

M. HÄBERLE.  
PIVOTED SLIDING WINDOW.  
APPLICATION FILED APR. 2, 1909.

956,527.

Patented May 3, 1910.

2 SHEETS—SHEET 1.

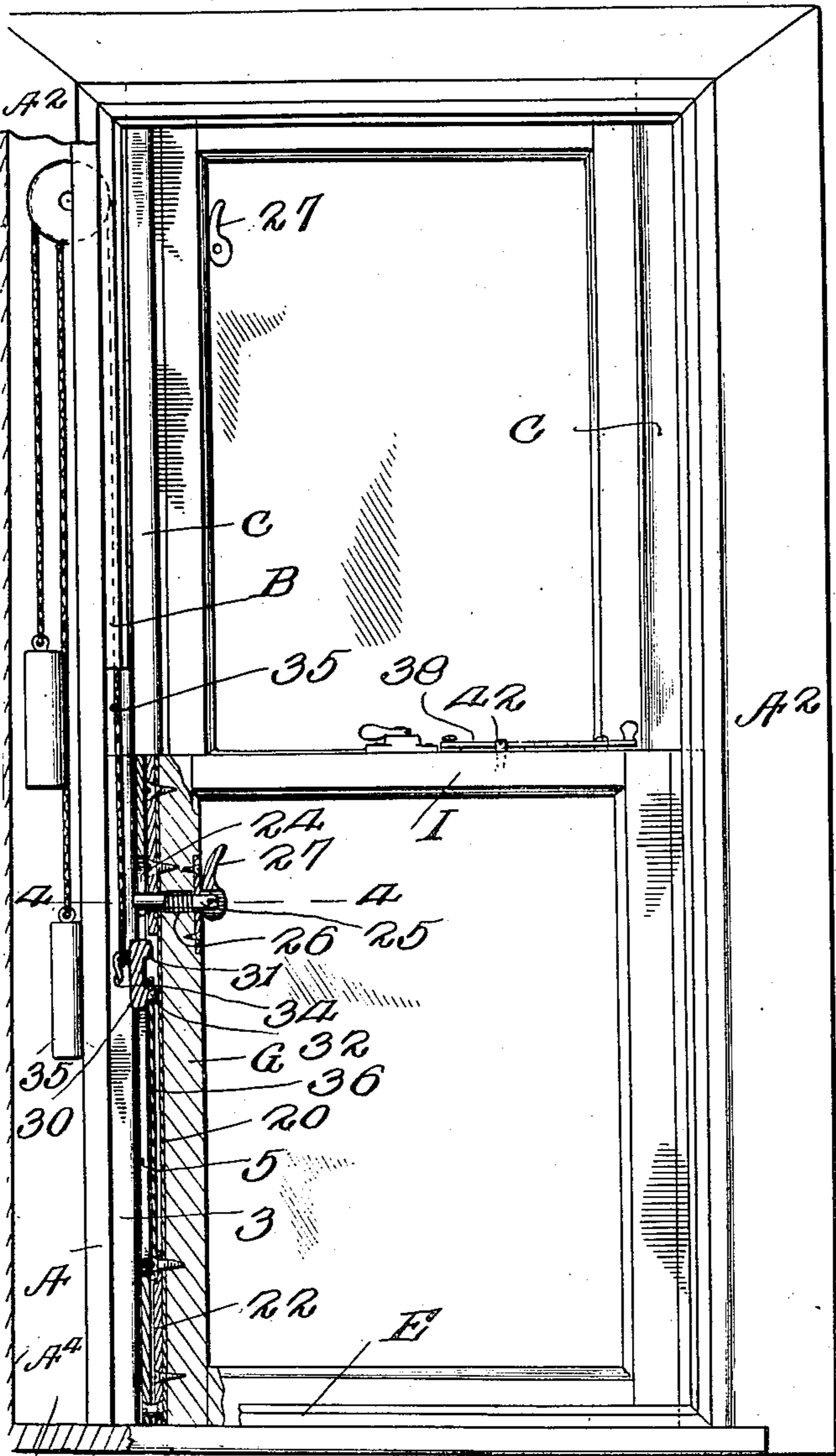


Fig. 1

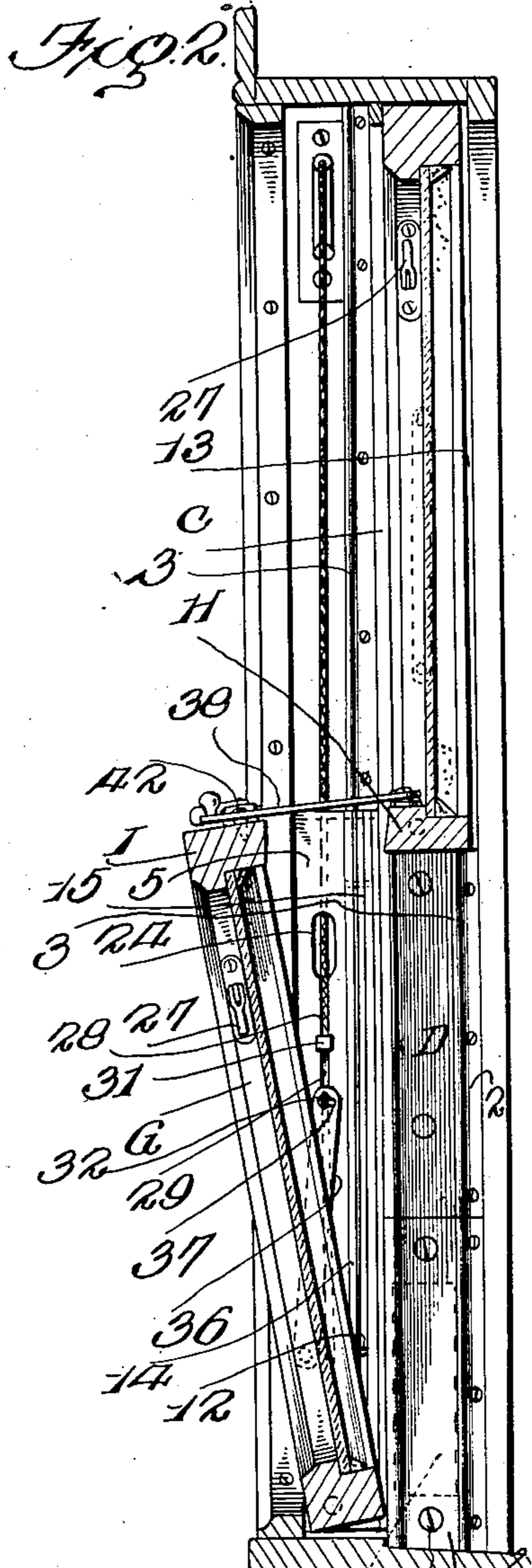


Fig. 2

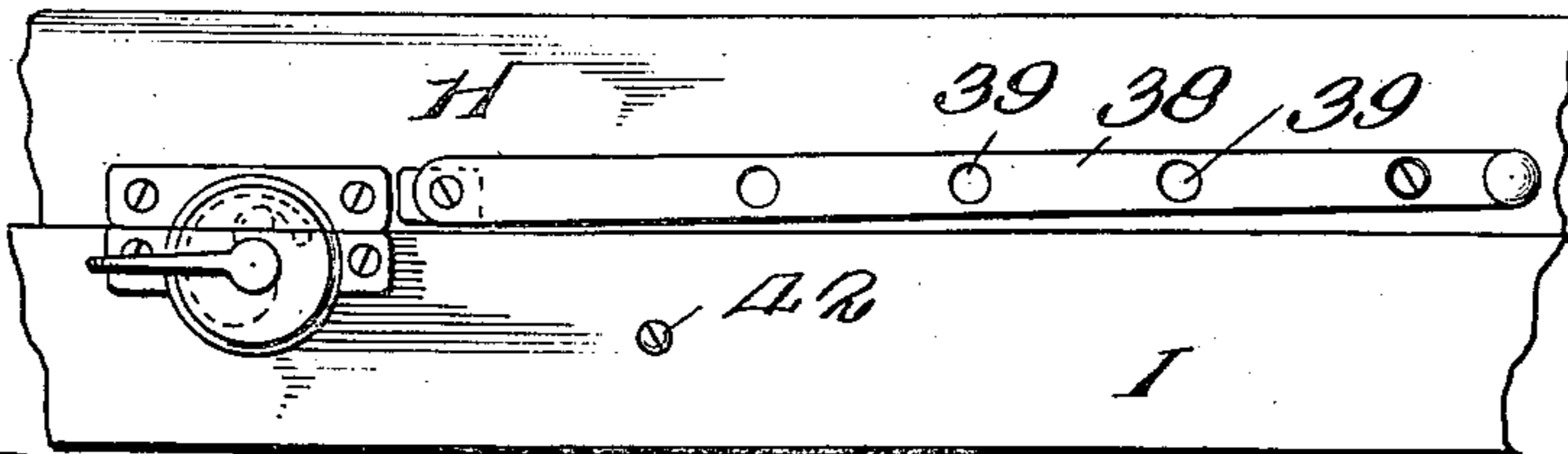


Fig. 3

Witnesses  
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Fig. 4.

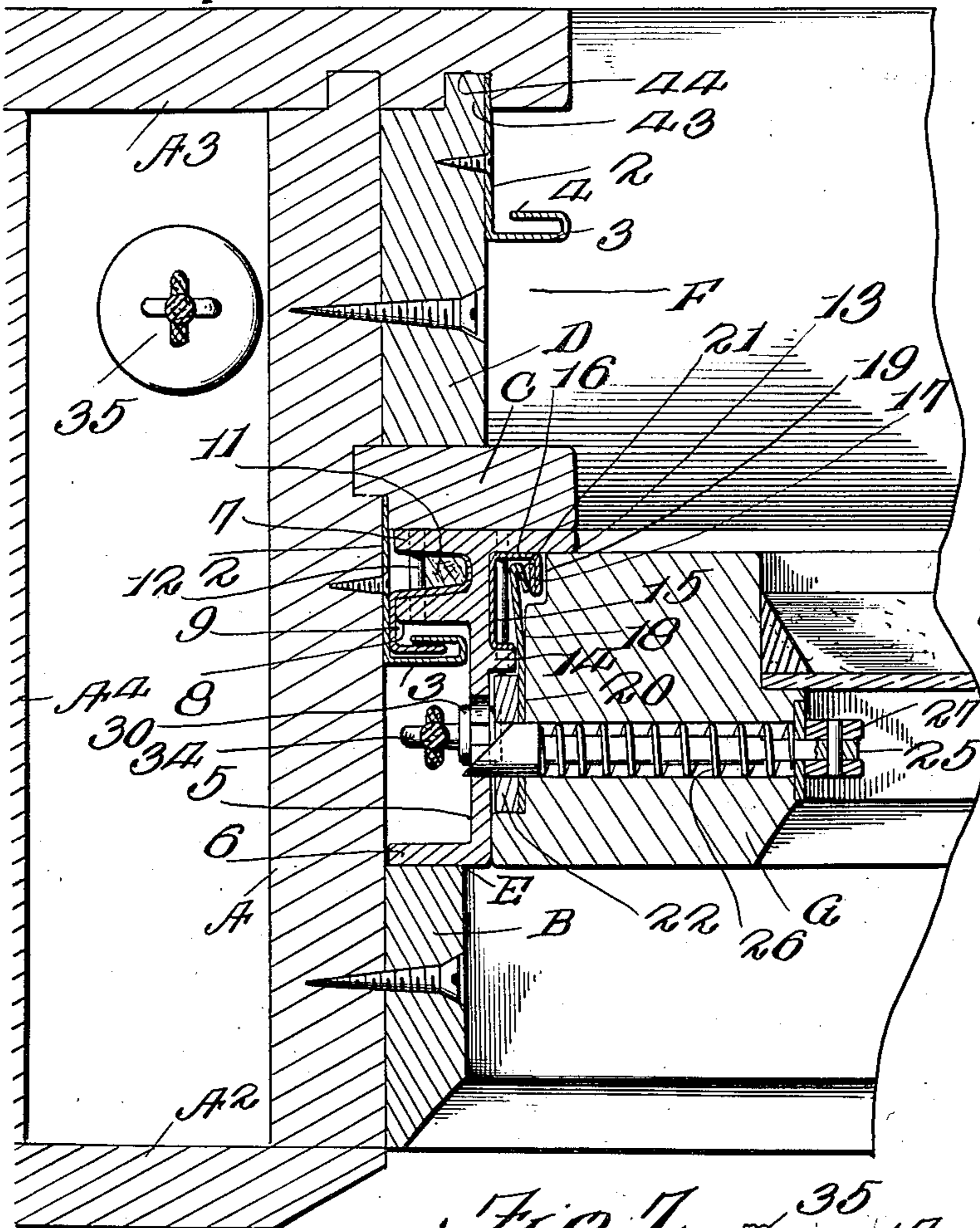
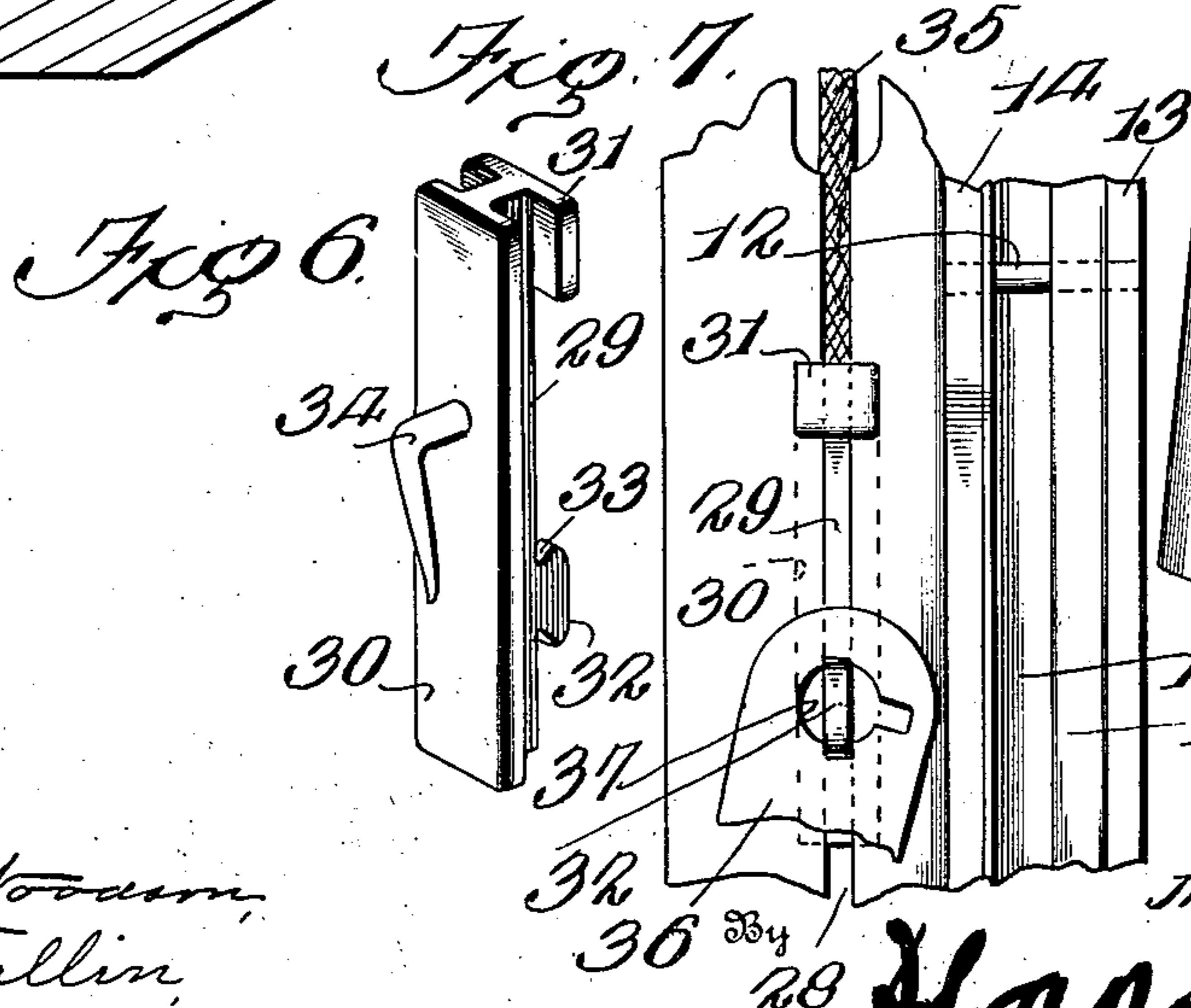
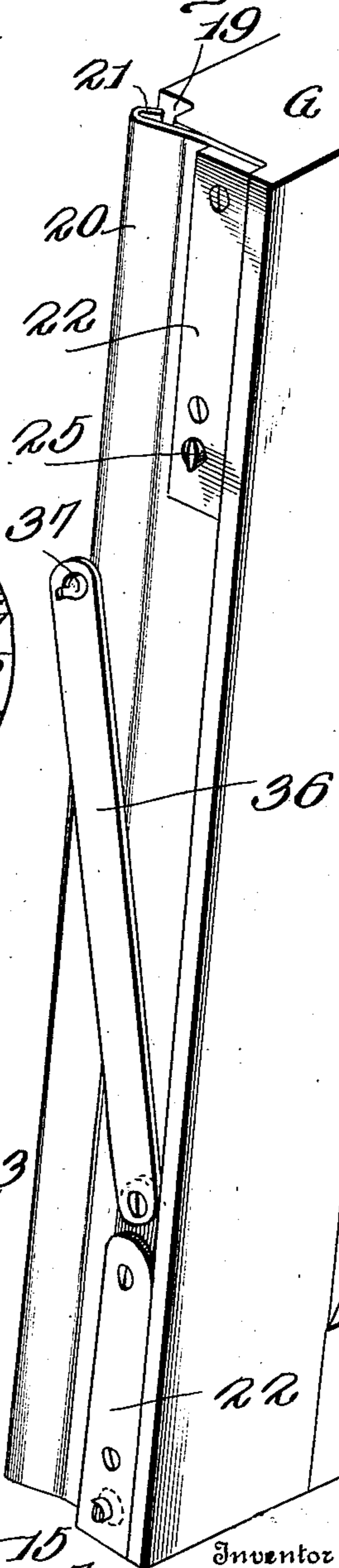


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

MICHAEL HÄBERLE, OF BROOKLYN, NEW YORK.

PIVOTED SLIDING WINDOW.

956,527.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed April 2, 1909. Serial No. 487,389.

*To all whom it may concern:*

Be it known that I, MICHAEL HÄBERLE, citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Pivoted Sliding Windows, of which the following is a specification.

My invention relates to a construction of window sashes, and particularly to those windows wherein the sashes are pivoted to slides to permit an independent angular movement of the sash, the object of the invention being to provide weather stripping located between the slide and the window frame.

My present invention is an improvement on the form of window shown in my patent for window sash, No. 645,357, issued to me March 13, 1900, and comprises, generally speaking, a window frame having the usual exterior and interior stops and a middle parting bead, the sash space between the parting bead and the stops being provided with a longitudinally extending, inwardly projecting strip of metal having an over-turned interlocking edge, the upper and lower sashes each having opposed slide plates to which the sashes are pivoted, said slide plates being each formed with a metal strip on its edges, which is so bent as to have a sliding and interlocking engagement with the adjacent strip on the window frame. This construction provides sashes which are slidable in the frame, as in the ordinary sash, and which are pivoted to the slides of each sash so that the sashes may be opened inward when desired.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a face view of a window made according to my invention, a portion of it being broken away; Fig. 2 is a longitudinal section of Fig. 1; Fig. 3 is a fragmentary top view of the meeting rails of the two sashes; Fig. 4 is a transverse section on the line 4-4 of Fig. 1; Fig. 5 is a perspective view showing one end of a sash; Fig. 6 is a detail perspective enlarged, of the sliding sash support and block; and, Fig. 7 is a fragmentary face view of the sash slide and a portion of the sash brace.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the figures, it will be seen that the frame of the window is formed of a jamb A, the inner facing A<sup>2</sup>, the outer facing A<sup>3</sup> and the back strip A<sup>4</sup> inclosing a pocket, wherein the sash weights are carried and moved. The jamb A is provided with the interior stop strip B, the parting strip C and the exterior stop which is formed by the projecting margin of the outer face A<sup>3</sup>, channels E and F being thus formed for the upper and lower sashes, as is usual in window construction, the strip D being located between the parting strip C and the stop to form the inner face of the channel F, this strip D being made in two sections, as will be later described. Each of the channels has attached to its face the longitudinally extending strip 2 which extends the whole length of the frame and has the outwardly projecting marginal flange 3 whose edge is outwardly and inwardly turned or bent upon itself, as at 4. This edge, however, does not contact with the outer face of the strip 2, as shown in section in Fig. 4. At its upper end, each of the channels E and F is provided with the usual pulley over which the window cord passes.

Sliding within each of the channels E and F, is a slide 5, preferably made of metal of a width equal to that of the channel in which it moves. Each slide, on its inner edge, is formed with the inwardly projecting flange 6, and on its inner face with the inwardly projecting opposed but parallel flanges 7 and 8, these flanges being spaced apart a distance sufficient to permit them to move easily in the space between the inward flange 4 and the adjacent face of the window frame.

9 designates a metallic strip of a length equal to that of the slide 5 which is approximately S-shaped in cross section, the body portion 10 of which is adapted to be carried in the space between the two flanges 7 and 8 and to be wedged therein by a strip of wood or other suitable material 11 which is held in place by screws or pins 12 inserted through the outer face of the flange 7. The inside margin of the strip 9 extends across the edge of the flange 8 and is then bent outwardly, though slightly spaced from the

face of the flange 8. This outwardly bent margin 12 extends beneath the inwardly bent margin 4 of the strip 2, and has therefore an interlocking engagement therewith which, while permitting the slide 5 to move up and down in its channel, will prevent the slide from being withdrawn from the channel.

The lower end of the sash is pivoted to the slide 5, as by a pin inserted from the inside face of the slide and entering the side bar G of the sash. In order to form a weather-proof engagement between the side bars G and the slide 5, I form the outer face of the slide 5 with the outwardly projecting edge flange 13 and the outwardly projecting marginal flange 14. This latter flange only projects a slight distance beyond the face of the slide 5, while the flange 13 projects outward sufficient so that its edge is on a level with the face of the stop A<sup>3</sup> or the strip C. Carried between the flanges 13 and 14 is the weather strip 15. The body of this strip lies against the face of the slide 5 between the flanges 13 and 14, but its edge is outwardly turned, as at 16, and then inwardly bent, as at 17, and folded over. The plane of this fold 17 is exterior to the plane intersecting the edge face of the flange 14. The inner face of the side bar G of the window is cut away as at 18, and is further cut away as at 19 so as to afford a face which is lower than the face of the cut-away portion 18. Attached to the face of the cut-away portion 18, is the strip 20 which, at its margin, is inwardly folded over upon itself as at 21. It will be seen from Fig. 4 that when the sash is closed into parallelism with the slide 5, the margin of the strip 20 will enter beneath the inwardly turned fold 17 of the strip 15 and will contact therewith along its whole extent, thus making a weather strip which prevents the entrance of dirt, dust or moisture through the joint between the sash bar G and the slide 5. It will also be seen that the portion 19 which is cut away from the inner corner of the sash bar G, accommodates the inwardly turned fold 17 when the sash bar is closed. While the strip 18 may be attached in any desired manner, preferably I hold it in place by a longitudinal flat bar 22 attached by screws to the outer face of the sash bar.

Provision must be made for holding the sash in locked engagement with its slide 5, and to this end I form the inner face of each of the slides with the opening 24 which is preferably elongated for a purpose to be later stated. Operating through each of the sash bars G is a bolt 25 which extends through an opening in the plate 22, the sash bar being recessed to receive the bolt and also to receive a coil spring 26 which engages with the bolt and acts to normally force it outward and into locked position with re-

gard to the slide 5. The inner end of the bolt is beveled so that as the sash is forced inward, the beveled face of the bolt will engage with the edge of the slide 5, and the bolt will be forced inward until it registers with the opening 24, when the spring 26 will force the bolt outward into its locking engagement. The end of each bolt projects beyond the inner face of the sash bar G and has pivoted thereto an eccentric 27 with a thumb-piece whereby it may be easily operated. This eccentric acts, when turned in one position, to withdraw the bolt from engagement with the slide 5, and in the other position to permit the bolt to engage with the slide.

The inner face of each of the slides 5 is longitudinally slotted, as at 28, this slot extending from the elongated opening 24 downward toward the lower end of the slide. Shiftable in the slot 28 is the sliding block 29 which is shown in detail in Fig. 6. This sliding block is of a thickness equal to the slot 28, has the laterally projecting base flanges 30 and the head 31. At its lower end, the block is provided with the outwardly projecting stud 32 which is of a thickness corresponding to the block 29, but is relatively long and has the inwardly beveled ends 33. The inner face of the block is provided with the hook 34 which is to be engaged by the weight cord 35. Pivotaly attached to the sides of the sash bar G are the braces 36 which at their upper ends are formed with eyes 37 adapted to engage with the stud 32 so as to have rotative movement thereon. As will be seen in Fig. 5, the eyes 37 are approximately circular and formed with countersunk edges adapted to engage with the beveled ends 33 of the stud 32. The eyes are, however, elongated transversely to the axis of the brace, so that when the brace is turned to a position at right angles with the longitudinal axis of the slide, the brace may be disengaged from the stud 32. It will be obvious from the drawings that this position of the brace with relation to the slide cannot occur as long as the other end of the brace is attached to the window sash. By detaching the outer end of the brace, however, it may be turned up into this position and be disengaged from the block 29. It will be seen that because of the fact that the sash weights are attached to the block 29, the sash will be supported and the weights will act normally to draw the sash into parallelism with the slides 5. Therefore, means must be provided for holding the sash in an angular adjusted position, and to this end, I provide the meeting rail H of the upper sash with a pivoted locking rod 38 which is perforated at intervals, as at 39, and provided at its extremity with the knob 40. The meeting rail I of the lower sash has a stud 42 whose

end is small enough to permit the perforations of the locking rod 38 to be adjusted over it. It will thus be seen that the lower window sash may be opened inward and held adjusted in any position desired, depending upon the length of the rod 38. The rod 38 is held in place upon the meeting rail H by means of a stud.

While the elongated opening 24 permits the easy attachment of the outer end of the weight chain to the slide 5, and therefore to the window sash, it is also necessary to provide means for quickly attaching the inner end of the sash cord or chain to the weight, in case the sash cord breaks or it is desired to put in a new sash cord. To this end, I provide a removable section at the lower end of the window frame, at each side thereof, this section forming a continuation of the strip B. This section is designated K, and consists of the lower section of the strip C and a strip K which, as before stated, is a continuation of the strip A', at right angles thereto, and which forms the face of the lower end of the channel F. This strip is formed with a tongue 43 adapted to be received within a groove 44 extending longitudinally along the inner face of the stop A'. This section K normally closes an opening L in the facing board A, which permits the hand to be inserted from the front of the window frame, behind the same, and permits the ready detachment of the weight cords from the weights on that side of the frame. Of course, normally, the section K closes this opening entirely, the section being held in place by screws 45 inserted through the section K and entering the board A.

It will be seen that the upper sash is narrower than the width of the lower sash, by the thickness of the pieces D. This is in order to permit of the turning inward and downward of the upper sash when required, which could not be accomplished if the outer sash were of the same width as the inner, as will be readily understood.

The sashes can be slid up and down in their channels E and F, in the usual manner, but when it is desired to gain access to the glass panes for cleaning or other purposes, or when it is required to secure a sufficient ventilation, both sashes can be turned inward and downward, the sashes being held at the required elevation and open at the desired angular adjustment by reason of the fact that the counterbalancing weights are attached to the blocks to which the link bars of the sashes are connected. It will be also seen that the counterweights may be readily connected or disconnected and the cords therefore repaired or changed, and also that when the sashes are closed, a weather-proof engagement is made between the slides and the sashes, which prevents the admission

of dust or moisture, the interlocking engagement between the slides and the metal strips carried in the sash channels forming a weather strip between the slides and the jambs of the window.

It will be seen that inasmuch as the window frame is of ordinary construction, my invention can be readily applied to window frames in houses or dwellings already erected, without requiring change or alteration in the construction of the window.

Having thus described the invention, what is claimed as new is:—

1. In a window, the combination with a window frame having a sash channel, of a sash, a slide on each side of the sash, to which the sash is pivoted, said slide having laterally projecting spaced flanges, a weather strip located between said flanges and contacting with the face of the sash channel, and a wedge holding the strip in place.

2. In a window, the combination with a window frame having a sash channel, and a metallic strip attached to said channel, having an outwardly extending flange, the margin of which is inwardly folded, of a sash, a slide on each side of the sash, to which the sash is pivoted, said slide having laterally projecting spaced flanges, a metallic strip, the body portion of which is carried between said flanges and the margin of which extends beyond one of said flanges and is outwardly turned to engage with the inwardly folded flange of the frame strip, and means for holding said strip in place between the said flanges.

3. In a window, the combination with a window frame having a sash channel, and a metallic strip attached to said channel, having an outwardly extending flange, the margin of which is inwardly folded, of a sash, a slide on each side of the sash, to which the sash is pivoted, said slide having laterally projecting spaced flanges, a metallic strip, the body portion of which is carried between said flanges and the margin of which extends beyond one of said flanges and is outwardly turned to engage with the inwardly folded flange of the frame strip, means for holding said strip in place between the said flanges, and a wedge inserted between the flanges and holding said strip to the slide.

4. In a window, the combination with a window frame having a sash channel and a metallic strip extending along the sash channel and having an outwardly extending flange, the margin of which flange is inwardly folded, of a sash, a slide on each side of the sash, to which the sash is pivoted, said slide having spaced, laterally projecting flanges, and a weather strip carried between said flanges and interlocking with the channel strip.

5. In a window, the combination with a window frame having a sash channel, and a strip having an outwardly extending flange, the margin of which is inwardly folded, of a sash, a slide on the side of the sash, to which the sash is pivoted, said slide having laterally projecting marginal flanges and an intermediate laterally projecting flange adjacent to one of the marginal flanges, a metallic strip, the body portion of which is folded between the two adjacent flanges, and a wedge holding the strip in

place, the margin of the strip extending over and upon one of said flanges and then being outwardly turned to engage within the inwardly folded flange of the channel strip.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL HÄBERLE. [L. S.]

Witnesses:

ERNEST HABERLE,

WILLIAM HENRY SHUTTLEWORTH.