

Sept. 4, 1928.

1,683,022

G. BULBECK

DEMOUNTABLE HUT

Filed Nov. 6, 1926

3 Sheets-Sheet 1

Fig. 1.

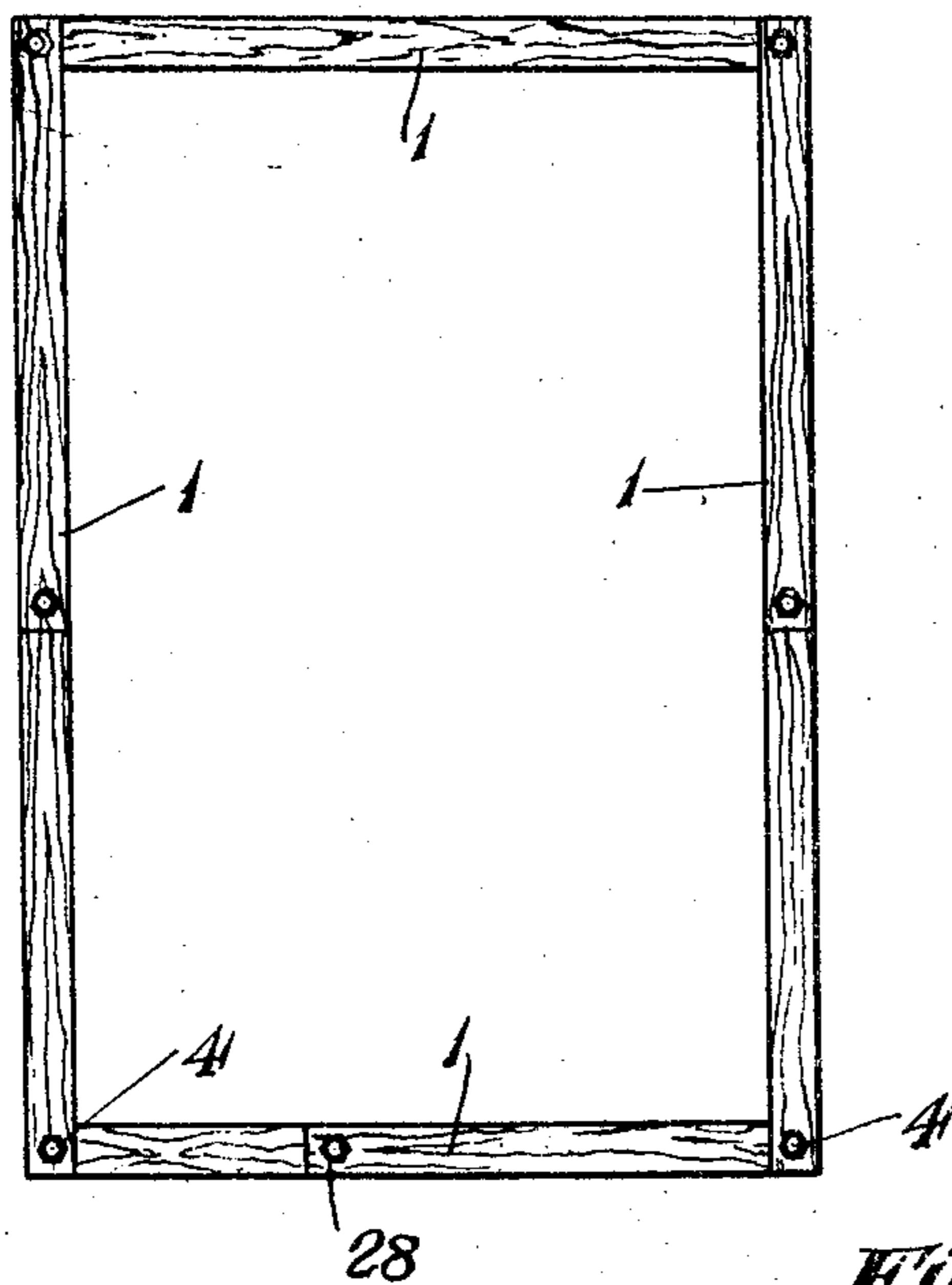


Fig. 2.

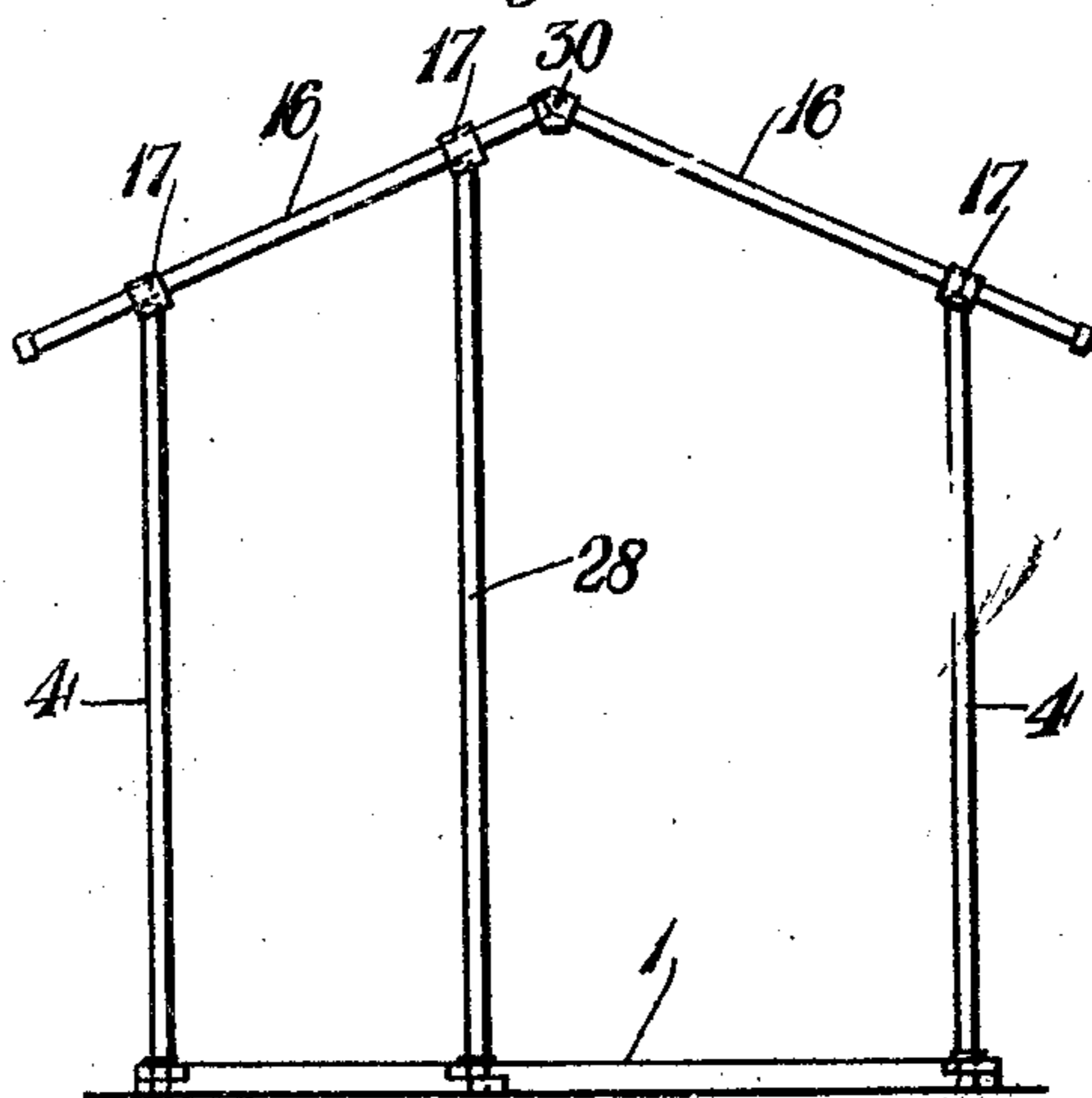


Fig. 5.

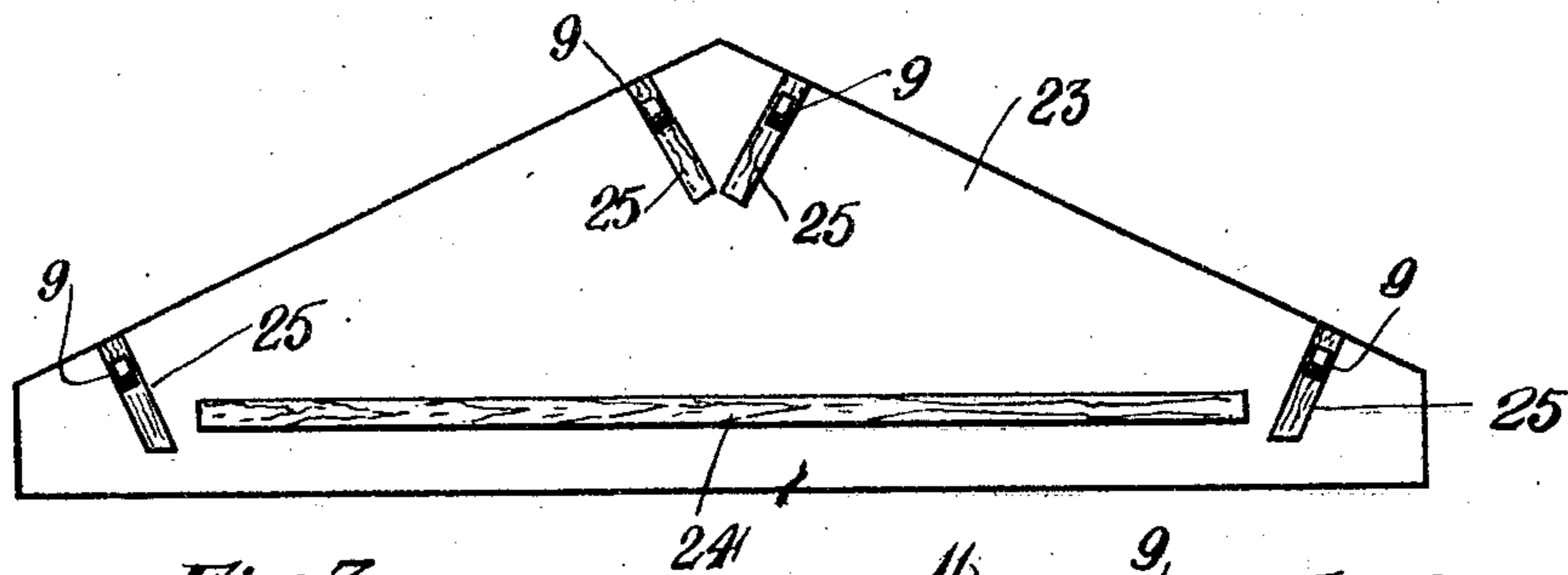


Fig. 3.

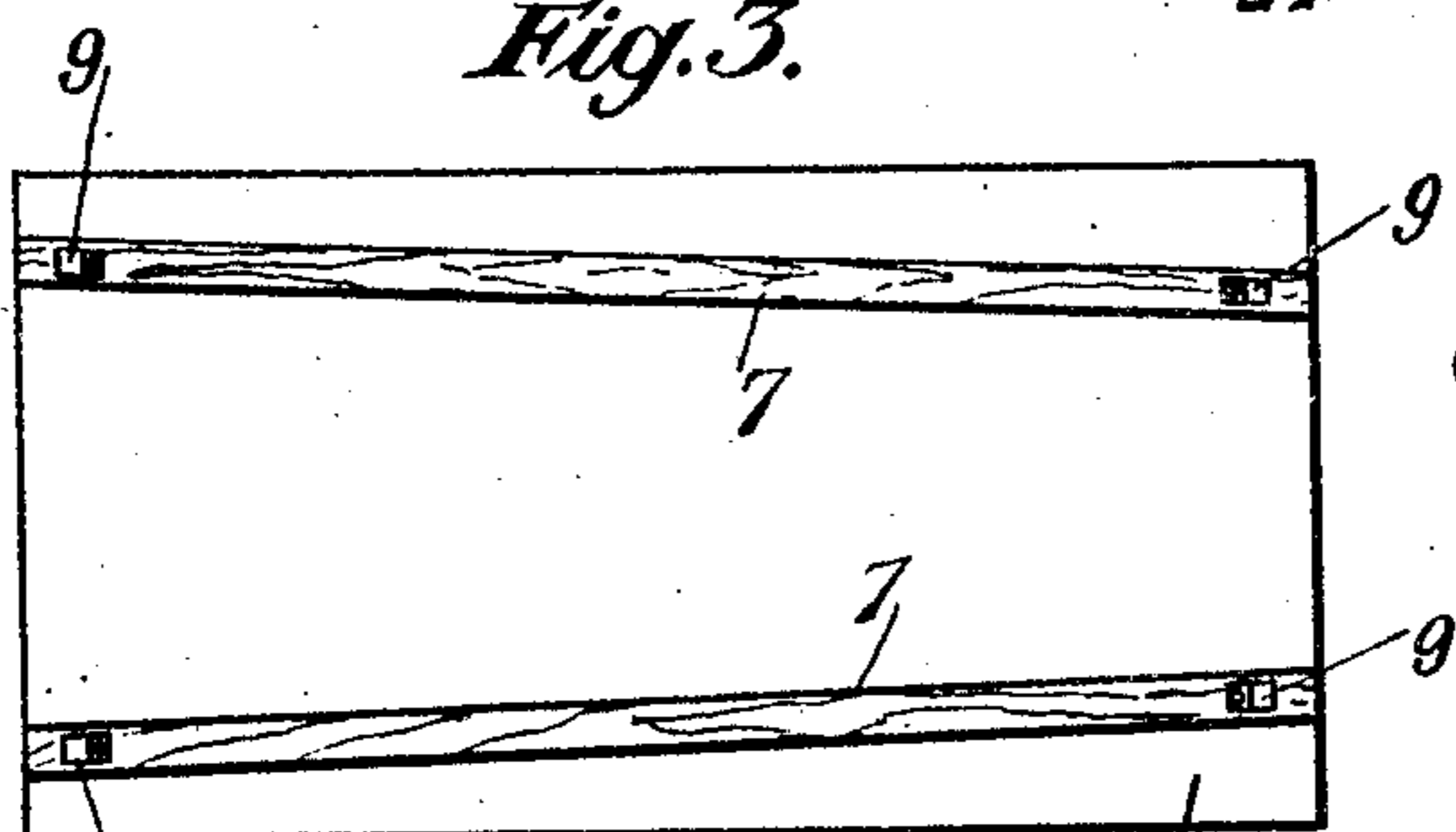


Fig. 4.

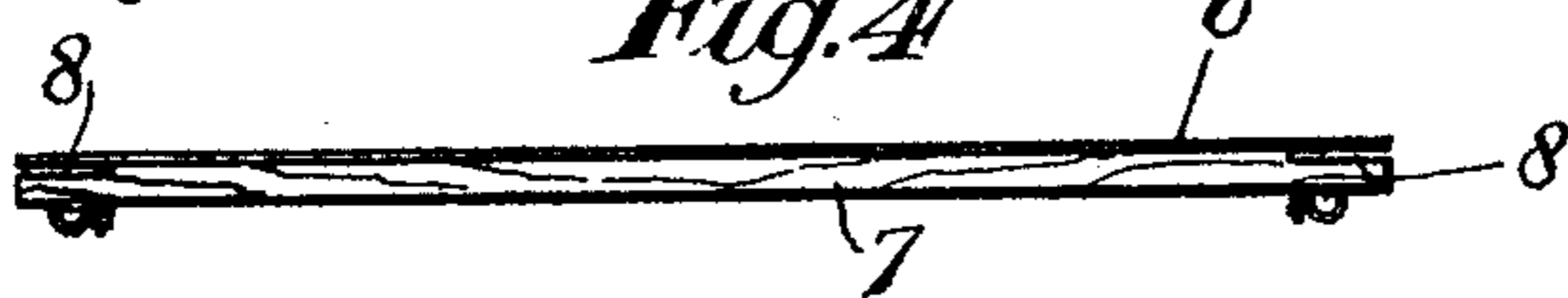
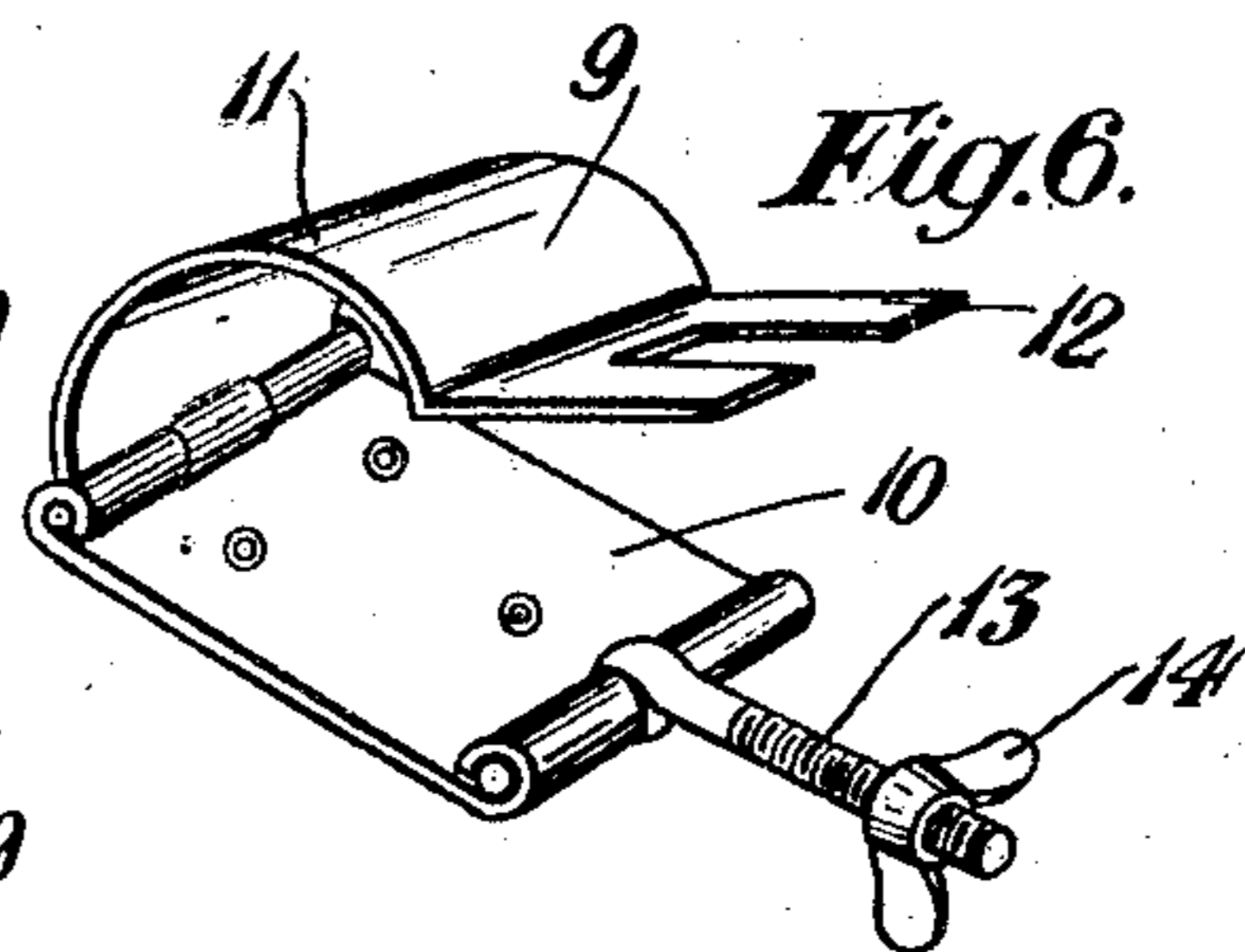


Fig. 6.



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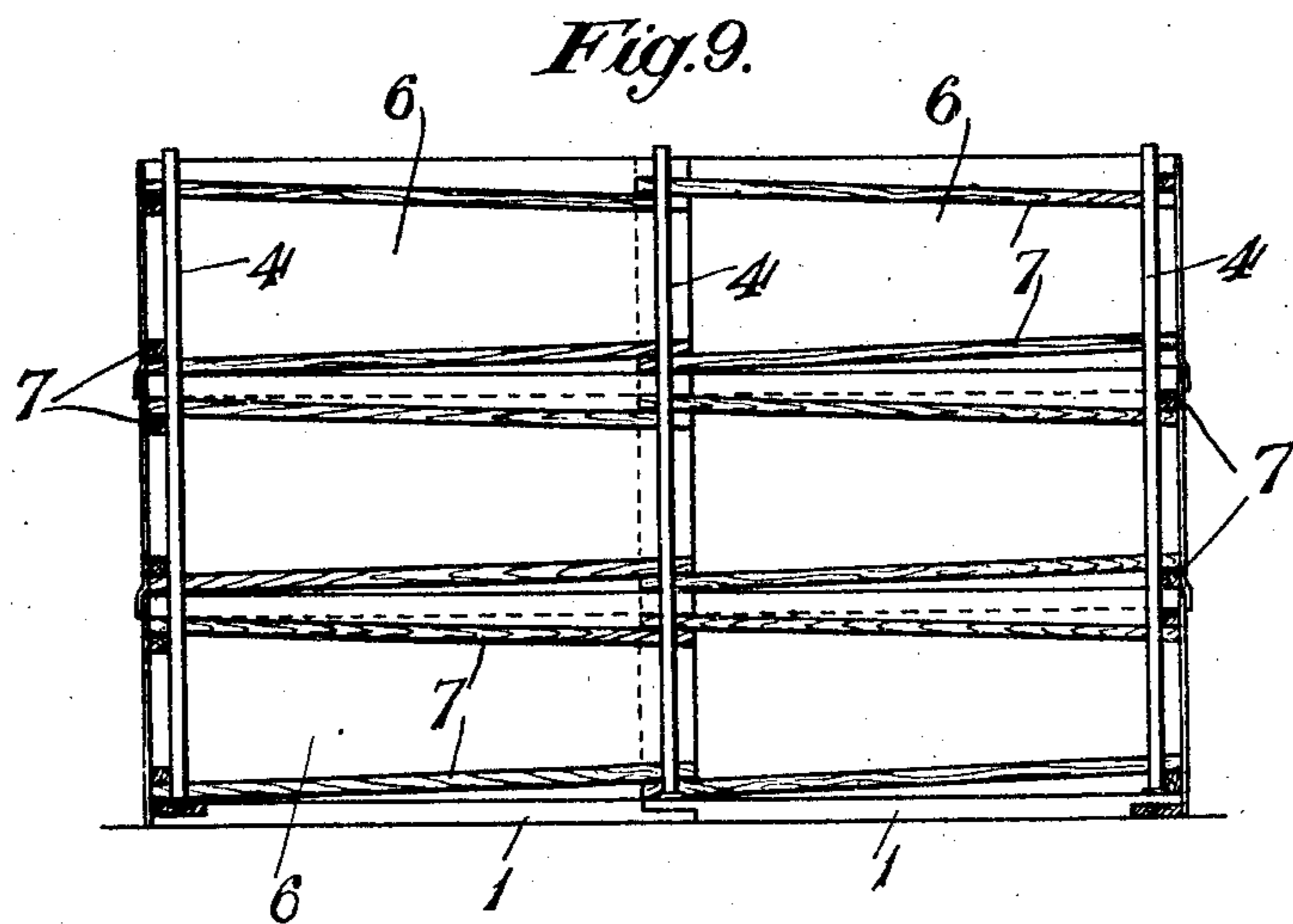
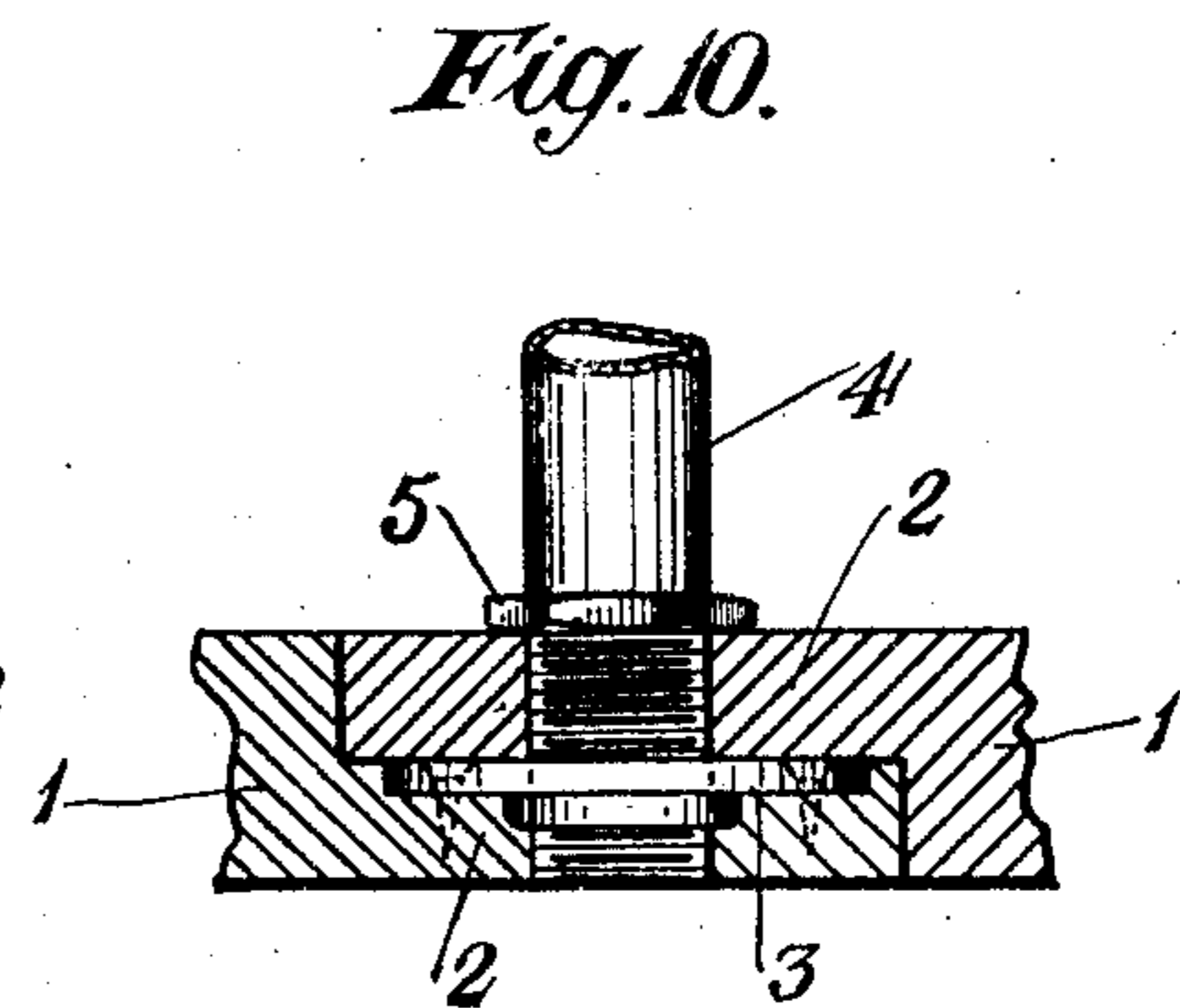
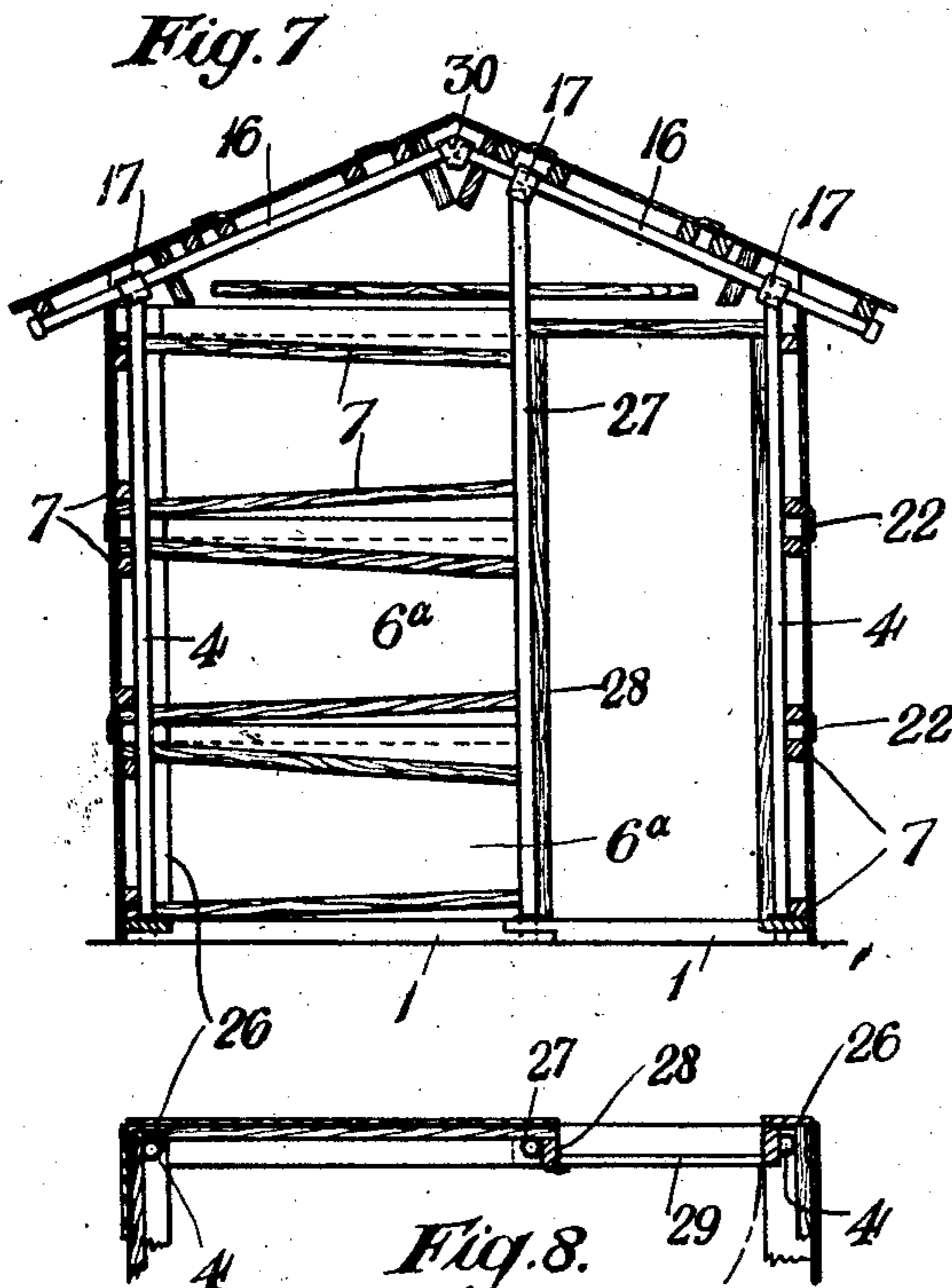
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

Fig. 12

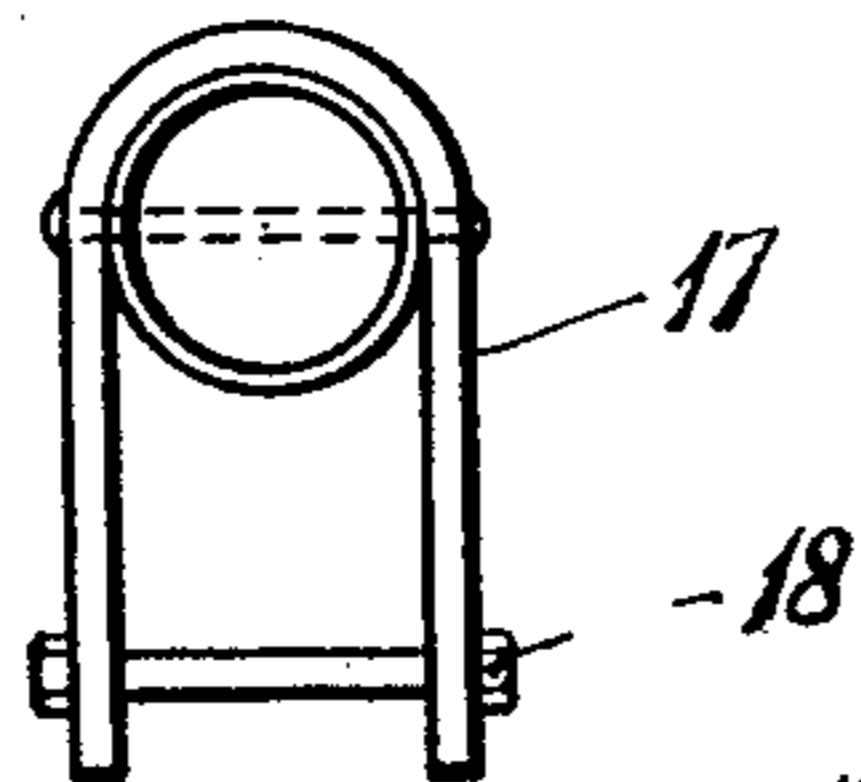


Fig. 13.

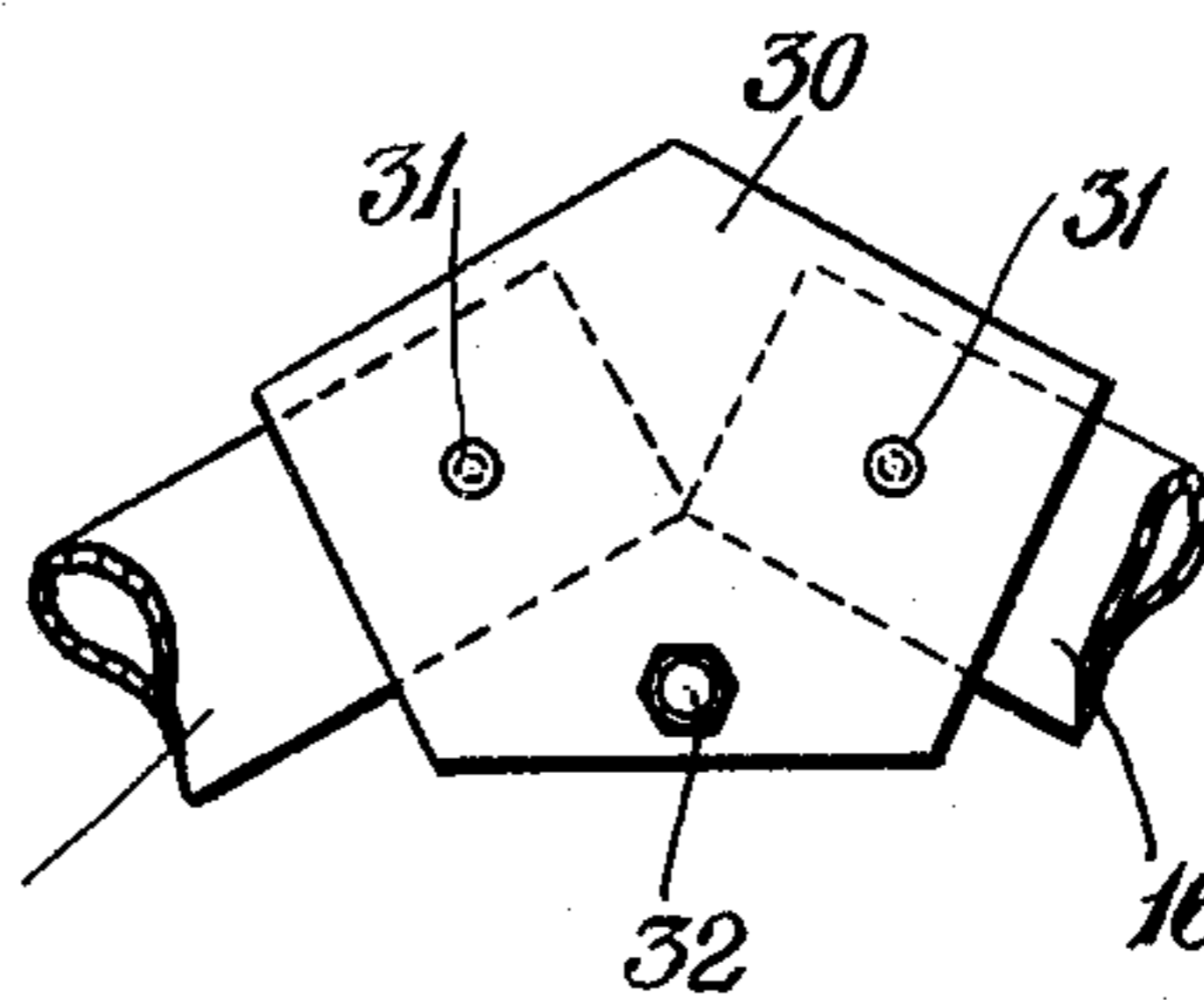


Fig. 14.

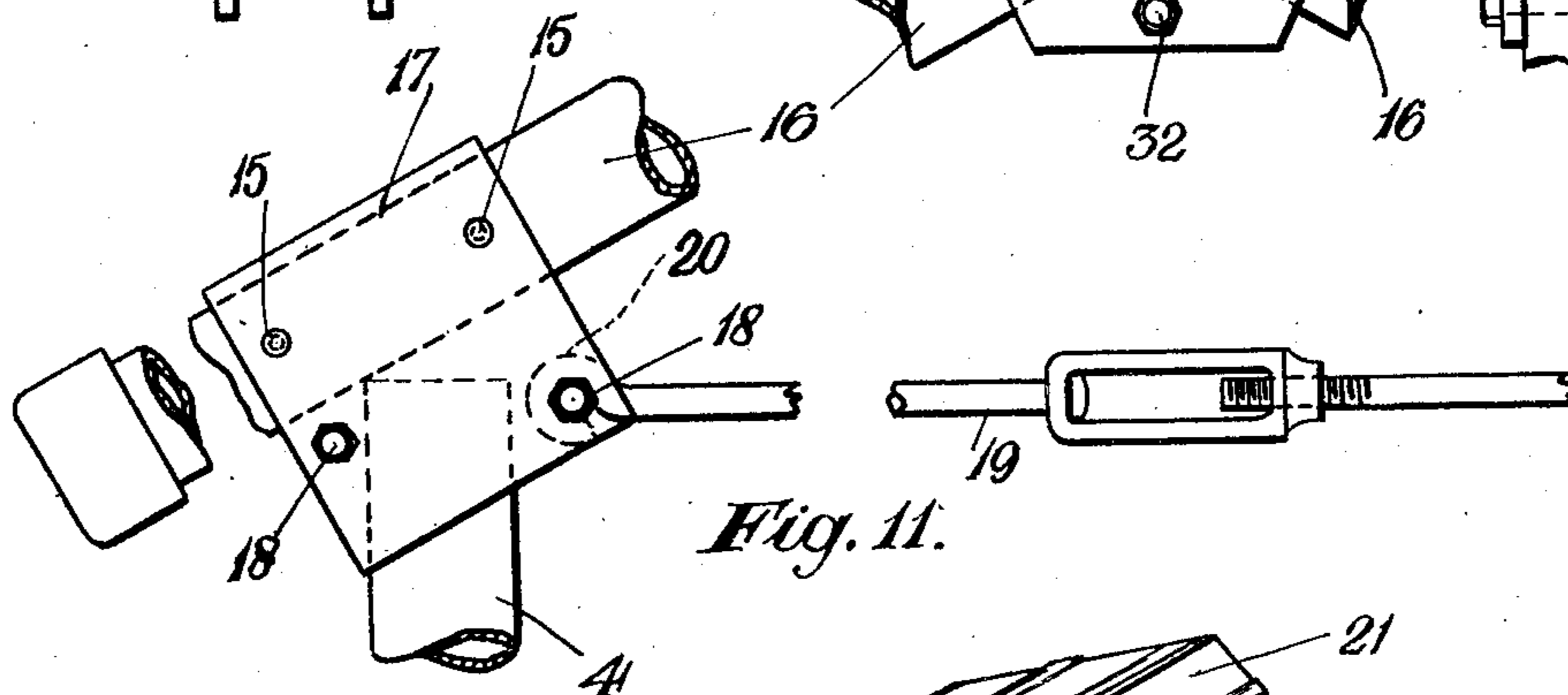
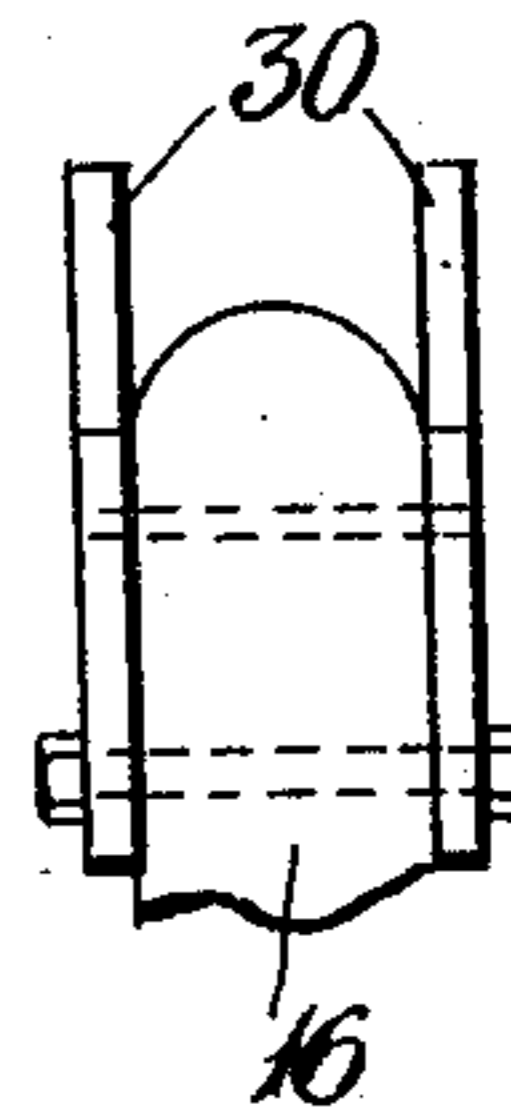
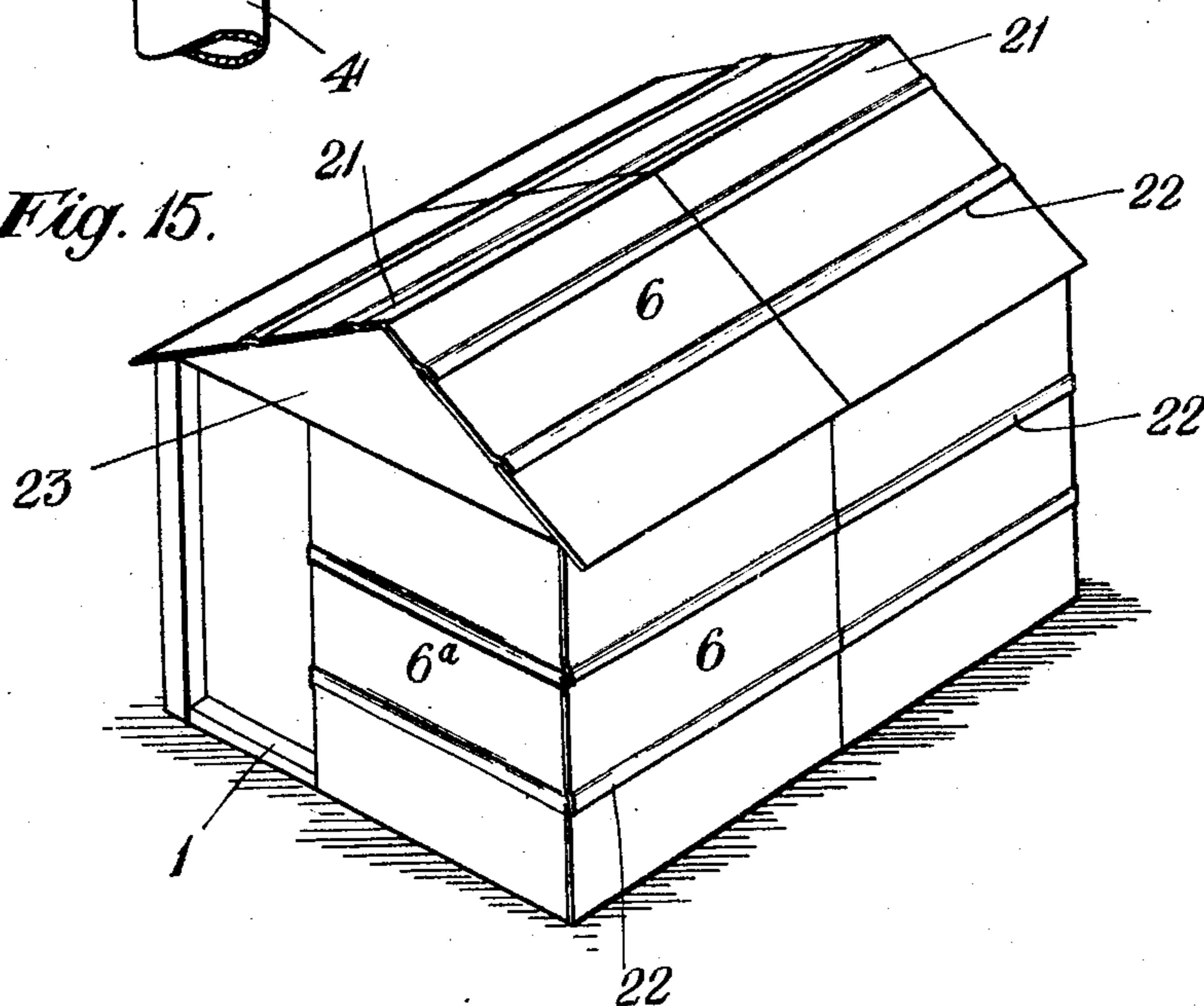


Fig. 11.

Fig. 15.



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UNITED STATES PATENT OFFICE.

GEORGE BULBECK, OF LONDON, ENGLAND.

DEMOUNTABLE HUT.

Application filed November 6, 1926. Serial No. 146,728.

This invention relates to huts, cabins and the like which are capable of being readily erected and disassembled for further erection.

5 The object of my invention is to provide a form of temporary structure of this type which will not involve the use of complicated parts necessitating skilled labour for their assemblage, and which will be of a very durable nature.

10 According to this invention the walls and roof of a hut like structure consist of a number of sheets of metal or other suitable material provided with devices for attachment to bar or rod like frame members which are arranged to form a skeleton of the completed structure, the said sheets being arranged so that they extend partially over each other and having projections for engagement with

20 each other. An important feature of my invention consists in the sheets of metal or other suitable material with which to cover the surfaces of the walls and roofs of the building. These sheets are formed in suitable sizes and I find a useful size to be about 6 ft. x 2 ft. 6", and at the back of each sheet is secured by rivets or otherwise two strips of wood running the length of the sheet and fixed so as to converge towards each other after the manner of two sides of a baseless truncated triangle.

30 These sheets are so arranged that when they are put together longitudinally the narrowed and converging ends of the strips of wood upon one sheet can enter and be wedged comfortably into the wider spaces of the strips of wood upon the adjoining sheet. Allowance is made that the thin sheets of metal or other material can be made so as to cover joint vertically by the end of one sheet entering a short distance under the wooden strips of the adjacent sheet, and if necessary the underside of the strips of wood may be rebated for a short distance for this purpose.

45 By means of these wooden strips upon the sheets of metal these are stiffened so as to be easily handled and they can be longitudinally attached to each other with ease. With regard to the vertical superimposition of one sheet upon the other these will cover the joint up to the distance where the wooden strips do not reach the top or bottom of the sheet.

55 In constructing the whole of the building,

a stout wooden bearing is laid on the ground to cover the entire outline of the walls to be erected and these bearings are supplied with fixed iron shoes at certain intervals capable of receiving vertical metal pipes or stanchions which act to form the constructive parts of the building.

60 Horizontal connections are arranged at the top of these pipes or stanchions at the eaves of the building for securing the stiffness of the vertical supports and also for carrying the inclined pipes or stanchions from each of the eaves' bearings upon which the roof is constructed. It will readily be understood that the constructional ironwork of the building can be braced together or supported in any ordinary and well known manner.

70 The improved sheets to which I have before referred are used to form the sloping sides of the roof in the same manner as the vertical sides of the walls.

Angle pieces to keep out the weather can be arranged at the junction of any two walls and also a V-shaped metal piece placed upon the junction of the two sides of the roof acts as a ridge piece.

80 The metal sheets are attached to the constructional ironwork by means of a suitably hinged device, one portion of which is permanently attached to the wooden strips at the end of one plate and therefrom a bent hinged arm is provided so as to comfortably grip round the pipe or stanchion and then continued so that the free end can be removably bolted, screwed, or otherwise secured to the wood work of the adjoining sheet, and this method of attaching the plates to the constructional work of the walls is also applicable to the roof.

85 In order that my invention may be clearly understood and readily carried into effect I have appended hereto three sheets of drawings somewhat diagrammatically illustrating an embodiment of same, wherein

Fig. 1 is a plan view of the ground frame for receiving the vertical stanchions.

Fig. 2 is an end elevation of the erected framework before the walls and roof are applied to it.

Fig. 3 is an inner face view of one of the wall and roof plates.

Fig. 4 is a plan view of Fig. 3.

Fig. 5 is an inner face view of one of the gable panels.

Fig. 6 is a perspective view of one of the

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securing clamps which are permanently attached to the wall and roof plates and the gable plates.

Fig. 7 is a sectional end elevation of an assembled hut.

Fig. 8 is a sectional plan view of the door end of the hut.

Fig. 9 is an inside elevation of one wall.

Fig. 10 is a broken detail sectional elevation showing the method of affixing a vertical stanchion to the base frame of the structure.

Fig. 11 is a front elevation showing the method of attaching the rafter members to the vertical stanchions.

Fig. 12 is an end view of an inverted U shaped bracket shown in Fig. 11.

Fig. 13 is a front elevation showing the method of attaching the inner ends of the rafter members to each other.

Fig. 14 is an end view of Fig. 13.

Fig. 15 is a perspective view of an assembled hut.

Referring to the drawings the bearing for supporting the hut frame consists of a stout rectangular wooden frame constituted by a plurality of bars 1 united end on end. In Fig. 10 is shown a suitable method of uniting the bars 1 which consists in forming each end of each bar with a step 2 which overlaps a similar step on the adjacent bar, the step at one end of a bar being formed in the upper face of the bar and the step at the other end being formed in the lower face of the bar.

A metal shoe 3 is secured in the lower step 2, and this shoe is threaded to receive the lower and threaded end of one of a number of vertical stanchions 4. Upon each stanchion 4 is secured a back nut 5 which serves as an abutment to ensure that all of the stanchions 4 are threaded corresponding distances into the bars 1, and further it brings the two overlapping portions 2 of the bars 1 close against each other.

The uprights or stanchions 4 are erected at each corner of the base frame 1, and intermediate the corners if the predetermined size of the hut makes such additional stanchions necessary.

When the requisite number of stanchions 4 are erected the side or wall plates 6 (see Fig. 3) are applied to the stanchions. Each plate 6 consists of a thin metal or other suitable sheet to the back face of which are secured a pair of stiffening bars 7, preferably of wood, permanently secured to the plate 6. The bars 7 are symmetrically slightly out of parallel with the longitudinal edges of the plate 6, and the bars on all of the plates 6 correspond exactly in their location upon their plates, the distance between the inner opposing edges of the bars 7 at one end of a plate being such that they will receive as a nice fit between them the equivalent of the other ends of the bars on another plate 6. To enable the ends

of the plates to overlap the ends of the bars 7 are rebated or recessed on their inner edges as shown at 8 in Fig. 4.

The plates 6 are readily detachably secured to the stanchions 4 by means of clamps 9, a pair being secured to each bar 7. Each of these clamps 9 comprises a back plate 10 (see Fig. 6) which is permanently secured to the bar 7 and has pivotally connected to it an arcuate resilient metal strip 11, the free end of which is formed with a slotted lug 12 to receive a screw 13 pivotally connected to the back plate 10 and provided with a wing nut 14. The plates 6 are placed against the outer sides of the stanchions 4 and the clamp strips 11 are engaged against the inner sides and each secured by threading the wing nut 14 along the screw 13 until the plate 6 is tightly secured against the stanchions 4.

When a sufficient number of wall plates 6 have been secured to the stanchions 4 to maintain them rigid the rafter members 16 are secured to the upper ends of the stanchions 4. The rafter members 16 and the stanchions 4 are preferably metal gas piping of standard diameter, and it is preferred to have a V or gable roof, consequently any stanchions 4 which extend to or in juxtaposition to the apex of the roof are larger than the others.

The rafter members 16 are attached to the upper ends of the stanchions 4 by inverted U shaped brackets 17 (see Figs. 11 and 12) which are radiused to fit snugly over the members 16 and receive between their limbs the upper ends of the stanchions 4, bolts 18 passed through each bracket 17 each side of a stanchion 4 clamping the bracket to the stanchion. Also bolts can be passed through holes 15 in the brackets 17 and the members 16 when desired. Adjustable tensioning or bracing stays 19 can be connected across the corner or centre stanchions 4 to brace up the structure, and this can be effected conveniently by forming the ends of the stays 19 with hooks 20 to engage over selected bolts 18 of the brackets 17.

The roof is obtained by affixing to the rafter members 16 a number of plates 6 in the same manner as the plates 6 and attached to the stanchions 4, and if desired special apex plates 21 (Fig. 15) can be provided for bridging the gap between the upper edges of the roof plates 6.

To obviate horizontal spaces between the plates 6 the lower edge of each plate 6 is preferably slightly stepped, as indicated at 22 (Figs. 7 and 15) to enable the plates to overlap each other.

To close the space between the roof and the plates 6 fore and aft of the structure a pair of gable panels or plates 23 (Fig. 5) are provided. Each gable plate 23 is provided with a stiffening bar 24 parallel with the lower edge of the plate, and shorter stiffening bars 25 at right angles to the upper edges of the

plate, each of the bars 25 having a clamp 9 for engagement with the rafter members 16.

To seal the vertical corners of the structure L section metal bars 26 are provided (Fig. 8) which are engaged under the rebated ends of the stiffening bars 7. A door can be provided by having shorter plates 6^a for one end or side of the structure, and providing a special vertical stanchion 27 (Fig. 7) to support one end of such shorter plates. A door frame 28 can then be fitted into the opening provided, such door frame having pivotally connected to it the door 29 (Fig. 8).

The inner ends of the rafter members 16 are secured to each other by a number of pairs of plates 30 (Figs. 13 and 14), each pair of plates 30 and the ends of the members 16 having apertures 31 to receive bolts, bolts 32 being passed through further registering openings in each pair of plates 30. The plates 30 are preferably pentagonal metal members as shown in Fig. 13.

While I have referred to my improved plates as being made preferably of sheet metal with stiffening pieces of wood at the back so arranged as to be the connecting mediums between the two plates, it will be readily understood that the plates may be stamped or pressed out with grooves and projections which would be equivalent to fixing a wooden piece at the back of the plate, and in this modification of my invention the whole plate would be in one piece and the pressed out portion would also help to stiffen the plates.

When a floor is required for the building it is constructed and put together with sheets in the manner referred to upon suitable plates laid on the ground.

Spaces can be so arranged in the whole building construction so as to allow for the fitting where required of the necessary windows and doors with frames of ordinary construction.

It will be readily understood that a construction of this type can be quickly erected and also quickly dismantled and packed for removal to another site and the plates may be formed of any suitable material for the purpose.

I claim:—

1. A temporary building construction comprising a frame, a plurality of sheets for covering said frame, strips of wood fixed to said sheets and clamping devices for securing said

sheets to said frame wherein said clamping devices consist of movable clip members embracing the members of said frame and screws for fixing said clip members detachably to said strips of wood.

2. A temporary building construction comprising a frame, a plurality of sheets for covering said frame and securing devices on said sheets having hinged clamping members for embracing the members of said frame and screws for fixing the free ends of said clamping members detachably to said sheets.

3. A temporary building construction comprising a frame, a plurality of sheets for covering said frame and means for securing said sheets to said frame comprising clamping elements each clamping element being hinged to one sheet and being shaped to embrace a member of said frame and provided with screw means for fixing it detachably to an adjacent sheet.

4. A temporary building construction comprising a frame, a plurality of sheets for covering said frame strips of wood fixed to said sheets and means for securing said sheets to said frame each comprising a clamping element hinged to one of said strips on one sheet and shaped to embrace a member of said frame and screw means for fixing said clamping element detachably to an adjacent sheet.

5. A temporary building construction comprising a frame, a plurality of sheets for covering said frame, strips of wood converging towards each other fixed to said sheets and means on said strips for securing said sheets detachably to said frame.

6. A temporary building construction comprising a frame, a plurality of sheets for covering said frame, converging strips of wood fixed to said sheets, movable clip members on said strips for embracing the members of said frame and screw means for clamping said clip members on said frame.

7. A temporary building construction comprising a frame, overlapping sheets covering said frame, converging strips of wood fixed to said sheets, the strips on one sheet engaging between the strips on an adjacent sheet, and means on said strips for fixing said sheets to said frame wherein the undersides of said strips are rebated for receiving the edges of an adjacent sheet.

GEORGE BULBECK.