

No. 867,925.

PATENTED OCT. 8, 1907.

S. H. POMEROY.
FIREPROOF WINDOW.

APPLICATION FILED NOV. 9, 1906.

2 SHEETS—SHEET 1

Fig. 1.

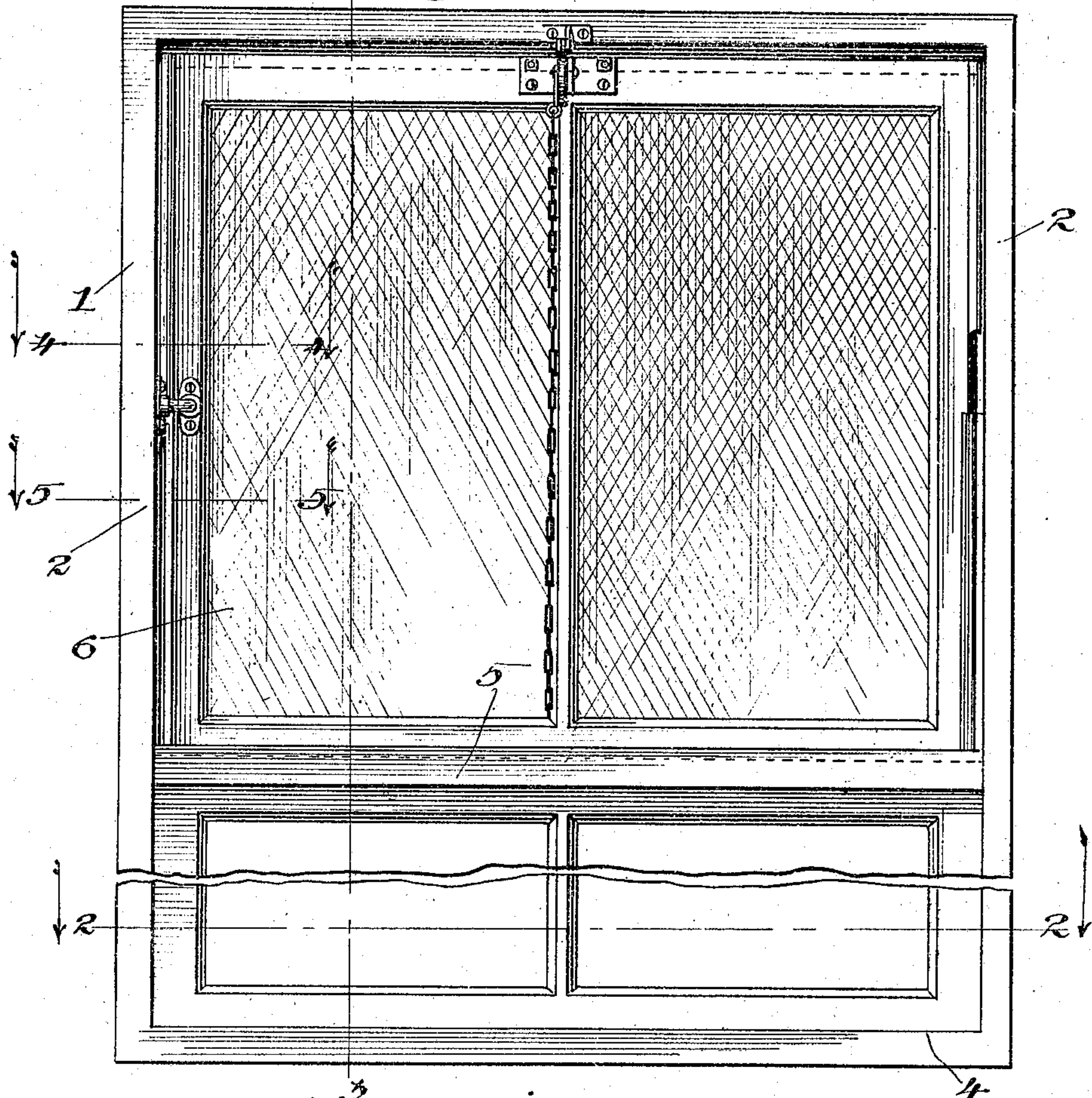
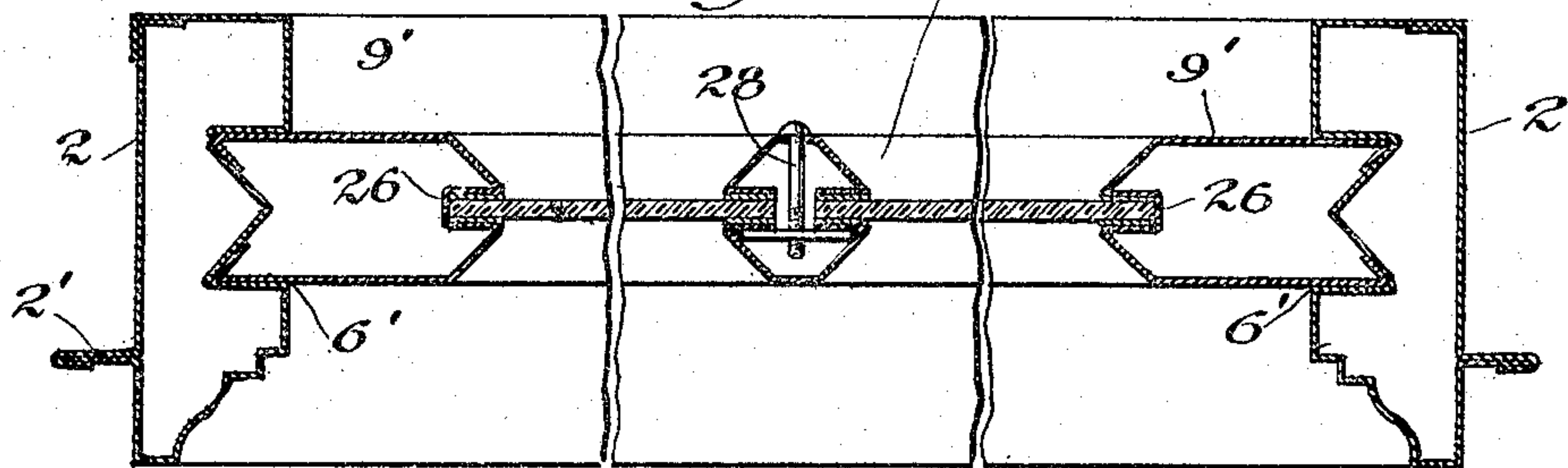


Fig. 2.



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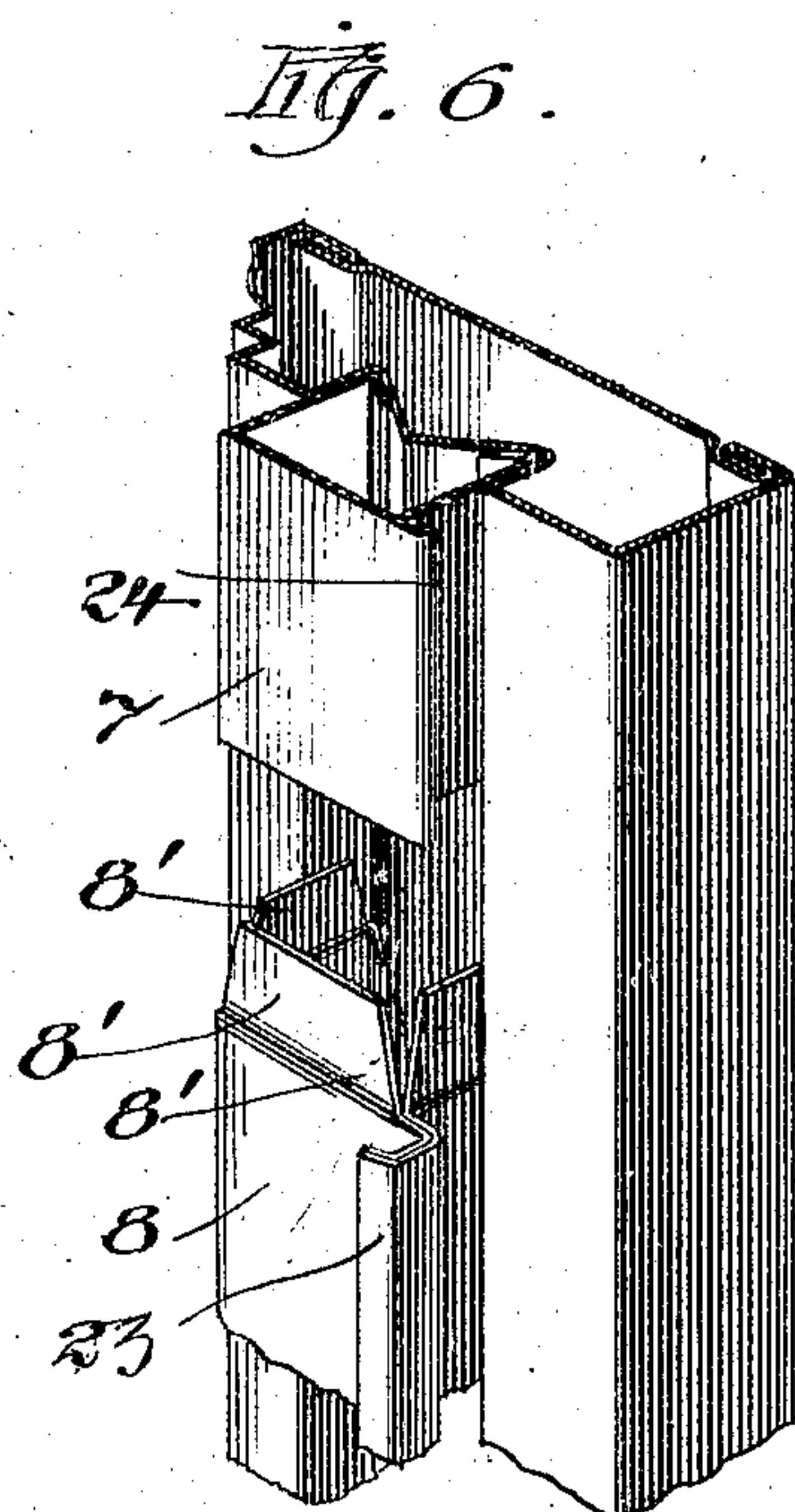
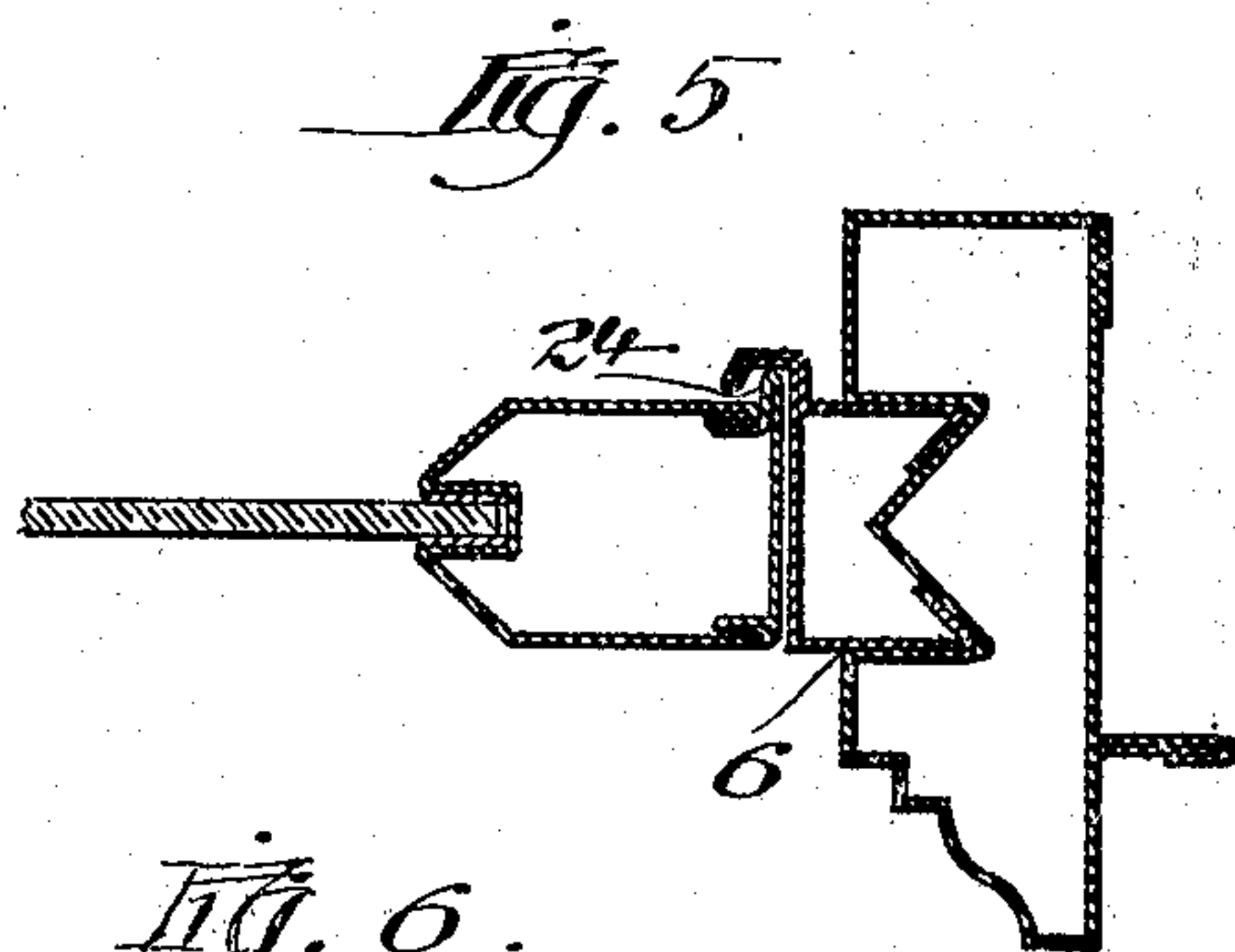
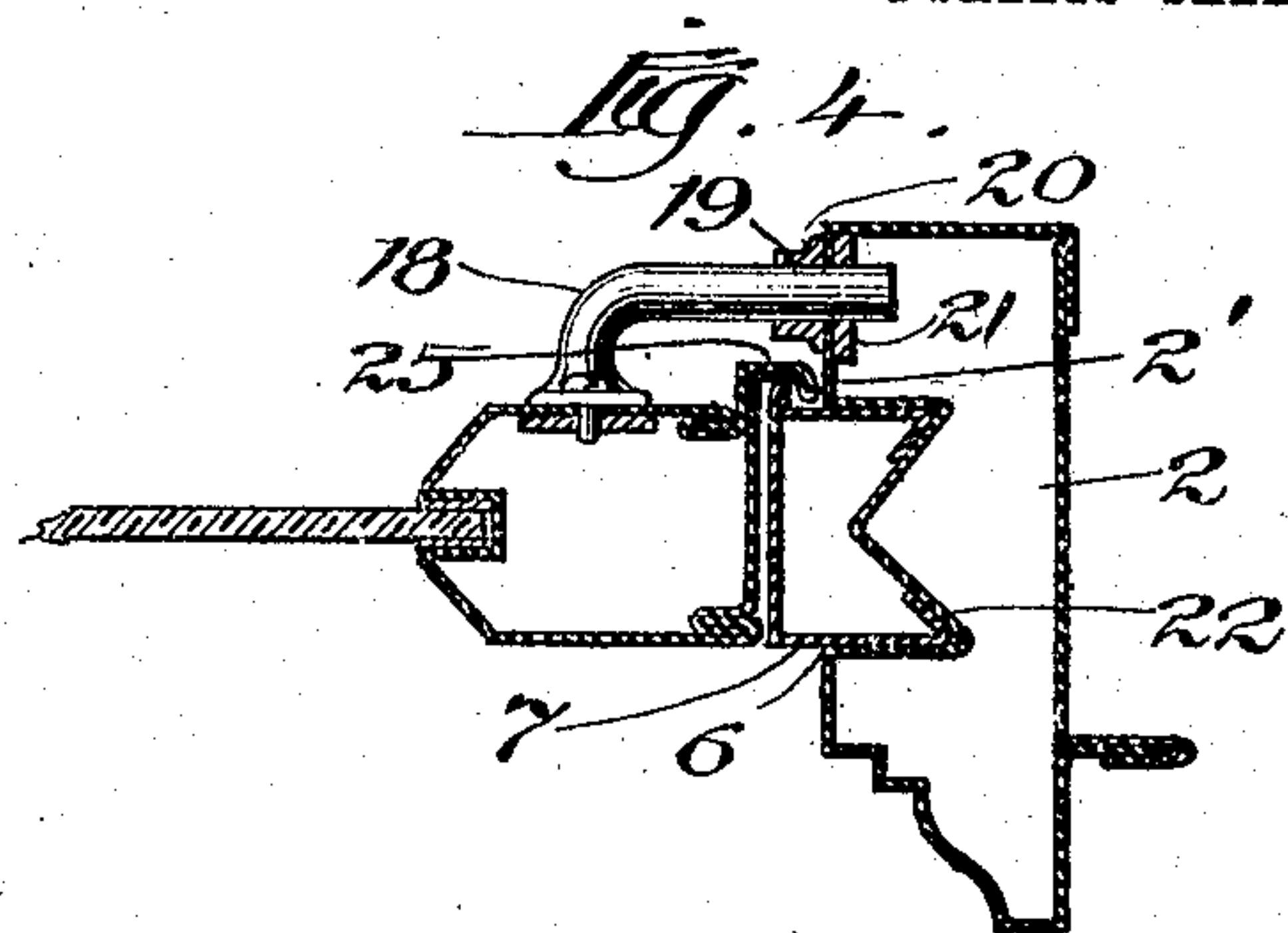
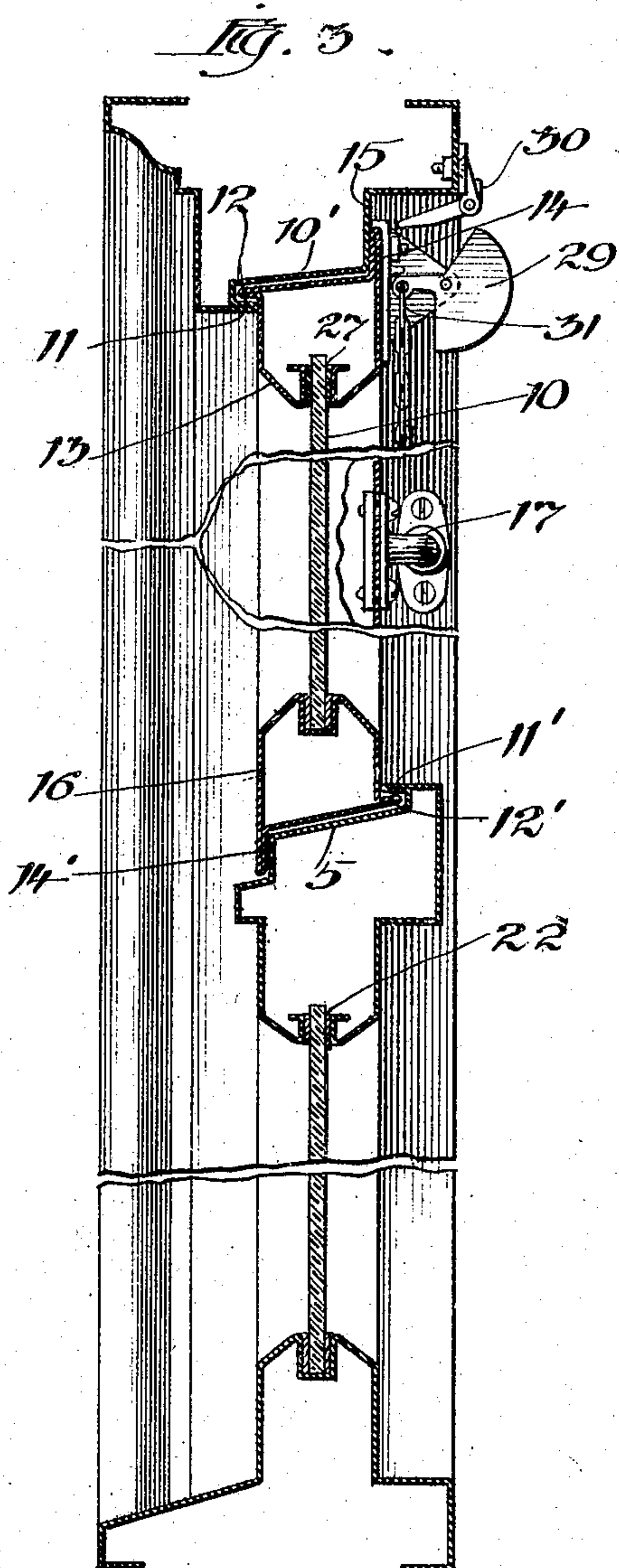
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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FIREPROOF WINDOW.

No. 867,925.

Specification of Letters Patent.

Patented Oct. 8, 1907.

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To all whom it may concern:

Be it known that I, SILAS H. POMEROY, a citizen of the United States, residing at New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Fireproof Windows, of which the following is a specification.

This invention relates to improvements in fireproof windows and refers more specifically to improvements in the details of construction in a window of that form in which a sash is pivoted midway of its vertical length to swing upon horizontal pivots.

Among the salient objects of the invention are to provide a construction in which great accuracy and uniformity of fit between the movable sash and casing may be secured, despite inaccuracy of manufacture; whereby the sash is made to move with perfect freedom, yet nevertheless forms a close weatherproof fit; to provide a construction which while securing the accuracy of fit desired, may be quickly and economically assembled and united; and in general to provide an improved construction of the character referred to.

In the drawings, Figure 1 is an inside face elevation of a window embodying the invention, parts being broken out to reduce the size of the figure and other parts broken away to show internal construction; Fig. 2 is a transverse or horizontal sectional view on line 2—2 of Fig. 1 and looking downwardly; Fig. 3 is a vertical sectional view taken approximately on line 3—3 of Fig. 1 and looking in the direction of the arrows; Fig. 4 is a horizontal sectional view through one side of the casing and movable sash taken on line 4—4 of Fig. 1 and looking downwardly; Fig. 5 is a similar view taken on line 5—5 and looking downwardly; Fig. 6 is a perspective view of a fragmentary portion of the side casing member showing particularly the manner in which the two-part adjustable side jamb is constructed.

Referring to the drawings, 1 designates as a whole a hollow sheet metal window casing or frame comprising the hollow side frame members 2, 2, upper and lower frame members 3 and 4, and an intermediate cross member 5.

The hollow side frame members 2, 2, are so constructed in other parts which extend above and below the cross frame member 5 as to provide parallel sided relatively deep inwardly facing jamb channels or grooves 6 and 6', best seen in Figs. 4, 5 and 2. It will be noted that the bottoms of these jamb grooves are V-shaped with the apex of the angle directed inwardly. In those portions of the grooves 6, 6', above the transverse member 5 are seated adjustable jamb members 7 and 8 (see Fig. 6), but in the portions of the grooves 6', 6', below the member 5 the side bars 9' of the stationary sash 9 are seated directly,—see Fig. 2.

The inwardly facing lower side of the top member 3 of the casing is constructed to receive the top rail of

the movable sash 10 in such manner as to permit the latter to swing inwardly in its opening movement, and to form a close weather-protected joint when the sash is closed. To this end that face 10' of the casing against which the upper side of the top sash rail fits is inclined from the horizontal slightly in an upward and inward direction, an integral lip or overlapping weathering flange 11 is formed at the outside of the casing member, a cooperating lip or flange 12 is formed upon the top sash rail 13 which fits into the recess formed between the lip 11 and the opposed face 10 of the casing, and the top rail of the sash is provided at its inner side with an upwardly extending flange 14 coincident with the inner face or plane of the sash rail which fits against the inner face 15 of the casing when the sash is closed. The upper side of the cross frame member 5 which meets the lower rail 16 of the movable sash and said lower rail are constructed substantially like the upper rail and top casing member, except that the lips 11', 12' and flange 14' are in reversed relation to permit the lower edge of the sash to swing inwardly.

The movable sash is pivoted on horizontal pivots, designated as a whole 17, located midheight of the sash. These pivots are so constructed as to allow lateral bodily movement of the sash without disturbing the pivotal adjustment, and moreover the axes of the pivots are located well inside of the center of gravity of the sash, so that the latter will tend to swing shut by gravity when in partially open position. To this end one member 18 of each pivot takes the form of a bent arm having its base rigidly bolted or secured to the inner face of the side rail of the sash; the socket-engaging end of the arm being arranged to extend parallel with the plane of the sash and to engage a socket 19 carried by the corresponding casing member 2. The sockets 19 are in the improved construction shown each formed of an inner and outer aperture member, as 20 and 21, arranged respectively inside and outside of the inner wall 2' of the casing with their apertures in register with each other and the interposed wall 2' is also apertured so that the pivot arm extends entirely through the assembled parts. This permits the lateral shifting movement of the sash, hereinbefore referred to.

Describing now that feature of the present invention which I deem most important, and referring particularly to Figs. 4, 5 and 6, the two parts 7 and 8 of each side jamb are formed of sheet metal and made approximately channel-shaped in cross section; the width of the jamb members being such that they fit snugly within the corresponding channel 6 and the inner edges of the sides which form the channel being bent inwardly towards each other and arranged to stand parallel with the corresponding inclined portions of the bottoms of said jamb groove, as indicated at 22. The two members 7 and 8, which together form each jamb, are constructed to telescope upon each other so that

when united they form a practically continuous structure, and the joint of the union is located substantially coincident with the pivotal axis of the sash in order to facilitate the construction of the weathering members which protect the joint between the side rail of the sash and the casing, and which weathering members are necessarily constructed differently above and below the pivotal axis of the sash. To these ends one member, that designated 8 in this instance, is provided at one end with tongue-like extensions 8' inset slightly relatively to the plane of the several sides of the jamb upon which they are formed so that when fitted in the corresponding end of the member 7 the structure will have exteriorly flush surfaces. The member 8 is provided with a hook-shaped weathering flange 23 which receives a lip or flange 24 upon the corresponding part of the side stile of the sash. The member 7 is provided with a lip 24 which fits within a hook-shaped weathering flange 25 formed upon the corresponding part of the side stile of the sash.

In assembling the parts described, and adjusting them and securing them in position, I proceed as follows: The casing frame having been completed, with the exception of seating the jamb members 7 and 8 therein, the frame is most conveniently laid flat upon a suitable table or support and the jamb members put in place. To do this the telescoping ends are adjusted upon each other and the members then flexed upon the as yet unsoldered joint, so that the upper and lower ends of the jamb can be inserted in the jamb groove 6 at the upper and lower corners of the sash opening. The two members are then flexed back into alinement with each other and into position in the jamb groove; the telescoping joint being by this movement brought entirely together. Before fastening the jamb members in position in the jamb groove I place the movable sash in position between the jambs and temporarily support it in properly centered position. I now move the jamb members in their seats toward the opposed edges of the sash frame until the jambs closely and evenly approach the sides of the sash at all points but do not actually contact therewith. This is conveniently accomplished by slipping space strips of sheet metal between the jambs and sash frame and moving the jambs out into bearing with the space strips. Having thus adjusted the parts I proceed to solder the jambs permanently in position in the jamb grooves, applying solder along the joints at the outer edges of the jamb grooves and also soldering the joint where the two jamb members 7 and 8 meet. Having thus accurately fitted the jambs to the sash, the pivots are applied to the latter and seated in their respective sockets.

By constructing the bottoms of the jamb grooves as shown I am enabled to make said grooves the proper width with great accuracy and perfect parallelism, so that the jamb members will fit accurately therein. Moreover the cooperating inclined sides of the bottom of the groove and inner edges of the jamb insure that the sides of the jamb will be forced outwardly into bearing with the sides of the groove, in case the jamb

member be slightly distorted in its manufacture. The fact that the jamb may be withdrawn slightly from the bottom of the groove in adjusting it to position, as described, does not permit the edges of the jamb to move away from the sides of the groove enough to be objectionable or prevent the proper union of the parts by the subsequent soldering operation.

The glazing in both the upper and lower sash is inserted in a well known manner; the lateral and upper glazing grooves, as 26 and 27, being bottomless to permit the glazing to be shifted both laterally and upwardly in placing it in position and a divided muntin 28 being employed to secure the lights in place, in a manner well understood in this art.

The gravity latch mechanism comprising the pivoted and weighted lever 29 upon the upper sash rail of the movable sash and latch 30 upon the casing frame, adapted to be disengaged by the lever 29 when the latter is oscillated by the chain 31, form no part *per se* of the present invention.

It will be seen from the foregoing description that I accomplish the several objects of the invention hereinbefore specified and produce an extremely neat and reliable structure which can be manufactured and assembled with great economy.

I claim as my invention:

1. In a fireproof window, side casing members provided with longitudinal channels, an adjustable jamb of two part construction fitting within said channel, one part interfitting longitudinally with the other, a sash member pivoted within said casing, and means securing said casing jamb rigidly and in permanent adjustment within said channel after the casing jamb has been adjusted relative to the sash member.
2. In a fireproof window, a side casing member provided with a longitudinal channel, a jamb of two-part construction fitting within said channel, one of said parts being adapted to telescope within the other, a sash pivoted within said casing, and weathering flanges upon the casing and jamb, respectively.
3. In a fireproof window, a casing member provided with a longitudinal channel, a jamb of two-part construction fitting within said channel, a lip-like flange upon one part of said jamb, a hooked flange upon the other part of said casing jamb, a sash pivoted within said casing, a hooked flange upon said casing cooperating with the first named flange upon said jamb, and a lip-like flange upon the sash member cooperating with the hooked flange upon the jamb.
4. In a fireproof window, the combination of a hollow sheet metal casing provided at its sides with inwardly facing channel grooves, the bottoms whereof are outwardly deflected in their central portions whereby the depth of the channels is greatest adjacent to its side walls, jamb members, each of two-part construction, fitting within said channel, said jamb members being of general channel shape in cross section, returned bent portions upon the inner edges of the jamb members adapted to fit against the inclined bottom walls of the channel grooves, a sash pivoted within said casing and fitting between said jamb members, interfitting weathering flanges upon the jamb members and sash frame, respectively, and means securing the jamb members fixedly in adjusted position within their respective grooves.

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