

H. C. BUMPUS.
 PANEL CONSTRUCTION.
 APPLICATION FILED APR. 23, 1909.

952,506.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

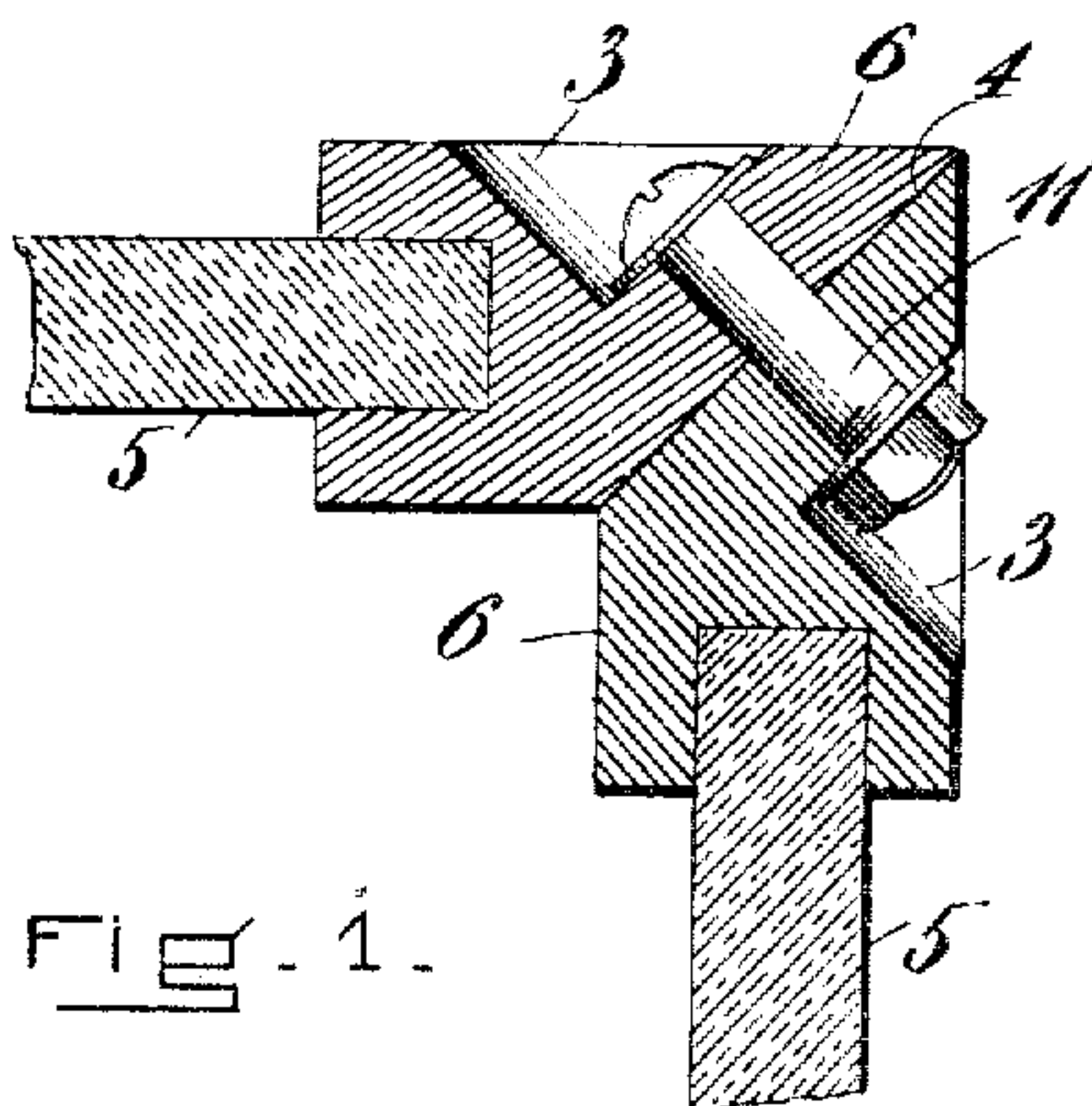


FIG. 1.

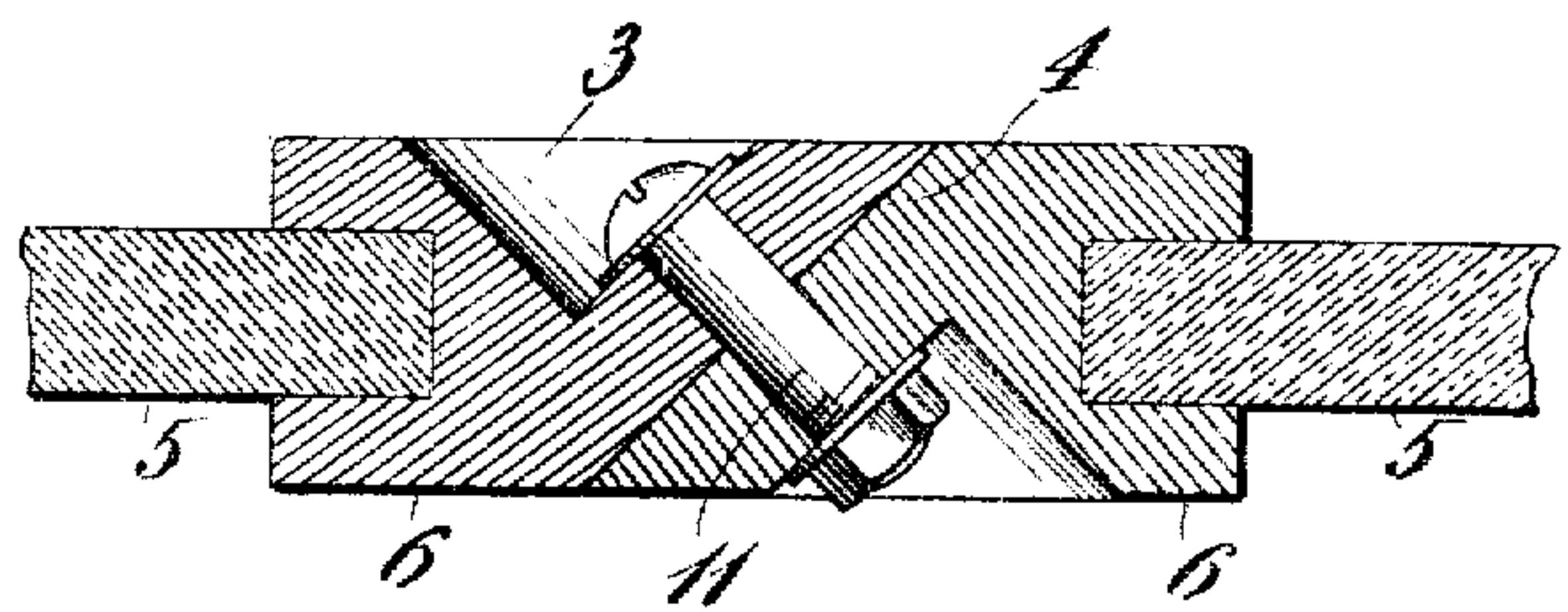


FIG. 2.

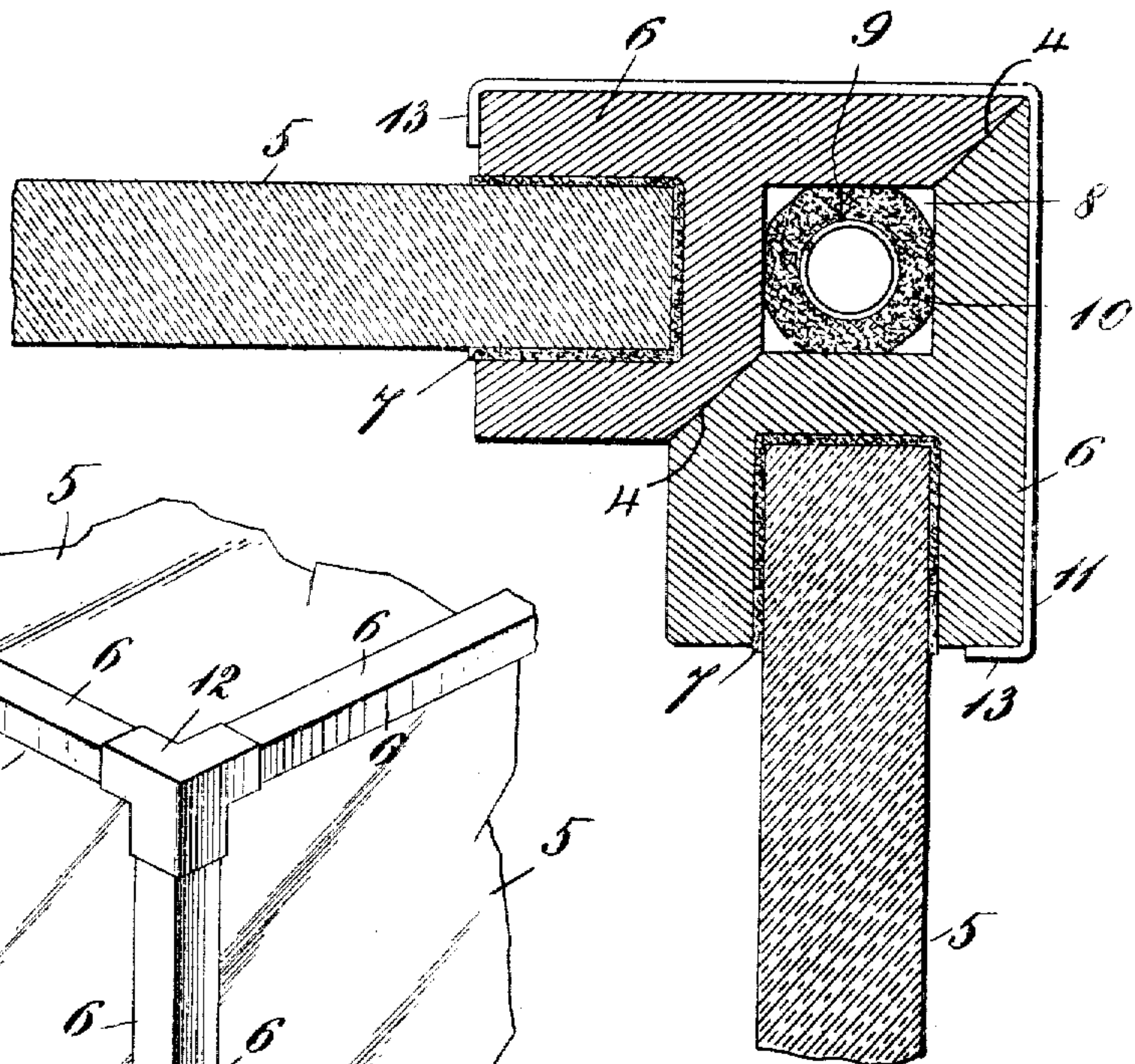


FIG. 3.

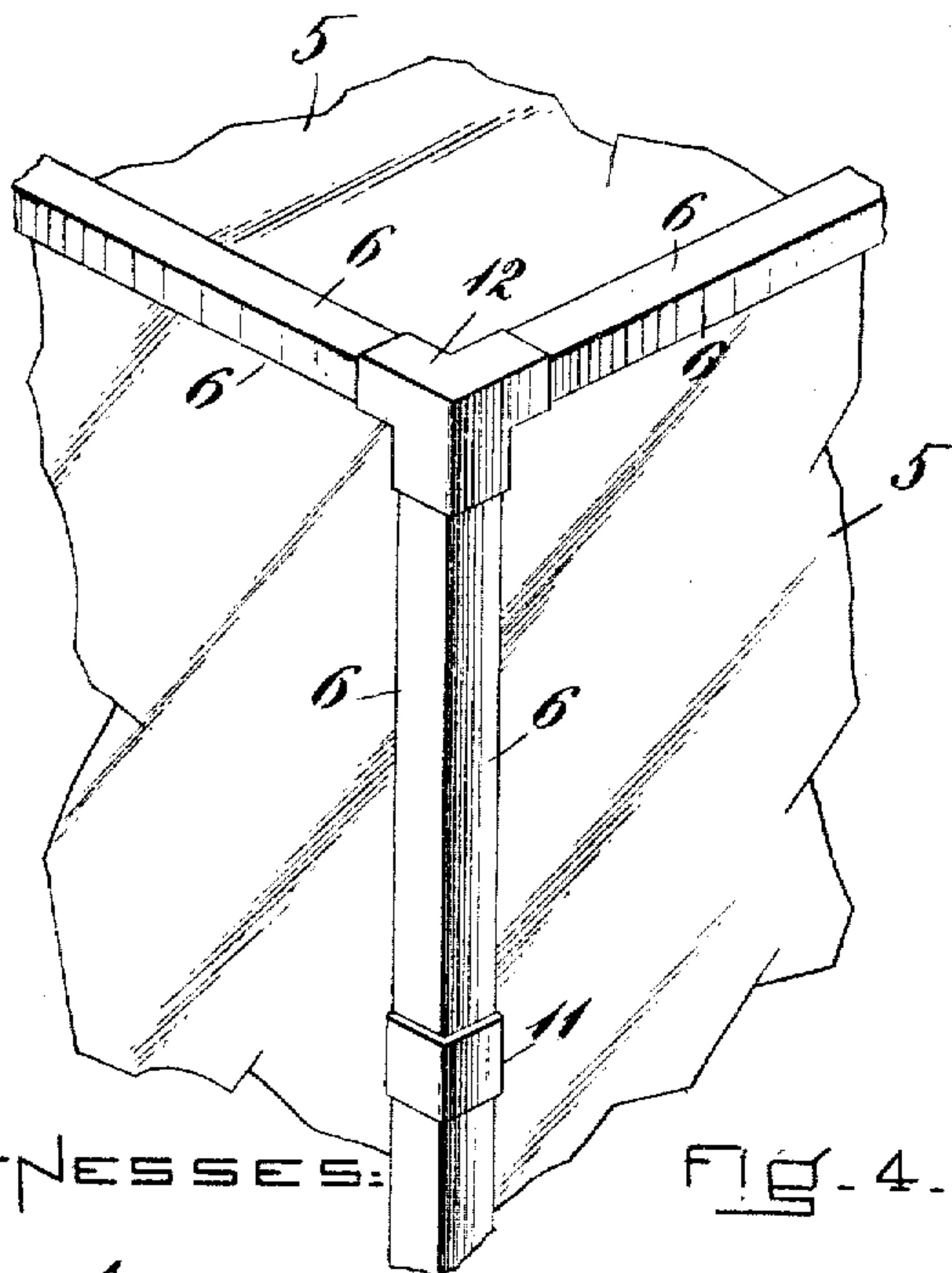


FIG. 4.

WITNESSES:

Joseph H. Ryan
Charles J. Woodbury

INVENTOR:

Horace Cary Bumpus
By Paul Robert Buchanan
Attorney

UNITED STATES PATENT OFFICE.

HERMON CAREY BUMPUS, OF NEW ROCHELLE, NEW YORK.

PANEL CONSTRUCTION.

952,506.

Specification of Letters Patent.

Patented Mar. 22, 1910.

Application filed April 23, 1909. Serial No. 491,741.

To all whom it may concern:

Be it known that I, HERMON CAREY BUMPUS, a citizen of the United States, and resident of New Rochelle, in the county of Westchester and State of New York, have invented new and useful Improvements in Panel Construction, of which the following is a specification.

My invention relates to the construction of panels or sides for miscellaneous structures and has for its object the provision of panel members which, in respect to their margins, shall be so arranged that any panel member of a given set may make a proper marginal joint with any other panel member.

My invention is especially intended to facilitate the complete and finished construction of the parts of miscellaneous structures in such manner that they may be easily assembled without the aid of specially skilled labor and yet present, when completed by assemblage, a structure which will not only be substantial but possess also elegance of finish.

The invention is, moreover, applicable to a large miscellany of objects; like chests or boxes, show cases, partitions, screens, all of which may be composed of individual panel units each of which expresses the invention and improvements herein described.

In the drawings hereto annexed,—Figure 1 represents in cross section two panel units marginally joined and secured together in planes at right angles; Fig. 2 shows in cross section two members or units each identical in construction with those shown in Fig. 1 but so joined as to form a continuation one with the other in the same plane; Fig. 3 is a cross section similar in general arrangement to that shown in Fig. 1 which illustrates, however, a preferred mode of fastening members or units and also the provision of a packing strip; Fig. 4 illustrates in perspective view a corner of a case composed of members or units such as illustrated more in detail in Fig. 3; Fig. 5 is a view in detail of a packing strip such as shown in cross section in Fig. 3; Fig. 6 is a view in perspective of a clip or binder suitable for securing the members or units where they form a corner such as shown in Fig. 4; and Fig. 7 is a detail in perspective of a clip or binding member such as illustrated in Figs. 3 and 4.

Referring to Figs. 1 and 2, the panel

pieces are illustrated at 5. These may be sheets of glass, of wood, of metal, or whatever material is considered suitable to constitute the main body of the panel unit. The panel pieces 5 are each provided with margin pieces as 6; these may be secured to the panel pieces 5 in any suitable manner, the preferable mode being to groove the margin pieces and insert the edges of the panel pieces in these grooves either with or without packing or adhesive material as the situation may demand. The margin pieces 6 are essentially similar in cross section; that is to say, the meeting faces of these margin pieces extend longitudinally and are so proportioned that any two margin pieces, such as 6, will, upon being brought into juxtaposition, make joint when the two meeting faces 4 are placed together. These similarly disposed joint faces are preferably in planes at an angle of 45° to the plane of the panel piece, so that each such margin piece may make a miter joint with a similar margin piece. In order to secure two such margin pieces in their joint-relation, binding members are provided which, in the illustration shown in Figs. 1 and 2, consist of bolts marked 11, whereof the head at one end and the nut at the other are countersunk in recesses at 3 so as not to protrude unduly above the surfaces of the finished structure.

Referring to Fig. 2, it will be seen that the panel pieces 5 equipped with margin pieces 6 which are similarly longitudinally beveled at an angle of 45° with the plane of the panel piece, may readily be secured together so that one forms a continuous extension of the other, both panels being in substantially the same plane. The two margin pieces 6 are placed with their beveled faces 4 in juxtaposition to form the joint, and the binding members, such as the bolts 11, are applied as before to secure the margin pieces together. Thus such structural units, composed each of a panel piece and margin pieces, may be employed to build a box or case of such length, height or other dimension that some of the juxtaposed units are secured together to form extensions in one plane and form sides of the structure, while others are secured at the edges in the usual angular relation. Or a succession of such units may be assembled to make either a permanent or temporary partition for a room, the interchangeabil-

ity of the margin pieces enabling corners to be turned where it may be convenient.

In preparing units of the general character above described, to be assembled in the form of boxes or cases, I prefer so to arrange the component parts that the binding members wherewith the units are fastened in their joint-making position, shall be entirely external to the units themselves and again, I prefer to employ suitably shaped resilient metal clips to perform the office or function of binding members.

In Fig. 3 there are shown in cross section the margin pieces and portions of the panel pieces of two such units, and in Fig. 4 there is illustrated on a smaller scale the arrangement of three adjacent sides of a structure so composed. As before, the panel pieces which constitute the major portion of the walls of the completed structure, are represented by the plates 5 which are let into longitudinal slots in the margin pieces 6. Should this mode of construction be adopted for the formation of a glass case such as a show case or one for exhibiting specimens in a museum, the panel pieces 5 will be composed of plate glass and the joint between the glass plate and the margin piece 6 should be provided with a packing strip or lining of felt or other dustproof material, as shown at 7.

As shown in Figs. 1 and 2, the margin pieces 6 are beveled at an angle of 45° to the plane of the panel piece 5 and are in all essential features of structure and proportion identical so that when placed in juxtaposition, as illustrated in Fig. 3, they form a proper right angled joint. As one use to which such structures are intended is the erection of show cases, whereof the function is to preserve the contents against deleterious external effects, such as the deposition of dust, I provide, as shown in Fig. 3, a longitudinal recess for a packing strip, which recess is formed by the opposition of grooves or channels in the joint surfaces 4 of the margin pieces 6. These grooves or channels and the longitudinal recess formed thereby are shown at 8 in Fig. 3. When the two margin pieces 6 are placed in juxtaposition there is first laid in one of the grooves or channels at 8 a dustproof packing strip. This, as shown in Fig. 5, consists of a tube of felt or similar dustproof material formed as a sleeve around a helical spring, the spring being shown at 9 and the felt at 10. The said packing strip is circular in section and of such dimensions that when the two margin pieces are laid together with the strip in the recess at 8, the surfaces of the margin pieces shall bind upon and slightly compress the felt 10 and thus make a dustproof joint which, however, is sufficiently porous and open to the passage of air as to constitute not only a dustproof but

a respiratory joint which will allow for changes in atmospheric pressure as between the inside and outside of a case constructed as described. The provision of a recess for such a packing strip which is polygonal in cross section when the margin pieces are assembled, in conjunction with a packing strip of different cross sectional shape, effectually guards against the accidental inclusion between the joint surfaces 4 of any portion of the packing strip, so that the presence of the packing strip cannot interfere with the proper formation of a joint by the margin pieces.

When the margin pieces with their respiratory packing strip are placed together as shown in Fig. 3, they are secured in their joint-making position by means of binding members 11 which in general perform the same function as the bolts shown at 11 in Figs. 1 and 2. In the specific instance shown in Fig. 3, however, the binding member 11 consists of a resilient metal clip preferably composed of spring steel and shaped to fit around the juxtaposed margin pieces 6 and to hook over the corners thereof with the inwardly turned flanges 13. These clips can readily be spread open to a sufficient extent to enable the person assembling the various units to slip them over the juxtaposed margin pieces 6, and when the binding members are released they snap into place with the flanges 13 closely embracing the margin pieces 6.

The joinder of three adjacent panel units may be effected conveniently and economically by the employment of corner clips such as shown at 12 in Fig. 4 and in detail in Fig. 6. This corner clip 12 is constructed on the same principle as the clip 11 shown in detail in Fig. 7 differing therefrom in shape to conform to and cover the corner of the case. This corner clip 12 has inwardly turned flanges at 13^a to engage the inner edges of the six juxtaposed margin strips as shown in Fig. 4, and is slitted, as at 13^b , to produce the necessary degree of resiliency.

By the employment of the improvements above described, accurately made and elegantly finished cases, chests, and the like may be constructed in a properly appointed factory, there assembled, if need be, for purposes of inspection, then easily and readily taken down, packed flat and shipped to the purchaser who will require only ordinarily skilled assistance to assemble and set up the finished structure.

What I claim is:

1. The combination of a panel piece and a margin piece, the two pieces secured together, the margin piece having a longitudinally extending face adapted to make joint with a similar margin piece, and provided also with structural features suited to the engagement of binding members where-

by to be secured to a similar margin piece wherewith it makes joint.

2. The combination of a panel piece and a margin piece, the two pieces secured together, the margin piece having a longitudinally extending beveled face adapted to make joint with a similar beveled margin piece, and provided also with structural features suited to the engagement of binding members whereby to be secured to a similar margin piece wherewith it makes joint.

3. The combination of panel pieces, each marginally secured to a margin piece, the said margin pieces having similarly disposed longitudinally extending faces which make joint and removable binding members securing the said margin pieces in joint-making position.

4. The combination of panel pieces, each marginally secured to a margin piece, the said margin pieces having similarly disposed longitudinally extending beveled faces which make joint, and removable binding members securing the said margin pieces in joint-making position.

5. The combination of a panel piece and a margin piece, the two pieces secured together, the margin piece having a longitudinally extending forty-five-degree-beveled face adapted to make joint with a similar forty-five-degree-beveled margin piece, and provided also with structural features suited to the engagement of binding members whereby to be secured to a similar margin piece wherewith it makes joint.

6. The combination of panel pieces, each marginally secured to a margin piece, the said margin pieces having similarly disposed longitudinally extending forty-five-degree-beveled faces which make joint, and removable binding members securing the said margin pieces in joint-making position.

7. The combination of panel pieces, each marginally secured to a margin piece, said margin pieces identical in cross section and provided each with a longitudinally extending face, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

8. The combination of panel pieces, each marginally secured to a margin piece, said margin pieces identical in cross section and provided each with a longitudinally extending beveled face, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

9. The combination of panel pieces, each marginally secured to a margin piece, said margin piece identical in cross section and provided each with a longitudinally extending forty-five-degree-beveled face, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

10. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally extending faces which make joint, and removable binding clips which embrace the margin pieces and secure them in joint-making position.

11. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally beveled extending faces which make joint, and removable binding clips which embrace the margin pieces and secure them in joint-making position.

12. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally forty-five-degree-beveled extending faces which make joint, and removable binding clips which embrace the margin pieces and secure them in joint-making position.

13. The combination of panel pieces each marginally secured to a margin piece, the said margin pieces having similarly disposed longitudinally extending faces which make joint and wherein similarly placed longitudinal recesses are formed to constitute when mutually opposed a lodgment for a packing strip.

14. The combination of panel pieces each marginally secured to a margin piece, the said margin piece having similarly disposed longitudinally extending beveled faces which make joint and wherein similarly placed longitudinal recesses are formed to constitute when mutually opposed a lodgment for a packing strip.

15. The combination of panel pieces each marginally secured to a margin piece, the said margin pieces having similarly disposed longitudinally extending forty-five-degree-beveled faces which make joint and wherein similarly placed longitudinal recesses are formed, to constitute when mutually opposed a lodgment for a packing strip.

16. The combination of panel pieces each marginally secured to a margin piece, said margin pieces identical in cross section and provided each with a longitudinally extending face with a longitudinal recess therein, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

17. The combination of panel pieces each marginally secured to a margin piece, said margin pieces identical in cross section and provided each with a longitudinally extending beveled face with a longitudinal recess therein, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

18. The combination of panel pieces each marginally secured to a margin piece identical in cross section and provided each with

a longitudinally extending forty-five-degree-beveled face with a longitudinal recess therein, said faces making joint, and removable binding members securing said margin pieces in joint-making position.

19. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally extending faces which make joint and wherein similarly placed longitudinal recesses are formed, and a packing strip in the space formed by the opposed longitudinal recesses.

20. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally beveled extending faces which make joint and wherein similarly placed

longitudinal recesses are formed, and a packing strip in the space formed by the opposed longitudinal recesses. 20

21. The combination of panel pieces each marginally secured to a margin piece, said margin pieces having similarly disposed longitudinally forty-five-degree-beveled extending faces which make joint and wherein similarly placed longitudinal recesses are formed, and a packing strip in the space formed by the opposed longitudinal recesses. 25

Signed by me at New York city in the State of New York this ninth day of April 1909. 30

HERMON CAREY BUMPUS.

Witnesses:

GEORGE HAU,

ALEXANDER C. WALKER.