

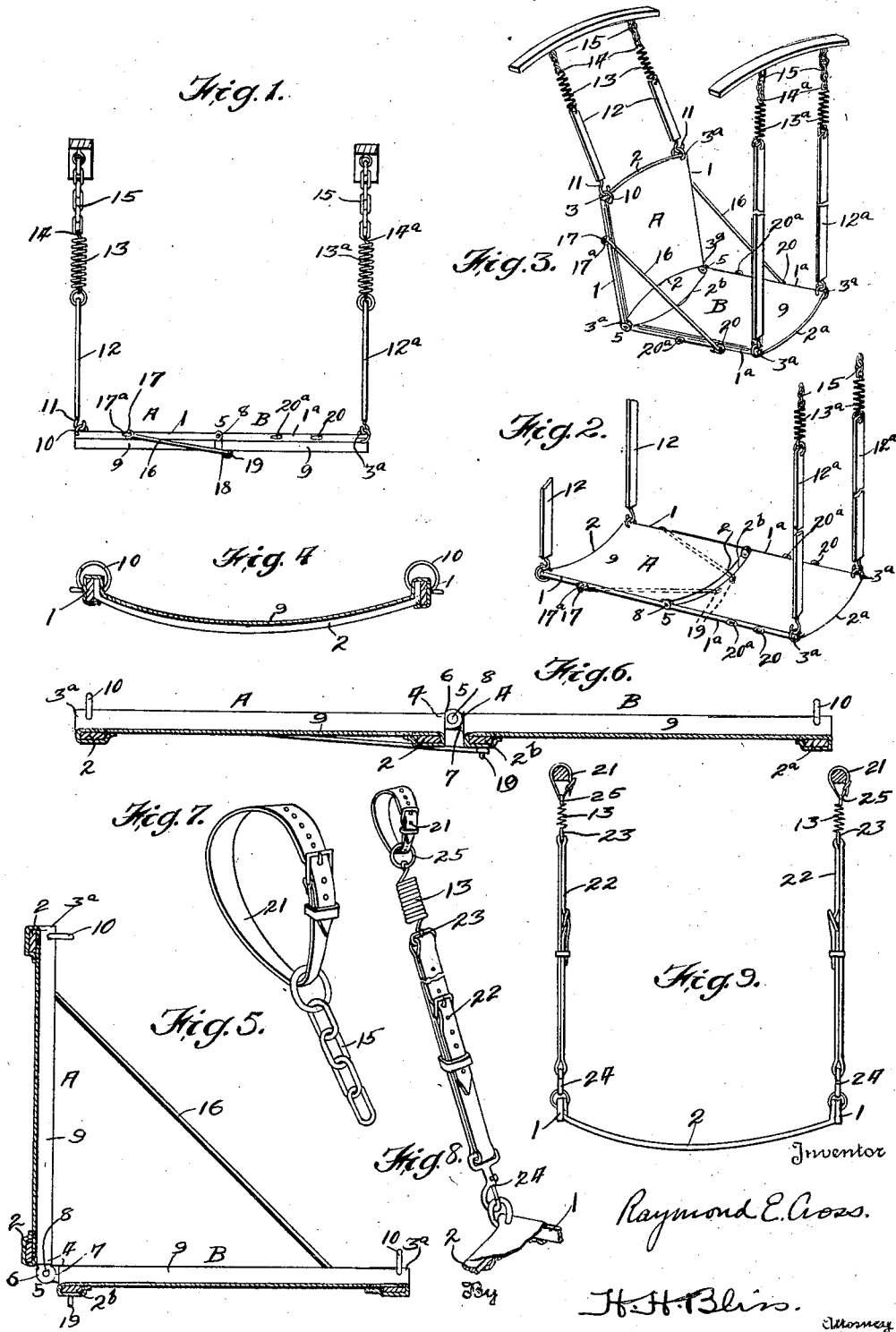
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SWINGING ARTICLE OF FURNITURE

Filed March 4, 1920



## UNITED STATES PATENT OFFICE.

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## SWINGING ARTICLE OF FURNITURE.

Application filed March 4, 1920. Serial No. 363,269.

*To all whom it may concern:*

Be it known that I, RAYMOND E. CROSS, a citizen of the United States, residing at New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Swinging Articles of Furniture, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a novel furniture article having parts adjustable to different relative positions so that it can be used alternately as a hammock, as a swinging cradle, or as a suspended chair. As an  
15 entirety it can be suspended from any suitable support.

It is so designed as to be especially adapted for use on vehicles, such as automobiles, and is mainly intended for comfortably supporting an infant in either of several positions, and can be placed relatively to the neighboring parts of the vehicle in such way as not to inconvenience the occupants.

Fig. 1 is a side view showing some of the parts of a vehicle and also the manner of applying the present article of furniture thereto.

Fig. 2 is a perspective of the article when its parts are so adjusted as to provide a cradle-like support for an infant.

Fig. 3 is a perspective showing the parts in the positions occupied when they are adjusted to provide a suspended chair-like article.

Fig. 4 is a sectional view of one of the two sections.

Fig. 5 is a section on a longitudinal vertical plane through the parts when arranged to serve as a chair.

Fig. 6 is a similar section showing the parts when adjusted to form a cradle.

Fig. 7 illustrates a modified way of attaching the upper end of the suspension device.

45 Figs. 8 and 9 illustrate a modification of the suspending device which as an entirety is a modification of those shown in Fig. 1.

The article herein presented comprises two main sections, A and B. Each of these is approximately rectangular in plan view, the section A having straight parallel side

bars 1, 1 and curved end bars 2, 2; the section B also having side bars 1<sup>a</sup>, 1<sup>a</sup>, and curved end bars 2<sup>a</sup>, 2<sup>b</sup>. The degree of curvature in the end cross bars is sufficient to assist in holding the occupant in place without discomfort, and also in holding such cushion or mattress as may be desired. The bars 1, 1<sup>a</sup>, 2, 2<sup>a</sup> and 2<sup>b</sup> may be formed of any suitable material, and each may have any preferred sectional shape. The side bars and the end bars of each section A and B are, at the corners 3, 3<sup>a</sup>, 4 and 5, secured rigidly together in any suitable way, as by welding. The end parts of the side bars 1, 1 are extended beyond the transverse planes of the curved cross bar 2, providing extensions 4, 4; and the side bars 1<sup>a</sup>, 1<sup>a</sup> are extended beyond the curved cross bar 2<sup>b</sup>, forming similar extensions 4. At each side the adjacent or companion extensions 4, 4 are hinged together as shown at 5. The hinges may be of any suitable sort. As shown, one of the bars on each side of section A is formed with a socket having two parallel lips 6, 6, and the bar 1<sup>a</sup> on each side of section B is formed with a tongue 7, adapted to slip between the flanges or lips 6, and be pivoted thereto by pin 8 passing through apertures in the parts 6 and 7.

To the side bars and to the end bars of the rectangular frame of each section A and B there is secured a sheet 9 of strong heavy fabric, such as canvas, or the like. It is tightly fastened and furnishes a support which is concavo-convex throughout the entire length of the article.

At the corners 3, 3<sup>a</sup> links or eyelets 10 are secured to the frame bars. They are adapted to be connected with the hooks 11, which are carried by links or straps 12 at one end of the article, and straps 12<sup>a</sup> at the other end. The straps or links, at their upper ends, are connected to spiral springs 13, 13<sup>a</sup>, at the ends of the article, respectively, the springs in turn having hooks 14, 14<sup>a</sup> at their ends. By means of these hooks, or equivalent attaching devices, the article, as an entirety, may be suspended from any suitable superjacent support.

To permit either of the outer ends of sections A and B to be supported in a

higher or lower horizontal plane relatively to the plane of the other outer end, adjusting holders such as chains 15 may be used, adapted to have the hooks 14, 14<sup>a</sup> inserted in higher or in lower links as found necessary.

16, 16 are bracing or locking bars or rods for holding the sections A and B rigidly in position after adjustment. Each has an eyelet 17 at one end and a hook 18 at the other. The eyelets 17 respectively engage with eyelets 17<sup>a</sup>, secured respectively to the side bars 1 of the section A. And the hooks 18 at the other ends of the rods or bars 16 can be respectively engaged with eyes 19, secured on the cross bar 2<sup>b</sup> of the section B. The two eyes 19, 19 are rigidly fastened to the cross bar at points near its center.

When the bracing or locking rods 16 are in the positions shown in Fig. 2 each extends diagonally from its eyelet 17, inward toward the center of the cradle, and crosses the plane of the curved bar 2, 2<sup>b</sup> and is firmly fastened in its eye 19. The rods, when so positioned, lock the sections A and B in alignment and prevent the adjacent end parts from swinging downward in relation to each other.

The two side bars 1<sup>a</sup>, 1<sup>a</sup> of the section B are provided with two pairs of eyes at 20, 20 and 20<sup>a</sup>, 20<sup>a</sup>. The eyes of each pair are equally distant from the corners 3<sup>a</sup>, 3<sup>a</sup>, but the pairs are at different distances from said corners.

When it is desired to convert the article into a chair-like device, the section B is left in its horizontal position, and the section A is moved around the hinge points 5, 5 to an inclined position or to an upright one, as preferred. If it is to remain inclined the hooks 18 of the bars 16, respectively, are engaged with the eyelets 20<sup>a</sup>, 20<sup>a</sup>, and thereafter the sections A and B will be rigidly held in the desired angular relation. If the back part A is to be held more nearly vertical the rods 16, 16 are engaged with the eyelets 20, 20. Of these eyelets 20, 20<sup>a</sup>, there may be as many pairs as are required to meet any desired angles of inclination.

When the parts are adjusted to form a chair, as just described, it is necessary to change the length of the suspending devices at the end of one of the sections A or B, that is either to shorten the suspending devices at the outer end of section A, or lengthen those at the outer end of section B. To accomplish the former, the hook 14 is fastened to a higher link in the chain 15 or to a hook on the roof frame. The chains are each made of a sufficient number of links to permit shortening or lengthening the distance from the section A to the roof, or to the final abutment support, as may be demanded.

The cradle-like supporting element may,

if preferred, be suspended by devices differing from those above described such as illustrated in Figs. 7, 8 and 9. 21 indicates strap loops which can be fastened over one of the rib bars of the cover of a vehicle without requiring screw or rivet apertures in the rib. To these loops the springs 13, 13<sup>a</sup> above described can be readily connected by means of a suitable number of chain links, as shown in Fig. 7, the springs at their lower ends being attached to straps 12<sup>a</sup>, 12<sup>a</sup>, as above set forth. 22 indicate extensible straps, as substitute for the link chains 15, these straps being perforated and provided with buckles to permit fastening their ends after shortening or lengthening. When such straps are used they can be connected by loops 13 to the lower ends of the springs 13, and by means of snap hooks 24 be connected to the cradle-like element. The springs 13 may be connected to the top loops 21 by eyes 25 which permit ready attachment.

As above stated, the article here presented is particularly well adapted for use in an automobile for the supporting of an infant. Its design and construction are such that all of its parts can be folded together so that as an entirety it occupies but little space and can be readily placed under a seat or in other small storage chamber. It is composed of two substantially similar counterpart sections, each having a bottom element which is permanently concavo-convex, and each section, being at each of its outer corners supported by an independent suspending device so that the bottom element, when in use will be held on lines relatively fixed in their direction, and will be prevented from twisting or swinging around vertical axes.

What I claim is:

1. The herein described support for an infant comprising two substantially equal counterpart sections, each section having a permanently concavo-convex bottom element, and said sections being hinged together at their adjacent inner ends and adapted to be folded one upon the other, in combination with four independent extensible suspending devices, each connected to an outer corner of a bottom element, and all adapted to extend vertically in parallelism from said elements to rigid superjacent supports and to be adjustably and detachably secured thereto independently of each other.

2. An infant's support for attachment to the tops of automobiles comprising, in combination, two concavo-convex sections having side-bars and cross-bars sustaining a body-supporting member, said sections being hinged together and optionally movable from a substantially aligned relation forming a bed to an approximately right angular relation forming a chair, means for holding the sections in either of said aligned or an-

gular relations, means for sustaining the infant's support including adjustable straps connected to the remote ends of the two sections, the straps being provided with readily operable connections at one of their ends at least for attachment to or detachment from the top frame of an automobile, whereby to permit an infant being carried around in a car either lying down or sitting up but in either case in substantially parallel relation to the floor of the car. 10

In testimony whereof, I affix my signature.

RAYMOND E. CROSS.