

No. 794,595.

PATENTED JULY 11, 1905.

W. M. DUCKER.
PORTABLE HOUSE.

APPLICATION FILED JAN. 12, 1904.

6 SHEETS—SHEET 1.

Fig. 1.

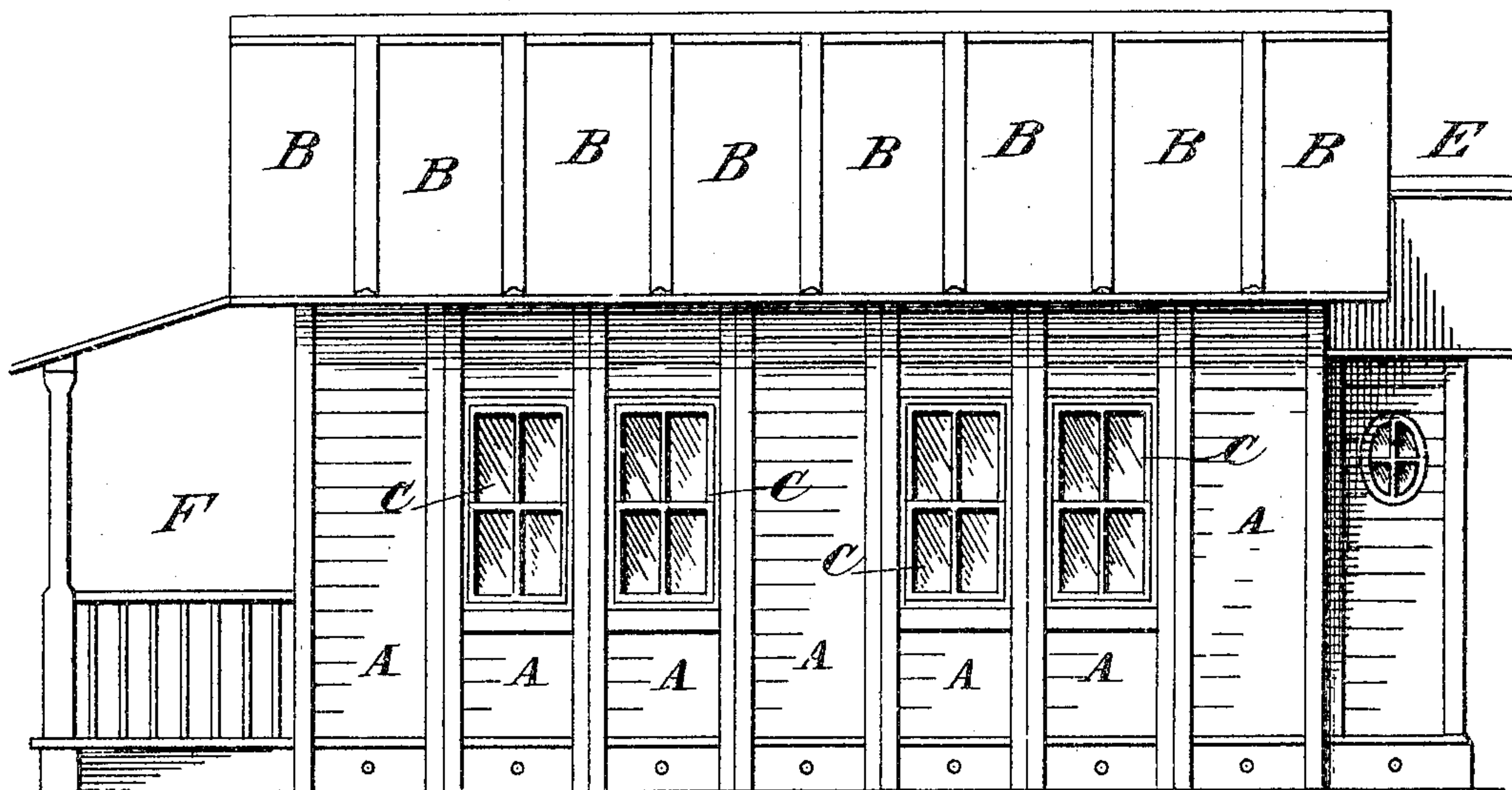


Fig. 2.

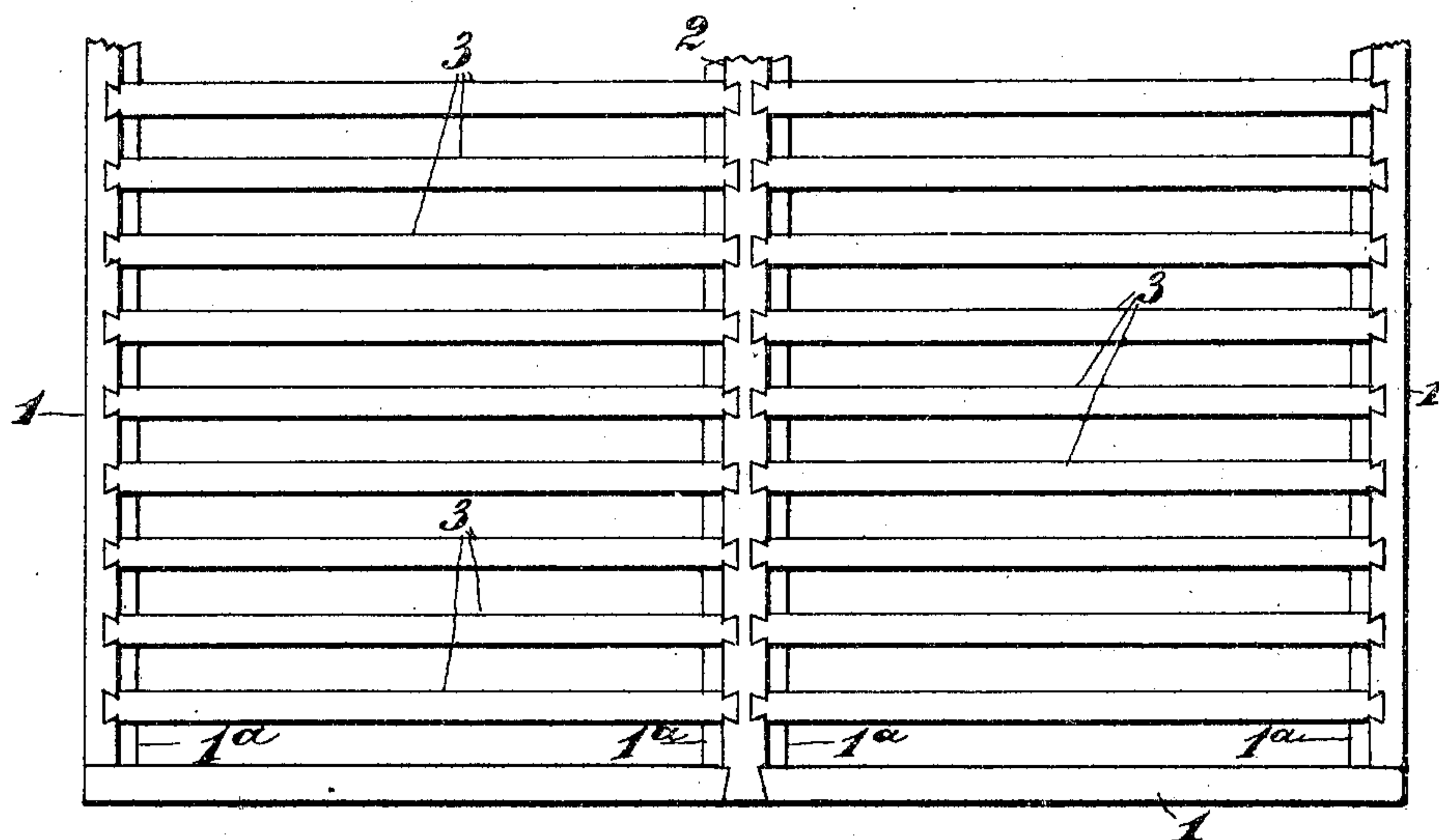


Fig. 3.



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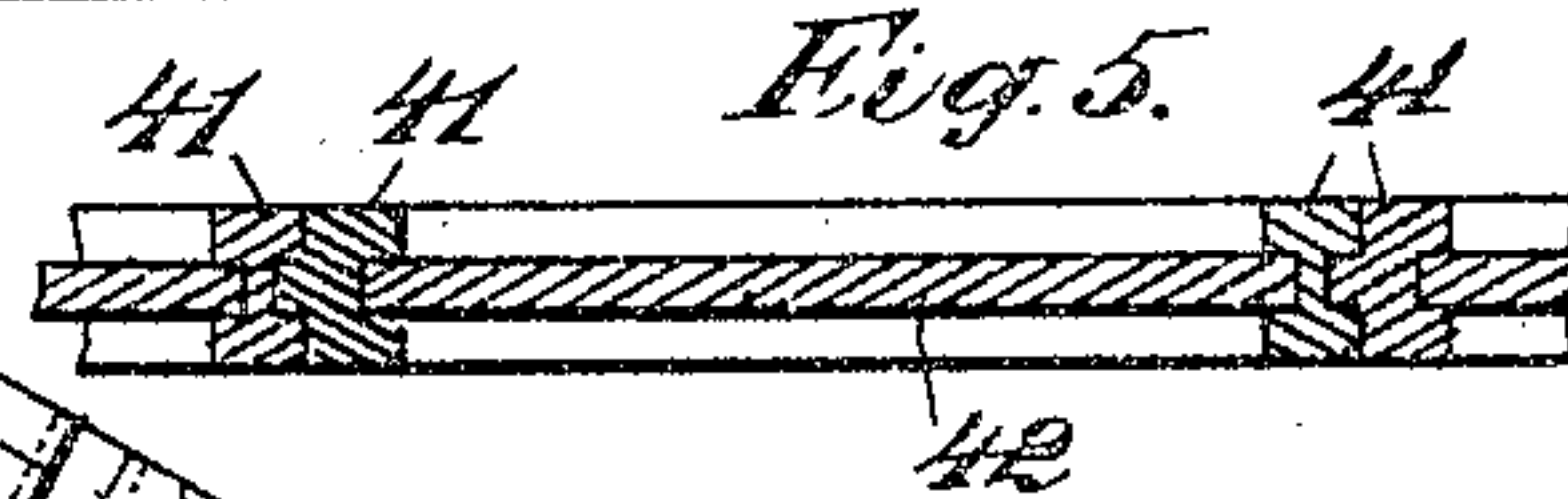
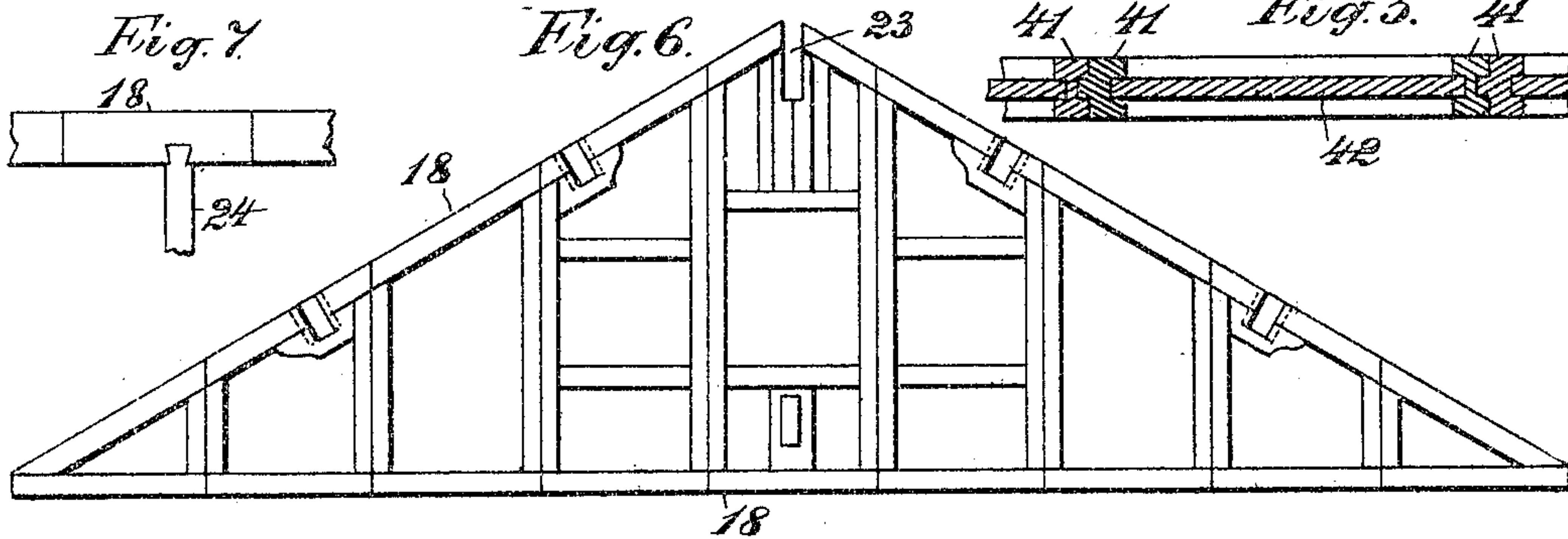
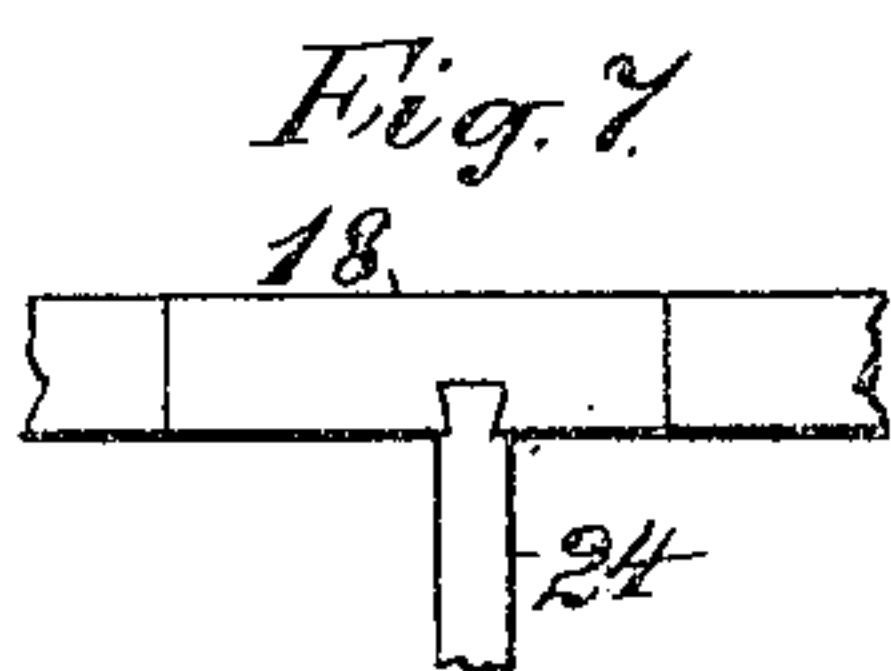
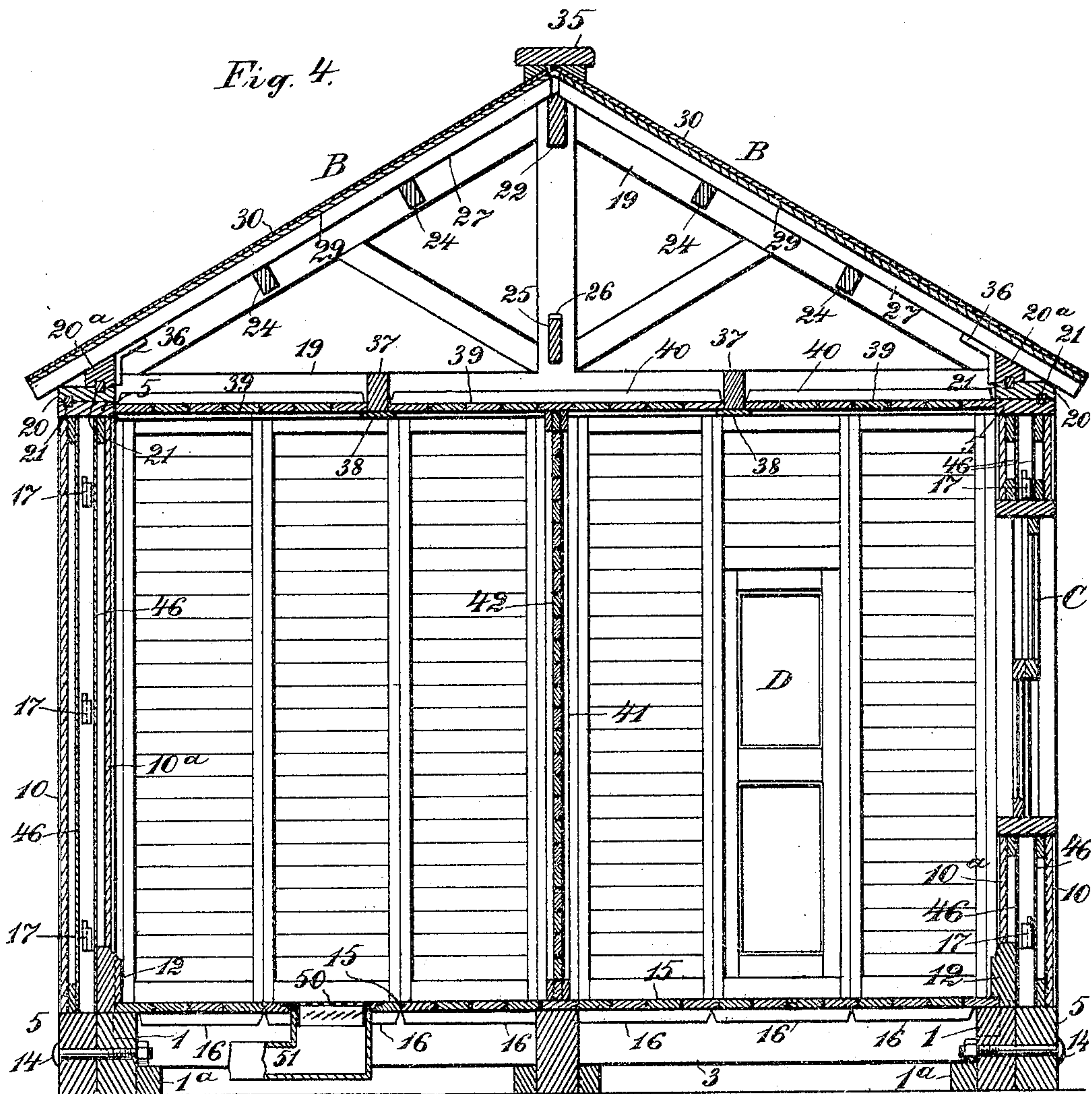
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6 SHEETS—SHEET 2.



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6 SHEETS—SHEET 3.

Fig. 8.

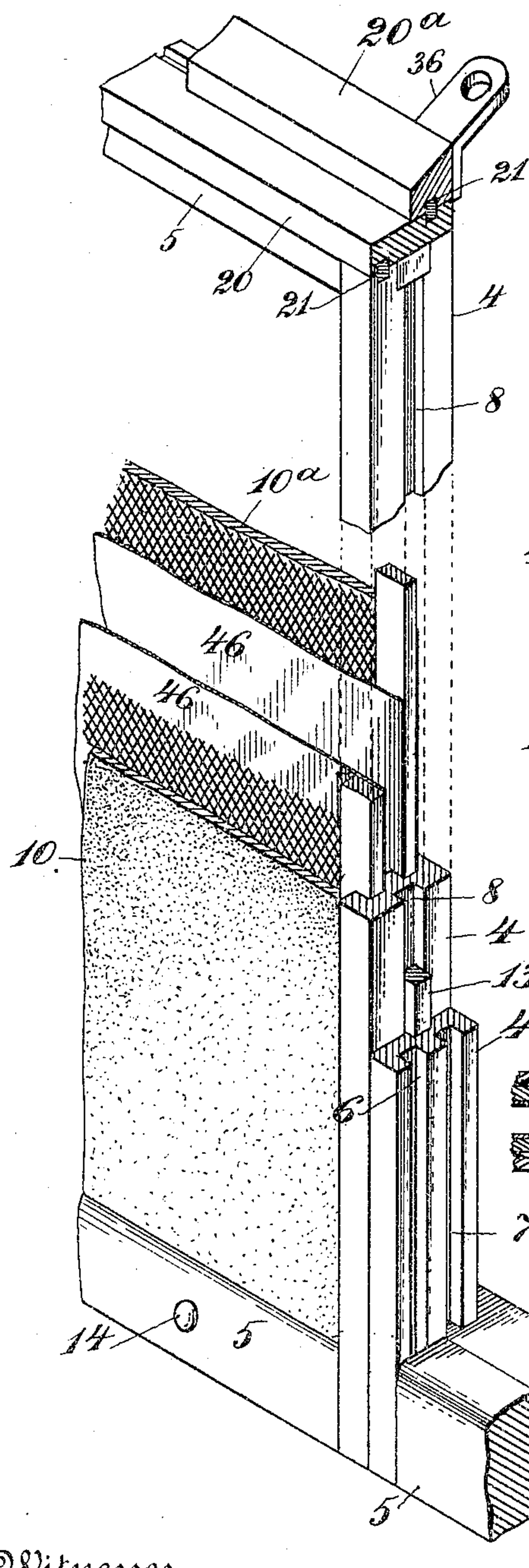


Fig. 9.

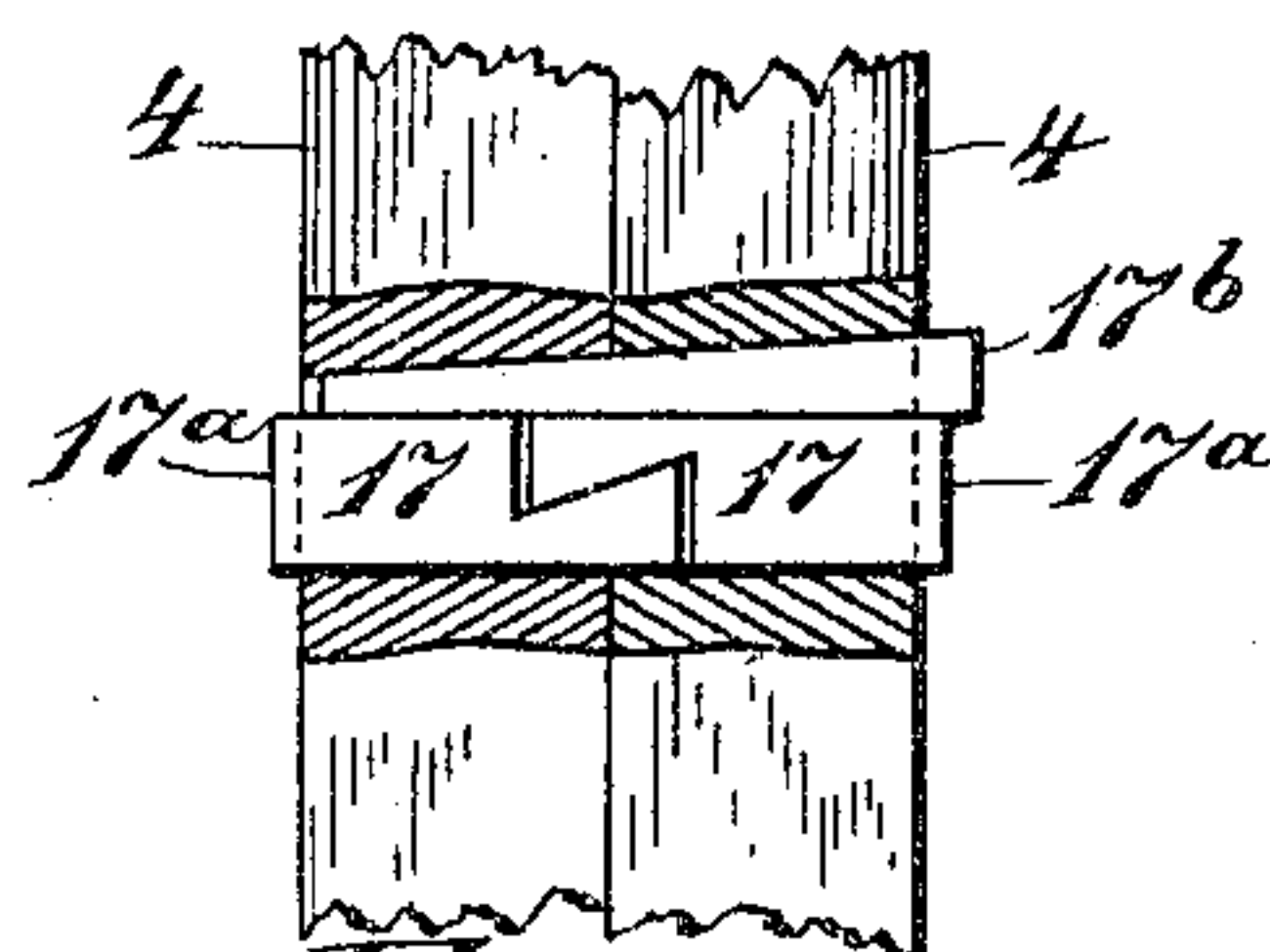


Fig. 23.

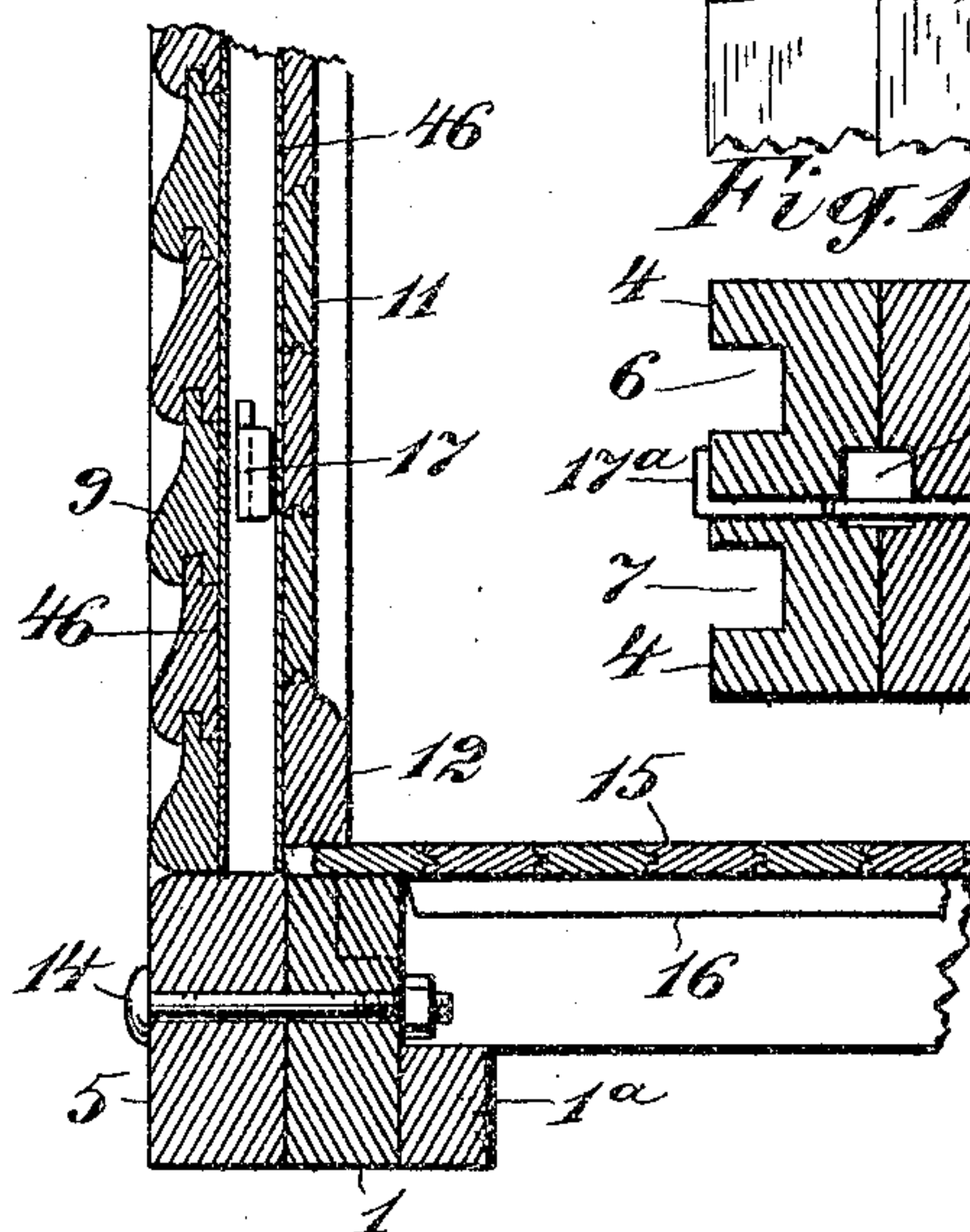


Fig. 10.

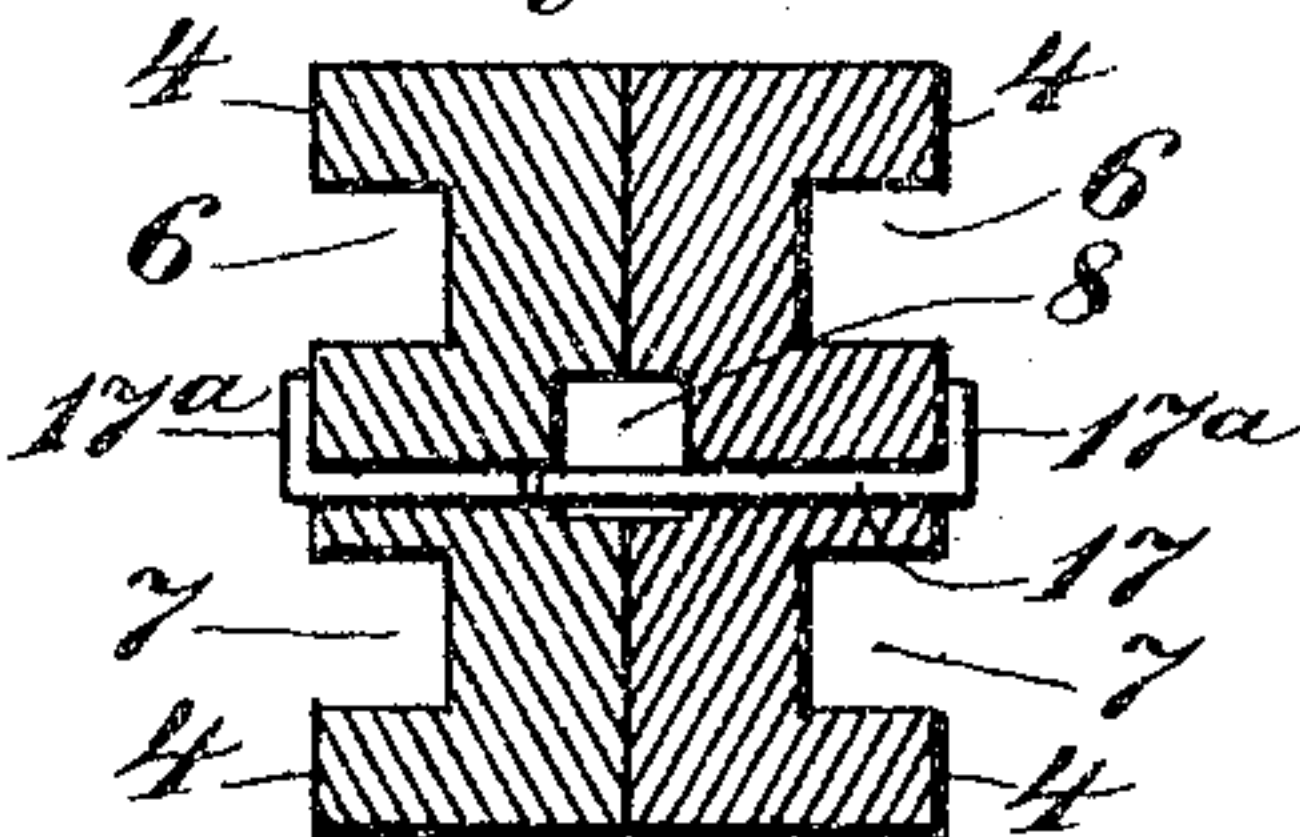
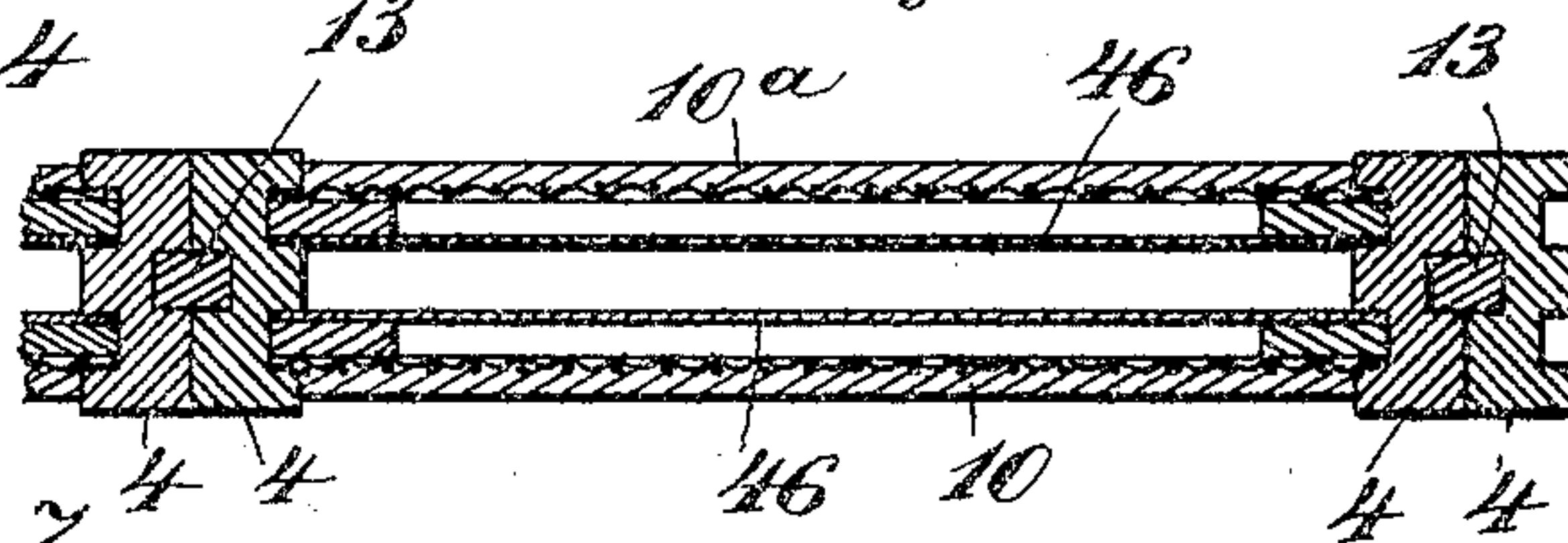


Fig. 11.



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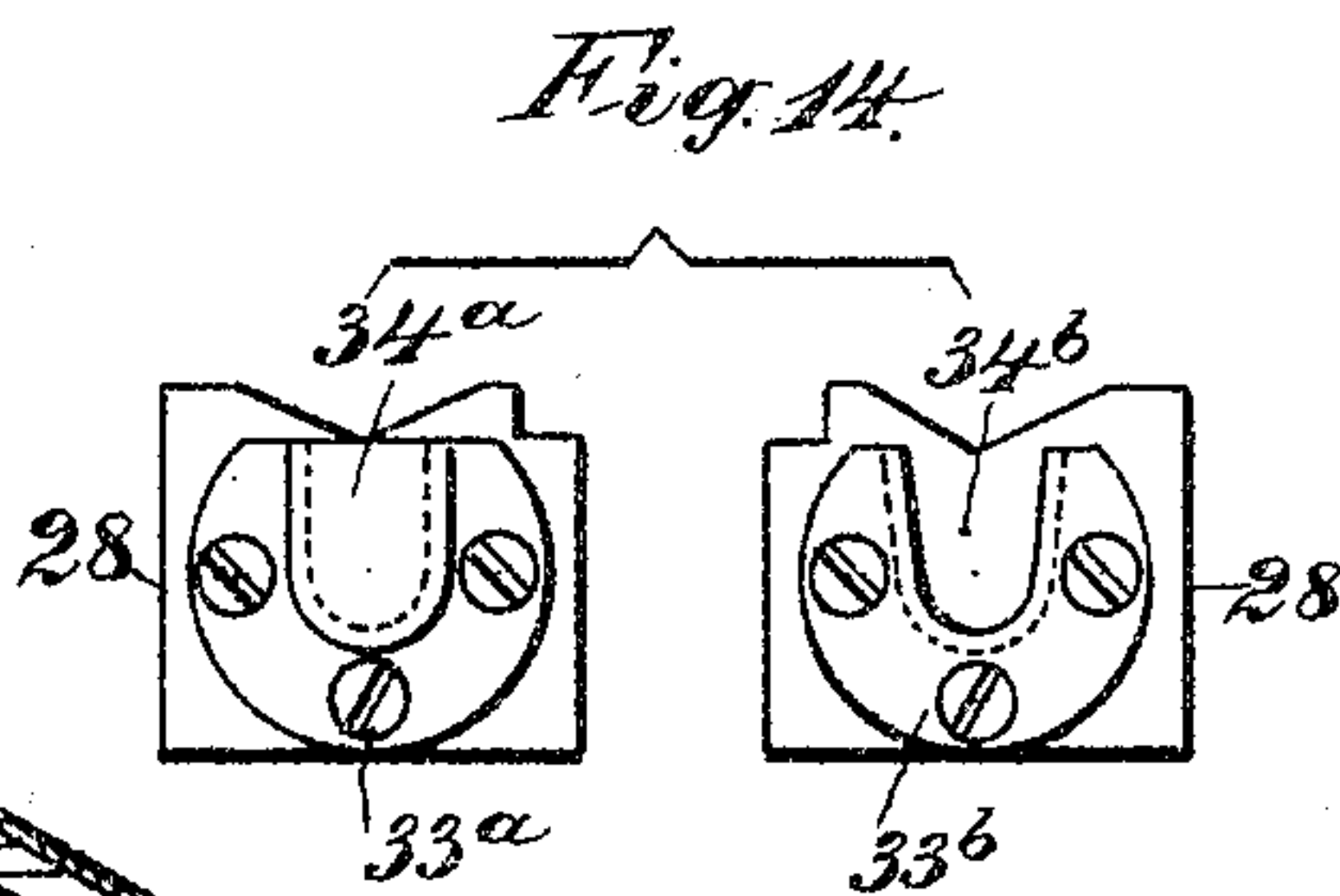
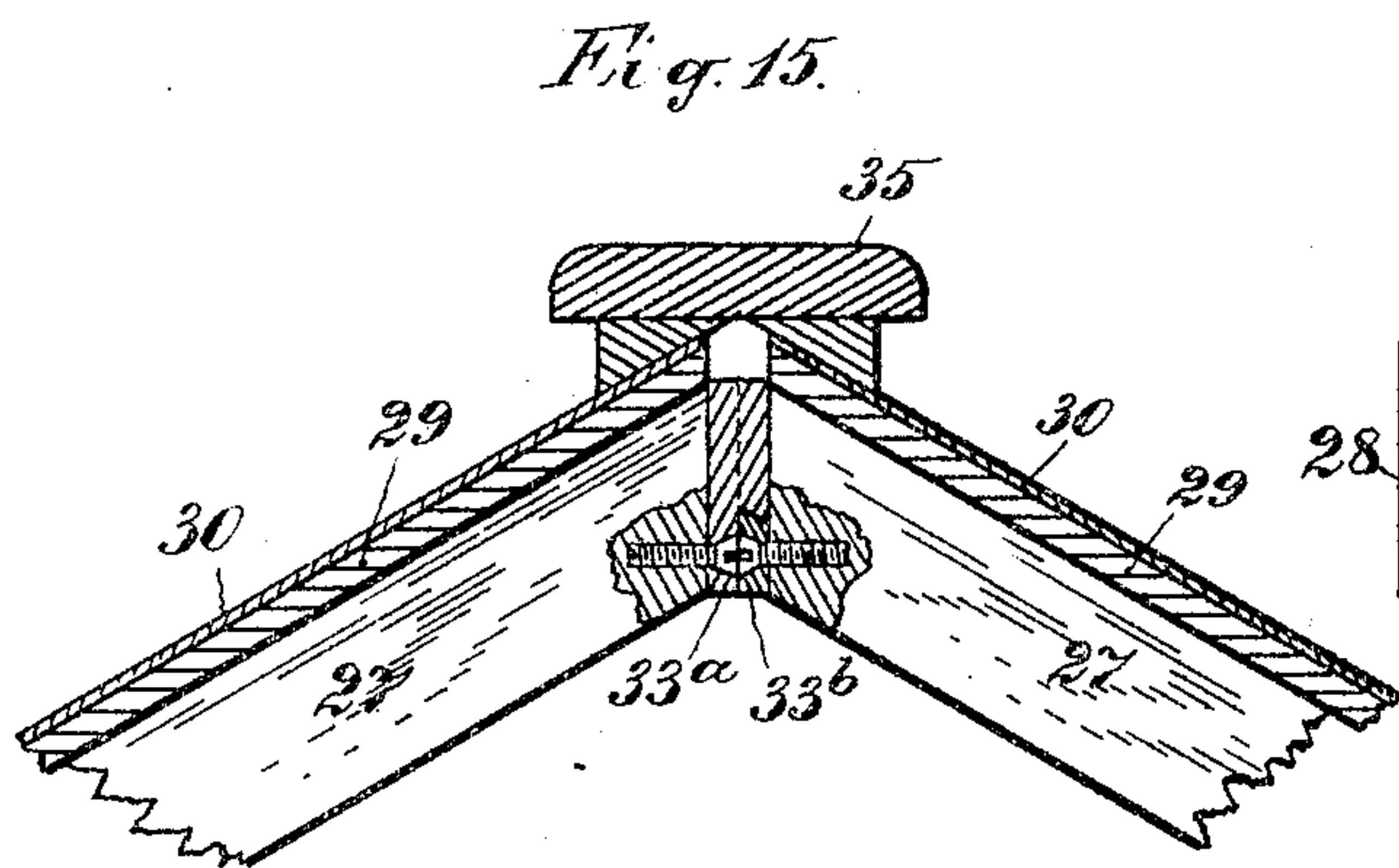
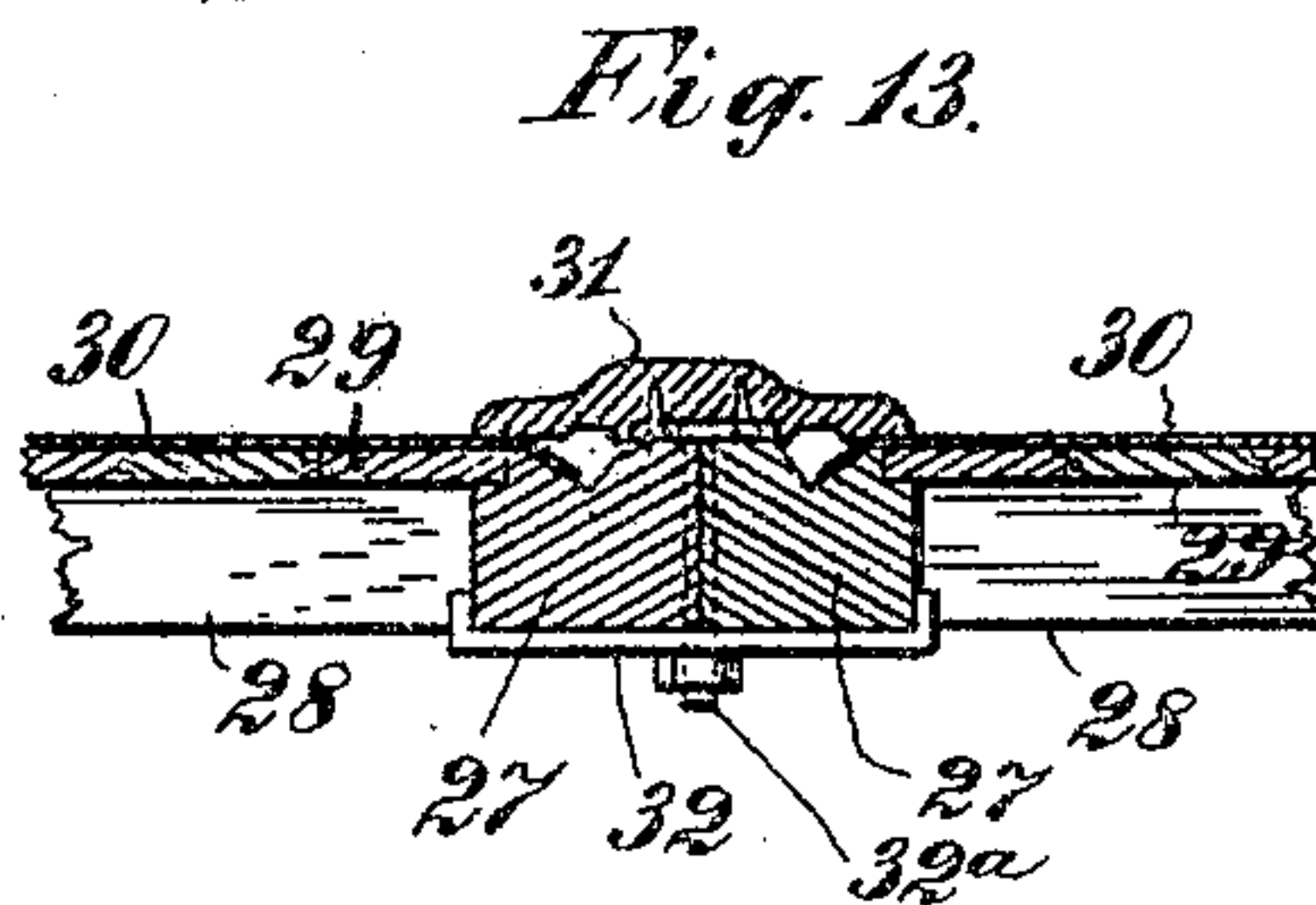
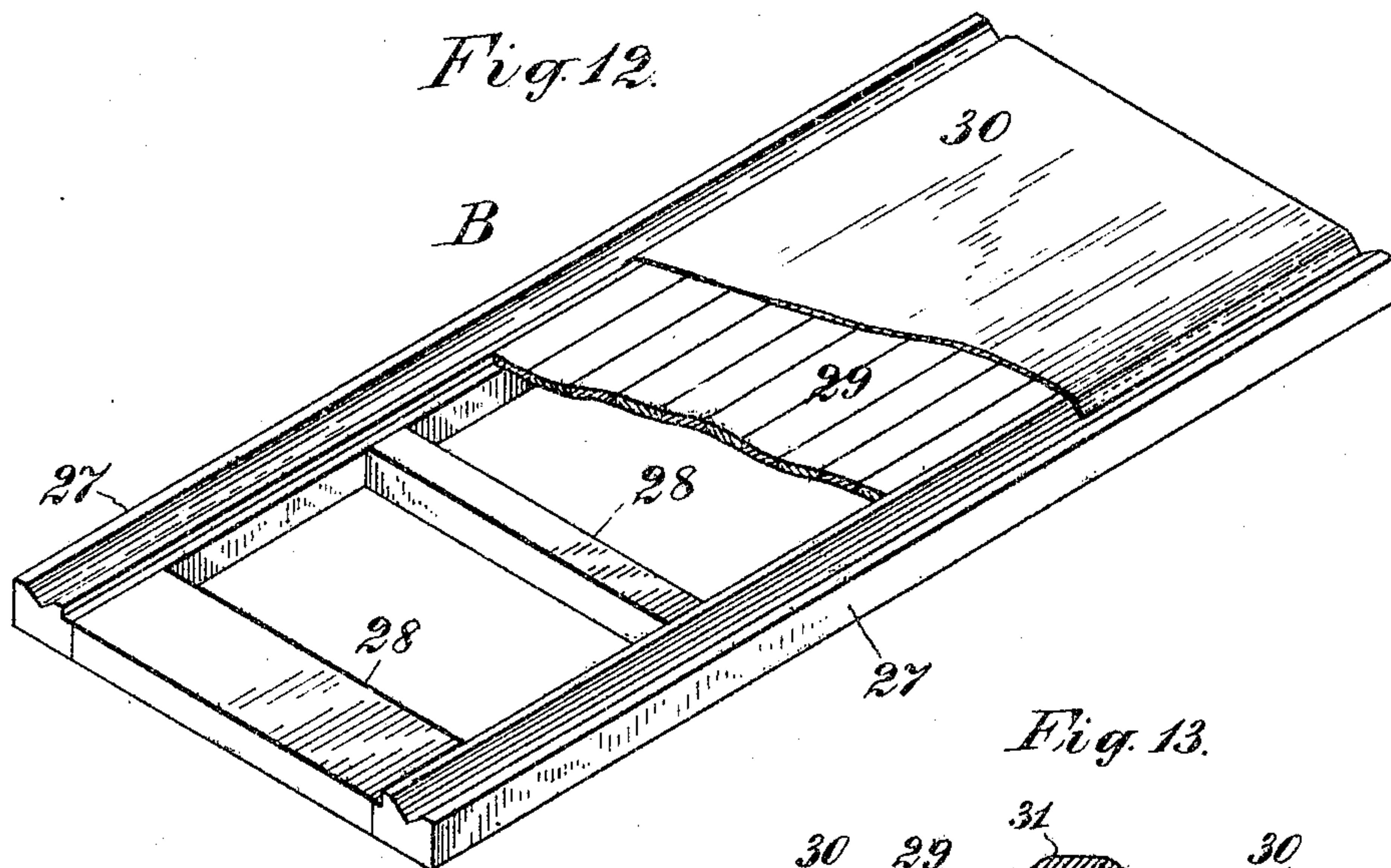
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6 SHEETS—SHEET 4.



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Fig. 16.

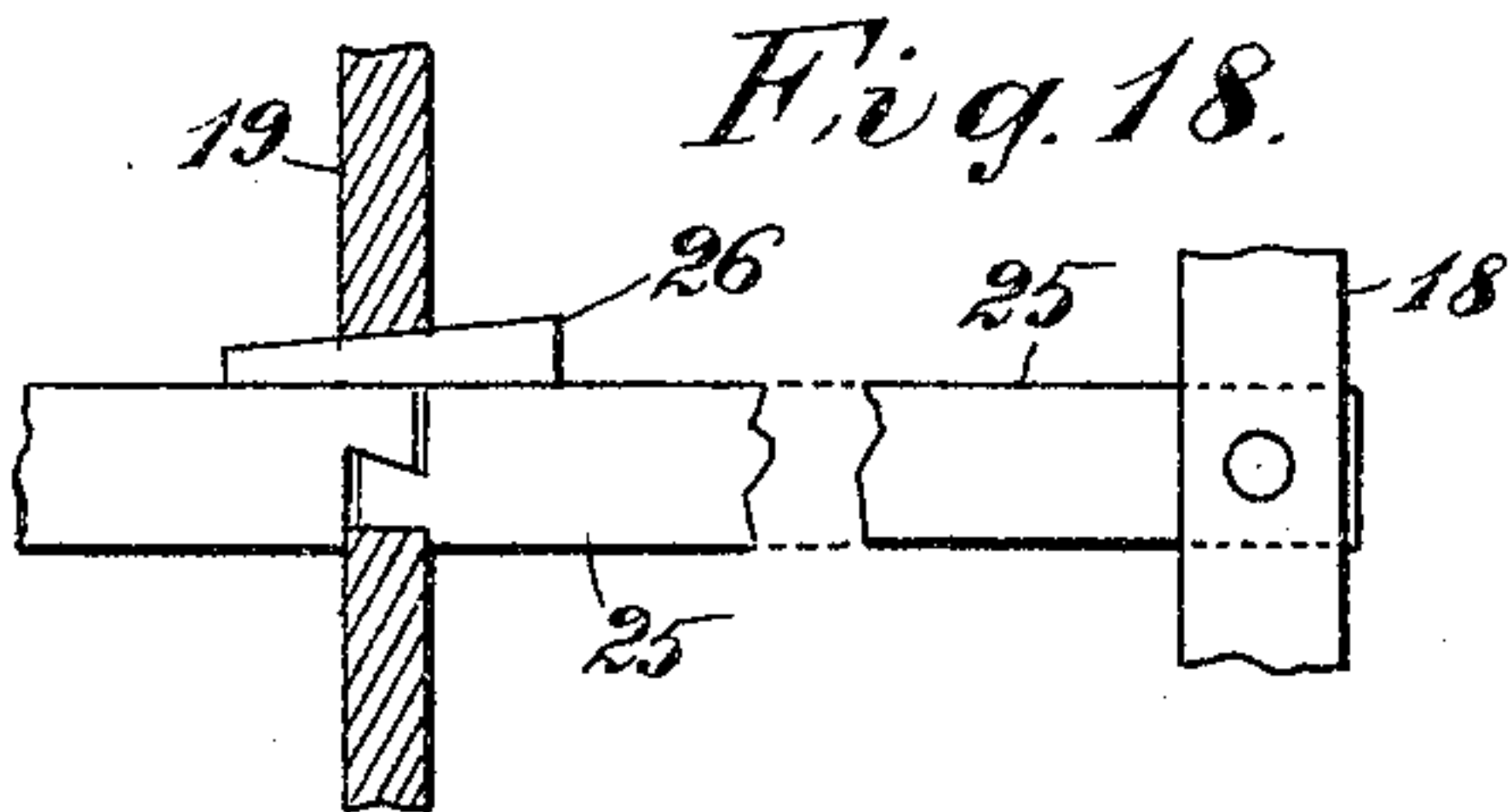
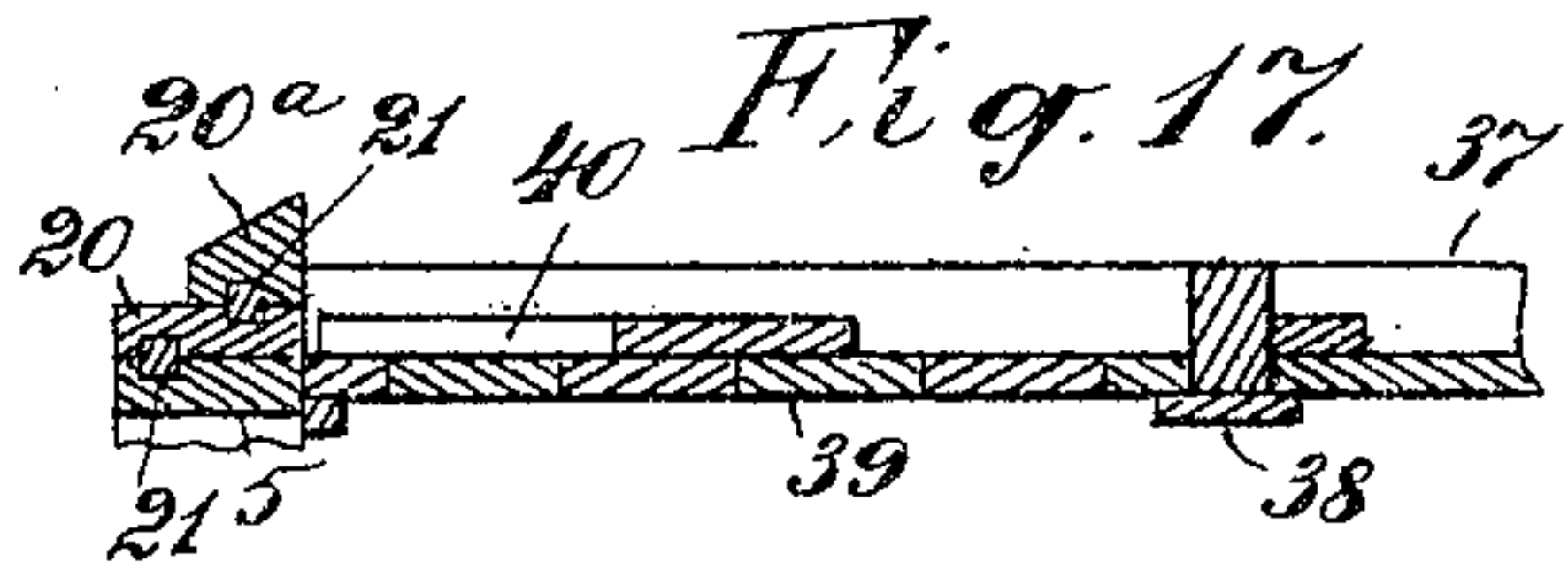
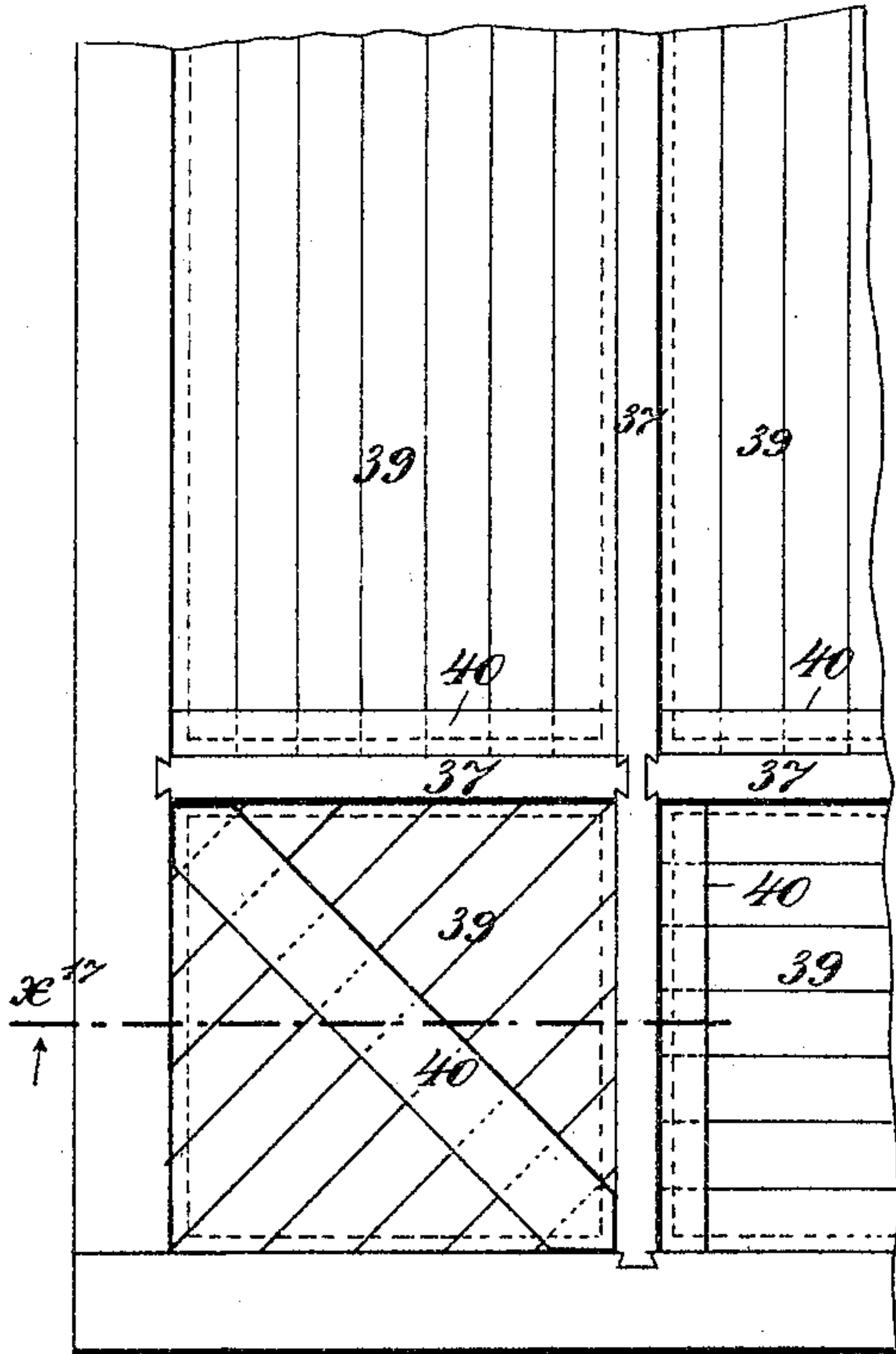


Fig. 20.

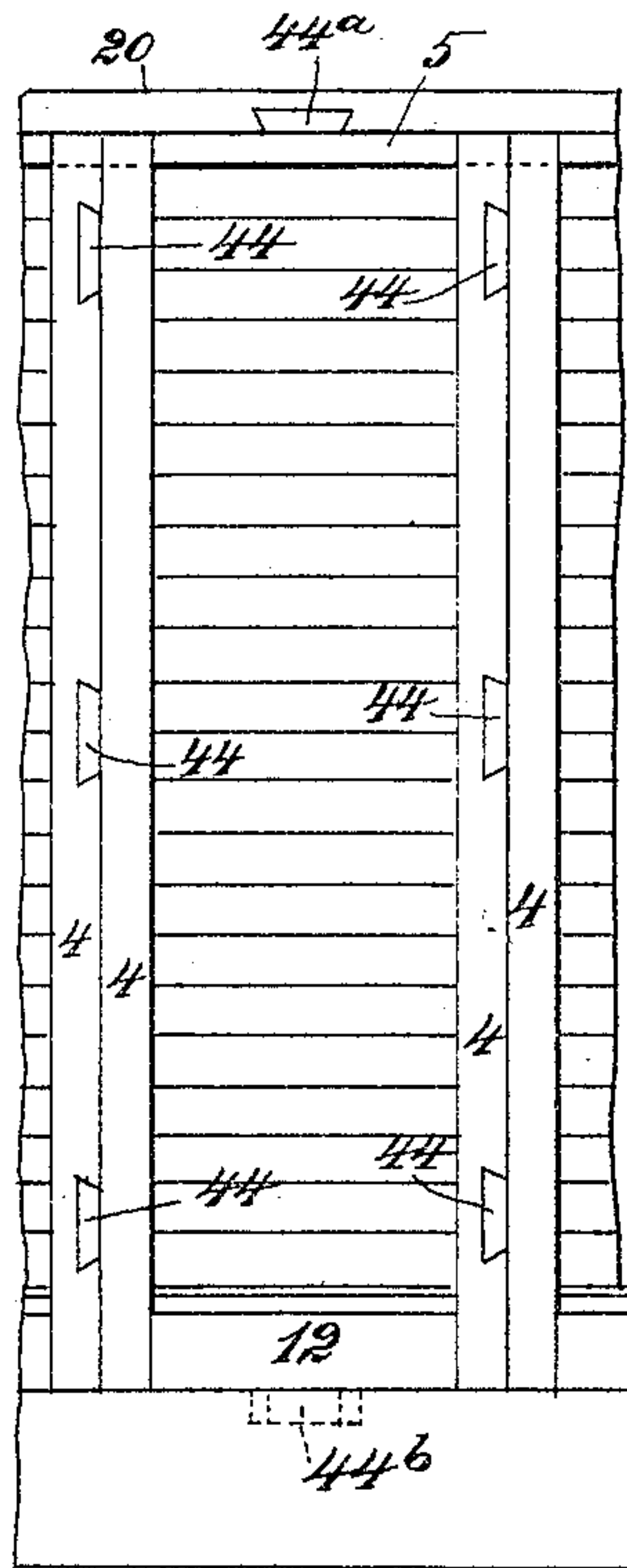


Fig. 21.

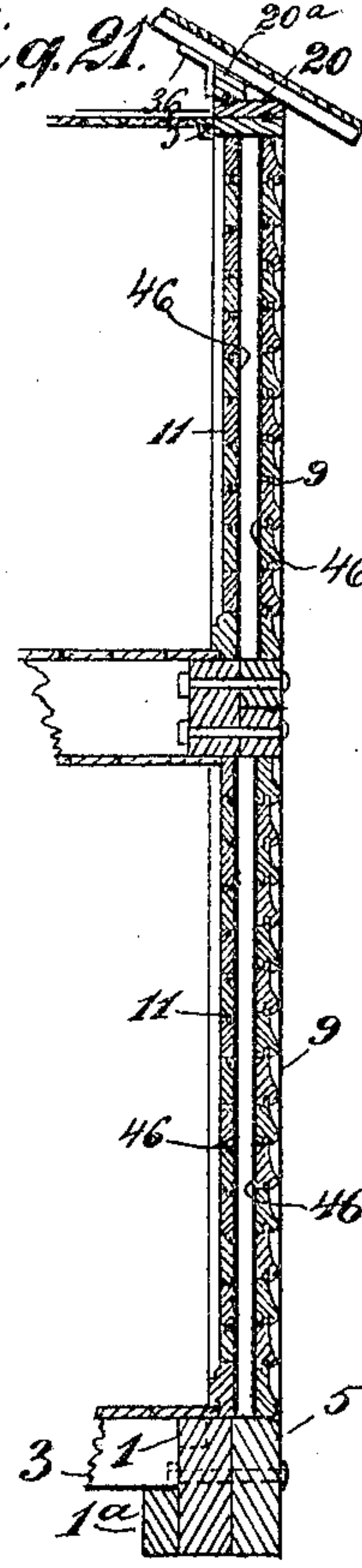
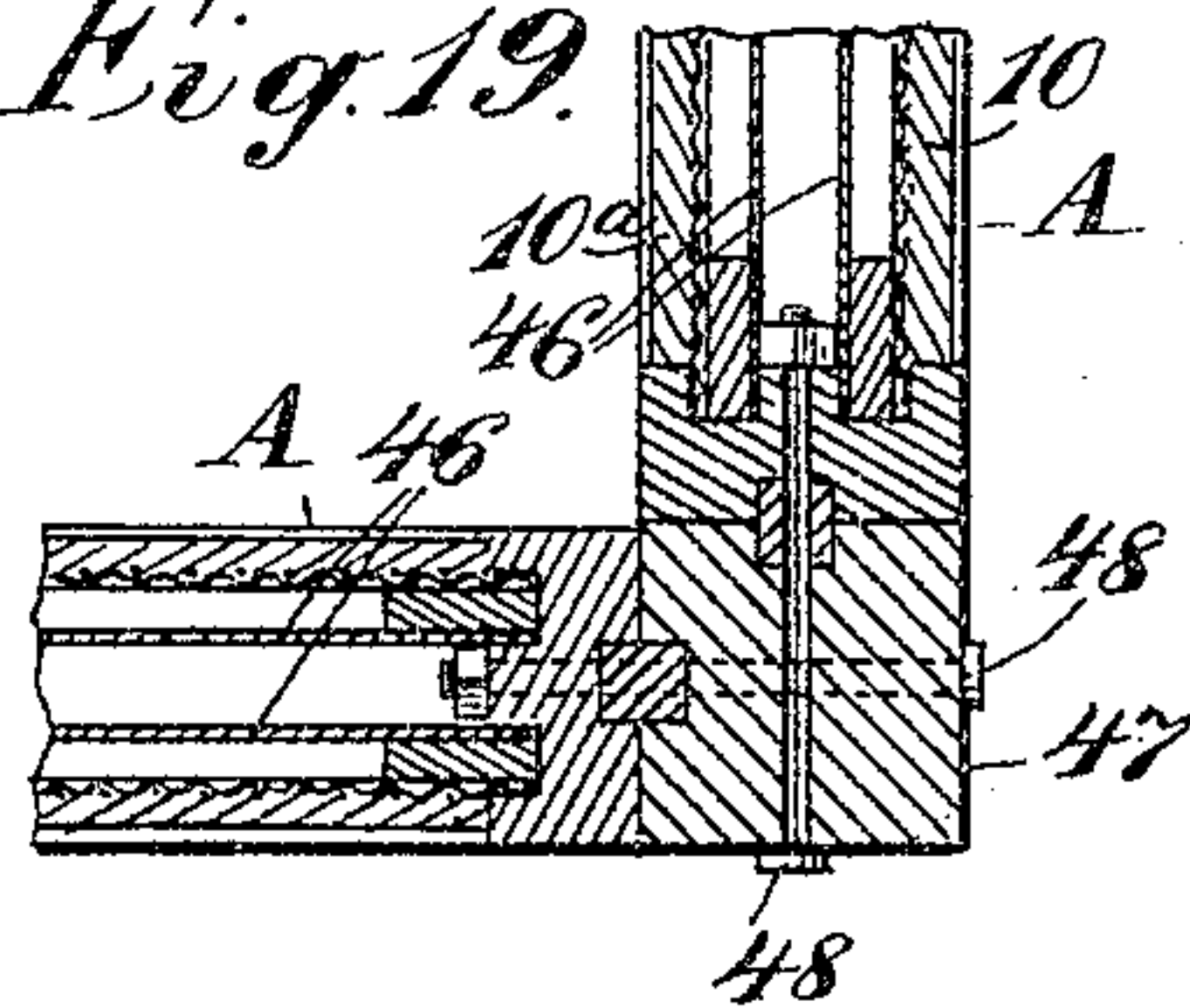


Fig. 19.



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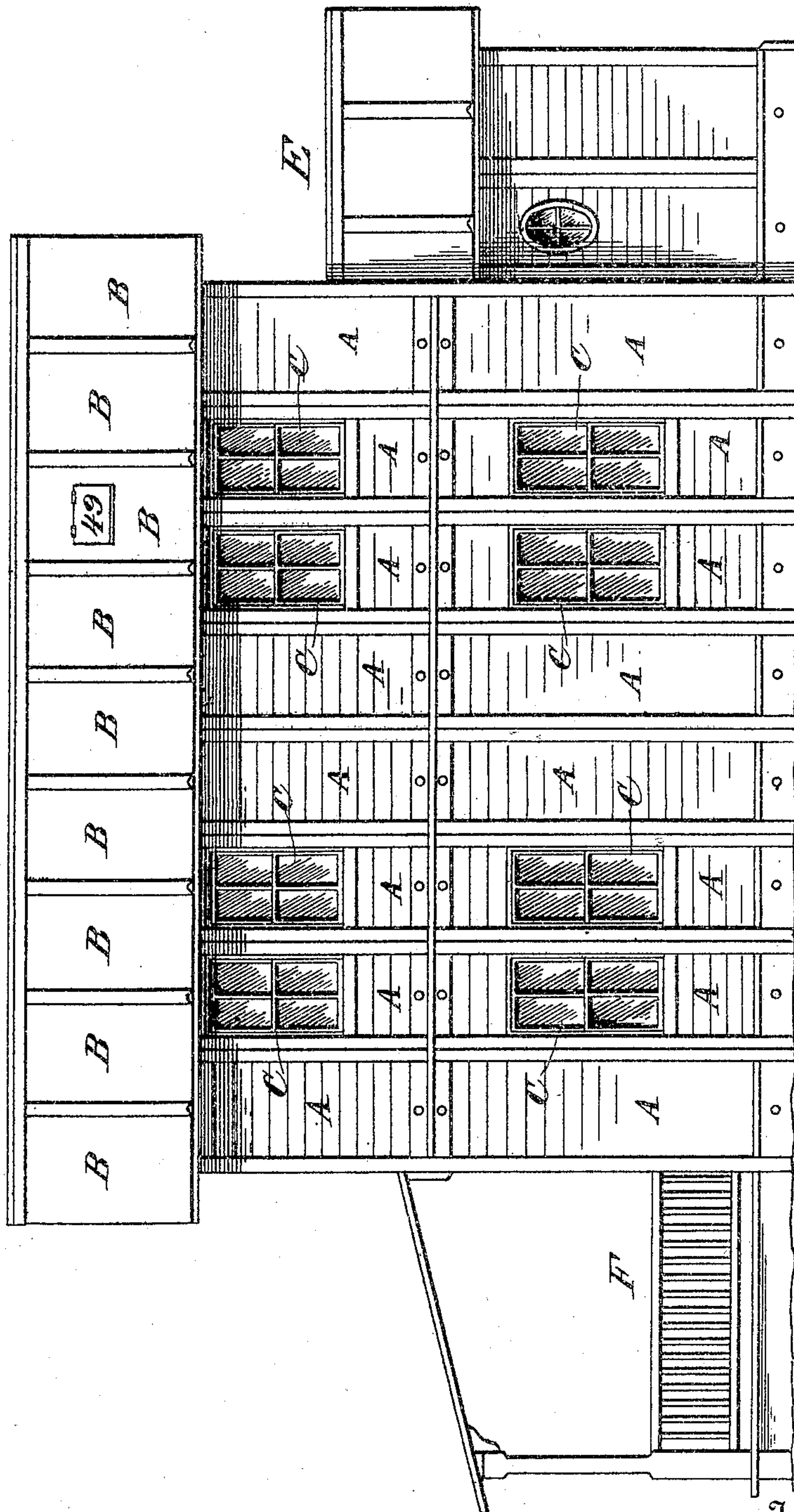
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Fig. 22.



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UNITED STATES PATENT OFFICE.

WILLIAM M. DUCKER, OF NEW YORK, N. Y.

PORTABLE HOUSE.

SPECIFICATION forming part of Letters Patent No. 794,595, dated July 11, 1905.

Application filed January 12, 1904. Serial No. 188,691.

To all whom it may concern:

Be it known that I, WILLIAM M. DUCKER, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, in the city and State of New York, have invented certain new and useful Improvements in Portable Houses, of which the following is a specification.

This invention relates to that class of portable houses and structures which are made up wholly of parts or sections put together at the factory, shipped to the point where the structure is to be erected, and set up.

The object of the present invention is to improve the constructions heretofore employed in completeness, finish, rigidity, tightness, and strength and also to facilitate the setting up of the finished parts or sections, all as will be hereinafter set forth with reference to the accompanying drawings.

In the said drawings, which serve to illustrate an embodiment of the invention, Figure 1 is a side elevation of the completed structure, the invention being therein seen embodied in a one-story structure. Fig. 2 is a plan of the sills and floor-beams. Fig. 3 is a side view of the sills or sill-frame. Fig. 4 is a vertical transverse section of a house constructed according to this invention, but on a larger scale than Figs. 1 and 2. Fig. 5 is a horizontal cross-section of the partition-sections. Fig. 6 is an elevation of a gable-truss. Fig. 7 is a plan of a part of the main truss member of Fig. 6. Fig. 8 is a perspective view showing the construction at the siding. Figs. 9 and 10 are detail sectional views showing the preferred means of clamping together the upright members of the siding-sections. Fig. 11 is a horizontal cross-section of the preferred construction of the siding-section. Fig. 12 is a perspective view, partly dissected, of a roof-section. Fig. 13 is a cross-section illustrating the means for securing together the adjacent roof-sections. Figs. 14 and 15 are detail views illustrating the means for securing together the abutting ends of two roof-sections. Fig. 16 is a view of the ceiling seen from above, and Fig. 17 is a cross-section of the same at x^{17} in Fig. 16. Fig. 18 is a view showing the locking device for the

longitudinal tie or beam. Fig. 19 is a horizontal section showing the corner construction of the house. Fig. 20 is a view illustrating a modification of the means for locking together the siding-sections. Fig. 21 is a sectional view illustrating the construction in a two-story house. Fig. 22 is a side elevation of such a two-story house. Fig. 23 is a vertical section showing a construction where wooden siding material is employed.

The sills 1 are cut to length and dovetailed together at the corners, and the intermediate sill-beam 2, if one is employed, is dovetailed vertically at its ends into the sills. The floor-beams 3 are dovetailed into the sills and the intermediate beam, as clearly shown in Fig. 2. The dovetail (see Fig. 23) extends only to about half the depth of the beam, and a supporting-strip 1^a is spiked to the sill to provide a firm support for the floor-beams.

The upright siding of the house is composed of sections of uniform width, which latter is a unit, so that the section will be in width an aliquot part of the exterior width and length of the house. Each section A of siding consists of two upright stiles or members 4 and two transverse members 5, one at top and one at bottom, tenoned into the stiles. The stiles which form the side members of this frame have each two longitudinal grooves 6 and 7 on their inner faces and a single groove 8 on the outer face, (see Figs. 8 and 11,) and the frame is closed exteriorly with some form of siding material fitted in the grooves 6. Figs. 21 and 23 show clapboard-siding 9, which may be used exteriorly; but Figs. 8 and 11 show the preferred form of siding. This material is wire-gauze to which a plastic material has been smoothly applied. This latter material may be paper-pulp mixed with hydraulic cement and either colored or left white. In Figs. 8 and 11 this siding is designated by the numeral 10. The gauze may be tacked to a frame of wood which fits in the grooves 6. Obviously the lower part of the siding-section may have one kind of siding and the upper part another kind. This would be mainly for ornamental effect. To form the room siding or walls of the rooms, the material, whatever may be used, is fitted in the grooves

7 in the stiles. In Figs. 21 and 23 this room-siding is designated by 11 and consists of matched narrow boards extending horizontally; but preferably it will be of substantially the same character as the outer siding 10 of Figs. 8 and 11 and is designated in these figures by 10^a. The section may have at the bottom of the grooves 7 a base-board 12. (Seen in Figs. 4 and 23.) The siding-sections are set upright edge to edge, and the line of junction between the abutting stiles is closed against the entry of air by a tongue 13, which fits snugly in the grooves 8, as best seen in Figs. 8 and 11. This tongue may be formed integrally on one of the stiles 4 or be fixed by screws in one of them, as preferred. The siding-sections are secured to the sills below, each by one or more bolts 14, which pass through the lower member 5 of the section and through the sill 1.

The floor is made up in sections of matched boards 15 with transverse battens 16, which take between the floor-beams. The lengths of the sections will be such that they meet end to end on a floor-beam. Fig. 4 shows a cross-section of the floor.

The siding-sections will be locked together edge to edge, preferably by the means shown in detail in Figs. 9 and 10. This device consists of two metal hook-plates 17, having their ends turned at right angles to form flanges 17^a. These plates are passed into narrow registering mortises which may be at about the middle of the width of the stile, and they are then hooked together and a tapered key 17^b driven in above them (or below them) to hold them locked together. One or more of these locking devices may be employed, the number depending somewhat on the length of the section.

The roof-frame consists of primarily-formed gable-trusses 18, Fig. 6, and intermediate trusses 19. The members of these trusses may be of the usual kind or may be somewhat varied, according to the character of the structure and its span. Where the span is not too great, the truss will be in one piece; but where the span is considerable for convenience of transportation the truss may be divided vertically at the king-post, the latter being in two longitudinal sections or halves to be locked together by the means shown in Figs. 9 and 10, for example. These trusses rest on wall-plates 20, Fig. 4, which in turn rest on the siding-sections A. On the plate 20 and secured permanently to it, if preferred, is a beveled top plate 20^a. To prevent air from entering between the plates and between the plate 20 and the siding-sections, tongues 21, occupying grooves in the parts, are employed, as clearly shown in Fig. 8.

The trusses which support the roof are tied together by a ridge-pole or beam 22, which rests in a recess 23, Fig. 6, in the apex of the

truss, purlins 24, dovetailed at their ends, Fig. 7, in the trusses, and a longitudinal strip or member 25, extending through mortises in the king-posts of the several trusses at the middle of the span. This member 25, where it is fixed at its end in the king-post of a gable-truss, is tenoned in and bolted, as seen at the right in Fig. 18, and where it passes through a mortise in a king-post of an intermediate truss and is spliced therein, as seen at the left in Fig. 18, it has its ends gained and hooked and driven tight together by a key 26.

The roof-sections B, one of which is seen partly dissected and in perspective in Fig. 12, have each a width which is an aliquot part of the length of the roof and have a length equal to the distance from the projecting eave to the ridge in a house of ordinary width. Each roof-section is made up of two side members or stiles 27 and transverse members 28. Over the transverse members are laid boards 29, extending longitudinally, and may have over these a sheet of flexible waterproof roofing felt 30 or the like. The side members 27 are grooved on their upper faces, as clearly seen in Figs. 12 and 13, and when brought together edge to edge, as in Fig. 13, the meeting-line is covered by a batten 31, which extends out laterally over the edges of the boards 29 and prevents leakage at the joints. The roof-sections are secured together by means of a metal clamp or saddle 32, which embraces the members 27 on the under side, and a bolt 32^a, the head of which is secured to the under side of the batten 31, while the shank passes down through the saddle 32 and receives a nut. This device also secures the batten in place. The boards 29 may be, as seen in Fig. 13, tongued and grooved or matched. When the roof-sections are placed (see Fig. 15) with the ends of the sections on opposite sides of the ridge abutting, these opposite sections are locked together at the ridge by means of two interlocking metal plates 33^a 33^b, secured to the respective side members of the sections. One of these plates has on it a dovetail projection 34^a, which engages a dovetail recess 34^b in the other plate. Over the ridge of the roof extends a cap-board 35. When the roof-sections rest at their lower ends on the beveled wall-plate 20^a, angular metal foot-plates 36 are provided, these latter being secured by screws to the respective parts.

The construction of the ceilings will be understood from Figs. 4, 16, and 17. Framed into the tie-beams of the trusses, the wall-plates, and each other, as indicated in Fig. 16, are ceiling-beams 37, and on the under sides of these are secured dressed flanging-plates 38, which project laterally beyond the beams to form ledges to support the ceiling-boards 39. As indicated in Fig. 16, the boards may be placed either diagonally, longitudinally, or transversely in the panels formed by the

beams. The boards may be formed into panels by suitable battens 40 at the factory and these panels will only require to be laid in place.

The manner of constructing the sections of the partitions is illustrated in Figs. 4 and 5. The upright members 41 are grooved longitudinally to receive the panels, which are composed each of suitable matched boards 42. The upright members 41 are also provided one with a tongue and the other with a groove where the sections come together edge to edge, as clearly shown in Fig. 5.

Fig. 20 illustrates another means of connecting or binding together edge to edge the upright siding-sections of the house. In this construction the section of siding has on one edge dovetail blocks 44, one or more, and in the opposite edge dovetail recesses to receive the said blocks on the adjacent section. At its top the section has a similar dovetail block 44^a to engage a suitable recess in the wall-plate 20. At its bottom the transverse member will have on it a dovetail block 44^b, which extends down vertically into a dovetail recess in the sill, as seen in dotted lines in Fig. 20.

Fig. 21 illustrates the construction where the house has two stories. In this case the siding-sections may be in two lengths, one extending from the ground floor to the second floor and the other from the second floor to the wall-plate. Fig. 22 shows a two-story house constructed according to this invention. In this view and in Figs. 1 and 4 are shown the windows C, set in casings in the siding-sections, and Fig. 4 shows an inner door D in a section of the partition. Figs. 1 and 22 show how a back stoop or extension E and a front piazza F may be provided.

The siding-sections A may have any suitable non-conducting material between the outer wall 10 and inner wall 10^a. As shown in the several figures, sheets of felt or paper 46 are employed.

Fig. 19 shows how the corner of the house is or may be constructed by abutting the siding-sections A up to a corner-post 47 and securing them thereto by bolts 48.

For purposes of ventilation there may be a trap-door, as seen at 49 in Fig. 22, in a roof-section B, and there may be a register in a floor-section, as seen at 50 in Fig. 4, connected with an air-conduit 51.

Having thus described my invention, I claim—

1. A portable house, having its sides formed of siding-sections placed upright and secured together edge to edge, said sections having each a transverse top member, a wall-plate 20 resting on said top members, a tongue engaging registering grooves in the respective parts, a beveled plate 20^a, narrower than the plate 20 and resting on the same near the inner edge of the latter, and a tongue engaging registering grooves in the respective parts, as set forth.

2. A portable house, having its sides formed of siding-sections placed upright and secured together edge to edge, said sections having each a transverse top member, a wall-plate 20 resting on said top members, a tongue engaging registering grooves in the respective parts, a beveled plate 20^a, narrower than the plate 20 and resting on the same near the inner edge of the latter, metal foot-plates 36 secured to the plate 20^a, and a tongue engaging registering grooves in the faces of the plates 20 and 20^a, as set forth.

3. A portable house, having siding-sections of uniform width placed edge to edge, the said sections being secured together by means of two flanged hook-plates 17, occupying mortises in the upright members of the sections, and a key 17^b in the mortise and bearing on said plates.

4. A siding-section for a portable house, consisting of two upright members and two transverse members, framed together and having grooves 6 and 7 on the inner faces of its upright members outer and inner siding material consisting each of a frame mounted in a groove in said upright members, wire-gauze and plaster on the outer face of the frame, and non-conducting sheet material on the inner face of the frame.

5. A portable house, having ceiling-beams with laterally-projecting flanges at opposite sides of its lower edge, and ceiling-panels formed of boards secured together and supported on said flanges.

6. A portable house having ceiling-beams, flanging plates or cleats 38 secured to the under side of same, and ceiling-boards 39 connected together by battens to form sections supported on said flanging-plates.

7. A portable house having gable and intermediate trusses each notched at its apex to receive the ridge-piece, the said ridge-piece, and a longitudinal member connecting the king-posts of the trusses, said member being in lengths and interlocked in a mortise in the post of an intermediate truss.

8. A portable house, having its roof formed of sections B of uniform width, each section being composed of two grooved side members 27, transverse members 28, and matched boards 29, and having battens 31 over the joints between the abutting edges of the sections, and means for clamping together the said sections and securing the battens in place.

9. A portable house having its roof formed of roof-sections placed edge to edge, battens 31 covering the joints between said roof-sections, and means for securing together the batten and sections, said means comprising the saddle 32, embracing the side members of adjacent sections, the bolt 32^a, having its head secured to the batten and its shank extending down through said saddle, and a nut on said bolt.

10. A portable house, having a wall-plate,

a ridge-piece, and roof-sections B resting thereon, and having metal foot-plates 36 in the angle formed between the roof-section and wall-plate, and interlocking hook-plates on
5 the adjacent ends of the roof-sections at opposite sides of the ridge.

11. A portable house, having its roof formed of primarily-constructed like sections extending from the ridge to the eaves, the sections
10 at opposite sides of the ridge abutting at the

ridge and provided thereat with interlocking securing means, as set forth.

In witness whereof I have hereunto signed my name, this 5th day of January, 1904, in the presence of two subscribing witnesses.

WILLIAM M. DUCKER.

Witnesses:

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HENRY G. HOSE.