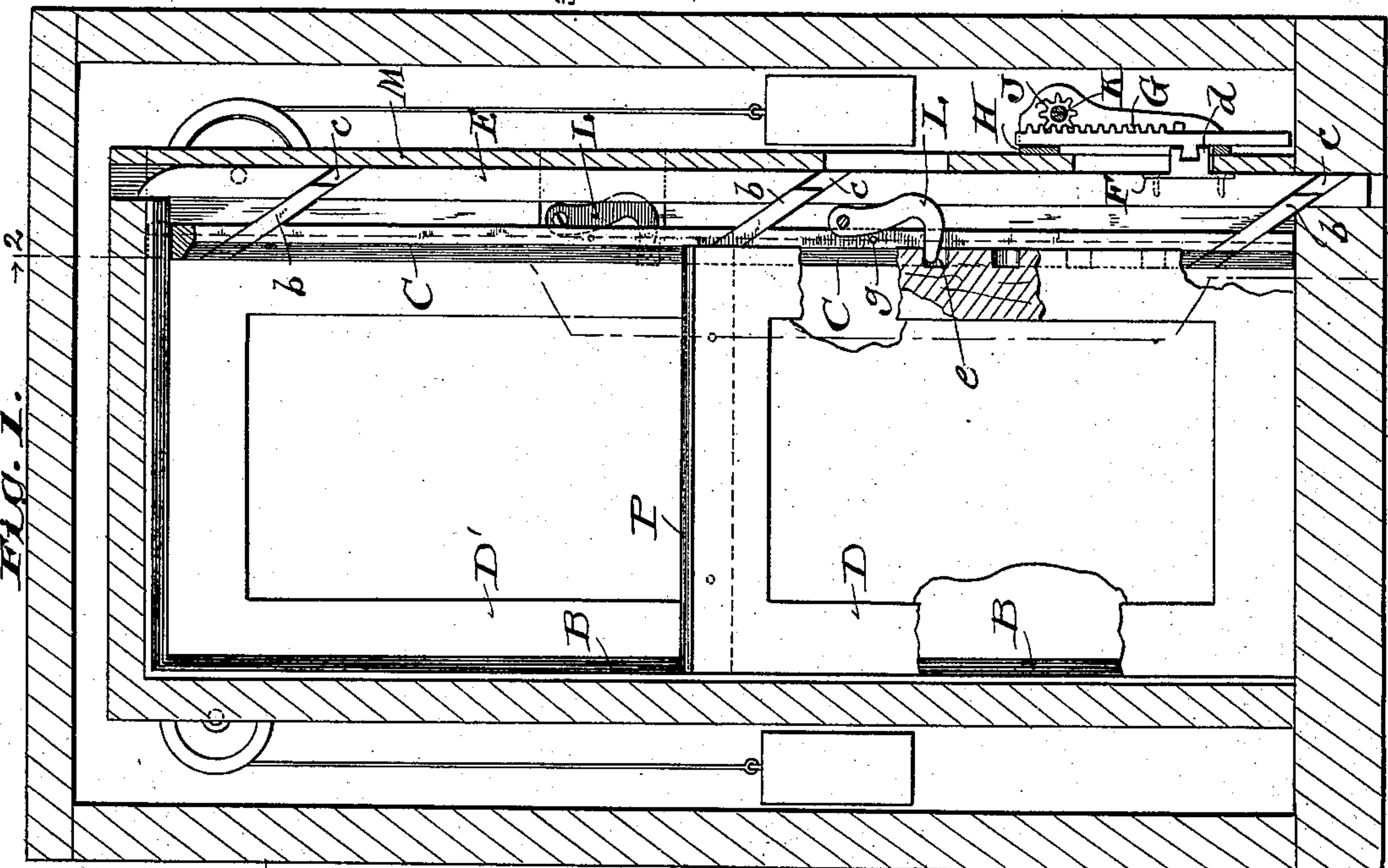
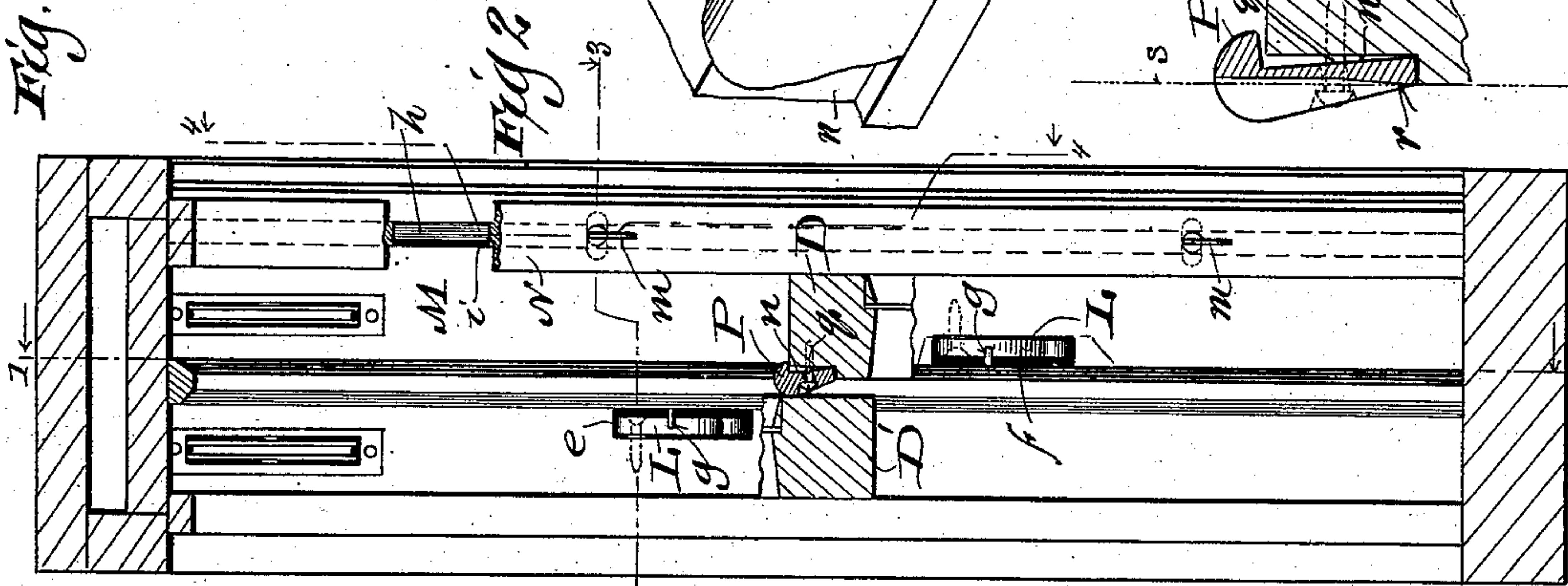
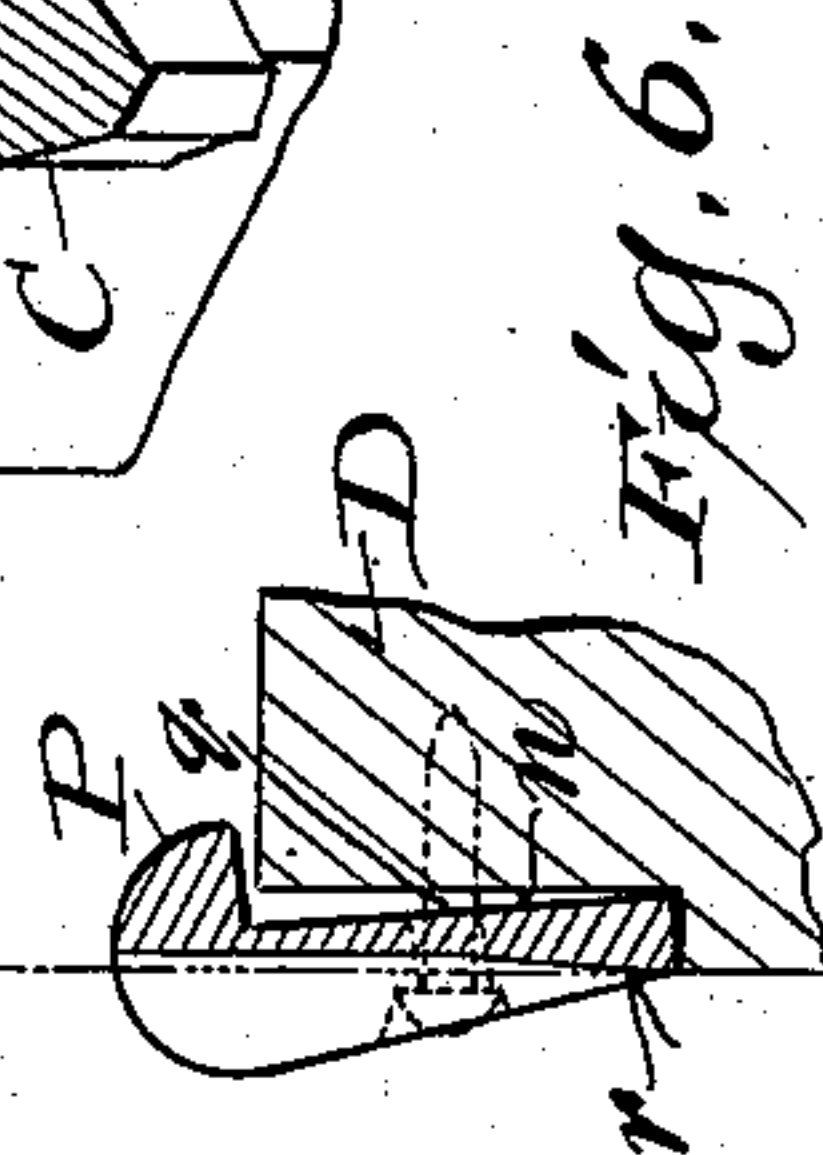
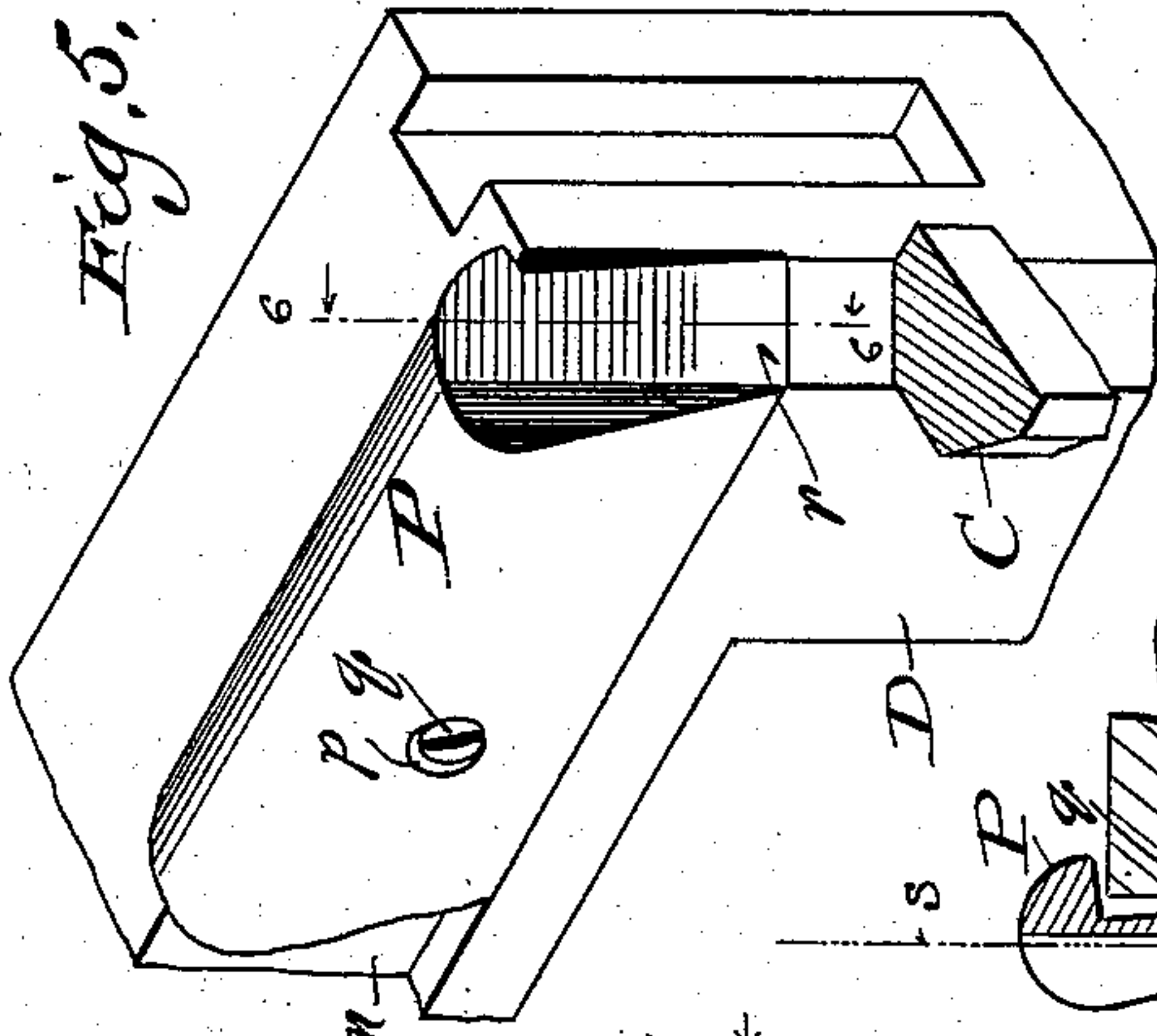
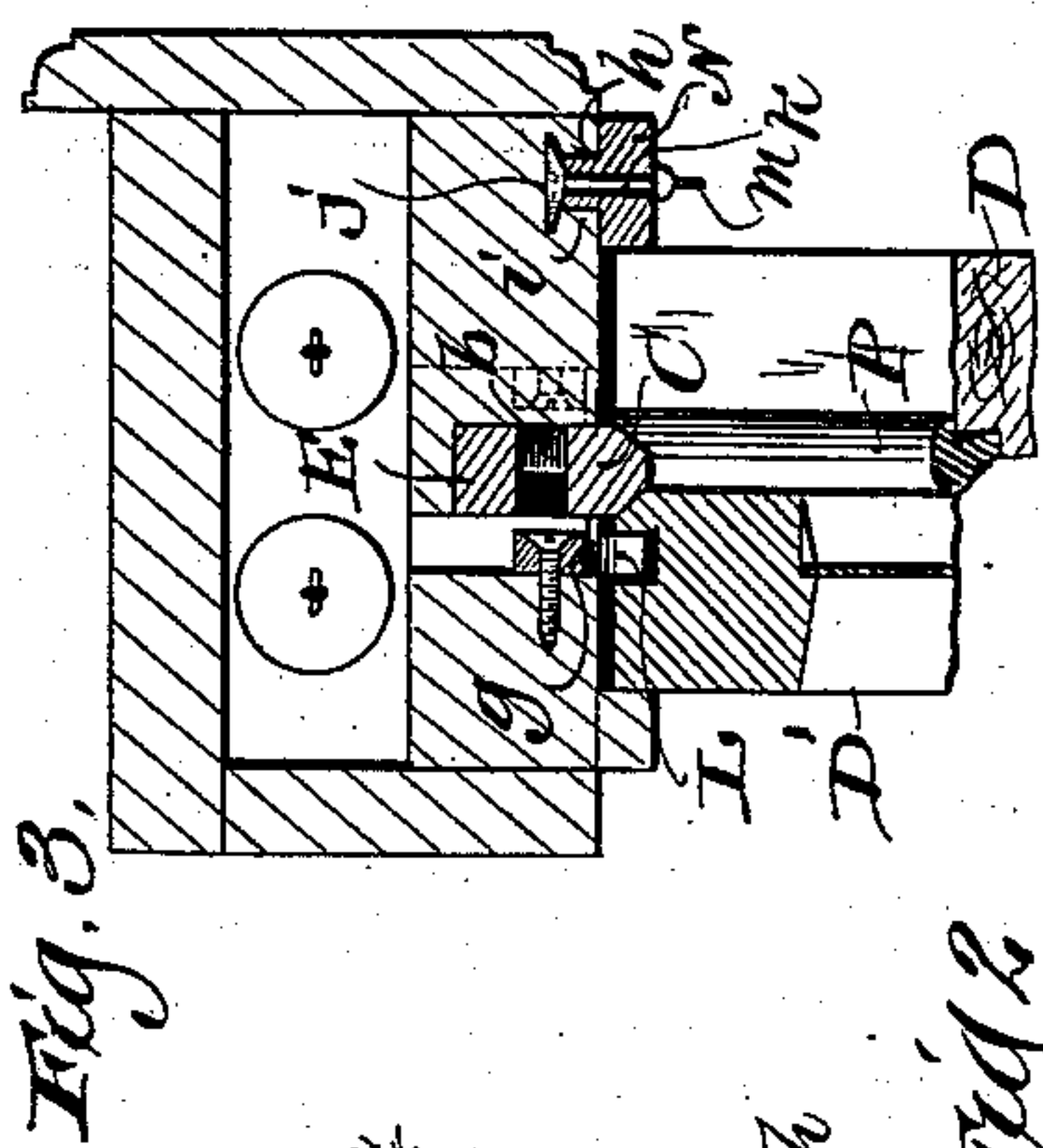


(No Model.)

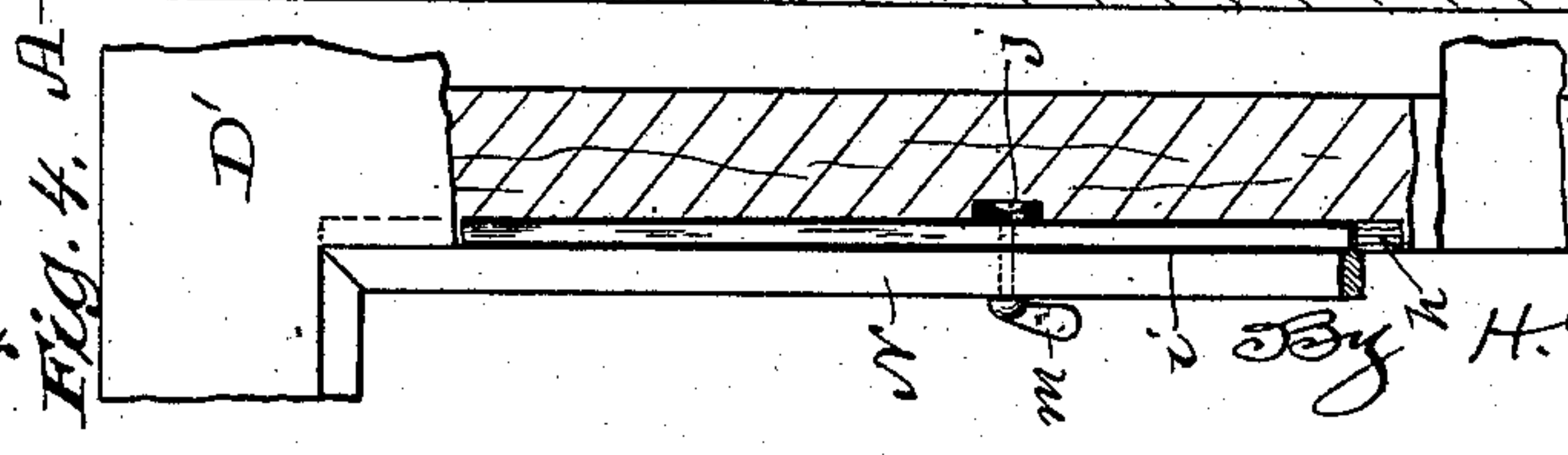
J. ENDRES.
WINDOW.

No. 570,918.

Patented Nov. 10, 1896.



Witnesses:
Geo. W. Loring,
N. E. Oliphant.



Inventor:
John Endres,
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UNITED STATES PATENT OFFICE.

JOHN ENDRES, OF MADISON, WISCONSIN.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 570,918, dated November 10, 1896.

Application filed June 4, 1896. Serial No. 594,247. (No model.)

To all whom it may concern:

Be it known that I, JOHN ENDRES, a citizen of the United States, and a resident of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Windows; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to improve that class of windows set forth in my Patents Nos. 549,908 and 549,909, issued November 19, 1895; and it consists in certain peculiarities of construction and combination of parts hereinafter specified with reference to the accompanying drawings, and subsequently claimed, whereby provision is made for latching the sash at various positions of its vertical adjustment, ready removal of said sash from the frame, and automatic closing of space between meeting-rails of the aforesaid sash.

In the drawings, Figure 1 represents a window frame and sash embodying my improvements, the view being principally on the plane indicated by line 1 1 in Fig. 2; Fig. 2, a sectional view indicated by line 2 2 in Fig. 1; Figs. 3 and 4, detail sectional views respectively indicated by lines 3 3 and 4 4 in Fig. 2; Fig. 5, a perspective view of a portion of the lower sash provided with an automatic closure for space between meeting-rails of both sash, and Fig. 6 a detail sectional view indicated by line 6 6 in Fig. 5.

Referring by letter to the drawings, A represents a window-frame of ordinary construction, except in the matter of specific details hereinafter specified. Like in the patents above noted, both parting-stops B C of the window-frame are beveled in opposition to correspondingly-beveled edges of counterweighted sash D D', and the latter parting-stop is movable laterally in the adjacent pulley-piece or jamb of said frame, in order that a clamping action may be had against said sash to bind the latter in various positions of possible vertical adjustment, the other parting-stop being rigidly secured to the adjacent stile of the aforesaid frame. The movable parting-stop is provided with oblique wings b, engaged with corresponding notches c in a staff E loose in the adjacent pulley-piece or

jamb of the window-frame, and by vertical movement of the staff the lateral adjustment of said stop is effected.

The staff E is provided with a plate F, having a lug d in dovetail or other slip connection, with a rack-bar G guided in a permanent bracket H within the window-frame, a pinion J, journaled in the bracket, being meshed with the teeth of said bar, and in practice (as fully shown and described in aforesaid Patent No. 549,909) a continuation of the pinion-arbor K is extended through the inside casing of said frame to engage with a crank-key, in order that said staff may be reciprocated to effect the lateral adjustment of the movable parting-stop.

While the oblique stop-wings and staff-notches have been shown, it is possible to substitute other means for insuring lateral adjustment of parting-stop C when the rack-and-pinion gear is operated, and various mechanisms may be devised for reciprocating the staff embodied in the construction and arrangement of parts hereinafter set forth, it being understood that the matter thus far specifically set forth is generally old in the patents to which reference has been made.

While the parting-stop C is laterally adjustable to bind the sash D D' in various positions of their vertical adjustment, it has been found desirable to provide for latching said sash in these positions, and therefore the sash-stiles next adjacent to the said parting-stop are provided at suitable intervals, in a vertical direction, with recesses e for the engagement of pivotal hooks or latches L, hung in recesses f cut in the pulley-piece or jamb M of the window-frame adjacent to said sash-stiles. Lugs g on the parting-stop C operate in one direction to retract the latches L from their engagement with sash-stile recesses e, and these latches by their own gravity automatically engage with said recesses when not held back by the parting-stop lugs. In other words, when the parting-stop C is adjusted to permit raising or lowering of the counterweighted sash the lugs g will operate against latches L to retract them from engagement with sash-stile recesses, but if said parting-stop be adjusted to

bind said sash the latches are free to swing on their pivots to come into engagement with registering sash-stile recesses, as is apparent from the showing in Fig. 1.

5 In order that the sash may be readily removed from the window-frame, the pulley-piece or jamb M of said frame is provided with a longitudinal groove *h* for a rib *i* on the back of an inside stop N, the latter being
10 provided with turn-buttons *j* for the engagement of transverse seats in rear of said groove, the shanks *k* of these buttons being extended through said inside stop and provided with grips or turning-keys *m*, as clearly
15 illustrated in Figs. 2 and 3. The buttons *j* being turned to engage their seats, the inside stop N will remain in place, but if said buttons be turned to stand parallel to the rib *i* of said stop the latter may be readily re-
20 moved from the window-frame to permit of the sash being taken out when the movable parting-stop C is retracted.

The lower sash D is shown as having its top or meeting rail provided with an outside
25 rabbet *n*, in which is seated a strip P, rabbeted upon the inner side, so as to lap the upper edge of said rail. The strip P has inclined openings *p*, engaged by countersunk screws *q*, run into the meeting-rail of sash D,
30 and the ends of said strip are recessed to have conformity to the parting-stops B C, to which they are opposed.

From the foregoing it will be understood that strip P has loose tilting play on the
35 screws *q* within rabbet *n* of top or meeting rail pertaining to sash D, and the shaping of the end of said strip opposed to movable parting-stop C is such that the lower portion
40 *r* of one angle of the recess will tend to project outward in the path of parting-stop C, moving in a direction to bind both sash in adjusted position. One beveled face of the sash-stile in proximity to the movable part-
45 ing-stop is indicated by dotted line *s* in Fig. 6, and it will be understood that when the parting-stop C is adjusted to bind both sashes of the closed window it will contact with that portion *r* of strip P above specified, thereby
50 causing said strip to tilt over against the opposing meeting-rail of the upper sash, thus closing the intervening space and making a tight joint, as is clearly illustrated in Fig. 2. The movable parting-stop being retracted, the
55 strip P will be free to yield to a movement of either sash in a vertical direction, and thus tilt in the rabbet *n*, whereby that portion *r* of said strip is again brought in position to be acted upon by said parting-stop, as above described.

60 Having now fully described my invention,

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

1. A window-frame having a laterally-adjustable parting-stop provided with lugs, lug-opposing latches retractive with the parting-
65 stop, and the window-sash having the stiles thereof adjacent to said parting-stop provided with recesses for the engagement of the latches.

2. A window-frame having a loose parting-
70 stop, a staff in such connection with the stop as to effect lateral adjustment of the same coincident with longitudinal movement of itself, lugs extending from the parting-stop,
75 lug-opposing latches retractive with the parting-stop, and the window-sash having stiles thereof adjacent to said parting-stop provided with recesses for the engagement of the latches.

3. A window-frame having a recessed jamb,
80 hook-like pivotal latches hung in the jamb-recesses, a laterally-adjustable parting-stop provided with lugs opposed to the latch-hooks, and the window-sash having the stiles
85 thereof provided with recesses for engagement of said latch-hooks.

4. A window-frame having a removable in-
side stop, a laterally-adjustable parting-stop provided with lugs, lug-opposing latches re-
90 tractive with the parting-stop, and the window-sash having stiles thereof adjacent to said parting-stop provided with recesses for the engagement of the latches.

5. A window-frame having a laterally-ad-
justable parting-stop, a sash having one of
95 its rails provided with a rabbet, and a rail-lapping tilting-strip in the rabbet operative incidental to outward movement of said parting-stop to close the intervening space be-
100 tween said rail and the meeting-rail of another sash.

6. A window-frame having a laterally-ad-
justable parting-stop, a sash having a rab-
beted rail, a rail-lapping tilting-strip in the
105 rabbet having a stop-engaging recess provided with a contact surface for projection into the path of said stop when the latter is retracted, the strip being operative incidental
110 to outward movement of the aforesaid stop to close intervening space between said rail and the meeting-rail of another sash.

In testimony that I claim the foregoing I have hereunto set my hand, at Madison, in the county of Dane and State of Wisconsin, in the presence of two witnesses.

JOHN ENDRES.

Witnesses:

HUBERT KEMP,
LOUIES J. SCHULTZ.