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D. M. LILLIBRIDGE

1,837,911

GLIDER

Filed Jan. 3, 1930

4 Sheets-Sheet 1

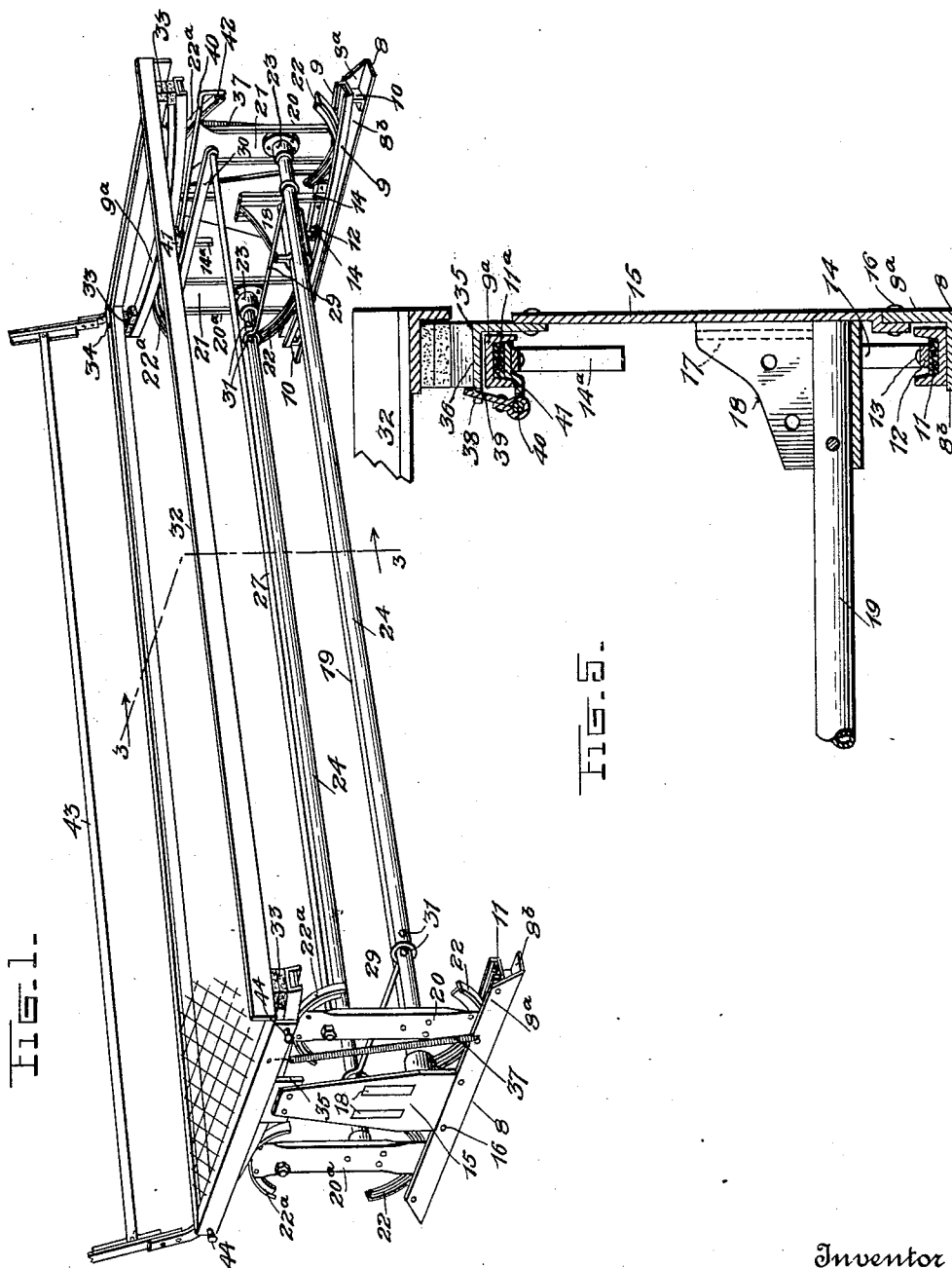


FIG. 1.

FIG. 5.

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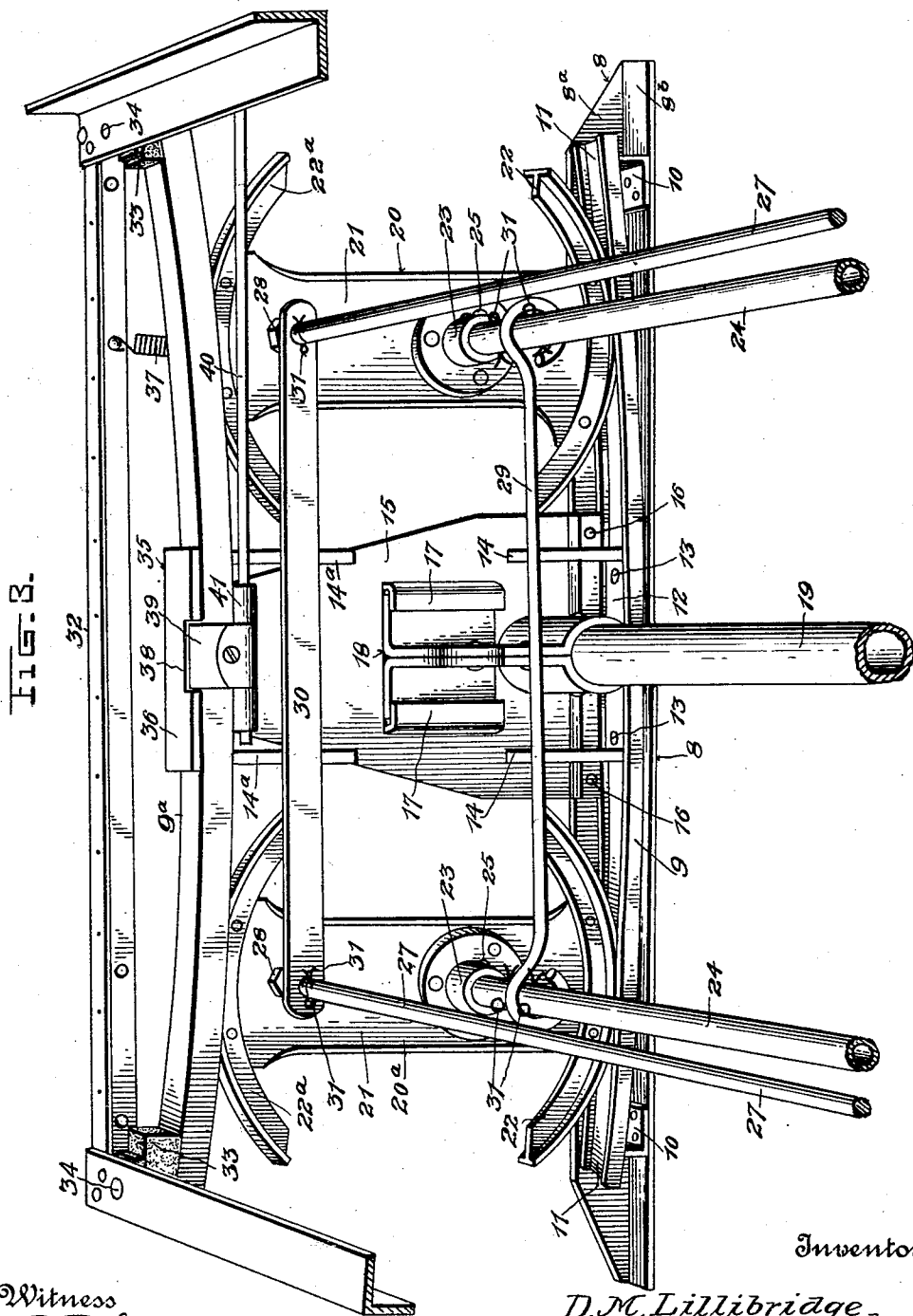
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4 Sheets-Sheet 3



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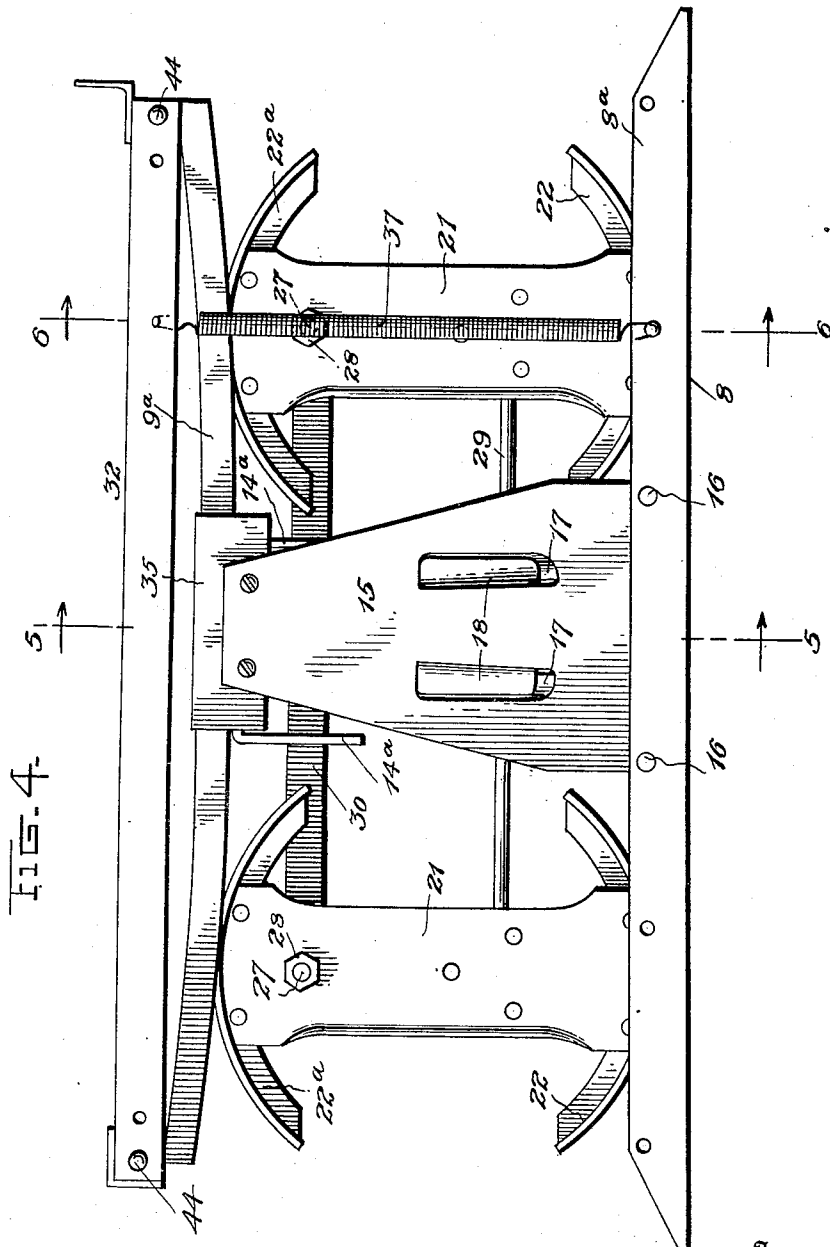
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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

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GLIDER

Application filed January 3, 1930. Serial No. 418,352.

The invention relates to gliders of a type in which the occupants sit upon a seat mounted for forward and rearward movement, and rest their feet directly upon the floor or ground.

It is one object of the invention to generally improve and simplify gliders of this type, at the same time providing a desirable and durable construction.

In carrying out the above end, further objects are to provide novel means for connecting two front rockers with each other, for connecting two rear rockers with each other, and for connecting the upper and lower portions of the front and rear rockers with each other, insuring uniform spaced relation and uniform rocking of said rockers, to provide a novel track structure upon which the rockers rest, to provide the seat frame with bumper-equipped tracks resting on the rockers, the bumpers limiting the movement of the frame, to make novel provision for preventing relative vertical movement of the rockers and tracks, to prevent excessive relative shifting of rockers and tracks in forward or rearward direction, to make novel provision for connecting the two end structures of the glider with each other and for adjusting the rockers into proper vertical planes, and to provide a novel latch whereby movement of the seat frame may be prevented if desired.

With the foregoing in view, the invention resides in the novel subject matter herein-after described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a perspective view, all upholstery, the two arms of the seat frame and masts which depend from the ends of said frame being omitted.

Fig. 2 is an enlarged perspective view showing the construction at one end of the glider.

Fig. 3 is a sectional perspective view as indicated by line 3—3 of Fig. 1.

Fig. 4 is an end elevation.

Figs. 5 and 6 are vertical longitudinal sectional views on lines 5—5 and 6—6 of Fig. 4.

The drawings above briefly described illustrate a construction which has proven to be very advantageous, and while this construction will be herein specifically explained, it is to be understood that within the scope of the invention as claimed, numerous variations may be made.

A base frame is shown, embodying two parallel angle metal bars 8, each having a vertical flange 8^a and a horizontal flange 8^b. Secured upon the flange 8^b is a longitudinally curved, channel-shaped track 9 whose ends are spaced somewhat above said flange by appropriate supports 10, while its intermediate portion may lie directly upon said flange. Within the channel of the track 9, is a strip 11 of sound-deadening material, such as a mixture of rubber and fibre. The intermediate portion of a U-shaped bar 12 is secured in the central portion of the track 9, preferably by rivets 13, and the arms 14 of this U-shaped bar project upwardly in spaced relation, for a purpose to appear. Rigidly secured to and projecting upwardly from the flange 8^a, is a vertical standard or plate 15, the lower end portion of said plate being preferably offset inwardly to some extent and secured by rivets 16 against the inner side of said flange 8^a. Portions of this plate are inwardly stamped to provide hook-like flanges 17 between which a T-head 18 is removably received, said T-head being riveted or otherwise secured on the end of a longitudinal tie-bar 19. This tie-bar rigidly connects the features of construction so far described, at one end of the glider, with the corresponding structure at the other end thereof, each end of said bar being provided with one of the T-heads 18.

Resting upon the strip 11 of each track 9, between the upstanding side flanges of this track, are a front rocker 20 and a rear rocker

20^a, each of said rockers preferably consisting of a vertical plate 21, a lower arcuate rocker 22 secured to the lower end of said plate, and an upper arcuate rocker 22^a secured to the upper end of the plate, the rockers 22 and 22^a being concentric. The lower portion of each plate 21 is provided with a rigidly attached socket 23, and the ends of two relatively heavy longitudinal rods 24 are secured in these sockets of the two end structures by screws or the like 25. The upper portion of each plate 21 is formed with an opening 26, the openings of the two end structures receiving the ends of longitudinal tension rods 27, said rod ends having nuts 28 abutting the inner and outer sides of the plates 21. The rods 24 rigidly connect the lower portions of the opposed rockers with each other and the rods 27 similarly connect the upper portions of said rockers, and by adjusting the nuts 28, said rockers may be disposed in the proper vertical planes.

At each end of the glider, a lower link 29 connects the rods 24, and an upper link 30 connects the rods 27, the two links being parallel and pivotally connected with said rods. Movement of the links longitudinally of the rods is prevented by cotter pins or the like 31. Hence, it is insured that the front-to-rear spaced relation of the rockers shall remain constant and that all rocking movement of said rockers shall be uniform. Each front rocker 20 is in advance of the foremost arm 14 with which the track 9 is provided, and each rear rocker 20^a is behind the rearmost arm 14, thereby preventing excessive relative front-to-rear shifting of rockers and track.

A horizontal seat-supporting frame 32 is provided, said seat frame having longitudinally curved rockers 9^a of substantially the same structure as the rockers 9 except that their side flanges project downwardly instead of upwardly. Like the tracks 9, the tracks 9^a are provided with sound-deadening strips 11^a which engage the upper rockers 22^a. The ends of each track 9^a underlie the frame 32, and bumper blocks 33 are interposed between said ends and frame, bolts or the like 34 being passed through the frame, bumper blocks and track ends. These blocks 33 form resilient supports for the seat frame and also yieldably limit the front-to-rear movement of said frame as will be hereinafter more fully described. The intermediate portion of each track 9^a is provided with downwardly projecting arms 14^a having the same function as the arms 14, except that they co-act with the upper portions of the rockers instead of the lower portions thereof.

The upper ends of the plates 15 are disposed at the outer sides of the tracks 9^a and are provided with lengths of angle metal or the like 35 which embody horizontal flanges 36 overlying said tracks 9^a. By these flanges, the tracks 9^a are prevented from being lifted

off of the rockers 20 and 20^a. Moreover, as the flanges 36 and plates 15 tie the tracks 9 and 9^a together, the rockers are prevented from being lifted from the lower tracks 9. The flange 36 additionally serves as a stop which is co-operable with the bumper blocks 33 in limiting the gliding movement of the seat frame 32. A tension spring 37 connects the seat frame with the bar 8 at each end of the glider and assist in reversing the movement of the seat frame at the ends of its forward or rearward travel, and whenever the seat frame is freed from load, the two springs 37 forcibly move said frame, if they be then under tension. At this time and also during such operation of the glider as to produce maximum movement of the seat frame 32, the bumper blocks 33 come into play.

Preferably, one of the flanges 36 is provided with a notch 38. Co-operable with this notch, is a latch 39 in the form of an arm on a rock shaft 40, said rock shaft being mounted in appropriate bearings 41 carried by the adjacent track 9^a and being provided with a handle 42 at its front end. Should it be desired to prevent movement of the seat frame, the handle 42 may be turned in the proper direction to seat the latch 39 in the notch 38.

The seat frame 32 may be provided with an appropriate back 43 and with arms (not shown). These arms are preferably secured to the frame by means of the studs 44 shown in Fig. 1, and they may well be provided with downwardly projecting masks or curtains (not shown), to obscure the two end structures. Then too, the upholstery used on the conventional seat spring carried by the frame 32, may be provided with a depending apron to obscure all mechanism from the front. Appropriate upholstery will of course be used also upon the back 43 and if desired upon the arms.

It will be seen from the foregoing that novel provision has been made for carrying out the objects of the invention. Attention however, is again invited to the fact that within the scope of the claimed invention, numerous variations may be made.

I claim:—

1. In a glider of the type in which the occupant sits upon a seat and rests his feet directly upon the floor or ground; a rigid base frame elongated transversely of the line of movement of the seat, said base frame having a pair of parallel tracks extending from front to rear at the ends of said frame, a front and a rear rocker resting on each of said tracks, means connecting the front and rear rockers for simultaneous rocking, a horizontal seat elongated transversely of its line of movement and extending uninterruptedly over all of the aforesaid elements when in a neutral position, said seat having tracks at its ends resting upon said rockers, and a back

rising from the rear edge of said seat, the front edge of said seat being free to underlie the occupant's knees.

2. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a standard secured at its lower end to said base track and rising to a point near said seat frame track, and a lateral flange on said standard overlying said seat frame track, said standard and flange preventing relative vertical movement of tracks and rockers.

3. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a vertical plate rigidly secured to said base track between the ends of the latter, said plate rising to a point near the seat frame track, and a lateral flange on said plate overlying the central portion of said seat frame track, said plate and flange preventing relative vertical movement of tracks and rockers.

4. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a standard secured at its lower end to said base track and rising to a point near said seat frame track, a lateral flange on said standard overlying said seat frame track, said standard and flange preventing relative vertical movement of tracks and rockers, and a tie bar secured at one end to said standard and adapted to connect one end structure of the glider with a duplicate end structure.

5. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a vertical plate rigidly secured to said base track between the ends of the latter, said plate rising to a point near the seat frame track, a lateral flange on said plate overlying the central portion of said seat frame track, said plate and flange preventing relative vertical movement of tracks and rockers, and a tie bar secured at one end to said plate and adapted to connect one end structure of the glider with a duplicate end structure.

6. In a glider, a base track, front and rear rockers resting on said base track, a seat frame having a second track resting on said rockers, a stationary stop disposed between the ends of said second track, and bumpers near the ends of said second track adapted to strike said stationary stop to limit movement of the seat.

7. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a vertical plate rigidly secured to said base track between the ends of the latter, said plate rising to a point near the seat frame track, a lateral flange on said plate overlying the central portion of said seat frame track, said plate and flange preventing relative vertical movement of tracks and rockers, and bumpers near the

ends of said seat frame track adapted to strike the ends of said flange to limit movement of the seat.

8. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, and vertical arms secured to said tracks and positioned between said rockers to prevent excessive relative forward or rearward shifting of rockers and tracks.

9. In a glider, a length of angle metal having a horizontal and a vertical flange, an up-standing plate rigidly secured to said vertical flange, a channeled rocker rail secured to said horizontal flange, and a tie bar secured at one end to said plate, said tie bar being adapted to connect one end structure of the glider with a duplicate end structure.

10. In a glider, a base track, front and rear rockers resting thereon, a second track resting on said rockers, a seat frame over said second track, bumpers interposed between said frame and said second track, fasteners passing through said frame through said second track and through said bumpers, and a stationary stop mounted between the aforesaid bumpers to co-act therewith in limiting forward and rearward movement of said seat frame.

11. In a glider of the type in which the occupant sits upon a seat and rests his feet directly upon the floor or ground; a rigid base frame elongated transversely of the line of movement of the seat, said base frame having a pair of parallel tracks extending from front to rear at the ends of said frame, a front and a rear rocker resting on each of said tracks, upper and lower rods extending longitudinally of said base frame and secured at their ends to said rockers, there being one upper and one lower rod for the front rockers and one upper and one lower rod for the rear rockers, upper and lower links extending between the ends of the upper and lower rods respectively and pivotally connected therewith, a horizontal seat elongated transversely of its line of movement and extending uninterruptedly over all of the aforesaid elements when in a neutral position, said seat having tracks at its ends resting upon said rockers, and a back rising from the rear edge of said seat, the front edge of said seat being free to underlie the occupant's knees.

12. A structure as specified in claim 2; said flange having a notch, and a latch mounted on said seat frame, said latch being receivable in said notch to hold the seat frame against movement.

13. In a glider, a base track, front and rear rockers resting thereon, a seat frame having a track resting on said rockers, a standard secured at its lower end to said base track and rising to a point near said seat frame, and means on said standard slidably

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engaging said seat frame and preventing relative vertical movement of said seat frame and rockers.

14. In a glider, a base track, front and rear
5 rockers resting thereon, a seat frame having
a track resting on said rockers, a standard secured at its lower end to said base track and rising to a point near said seat frame track, and means on said standard slidably engaged
10 with said seat frame track, said standard and means preventing relative vertical movement of tracks and rockers.

In testimony whereof I have hereunto affixed my signature.

15 DUANE M. LILLIBRIDGE.

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