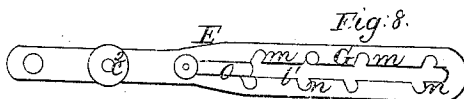
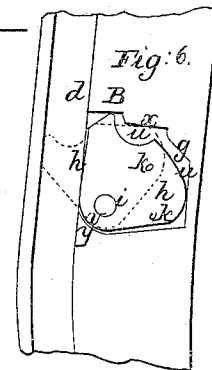
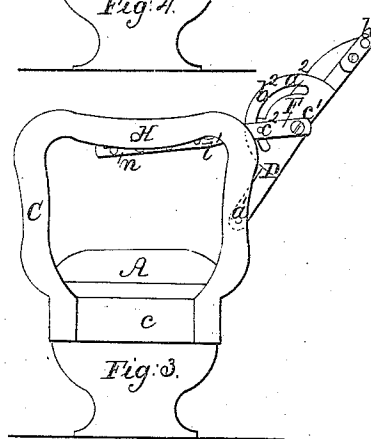
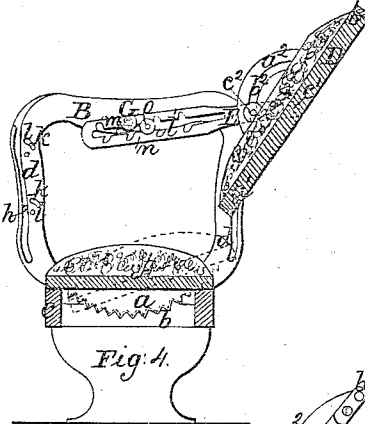
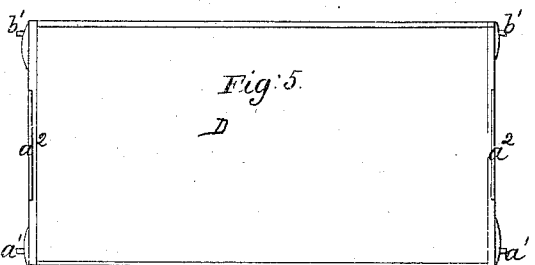
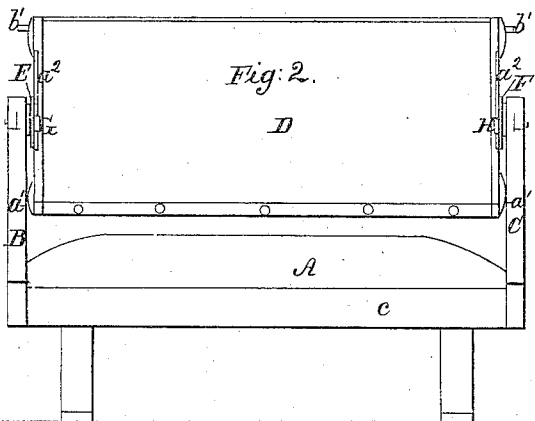
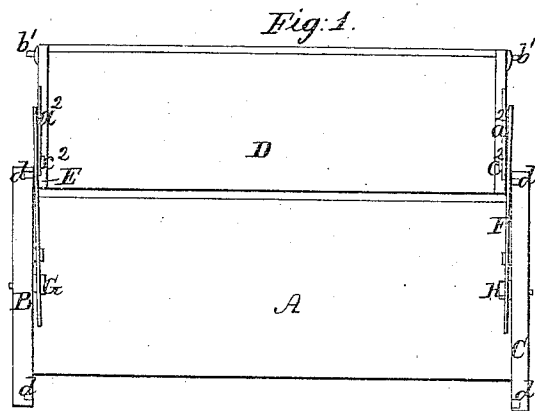


I. FAY.
RAILWAY CAR SEAT.

No. 10,029.

Patented Sept. 20, 1853.



UNITED STATES PATENT OFFICE.

ISAAC FAY, OF CAMBRIDGEPORT, MASSACHUSETTS.

RAILROAD-CAR SEAT.

Specification of Letters Patent No. 10,029, dated September 20, 1853.

To all whom it may concern:

Be it known that I, ISAAC FAY, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Railroad-Car Seats or Chairs; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view. Fig. 2, a front elevation. Fig. 3, an end elevation, and Fig. 4, a vertical central and transverse section of my improved railway car chair or seat. Fig. 5, is a view of its back, as separated from the ends and bottom or seat of the chair.

The object of my invention is to enable a person (with greater facility) to raise the back of a chair to a higher altitude and depress it to a greater angle of inclination to the seat than he can in the chairs of the peculiar or general form exhibited in the drawings and to which my invention is specially applicable, my improvement enabling a person to place the back and seat of the chair or either into convenient positions for him during either the act of sitting upright or reclining in a recumbent position.

The improvement renders the chair particularly useful in cars, which are run during the night or hours usually devoted by persons to sleeping, as by means of it a person who may occupy it can readily depress the back or arrange the back and seat so as to make them comfortable while sleeping.

My invention may be said to be an improvement on a chair patented by Samuel M. Perry, on the twenty seventh day of July A. D. 1852, the patent for which has been purchased and is now owned by me.

In the drawings above mentioned A denotes the seat of the chair, which seat may be a plain rectangular platform, cushioned, stuffed, or upholstered in any proper way. The chair represented in the drawings is one calculated for the seating of two persons. The seat or platform A, is provided at each end of it, with a curved convex rack of teeth *a*, which rack is a circular arc of teeth, and rests in a corresponding or reverse concave circular arc or rack *b*, that extends transversely across the seat frame *c*, and just within the end thereof. By means

of such racks applied respectively to both ends of the seat, such seat may be changed from a horizontal into such an inclined position, (either dipping forward or backward,) as will render it comfortable to a sitter, whatever may be the inclination of the back of the chair. The two end frames, or arm frames, are seen at B, C, while the movable back is represented at D. Said back is held in place by bars E, F, that extend respectively from the middle parts of its two ends, and operate in connection with two pins or studs G, H, such bars turning on said pins so as to enable the back, in a manner well known, to be turned over so as to stand in opposite direction on the seat.

From each end of the back, and at or near the lower corner of it, I extend a stud or projection, *a'*, and in case the back is to be made reversible, I also extend another projection or stud, *b'*, from the upper corner of each end as seen in Fig. 5.

The back, D, is so connected to the bars, E, F, as to enable each of them to turn vertically on its connecting pin or screw *c'*, (see Fig. 3) that passes through the bar and is screwed or fixed into the end of the back, D. In connection with each bar, E, F, I make use of a semicircular slotted steadying plate, *a''*, which is fastened to the end of the back, D, as seen in the drawings, and has a slot, *b''*, made through it, and curved to the arc of a circle, the center of which is in the axis of the pin or screw, on which the bar, E, or F, is screwed to the back, D. A pin, *c''*, whose head is of a greater diameter than the width of the slot, extends through the slot and into the bar E, or F, the head of the pin being made to rest against the inner side of the plate, *a''*, while the bar (E or F, as the case may be) rests or works against the opposite side of the plate. These plates serve to steady the back during its movements.

In the inner side of each frame, B, C, I make two grooves, *d*, *d*, (which are adapted to receive either the top or bottom pins or projections, *a'*,) each of which grooves is open at the top and closed at the bottom. Leading out of the inner side of each groove, are two or any other suitable number of cavities or recesses, *g*, shaped as seen in Fig. 6, which shows a portion of the groove and one of its cavities as opening out of the groove *d*. In each one these cavities, there is a turning dog, *h*, shaped as seen in a

side view in Fig. 7, and placed within the cavity, *g*, and made to turn on a pin, *i*, as seen in Fig. 6. This dog is calculated to be turned wholly into the cavity as seen in Fig. 6 as denoted by black lines, or to be partially turned out of the cavity and into the groove, *d*, as denoted by red line. When so made to extend into the groove *d* the parts, *u*, *v*, of such dog may be made to bear against parts, *x*, *y*, of the sides of the recess, *g*, and thereby relieve the turning pin from strain. The object of this dog is to support a projecting pin of the back, and there may be any number of such dogs applied to each groove, each dog having a small pin or stud, *k*, extended from its side, and through a curved groove, *l*, in the side of the recess, *g*, so as to enable a person, by laying hold of such pin, to turn dog out of its recess and into the groove, *d*, whenever necessary.

The groove *d*, acting in connection with the dog prevents the pin, *a*, from being moved otherwise than upward, and in this respect it has a great advantage over the notches (for the reception of such pin) as described in the specification of the said Samuel M. Perry's patent.

When the two lower pins of the back are raised upward they strike against the dogs of the grooves, in which they may be moving and throw such dogs into their recesses and thus readily pass by them. The dogs of one frame, B, C, are made to correspond in number and height with those of the other. It has been found, that when the studs of the back are supported by notches made in the frames, B, C, as described and represented in said Perry's specification, the back is very liable to fall out of place, its studs being easily thrown out of their supporting notches by the pressure and movements of a person against the back. I have devised the dogs and groove as a substitute for the said notches, the dog serving to support the stud, while the groove prevents the stud from being thrown out of its place so as to cause the back to drop downward. I make each of the bars, E, F, with a slot *l'*, through which the pin G passes. The opposite sides of said slot have inclined notches, *m*, *m*, *n*, *n*, extending out of opposite sides of it, and made in depth equal to the diameter of the pin G, the same being

shown more properly in Fig. 8, which denotes an inner side view of one of the bars E or F and shows the pin G as in one of the inclined notches.

A sliding bolt O is adapted to slide in the long slot of the bar E or F and to pass underneath the pin G and prevent it from working out of any inclined notch in which it may be. The object of this sliding bolt is to prevent a person from inclining the back without the consent of the person who may be sitting on the seat next to said bolt. Were it not for the bolt this might readily be accomplished, sometimes much to the discomfort or annoyance of such person.

It will be seen that the notches *m*, *m*, *n*, *n*, of opposite sides of the bar E, or F, are not made exactly opposite to each other, but one is placed a little aside of the other, this prevents the stud G, while passing out of one notch, from entering the opposite one, and this when the bar is raised up or down.

My improvement renders the invention of Samuel M. Perry of much greater practical utility.

What I claim as my invention is as follows:

1. I claim the combination of the groove, *d*, and one or more dogs, *n*, as applied thereto and made to operate for the support of the back and to enable it to be elevated or its supporting pin raised out of the groove, *d*, as described.

2. And in combination with the inclined notches, and long slot of each bar E or F, I claim the sliding bolt or slide as applied thereto and used substantially in manner and for the purpose as specified.

3. And I claim the convex and concave toothed racks in combination with the seat and the chair frame, the same being for the purpose of enabling the seat to be set with such inclination, either forward or backward as may be conducive to the ease and comfort of the sitter, whether he be in an upright or recumbent position.

In testimony whereof I have hereto set my signature this fourteenth day of April A. D. 1853.

ISAAC FAY.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.