

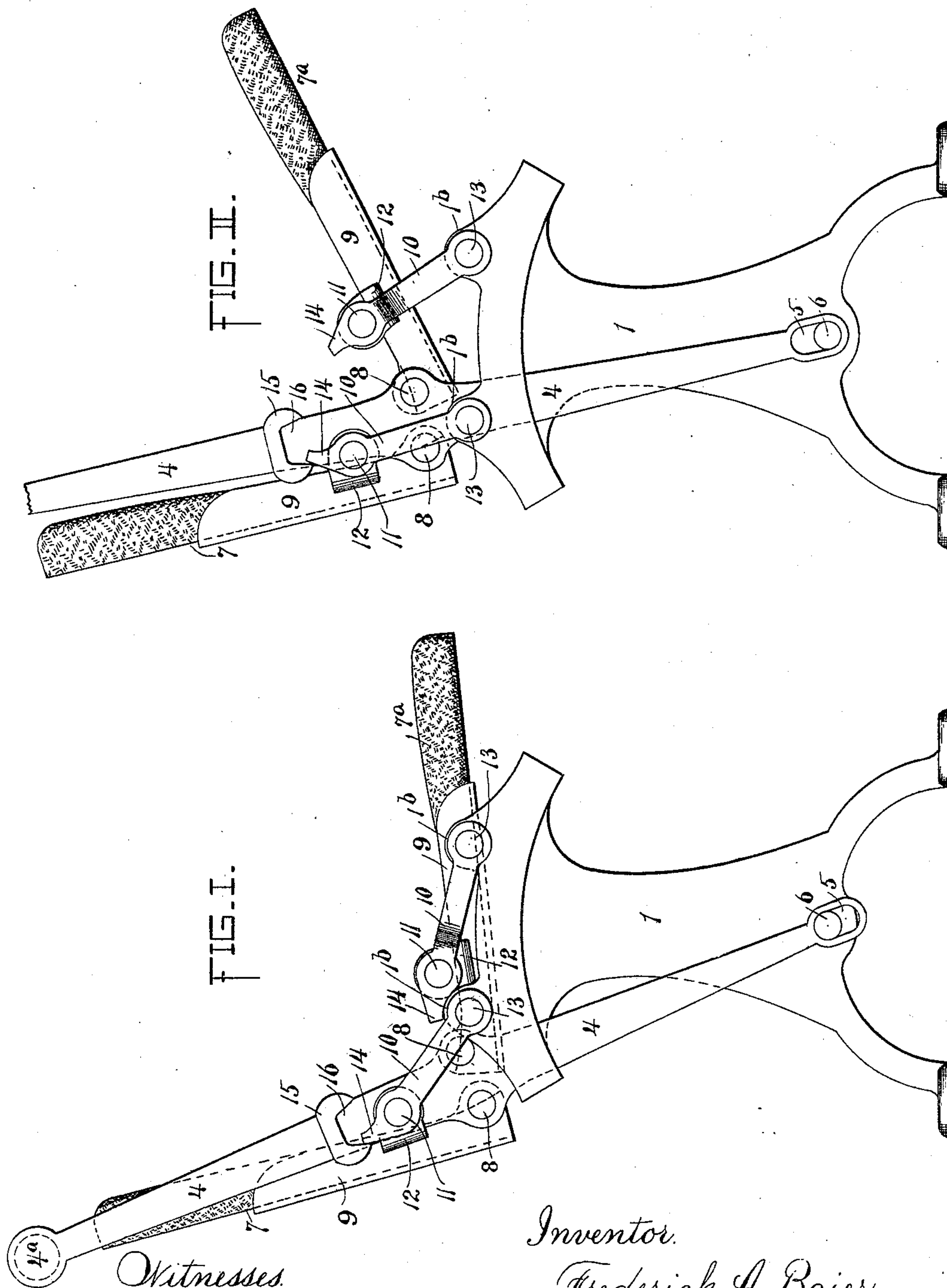
(No Model.)

3 Sheets—Sheet 1.

F. A. BAIER.  
CAR SEAT.

No. 565,375.

Patented Aug. 4 1896.



Witnesses  
Walter E. Allen.  
Walter Allen.

Inventor.  
Frederick A. Baier.  
By *Knight Bros.*  
Attorneys.

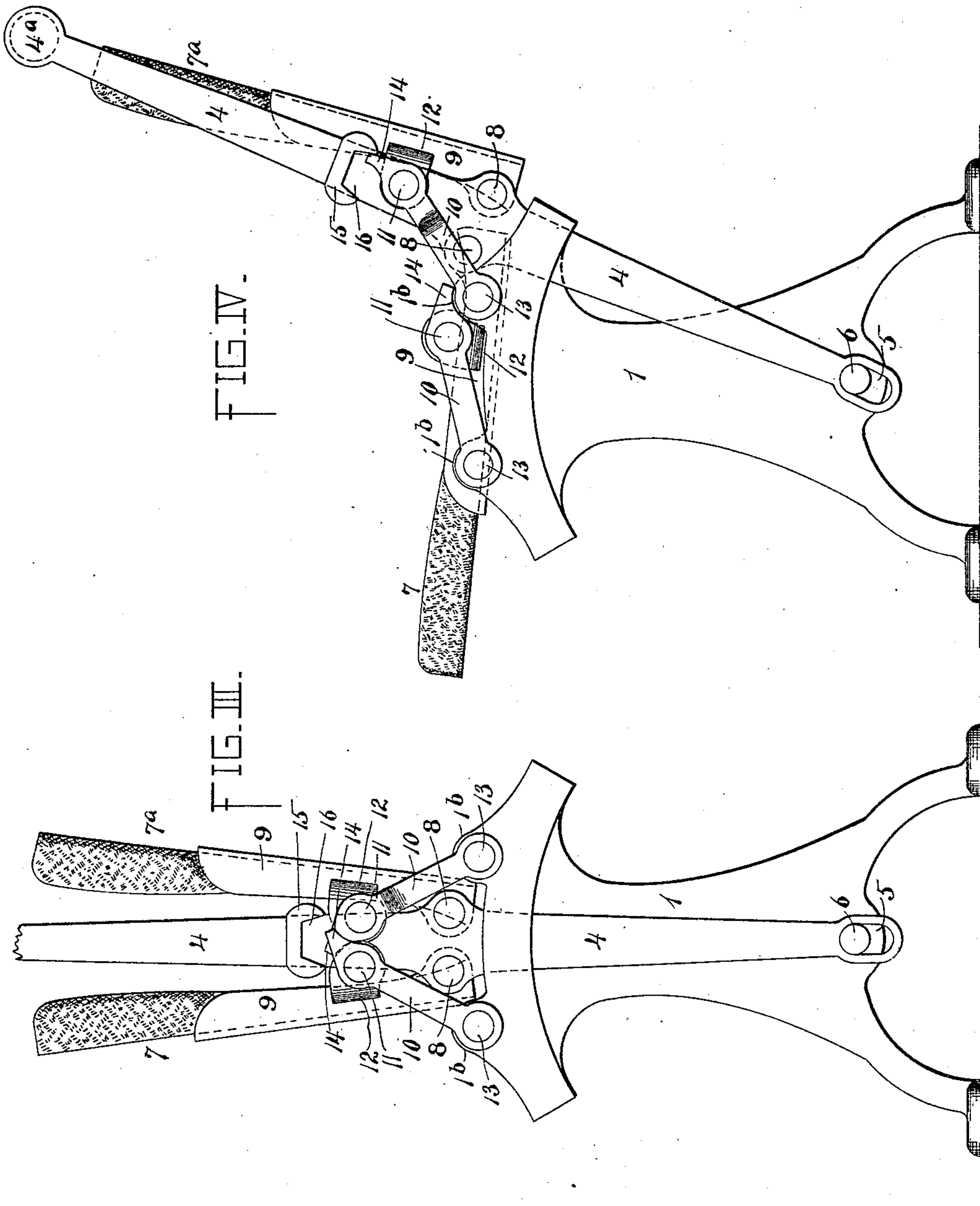
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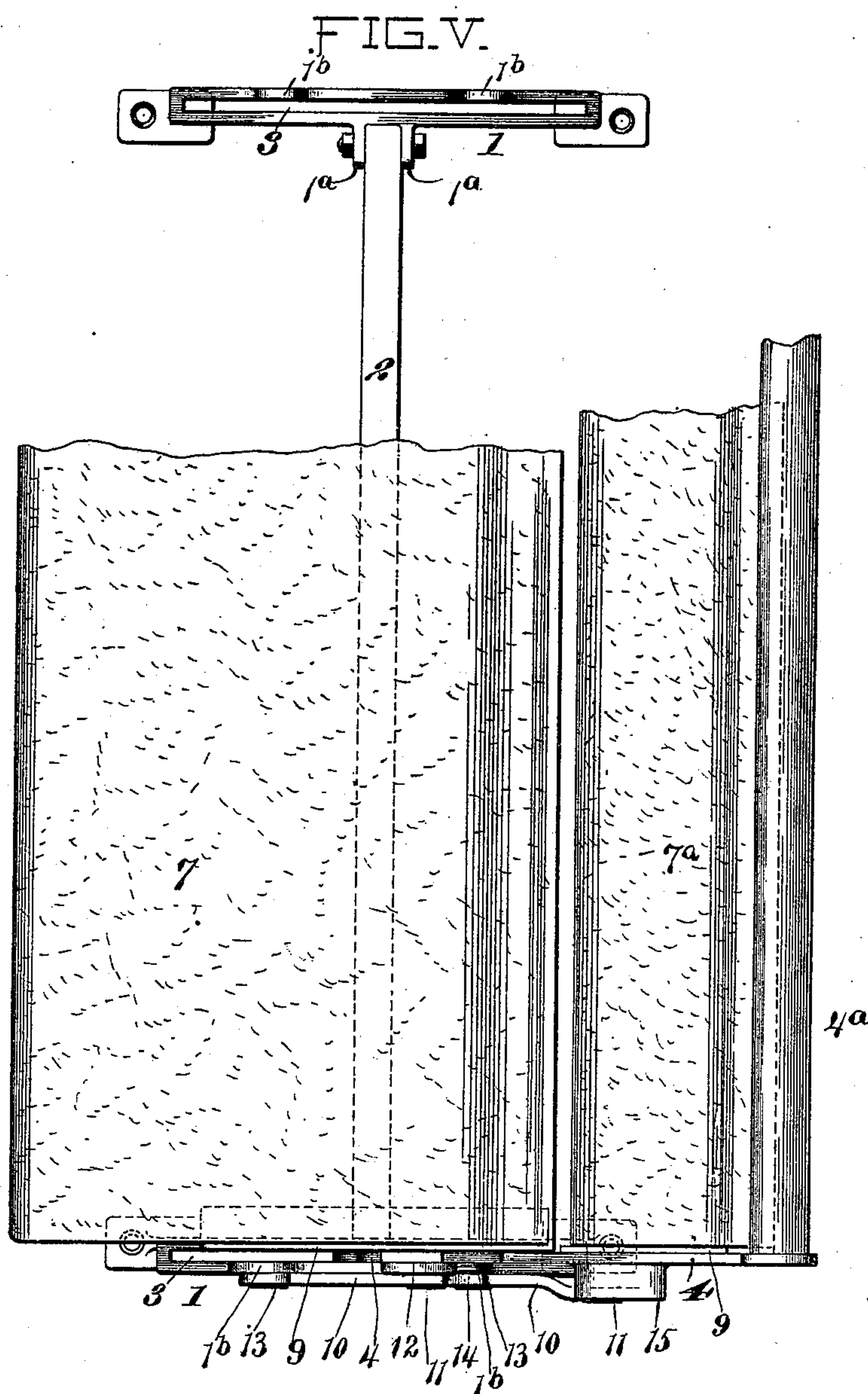
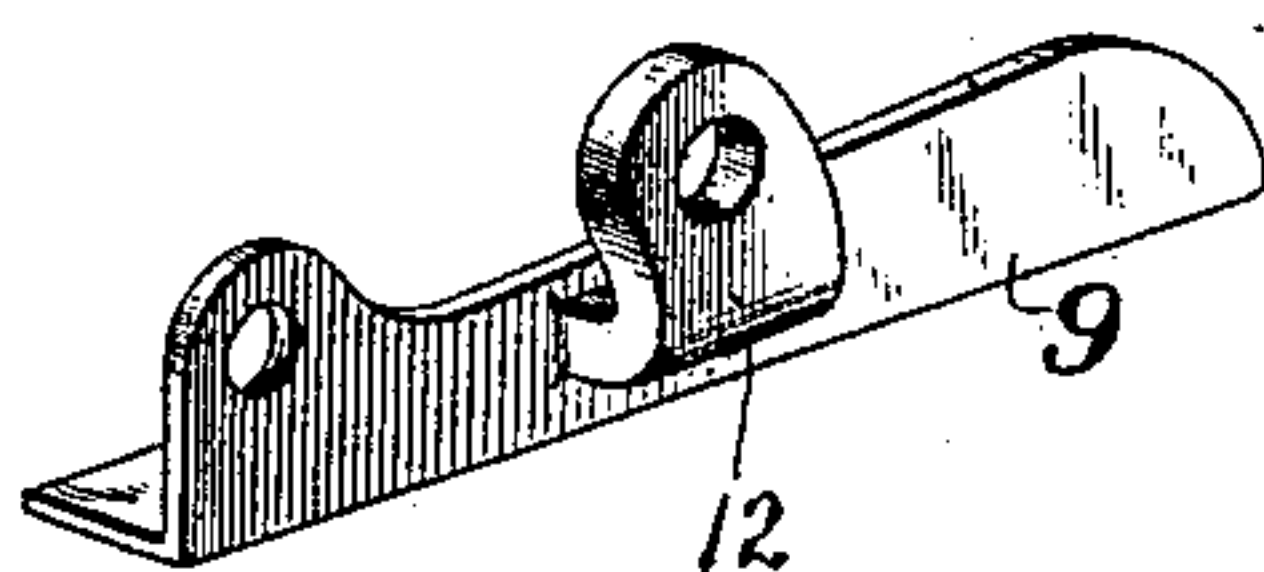


FIG. VI.



Fittest  
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*By Wright & Bond*  
*Attys*



# UNITED STATES PATENT OFFICE.

FREDERICK A. BAIER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE  
BROWNELL CAR COMPANY, OF SAME PLACE.

## CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 565,375, dated August 4, 1896.

Application filed March 19, 1894. Renewed April 12, 1895. Serial No. 545,525. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK A. BAIER, a citizen of the United States, and a resident of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Car-Seats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in car-seats, one of the principal objects in view being to form a car-seat which is both folding and reversible, having two combined back and seat parts, and by "folding" I mean that the combined back and seat parts unfold from their supporting-arms downward to provide seats and fold upward toward the supporting-arms to provide backs, and vice versa.

My invention consists in features of novel construction hereinafter fully described, and pointed out in the claims.

Figure I is a side elevation of my improved car-seat, showing the different positions that the moving parts assume when the arms are shifted to the left. Fig. II is a similar view showing the different positions that the moving parts assume when the arms are shifted from the left pathway toward the right. Fig. III is a similar view showing the different positions that the moving parts assume when the arms are shifted to central position. Fig. IV is a similar view showing the different positions the moving parts assume when the arms are shifted to the right. Fig. V is a detail top view, the parts being in the position shown in Fig. IV. Fig. VI is a perspective view of one of the brackets of a combined back and seat part.

Referring to the drawings, the car-seat support consists of two similar end frames 1, having vertical flanges 1<sup>a</sup> and a transverse connecting-bar 2, bolted between the flanges. Each frame has an opening 3 to receive a swinging arm 4, whose lower end is movably engaged with the frame by a slot-and-pin connection 5 and 6. A pair of arms 4 are employed, which are connected together at their upper ends by a roll 4<sup>a</sup>.

7 7<sup>a</sup> represent a pair of combined back

and seat parts, which furnish either a back, when placed edge up in an approximately vertical position, or a seat, when placed down in an approximately horizontal position. I employ a pair of these combined back and seat parts in each car-seat. The connections of each of these parts with the frames and arms are similar, and it will only be necessary to describe one set of these connections so as to describe the other set, as the sets of connections are merely duplicates of each other, two left-hand and two right-hand sets being employed in each car-seat. Each combined back and seat part is pivoted to the arms 4 by pivots 8, located at the inner ends of a pair of brackets 9, which are secured to the parts 7 7<sup>a</sup>. The parts 7 7<sup>a</sup> are also connected to the frames by means of links 10, connected by pivots 11 with lugs 12 on the brackets at their outer ends and by pivots 13 to ears 1<sup>b</sup> on the frames at their inner ends. The outer end of each link has a projection 14, adapted to engage in a recess 16 of a lug 15 on an arm 4 and adapted to be released therefrom in the act of reversing the car-seat.

The pair of arms 4, which extend through the slots 3 in the frames 1, move in the slots as the combined back and seat parts are folded and unfolded, the ends of the slots limiting the movement of the arms, and consequently the parts connected thereto.

To change the position of the moving parts shown in Fig. I, the roll 4<sup>a</sup> of the arms is grasped and shifted toward or to the position shown in Fig. IV. The left-hand part 7, forming the back, gradually moves with and swings rearwardly from the arms to a horizontal or seat position, while the right-hand part 7<sup>a</sup>, forming the seat, gradually advances toward, moves with, and swings forwardly to the arms to a vertical or back position. If the arms are shifted from the position shown in Fig. IV to the position shown in Fig. I, a similar movement of the parts takes place.

Fig. II indicates the forward movement of the arms and the part which formed the back gradually receding from the arms and the part which formed the seat gradually advancing toward the arms. When the arms have reached the central position, (indicated in Fig.



III,) the two parts 7 7<sup>a</sup> are at an equal distance from the arms. If the arms are shifted to the right, the left-hand part will be lowered to seat position, while the right-hand part will assume the back position, as shown in Fig. IV. If the arms are shifted from their central position to the left, the parts will assume the position shown in Fig. I. The shifting of the arms from one extreme position to the other extreme position swings the parts on their arm and link-pivots and carries their arm-pivots over their frame-pivots.

When the arms are in their central position, the parts will be folded alongside them, as shown in Fig. III, so as to enable the car cleaners and sweepers to gain ready access to the floor, while the folding will also permit the inside occupant of a seat to pass out without the outside occupant having to step into the aisle of the car. Of course both passengers arise from the car-seat when it is to be folded. The extent of the folding action may be anywhere from the normal position of the parts to the almost vertical position, as shown in Fig. III. After the inside occupant has passed out the seat is allowed to relax to its former position. This folding action of the seat is very desirable where the different seats of the car are placed close together and where the aisle of the car is filled with passengers, making it difficult for the outside occupant to step into the aisle to allow the inside occupant to get out.

When the car-seat is to be reversed, the arms 4 are drawn forward, as above explained, and are passed over to the opposite side of the frames from the position shown in Fig. I to the position shown in Fig. IV. As the parts are thus reversed the projections of the links of the horizontal part occupy the position in the lugs that the projections of the links of the vertical part occupied before the parts were reversed, and the former vertical part now becomes the seat part, while the former seat part becomes the back part. The slots 5 in the lower ends of the arms 4 permit the latter to rise slightly as the links pass from their inclined position to a vertical position, and the arms descend again as the links move from their vertical position to their normal inclined position.

In swinging the arms from one side to the other side of the frame, from the left-hand side or position shown in Fig. I to the right-hand side to the position shown in Fig. IV, the following movements take place: As the arms are moved forward both the combined back and seat parts are moved forward and up with the arms, the latter movement being caused by the shorter radius of the links than that of the arms. While the upper end of the left-hand part moves slightly rearward the upper end of the right-hand part advances toward the arms. When the parts are positioned as shown in Fig. II, the arms are wholly supported by the left-hand links and will be so supported until by further

forward movement the left-hand links free themselves from the arm-lugs, when the arms may begin to slide down onto the pins to the position shown in Fig. III, where the right-hand part has assumed a similar position with respect to the arms as the left-hand part. Again, as the arms move forward they gradually move in advance of the upper end of the left-hand part, carrying with them, however, the lower end of said part, with which they have pivotal connection. The left-hand links, although they move always in the direction in which the arms are traveling, yet move the upper end of the left-hand part in a direction opposite to that in which the arms are traveling by means of the arrangement of the left-hand links in relation to the left-hand part and the frame. During this movement of the left-hand part and connected parts the right-hand part is thrown to an approximately vertical position, by means of the right-hand links, to a similar position as the left-hand part.

A seat thus constructed can be easily folded and reversed, and affords, by folding it, as stated hereinbefore, the very desirable accommodation of permitting the inner occupant of the seat to pass out without the necessity of the outer occupant crowding into the aisle of the car.

Not only is my improved seat reversible and folding, but it is also armless, there being no arms at the ends to crowd the occupant of the seat.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A car-seat comprising a support, a pair of combined back and seat parts, means whereby the parts are guided in their movement across the support, and means connecting the parts with the support so as to cause the parts, when in one position and shifted, in the act of reversing, to fold toward each other until they assume an approximately central position on the support and then unfold into reverse position, substantially as described.

2. A car-seat comprising a support, a pair of combined back and seat parts, means whereby the parts are coupled together and guided in their movement across the support and means connecting the parts to the support so as to cause the parts, when open in one position and shifted, in the act of reversing, to fold toward each other until they assume an approximately central position on the support and then unfold into reverse position, substantially as described.

3. A car-seat comprising a support, a pair of combined back and seat parts coupled together, means for connecting the lower edges of the parts with the support so as to be guided and swung thereby in their movement thereon, and means for connecting the side portions of the parts with the support so as to cause the parts when open in one position



and shifted in the act of reversing to fold automatically first toward each other and then unfold into reverse position; substantially as described.

5 4. A car-seat comprising a support, a pair of combined back and seat parts, means whereby the parts are coupled together at their lower edges and connected with the support so as to be guided and swung thereby  
10 in their movement thereon, and links for connecting the side portions of the parts with the support so as to cause the parts, when open in one position and shifted, in the act of reversing to fold automatically first toward  
15 each other and then unfold into reverse position; substantially as described.

5. A car-seat comprising a support, a pair of swinging arms, and a pair of combined  
20 back and seat parts fulcrumed to the arms so as to fold thereto, and means for connecting the combined back and seat parts to the support so that when one part is in seat position the other part will be in back position or vice  
25 versa, and when the arms are in vertical position both the back and seat parts are folded; substantially as described.

6. A car-seat comprising a support, upwardly-extending arms movably fulcrumed  
30 at their lower ends to the support and adapted to be swung back and forth, a combined back and seat part pivoted at its inner portion to the arms, and links pivoted to the combined back and seat part and also pivoted to the

support whereby the parts can be folded to a back position or unfolded to a horizontal  
35 position, substantially as described.

7. A car-seat comprising a pair of frames, a pair of combined back and seat parts, a pair of pivoted swinging arms to which the said  
40 parts are hinged, and link connections between the said parts and the frames whereby the parts may be folded, unfolded, and reversed with relation to each other, when the arms are moved; substantially as described.

8. A car-seat comprising supporting-  
45 frames, a pair of combined back and seat parts, arms pivoted to the frames, having lugs, and links, connecting the parts to the frames, having projections adapted to engage the lugs on the arms, substantially as de-  
50 scribed.

9. A car-seat comprising supporting-frames having openings, arms fulcrumed to the frames and fitting in said openings, hav-  
55 ing lugs, a pair of combined back and seat parts having brackets formed with ears and hinged to the arms, links forming pivotal connections between the ears of the brackets and the frames, having projections adapted to engage the lugs on the arms; substantially  
60 as described.

FREDERICK A. BAIER.

In presence of—

C. G. EDWARDS,  
A. M. EBERSOLE.