

No. 814,616.

PATENTED MAR. 6, 1906.

J. L. MESKER.

WINDOW.

APPLICATION FILED MAY 8, 1905.

2 SHEETS—SHEET 1.

FIG. 2.

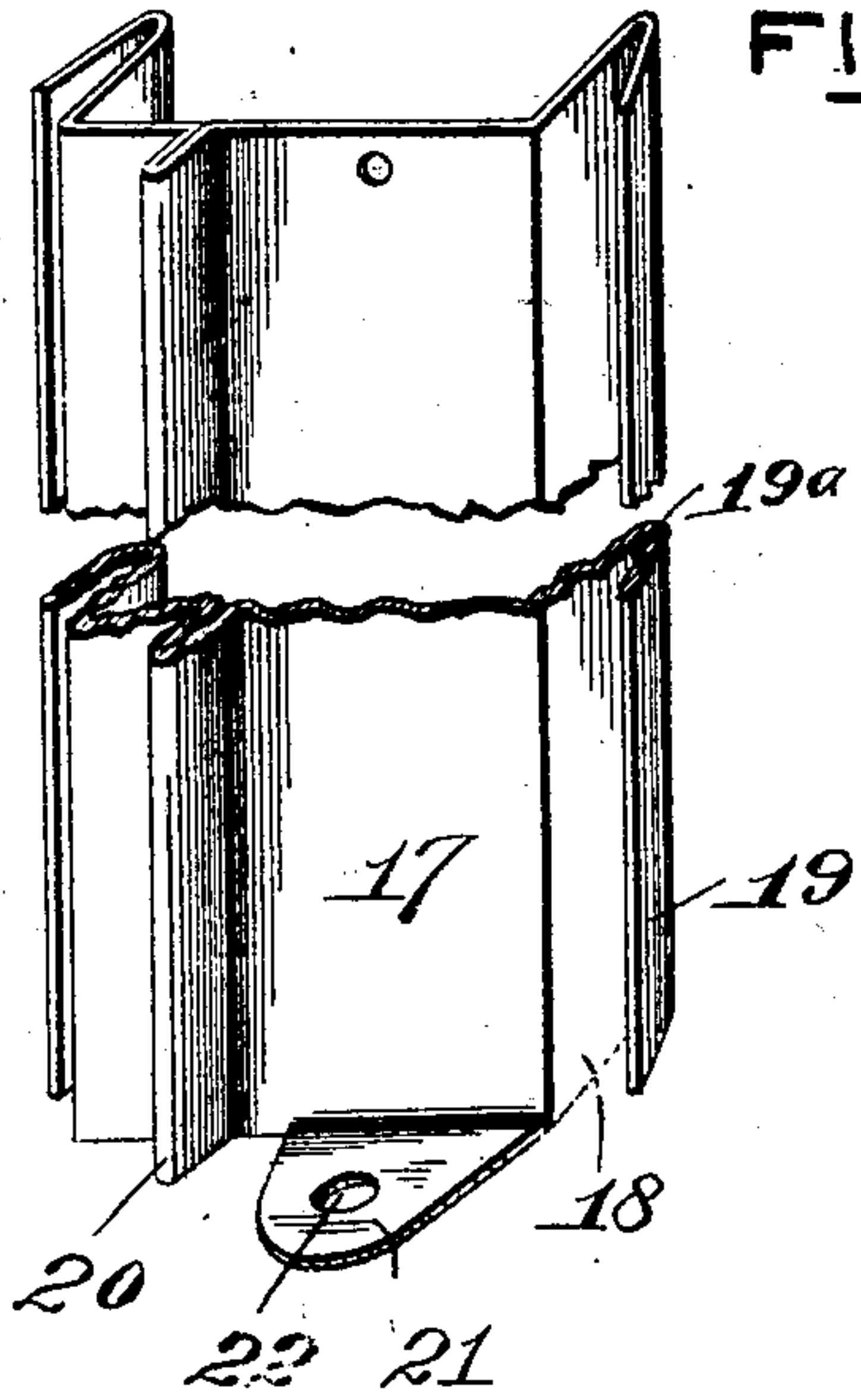


FIG. 1.

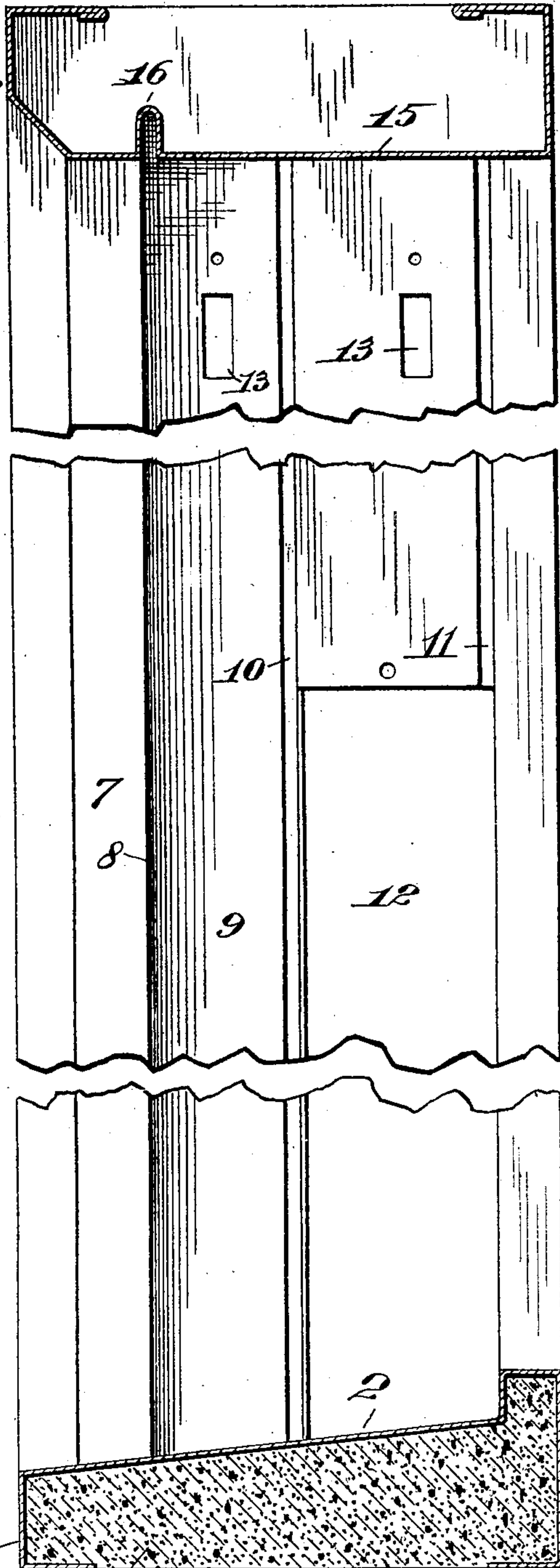
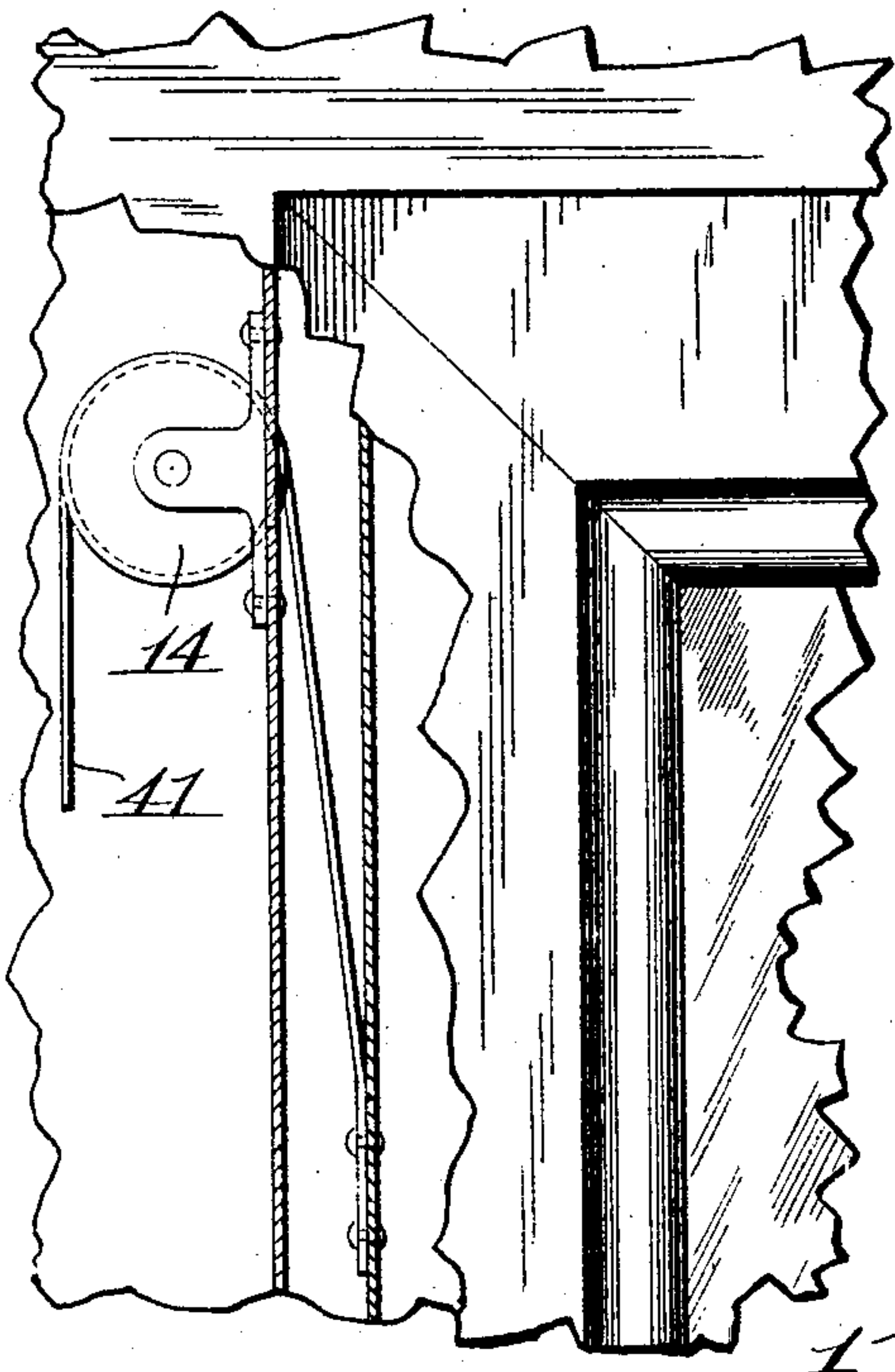


FIG. 3.



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2 SHEETS—SHEET 2.

FIG. 4.

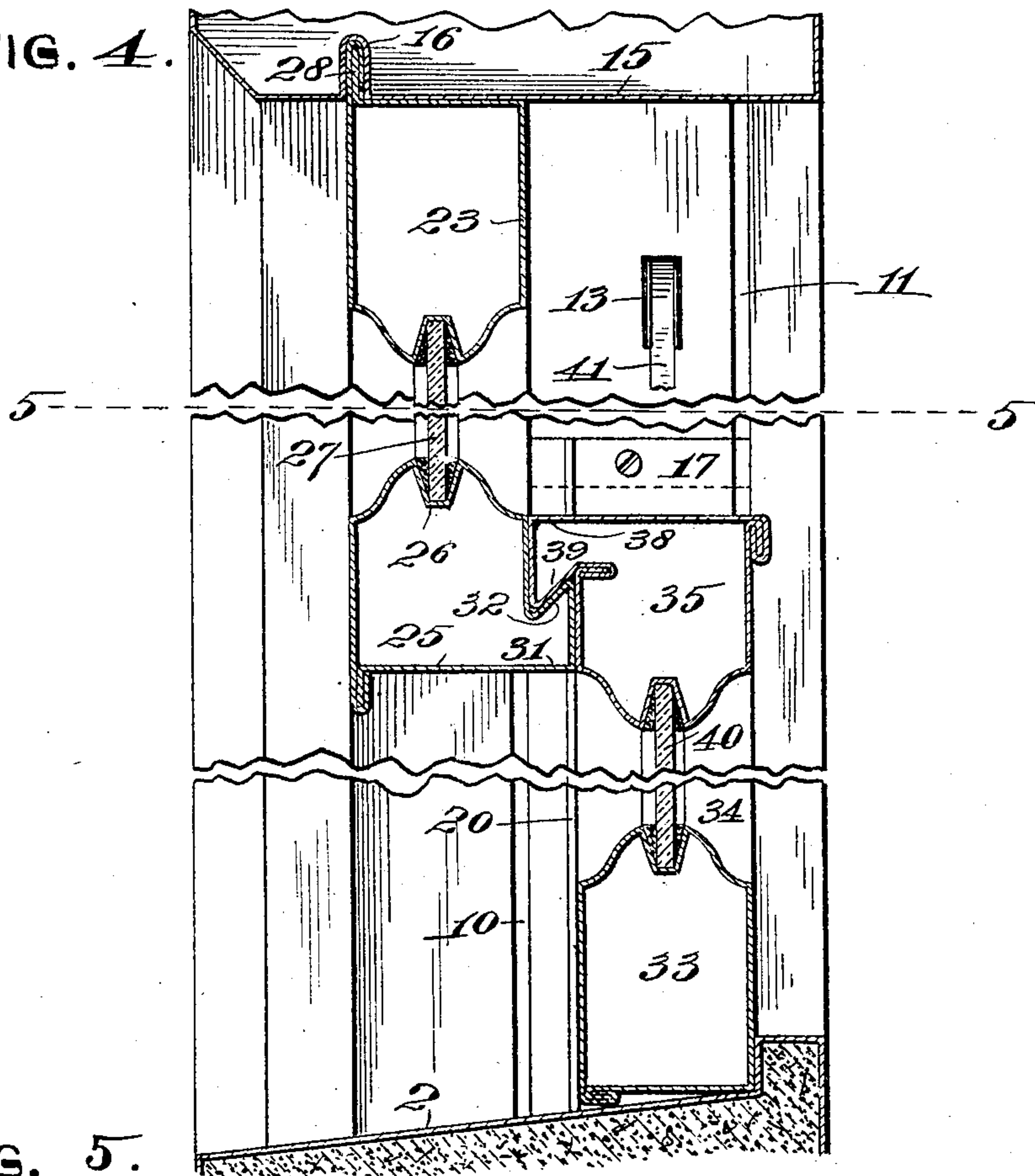
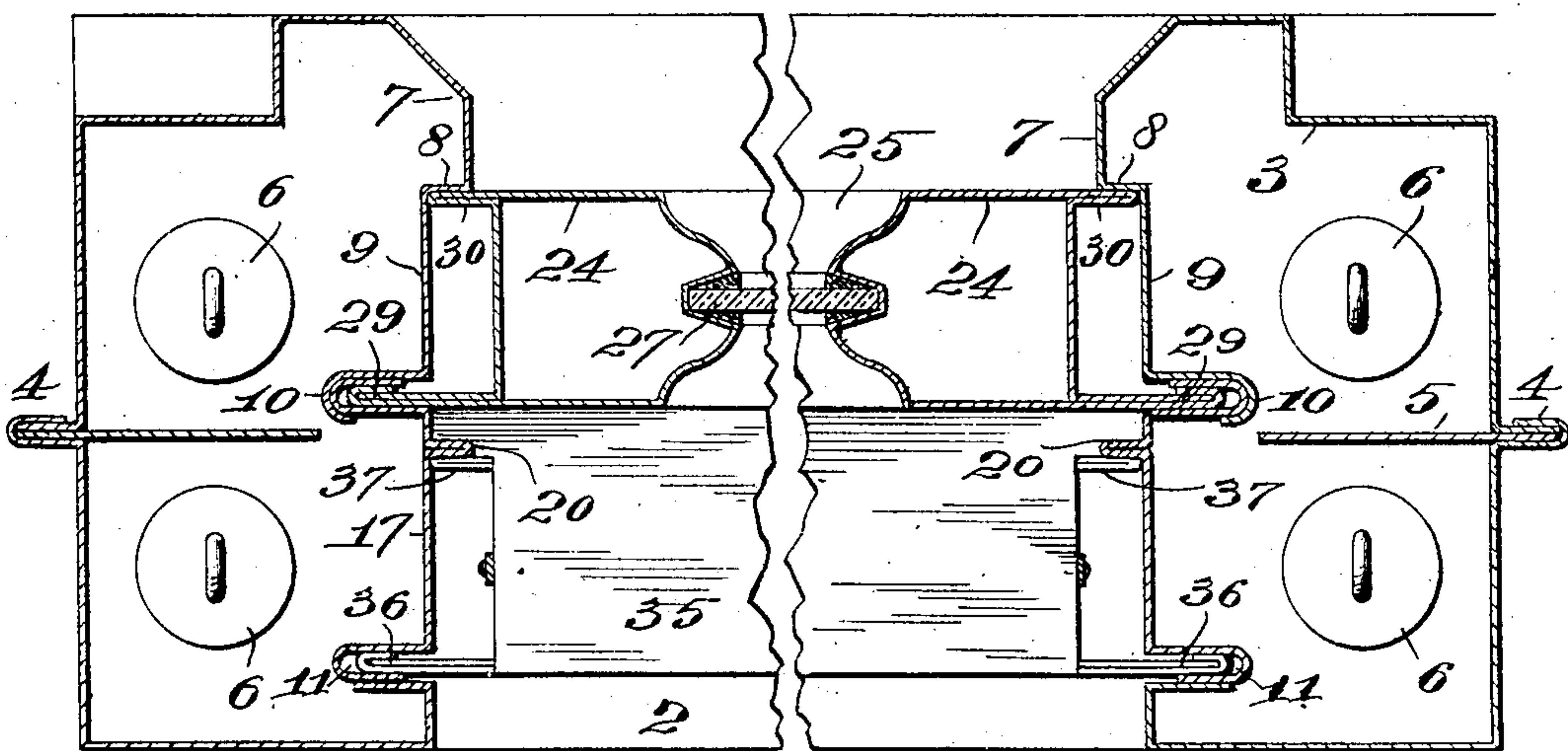


FIG. 5.



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JOHN L. MESKER, OF ST. LOUIS, MISSOURI.

WINDOW.

No. 814,616.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed May 8, 1905. Serial No. 259,349.

To all whom it may concern:

Be it known that I, JOHN L. MESKER, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Windows, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved window, and more particularly to a window wherein the frame and sash are constructed of sheet metal, thereby providing a perfectly fireproof construction.

My invention consists in certain new and novel features of construction and arrangement of parts, that will hereinafter be fully shown, described, and claimed.

In the drawings, Figure 1 is a vertical section taken through the center of a window-frame of my improved construction, the sash and insertible panel being removed from said frame. Fig. 2 is a perspective view of the insertible panel made use of in carrying out my invention. Fig. 3 is an enlarged detail view, partly in section, of the upper left-hand corner of my improved window-frame. Fig. 4 is a vertical section similar to Fig. 1 and showing the upper and lower sash in position in the window-frame. Fig. 5 is a horizontal section taken approximately on the line 5 5 of Fig. 4.

In the construction of my improved window-frame the sill of the frame is constructed of a single sheet of metal 1, that is bent into the form of an ordinary sill, having an inclined top 2, and the space within the sill is preferably filled with cement 3^a or analogous material in order to prevent the top of the sill from becoming dented. The sides 3 of the window-frame are each composed of a single sheet of metal bent into approximate rectangular form in cross-section, and the seam or joint formed by the meeting ends of the sheet of metal forming each side is located at the center of the outside wall of each of the sides of the frame, as indicated by 4. Extending into each side member from this joint 4 is a plate 5, that divides said side members into two compartments, the same being for the reception of the sash-weights 6. The front portions of the side members 3 are extended toward one another, as indicated by 7, beyond the plane occupied by the inside walls of said side members, and shoulders 8 are formed between said portions 7 and the

flat inside walls 9 of said side members. These flat inside walls 9 are divided into two slideways for the upper and lower sash by the vertically-extending grooves 10 and 11, which are formed by bending the metal of the inside walls 9 inwardly, and said grooves extend from the sill 1 to the top of the window-frame. The spaces or ways between the shoulders 8 and the grooves 10 are occupied by the stiles of the upper sash of the window, and the space or ways between the grooves 10 and 11 is occupied by the stiles of the lower sash. The sheet metal or material of which the sides of the frame are constructed is cut away or removed from between the grooves 10 and 11 the entire distance between the top of the sill 1 and a point just above the plane normally occupied by the top of the upper rail of the lower sash, which space is indicated by the numeral 12. Formed through the inside walls of the sides of the frame and in the upper portions of the ways in which the sash move are the apertures 13, through which the sash tapes or cords pass, and arranged on the rear sides of the walls 9 immediately back of these apertures 13 are pulleys 14, over which said tapes or cords travel.

The top 15 of the window-frame is constructed of a single piece of sheet metal bent into approximate rectangular form in cross-section and provided in its bottom wall with a groove 16, which is formed by bending the sheet metal upwardly, and which groove is in alinement with the shoulders 8, formed in the inside walls 9 of the side frames.

The insertible members 17, that are adapted to fit in the spaces 12, comprise single sheets of metal, having their side edges bent rearwardly, as indicated by 18, and then bent forwardly, as indicated by 19, thus forming narrow grooves 19^a, that when the insertible members are in position form continuations of the grooves 10 and 11. Each insertible member is provided with a vertical rib 20, that is formed by bending the material of the member outwardly, these ribs being for the purpose of forming guides or parting-strips for the lower sash. Each insertible member is provided at its lower end with a laterally-bent lip 21, that is adapted to rest on top of the sill 1, and in said lip is formed an aperture 22, through which may be passed a screw or rivet for fastening the insertible piece in proper position.

The upper sash of my improved window

has its top rail 23, stiles 24, and lower meeting-rail 25 all formed of sheet metal bent into approximate rectangular form and of the same contour as is the corresponding parts of an ordinary wooden sash, and the inner walls of all of said members are provided with grooves, such as 26, which receive the edges of the pane of glass 27. The top outer corner of the top rail 23 is provided with a continuous rib 28, formed by overlapping the meeting ends of the sheet of material of which said top rail is formed, and said rib is intended to seat in the groove 16 when the top sash is moved to its upward limit of movement.

The inner and outer corners of the stiles 24 of this upper sash are provided with ribs 29, formed by overlapping the meeting edges of the sheet of material of which said stiles are formed, and said ribs 29 engage and ride in the grooves 10. The outer corners of the stiles 24 are provided with ribs 30, formed by bending double the material of which said stiles are formed, which ribs ride directly against the shoulders 8, formed in the inside walls 9 of the side frames 3. The lower rear corner of the meeting-rail 25 is extended slightly beyond the vertical plane occupied by the grooves 10, as indicated by 31, and the top side of this extension is formed on an angle of approximately forty-five degrees, as indicated by 32. The lower sash comprises the lower rail 33, stiles 24, and upper meeting-rail 35, all of which rails and stiles are formed of sheet metal and of the same approximate contour as are the corresponding parts of an ordinary wooden sash. The outer corners of the stiles 34 are provided with vertically-arranged ribs 36, formed by bending double the ends of the material of which said stiles are formed, which ribs occupy and ride in the grooves 11 and the corresponding grooves 19^a of the insertible member 17. The opposite corners of the stiles 34 are provided with the integral ribs 37, formed by bending double the material of which said stiles are formed, which ribs engage against the ribs 20, formed integral with the insertible members 17. The outer upper corner of the meeting-rail 35 is extended, as indicated by 38, and the under side of said extension is formed on an angle of approximately forty-five degrees, as indicated by 39, and in opposition to the angularity of the top 32 of the extension 31. This arrangement draws the meeting-rails 25 and 35 together when the sash are closed and forms a very thorough air, dust, and water proof joint.

The lower sash is provided with a pane of glass 40, which is seated in grooves formed in the rails and stiles of said lower sash. Suitable tapes or sash-cords 41 are connected to the outer faces of the stiles 24 and 34 and pass from thence through the apertures 13 over the pulleys 14 and are secured to the sash-weights 6 in the usual manner.

The spaces 12 are formed and the insertible members 17 constructed in order to get the sash-weights into proper position and also in order to properly position the upper and lower sash and to maintain the same in the window-frame without the use of parting-strips, stops, and screws.

This arrangement, besides forming a very complete fireproof window, readily enables a person to remove the sash quickly and easily whenever it is desired to clean the glass in said sash.

To assemble the window or to position the sash in the window-frame, one side or stile of the lower sash is inserted through the space 12 until the opposite stile can be swung into the vertical plane normally occupied by said lower sash, and then said lower sash is so shifted and manipulated as that the ribs 36 and 37, that project outwardly from the sides of the stiles, occupy the grooves 10 and 11. Said lower sash is now elevated to its limit of movement or until the meeting-rail 35 engages the top 15 of the window-frame. The sash-weights 6 are now connected to the tapes or window-cords that are secured to said lower sash and that pass through the apertures 13 and over the corresponding pulleys 14. One side or stile of the upper sash is now inserted through the space 12, and the opposite stile is then moved over until the rib 30 on said opposite stile engages against the shoulder 8 and the rib 29 occupies a position in the corresponding groove 10. Then the stile that was first inserted through the space 12 is now moved forward until its ribs 29 and 30 are engaged, respectively, in the groove 10 and against the shoulder 8, and said sash is now elevated to the top of the window-frame. The tapes or cords 41 and weights 6 are now fitted to said upper sash, and the insertible members 17 are now inserted. These members are slightly longer than are the spaces 12 in order that the top edges of said members will overlap the lower edges of the inside walls 9 just above said spaces 12, and when said members 17 are inserted the grooves on the outer edges of said members are fitted into the lower halves of the grooves 10, while the grooves 19^a on the inner edges of said members 17 occupy positions immediately below the grooves 11. The insertible members are now secured in place by screws or rivets passing through the apertures 22 of the ears 21, and, if desired, the upper ends of said members may be secured to the inside walls 9 of the side frames, although I have found in practice that it is not absolutely necessary to fasten the insertible members at their upper ends. After the members 17 have been correctly positioned the lower sash is drawn downwardly, and in so doing the ribs 36 will travel in the inner pair of grooves 19, while the ribs 37 will bear directly against the ribs 20, formed integral

with said members 17. To remove the window-sash from the frame, the operations just described are reversed, and it will then be seen how I have provided a window wherein 5 the sash can be very readily removed for the purpose of washing the glass carried by the sash, and it is not necessary to remove any parting-strips, plates, or fastening devices.

My improved window when properly constructed and assembled is air, water, dust, 10 and fire proof and is very simple and durable.

I claim—

In a window of the class described, a frame constructed of sheet metal and having the inner walls of the lower halves of the sides cut 15 away to allow for the insertion of the sash when assembling the window, there being vertical grooves formed in the inner walls of the upper halves of said sides, insertible members fitted into the cut-away portions 20 and having vertical grooves formed in their

edges to coincide with the grooves in the sides of the frame, a lip integral with the lower end of each insertible member whereby the same is fastened to the window-frame; and sash 25 fitted into the window-frame, which sash are provided with ribs on the sides of their stiles, and which ribs operate in the grooves formed in the sides of the frame and in the insertible members; and the adjacent faces of the meet- 30 ing-rails of the sash being bent so as to form overlapping ribs having oppositely-arranged inclined faces which tend to draw the meeting-rails of the sash together when said sash are closed, substantially as specified. 35

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

JOHN L. MESKER.

Witnesses:

MARTIN P. SMITH,
EDW. M. HARRINGTON.