(No Model.)

H. S. HALE.

CAR SEAT.

No. 572,654. Patented Dec. 8, 1896.

Fig. 1.

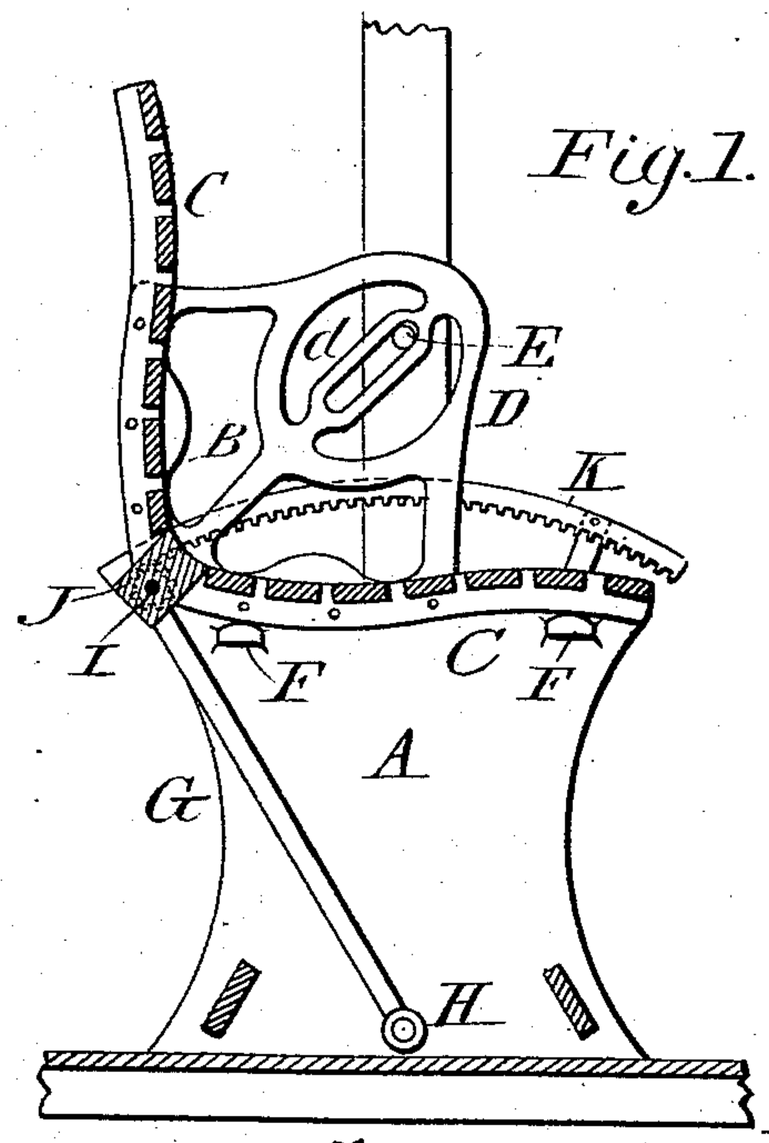


Fig. 3.

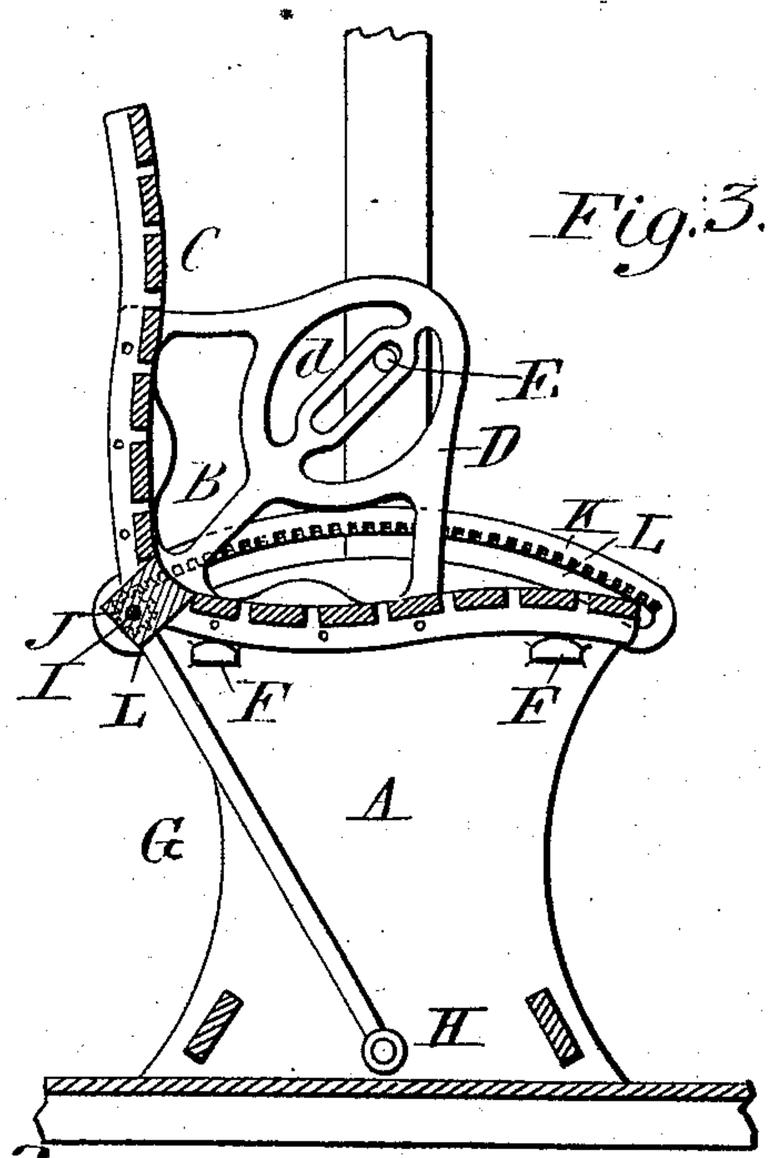


Fig. 2.

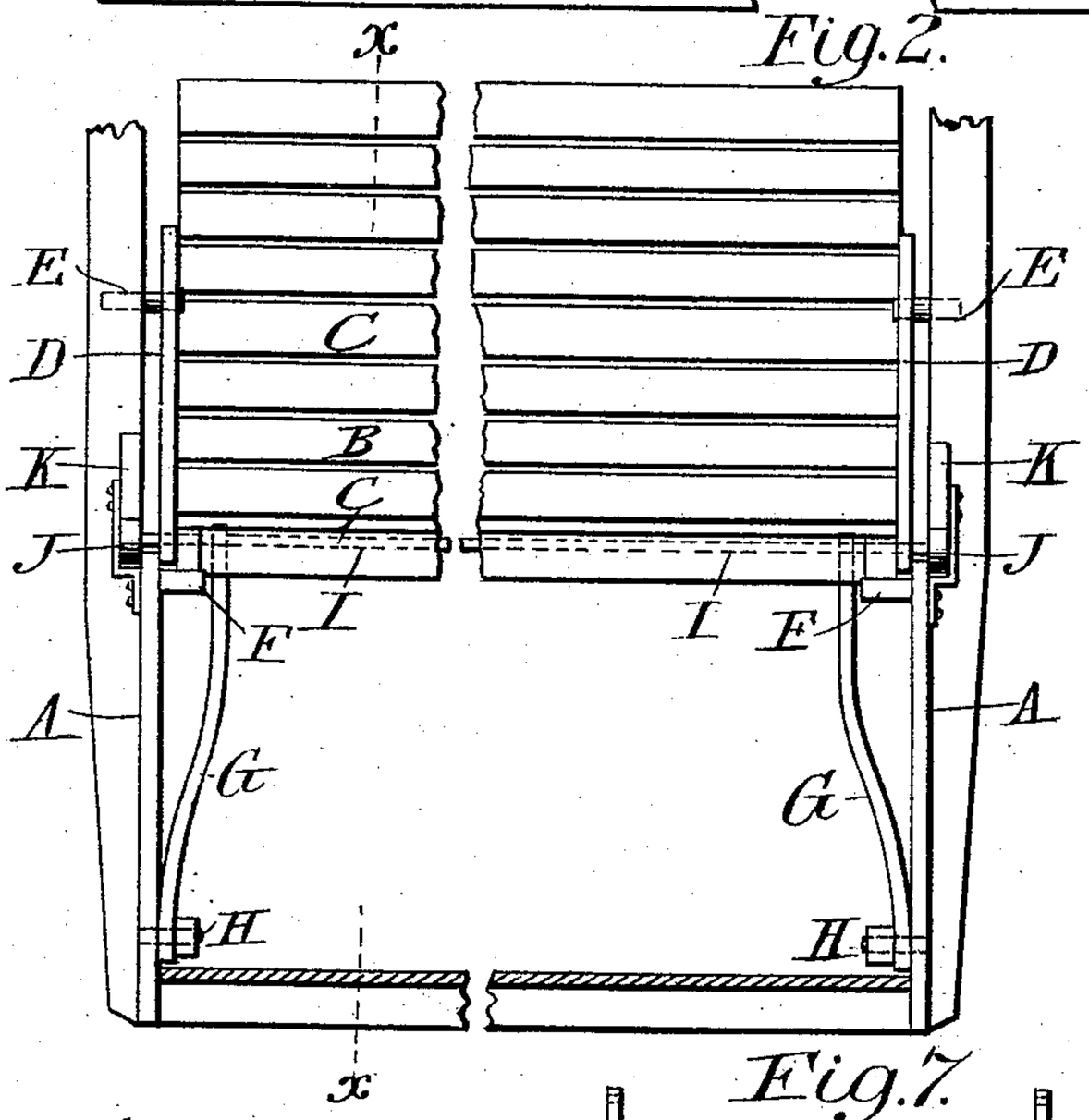


Fig. 4.

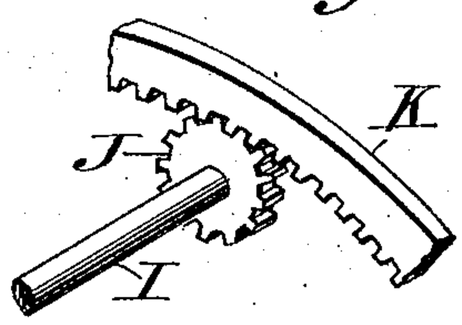


Fig. 5.

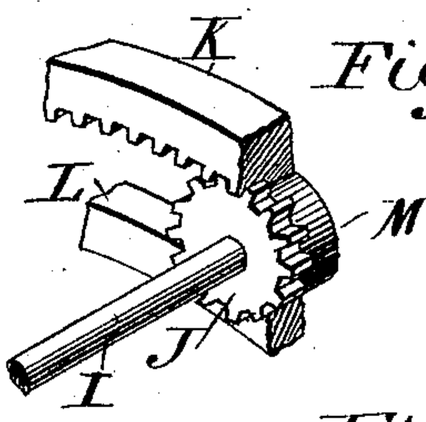


Fig. 6.

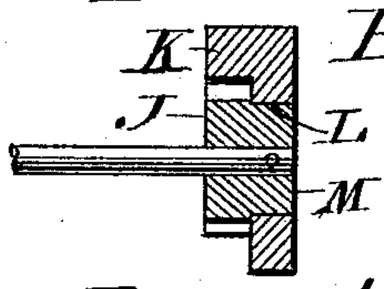
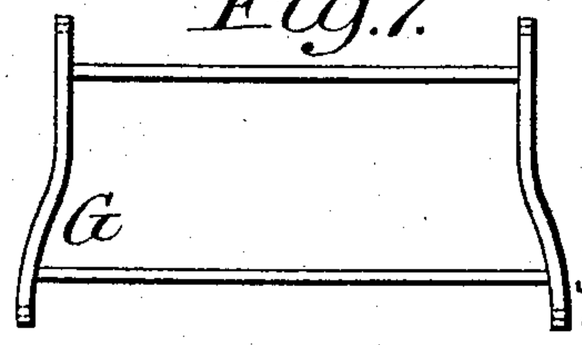


Fig. 7.



Witnesses
Thos. L. Cass
R. M. Kelly

Inventor:
Henry S. Hale
By his Atty
S. Whittemore & Co.

UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 572,654, dated December 8, 1896.

Application filed January 24, 1895. Serial No. 536,056. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. HALE, of the city and county of Philadelphia and 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 which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements comprehend certain features in reversible car-seats whereby the construction is made exceedingly simple and durable and positive in its reversing action.

My invention relates to a class of car-seats in which I provide a reversible seat-frame having the back and seat portions similar, so as to be interchangeable, and which frame is pivoted upon supporting pivoted bars which may, if desired, constitute a frame, and in which the seat-frame is connected with the main frame of the car or car-seat by means of a suitable movable guide device, whereby in the act of reversing the seat it is guided upward upon the pivoted arms or frame and caused to be reversed by the combining action of the movable guide.

My improvements comprehend certain features of construction in reversible car-seats of the character above specified whereby each end of the combined seat and back are connected by links or framework with the main frame, and are further provided with rack-and-pinion connections which positively insure each end of the seat moving with the same velocity, irrespective of the point to which the power is applied. My improvements, therefore, comprehend, broadly, in a seat of this character of the application of gearing or power devices for simultaneously moving each end of the seat at the same velocity when reversing the seat and back. The links might be dispensed with if desired.

My invention will be better understood by reference to the accompanying drawings, in which—

Figure 1 is a sectional elevation on line *x x* of Fig. 2 of my improved car-seat. Fig. 2 is a front elevation of my improved car-seat. Fig. 3 is a sectional elevation similar to Fig. 1, with a slightly-modified form of gearing or power devices. Figs. 4 and 5 are perspective views of the types of gearing employed in Figs. 1 and 3, respectively. Fig. 6 is a transverse section through a portion of Fig. 5, and Fig. 7 is an elevation of a modified form of guide-frame.

A is the main frame of the car-seat.

B is the seat-frame proper and is provided with two portions C C of similar construction, one of which constitutes the seat and the other the back, and vice versa.

The seat-frame B is pivoted at I to the pivoted links or bars G, fulcrumed at H in the main frame A. The fulcrum H is low down, so as to move the top of the bars or links at the pivots I with as small an arc or curvature as possible.

The seat-frame B is provided at the ends with the arms D, which are provided with slots *d*, extending diagonally, as shown in Fig. 1. A guide-pin E, secured to the main frame, projects through or into the slots *d*, so as to guide the arms D in the act of reversing the car-seat.

F F are lugs or supports from the main frame designed to support the seat-frame when in its extreme positions.

It is evident that the parts G G might form separate links or bars, as indicated in Fig. 2, or said bars may be positively connected to form one frame, as indicated in Fig. 7. The pivot I between the bars or frame G and the reversible seat and back frame B is made as a continuous shaft or bar extending the full length of the seat. At each end of the said bar is secured a pinion J, adapted to mesh with a curved rack K, secured upon the ends of the main frame.

To reverse the car-seat, it is only necessary to lift upward on the forward part of the seat portion, which section will cause the frame G to swing to the right and at the same time raise the seat-frame B. The guide-pin E acts as a fulcrum simultaneously with its guiding function and permits the seat-frame to be turned about it, so as to bring the other portion C down upon the supports F F, while the parts C, formerly acting as the seat proper, rise to constitute the back. It is also evident that upon reversing the combined seat and back the gearing J K and the intermediate shaft or rod I will prevent bind-

ing by insuring both ends of the reversible seat and back being moved at the same velocity, and this, too, without regard to the particular point of application of the power in reversing the seat. In this manner the seat is readily reversed and but small friction is produced between the several moving parts, thus permitting the seat to be reversed with the smallest amount of labor.

In the construction shown in Figs. 3, 5, and 6 the rack K is combined with a curved guide L. The pinion J, which meshes with the rack, is also provided with a hub M, which moves in the curved guide L. In this manner it is seen that the curved guide and the pinion positively move the two ends of the car-seat and at the same time guide the same both vertically and laterally. With this construction the bars G may be omitted, though I prefer to employ them. It is also evident that, if desired, the parts C C of the seat may be upholstered, though commonly they will be employed with slatwork, as shown.

I do not confine myself to the minor details, as they may be modified without departing from the principles of my invention.

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

1. In a railway-car seat, the combination of a unitary seat and back structure provided on its ends with arms, a pin-and-slot connection between said arms and a stationary part, stationary curved racks located adjacent to the ends of the unitary seat and back structure, and pinions journaled in the unitary seat and back structure at the point of union of the seat and back portions and engaging the curved racks, whereby the unitary seat and back structure may be reversed and in reversing will turn on the axis of the pinions which travel in engagement with the curved racks.

2. In a railway-car seat, the combination of a unitary seat and back structure provided on its ends with arms, a pin-and-slot connection between said arms and a stationary part, stationary curved racks located adjacent to the ends of the unitary seat and back structure, pinions journaled in the unitary seat and back structure at the point of union of the seat and back portions and engaging the curved racks, whereby the unitary seat and back structure may be reversed and in reversing will turn on the axis of the pinions which travel in engagement with the curved racks, and pivoted supporting arms or frame hinged to the seat and back structure at the point of union of the seat and back portions and pivoted to the floor or stationary frame.

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

HENRY S. HALE.

Witnesses:
R. M. HUNTER,
ERNEST HOWARD HUNTER.