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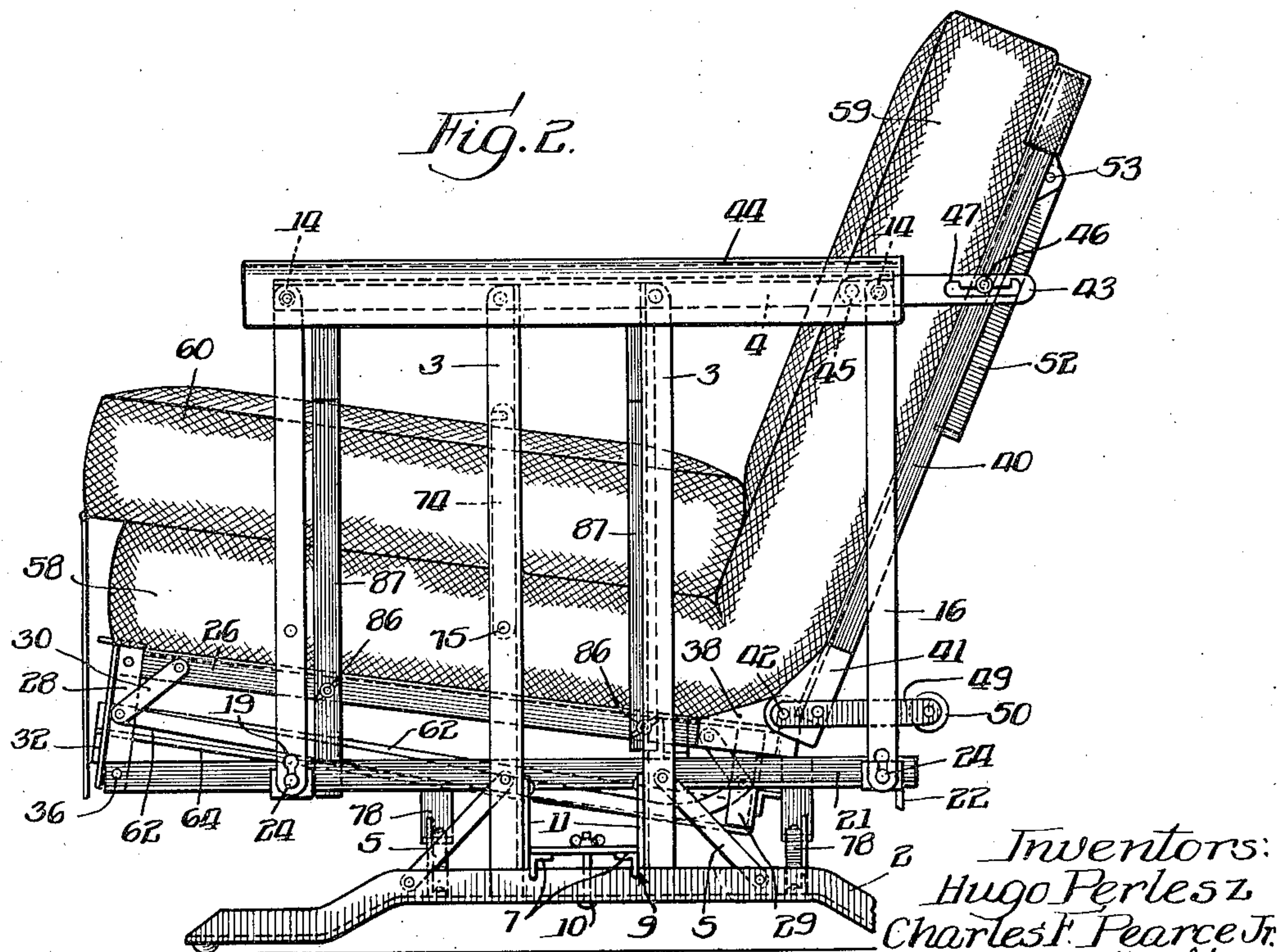
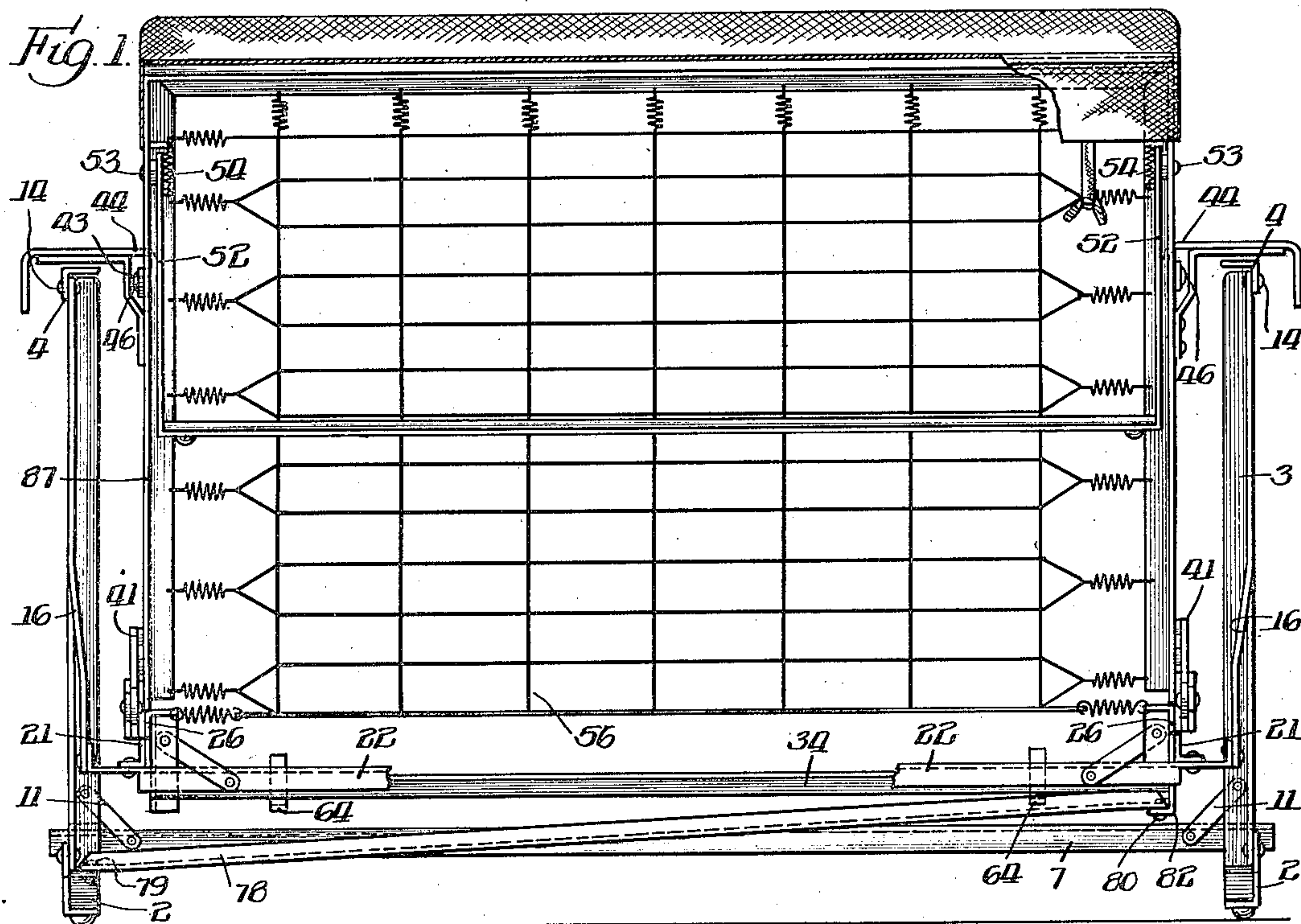
H. PERLESZ ET AL

2,011,870

GLIDER

Filed May 15, 1933

3 Sheets-Sheet 1



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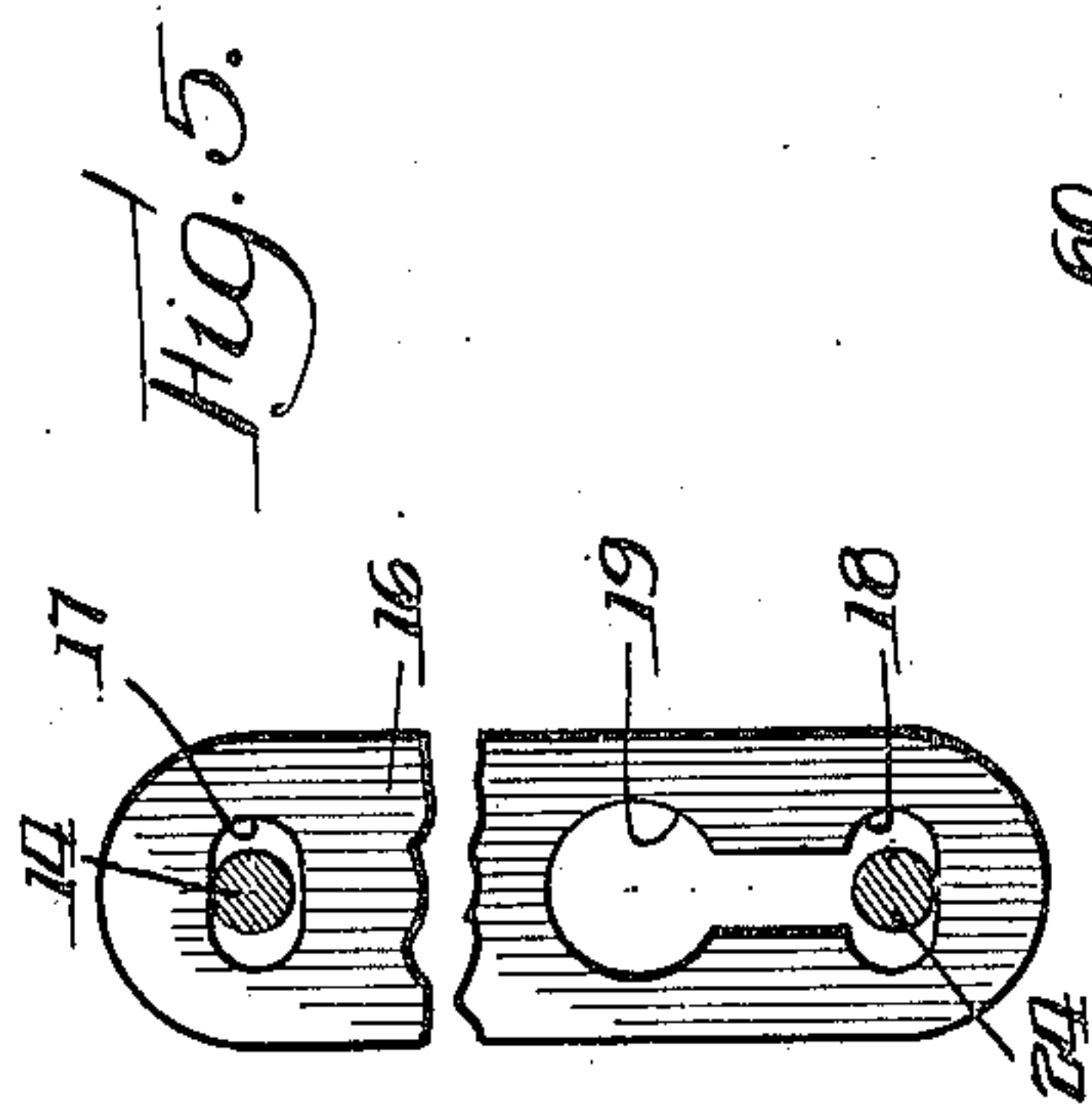
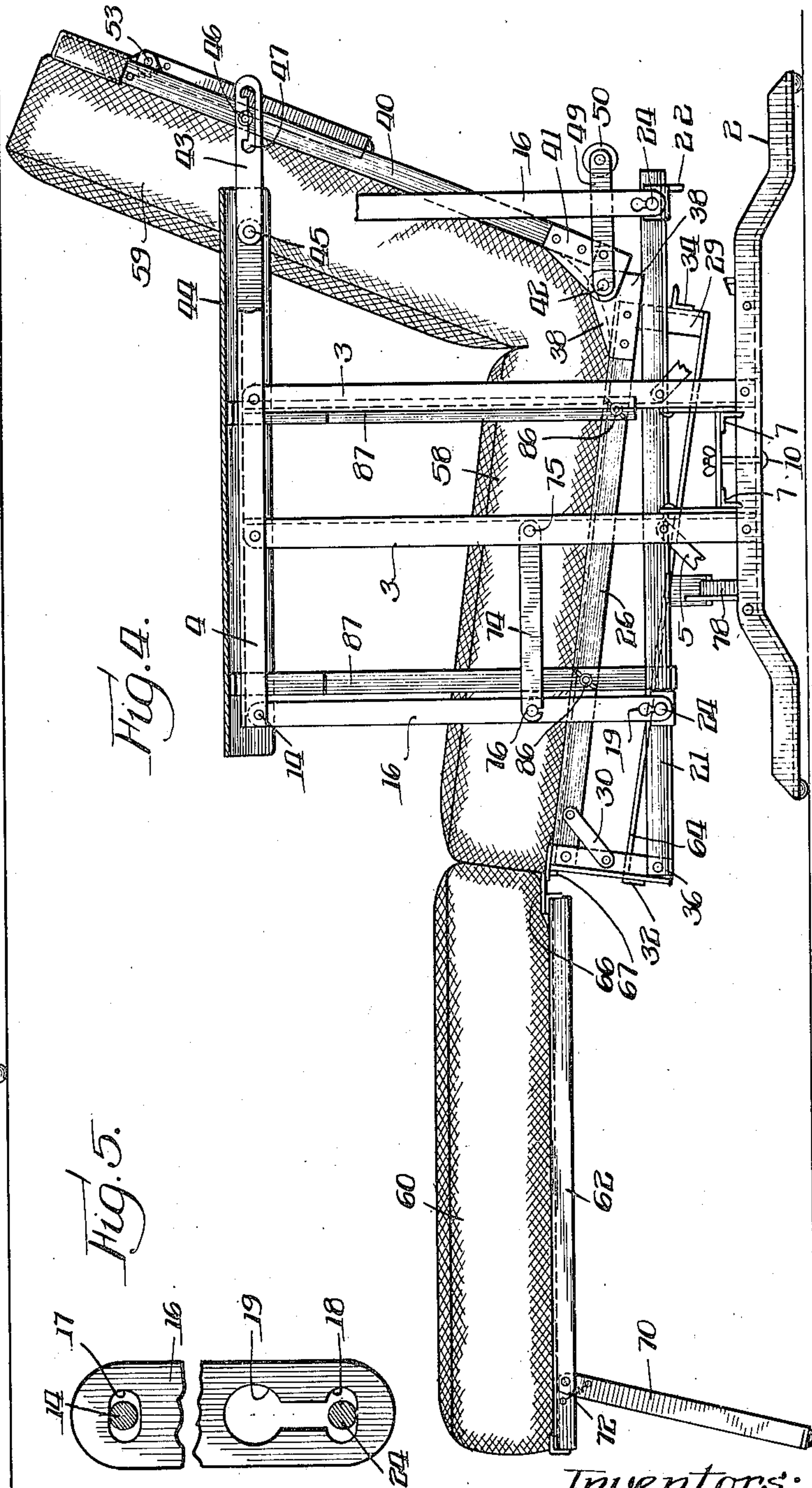
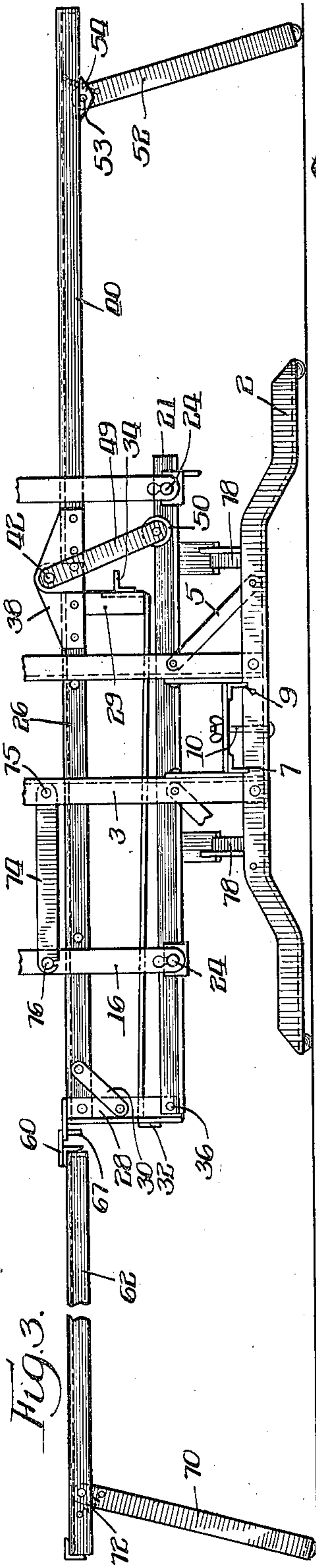
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3 Sheets-Sheet 2



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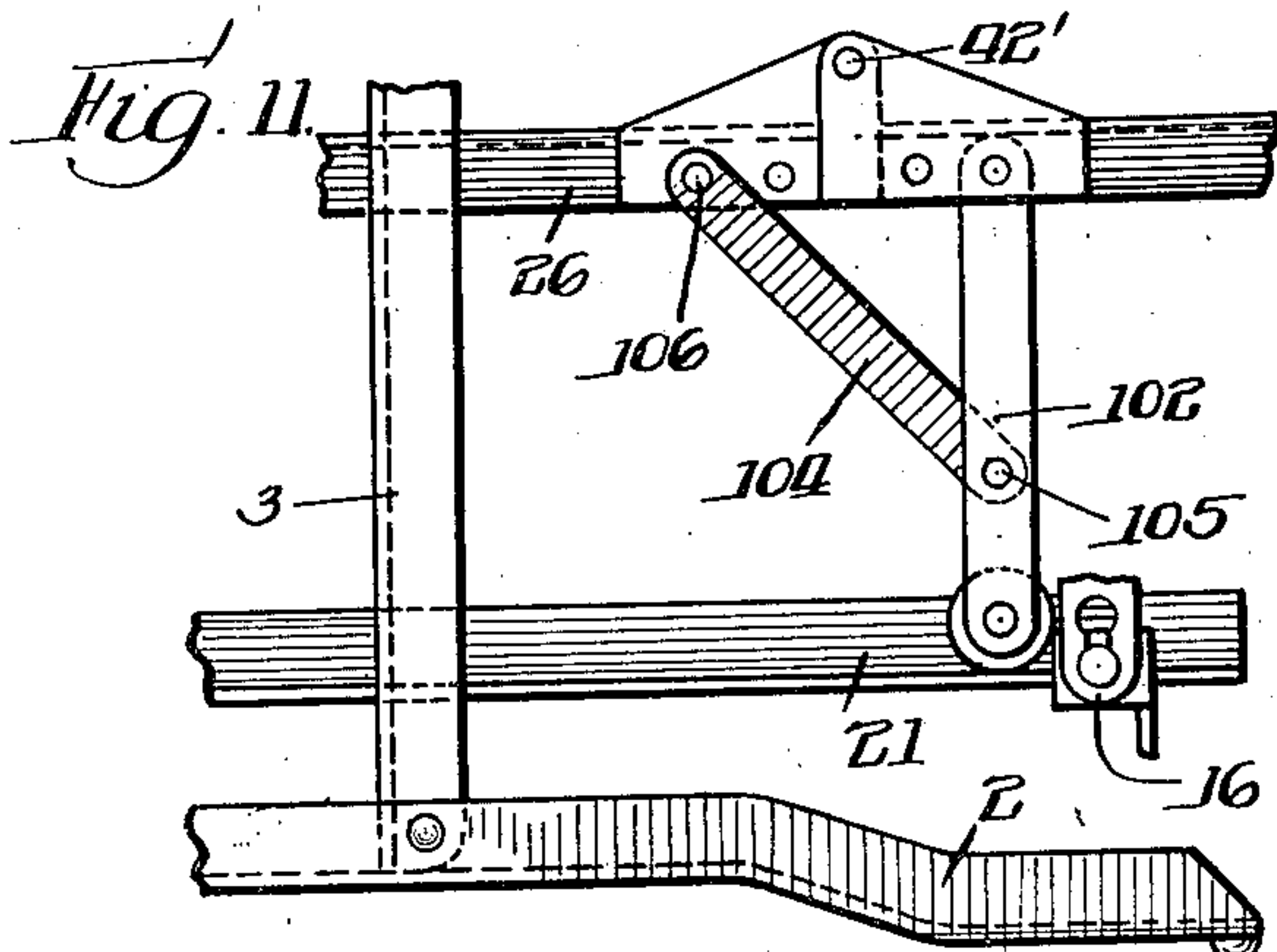
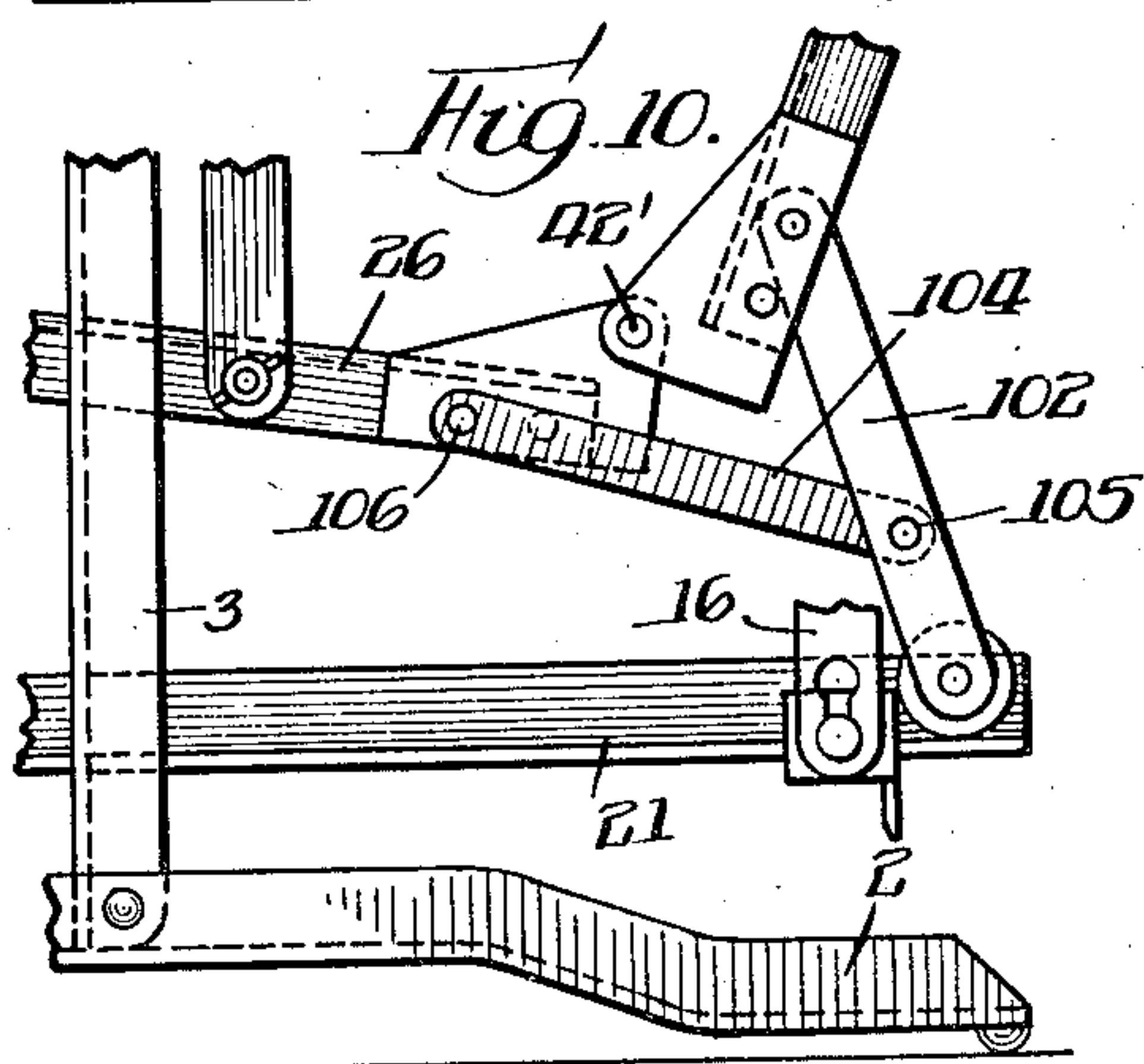
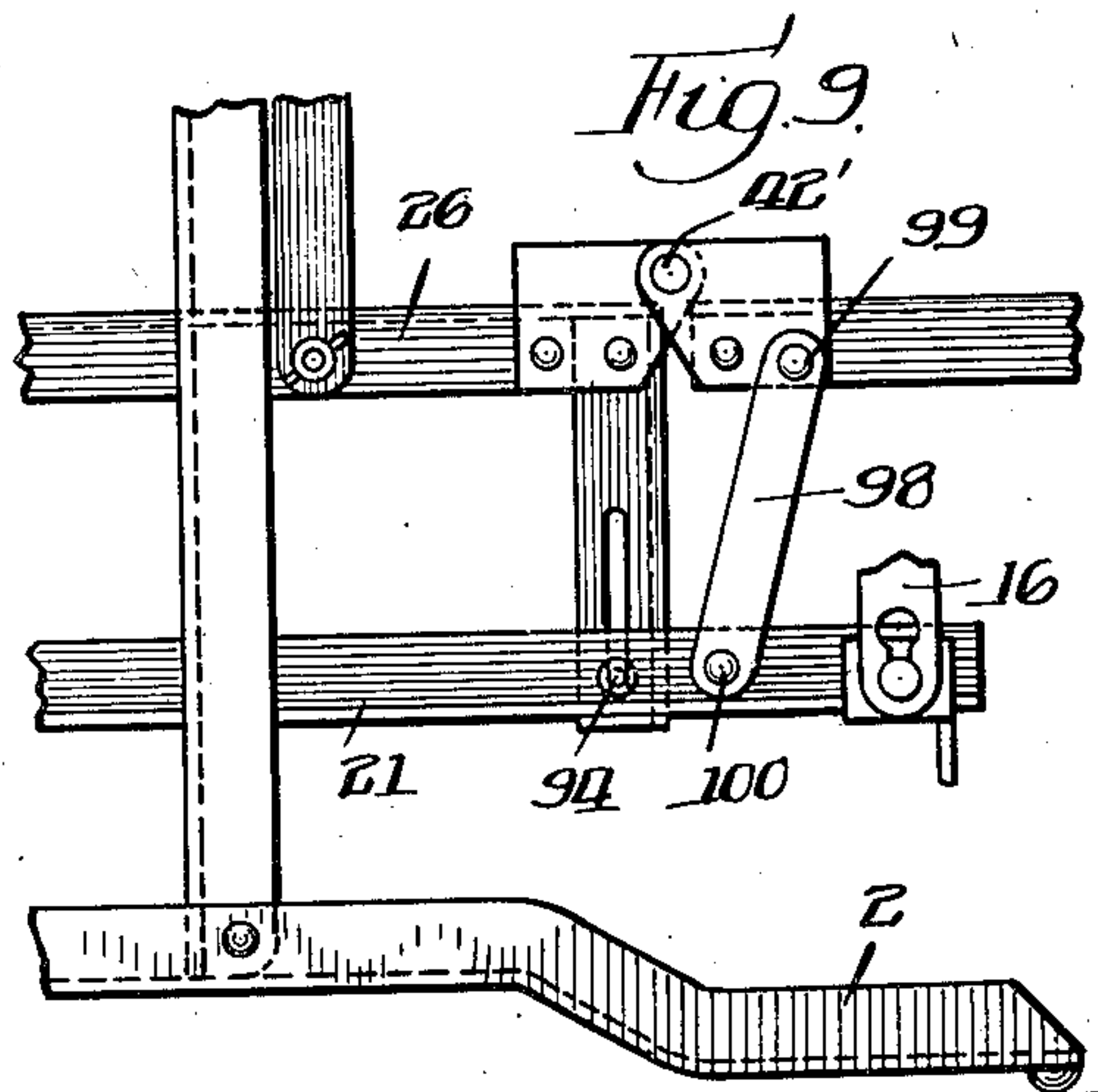
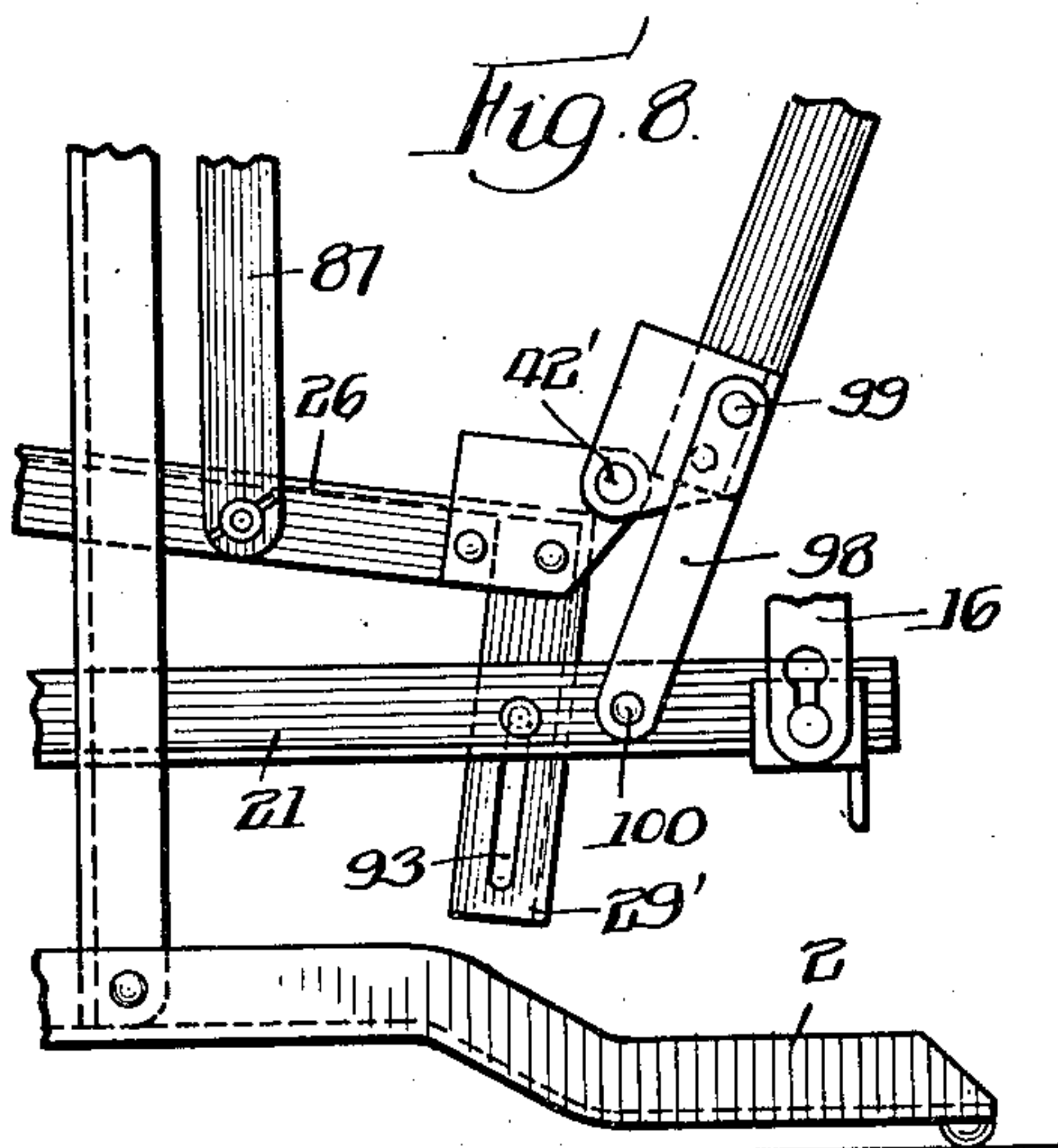
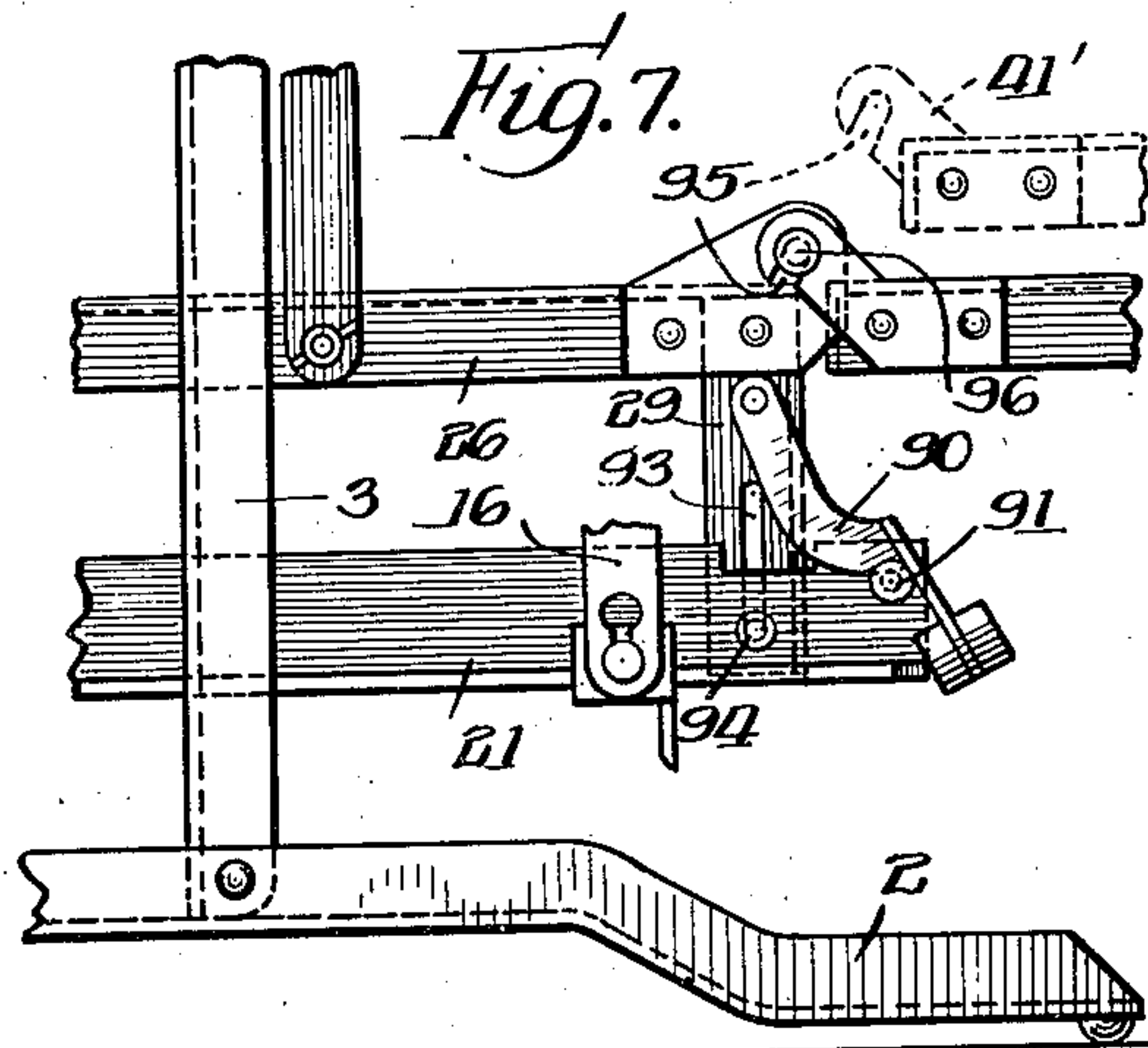
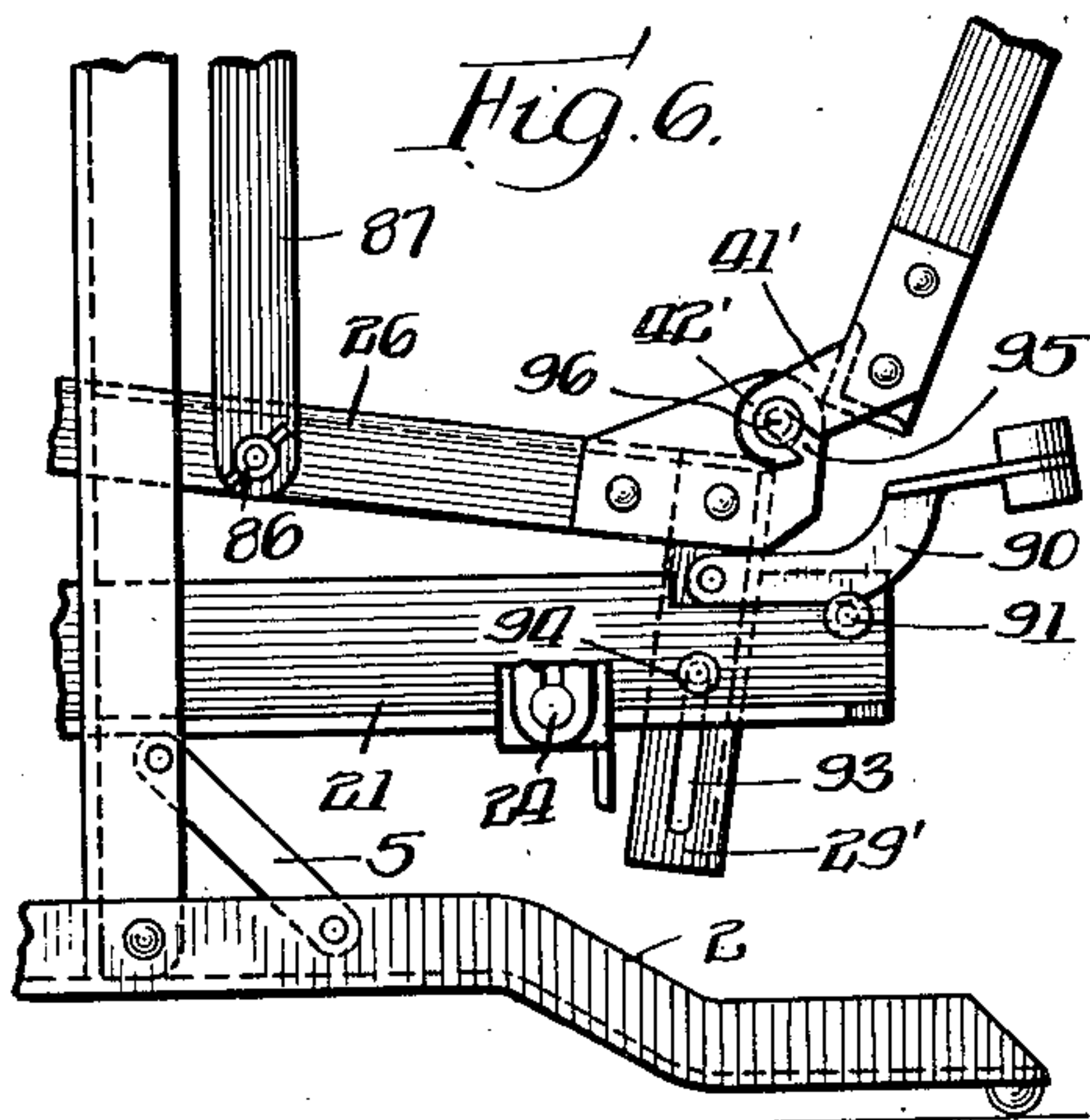
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GLIDER

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3 Sheets-Sheet 3



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## UNITED STATES PATENT OFFICE

2,011,870

GLIDER

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Application May 15, 1933, Serial No. 671,043

2 Claims. (Cl. 5—126)

This invention relates to gliders, although in many of its aspects it also relates to other articles of furniture. In the forms illustrated the glider includes a suitable standard of knock-down construction, a seat swung from said standard by frictionless bars, and a back hinged to said seat to assume a variety of upright angles and also a horizontal angle for forming a bed. There may also be included an extension which may serve as a leg rest for the glider or as a foot of a bed if the back is lowered. The seat is normally in a sloping position, but is automatically leveled when the back is lowered. The entire swinging assembly may be guided in its swinging by pivoted bars. The suspension bars are preferably made frictionless by providing a substantially horizontal slot cooperating with a round pin instead of the old round hole fitting a round pin snugly. The result is that the pin rolls back and forth in the slot instead of pivotally sliding with respect to the hole.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specification, drawings and claims appended hereto.

In the drawings, which illustrate an embodiment of the device, and wherein like reference characters are used to designate like parts,

Figure 1 is a rear elevation of a glider embodying this invention;

Figure 2 is a side elevation of the structure of Figure 1;

Figure 3 is a fragmentary elevation showing the structure opened out to form a bed.

Figure 4 is a side elevation showing the structure in the chaise longue position;

Figure 5 is a broken away detail view showing the construction of the suspension bars and pins;

Figures 6 and 7 illustrate a modification of the leveling feature in which the back is separable to make a single bed;

Figures 8 and 9 illustrate another modification in which the rear support is permanently pivoted to the underframe; and

Figures 10 and 11 illustrate a further modification of the invention in which the rear support is self-sustaining and of a character that will be extremely universal in its adaptability.

Although my invention may take many forms, only a few have been chosen for illustration. In most respects the various forms will be substantially the same, and therefore only the form fully shown in Figures 1 to 5 will be fully described,

the alternative forms being described only as to their variations.

In Figures 1 to 5 the standard is shown to include end structures including the angular horizontal foot bars 2, the uprights 3, the angular head bars 4, and the braces 5. Each of these end structures may be permanently assembled, since they lie substantially in one plane. The end structures may conveniently be connected by a transverse frame assembly 7 which includes two longitudinal members rigidly secured to each other in spaced relationship by suitable cross bars and braces, not shown. This transverse frame is notched to coact with the foot 2 as shown at 9 and may be clamped to the foot by the bolt 10 and thumb screw, as shown in Figure 2. The transverse frame and the end frames may be angularly braced with respect to each other, as by braces 11. The head bars 4 are provided near their ends with headed pins 14. On these pins are suspended the suspension bars 16, which are provided at their upper ends with substantially horizontal slots 17 and at their lower ends with substantially horizontal slots 18 communicating with a key hole slot 19. From these bars 16 is carried an underframe which includes the end bars 21 and the transverse bar 22 rigidly secured together. The end bars 21 carry headed pins 24 which extend through the slots 18, being supported on the bottom thereof. The key hole slots 19 are so shaped that if the underframe 24 is raised slightly the bars 16 may be slipped off, the pins 24 passing through the enlarged top portion of the key hole slots 19.

The seat structure comprises a seat frame 26 having front legs 28 and rear legs 29. All the legs may be braced by corner braces 30, and the front legs are preferably braced by a transverse angle bar 32, the rear legs being braced by the transverse angle bar 34. The front legs are pivoted as by pins 36 to the end bar 21 of the underframe. The rear end of the seat frame 26, or rather an extension 38 thereon normally rests on the end bars 21 thereby supporting the seat in a position sloping slightly from the front to the rear. The rear legs 29 serve merely as guides and as connecting members in the seat frame.

The back frame 40 is provided with a similar extension 41 which is pivoted to the extension 38 by a suitable pivot 42. The back frame is retained in any one of a variety of upright positions by the latch members 43 which are pivoted to the arms 44 (described below) by pivot pins 45 and which engage headed pins 46 on the back frame 40. The latch members 43 are provided



with a large opening 47 through which the head of the pin 46 will slip for release of the back. The back frame may then be lowered to a horizontal position for a bed. Secured to the base of the back frame is a leveling leg 49 carrying a roller 50 which is aligned with the bottom flange of the end bar 21. When the back 40 is lowered about the pivot 42 the leveling leg 49 is rotated to the position shown in Figure 3, during which movement the roller 50 rides in on the end bar 21 and raises the rear end of the seat 26 until the seat is level. When the back 40 nears the horizontal position, legs 52 drop by gravity, being pivoted to the back frame 40 as by a pivot 53, and spring 54 may be provided for holding the legs open when the back is in a horizontal position, or for holding the legs closed against the back when the back is in an upright position. The spring 54 should be just too weak to hold the legs in a horizontal position as the back is lowered to the horizontal position. The back and seat frames are provided with a spring fabric 56 which is preferably continuous and which in any event should preferably not have a rigid joint between the two frames. The lower seat cushion 58 and the back cushion 59, which may be separate or continuous rest on this spring fabric. On top of the seat cushion 58 is an auxiliary cushion 60 which may be removed when the back is lowered to form a bed. If the glider is sufficiently wide for the length of the bed, the seat and back alone will form a double bed. If, however, the glider is only as wide as the width of a double bed, then an extension 62 should be added in front of the seat. In any event, such an extension is normally carried on the slide bars 64 supported from the transverse angle bars 32 and 34. When it is desired to use the glider as a chaise longue, the extension 62 is drawn out and hooks 66 thereon are slipped into brackets or loops 67 on the seat frame 26. Of course, if desired, the slide bars 64 may terminate in a steep incline and latch arrangement which will automatically place the extension 62 at the proper position with respect to the seat frame 26.

Hinged to the front end of the extension 62 are the legs 70 provided with spring 72, which in this instance should be strong enough to hold the legs 70 collapsed against the extension 62 even when the extension is horizontal as shown, since this will facilitate sliding the extension onto the slide bars. The hooks 66 and bracket 67 may be so constructed that the extension 62 can be swung down to permit its front end to rest on the floor, thus providing a sloping leg rest. In any event, when the extension 62 is used the upper cushion 60 will be shifted to this position, as shown in Figure 4.

A lock bar 74 is preferably pivoted at 75 to one of the uprights 3, and is slotted at the free end to hook over a pin 76 on the suspension bar 16, thereby locking the glider in a fixed position. This is particularly desirable when the glider is to be used as a bed or chaise longue. When the glider is permitted to swing its movement is controlled by equalizer bars 78 which extend from the left foot 2 (see Figures 1 and 2) to which they are pivoted by removable pins 78 to the right hand side of the glider where they may be pivoted as by removable pins 80 to an extension 82 on the right hand end bar 21. These equalizer bars are preferably fairly well separated so that they not only substantially prevent lateral movement of the glider, but also sub-

stantially prevent any twisting movement of the glider. By using equalizer bars 78 as long as the space will permit the fact that the glider moves in an arc is unnoticeable.

Secured to the seat frame 26 as by thumb screws 86, is an arm structure which includes the uprights 87 and the arms 44. The uprights are rigidly secured to the arms so that they need not be otherwise braced against rotation on the thumb screws 86. The arms 44 may desirably extend over the top bars 4 to protect the user from such relatively moving parts. The arms will of course swing with the glider.

There are many modifications that may be made in connection with the leveling feature, three of which are shown in Sheet 3 of the drawings.

Figures 6 and 7 illustrate a leveling feature which is not automatic in operation. In this form leveling levers 90 are pivoted to each of the rear legs 29' and ride on a lug 91 which may carry a friction-reducing bushing if desired. Lug 91 is carried by the end bar 21 of the under frame. When it is desired to level the seat, the levers 90 are pressed down with the foot, assuming the position shown in Figure 7, a position in which they are self-locking.

Figures 6 and 7 also illustrate a different modification in which the rear legs 29' are provided with slots 93 which co-act with pins 94 on the end bars 21. This pin and slot arrangement gives the seat structure further rigidity and in fact makes it possible to do away with the rigidly braced front legs shown in Figure 2. If the braces are retained on the front legs the slot 93 may be curved.

The chief advantage of the type of leveling device shown in Figures 6 and 7 is in permitting the back to be separable from the seat so as to form a separate twin bed. This construction is also shown in Figures 6 and 7, in which it is seen that the extension 41' is provided with a slot 95 which is slipped over the pin 42'. The retaining pin 96 may be provided to prevent removal of the back except when substantially in the position shown in Figure 7. Thus, when the back is in a position shown in Figure 6 the direction of the slot 95 is such that the back would have to be moved in a direction toward the upper lefthand corner of the sheet to be removed, but the pin 96 prevents this movement.

Figures 8 and 9 illustrate still another modification of the leveling feature. In these figures a leveling leg 98 is pivoted to the back by a pin 99 located at the rear of the pin 42' (and above the pin 42', as seen in Figure 8). The lower end of the leveling leg 98 is pivoted as by a pin 100 to the end bar 21 of the underframe. As seen from comparison of Figures 8 and 9, when the back is lowered it swings about the pin 99, raising the pin 42' and thereby leveling the seat frame 26. In Figures 10 and 11 is shown a modification of the leveling feature which is of more universal application than either of the other two, since it can be used with a back leg of any length and could be used on a stationary chair as well as on a glider. In this figure, it is seen that the rear leg or leveling lever 102 is always in a supporting position and is always properly braced in such position when being secured to any fixed member at its bottom end. As clearly seen from the figures, it is fully braced by the toggle brace 104 which is pivoted to the leg at 105 and to the seat frame 26 at 106. An incidental advantage of this structure is that as the back



is swung down to level the seat (with much the same action as in Figure 8), the leveling of the seat draws the toggle bar 104 upward, thereby drawing the leg 102 to the more vertical position shown in Figure 11. This structure has the particular advantage of being self-sufficient within what may be called the chair portion of the glider, so that if the front legs of the glider are made rigid with the seat frame 26, but detachable from the end bar 21 of the underframe, the entire chair portion may be removed from the glider and used as a comfortable chair bed combination on the floor, i. e. without the comparatively cumbersome glider standard.

From the foregoing it is seen that applicant has provided a glider which is much more satisfactory than any heretofore known, particularly on account of its features of adaptability into a bed or a chaise longue; its leveling features, automatic if desired, or coupled with detachability of the back portion to form a separate bed; the frictionless swinging feature; and the equalizer feature providing a guided swing. At the same time the structure is thoroughly practical both from the standpoint of being inexpensive, and of being capable of ready knockdown for shipment.

It is to be understood that many other embodiments of the invention, including some in improved form, will be apparent, and in the course of time more will be devised by those skilled in the art. It is not desired that this invention be limited to the details described, for its scope includes all such forms or improvements as come within the spirit of the following claims, construed as broadly as the prior art will permit.

What is claimed is:

1. A glider including: a suitable standard, an underframe suspended from said standard, a chair-bed combination suspended with said underframe and including a seat, a back pivotally

connected to said seat and normally inclined upwardly therefrom, means supporting said seat normally in position slightly inclined from the horizontal and operable by lowering the back for raising its back edge to make the seat substantially horizontal, said seat including a frame having a fabric spring stretched thereon and having downwardly extending front and back legs rigidly mounted thereon adjacent its four corners; said front legs being pivoted to said underframe at a point spaced below said seat frame, and said rear legs having a sliding and transversely guiding engagement with said underframe, and a pair of brace members, one extending rearwardly and the other transversely, secured to each of said front legs and each secured to another part of said seat.

2. An article of furniture including: suitable end standards, a rigid underframe supported by said end standards, a chairbed combination carried by said underframe and including a seat frame and a back frame provided with suitable spring cushion units; said back frame being pivotally connected to said seat frame, and normally inclined upwardly therefrom when used as a chair, means supporting said seat frame normally in position slightly inclined from the horizontal and operable by lowering the back frame for raising the rear edge of said seat frame to make the seat frame substantially horizontal when used as a bed, suitable legs mounted on said back frame to support it when in lowered position, said seat frame having downwardly extending front and rear legs rigidly mounted thereon adjacent its four corners; said front legs being pivoted to said underframe at a point spaced below said seat frame, and said rear legs having a sliding and transversely guiding engagement with said underframe.

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