

No. 741,032.

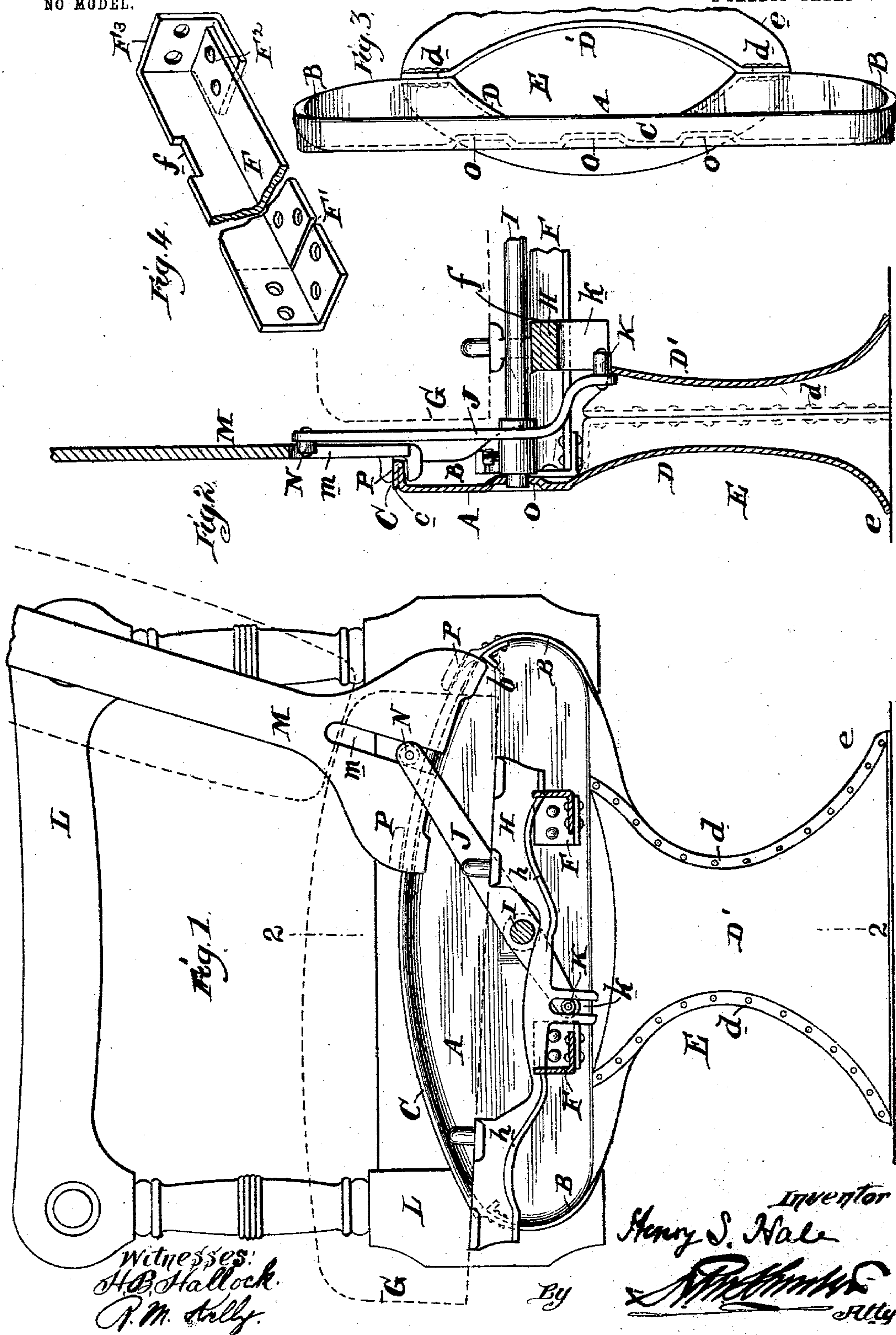
PATENTED OCT. 13, 1903.

H. S. HALE.  
CAR SEAT.

APPLICATION FILED APR. 2, 1902.

2 SHEETS—SHEET 1.

NO MODEL.



Witnesses:  
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A. M. Kelly.

Inventor  
Henry S. Hale  
By *[Signature]* Atty.

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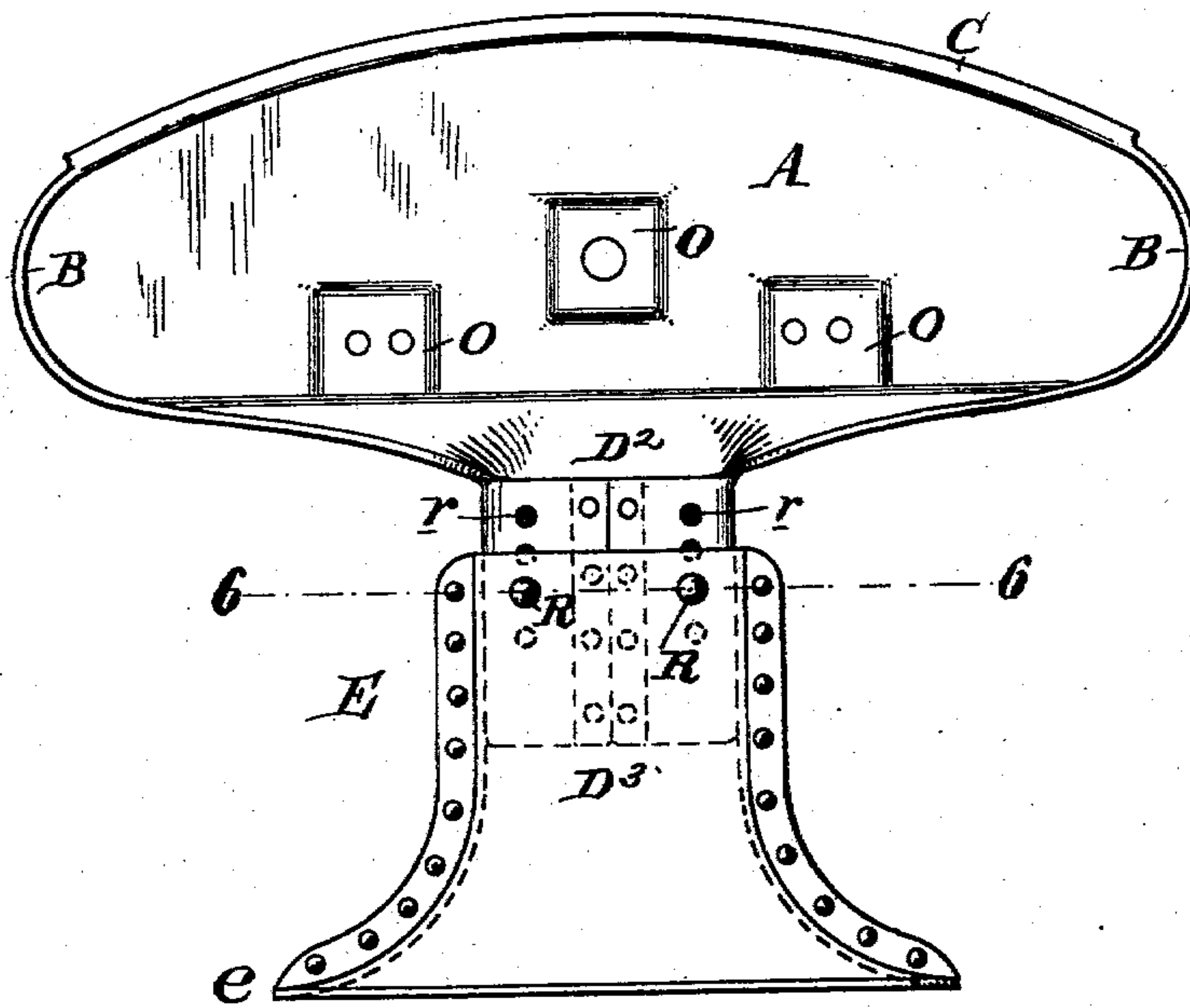


Fig. 5

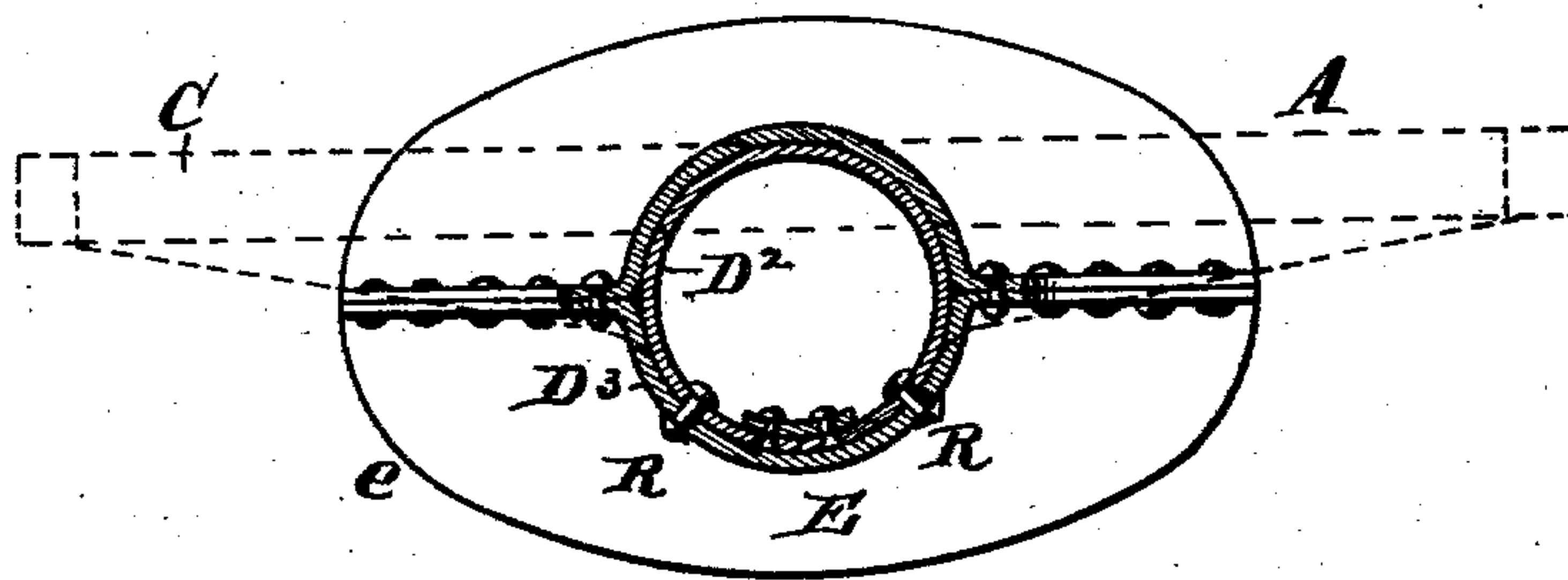


Fig. 6

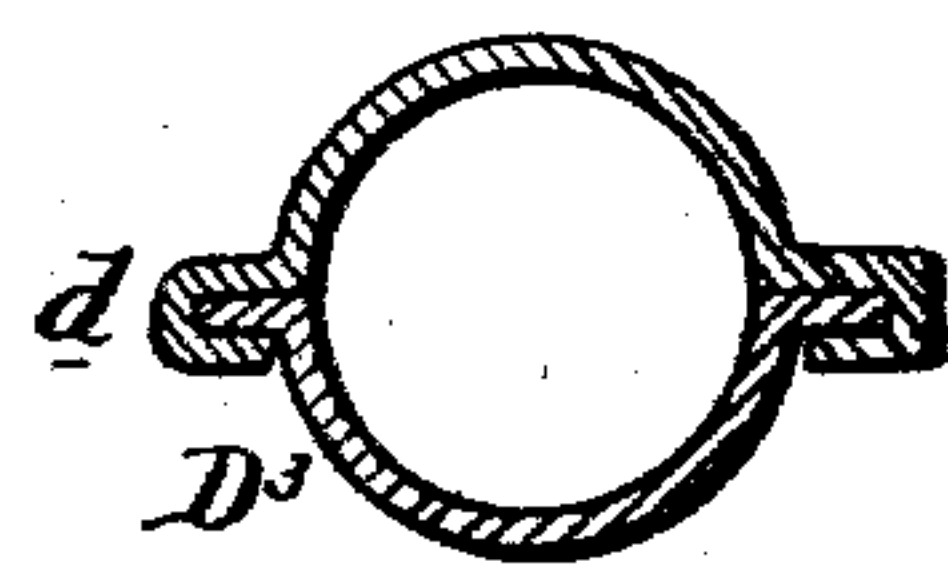


Fig. 7

Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 741,032, dated October 13, 1903.

Application filed April 2, 1902. Serial No. 101,108. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY S. HALE, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Car-Seats, of which the following is a specification.

My invention has reference to car-seats; and it consists of certain improvements set out in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements relate to the character of car-seat structure disclosed in Letters Patent No. 692,133 and granted to me on January 28, 1902, and consist more particularly in a modification of the main framework of pressed steel.

The object of my invention is to produce a pressed-steel construction of car-seat framework which shall be simpler, cheaper, and more satisfactory than the structure shown in the aforesaid patent, and said objects are secured by the structures more particularly described hereinafter.

In carrying out my invention I provide a pressed-steel end frame with end flanges and an upper curved flange which acts as a guide for supporting and guiding the seat-back-carrying arms, the said upper curved edge being preferably formed of double thickness by doubling the metal of the flange upon itself. This end frame may be combined with the pedestal portion, formed of two parts riveted or otherwise secured together to constitute a hollow pedestal and which pedestal may be integral with the end frame or connected with it by an adjustable connection, whereby the height of the seat may be varied or adjusted relatively to the floor.

In connection with the above improvements my invention also comprehends various details of construction, which will be better understood by reference to the accompanying drawings, in which—

Figure 1 is a transverse section of a car-seat frame embodying my invention. Fig. 2 is a longitudinal section of same on line 2 2 of Fig. 1. Fig. 3 is a plan view of the end frame. Fig. 4 is a perspective view of one of the longitudinal connecting-bars with part broken away. Fig. 5 is an inside elevation

of the end frame and pedestal when formed with improvements for vertical adjustment. Fig. 6 is a sectional plan view of same on 6 6 of Fig. 5, and Fig. 7 is a cross-section showing how the two metal parts of the pedestal may be united.

A is the end frame and is formed of stamped sheet metal with the ends flanged, as at B, and the upper part flanged, as at C, on a curve of large radius. This upper flange C is preferably made of double thickness by having the metal bent over upon itself, as indicated at c in Fig. 2, so as to give greater thickness both for strength and for wear and also to give a smooth surface to the inner edge.

In my former patent the end frame was made with flanges all around and a curved guide for supporting the seat-back either forced up on the inner face or riveted upon the said face. I have found these constructions expensive and undesirable on the ground that they required the area of the end frame to be greater than was convenient to be received in the mortised wooden frame carrying the arm-rests. In my present construction I do away with the upper part of the end frame as formerly made and form the curved guide directly upon the upper edge or flange, thereby reducing the area of the frame, securing the curved guide as an integral structure with the end frame, cheapening the cost of manufacture, and lightening the weight of the structure. On the aisle end of the seat the arm-rest frame L, of wood, is secured to the outer surface of the end frame A; but on the window end of the seat there is usually no arm-rest, and the end frame at that end is secured to the framing of the car.

In case where no adjustability is required in the pedestal the end frame A may be continued downward, as at D, in a semi-elliptical portion which when fitted to a semi-elliptical inner portion D' and riveted or otherwise secured together, as at d, constitutes a pedestal E, having a flaring base e, as shown. If desired, the part D' may be omitted and the other semi-elliptical portion connected to the end frame otherwise than by being formed integral therewith. While I prefer to form the pedestal or a portion of same integral



with the end frame A, it is evident that the novelty of the structure of the end frame would be the same even if the pedestal were omitted, as is usually the case at the window end of the seat.

F represents the longitudinal bars for connecting the end frames of said structure and are preferably formed of angle-iron, having notches *f* upon one of the edges for guiding the seat-supporting frame H. These angle-iron bars may be conveniently attached in place by slotting them transversely, as at *F'*, and bending over the end to form the flange *F*<sup>3</sup>, which is firmly held in place by the rivets *F*<sup>2</sup> through the lower portions of the bar, as is clearly shown in Figs. 1, 2, and 4. However, any other form of longitudinal bars may be employed, if desired, in lieu of that here shown. The ends of these bars are supported upon inwardly-projecting portions O of the end frame A and are bolted or riveted thereto, as desired. The inwardly-projecting portions O, aside from imparting strength, produce recesses upon the outer surface for the reception of the rivet or bolt heads, so as to enable the woodwork L to fit up flat against the outer surface of seat end frame. There is an end frame at each end of the seat, and its bars F and both ends of the structure are the same, except that usually the inner end frame is secured against the wall of the car in place of being supported upon a pedestal.

The seat-supporting frames H may be of any suitable construction, that shown being well adapted for the purpose and in this case being of cast metal with the cam-surfaces *h* and with the downwardly-directed slot *k* at the center. The seat-cushion G is sustained upon a seat-supporting frame H at each end of the seat.

The seat-back is secured to the supporting-arms M, which are flared at the bottom and provided with laterally-projecting guide-lugs P, forming sockets to fit over the edge of the curved guide C upon the upper edge of the end frame. These arms M are further provided with a slot *m*, in which a pin or roller N works, said pin or roller being secured to the end of the upper arm of the lever J, which is secured to the rock-shaft I and has its lower and shorter arm projected downward and furnished with a pin or roller K, working in the slot *k* of the seat-supporting frame H, for the purpose of shifting it. It will be seen that after the back is shifted from the right to left in Fig. 1 the seat-cushion will be shifted simultaneously in the opposite direction and at the same time lifted upward at its forward end by means of the cam action between the parts *h* of the frame H, and *f* of the bars F. The end of the rock-shaft I is received in a hole in one of the depressed portions O of the end frame, as in the case of the rivets or bolts where the bars F are attached, so as to provide a space on the outside in which the end of the shaft may project to avoid the possibility of the shaft

springing out of the hole, because of too short a bearing.

In case it is desired to supply the end frame A with provision for vertical adjustment relatively to the floor this may be accomplished by making the pedestal E extensible—for example, in the manner shown in Figs. 5 and 6. In these figures the pedestal is made of two parts riveted together, as has been described; but in this case the body part *D*<sup>3</sup> is made tubular. The lower part of the end frame is provided with an extension *D*<sup>2</sup>, formed by bending the metal into tubular shape, so as to just fit the tubular part *D*<sup>3</sup> of the pedestal. The adjoining edges of the metal of the top part *D*<sup>2</sup> are abutted and connected by an internal piece, as shown. The two parts *D*<sup>2</sup> and *D*<sup>3</sup> may be connected together at proper adjustment by rivets or bolts R, extending through the parts *D*<sup>3</sup> and holes *r* of the part *D*<sup>2</sup>. The particular height of the pedestal is previously determined upon and the parts *D*, *r*, and *D*<sup>3</sup> securely fastened together in proper relative position before the seat is set up. The adjustability of the height of the pedestal or seat may be accomplished in any other convenient manner, my invention comprehending generically the vertical adjustment of the pedestal or seat to support the seat-cushion at the proper distance desired from the floor.

While I prefer the construction herein shown, the details thereof may be modified without departing from the spirit of my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length.

2. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length and reinforced by having its metal bent back upon itself.

3. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length, in combination with a supporting-arm for a seat-back having sockets or guides fitting upon the curved guide-flange of the end frame, and a seat-back supported by the arm.

4. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length, in combination with a supporting-arm for a seat-back having sockets or guides fitting upon the curved guide-flange of the end frame, a seat-back supported by the arm, a shifting seat-cushion,



and means connecting with the seat-back-supporting arm for shifting the cushion when the back is shifted.

5 A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length and a pedestal portion extending downward from the lower portion of  
10 the end frame.

6. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length and a pedestal portion extending downward from the lower portion of  
15 the end frame and provided with means for vertical adjustment as to its height.

7. A pressed-metal end frame for a seat-frame structure having a vertical body portion provided at its extreme top with a laterally-extending guide-flange curved in the direction of its length and further provided with depressed portions O having perforations formed in the surface of the body.  
20 25

8. A metal end frame for a car-seat consisting of a vertical body bounded by flanges, the extreme top flange being curved in the direction of its length to act as a guide and the  
30 bottom flange being extended downward to form a pedestal portion.

9. A metal end frame for a car-seat consisting of a vertical body-plate bounded upon the extreme top with a curved guide-flange, combined with a seat-back-supporting arm  
35 having a guide adapted to the curved flange of the end frame.

10. In a car-seat the combination of the seat structure with a pedestal having means for vertical adjustment whereby its height  
40 may be made to suit the requirements, said pedestal consisting of a tubular lower portion having a flaring base and an upper portion fitted to the tubular portion and supporting the seat-frame.  
45

11. A pedestal-base for a car-seat consisting of two upright outwardly-curved body portions each having flaring bases and also laterally or outwardly directed vertical flanges, the flanges of the two portions being arranged  
50 in pairs face to face and one of said flanges of each pair being bent over the lateral edge of the other flange so as to grip it, whereby a tubular body of great rigidity with a flaring base is secured.  
55

In testimony of which invention I have hereunto set my hand.

HENRY S. HALE.

Witnesses:

GEO. H. RAPSON,  
R. M. HUNTER.