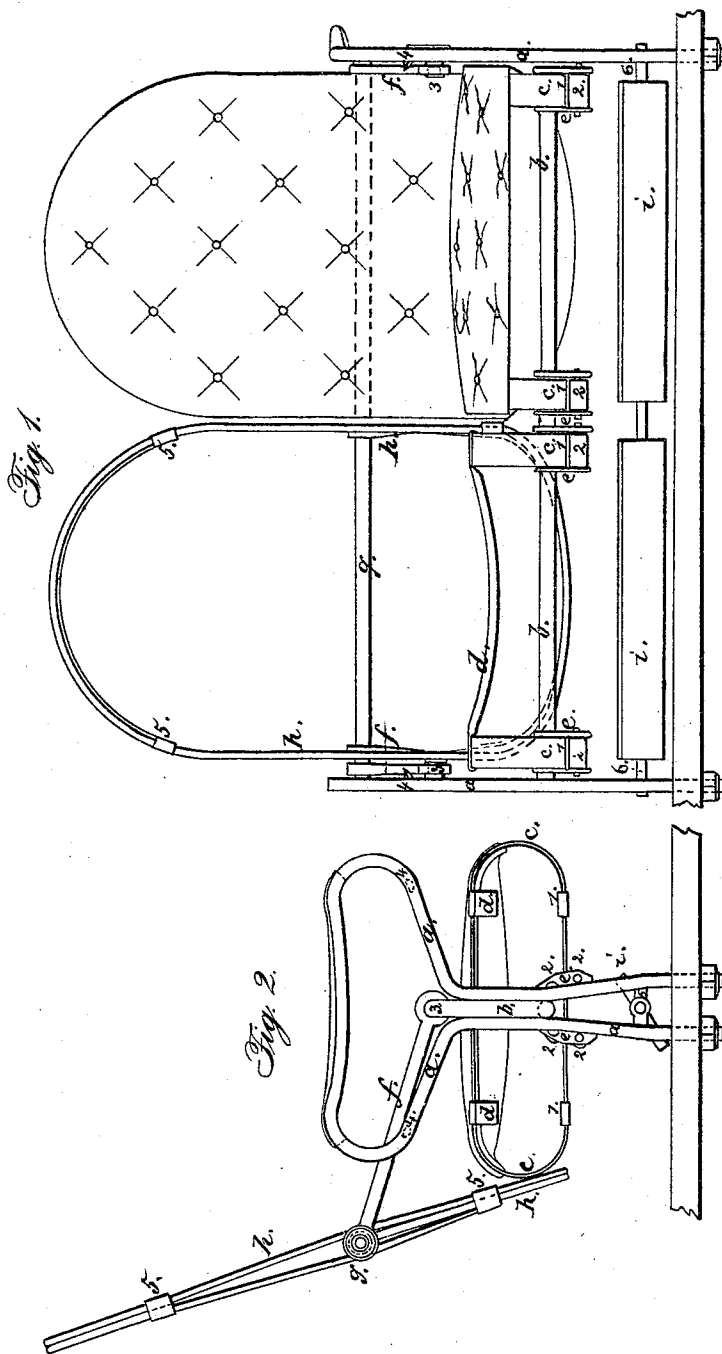
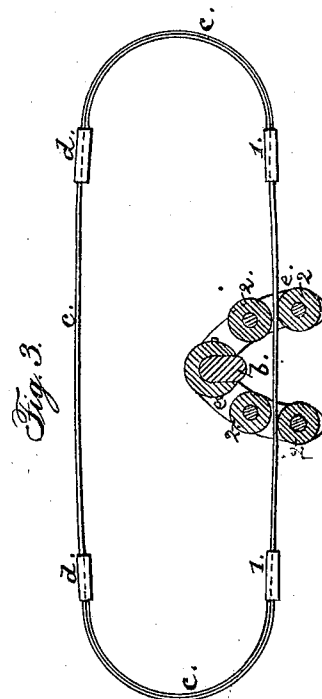


B. J. LA MOTHE.

Car Seat.

No. 17,794.

Patented July 14, 1857.



Witnesses:

Lemuel W. Terrell.
Thos. G. Harold.

Inventor:

B. J. La Mothe.

UNITED STATES PATENT OFFICE.

B. J. LA MOTHE, OF NEW YORK, N. Y.

RAILROAD-CAR SEAT.

Specification of Letters Patent No. 17,794, dated July 14, 1857.

To all whom it may concern:

Be it known that I, BERNARD J. LA MOTHE, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in Seats for Railroad-Cars, which I term "The Perfect Car-Seat;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a front elevation of a double seat fitted with my improvements, the cushion and back being upholstered on one sitting while the adjoining seat is represented without any cover. Fig. 2 is an end view, and Fig. 3 is an elevation of one spring and its supporting rollers detached.

Similar marks of reference denote corresponding parts.

In seats for railroad cars it is desirable to have the same as light as possible to decrease the weight of the train. The seats also require to be very strong, both on account of the strain they are subjected to as well as to prevent accident by the seats breaking away in cases of collision. The seats also require to be of the most elastic nature, to prevent the jar of the car being communicated to the person, and from the neglect of this feature arises much of the fatigue consequent upon railroad traveling, and lastly the seats require to be adapted to a recumbent or upright position at the option of each individual traveler without reference to those surrounding him. All these advantages I attain in my car seat by constructing the whole of the framework of wrought metal and elliptical steel springs in the manner hereafter detailed.

In the drawing *a, a*, are the arms of the seat, one at each end thereof, although an arm might be dispensed with by attaching the other parts to the side of the car, although I do not prefer the same. These arms *a, a*, are made of a wrought iron pipe bent as shown in Fig. 2, and attached at the lower ends to the floor by passing said pipe into or through the same and attaching a nut at the end or passing a screw up into the pipe. The upper part of the arm is to be padded in any convenient manner, which may be accomplished by attaching a rubber or wooden cheek piece on the outside part of the pipe and tacking the padding

thereto inclosing both the pipe and wood. Between the upright parts of the arms *a, a*, the ends of the cross bar *b*, are attached, said cross bar having the ends turned up and secured by rivets. This cross bar both connects the arms together, keeping them upright, and also carries the seats. These seats are to be one two or more in number, adapted to the location, and are formed, each, by a pair of elliptical springs *c, c*, made of metallic plates, bent at their ends and setting partly within each other, as shown in Fig. 3, so that the springs are double at the bends where exposed to the greatest strain, and the ends of the springs are kept in place by bands *1 1*. *d d*, are curved cross bars between the springs *c c*, to keep them apart at their upper sides. Around the upper part of the springs *c c* suitable wire cloth, webbing or equivalent material is attached, and curled hair, moss, springs or other suitable padding is inserted therein to form a soft cushion, and the whole is covered with plush, hair cloth or other substance. These separate seats are attached to the cross bar *b*, by means of small yoke pieces *e e* of malleable iron or equivalent material, that carry in each yoke piece four small rollers *2 2*. The yoke pieces *e e*, sit over the bar *d*, and are attached by a pin, screw or rivet, and the lower leaves of the elliptical springs *c c* pass between said rollers *2 2*, as shown. It will now be apparent that a person sitting on the seat thus formed is exposed to little or no vibration from the car, because he has the double springing of the padding and the elliptical springs, which elliptical springs not only have a vertical compression, but a tipping or oscillating motion that renders them very easy and relieves the person from the vibration or jar consequent upon the movement of the train at all times, and especially in stopping and starting, and said seat can be slid forward or backward to accommodate the back of the seat and recumbent or upright position of the traveler, and when slid forward the front edge of the seat springs down some little, rendering the same more easy for a recumbent position.

The backs of my seats are constructed and attached in the following manner: *f, f*, are metallic links attached at 3 to the center of arms *a* and resting either side in pins or supports *4, 4*. *g* is a metallic pipe through which is a rod, passing through eyes on the ends of the

links *f, f*. *h* is a wire or rod, formed with an eye on both ends, through which eyes the rod and pipe *g* pass. This wire or rod *h* is bent to the shape of the back of the seat by passing said
 5 wire down and across at the bottom of the back and up on one side of the pipe *g* and so on twice or more around the back, the other end terminating at the pipe *g*, so that there are at least three thicknesses of the wire or
 10 rod at the lower side of the back and at least two at the upper, between which the said pipe *g* passes, and bands 5 at suitable distances connect the wires permanently together. The framework of the back is thus
 15 formed in a very light strong and elastic manner with the greatest strength at the required point, and the said back is also allowed to turn into the desired inclined position relatively with the seat, and when the
 20 backs are to be changed for the cars to go in the opposite direction said backs simply require to be lifted vertically as they are swung back and the links *f, f* thrown over on the other side. The backs are to be padded
 25 on both sides, and for this purpose I prefer and use a central foundation of wire cloth or equivalent material, and introduce curled hair or similar substance on each side thereof inclosed in a suitable covering, over which
 30 plush or other suitable material is attached, in any usual manner.

It will thus be seen that my seat possesses the advantages heretofore specified, and is adapted to perform all its functions whether
 35 the traveler be in an upright or partially recumbent position.

If desired the pipes forming the arms of the seat might be set in cylindrical sockets inclosing suitable springs, so that the whole
 40 seat might have an additional relief from vibration by the car.

According as the springs *c, c*, are formed with greater or less convexity in the lower side so the front edge of the seat will be more
 45 or less elevated as the seat is slid forward, compensating if desired for the increase of springing motion under a given weight consequent on the increase of leverage when the seat as projected forward of the supporting
 50 rollers. The bottom and top leaves of said elliptical springs may be of any desired elasticity consequent on their size, and the bottom spring should be thicker than the top spring to obtain a uniform strength and elasticity. If desired a stop might be applied to
 55 retain the springs at any desired point as slid forward between the rollers 2, 2, so as to

secure the seat centrally or in any other desired position and prevent further sliding motion, but I have found practically that
 60 the same is unnecessary.

Each traveler by my arrangement has unrestricted control of his own seat and can adapt the same to suit best his own comfort. His body is effectually relieved from jar and
 65 the important results are attained of preventing accidents by breaking up of seats in cases of collision, of decreasing the weight of the seat and obtaining a simple, cheap and reliable article, adapted to the wants of the
 70 community.

i, i, are foot boards that may be used if desired, and are to be set on a rod 6, so that they can be inclined on either side.

My seat it will be seen becomes life preserving, and is in this respect the article for
 75 which both myself and others have long been seeking, and my said seat is specially adapted to use with my life preserving car, reissued March 18, 1856, although I do not limit
 80 its use to this car.

It being understood that I do not claim a surrounding metallic rod, receiving padding to form the backs of chairs, as this has heretofore been made use of; but I am not aware
 85 that a metallic frame for receiving padding to form the backs of car seats has ever before been formed as herein specified, whereby great strength and lightness are combined, and the back adapted to resist pressure from
 90 either side.

What I claim and desire to secure by Letters Patent, is—

1. Constructing seats with elliptical springs *c, c*, at the sides, receiving the cushions on the upper part of said springs, when
 95 combined with the friction rollers (2, 2) or their equivalents, whereby a lateral motion is allowed to said seat, substantially as and for the purposes specified. 100

2. I also claim constructing the back of the seat by an inclosing frame, formed of the double bent rod *h*, with eyes at both ends through which eyes, and between the bends of which rod, the sustaining pipe or rod *g*
 105 passes, substantially as and for the purposes specified.

In witness whereof I have hereunto set my signature this fourth day of April, 1857.

B. J. LA MOTHE.

Witnesses:

LEMUEL W. SERRELL,
 THOS. G. HAROLD.