

908,183.

D. W. WILSON.
WINDOW SASH AND FRAME.
APPLICATION FILED FEB. 7, 1908.

Patented Dec. 29, 1908.
2 SHEETS—SHEET 1.

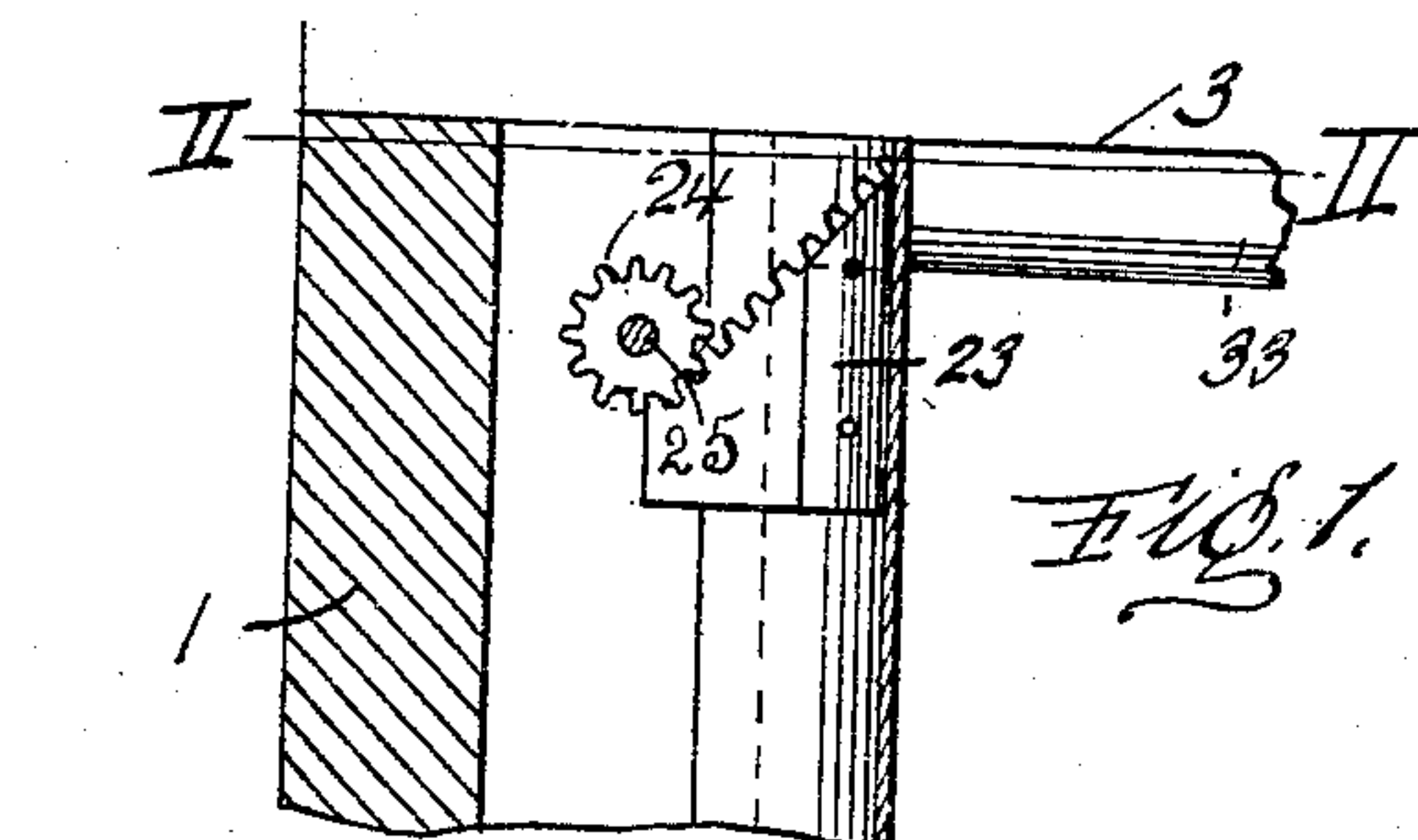


Fig. 1.

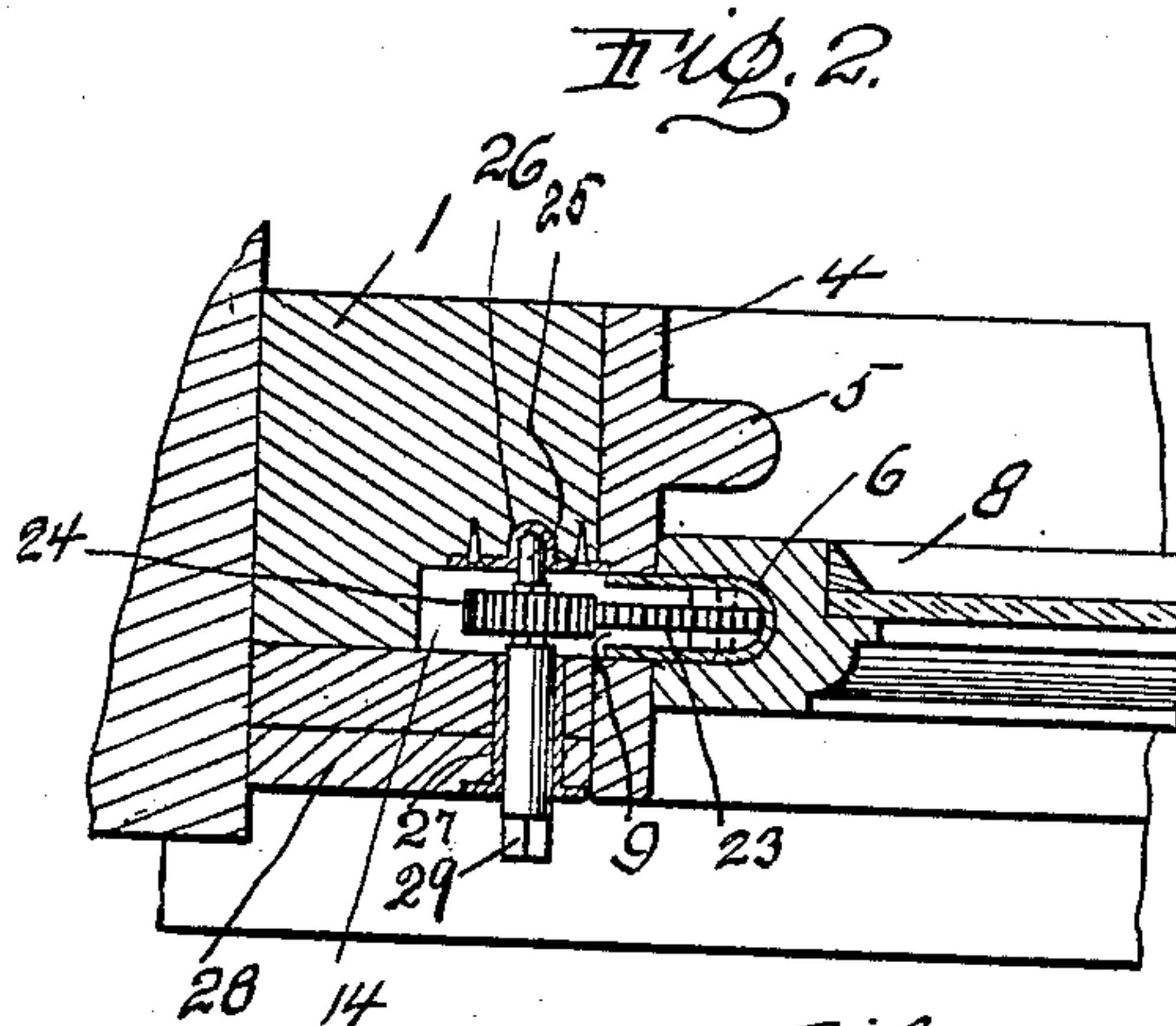


Fig. 2.

Fig. 4.

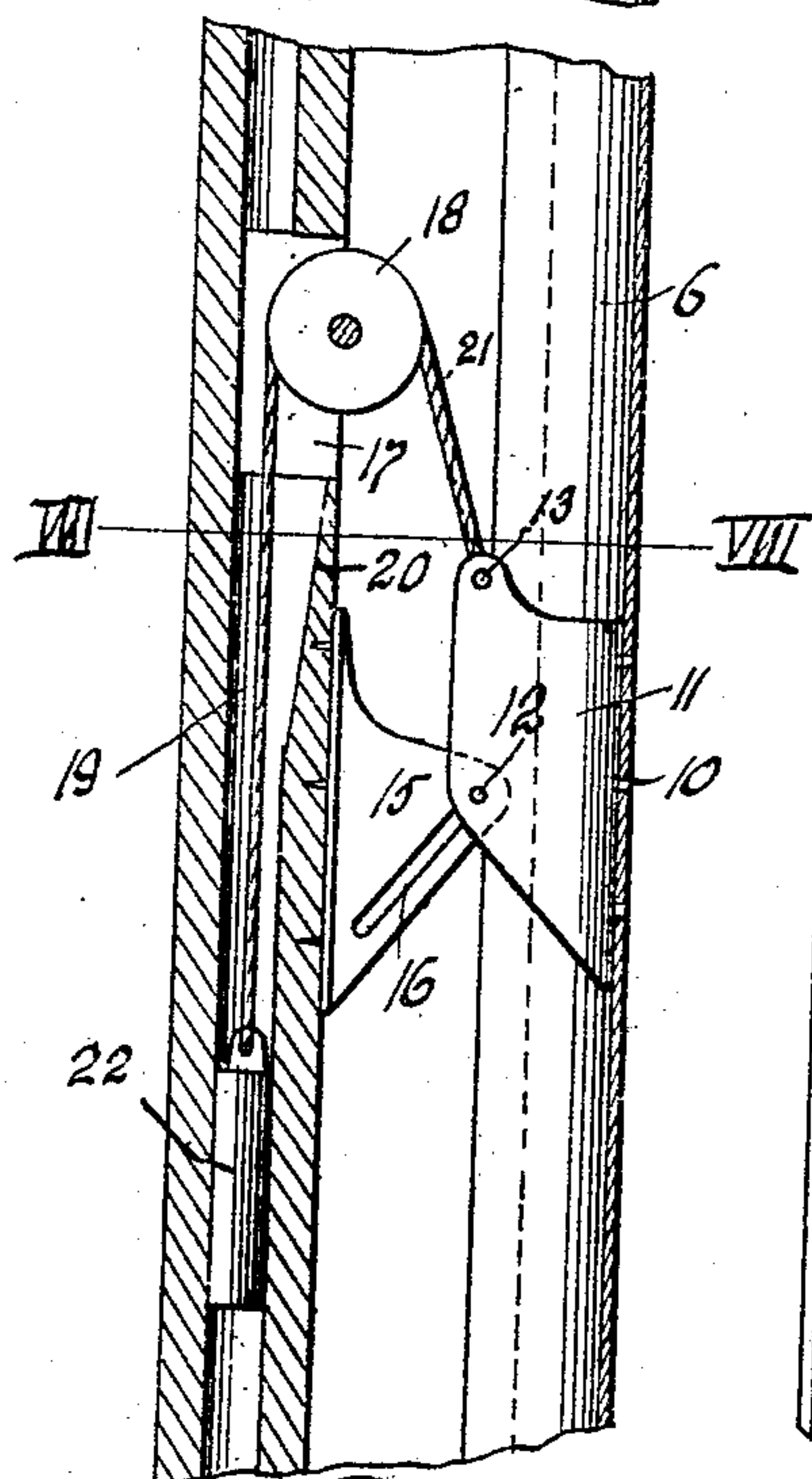


Fig. 3.

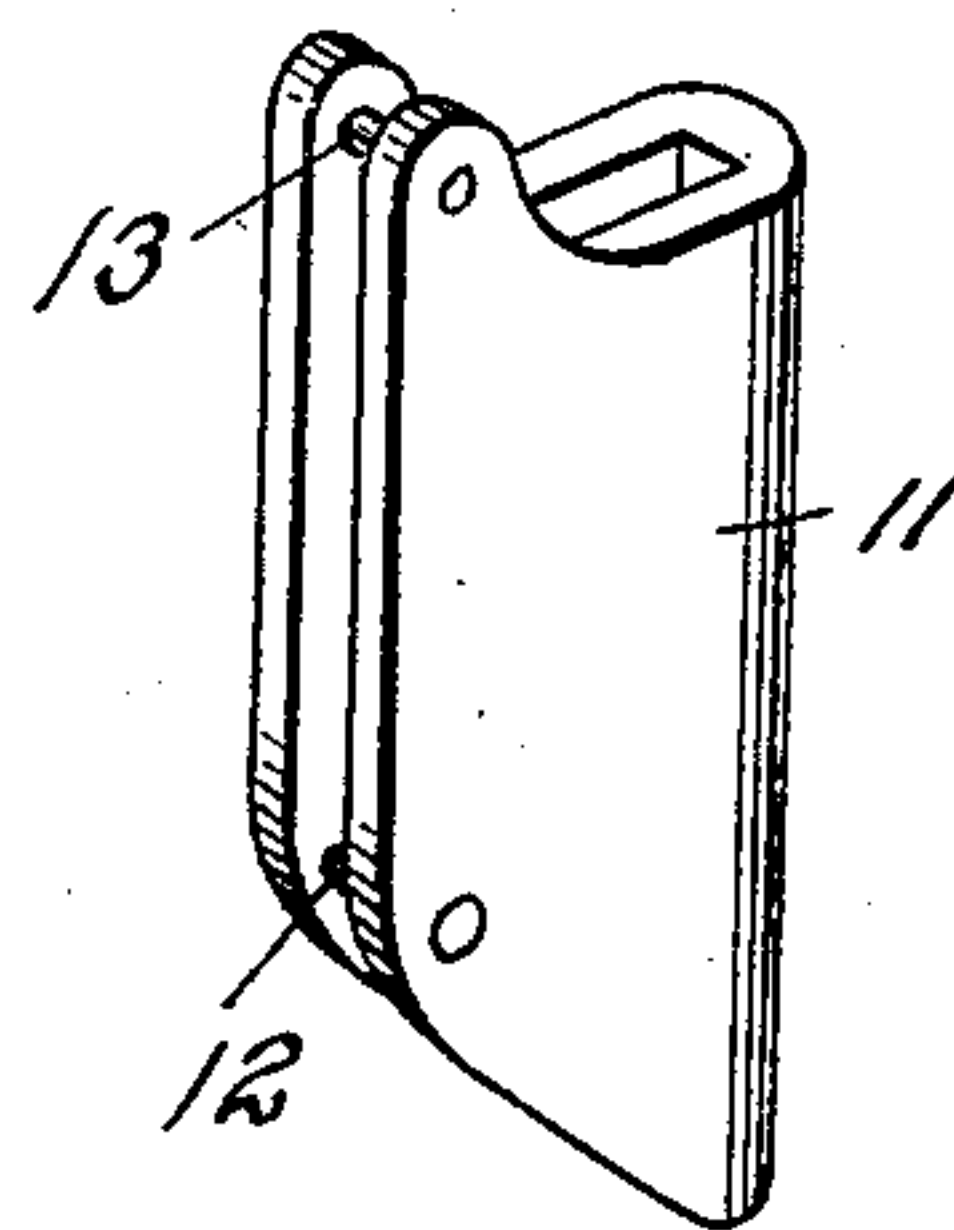
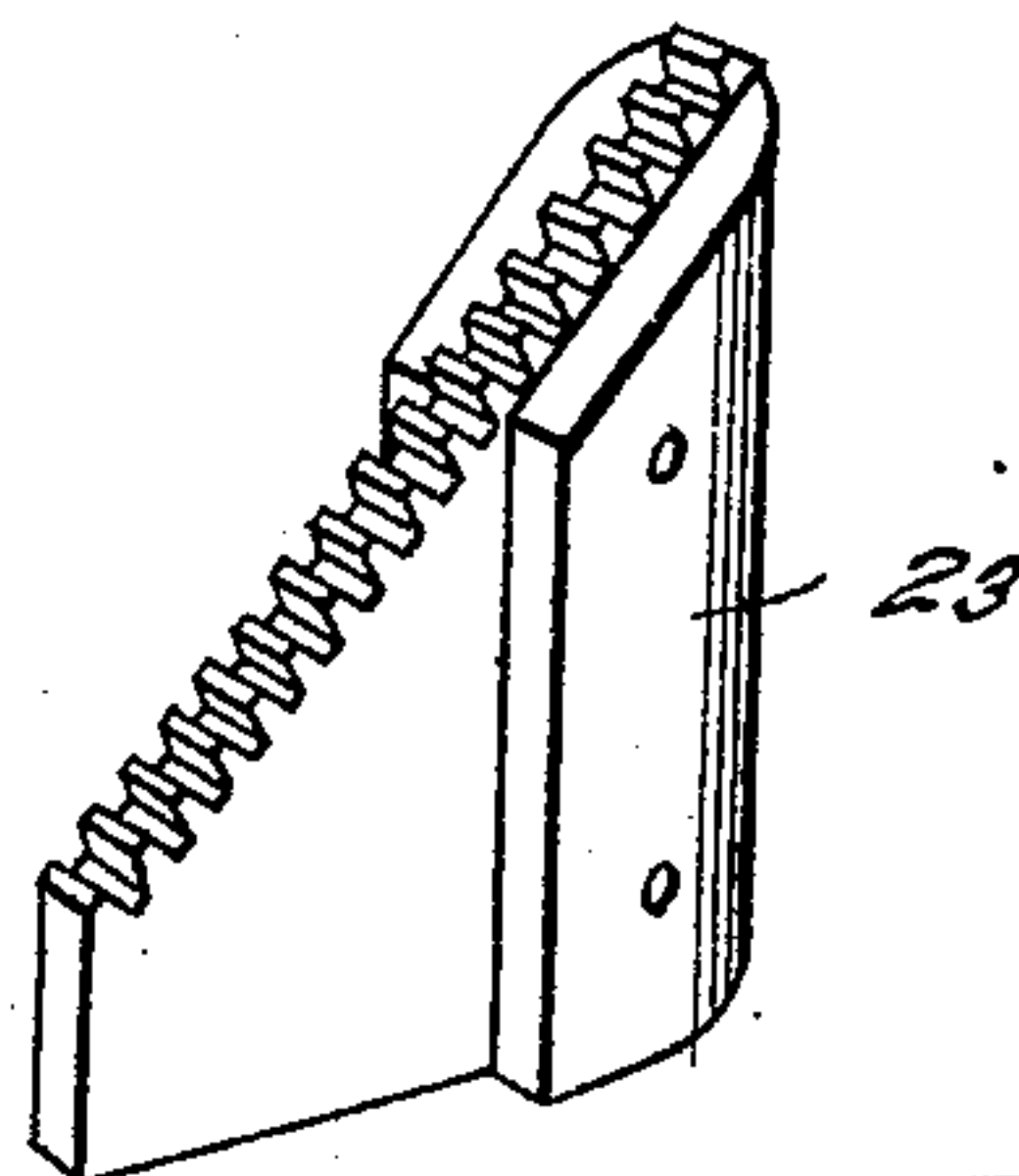
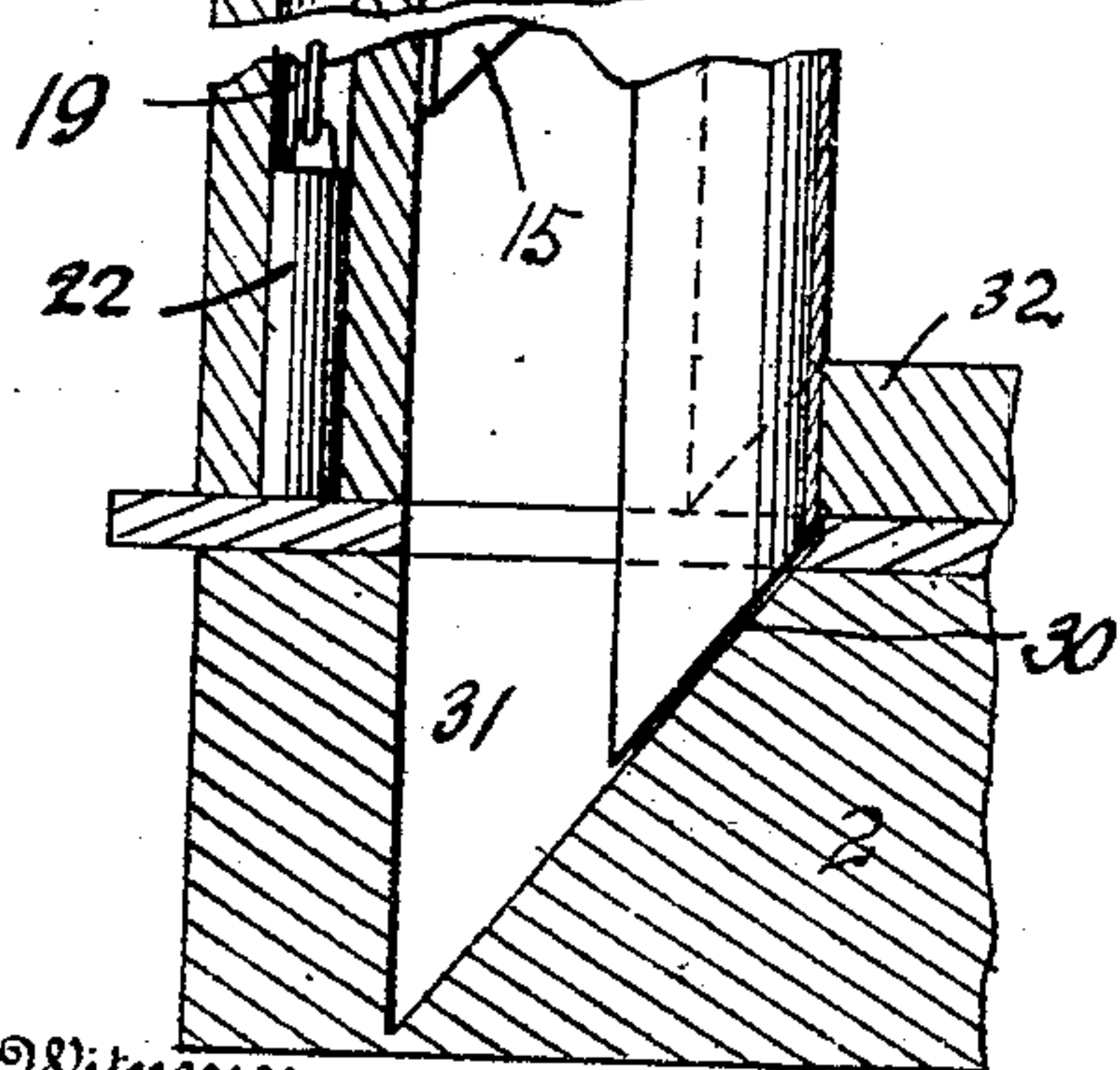


Fig. 5.



Witnesses

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2 SHEETS—SHEET 2.

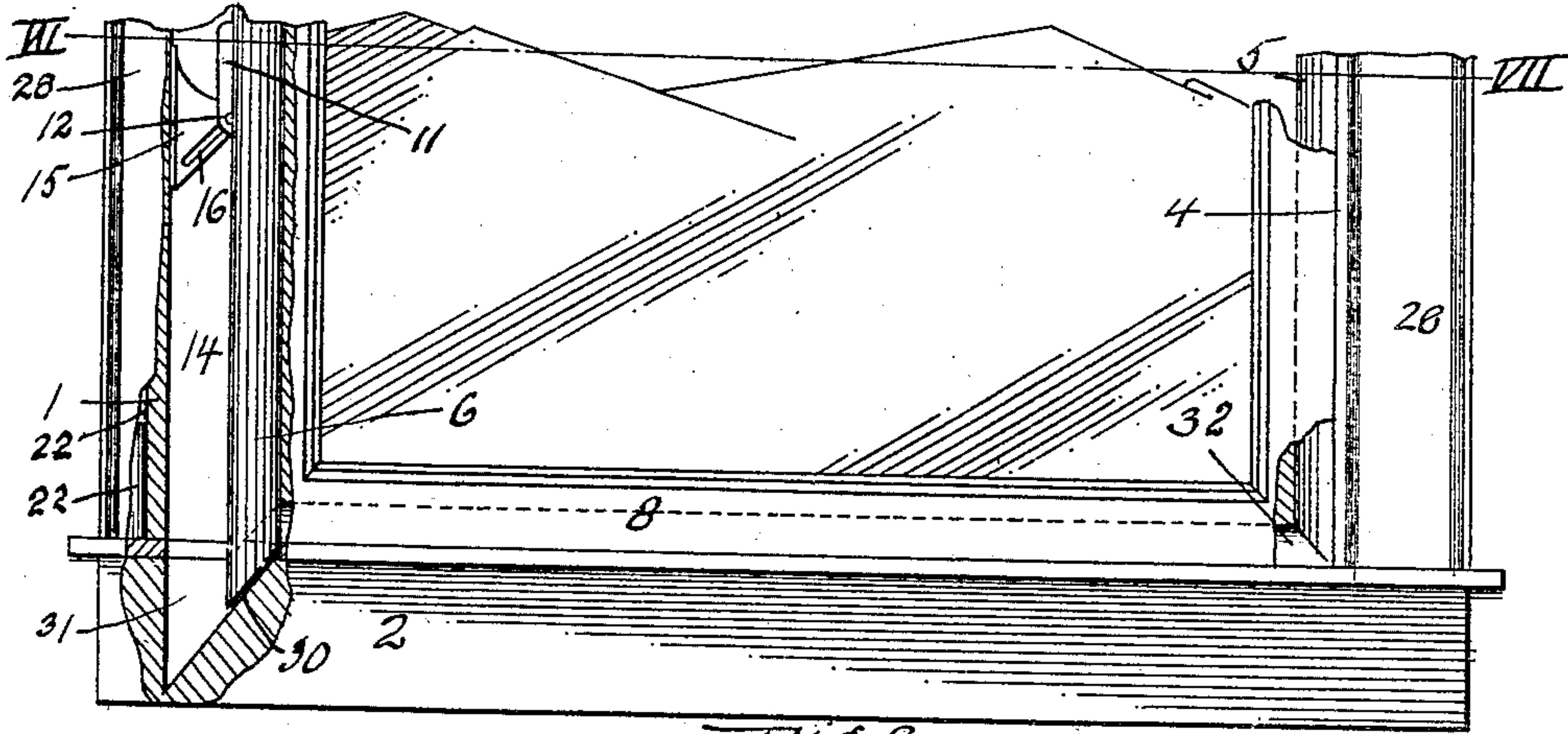


Fig. 6.

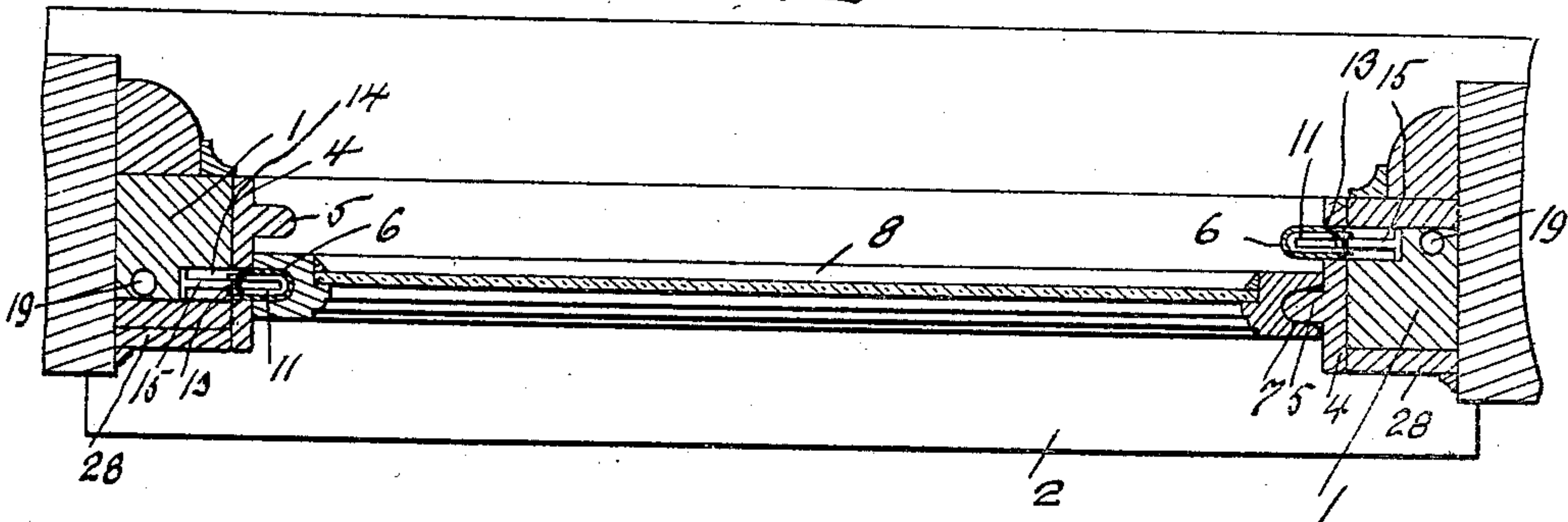


Fig. 7.

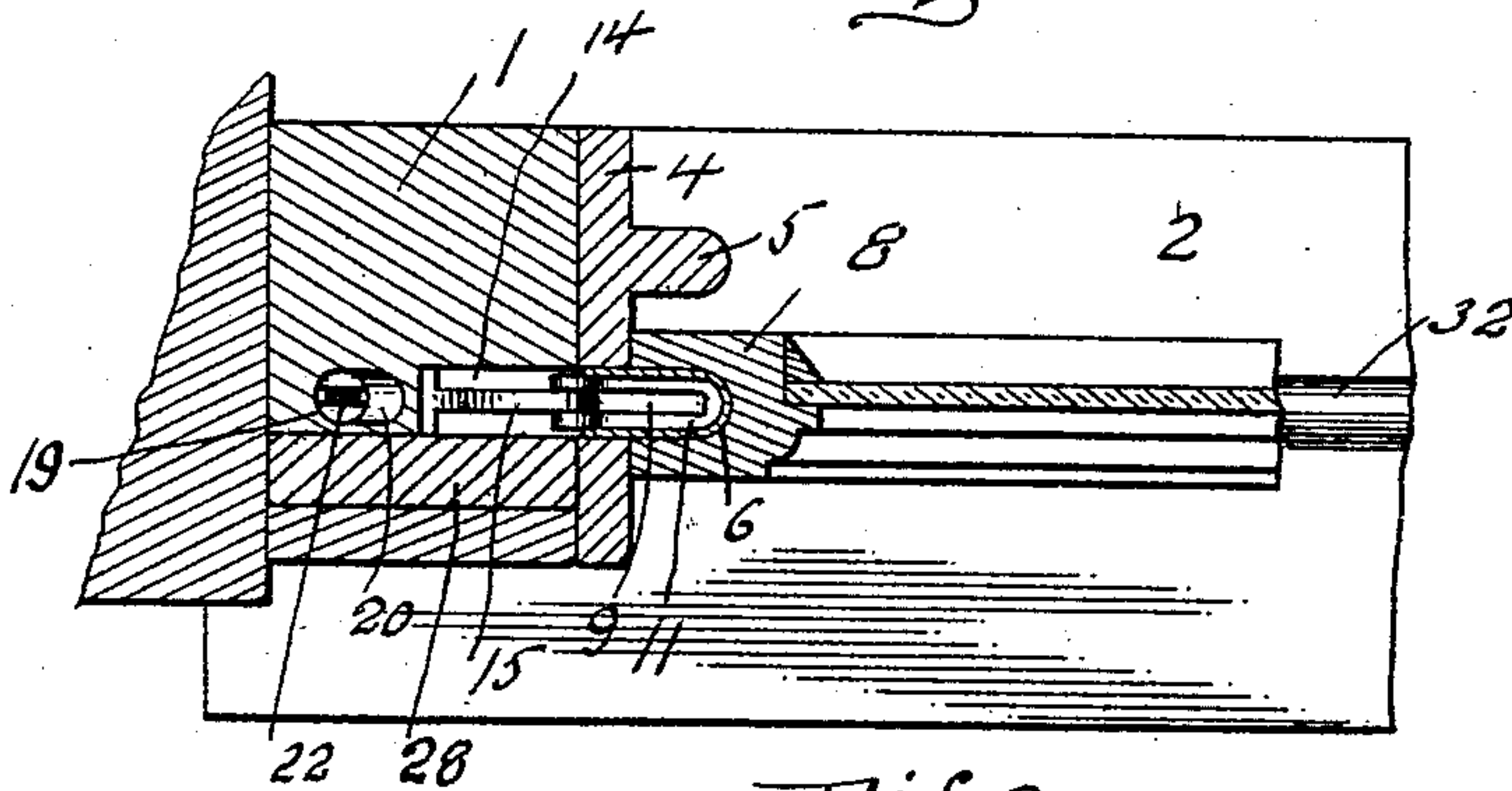


Fig. 8.

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UNITED STATES PATENT OFFICE.

DAVID W. WILSON, OF PITTSBURG, PENNSYLVANIA.

WINDOW SASH AND FRAME.

No. 908,183.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed February 7, 1908. Serial No. 414,845.

To all whom it may concern:

Be it known that I, DAVID W. WILSON, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Window Sashes and Frames, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to window sashes and frames, and the primary object of my invention is to provide a novel device for retaining window-sashes in a frame, whereby said sashes can be easily and quickly removed.

Another object of my invention is to provide movable guide strips for window-sashes that will serve functionally as weather strips, to exclude air and water from a compartment.

A further object of this invention is to provide a simple and inexpensive guide strip for the sashes of a window-frame that will firmly hold said sashes, present a neat appearance and prevent said sashes from receding or rattling.

To this end, I have devised a window-frame having receding guide strips for the sashes thereof, a receding movable guide strip being located upon each side of the frame and one for each sash. The strips are adapted to normally engage in the side rails of the sashes, while fixed strips are arranged at the bottom and top of the frame for engaging in the bottom rail of the lower sash and the top rail of the upper sash, thereby making the movable edges of the sashes impenetrable by the forces of nature.

The detail construction entering into my invention will be presently described and then specifically pointed out in the appended claims.

In the drawings: Figure 1 is a vertical sectional view of one side of a window-frame, partly broken away, Fig. 2 is a horizontal sectional view taken on the line II—II of Fig. 1, Fig. 3 is a perspective view of a slotted guide used in connection with a window-frame, Fig. 4 is a similar view of a guide housing carried by a guide strip, Fig. 5 is a perspective view of an inclined rack carried by the guide strip, Fig. 6 is an elevation of a portion of a window-frame and sash, partly in section, Fig. 7 is a horizontal sectional view taken on the line VII—VII of Fig. 6, and

Fig. 8 is an enlarged horizontal sectional view taken on the line VIII—VIII of Fig. 1.

In the accompanying drawings, 1 designates the stiles of a window-frame, 2 the sill, and 3 the top rail of the sash. These stiles are provided with facing plates 4, each plate having a fixed guide strip 5 and a movable guide strip 6, the fixed guide strip 5 of one plate being opposite the movable guide strip of the other plate. These guide strips 5 and 6 are adapted to fit in grooves 7 provided therefor in the stiles of the window-sashes 8. The guide strips 5 are formed solid, and preferably as a part of the face plates 4, while the guide strips 6 are constructed of metal and conform to channels, a portion of each movable strip 6 extending into a slot 9 formed in each face plate from the lower end thereof to the upper end.

Fixed in the movable strips 6 by rivets 10 are guide housings 11, these housings having transverse pins 12 and 13.

The stiles 1 of the window-frame are provided with recesses 14 extending from the lower ends of said stiles to the upper ends thereof. Located in said recesses are slotted guides 15, the slots 16 of said guides being disposed at an angle and receiving the pins 12 of the housings 11. A guide and guide housing is preferably used upon each side of a sash, but one or more can be employed in connection with large window-sashes and frames. The stiles 1 of the window-frame are further recessed, as at 17, for revolving sheaves 18, and communicating with the recesses 17 are weight wells 19, the upper ends of said wells being beveled, as at 20, the object of which will presently appear.

Attached to the pins 13 of the housings 11 are cables or chains 21 which pass over the sheaves 18 and support weights 22 within the weight wells 19. These weights are adapted to normally maintain the movable strips 6 in the grooves 7 provided therefor in the window-sashes 8.

In the upper ends of the movable strips 6 are fixed inclined racks 23 and meshing with said racks are pinions 24 mounted upon shafts 25, journaled transversely in the upper ends of the recesses 14. A bearing plate 26 supports the inner end of each shaft 25, while the outer end of each shaft is supported in a sleeve 27 provided therefor in the frames 1 and face boards 28 carried by said rails. The shafts 25 are provided with rectangular shanks 29, whereby said shafts can

be rotated by a key (not shown) or a suitable instrument. The lower ends of the movable strips 6 extend into the sill 2 of the window-frame 1, and these ends of the strips are beveled as at 30, and the sill 2 is provided with recesses 31 to receive the ends of said strips. The sill 2 is provided with a transverse fixed guide strip 32 adapted to fit in the bottom rail of the lower window-sash, while the upper window-sash receives a similar strip 33, carried by the top rail 3 of the window-frame.

Operation: When it is desired to remove the sashes 8 from the window-frame, the shafts 25 are rotated and through the medium of the pinions 24, the inclined racks 23 are moved downwardly and inwardly, carrying the guide strip 6. These strips recede into the recesses 14 and the slots 9, and permit of the sashes 8 being moved outwardly from the window-frame. During this operation the housings 11 telescope the guides 15 and elevate the weights 22, which are pulled upon the beveled portions 20 of the wells 19, where they rest, while the guide strips 6 are retained in the recesses 14 and the slots 9. The return movement of the guide strips 6 is facilitated by the weights 22, these weights pulling downwardly upon the cables or chains 21 and upwardly upon the housings 11. Since the guides 15 are fixed, the slots 16 cause the housings to ride outwardly and replace the movable strips 6.

It is thought that my invention will be fully understood from the foregoing description, and I reserve the right to make such changes in the size, proportion and minor details as are permissible by the appended claims.

Having now described my invention what I claim as new, is:—

1. The combination with a window-frame having recessed stiles, a recessed sill, a top rail, and sashes movably mounted in said frame and having grooved stiles, of slotted face plates carried by said frame stiles, fixed guide strips carried by said plates and engaging in the grooved stiles of said sashes, fixed strips carried by the sill and top rail of said frame for engaging in the bottom rail of the lower sash and the top rail of the upper sash respectively, movable guide strips arranged in the slots of said face plates and engaging the grooves in the sash stiles, said movable guide strips at their lower end projecting into the recesses in said sill, the movable strip of one face plate being disposed opposite the fixed strip of the other face plate, inclined

racks arranged in the upper ends of said movable guide strips, pinions revolubly mounted in said recessed stiles of the frame and engaging said racks for moving said movable guide strips inwardly, slotted guides arranged in said frame stiles, housings arranged in said movable guide strips for telescoping said guides and having a pin connection with the guides, and weights arranged within said frame stiles and connected to said housings for moving the guide strips outwardly.

2. The combination with a window frame having recessed stiles, and sashes adapted to move in said frame, of slotted face plates carried by said stiles, fixed guide strips carried by said plates and received in the stiles of said sashes, movable channel-shaped guide strips arranged in the slots of said face plates and received in the stiles of said sashes, inclined racks carried by said movable guide strips at the upper ends thereof, pinions journaled in said recessed stiles of the frame and engaging said racks, guide plates carried by the frame stiles within the recesses thereof, housings carried by said movable guide strips for telescoping said guide plates and having a pin and slotted connection with the guide plates, said frame stiles having weight wells formed therein, weights in said wells, flexible connections between said weights and said housings.

3. The combination with a window frame having recessed stiles and a recessed sill, said stiles each provided with a weight well and each carrying a sheave projecting into the recess of the stile, movable guide-strips received in the recessed frame stiles with their lower ends received in the recessed sill, a sash having grooved stiles to receive said guide-strips, of guide-plates carried by the frame stiles each having an inclined slot, housings carried by the guide-strips and connected with said guide-plates by pins extending through the inclined slots in said plates, weights in said weight wells, flexible connections passing over said sheaves with the respective ends thereof connected to the weights and housings, and mechanism at the upper end of the movable-guide-strips for actuating the same to cause them to recede from engagement with the sash stiles into the recesses in the frame stiles.

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

DAVID W. WILSON.

Witnesses:

MAX H. SROLOVITZ,
K. H. BUTLER.