

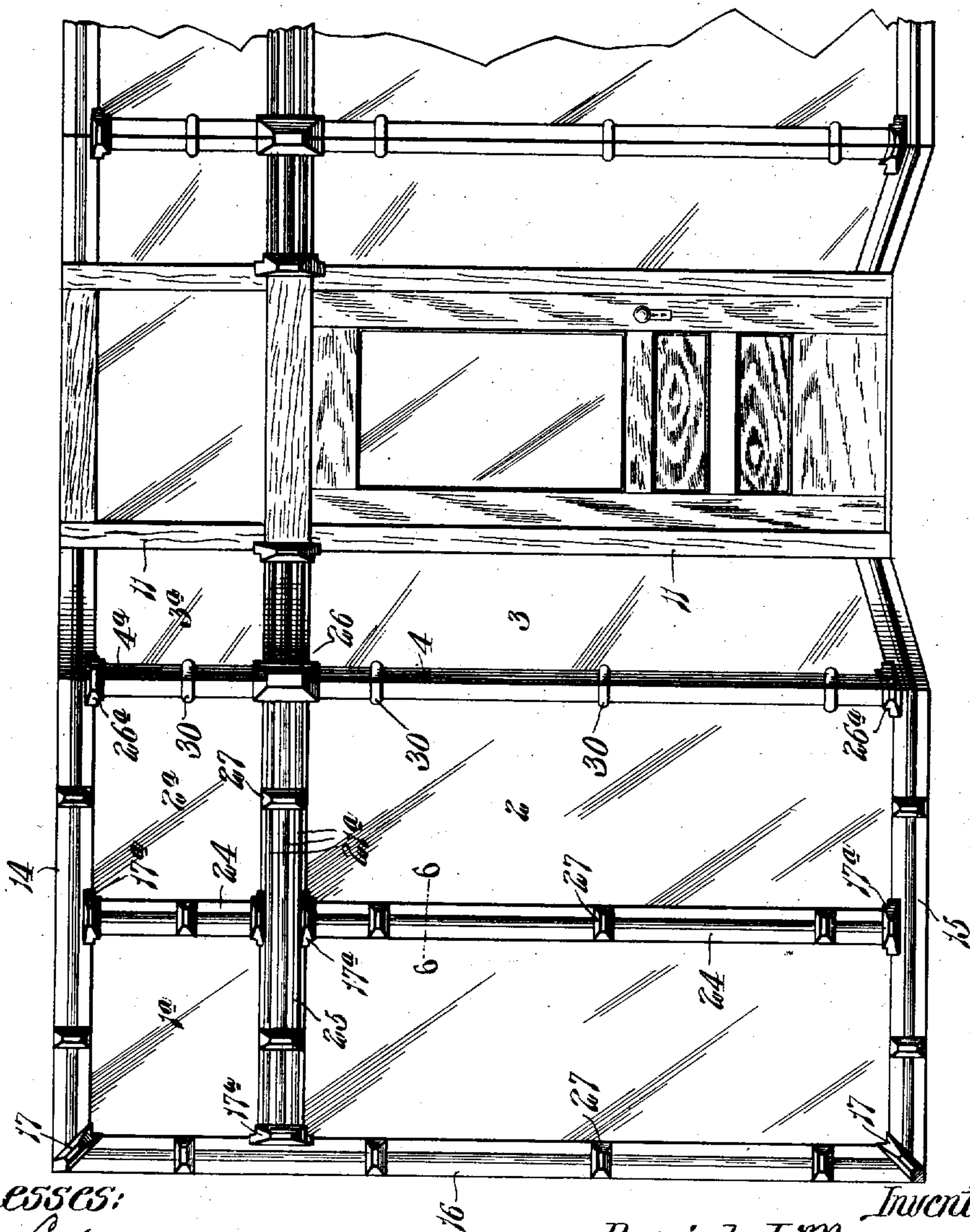
D. J. MURNANE.  
SHOW WINDOW OR STORE FRONT.  
APPLICATION FILED FEB. 23, 1909.

975,150.

Patented Nov. 8, 1910.

3 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses:  
George Adams  
Wells L. Church

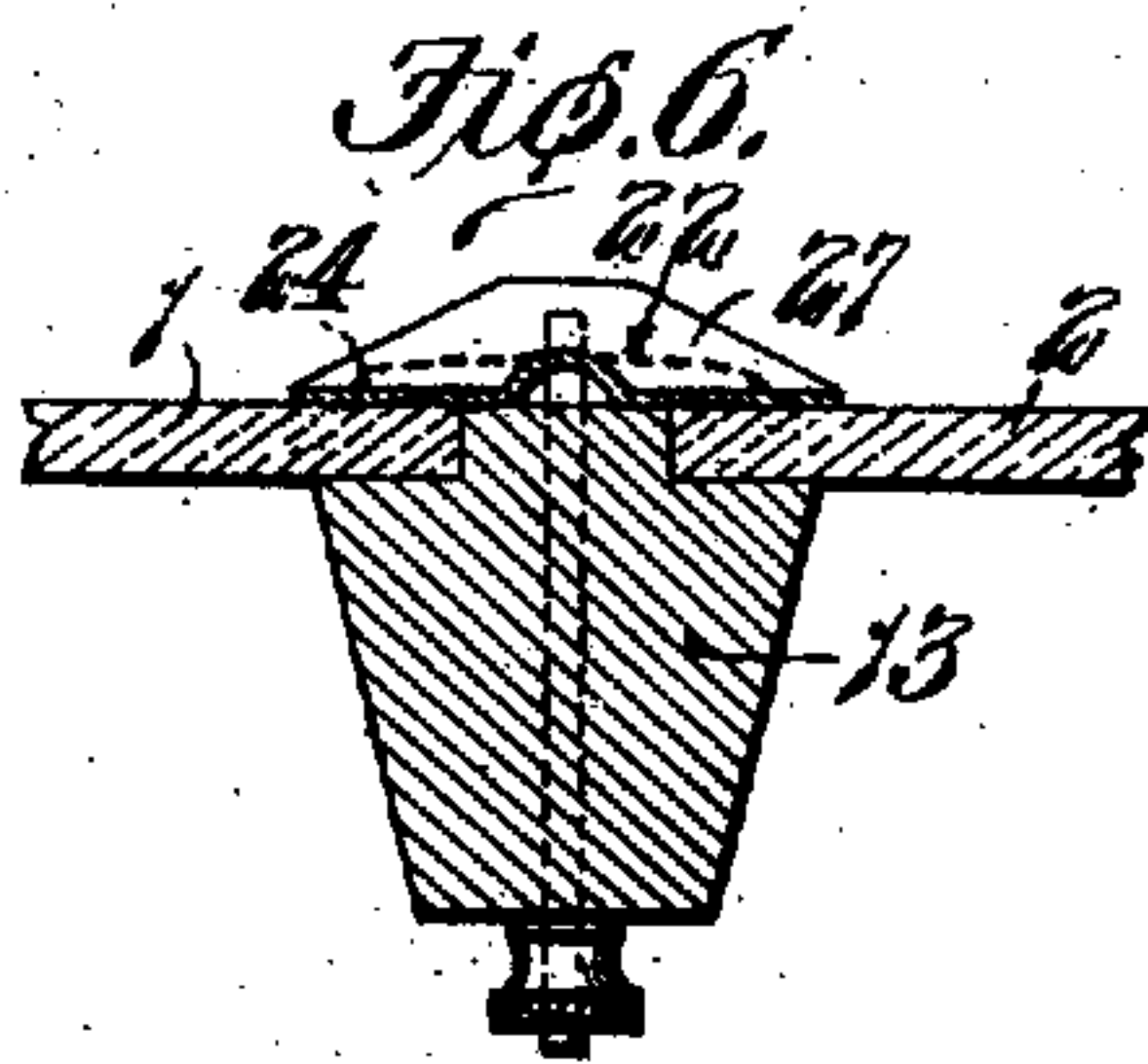
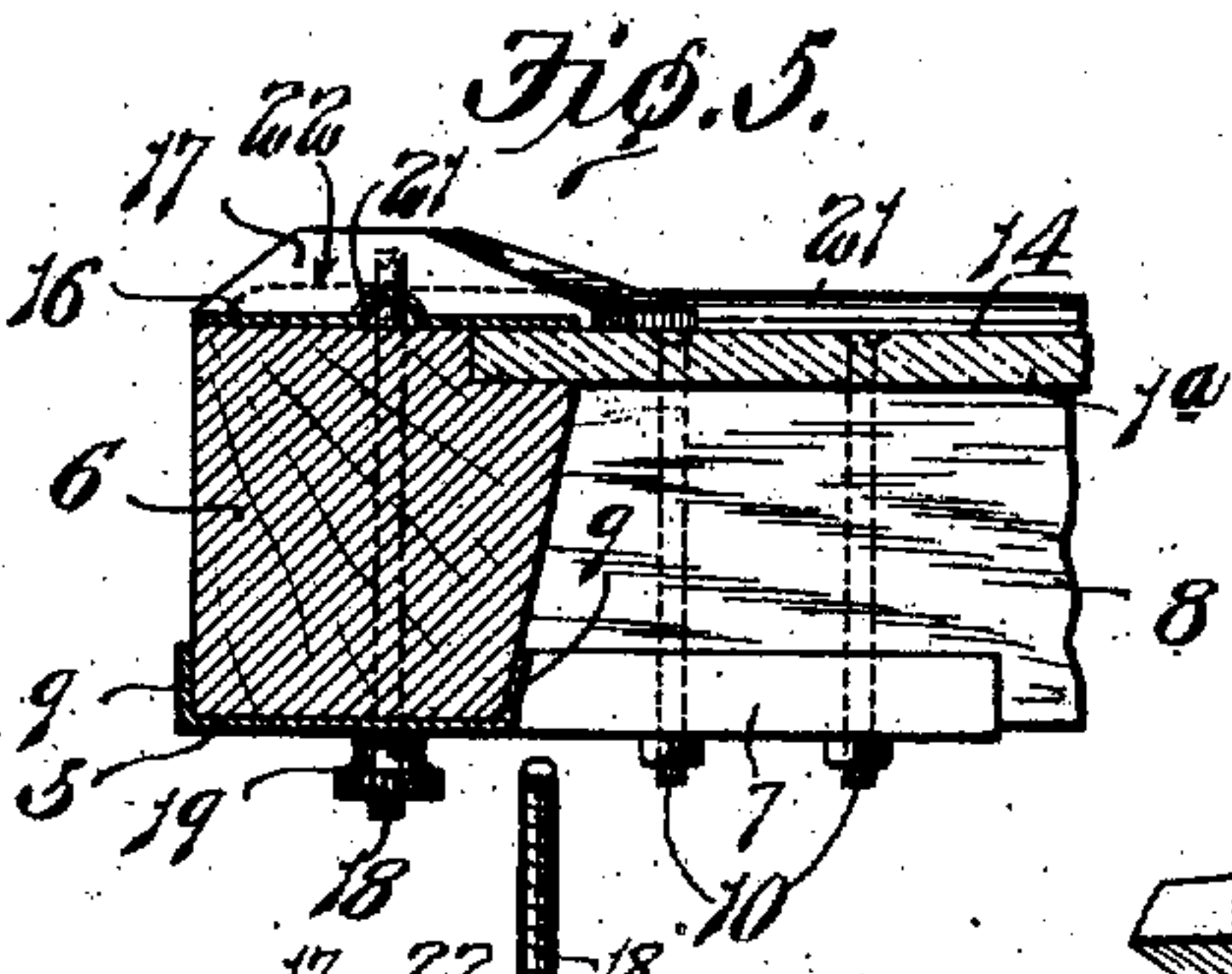
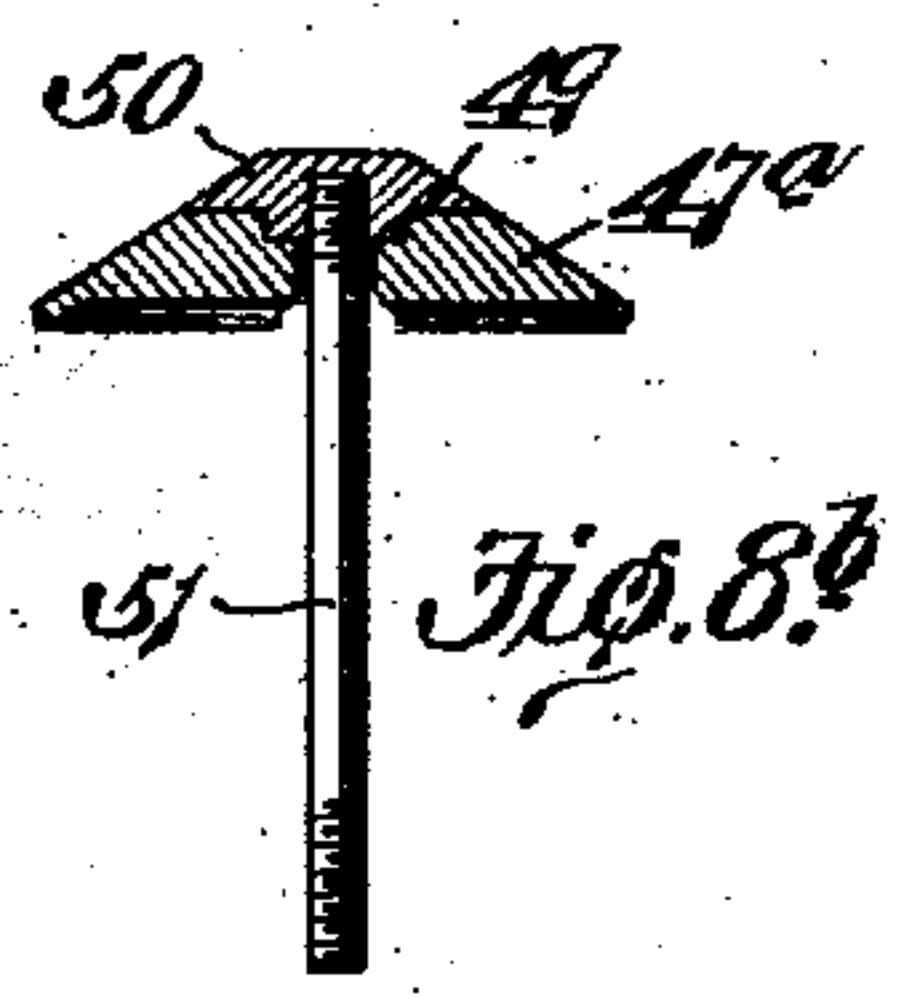
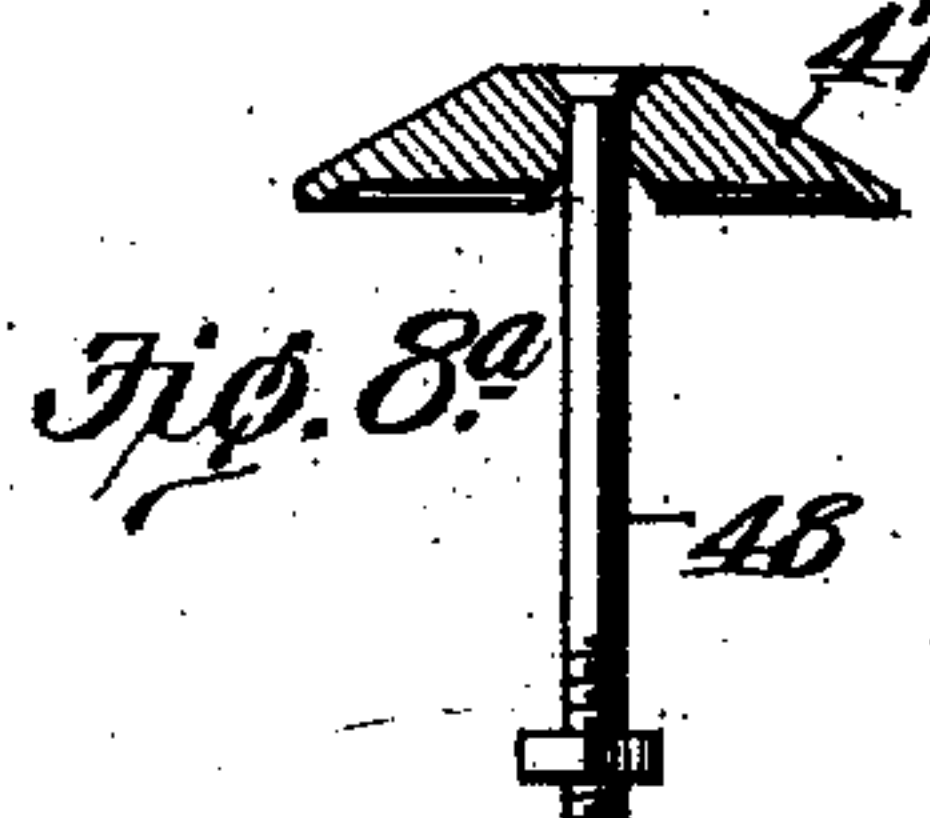
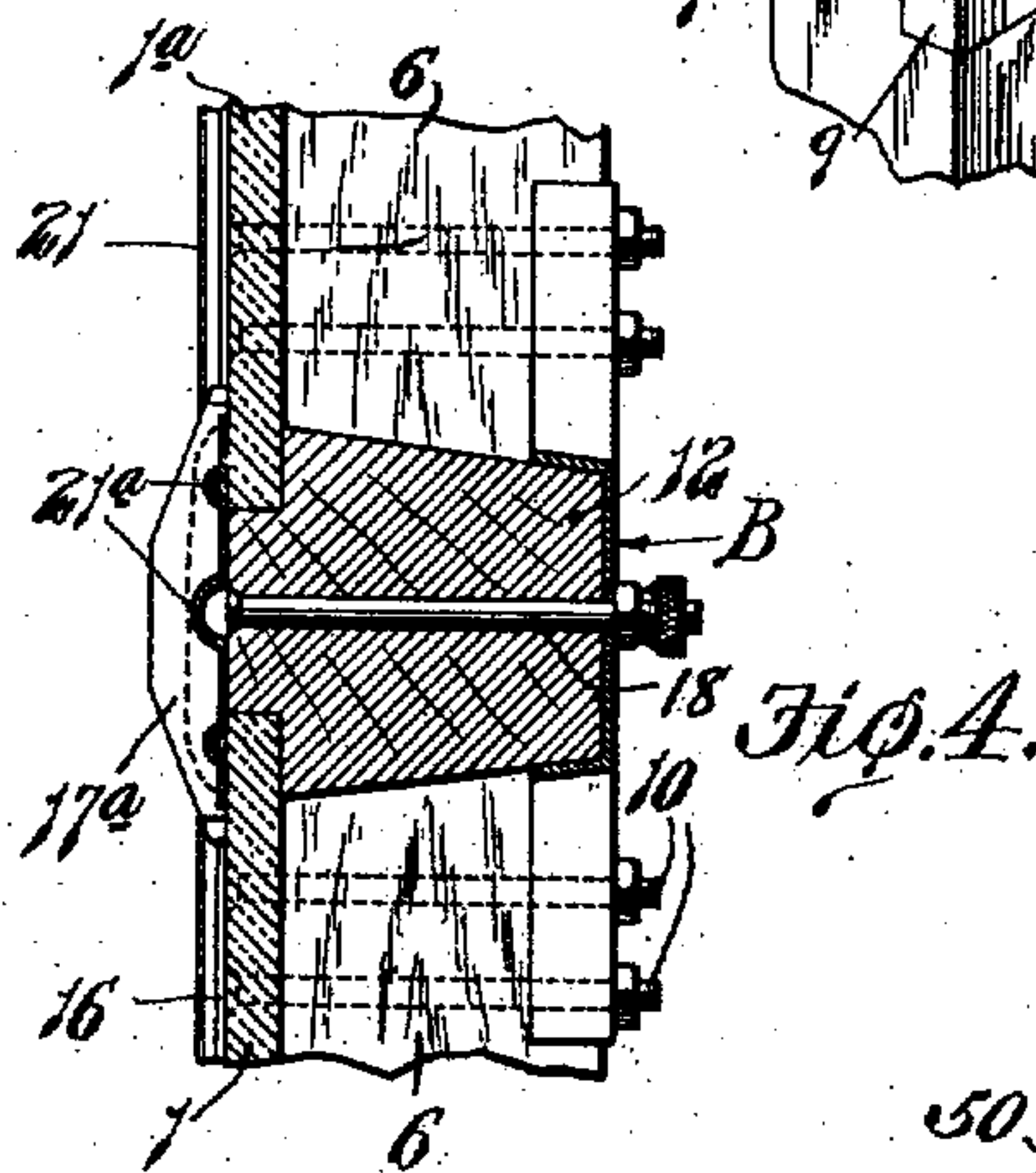
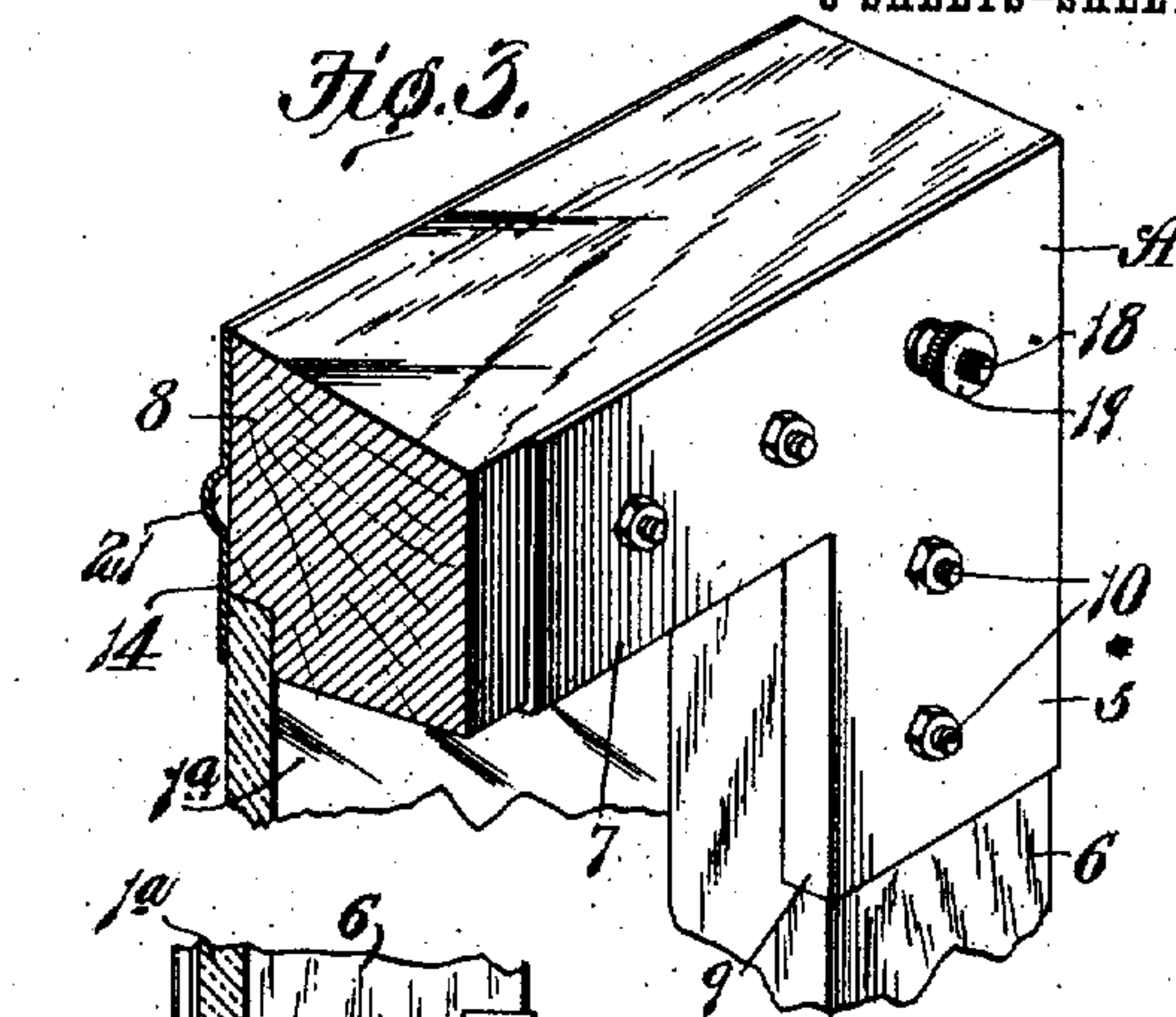
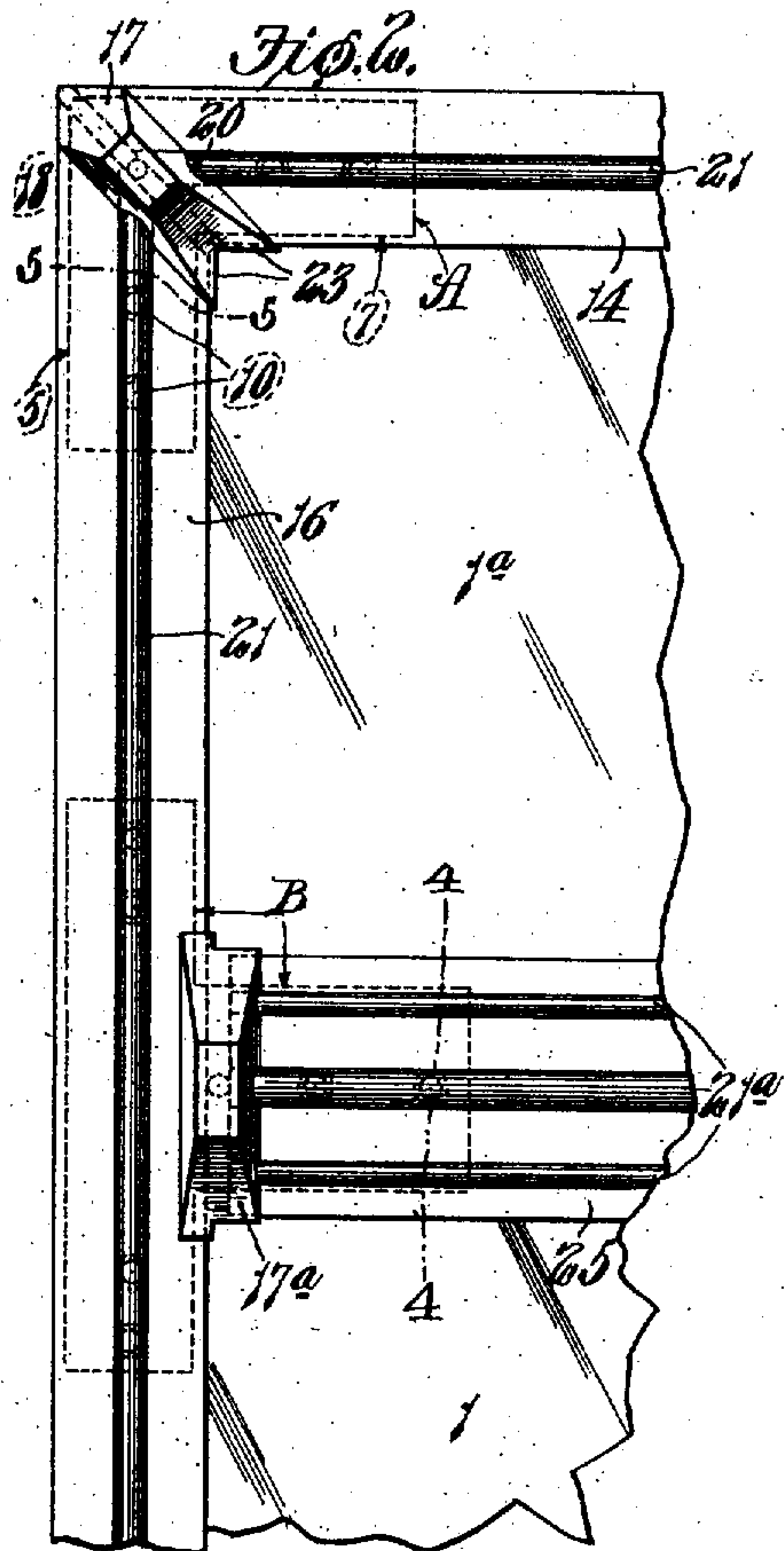
Inventor:  
Daniel J. Murnane,  
by Paul Bokewell Atty.

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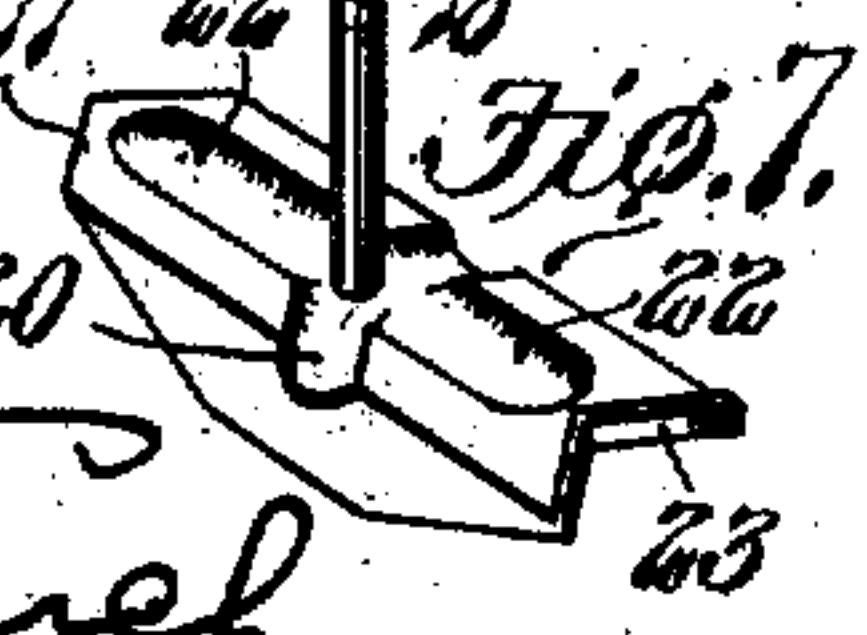
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Patented Nov. 8, 1910.

3 SHEETS—SHEET 2.



Witnesses:  
George L. Adams  
Wells R. Church



Inventor:  
Daniel J. Murnane.  
by Paul M. Kewell  
att'y.



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3 SHEETS—SHEET 3.

Fig. 9.

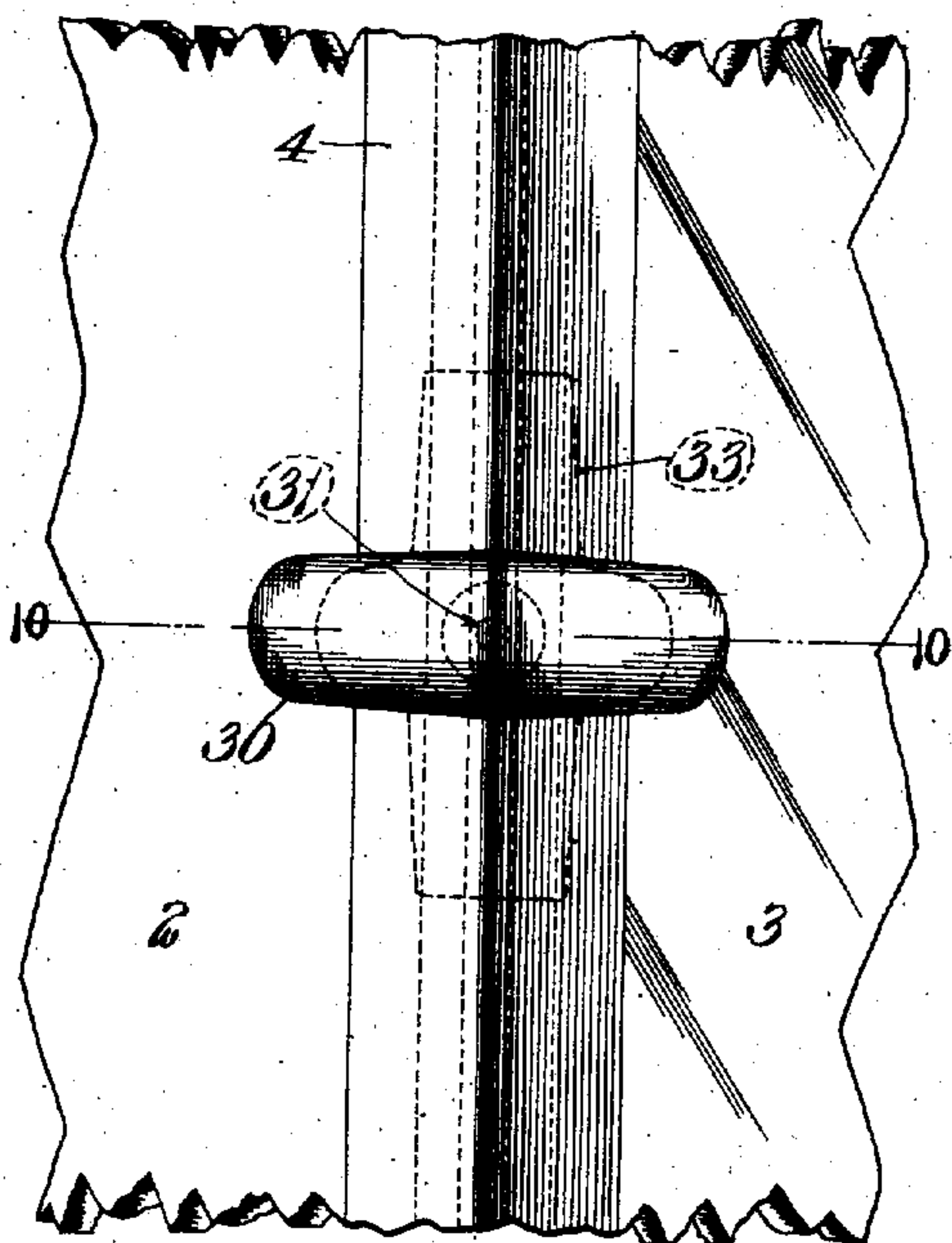


Fig. 11.

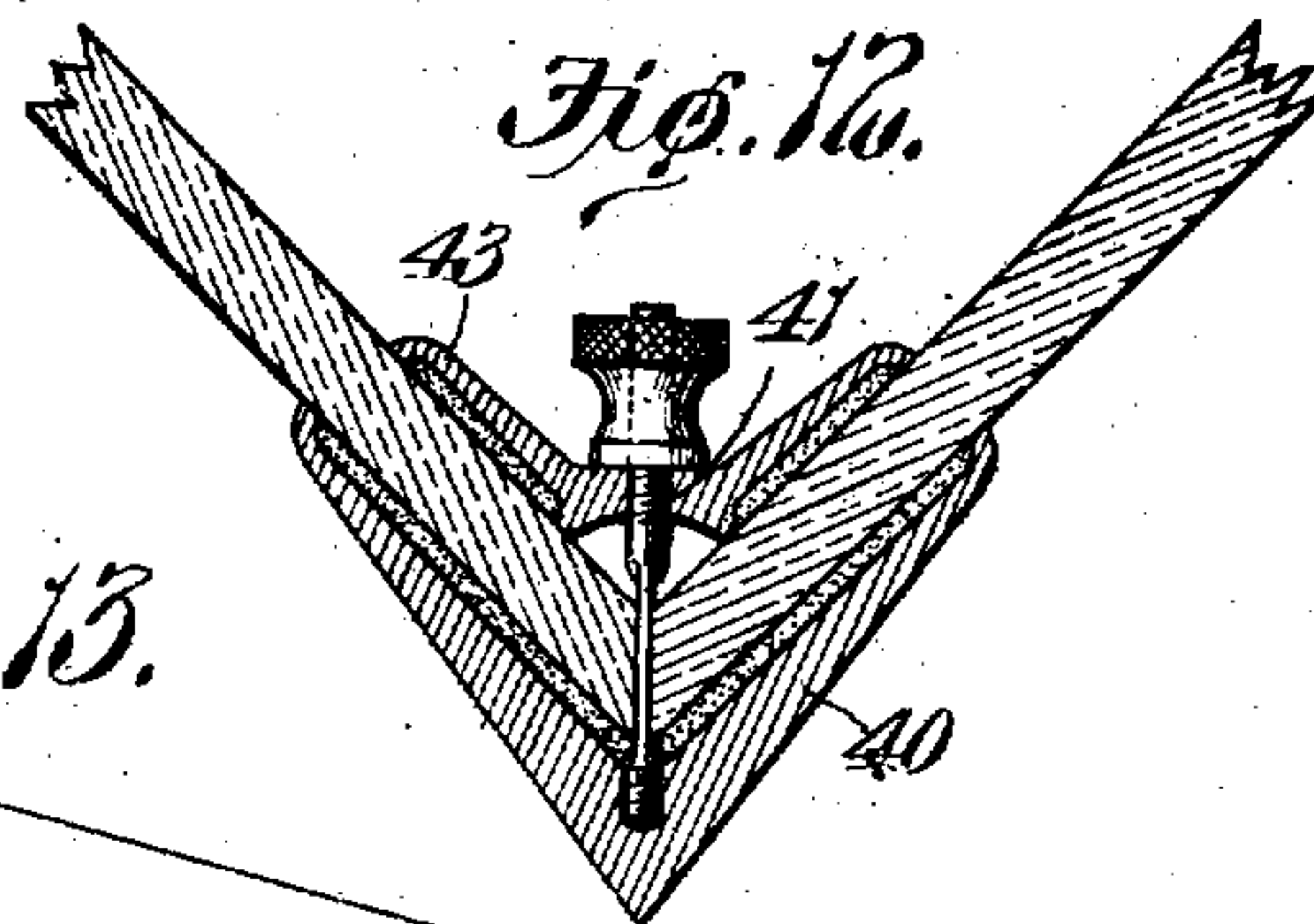
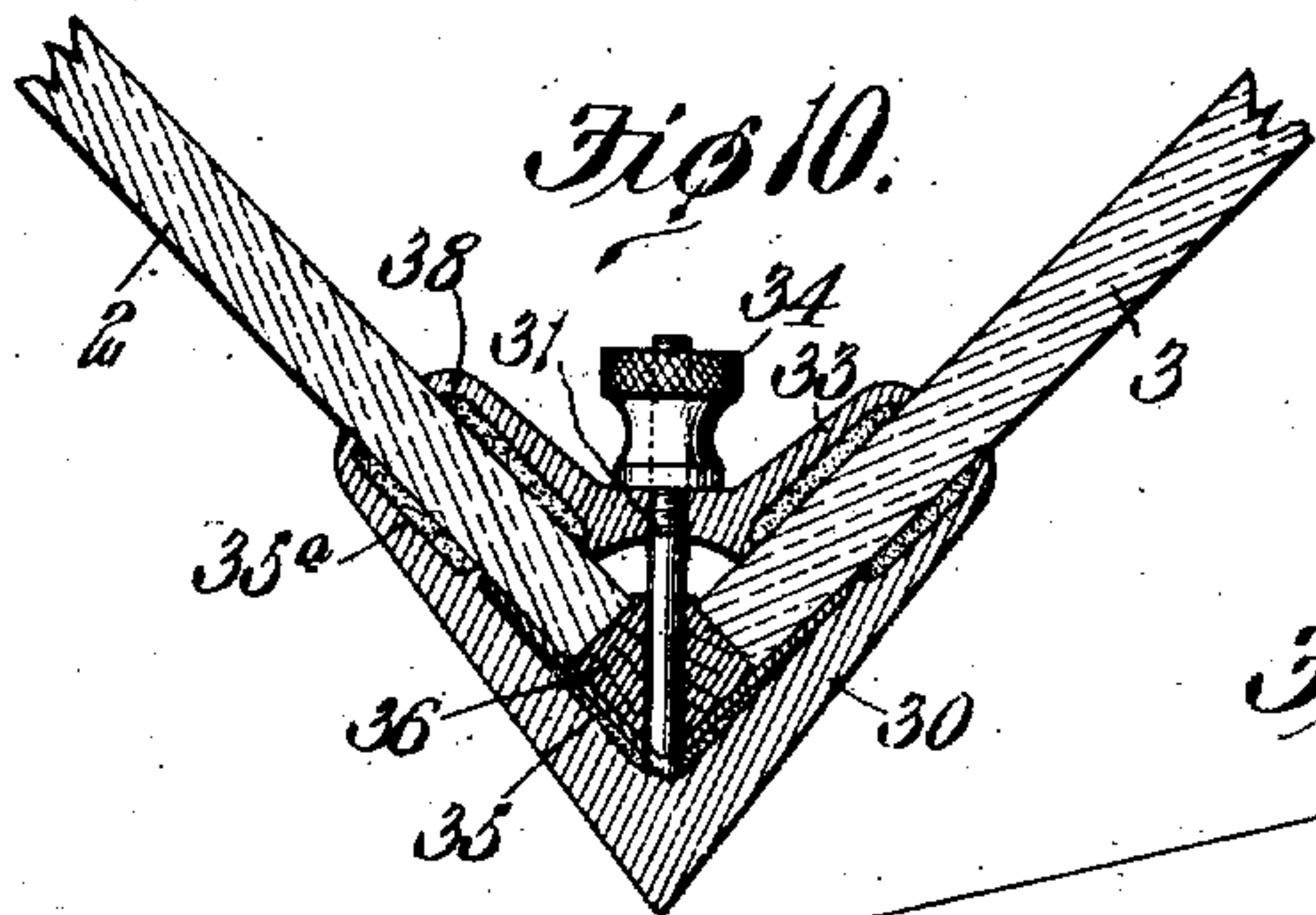
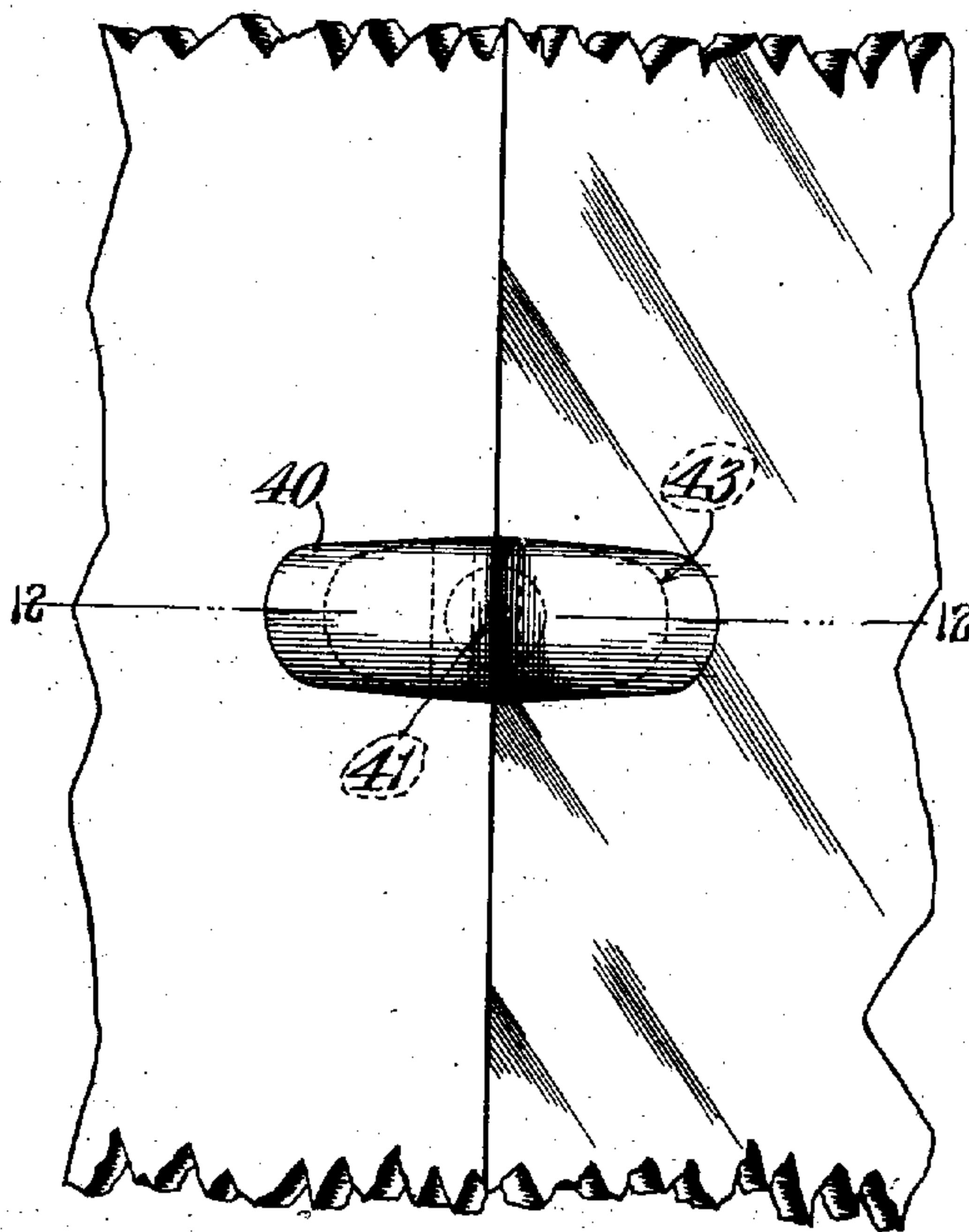
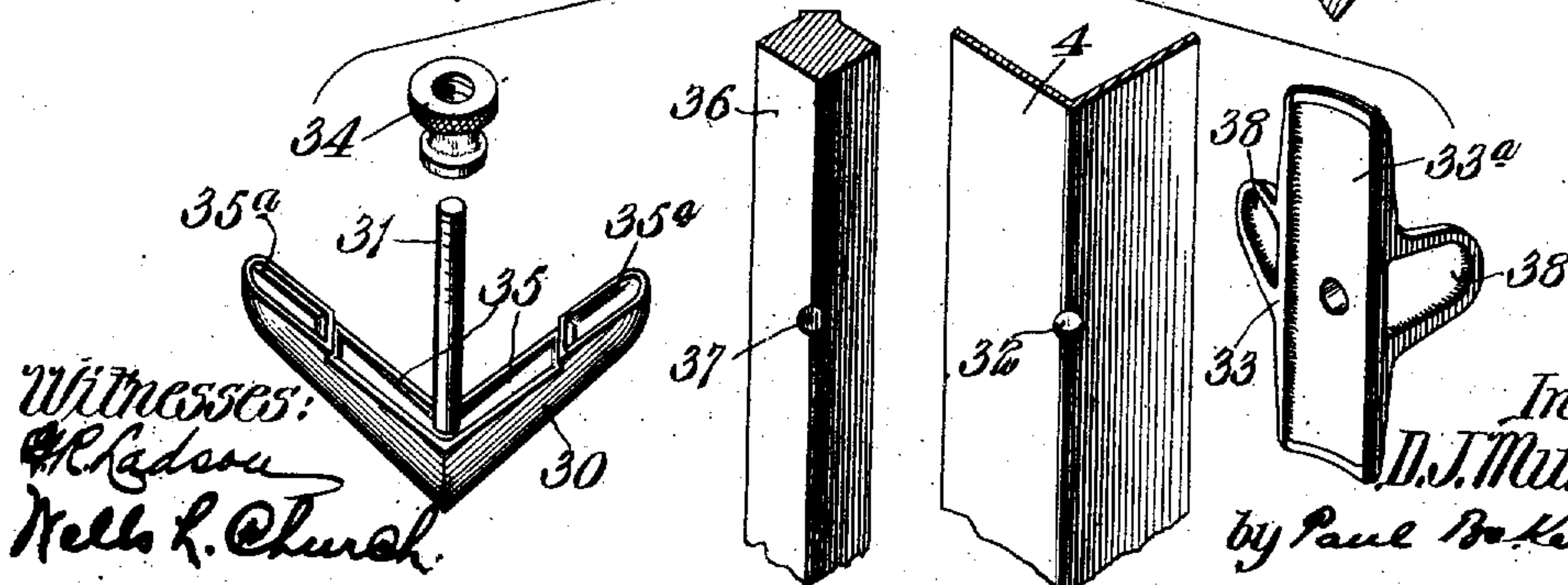


Fig. 13.



Witnesses:  
R. H. Gadsden  
Nels L. Church.

Inventor:  
D. J. Murnane.  
by Paul R. Kewell  
Atty.



# UNITED STATES PATENT OFFICE.

DANIEL J. MURNANE, OF ST. LOUIS, MISSOURI.

SHOW-WINDOW OR STORE-FRONT.

975,150.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed February 23, 1909. Serial No. 479,388.

*To all whom it may concern:*

Be it known that I, DANIEL J. MURNANE, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain  
5 new and useful Improvement in Show-Windows or Store-Fronts, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the  
10 same.

This invention relates to the construction of show-windows and show-cases, and particularly to the means used in such structures for retaining the glass in operative position.

15 One object of my invention is to provide a show-window or show-case which is so constructed that no joints, screws, or bolts can be seen from the outside.

Another object is to provide a show-window or show-case of improved construction that is dust and water-proof.

Another object is to provide a glass plate holding means comprising a member that is adapted to extend longitudinally of two  
25 plates of glass arranged adjacent to each other so as to cover the joint between the edges of said plates, and devices bearing upon said member to hold it in position and provided on their under sides with recesses  
30 or pockets that receive some suitable plastic packing material. And still another object of my invention is to provide a store-front or show-window which consists of a number of members that are detachably connected  
35 together by metallic corner-pieces, a glass clamping means coöperating with said frame and consisting of a number of pieces of metal molding that retain the glass in said frame, and devices that press said pieces of  
40 molding into intimate engagement with the glass and also cover the joints between the pieces of molding, said devices being provided on their under sides with recesses or pockets for receiving a plastic packing material that fills the joints between the pieces  
45 of molding so as to produce a dust-proof structure.

Other objects and desirable features of my invention will be hereinafter pointed out.

50 While I have herein shown my invention embodied in a store-front or show-window, I do not wish it to be understood that my improved glass-clamping devices are limited to such use for they could be employed  
55 for holding plates of glass that form only

a small portion of the wall of a building or plates of glass that form part of a show-case.

Figure 1 of the drawings is a front elevational view of a store-front or show-window constructed in accordance with my invention; Fig. 2 is an enlarged detail view of the upper left-hand portion of the show-window illustrated in Fig. 1; Fig. 3 is a rear view of the upper lefthand corner of the glass-supporting frame; Fig. 4 is a transverse sectional view taken on approximately the line 4—4 of Fig. 2; Fig. 5 is a horizontal sectional view taken on approximately the line 5—5 of Fig. 2; Fig. 6 is a transverse sectional view of the division bar taken on approximately the line 6—6 of Fig. 1; Figs. 7 and 8 are perspective views of one of the cap-pieces arranged at the corner of the glass-supporting frame for securing the clamping moldings in operative position; Figs 8<sup>a</sup> and 8<sup>b</sup> show modified cap pieces; Fig. 9 is an enlarged front elevational view of the continuous angle-shaped corner-piece that covers the joint between the two angularly disposed plates of glass that form part of the window shown in Fig. 1; Fig. 10 is a horizontal sectional view taken on the line 10—10 of Fig. 9; Fig. 11 is a view similar to Fig. 9 showing two angularly disposed plates of glass having mitered edges, the continuous angle-shaped corner-piece being omitted in this construction; Fig. 12 is a horizontal sectional view taken on the line 12—12 of Fig. 11; and Fig. 13 is a perspective view of the various parts shown in Figs. 9 and 10.

Referring to Fig. 1 of the drawings which illustrates my invention embodied in a store-front or show-window that is provided with a side-light or portion that is disposed at an angle to the main portion of the window, 1 and 2 designate plates of glass arranged in longitudinal alinement with each other and separated by a division bar, and 1<sup>a</sup> and 2<sup>a</sup> designate upper plates of glass that are separated from the lower plates 1 and 2 by means of a transom bar. The side-light or side portion of the show-window consists of a lower plate of glass 3 and an upper plate 3<sup>a</sup> that are disposed at an angle to the plates 2 and 2<sup>a</sup>, respectively, the joint between said two pairs of plates being covered by vertically disposed angle irons or corner-pieces 4 and 4<sup>a</sup> to which the plates are securely



clamped by means hereinafter described. I do not wish it to be understood, however, that my broad idea is limited to a show-window of this particular type; namely, one that is provided with a side-light or side portion, nor to a show-window composed of a plurality of comparatively narrow plates that are separated from each other by a division bar, for, if desired, one large plate of glass could be arranged in the supporting frame instead of a number of lower plates and upper plates, as herein shown.

The plates of glass previously mentioned are mounted in a supporting frame which comprises horizontally disposed top and bottom members and vertically disposed side members that preferably consist of pieces of wood which are connected together by corner-pieces A, as shown in Fig. 3, each of said corner-pieces being provided with a vertical leg 5 to which the vertically disposed member 6 of the supporting frame is connected and a horizontal leg 7 to which one of the transversely extending members of the frame is connected, as, for example, the top member 8 shown in Fig. 3. The corner-piece A that connects the bottom member of the frame to the vertically disposed side member 6 has not been illustrated in the drawings but it is of the same construction as the member A, shown in Fig. 3. Preferably, the inner edges of the legs of the corner-pieces A are provided with inwardly projecting flanges 9, as shown in Fig. 3, that lap over the inner faces of the members connected to said legs so as to impart rigidity to the frame. Said corner-pieces are arranged on the rear side of the supporting frame and are connected thereto by any suitable devices, such, for example, as bolts 10 whose heads are countersunk in the outer surfaces of the members through which the bolts extend. In the construction herein shown the other vertically disposed side member of the glass-supporting frame consists of the door jamb 11 of the building to which the top and bottom members of the frame and also the transom bar are connected in some suitable manner. The transom bar, which is arranged between the upper and lower plates, is designated by the reference character 12, and said bar is connected to the side piece 6 of the frame by means of a substantially T-shaped connecting piece B shown in dotted lines in Fig. 2 and in section in Fig. 4, said connecting piece being so arranged that the head or long portion thereof extends longitudinally of the side member 6 and the short portion thereof extends longitudinally of the transom bar, said connecting piece also being preferably provided with inwardly projecting flanges that lap over the transom bar and over the inner edge of the side member 6.

Vertically disposed division bars 13 are

arranged between the pairs of plates 1, 1<sup>a</sup>, and 2, 2<sup>a</sup>, and said division bars are connected to the top and bottom members of the supporting frame and to the transversely extending transom bar 12 by means of metal connecting pieces of similar construction to the connecting pieces A and B, previously described, all of said connecting pieces being arranged on the rear side of the frame so that they cannot be seen from the front of the window.

The various plates of glass are set in rabbets formed in the front faces of the various members that constitute the glass-supporting frame, and said plates are retained in operative position by means of moldings that cover the joints between the edges of the plates and the supporting frame. These moldings are preferably formed of sheet metal so that they will have sufficient resiliency to clamp the plates firmly against the supporting frame when they are drawn into intimate engagement with said plates, and if desired, said moldings can be provided with one or more longitudinally extending pressed beads or ribs that stiffen same, impart an ornamental appearance thereto, and also prevent the cap-pieces hereinafter described from twisting. The moldings or clamping members 14 and 15 which extend longitudinally of the top and bottom members of the supporting frame, and the molding or clamping member 16 that extends longitudinally of the side member 6 of the supporting frame, have their ends cut so as to form miter joints, which joints are covered by cap-pieces 17 that force the moldings into intimate engagement with the plates of glass and also clamp said moldings to the supporting frame, each cap piece bearing upon two pieces of molding. Any suitable means can be provided for drawing the cap-pieces 17 toward the supporting frame but I prefer to provide each cap-piece with a screw-threaded shank 18 that passes through the supporting frame and the corner-connecting piece A, and is provided at its inner end with a thumb-nut 19 that can be turned so as to force the cap-piece snugly against the moldings. Said cap-pieces 17 are substantially pyramidal-shaped, and grooves 20 are formed on the under sides of said cap-pieces to receive the pressed ribs or beads 21 of the moldings, said beads preventing the cap-pieces from twisting or turning. I also prefer to form pockets 22 on the under side of each cap-piece to receive cement or some other suitable plastic packing material that will fill the joint between the pieces of molding that the cap-piece clamps in position and thus exclude dust and water. If desired, each cap-piece can be provided at its inner end with a flange 23, as shown in Fig. 7, that projects inwardly toward the glass so as to



close the inner ends of the joints in said frame and thus produce practically a dust-proof structure. The clamping moldings 24 that extend longitudinally of the division bar are of the same construction as the moldings previously referred to, but the clamping molding 25 that extends longitudinally of the transom bar is wider than said moldings and is provided with a plurality of beads or strengthening ribs 21<sup>a</sup>, as shown in Figs. 2 and 4. Cap-pieces 17<sup>a</sup> are arranged at the ends of the moldings 24 and 25 so as to cover the joints between said moldings and the moldings that extend longitudinally of the glass-supporting frame, said cap-pieces 17<sup>a</sup> being of substantially the same construction as the corner cap-pieces 17, previously described. A cap-piece 26 is arranged at the junction of the transom bar moldings and the corner angle irons 4 and 4<sup>a</sup>, as shown in Fig. 1, and cap-pieces 26<sup>a</sup> are arranged at the junction of said corner irons and the top and bottom moldings 14 and 15. As previously stated, the clamping moldings are formed of sheet metal so that they will possess sufficient resiliency to securely clamp the plates of glass in position when they are drawn toward the member of the supporting frame to which they are connected. The cap-pieces previously described engage the ends of the pieces of molding, and the intermediate portions of the moldings are engaged by cap-pieces 27 which are of substantially the same construction as the cap-pieces previously described except that they are not provided with flanges 23 that engage the edge portions of the moldings. All of the cap-pieces are provided on their under sides with pockets or recesses for receiving a plastic packing material which penetrates into the joints between the moldings and also into the openings through which the shanks 18 of the cap-pieces pass, thereby producing a structure that is dust and water-proof.

The means for clamping the continuous corner angles 4 and 4<sup>a</sup> to the angularly disposed plates 2, 2<sup>a</sup> and 3, 3<sup>a</sup>, is shown in detail in Figs. 9, 10 and 13. Said means consists of a number of cap-pieces 30, each of which is provided with a threaded shank 31 that passes through a hole 32 in the corner angle and through a hole in an inside clamp 33 that is arranged in engagement with the inside faces of the plates of glass, nuts 34 being mounted on the shanks 31 for drawing the cap-pieces 30 and the inside clamps 33 toward each other so as to clamp the plates of glass to the continuous corner angle 4. The inside faces of the cap-pieces are rabbeted out to receive the corner angles, and, if desired, said cap-pieces can be provided with recesses or pockets 35 for receiving a plastic packing so as to prevent water from entering the opening through which

the shank 31 of the cap-piece passes. In the construction shown in Figs. 9, 10 and 13, a filler 36, preferably a strip of wood, is arranged between the meeting edges of the plates of glass, and said filler is provided with holes 37 through which the shanks of the cap-pieces pass. The portions of the cap-pieces 30 which project slightly beyond the side edges of the corner angle 4 hide the inside clamps 33 and said projecting portions are provided on their under sides with recesses that are filled with a plastic substance. The object of constructing the cap-pieces in this manner; namely, rabbeting them out to receive the corner angle iron and forming recesses in the projecting portions of the cap-pieces to receive a plastic substance is to insure a solid bearing of the angle iron and corner-pieces on the glass. In practice it is impossible to form the cap-pieces so that they will bear evenly on the angle iron and also on the glass owing to the fact that the cap-pieces are formed of cast metal. By constructing the cap-pieces in the manner herein shown, however, I obtain a uniform bearing on the glass because the plastic substance on the under side of the projecting portions of the cap-pieces squeezes out when the clamping screws are tightened and thus causes the cap-pieces to bear firmly upon the glass and also clamp the corner angle iron tightly against the glass. The inside clamps 33 are preferably formed in the same manner; namely, they are provided on their inner faces with pockets 38 for receiving a plastic material which bears directly on the inside faces of the plates of glass. In the preferred form of my invention, as shown in Fig. 13, inside clamps are provided with a long central portion 33<sup>a</sup> that is curved slightly longitudinally of its length so that it will obtain a firm hold on the glass when the thumb-nuts are tightened, said inside clamps being formed of metal that possesses a slight degree of resiliency so that they will exert a yielding pressure on the glass.

Instead of using a continuous corner angle 4, as shown in Fig. 9, I can bevel the edges of the plates of glass, as shown in Figs. 11 and 12, so that a tight joint will be formed between same when the plates are placed together. The outside cap-pieces 40 and inside clamps 43 used in this construction, are substantially the same as those shown in Figs. 9, 10 and 13 except that the inside clamps are not provided with a long central portion. Another slight difference in the construction shown in Figs. 11 and 12 is that separate screw-threaded shanks 41 pass through the inside clamps and are screwed into threaded openings in the outside cap-pieces 40 to connect the inside clamps thereto instead of providing the outside cap-pieces with integral threaded shanks. If



desired, this same feature could be embodied in the cap-pieces that retain the clamping moldings in position for it is immaterial, so far as my broad idea is concerned, whether the devices that retain the cap-pieces in position are integrally connected thereto or are detachably connected thereto, as shown in Figs. 11 and 12.

One of the main advantages of my improved construction is that it produces a show-window or show-case in which no joints, screws or bolts can be seen from the outside so that the clamping devices cannot be removed by a person on the outside. Another desirable feature of such a construction is that it produces a show-case or window that is dust-proof and water-proof. In view of the fact that the glass-supporting frame consists of a number of straight members that are connected together by corner-pieces A and the connecting pieces B, it is not necessary to form mitered joints between the members of the supporting frame, and said connecting pieces also make the frame very rigid and strong. The clamping moldings that hold the plates of glass in the supporting frame impart a neat and ornamental appearance to the window and also exert sufficient pressure on the plates of glass to prevent dust from penetrating into the show-window, the cap-pieces that extend over the clamping moldings covering the joints between the moldings and also operating to retain them in position.

While I have herein shown my improved glass-clamping devices arranged to form a complete frame, I wish it to be understood that said devices could be used either singly or combined without departing from the spirit of my invention. Furthermore, while I prefer to have the shank of each cap-piece permanently connected to the head thereof I could, of course, retain the cap-piece in position by means of a bolt 48, as shown in Fig. 8<sup>a</sup>, the outer face of the cap-piece being countersunk to receive the head of the bolt, or, if desired, the bolt could be provided with a round ornamental head or a head of such shape that it could not be turned so as to loosen the nut that retains the bolt in position.

In Fig. 8<sup>b</sup> I have shown still another manner of retaining the cap-piece in position. In this form of my invention the outer face of the cap-piece 47<sup>a</sup> is provided with a recess which receives a correspondingly-shaped lug 49 on a device 50 that bears upon the cap-piece, and a bolt 51, which projects through the cap-piece, is tapped into said device 50 so as to draw it into intimate engagement with the cap-piece and thus press the cap-piece against the member that it retains in position. The lug 49 on the device 50 prevents it from being turned to loosen the bolt, and the rib on the clamping member that

projects into the recess or groove on the under side of the cap-piece, prevents the cap-piece from being turned so that the constructions shown in Figs. 8<sup>a</sup> and 8<sup>b</sup> are just as efficient as that shown in Fig. 7 for preventing the cap-pieces from being taken off by a person on the outside of the window. While I prefer to have the clamping moldings bear directly on the glass it will, of course, be obvious that strips of wood or other suitable material could be interposed between the moldings and glass without departing from the spirit of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a window structure, an outside glass-clamping member which consists of a piece of sheet metal molding having a longitudinally extending rib pressed therein, a cap-piece mounted upon said molding and provided on its under side with a recess or notch for receiving said rib, and a device passing outwardly through said molding and engaging said cap-piece for causing said cap-piece to press the molding tightly against the glass.

2. In a window structure, an outside glass-clamping member consisting of a piece of sheet metal molding having a longitudinally extending rib pressed therein, a cap-piece mounted upon said molding and provided on its under side with a notch or recess that receives the rib on said molding, a shank projecting inwardly from said cap-piece through an opening formed in said rib, and an adjustable device on the inner end of said shank for drawing said cap-piece inwardly and thus causing it to clamp the molding tightly against the glass.

3. In a window structure, the combination of two outside glass-clamping members arranged at an angle to each other, a cap-piece that covers the joint between said members, said cap-piece being provided with a flange that projects inwardly toward the glass and which fits in the corner formed by the junction of said members, and means for drawing said cap-piece inwardly so as to cause it to force said clamping members tightly against the glass.

4. In a window structure, an outside glass-clamping member, a cap-piece mounted on said member and projecting laterally therefrom, said cap-piece having a rabbet in which said member lies, a non-metallic facing interposed between the laterally projecting portions of said cap-piece and the glass so that said cap-piece and clamping member will bear uniformly on the glass, an inside glass-clamping member provided with a long central portion that is curved inwardly slightly, said central portion having laterally projecting ears that have non-metallic facings, and a device passing through the



curved portion of said inside clamping member and connected to said cap-piece for securing said parts together.

5 5. A glass-retaining means comprising a continuous corner angle that is adapted to cover the joint between two plates of glass, a cap-piece mounted upon said angle and projecting laterally beyond the side edges of same, and a device passing through said  
10 corner angle and connected to the under side of said cap-piece to retain it in position, the portions of said cap-pieces which project beyond said angle being provided on their under sides with pockets which receive a plastic substance that insures a uniform bearing  
15 of the corner angle and cap-piece on the glass.

6. A glass-retaining means comprising an outside clamping member that is adapted to engage plates of glass, a cap-piece mounted  
20 on said member and projecting laterally therefrom, said cap-piece having a rabbet in which said member lies, and a non-metallic facing interposed between the laterally projecting portions of said cap-piece and the  
25 glass so that said cap-piece and clamping member will bear uniformly on the glass.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this eighteenth day of February 1909.

DANIEL J. MURNANE.

Witnesses:

WELLS L. CHURCH,  
GEORGE BAKEWELL.