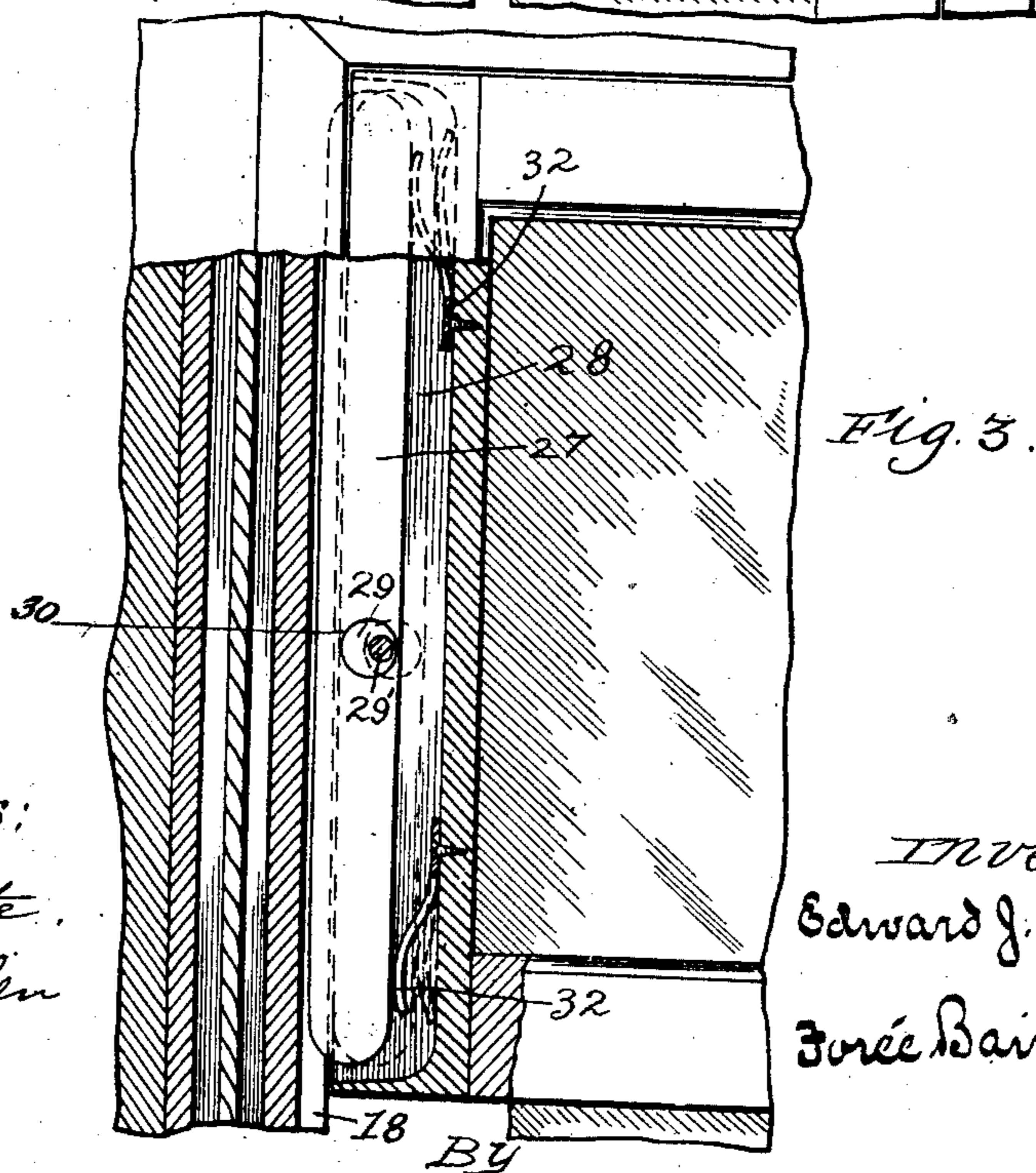
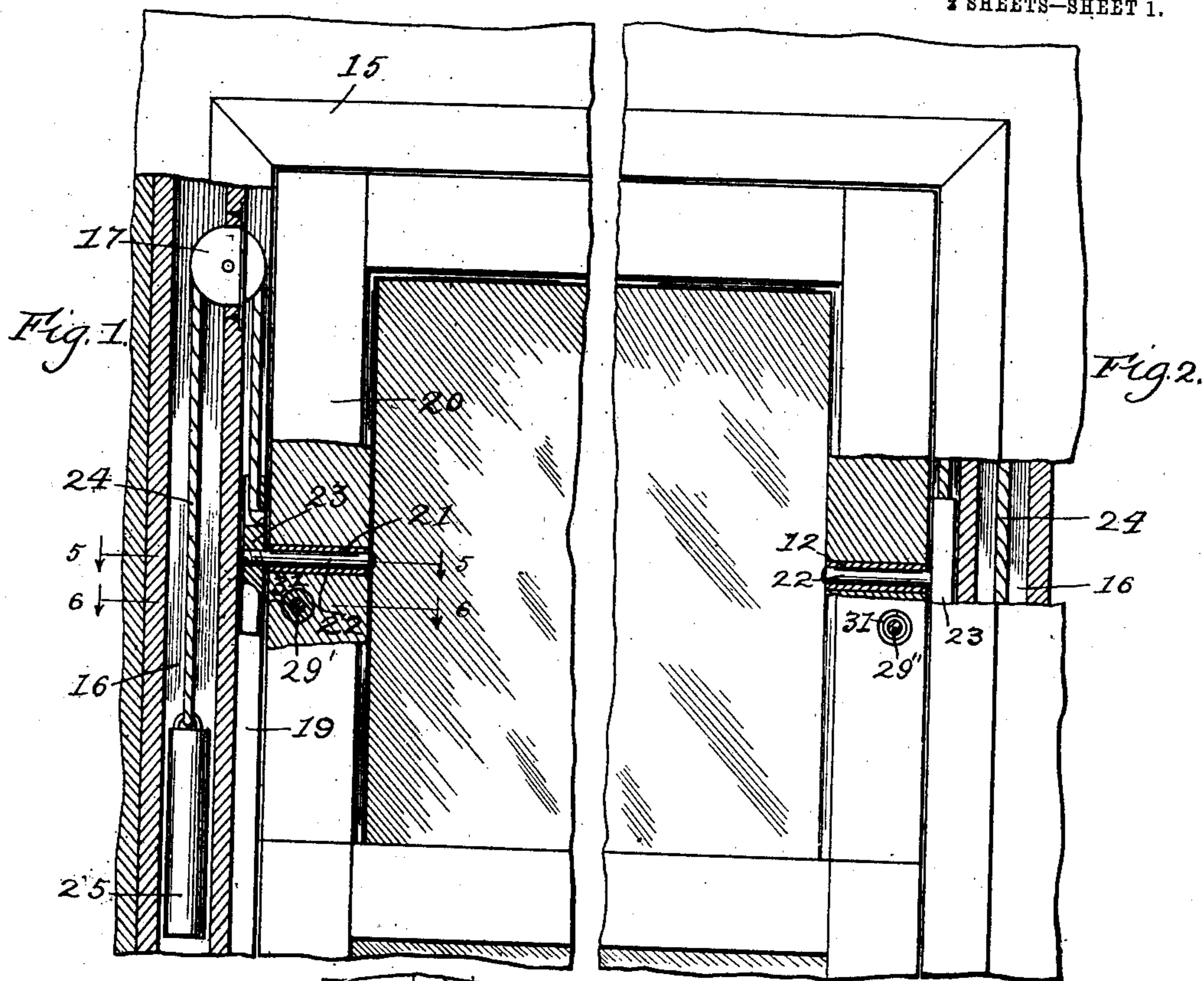


No. 826,604.

PATENTED JULY 24, 1906.

E. J. PETERBUSCH.
REVERSIBLE WINDOW SASH.
APPLICATION FILED JULY 27, 1905.

2 SHEETS—SHEET 1.



Witnesses:
Ray White.
Mary F. Allen

Inventor:
Edward J. Peterbusch
Forcé Bain and May.
Att'y's

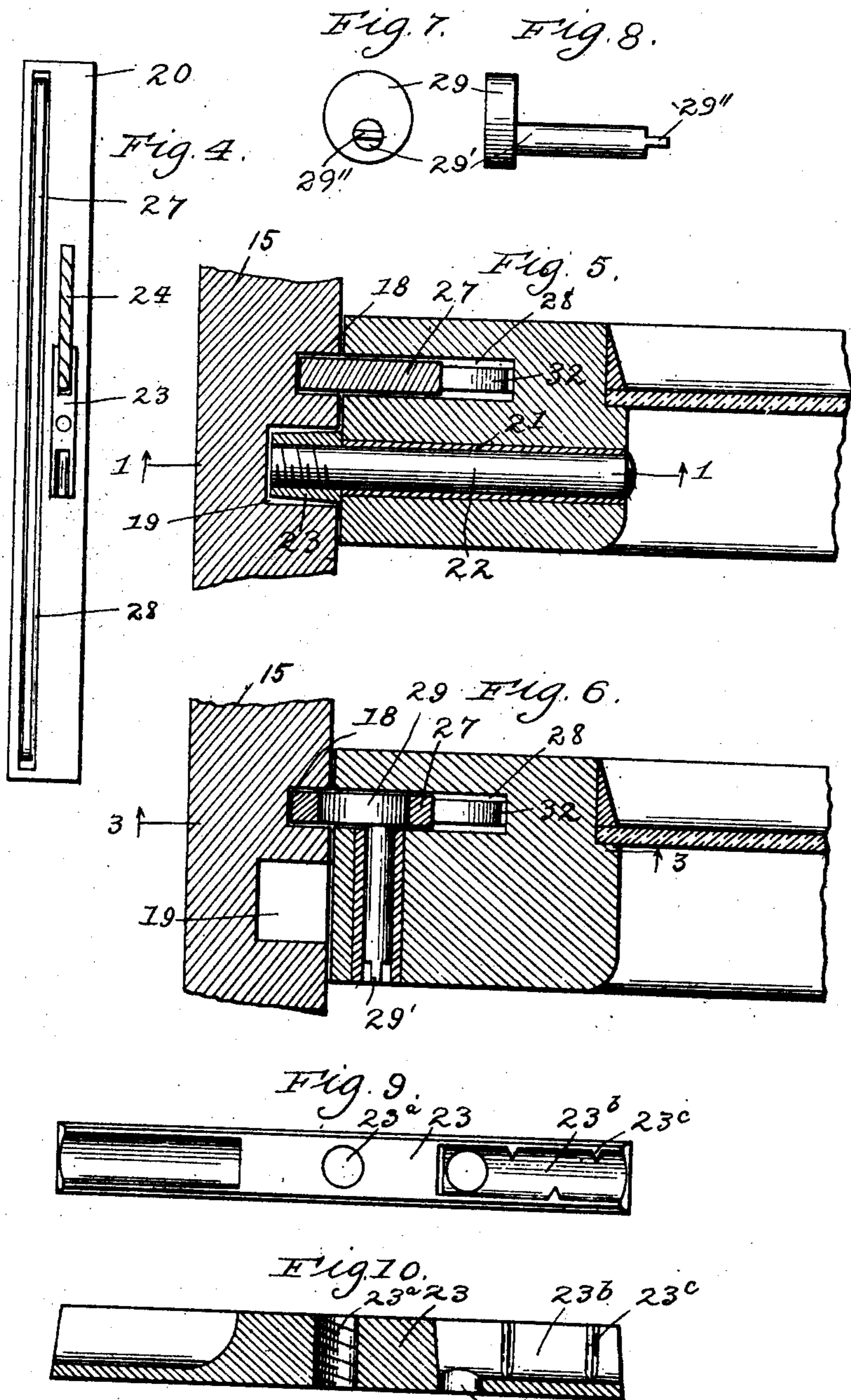
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Fig. 11.
23 23' 23''
Inventor:
Edward J. Peterbusch
Jorel Bain & May
BY Atty's.

UNITED STATES PATENT OFFICE.

EDWARD J. PETERBUSCH, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO CLINTON L. MEHAGAN, OF ST. LOUIS, MISSOURI.

REVERSIBLE WINDOW-SASH.

No. 826,604.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed July 27, 1905. Serial No. 271,396.

To all whom it may concern:

Be it known that I, EDWARD J. PETERBUSCH, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Reversible Window-Sashes, of which the following is a specification.

My invention relates to improvements in reversible window-sashes, and has for its primary object to provide a simple, cheap, and effective construction such that a vertically-slidable sash may be turned or reversed upon a transverse pivotal axis to present to the interior of the building the surface normally presented to the exterior thereof, so that the window may be readily cleaned.

Another object of my invention is to provide in such a device improved means for guiding the window in its sliding movement and locking the window in any position of angular adjustment, as for purposes of ventilation, to provide a novel means of attachment of the weight-cord to the window-sash, and to provide a generally improved and efficient reversible window-sash construction which may be manufactured at low cost and readily installed.

In the drawings, wherein I have illustrated an embodiment of my invention, Figure 1 is a view, generally in elevation, of a fragment of a window-sash and its appurtenances with parts broken away upon line 1 1 of Fig. 5. Fig. 2 is a similar view of an opposite fragment of the window with a little less of the frame and the sash broken away. Fig. 3 is an elevation of a fragment of a window with parts broken away on line 3 3 of Fig. 6. Fig. 4 is an edge view of the window-sash. Fig. 5 is a cross-section on line 5 5 of Fig. 1. Fig. 6 is a cross-section on line 6 6 of Fig. 1. Figs. 7 and 8 are details of an operating-cam, and Figs. 9, 10, and 11 are details of a cord-block construction.

Throughout the drawings like numerals of reference refer always to like parts.

Referring now to the drawings, 15 indicates in general the window-frame of any suitable construction, providing therein the usual weightway 16 and equipped with the usual cord-pulley 17. The inner vertical faces of the frame are flat or without projections throughout and are provided with parallel grooves running from the top to bottom

thereof, as shown at 18 and 19. These grooves 18 and 19 I will respectively designate for identification as the "guide-strip" groove and the "cord-block" groove. For definition of direction herein I will arbitrarily designate a direction crosswise of the surface of the window-glass as "lateral" and the direction at right angles to the plane of the glass as "transverse" to the sash.

The window-sash (generally indicated at 20) is pivotally suspended in lateral trunnions arranged centrally of the height of the sash, said trunnions being connected with the weight-cord, so that they are capable of vertical movement to permit the raising and lowering of the sash.

The equipment of both sides of each sash is alike, so description of one side will be understood as applying to all.

Specifically, 21 indicates a metal bushing extending laterally through the side piece of the sash, midway the height thereof.

22 indicates a trunnion secured at its laterally outer end to a cord-block 23 of construction to be described, said cord-block being arranged for vertical movement in the cord-block groove 19 and being attached to the weight-cord 24, which passes over the pulley 17 and at its opposite extremity is connected to the usual sash-weight 25, sliding in the weightway 16.

The cord-block construction which I prefer to employ is specifically shown in Figs. 9 to 11 and comprises specifically an elongated body of suitable size, provided with the threaded aperture 23^a, which receives the threaded end of the trunnion 22, and provided at its upper end with a cord-receiving groove 23^b, into which laterally project a plurality of sharp ribs 23^c. At its inner end the groove 23^b communicates with an aperture 23^d, extending through the back of the block at right angles to the groove 23^b. To attach the weight cord or rope, the end thereof is passed through the aperture 23^d. The rope is then sharply bent and hammered into the groove 23^b, so that the ribs 23^c engage firmly therewith, and the portion of the cord projecting through the aperture 23^d is cut off. It will be apparent now that the meeting edges of the frame and sash being flush or flat the sash 20 may be rotated upon the trunnions 22 to turn the window to any angular

position desired or to reverse it so that its normally outer surface is turned inward. It will also be apparent that the sash may be slid vertically, the cord-block 23 sliding in the corresponding groove 19 and the sash being balanced, as usual, by the weight 25. Means are also provided for guiding and preventing the reversal or pivotal movement of the sash during its sliding movement, such means preferably comprising in general a longitudinal strip seated in a suitable recess in the sash and arranged for movement into and out of engagement with the guide-strip groove 18 of the window-frame 15.

Specifically, 27 indicates the guide-strip, which is preferably a relatively thin elongated metal piece of some flexibility seated edgewise in a recess 28 in the window-sash 20, so located that when the sash is in normal position said strip registers with the guide-strip groove 18 of the frame. The strip 27 preferably extends from substantially the top to substantially the bottom of the sash.

Suitable means operable from within the building are provided for controlling the movement of the strip 27 into and out of position to engage with the groove 18, such means being herein shown as comprising an eccentric or cam 29, circular in shape, engaging a corresponding aperture 30 in the strip 27 and carried by an operating-stem 29', extending transversely of said sash to the inside thereof.

Preferably the stem 29' is mounted for rotation in a bushing 31 in the window-sash and is suitably flattened, as at 29'', (see Fig. 2,) to receive a suitable key or the like, by which the stem and eccentric may be turned to move the strip 27 into or out of the recess 28. To maintain the edge of the strip 27 vertical during its movement under the influence of the cam, springs acting upon points adjacent the ends of the strip are provided, such springs being herein indicated at 32 as flat leaf-springs secured in the recess 28 of the sash.

It will be apparent that when the cam 28 is turned to the position shown in full lines in Fig. 3, throwing the strip 27 into engagement with the groove 18 of the window-frame, the sash cannot be pivotally turned upon its trunnions 22, but may be slid vertically, being guided by both the guide-strips and the sash-cord block. If, however, the cam 29 be rotated to cause the withdrawal of the strip 27 into its recess against the tension of the springs 32, the sash may be freely turned upon its trunnions.

If it be desired to lock the sash in an angular position for purposes of ventilation or otherwise, the sash may be adjusted to any desired angle and the cam 29 then turned to force the strip 27 into frictional engagement with the frame to maintain the sash in such adjusted position.

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

1. In a window-sash construction, a frame, a sash, means vertically slidable relative to the frame, to which the sash is pivotally connected, and a spring-pressed flexible means for guiding the sash vertically and preventing its pivotal movement and a means operating against the tension of the spring for removing the guide.

2. In a window-sash construction, a frame, a sash, means vertically slidable relative to the frame, to which the sash is pivotally connected, and means for preventing pivotal movement of the sash and guiding said sash vertically, comprising a groove in one of the sash and frame members, and a spring-pressed flexible guide-strip for engagement therewith carried by the other member, said guide-strip being automatically movable into engagement with said groove by means of a spring and a hand-operated means for positively moving it out of engagement with said groove.

3. In a window-sash construction, a frame, a sash, means vertically slidable relative to the frame, to which the sash is pivotally connected, and means for preventing pivotal movement of the sash and guiding said sash vertically, comprising a groove in one of the sash and frame members, and a spring-pressed flexible guide-strip in normal engagement therewith carried by the other member, said guide-strip being automatically movable into and out of engagement with said groove, and means for moving the guide-strip out of said groove and retaining the same out of engagement against the tension of the spring.

4. In a window-sash construction, the frame, vertically grooved to receive the cord-blocks; the sash-weights, the weight-cords, the sash, the cord-blocks to which said sash is pivotally connected attached to the sash-cords and vertically slidable in the grooves in the frame, and a spring-pressed flexible means for preventing the sash from pivotally turning, arranged when so positioned to permit the sash to slide vertically.

5. In a window-sash construction, a frame provided with cord-block grooves, and a guide-strip groove, the sash, provided with a recess in its lateral edge, the sash-weights, the sash-cords, cord-blocks to which the sash is pivotally and centrally connected attached to the cords and slidable in the grooves provided therefor in the frame, and a flexible guide-strip seated in the recess and springs for normally holding said guides in said grooves.

6. In window-sash construction, a frame, a sash, means vertically slidable relative to the frame, to which the sash is pivotally connected, a flexible guide-strip seated in a recess

in the sash and automatically movable to engage a corresponding groove in the frame, and means for moving said guide-strip out of engagement therewith comprising an eccentric engaging the strip and a stem extending transversely to the inside of the sash.

7. In a window-sash construction, a grooved frame, a sash, means vertically slidable relative to the frame, to which the sash is pivotally connected, a flexible guide-strip seated in a recess in the sash, and adapted to be moved into or out of engagement with a

groove in the frame, a substantially central cam for moving the strip, and springs for automatically moving said strip into engagement with the groove in said sash and for maintaining the alinement of the strip.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

EDWARD J. PETERBUSCH.

In presence of—

V. A. TIEFENBRUNN,
B. O. HAMILTON.