

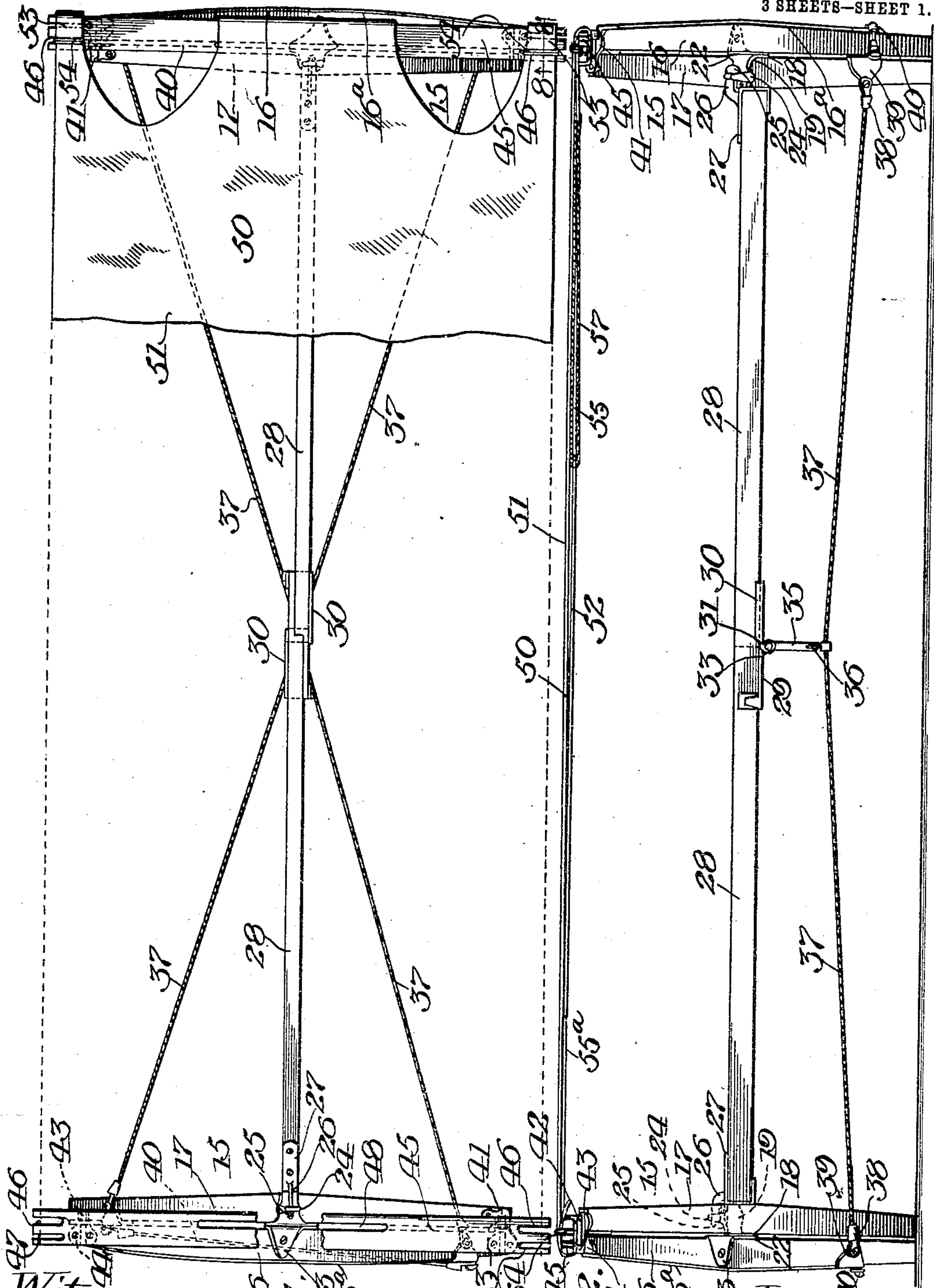
K. L. HYLLER.
 COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.

APPLICATION FILED FEB. 13, 1909.

Patented Sept. 28, 1909.

935,513.

3 SHEETS—SHEET 1.



Witnesses
 C. M. Nymand
 M. A. Nymand.

FIG. 1.

FIG. 2.

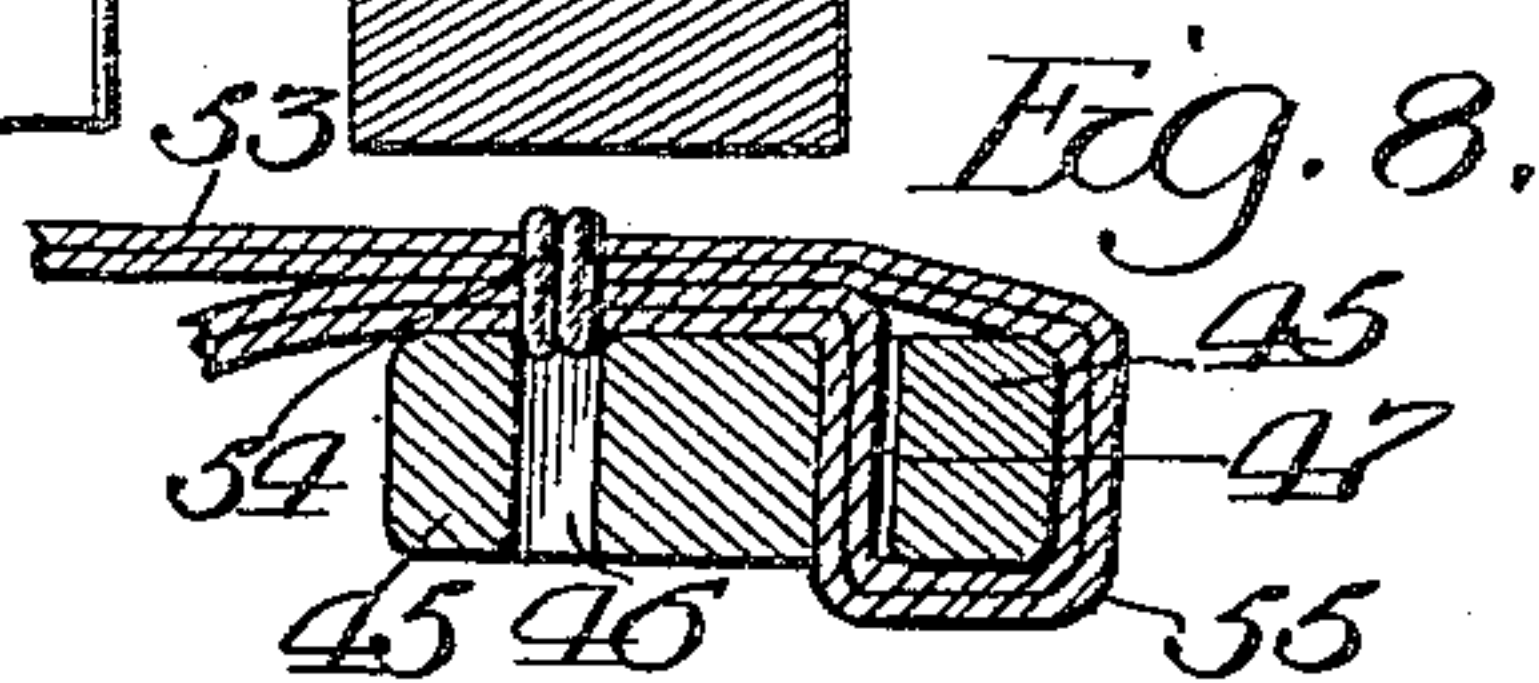
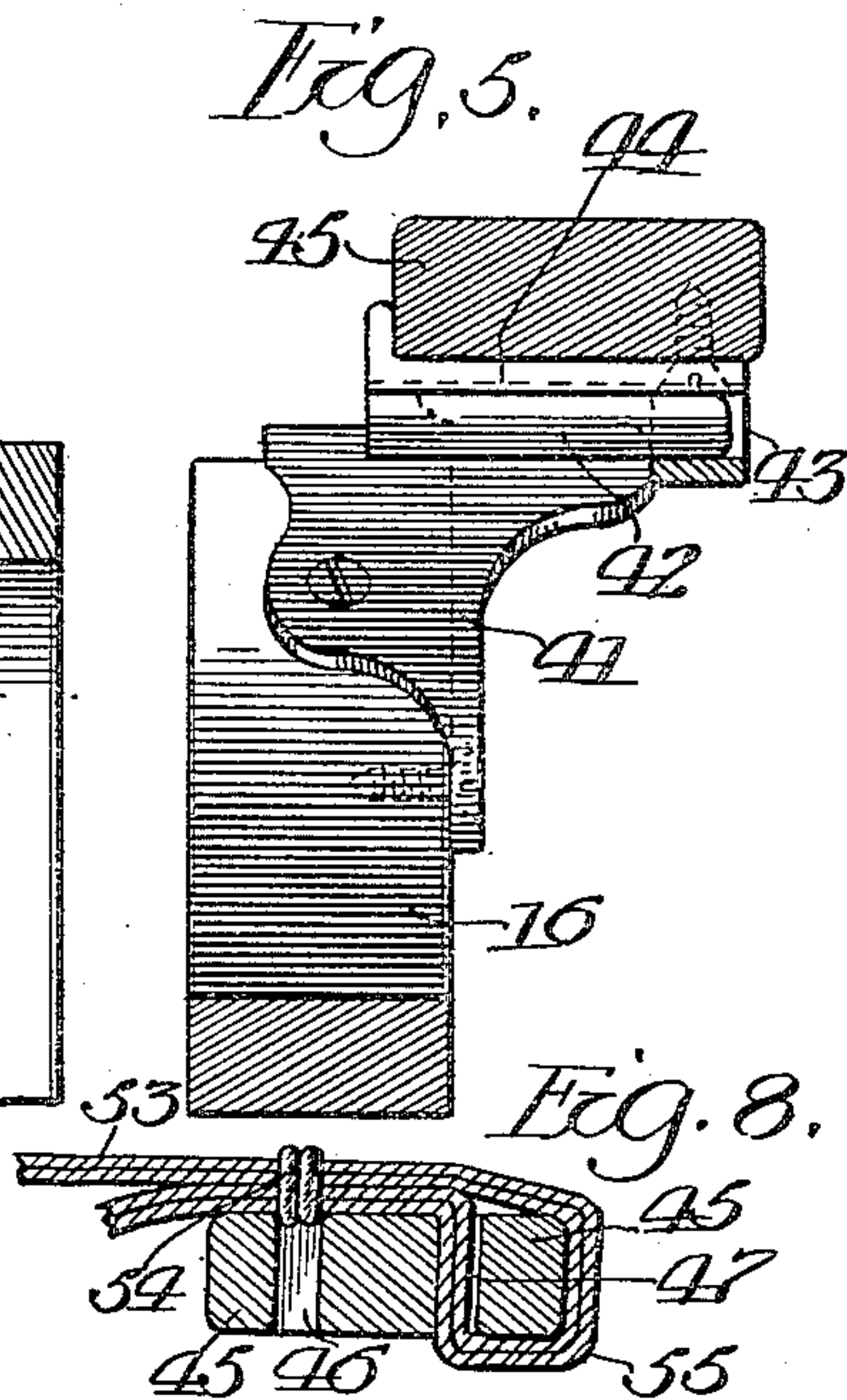
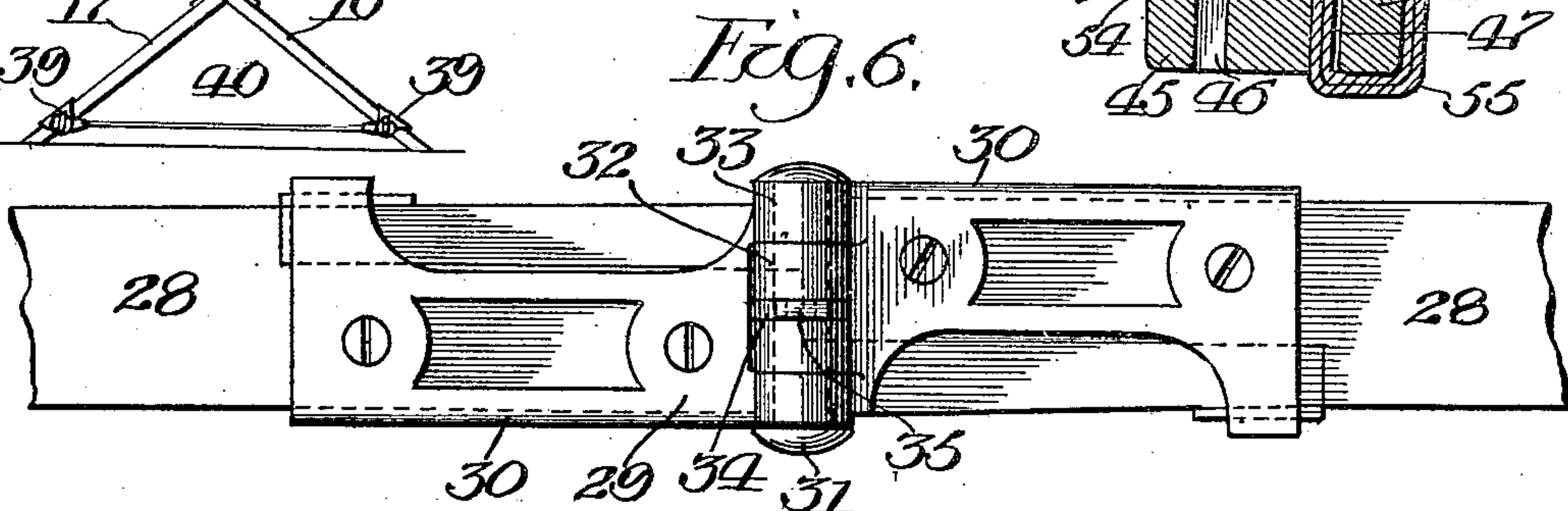
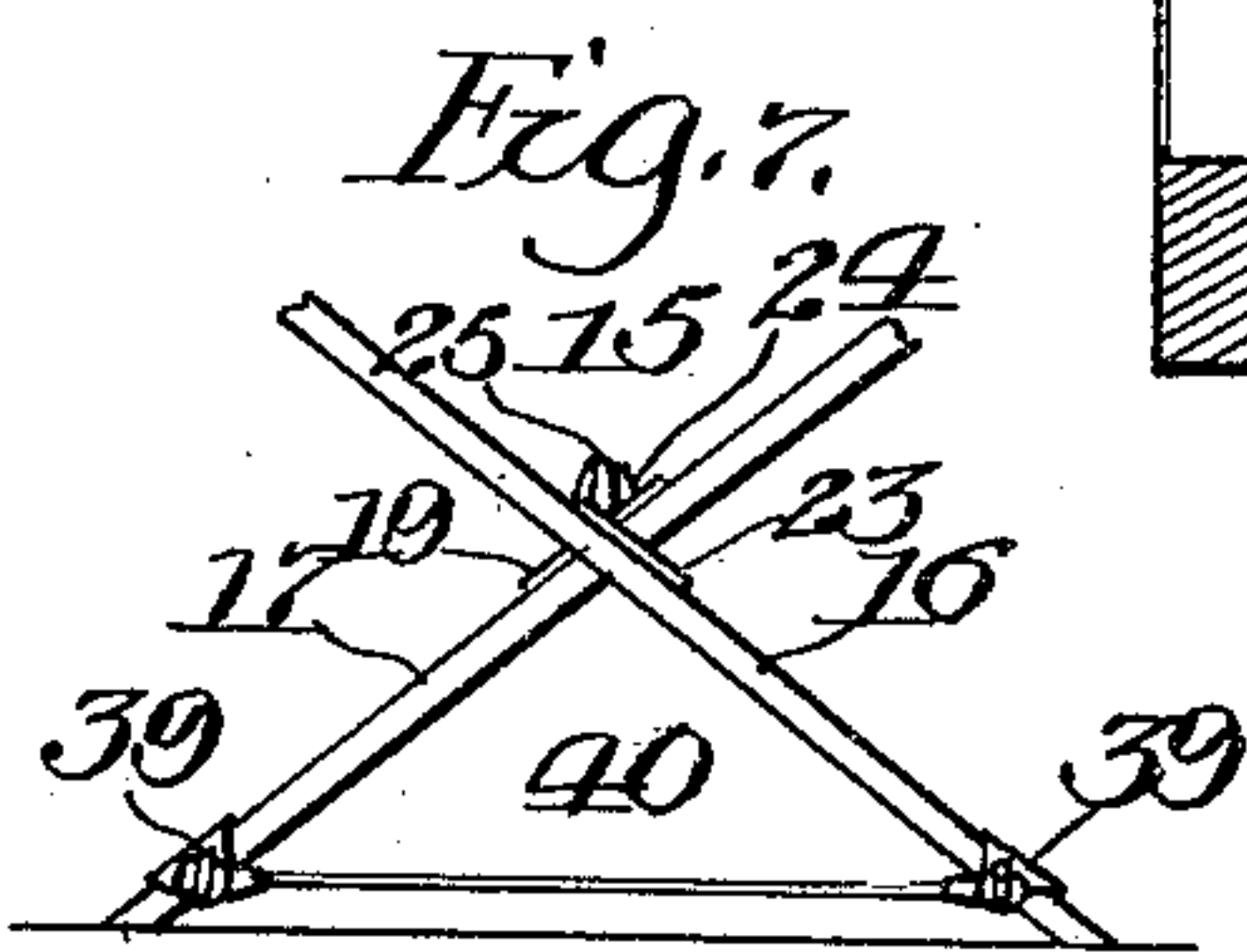
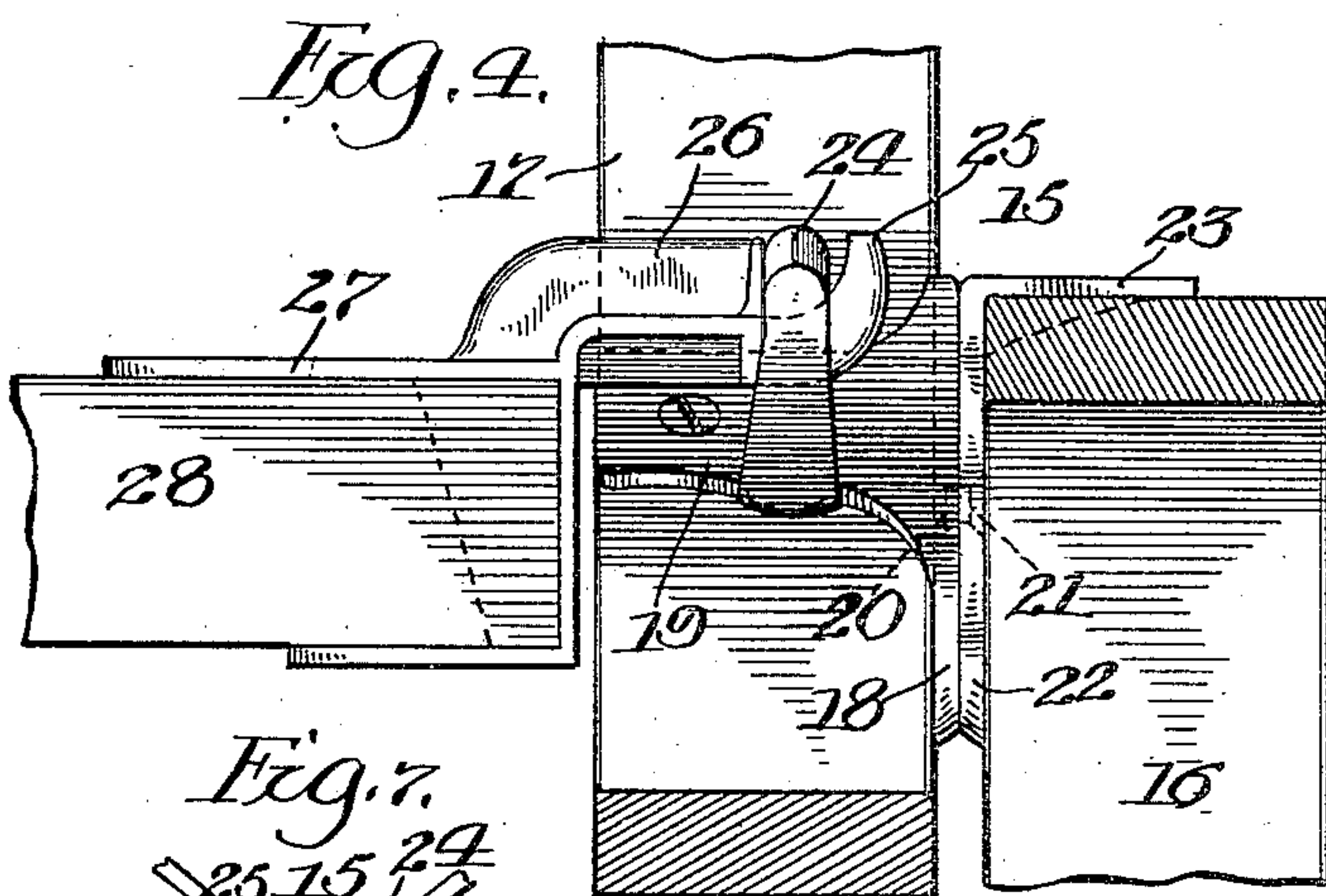
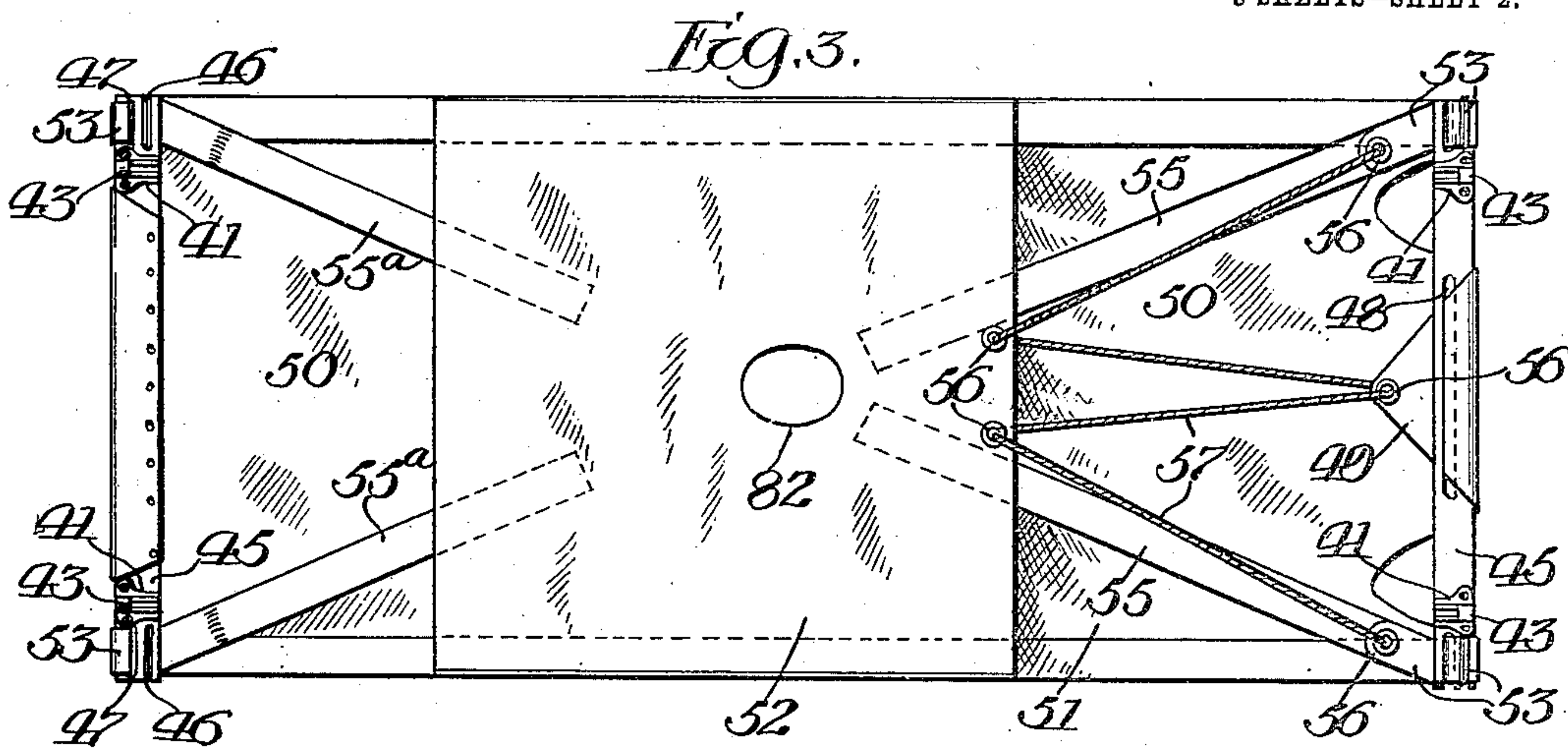
Inventor
 Knut L. Hyller
 Chas. C. Hillman Atty

K. L. HYLLER.
 COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.
 APPLICATION FILED FEB. 13, 1909.

935,513.

Patented Sept. 28, 1909.

3 SHEETS—SHEET 2.



Witnesses
 O. W. Hennick
 M. A. Nyman.

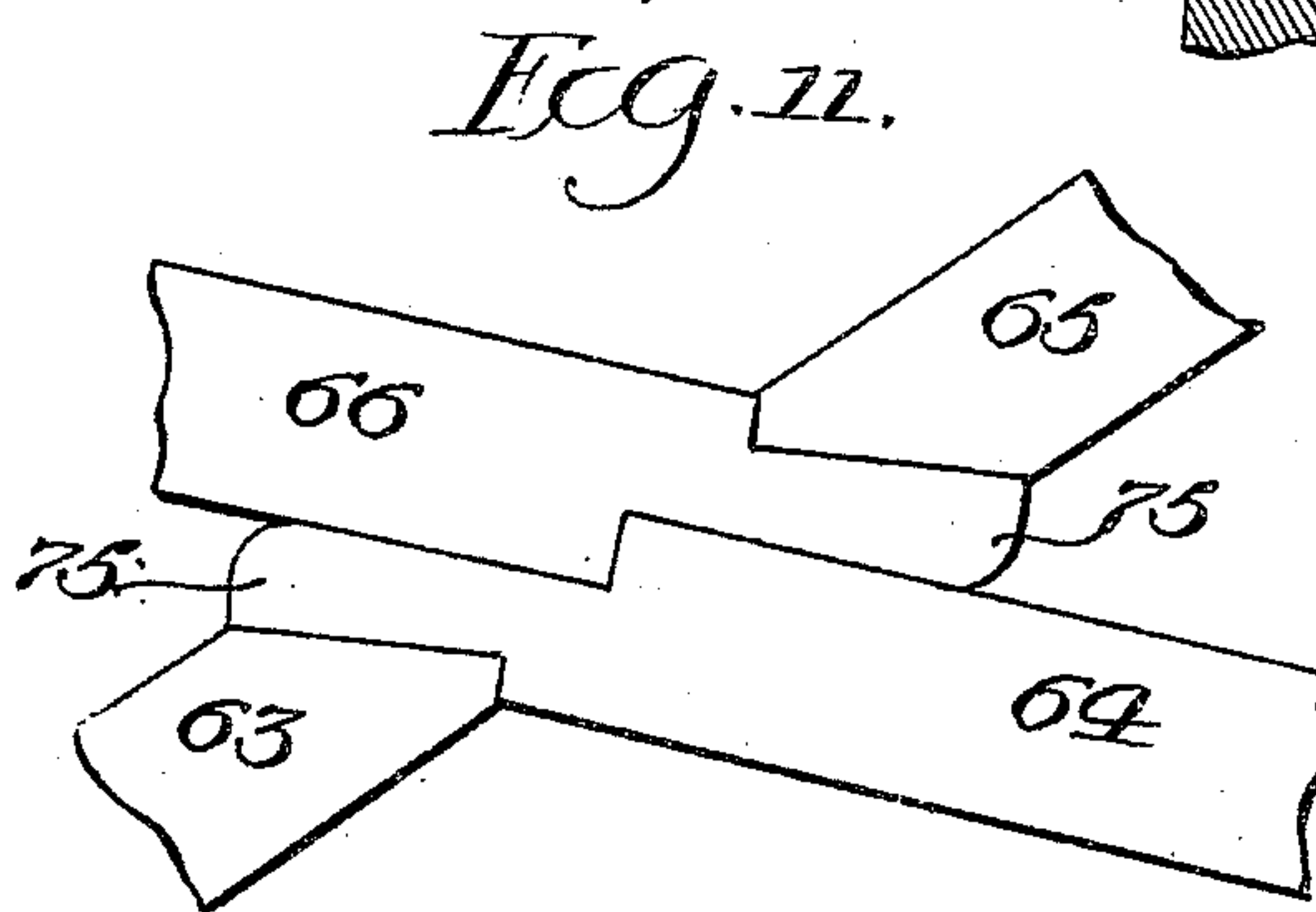
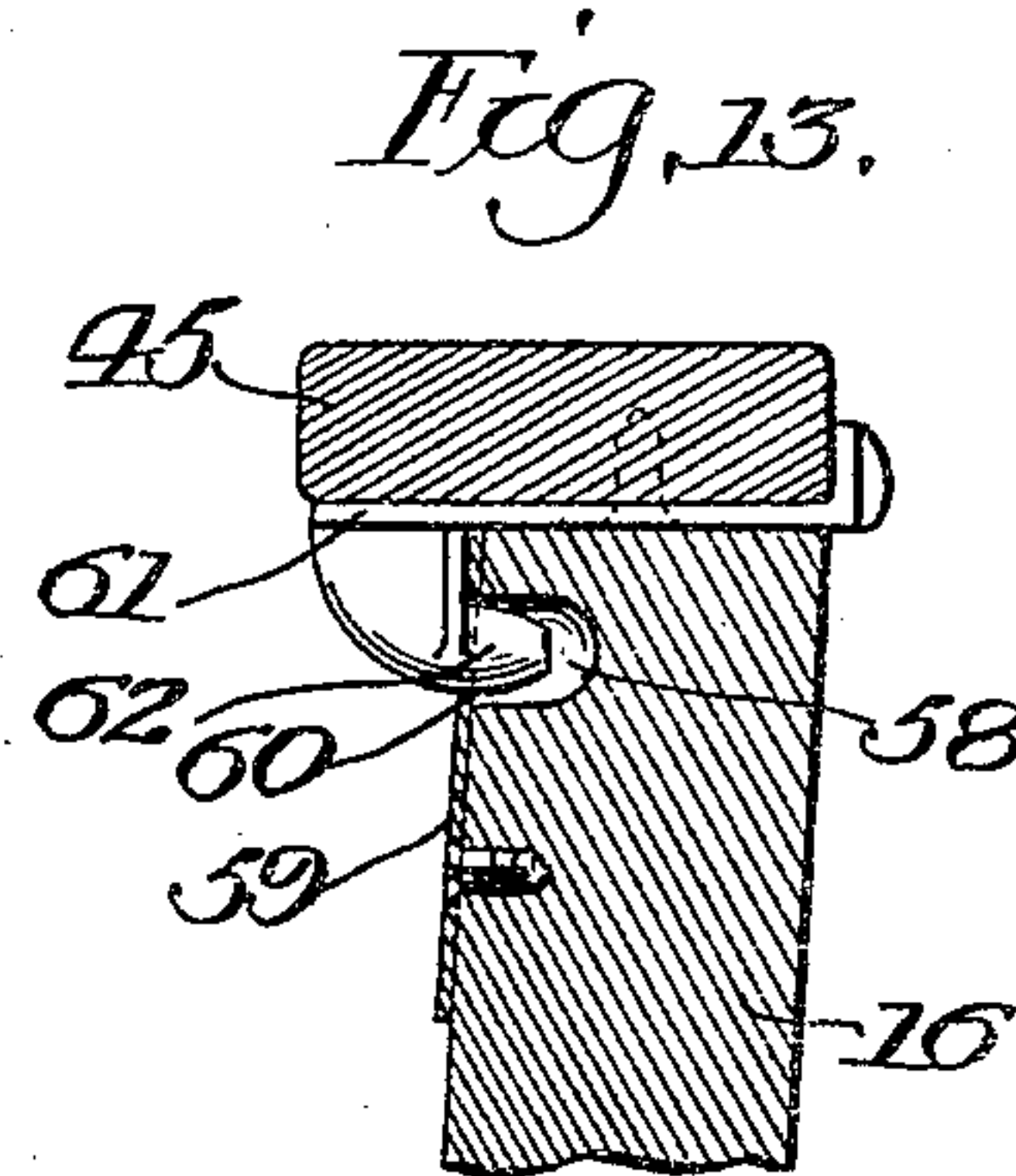
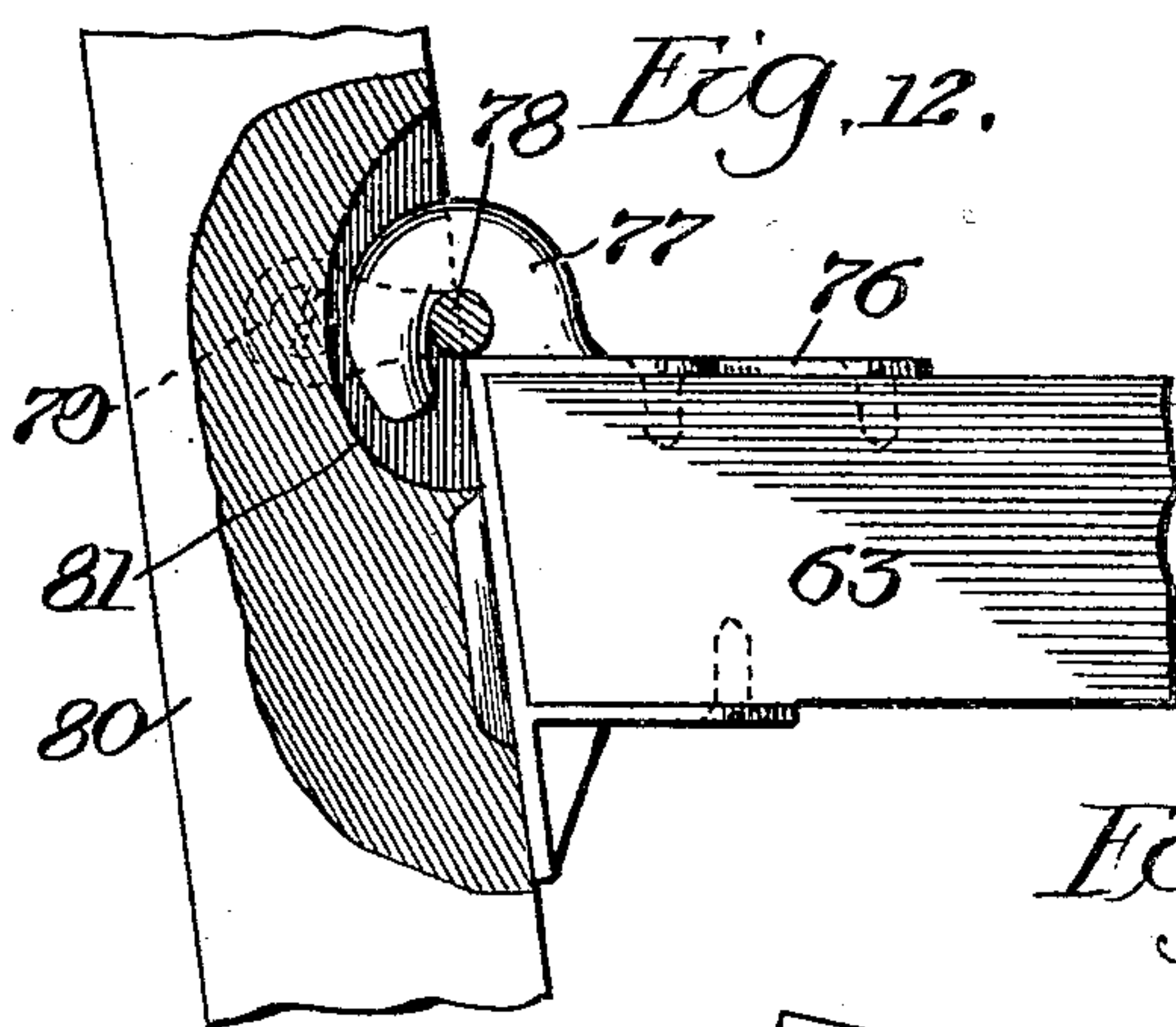
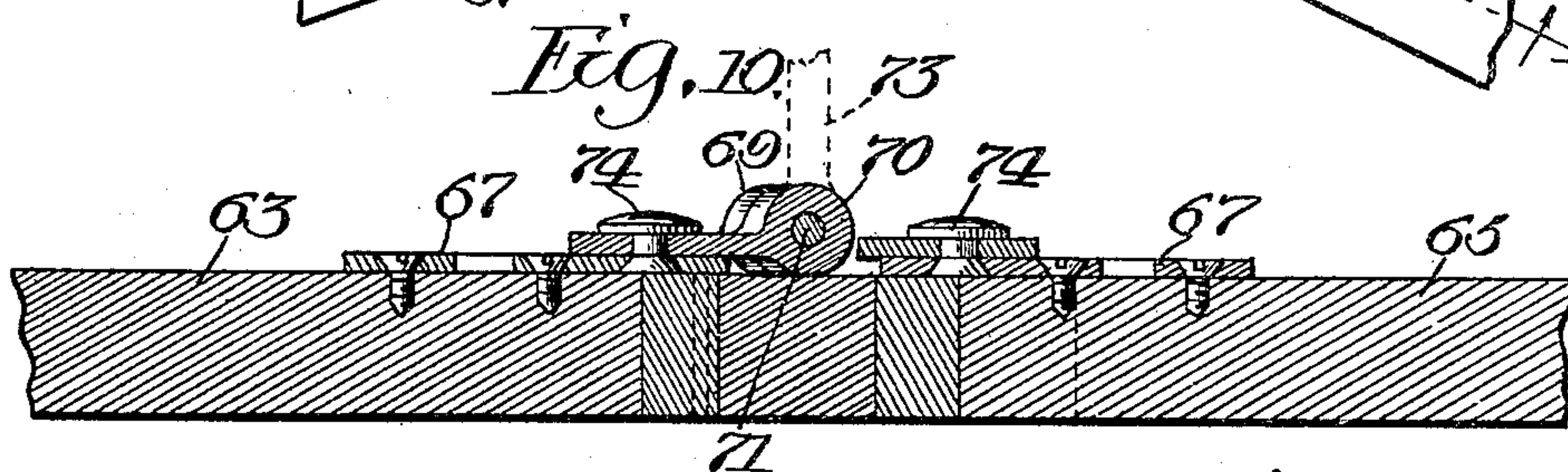
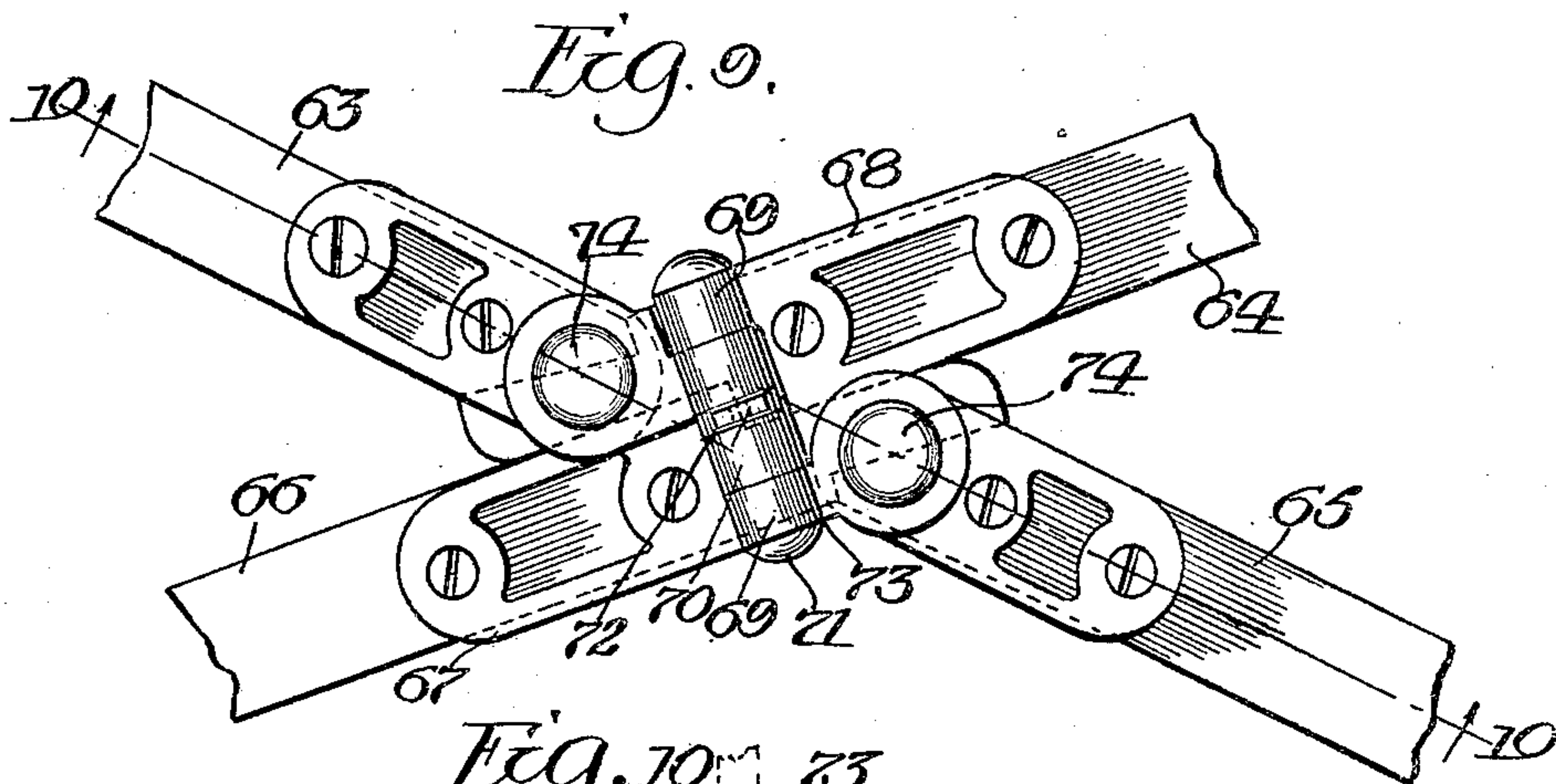
Inventor
 Knut L. Hyller
 by *Chas. C. Hillman* Atty.

K. L. HYLLER.
 COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.
 APPLICATION FILED FEB. 13, 1909.

935,513.

Patented Sept. 28, 1909.

3 SHEETS—SHEET 3.



Witnesses
O. M. Thummler
M. A. Nyman.

Inventor
Knut L. Hyller
 by *Chas. C. Pillsbury, Atty*

UNITED STATES PATENT OFFICE.

KNUT L. HYLLER, OF CHICAGO, ILLINOIS.

COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.

935,513.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed February 13, 1909. Serial No. 477,722.

To all whom it may concern:

Be it known that I, KNUT L. HYLLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Collapsible or Folding Frame for Hammocks, of which the following is a specification.

This invention relates to certain improvements in a collapsible or folding frame for hammocks, cots and the like, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a folding or collapsible frame which may be used for cots or hammocks and which will be adapted to be compactly folded up when not required for use, while being capable of ready assemblage when desired.

A further object of the invention is to provide a frame of the above-named general character, which shall be simple and inexpensive in construction, strong, durable and efficient in operation, and so made that its parts may be quickly assembled to produce a frame of sufficient size and strength for effective and practical use whenever desired.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a plan view of a frame embodying the invention, showing the parts in their extended positions and ready for use, but illustrating a portion only of the body support; Fig. 2 is a view in side elevation, showing the parts in position ready for use as a hammock or cot; Fig. 3 is a bottom plan view of the body support showing the construction thereof, and illustrating the means for securing the same to the end rails of the frame, as well as the means for tightening parts of the body support; Fig. 4 is an enlarged view partly in section and partly in elevation of portions of the members of one of the end uprights or standards of the frame and a part of the brace for said uprights, showing the means for connecting said parts together; Fig. 5 is a view partly in section and partly in elevation of one of

the members of one of the end uprights, showing the means for securing the end rail thereto; Fig. 6 is a bottom plan view of the central or hinged portion of the brace which unites the end uprights; Fig. 7 is an end view of a portion of one of the end uprights or end pieces of the frame, showing its members extended; Fig. 8 is a cross-sectional view taken on line 8—8 of Fig. 1 looking in the direction indicated by the arrows, showing the manner of securing the body support to one of the end rails of the frame; Fig. 9 is a bottom plan view of a modified form of the brace; Fig. 10 is a sectional view thereof taken on line 10—10 of Fig. 9 looking in the direction indicated by the arrows; Fig. 11 is a top plan view thereof; Fig. 12 is an enlarged view partly in section and partly in elevation of one of the members of one of the end uprights and a portion of the modified form of brace, showing the means for connecting said parts together; and Fig. 13 is a sectional view of the upper portion of one of the members of the end uprights and one of the end rails, showing a modification in the manner of securing same together.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawings.

The reference numeral 15 designates as a whole the end uprights or standards of the frame, which may be of any suitable size and material, but preferably of wood, and are counterparts of one another. As is clearly shown in Figs. 1, 2, 4 and 7 of the drawings each of the end uprights consists of an outer leg or member 16 and an inner leg or member 17 which preferably have their adjacent edges straight and their outer edges curved or bowed, as shown in Figs. 1 and 2 of the drawings. Each of the members 17 has secured thereto on its outer surface at about its middle a metal plate 18 which has an extension 19 extended across one of its sides and secured thereto by means of a screw or otherwise, and said plate has at about its middle a socket 20 to receive a pivot or swivel 21 on a plate 22 secured to the inner surface of each of the members 16 at about its middle, each of which latter plates has an extension 23 extended crosswise of the side of the member 16 and secured thereto by means of a screw or otherwise. By this arrangement it will be apparent that the members or legs 16 and 17 comprising the end

uprights of the frame will be pivoted or swiveled together, thus permitting them to be folded one on the other when desired. Each of the extensions 19 of the plates 18 is provided with an upwardly extended loop 24 for engagement with a hook 25 on the arm 26 of a bracket 27, one of which is secured on each end of the brace which is extended from one of the end uprights to the other, and consists of two pieces 28 secured together at their meeting ends by means of a hinge 29 which is located on the lower surfaces thereof.

As is clearly shown in Figs. 2 and 4 of the drawings the brackets 27 are socketed to receive the ends of the pieces 28 and may be secured thereto in any suitable manner, and it will be understood by reference to Figs. 2 and 6 of the drawings that the hinge 29 which unites the pieces 28 of the brace consists of two channeled pieces 30, which are secured together at their adjacent ends by means of a pintle 31 extended through transverse openings in enlargements 32 and 33 on said pieces. The enlargement 32 on one of the hinge members 30 is provided with a slot 34 through which is extended a pendent arm 35 which has means, usually an eye, at its lower end to engage a hook 36 mounted on the cables or cords 37 at about their middle, which cords or cables are crossed as shown in Fig. 1, and are secured at their ends to the lower portions of the legs or members 16 and 17 of each of the end uprights by any suitable means, but preferably by means of socketed heads 38, each of which is pivotally secured to a clip 39 attached to the lower part of said legs or members. Each of the clips 39 has loosely secured thereto on the outer surfaces of the legs 16 and 17 the ends of a flexible connection 40, which connections unite the lower portions of the members or legs 16 and 17 transversely of the frame and in pairs, so as to prevent them spreading too far apart. Each of the members or legs 16 and 17 has secured to its upper portion a bracket 41 which is provided on its upper portion with a horizontally disposed arm 42 which projects at its outer end slightly beyond the main portion of the bracket 41 and engages a socket 43 on a plate 44 which is secured to the lower surfaces of the end rails 45 near the ends of each, which end rails are located on the upper ends of the members of the end uprights, and are held in place thereon by means of the arms 42 engaging the sockets 43 of the plates 44 on said rails.

Each of the rails 45 is provided at each of its ends with an open ended slot 46 and with a closed slot 47 near the same, see Figs. 1 and 3 of the drawings, for the purpose to be presently explained, and one of the said end rails is provided at its middle with a longitudinally extended slot 48 for the reception of a portion of a flap or extension

49 on one end of the body support, which is designated as a whole by the reference numeral 50, and which consists of an upper sheet of cloth or other fabric 51 of the proper dimensions to extend from one of the end rails of the frame to the other, and of a lower sheet 52 which is much shorter than the sheet 51 and has its sides secured to the sides of the sheet 51, but with its intervening portion loose therefrom. Each end of the sheet 51 of the body support has at its sides an extension or strap 53 which are extended over the upper surfaces of the rails 45, then under the same and then up through the slots 47 and inwardly therefrom on top of said rails, which straps may be secured in position on the rails by means of cords or strings 54 extended through the slots 46 and transversely of said straps. At that end of the sheet 51 of the body support which is provided with the extension 49 a pair of supplemental straps 55, each having a gromet 56 at its free end and secured diagonally to the loose portion of the sheet 52 of the body support, is employed. The free portions of each of the supplemental straps 55 is also passed over the upper surface of the rail 45 in which the slot 48 is formed, then under the same and then up through the slots 47, and then inwardly and transversely of said rails, and may be held in such position by means of the cords or strings 54, see Fig. 8 of the drawings.

By reference to Fig. 3 it will be seen that the extension 49 on the sheet 51 is provided with a gromet 56 and that the loose sheet 52 is also provided with gromets 56 near its edge adjacent to said extension, through which gromets, as well as through the gromet 56 on the supplemental straps 55, is extended a cord 57 used for tightening the body support. At its other end the loose sheet 52 is provided with supplemental straps 55^a which are extended through the slots 47 of the end rail 45 adjacent to the straps 55^a in a similar manner to that above-described. Located longitudinally on the outer surface of each of the outer legs or members 16 of the end uprights is a reinforcing rod 16^a which has its ends preferably secured to the clips 39 and the brackets 41, and are used for the purpose of giving additional strength to the legs or members 16, for it will be apparent that when the pieces 28 of the brace are connected by means of the arm 35 to the connections 37 which unite the lower portions of the members of the end uprights, and the body support 50 has the weight of a person placed thereon, the members or legs 16 will be subjected to great strain and will be slightly bent inwardly at their ends, and as the rods 16^a are secured at their ends to said members near their ends, additional strength will be imparted to the latter.

Instead of employing the brackets 41 of the construction shown in Fig. 5 and above-described on the upper ends of the members 16 and 17 of the end uprights I may provide the outer upper portions of each of said legs or members with a recess 58 (see Fig. 13), and secure on the outer surface of each of said members a plate 59 having an opening 60 to register with the recess 58, and may secure on each of the end rails 45 near its ends a plate 61 having an intumed projection 62 to engage the openings 60 and recesses 58 in said members. In employing the above-described modification the body support 50 may be of the same construction as shown in Fig. 3 and above-described, and may be attached to the end rails 45 in the manner above set forth.

In Figs. 9 to 12, inclusive, I have shown a modification in the construction of the brace for the end uprights, which I may sometimes employ instead of the construction of brace shown in Figs. 1, 2, 4 and 6 of the drawings and above-described, which modification consists in constructing the brace of four diagonally disposed members 63, 64, 65 and 66 united together at their adjacent ends by means of a hinge, which consists of two members 67 and 68 which are provided at their meeting ends with transversely apertured enlargements 69 and 70 through which is passed a pintle 71 to pivotally join the parts 67 and 68 together. The enlargement 70 is provided at about its middle with a slot 72 through which is extended an arm 73 loosely secured on the pintle 71 and having means at its lower end to engage means on the flexible connections 37 which unite the lower parts of the members of the end uprights, as in the other construction. Two of the members of this modified form of brace, usually 63 and 65, are secured by means of pivots 74 to the hinge members 67 and 68 so that the parts 63 and 65 may be folded to the parts 66 and 64, respectively, after the hinge members 67 and 68 have been moved toward each other, for it will be understood by reference to Fig. 11, which is a top plan view of Fig. 9 when the parts are extended, that by reason of the dove-tail shaped ends 75 of the pieces 64 and 66 and of the correspondingly shaped ends of the pieces 63 and 65 said members will be locked in their extended positions until the members of the hinge are turned toward each other, which operation will disengage the interlocked portions and allow the pivoted members 63 and 65 to be folded against the members 64 and 66, when all of said members may be folded together in a compact form. In the modification now under consideration the outer end of each of the members or pieces of the brace has secured thereon a bracket 76 having on its upper outer portion a downturned hook 77 to engage the transverse portion 78 of a clip 79

secured to the sides of the members or legs 80 of the end uprights, so that the transverse portion 78 of each clip will extend across the inner surface thereof and over a recess 81 formed therein for the reception of the hook 77 on each of the members of the brace. In using this modified form of the brace the legs of the end uprights may be crossed and swiveled or pivoted together as before, or they may be otherwise connected together transversely so as to support at their upper ends the end rails of the frame to which the body support may be secured, as above-described.

From the foregoing and by reference to the drawings it will be seen and clearly understood that by extending the crossed legs or members 16 and 17 of the end uprights to about the positions shown in Figs. 1, 2 and 7 the lower portions thereof will be prevented from further outward movement by means of the flexible connections 40 and the end rails 45 to which the body support is attached secured on their upper portions, when by placing the hooks 25 of the arms 26 of the brace pieces 28 in engagement with the loops 24 on the members 17 of the end uprights and forcing the brace pieces 28 downwardly at their hinged portions, the upright end pieces 15 will be forced from each other, thus tightening the body support, as well as the flexible connections 37 which are secured to the lower portions of the end uprights, as before stated. When the parts are thus extended the arm 35 may be connected to the hook or engaging device 36 on the connections 37, thus causing the brace to be securely held in its extended position. Access to the brace may be easily attained through an opening 82 in the central portion of the body support, as is obvious.

When the modified constructions shown in Figs. 9 to 13, inclusive, are employed, the operation of assembling the parts for use as a cot or hammock is substantially the same as above set forth, as is apparent.

When it is desired to fold the parts together for transportation or storage, it is evident that by unfastening the arm 35 on the brace from the flexible connections 37 the brace members may be easily detached from the members of the end uprights and folded into a compact form, when by removing the end rails 45 from the upper ends of the end uprights said upright members may be folded together compactly. As the body support 50 is made of flexible material, it is obvious that it may be wrapped around the other members of the device to form a container or wrapper therefor, when desired.

It will be obvious from the above description that the device is susceptible of considerable modification without material departure from the principles and spirit of

the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts of the device herein set forth in carrying out my invention in practice.

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

1. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, each of said members having on its upper portion engaging means, of transverse end-rails having means near their ends to engage said means on said members so as to unite the latter transversely in pairs, a body support connected at each of its ends to said rails, a longitudinal brace consisting of pieces loosely connected at their inner ends and having means on their outer ends to detachably secure them to said end members, longitudinally extended connections uniting the lower portions of the end members, and a connection uniting the middle portion of the brace to the middle part of the longitudinally extended connections.

2. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, a plate secured to one of the members of each pair at about its middle and provided with an upwardly extended loop, of transverse end-rails having means near their ends to detachably engage the upper ends of each of said members and to connect them transversely in pairs, a body support connected at each of its ends to said rails, a longitudinal brace consisting of alined pieces loosely connected together and each having at its outer end a hooked arm to engage the loops on the end members.

3. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, a plate secured to one of the members of each pair at about its middle and provided with an upwardly extended loop, of transverse end-rails having means near their ends to detachably engage the upper ends of each of said members and to connect them transversely in pairs, a body support connected at each of its ends to said rails, a longitudinal brace consisting of alined pieces loosely connected together and each having at its outer end a hooked arm to engage the loops on the end members, and longitudinally and diagonally extended connections uniting the lower portions of the end members.

4. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, each of said members having on its upper portion engaging means for an end-rail, of a plate secured to the middle por-

tion of one of said members of each pair and having an upwardly extended loop, transverse end-rails having means near their ends to engage said means on said members so as to unite the latter transversely in pairs, a body support connected at each of its ends to said rails, tightening means for said support at one of the ends thereof, a longitudinal brace consisting of loosely connected alined pieces each having at its outer end a hooked arm to engage the loops on the end members.

5. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, each of said members having on its upper portion engaging means for an end-rail, of a plate secured to the middle portion of one of said members of each pair and having an upwardly extended loop, transverse end-rails having means near their ends to engage said means on said members so as to unite the latter transversely in pairs, a body support connected at each of its ends to said rails, tightening means for said support at one of the ends thereof, a longitudinal brace consisting of loosely connected alined pieces each having at its outer end a hooked arm to engage the loops on the end members, and longitudinally extended flexible connections uniting the lower portions of the end members.

6. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, each of said members having on its upper portion engaging means for an end-rail, of a plate secured to the middle portion of one of said members of each pair and having an upwardly extended loop, transverse end-rails having means near their ends to engage said means on said members so as to unite the latter transversely in pairs, a body support connected at each of its ends to said rails, tightening means for said support at one of the ends thereof, a longitudinal brace consisting of loosely connected alined pieces each having at its outer end a hooked arm to engage the loops on the end members, longitudinally extended flexible connections uniting the lower portions of the end members, and means to detachably connect the middle portion of the brace with the middle portion of the flexible connections.

7. In a collapsible frame, the combination with a pair of crossed members pivotally connected together and located at each end of the frame, of means to brace said end members longitudinally, end-rails having means near their ends to engage the upper ends of each of said crossed members and to connect them together transversely in pairs, one of said rails having a longitudinally extended slot at about its middle and a similarly ex-

tended slot near each of its ends, a body support consisting of an upper sheet of flexible material having at one of its ends extensions located in the slots of the slotted end-rail and provided with openings near their ends, a lower sheet of flexible material secured at its sides to the sides of the upper sheet, straps secured at one of their ends to

each of the end-rails and at their other ends to the lower sheet, and a cord connecting the extensions on one end of the upper sheet to the adjacent end of the lower sheet. 10

KNUT L. HYLLER.

Witnesses:

CHAS. C. TILLMAN,
M. A. NYMAN.