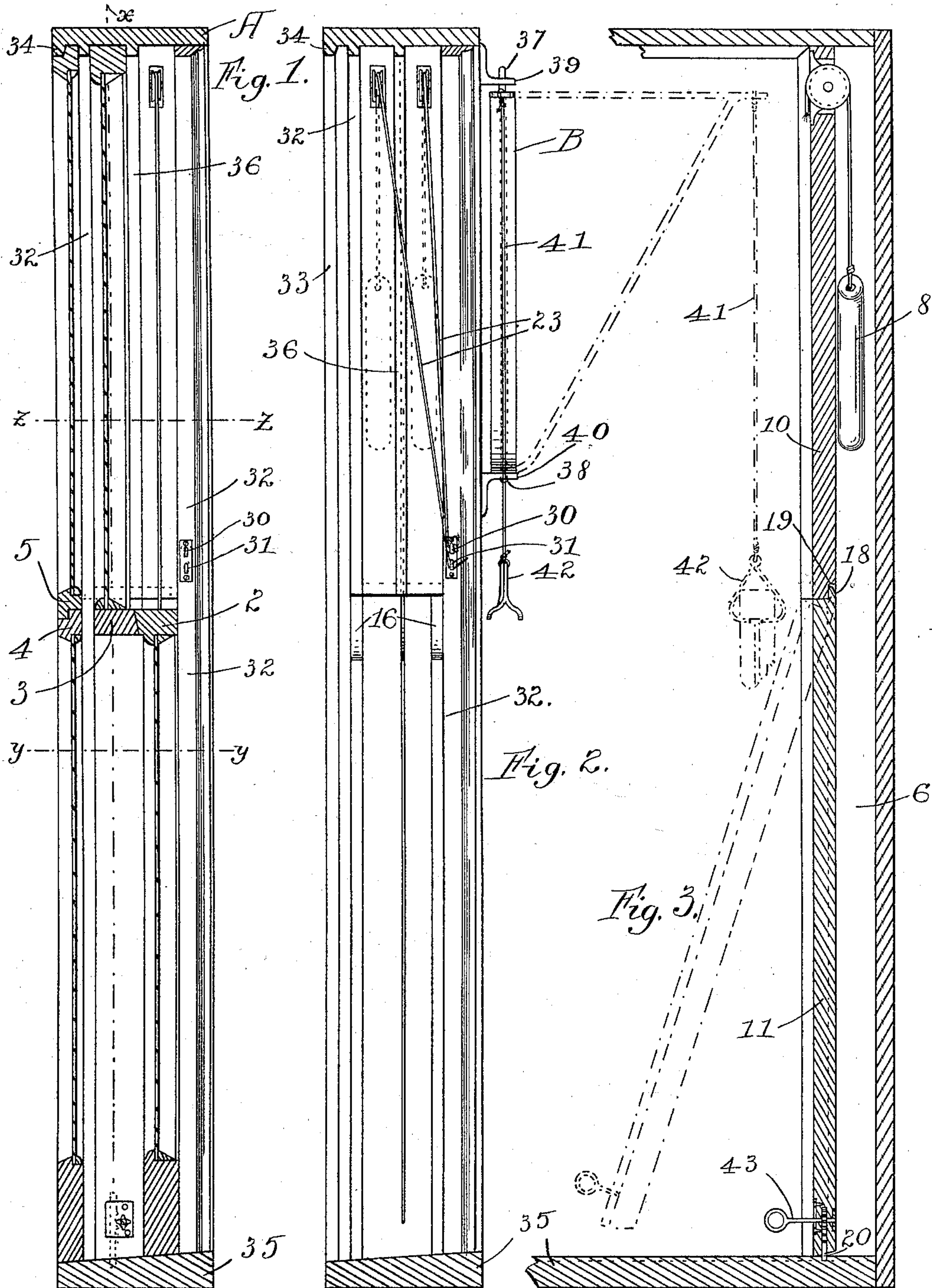


W. MUNCH.

REMOVABLE PULLEY STILE FOR WINDOWS.

No. 584,887.

Patented June 22, 1897.



Witnesses:
H. S. Johnson.
H. S. Johnson.

Inventor:
Walter Munch.
per: V. D. Munch
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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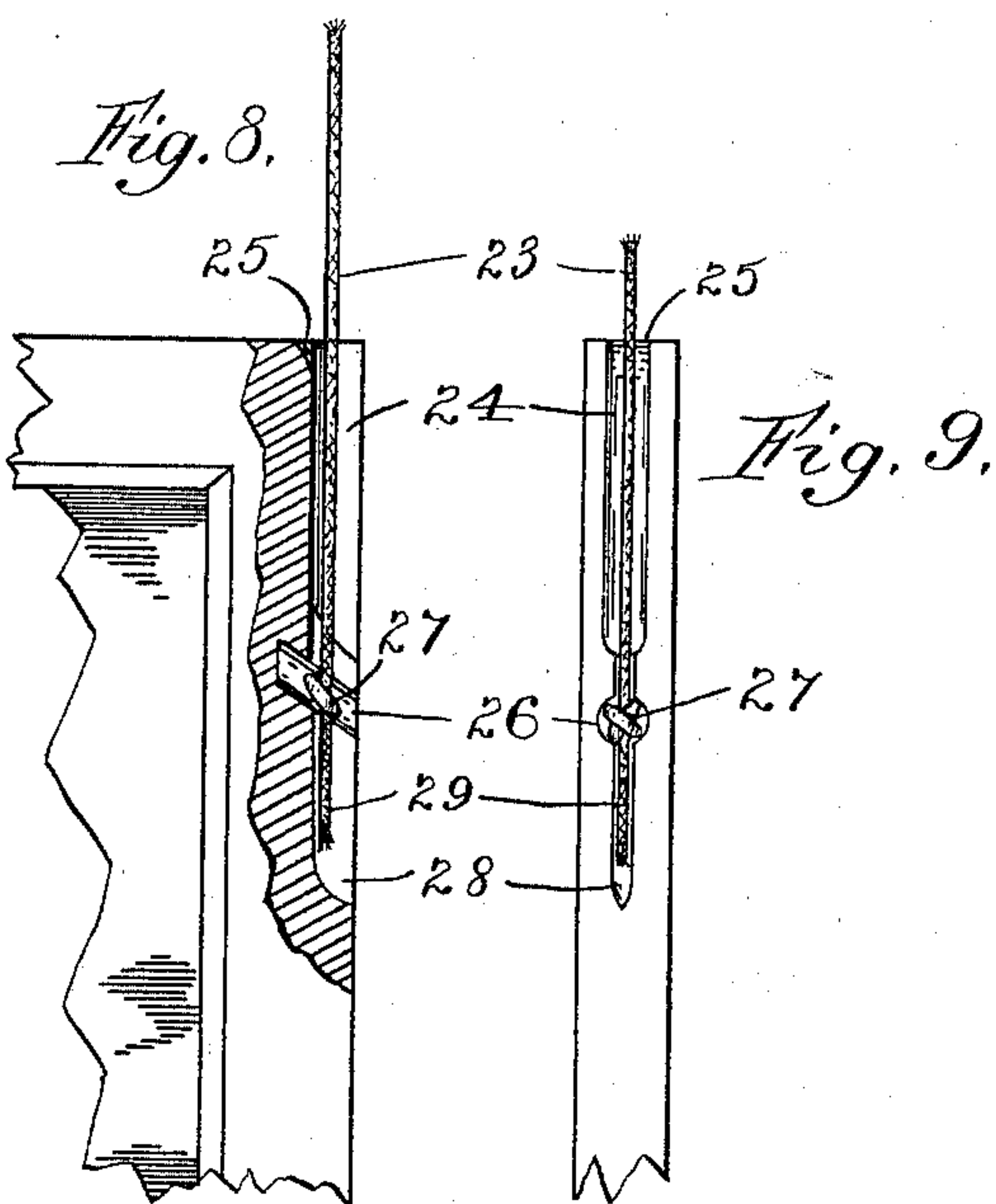
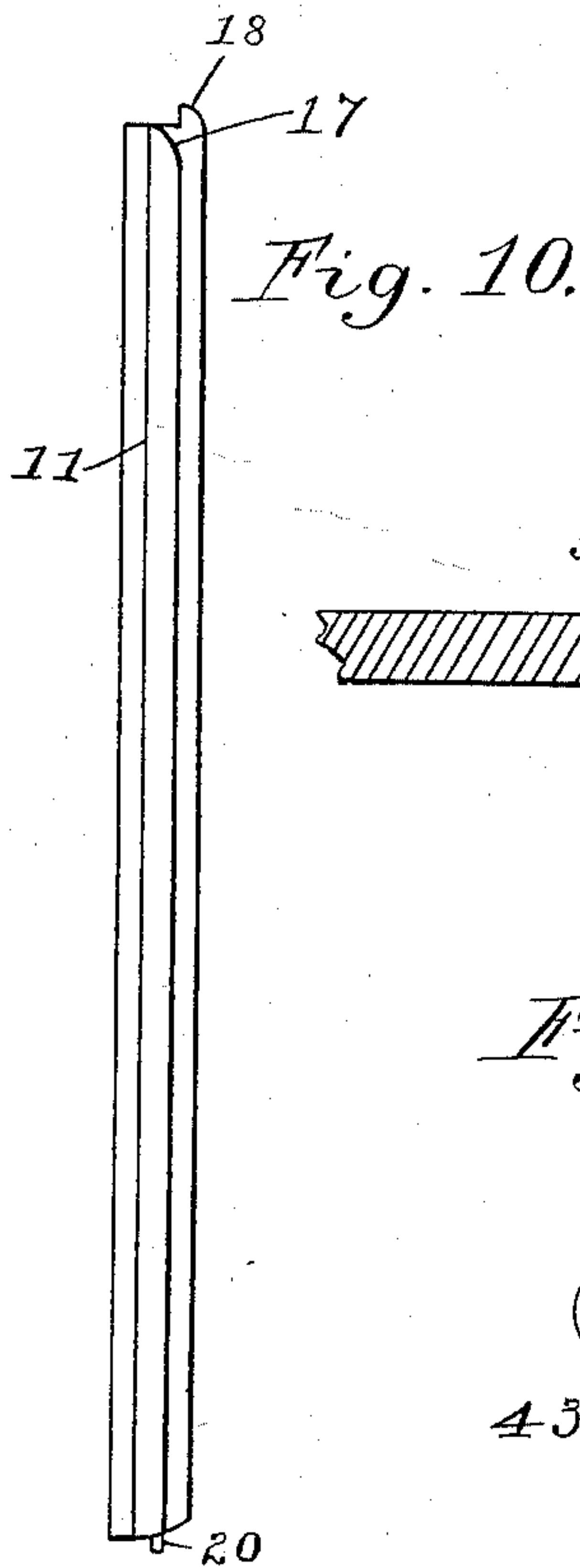
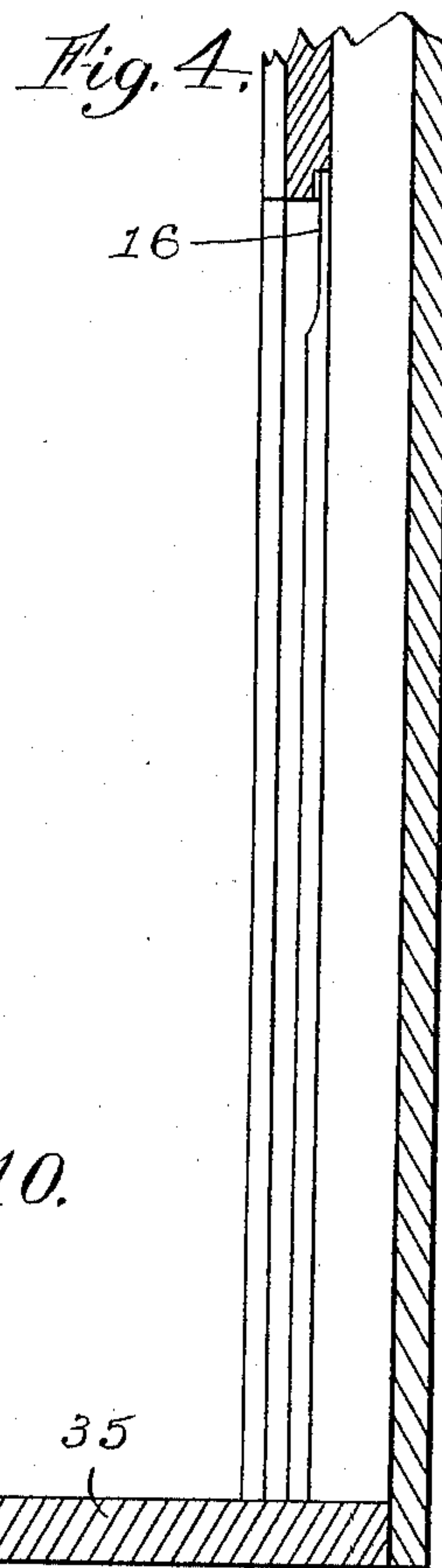
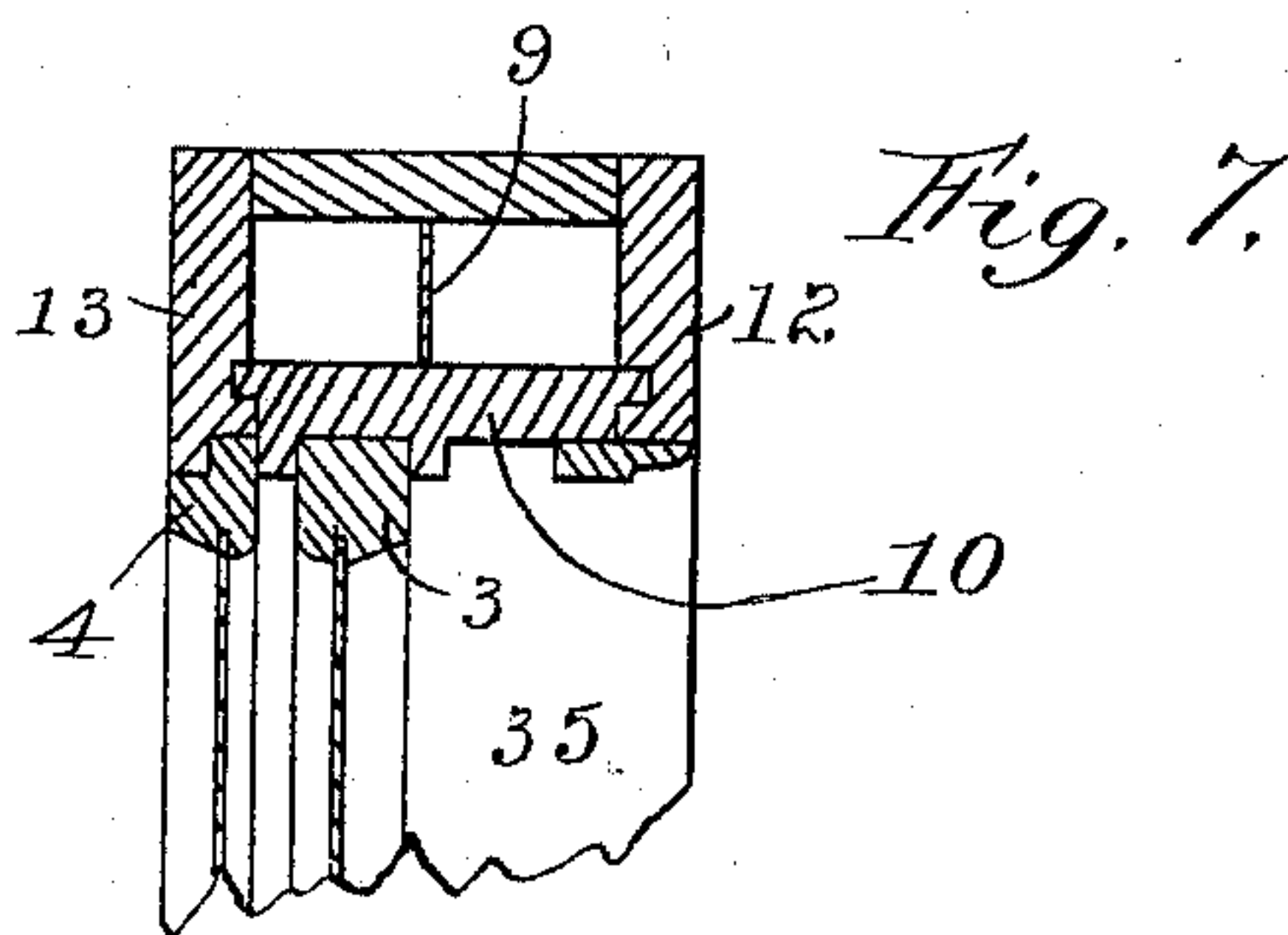
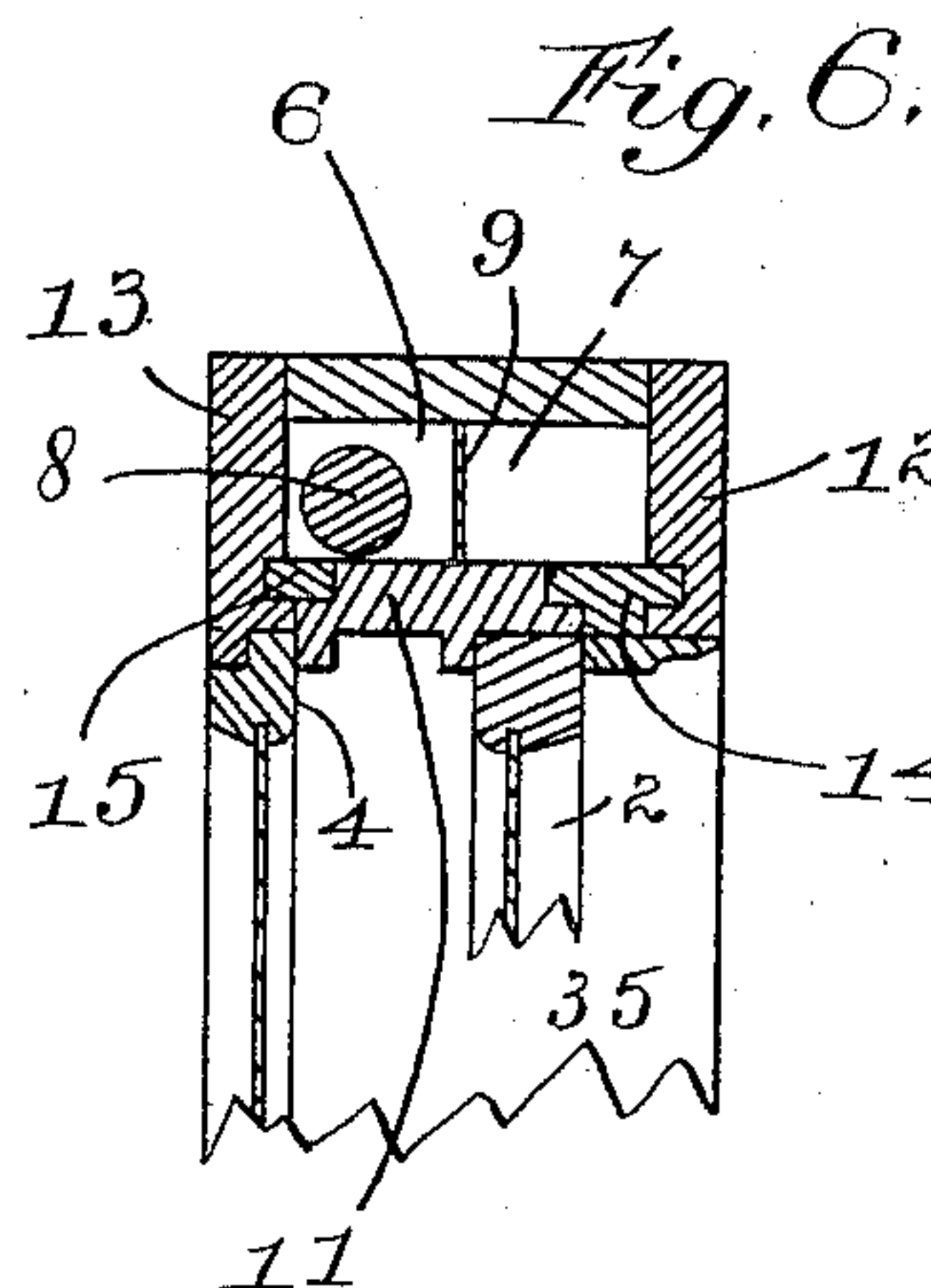
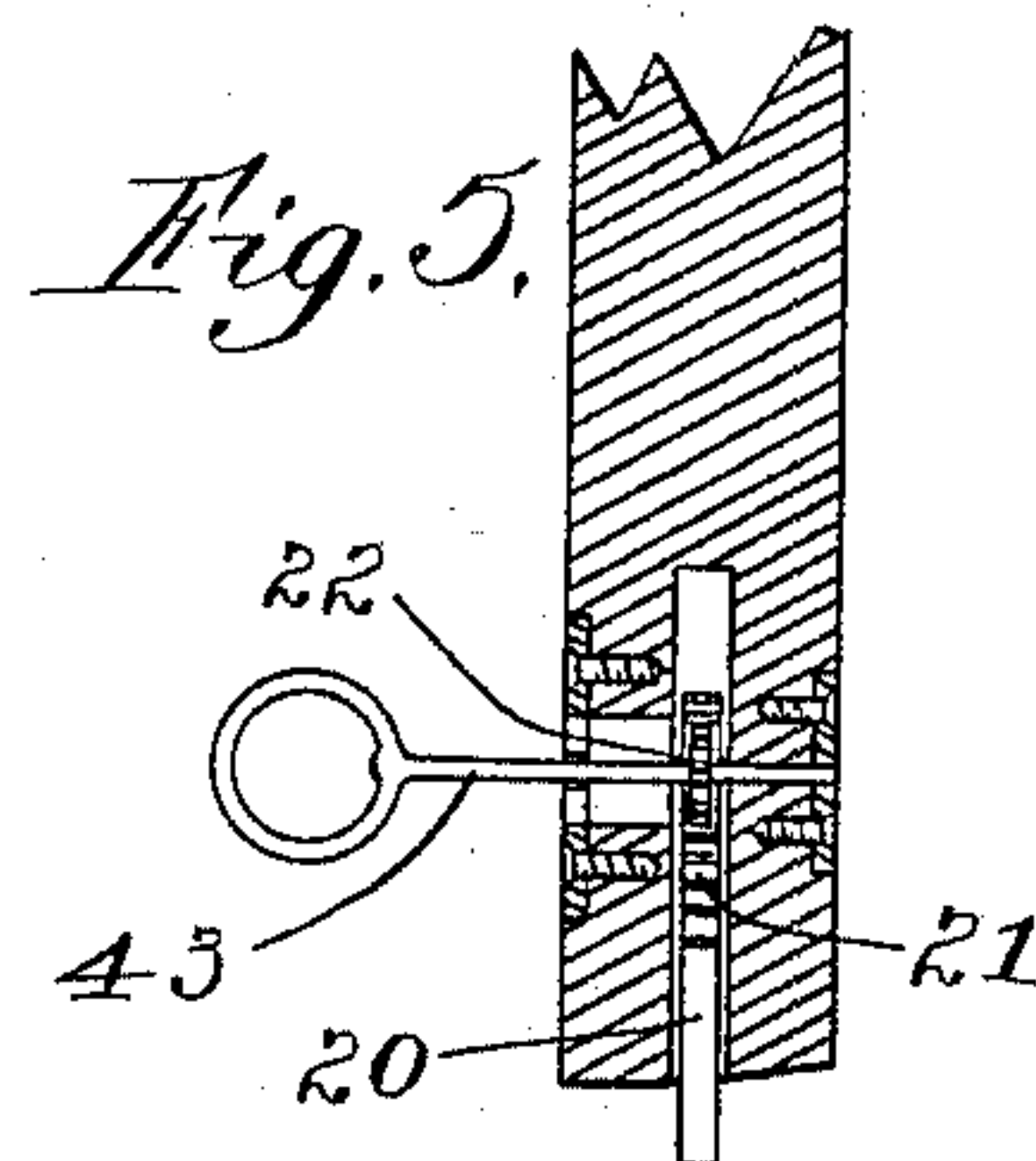


Fig. 9.



Witnesses:

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H. S. Johnson.

Inventor:

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per: *V. D. Merwin*
Attorney.

UNITED STATES PATENT OFFICE.

WALTER MUNCH, OF ST. PAUL, MINNESOTA.

REMOVABLE PULLEY-STILE FOR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 584,887, dated June 22, 1897.

Application filed June 1, 1896. Serial No. 593,685. (No model.)

To all whom it may concern:

Be it known that I, WALTER MUNCH, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Removable Pulley-Stiles for Windows, of which the following is a specification.

My invention relates to improvements in window-frames and their sliding counter-weighted sashes; and it consists in an improved construction of the same, hereinafter particularly described and claimed, by means of which the sash can readily be detached from their supporting-cords and easily removed from and returned to the frame.

In the accompanying drawings, forming part of this specification, Figure 1 is a central vertical cross-section of a window-frame and its included sashes embodying my improvements. Fig. 2 is an elevation of the inside of the right-hand side of the window-frame with the sash removed, showing the removable pulley-stile section and the hooks to which the weight-cords are attached when the sash are removed. Fig. 3 is a vertical section of the side of the window-frame, taken on line *x x* of Fig. 1, showing the removable section of the pulley-stile. Fig. 4 is a sectional detail of the same with the section removed. Fig. 5 is a detail of the stile-section, securing-bolt, and its operating-key. Fig. 6 is a detail horizontal section of the side of the window-frame, taken on line *y y* of Fig. 1. Fig. 7 is a similar cross-section of the same, taken on line *z z* of Fig. 1. Fig. 8 is a sectional detail of the window-sash, showing the means for securing the weight-cord thereto. Fig. 9 is a detail edge view of the same, and Fig. 10 is a detail of the removable stile-section.

In the drawings, A represents the window-frame, into which are fitted the sliding sashes 2 and 3 and the storm-sashes 4 and 5. The window-frame is constructed in the ordinary manner, with wells or boxes 6 and 7 for the sash-weights 8, being separated by the pendulum-strip 9. These boxes are closed in by the fixed pulley-stile section 10 in the upper half of the frame, while the lower half is closed by the removable section 11 of the stile. To serve as a backing and to hold this removable section in place, the casing-pieces 12 and 13 of the frame are channeled to receive the rabbet-stops 14 and 15, the stile-section being cor-

respondingly rabbeted on its rear face to fit to these stops. These stops are cut away at 16 (see Figs. 2 and 4) to allow the top of the removable stile-section to be readily inserted. This section has its rabbets rounded off at 17 (see Fig. 10) to assist in the operation. The top of the removable stile-section is provided with the lip or flange 18, which engages the notch 19 in the lower end of the fixed section 10. The bottom of the section 11 is secured to the sill preferably by means of the bolt 20, which is provided with rack-teeth 21, to which fit the teeth of the gear 22, carried by the key 43, which serves to throw or withdraw the bolt. (See Fig. 5.) The sash are hung by means of the cords 23 and are provided at the top with the edge channel 24, the top of which is deepened and rounded at 25 (see Fig. 8) to permit the bending of the cord in removing and replacing the sash. Beneath the channel 24 is arranged the upwardly and inwardly inclined socket 26 to receive the knot 27. A channel 28 extends downward below the socket to receive the cord end 29 and render it convenient for the same to be grasped by the hand in order to disconnect it from the sash.

30 and 31 are hooks secured to the stop on the window-frame, to which the cords 23 are attached when disconnected from the sash.

The sash are removed in the following manner: They are first raised to the top of the frame, when the section 11 can be unlocked and removed. The sash are then successively lowered to the window-sill, slipped laterally into the weight-boxes, which are left open by the removal of the stile-section, the opposite edge of the sash then being swung out of the frame, and the sash then bodily removed from the frame. The cords are then disconnected from the sash and secured to their hooks, when the sash are free to be removed for purposes of cleaning or repairs. The storm-sash are then afterward similarly removed. Conversely, the sash are restored to place, the upper storm-sash 5 being first thrust into the space from which the stile-section has been removed, its opposite edge being carried back to the stop 33, and the first then pushed outward to the stop. It is then slipped bodily upward to the top of the frame, the stop 34 engaging its rabbeted outer edge. The lower

storm-sash 4 is similarly inserted and placed underneath, so as to support the sash 5. (See Fig. 1.) The top window-sash 3 is then set upon the window-sill 35, its cords unhooked, and secured thereto by slipping their knots into the sockets in its edges. It is then thrust into the space from which the stile-section is removed and its opposite edge carried into position in the other side of the frame, when it can be slipped upward between the parting-strips 32 and 36. The lower sash is then set in place in the same manner and slipped upward to the top of the frame, after which the top of the stile-section 11 is slipped into place underneath the bottom of the section 10, its bottom then being thrust back into the frame and locked, when the sashes may be operated in the ordinary manner, being held by the stops upon the frame and the parting-strips of the pulley-stile.

Where the window-sash are heavy, it is desirable to have means for supporting them when removed from the frame, and for this purpose I provide the crane B, having top and bottom pivots 37 and 38, turning in brackets 39 and 40 upon the window-frame. (See Fig. 2.) This crane carries a cord or cable 41, provided with hooks or tongs 42, for engaging the top rail of the sash, as shown by dotted lines in Fig. 2. By this means the sash after being disconnected from its weights may be supported and swung outward from the frame and cleaned or otherwise attended to.

I claim—

1. The combination with the window-frame, of the fixed pulley-stile section in the top thereof, the removable stile-section at the bottom, the upper end of the removable section engaging with the lower end of the upper section, so as to be held from outward

displacement, said lower section having its inner corners rabbeted or grooved, the stops upon the window-frame for engaging said rabbets or grooves and holding said section from inward displacement, and the locking-bolt for securing the bottom of said section in place.

2. The combination with the window-frame having a fixed pulley-stile section in the top thereof, and a groove in the rear of the pulley-stile sections to receive storm or screen sash, of the removable stile-section at the bottom, the rear edge of said section serving as one side of the storm-sash groove, said section also having its inner corners rabbeted or grooved, the vertical strips upon the window-frame engaging said rabbets or grooves so as to hold said section from inward displacement, said stile-section being adapted when in place to hold and guide the sash, but when removed permitting the window-sash to be thrust laterally into the frame to permit the opposite edge to be carried out of the frame, and also allowing the storm or screen sash to be carried out of the frame in the same manner.

3. The combination with the window-frame, of the removable stile-section therefor, having its outer face grooved to receive the window-sash, and having its inner corners rabbeted or grooved to receive rabbet stops or strips secured in the front and rear sides of the window-casing, said stops holding the stile from inward displacement.

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

WALTER MUNCH.

Witnesses:

T. D. MERWIN,
H. S. JOHNSON.