slides connecting with the hinges of the window-sash and movable up and down upon the guides, said slides having concaved faces toward the guides whereby the central portion is slidable out of contact with the guides.

4. The combination in a hinged sliding window of a hinge, one leaf of which is bent at right angles, and means for attaching it to fit one angle of the sash, said leaf having a central portion cut out and pintle-sockets carried upon the upper and lower edges of the angular part at a distance from the edge of the sash and free from the stops, a second leaf similarly bent carrying the other portion of the pintle-socket and adapted to fit and register within the cut-out portion of the first-named leaf, a concavo-convex slide carried upon the other edge of the second leaf, and a retaining-guide fixed to the pulley-stile within which said slide is vertically movable.

5. The combination in a hinged and slidable window of hinges, the leaves of which are bent at right angles to carry the sockets and pintles away from the edge of the sash, one of said leaves having a slide fixed to it movable in a guide which is fixed to the pulley-stile, an edge extension of the slide forming a case which lies beyond one side edge thereof, a hook-bar pivoted therein having a tongue projecting from the lower edge, a recess or socket formed in the pulley-stile to receive the upper hook portion of the bar, and a corresponding hook-plate fixed in the socket and engaged by the first-named hook when the sash is turned whereby the latter is supported out of contact with the window-seat.

6. The combination in a hinged slidable window of hinges, one leaf of which is fixed to the edge of the sash, the other leaf having a slide fixed thereto, a guide fixed vertically in the pulley-stile within which the said slide is movable, a lateral extension at one side edge of the slide forming a casing, a hook-lever fulcrumed in said casing so that the upper hook end will drop inwardly, a tongue projecting from the lower end and adapted to contact with the hinge-plate when the sash is closed, whereby the hook is retracted into its casing, a chamber formed in the pulley-stile having a hook at the lower end, said hook being engaged by the hook carried by the slide when the sash is turned to allow the latter to drop.

7. In a hinged slidable window, the sash having hinges, slides and supports at one edge, a sash cord or chain with a loop-and-hook connection upon the opposite edge whereby the cord may be disengaged from the sash, and a means for holding the cord consisting of a pin, means for attaching it to the pulley-stile, an eccentrically-journaled roller between which and its frame the cord is clamped.

8. In a hinged slidable window, a cord or chain detachably connected with the edge of the sash opposite the hinge, means for retaining said cord when detached consisting of a pin fitting a socket in the pulley-stile having an open-sided yoke at the outer end, an eccentrically-journaled pulley turnable in said yoke so as to bind upon and retain the cord or chain when the latter is introduced between the pulley and the side of the frame.

9. In a hinged slidable window, sashes having one edge hinged to concavo-convex slides which are movable in guides upon the pulley-stile, parting-beads and stops having a section equal to the vertical height of the sash, removable to allow the latter to swing about their hinges, and means for securing the stops.

10. A hinged slidable window, having hinges, one part of which is secured to the sash and the other carries a slide, a guide in which said slide is movable, and a suspending attachment carried by one side edge of the slide and actuated by the turning in of the sash to arrest the sash in its descent, when swung inwardly.

11. The combination with a hinged swinging window, of a device lying parallel with and outside of the plane of one side edge of the sliding member of the hinge, adapted to suspend the sash out of contact with the window-sill when turned inwardly, and means whereby the suspending device is thrown out of engagement by closing the sash into its slidable position.

In witness whereof I have hereunto set my hand.

BERNARD HAUSMANN.

Witnesses:
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LEE D. CRAIG.