

K. L. HYLLER.
 COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.
 APPLICATION FILED JUNE 29, 1908.

915,182.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 1.

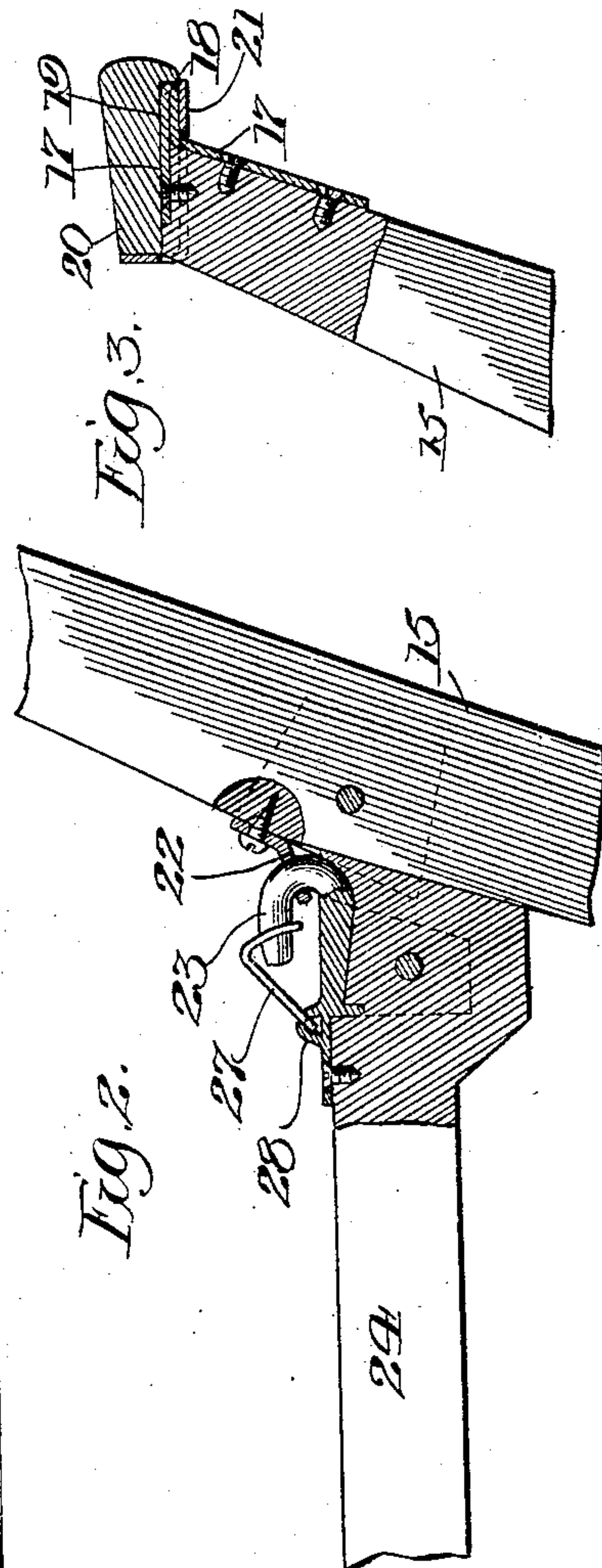
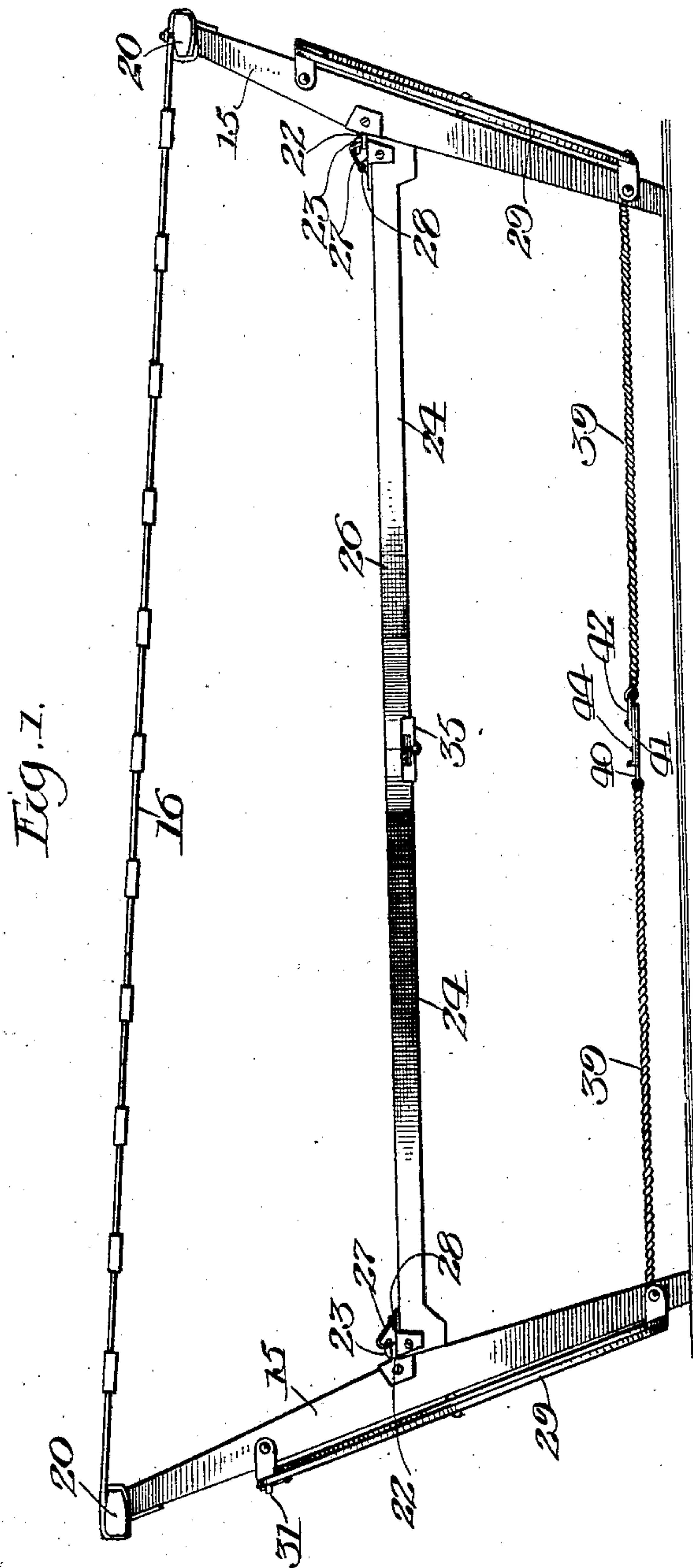


Fig. 3.

Fig. 2.

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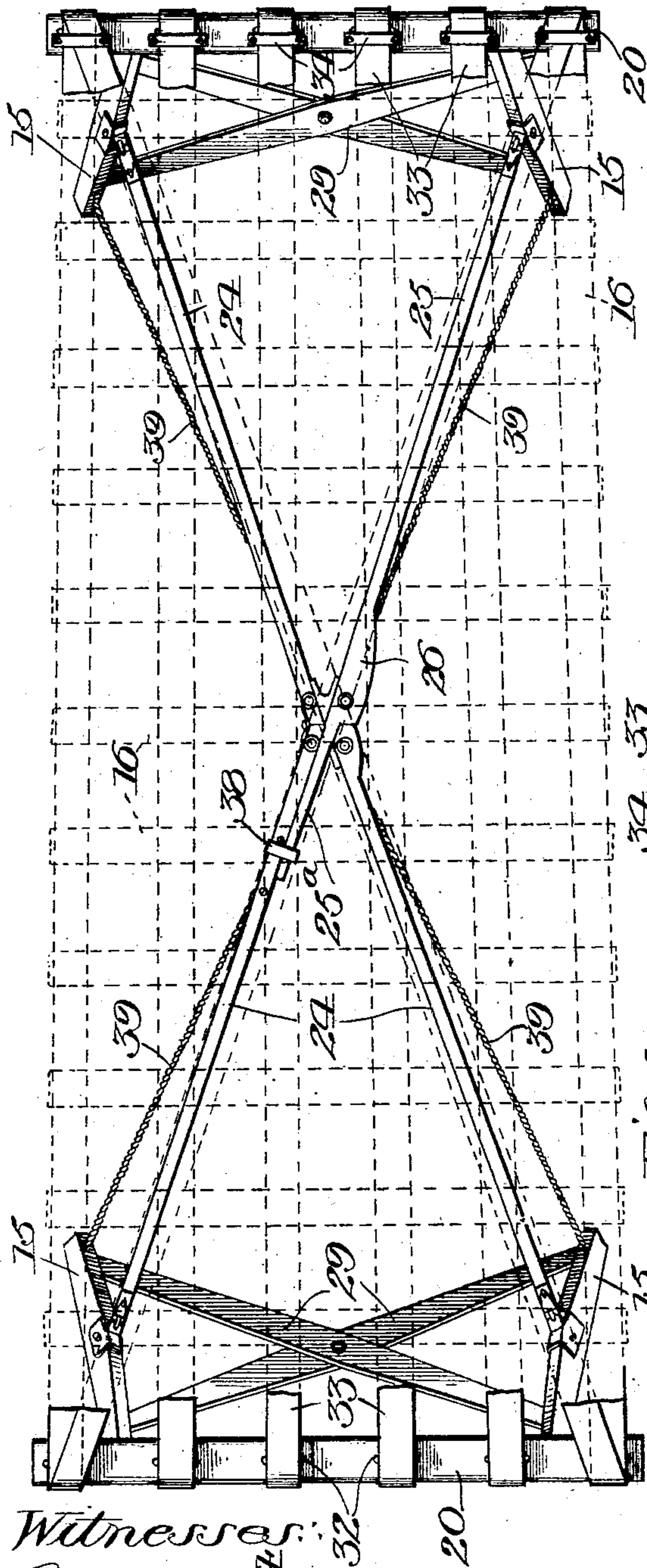
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Fig. 4.

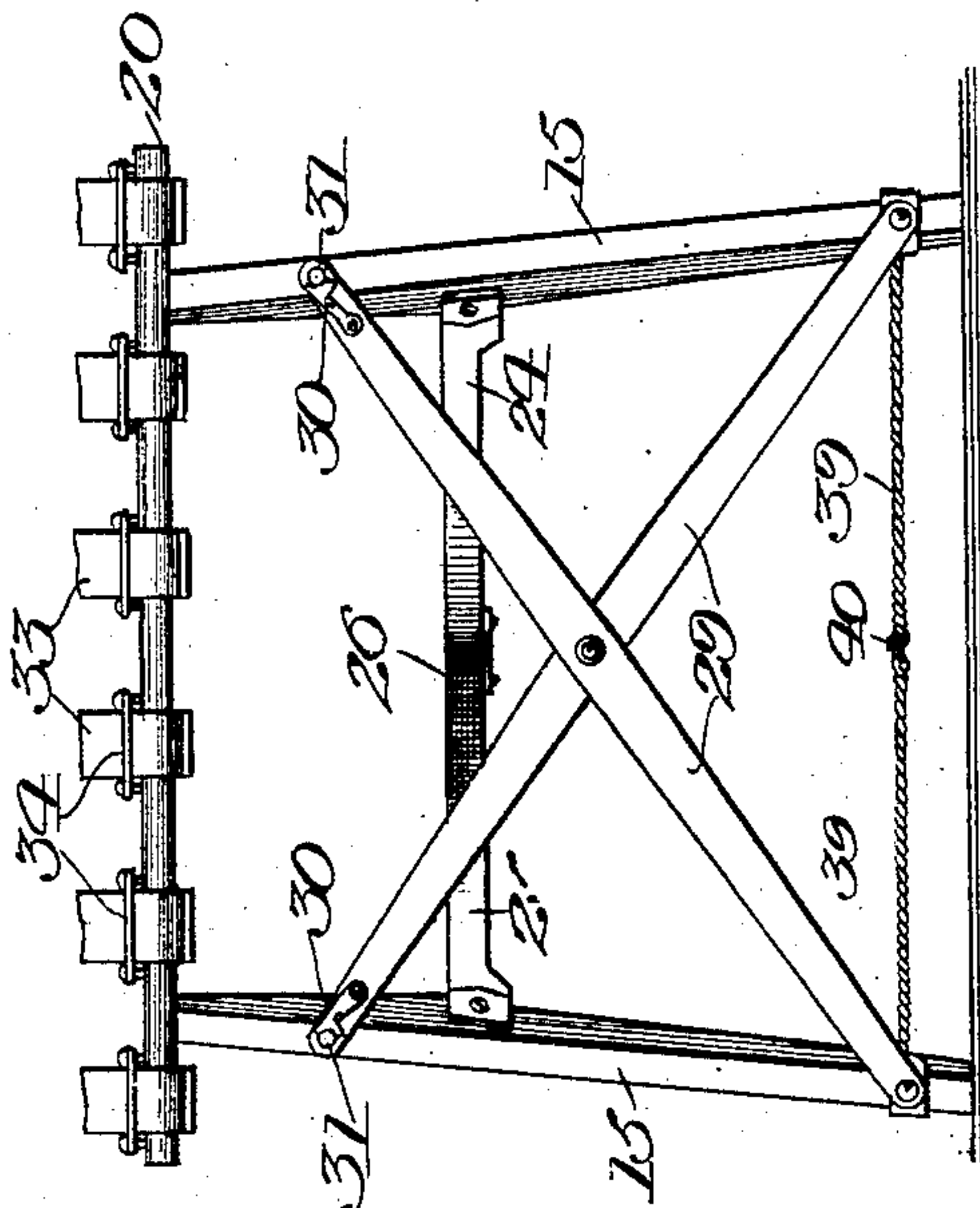
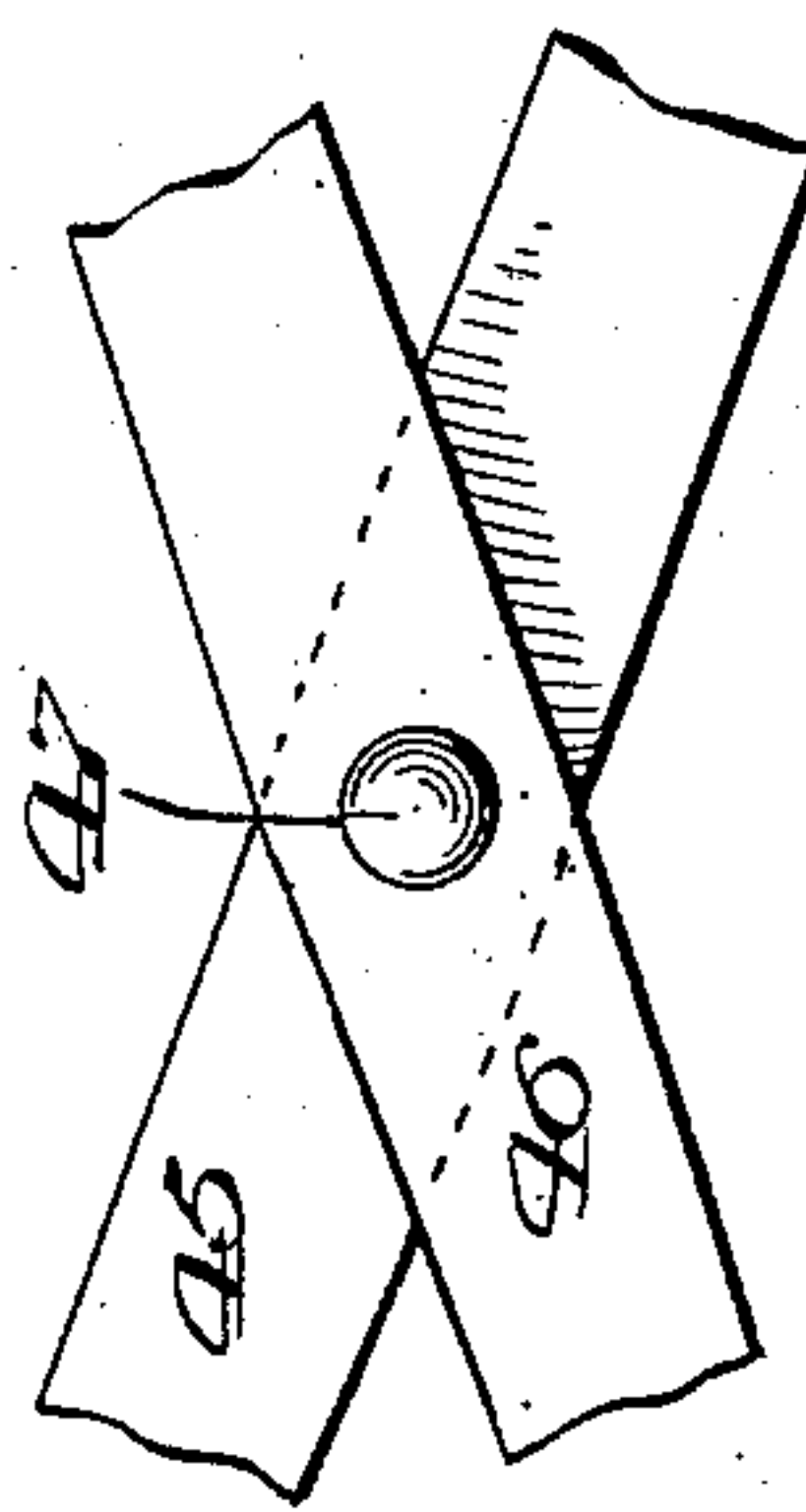


Fig. 5.

Fig. 6.



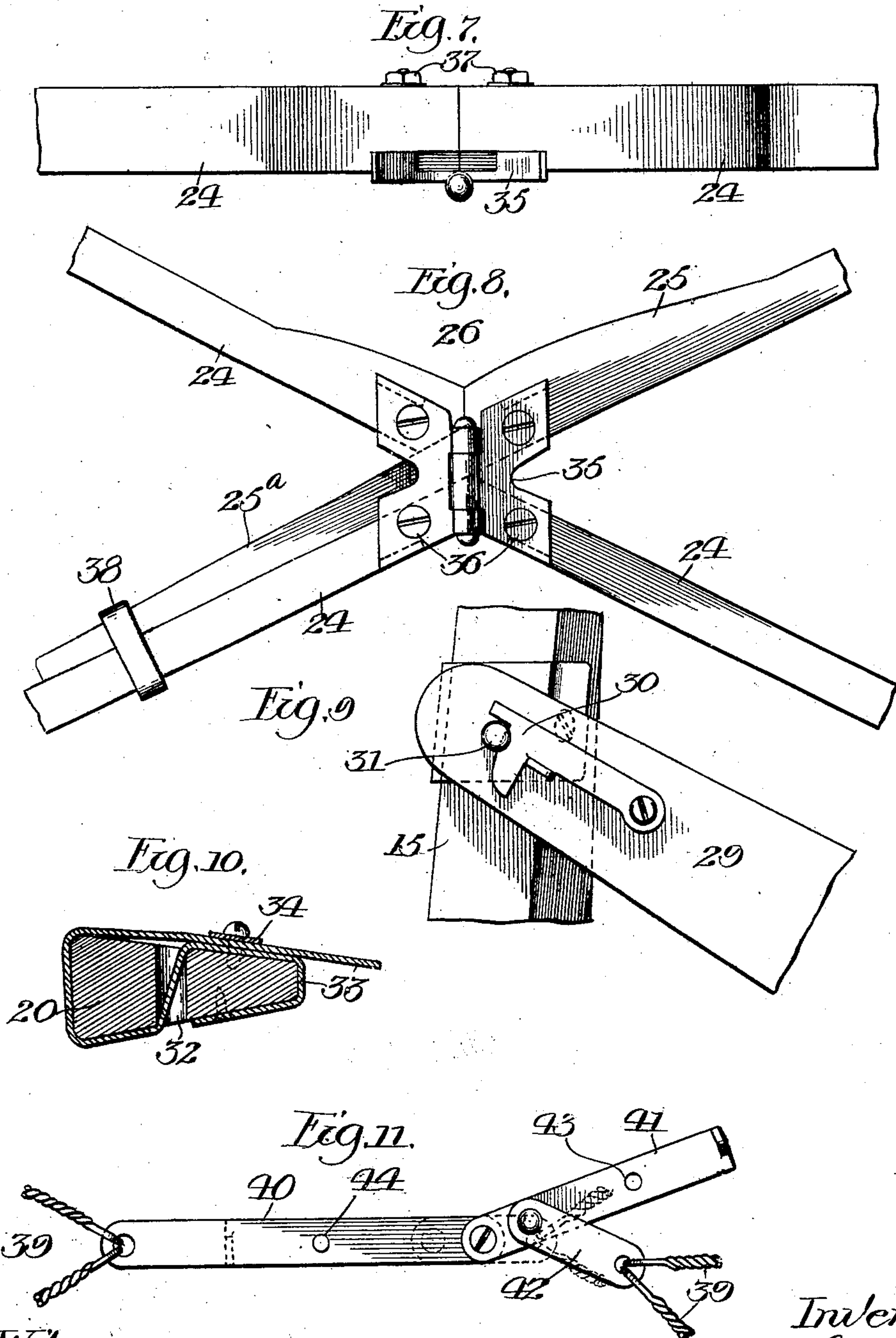
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

KNUT L. HYLLER, OF CHICAGO, ILLINOIS.

COLLAPSIBLE OR FOLDING FRAME FOR HAMMOCKS.

No. 915,182.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed June 29, 1908. Serial No. 441,001.

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 Collapsible or Folding Frames 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, such as is adapted to be compactly folded up when not required for use, while being capable of ready assemblage when desired, and the object of the invention is to provide a frame of this general character, which shall be simple and inexpensive in construction, strong, durable and efficient in operation, and so made as to be adapted for quick and convenient assemblage of the parts to produce a frame of sufficient size and strength for effective and practical use whenever desired.

The invention consists in certain novel features and principles of the construction, combination and arrangement of the several parts of the improved collapsible or folding frame, whereby certain important advantages are attained and the same is rendered simpler, cheaper and otherwise better adapted and more convenient for use, as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate the invention—Figure 1 is a view in side elevation of a frame embodying the invention, showing the parts in position ready for use as a hammock or cot; Fig. 2 is an enlarged view partly in elevation and partly in section of a portion of one of the end standards or uprights and a part of the brace therefor, showing the manner of connecting the same together; Fig. 3 is a view partly in section and partly in elevation of a portion of one of the end uprights or standards, showing the means for connecting it to the end rail of the frame; Fig. 4 is a plan view of the frame in its extended position showing partly by dotted lines and partly by full lines the position the parts of the hammock or support will occupy; Fig. 5 is a rear end view in elevation; Fig. 6 is a fragmental view, showing a modification in the construction of the brace for the end uprights or standards; Fig. 7 is a view in side elevation of a portion of the brace illustrated in Figs. 1

and 4 of the drawings; Fig. 8 is a bottom plan view thereof; Fig. 9 is an enlarged view in elevation of a portion of one of the end uprights and a part of one of the cross-bars used for connecting said uprights together in pairs and illustrating the means for securing the same together; Fig. 10 is a cross-sectional view of one of the end rails of the frame, showing the means of securing the hammock or supporting fabric thereto; and Fig. 11 is a plan view of a tightening device which may be used in connection with the flexible cables or connections used for connecting the uprights longitudinally at their lower ends.

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

The reference numeral 15 designates 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 except that the pair of uprights 15 located at one end of the frame are, by preference, shorter than those located at the other end thereof, thus affording an inclination to the hammock or support 16 for the body of the occupant. As is clearly shown in Figs. 4 and 5 of the drawings, the uprights 15 are arranged in pairs, that is, they are spaced apart and located at each end of the frame. Each of the uprights 15 is provided at its upper portion with a plate 17 which is secured to the top of the upright 15 and to its outer surface, and is formed with a projection 18 (see Fig. 3) which extends longitudinally with respect to the frame, and is adapted to fit in a mortise or opening 19 formed in the transverse end rails 20 of the frame near each of their ends. Each of these rails has secured on its lower surface across the outer portion of the mortise 19 a plate 21 with which the projections 18 on the uprights will engage, thus securely holding the rails 20 in position thereon, but permitting them to be readily removed when desired. Each of the uprights 15 has secured to its inner edge at a suitable point between its ends an apertured bracket 22 to engage hooks 23, one of which is secured to the upper surface of each of the members 24 and 25 at their outer ends of the brace for the end uprights, which brace is indicated as a whole by the reference numeral 26, and connects the uprights 15 longitudinally. Each of the hooks 23 is engaged near its free end by a forked catch 27 which is pivotally secured as

at 28 to the body or plate of the hook, and which catches serve to prevent the hooks 23 from becoming disengaged from the apertured brackets 22, which, as before stated, are secured to the uprights. Pivotal-ly secured to the lower portion of each pair of uprights is a pair of cross-bars 29 which are pivotally connected together at about their middle, and each has at its upper end a pivoted catch 30 to engage headed projections 31 on the outer portions of the upper parts of the uprights, which projections are adapted to pass through suitable openings in the upper ends of the bars 29, as will be readily understood by reference to Figs. 5 and 9 of the drawings. Each of the end rails 20 is preferably formed with its outer portion of a greater thickness than its inner portion, as is clearly shown in Fig. 10, and is provided with a series of vertical and spaced apart openings 32 for the reception of portions of the longitudinal strips or strands of the hammock body or support 16 which, in the present instance, is shown as being made of webbing, but which may be made of netting or material such as ordinarily used for hammocks, or it may be made of canvas or any suitable material. When made of webbing, as shown in the drawings, the longitudinal strips 33 thereof are secured at their free ends to the lower surface of each of the rails 20, and is then passed up over the inner portion of each of the rails and then downwardly through the openings 32 therein and then upwardly and over the outer portions of the rails, in which positions they may be firmly held at one or both of their ends by means of straps 34 secured longitudinally with respect to the rails 20, but transversely of the strips 33, as is clearly shown in Figs. 4, 5 and 10 of the drawings, in the former of which it will be seen that the straps are shown as being employed at one end only of the frame, but it is apparent that, if desired, they may be used on the other end thereof.

While I have shown the rails 20 provided with the openings 32 to receive portions of the hammock or body support and prefer to so construct them, yet it is apparent that the hammock or body support may be secured at its ends to the end rails in various ways, and for this reason I do not desire to be limited to any specific means therefor.

The brace 26 consists of a series of members 24 and 25 which are diagonally disposed with respect to one another, and are connected together at their meeting ends by means of a hinge 35 which is secured to the lower portion of said members by means of screw-bolts 36 and nuts 37 on their upper ends. The member 25 of the brace is provided at its inner portion with an extension 25^a which is adapted to lie along the inner surface of one of the members 24 and to be maintained in such position by means of a

collar 38 slidably mounted on the member 24 and extension 25^a, so that when said parts are in their extended positions, as shown in Figs. 4 and 8 of the drawings, the members will be rigidly held in a horizontal position, thus bracing the uprights 15 at points about midway between their ends. Connected to the lower ends of the uprights 15 are diagonally disposed flexible connections 39, two of which have their inner ends secured to one end of a bar 40 which has fulcrumed at its other end a lever 41 which carries a link 42 pivoted at one of its ends to said lever and having means at its other end to engage the other two cables or connections 39 which are extended in opposite directions from the first mentioned connections. The lever 41 is provided between its ends with an opening 43 to engage a projection 44 on the bar 40 when the parts are turned to the positions indicated by dotted lines, as shown in Fig. 11 of the drawings. By this arrangement it is apparent that a tightener for the flexible connections 39 is provided, so that any slack or looseness in the same may be taken up.

Instead of employing the brace 26 of the above-described construction, I may sometimes use a brace consisting of two crossed bars 45 and 46 secured together at their middle by means of a pivot 47, in which construction the ends of the bars 45 and 46 may be provided with the hooks 23 and catches 27 as in the other construction above described.

From the foregoing and by reference to the drawings it will be seen and clearly understood that, by extending the cross-pieces 29 and securing their upper ends to the projections 31 on the upper parts of the uprights, said uprights will be firmly braced laterally thereby, and that the projections 18 on the upper ends of the uprights may be readily inserted into the sockets or openings 19 of the end rails 20 on or to which the hammock or body support 16 may have been secured in any suitable manner. After the above-mentioned parts have been assembled as aforesaid, the brace 26 may be placed longitudinally and horizontally between the pairs of the uprights 15 so that the hooks 23 on the outer ends of the members of the brace will engage the eyes or openings of the brackets 22 on the uprights, and in such a manner that the ends of the members of the brace will rest against the inner edges of the uprights, thereby firmly bracing them longitudinally. When the hammock or body support 16 has the weight of a person thereon, it is evident that the upper portions of the uprights will have a tendency to be drawn toward each other, while their lower ends will have a tendency to be separated, and in order to overcome these tendencies I prefer to connect the lower portions of the uprights by means of the diagonally disposed flexible connections, and while I have shown

said connections united at their inner ends by means of a tightening device and prefer to use the same, yet in some instances I may omit it and connect the inner ends of the flexible connections in any suitable manner.

When it is desired to fold the parts together for transportation or storage, it is manifest that by sliding the collar 38 from off the extension 25^a of the member 25 the said members may be easily detached from the uprights and folded together into a compact form, when by removing the end pieces 20 from the upper ends of the uprights and by detaching the cross-pieces 29 therefrom, said uprights and cross-pieces may be folded together compactly. As the hammock or body support 16 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 if 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 foldably connected uprights located at each end of the frame, of end rails having means near their ends to detachably engage the upper ends of each of the uprights and to connect them transversely in pairs, a body-support connected at each of its ends to said rails, and a longitudinal brace consisting of loosely connected and diagonally disposed members detachably connected at their ends to the uprights near their middle.

2. In a collapsible frame, the combination with a pair of foldably connected uprights located at each end of the frame and each of said uprights having an outwardly extended projection at its upper end, of transverse end-rails having sockets near their ends to engage said projections so as to unite the uprights in pairs, a body-support connected at each of its ends to said rails, a longitudinal brace consisting of loosely connected and diagonally disposed members detachably secured at their ends to the uprights near their middle, and longitudinally extended connections uniting the lower portions of the uprights.

3. In a collapsible frame, the combination with a pair of foldably connected uprights located at each end of the frame, of transverse end-rails having means near their ends to detachably engage the upper ends of the uprights so as to connect them in pairs, a

body-support connected at each of its ends to said rails, a longitudinal brace consisting of diagonally disposed members hinged together at their inner ends and detachably connected at their outer ends to the uprights near their middle, and means on the brace near the inner ends of its members to lock them in their extended positions.

4. In a collapsible frame, the combination with a pair of foldably connected uprights located at each end of the frame, of transverse end-rails having means near their ends to detachably engage the upper ends of the uprights so as to connect them in pairs, a body-support connected at each of its ends to said rails, a longitudinal brace consisting of diagonally disposed members hinged together at their inner ends and detachably connected at their outer ends to the uprights near their middle, means on the brace near the inner ends of its members to lock them in their extended positions, and longitudinally extended connections uniting the lower portions of the uprights.

5. In a collapsible frame, the combination with a pair of foldably connected uprights located at each end of the frame, of transverse end-rails having means near their ends to detachably engage the upper ends of the uprights so as to connect them in pairs, a body-support connected at each of its ends to said rails, a longitudinal brace consisting of diagonally disposed members hinged together at their inner ends and detachably connected at their outer ends to the uprights near their middle, means on the brace near the inner ends of its members to lock them in their extended positions, longitudinally and diagonally disposed flexible connections uniting the lower portions of the uprights, and a tightener for said connections secured to their inner ends.

6. In a collapsible frame, the combination with a pair of foldably connected uprights located at each end of the frame, of transverse end rails having means near their ends to detachably engage the upper ends of the uprights and to connect them in pairs, a body-support connected at each of its ends to said rails, a longitudinal brace consisting of loosely connected and diagonally disposed members detachably secured at their ends to the uprights near their middle, a series of longitudinally and diagonally disposed flexible connections secured at their outer ends to the lower portions of the uprights, a bar connected at one of its ends to the other ends of one pair of said connections, a lever fulcrumed on the other end of said bar and provided with engaging means therefor, a link pivotally secured at one of its ends to said lever and connected at its other end to the inner ends of the other pair of flexible connections.

7. In a collapsible frame, the combination

with a pair of uprights, of crossed bars pivotally secured at one of their ends to said uprights and pivotally connected together between their ends, each of said bars having its
5 upper end apertured and provided with a pivoted catch, and a headed projection on the upper portion of each of the uprights

adapted to extend through said apertures and to be engaged by said catches.

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