

(No Model.)

W. KUHLMANN.
ELASTIC SUPPORTING DEVICE FOR CARS.

No. 507,739.

Patented Oct. 31, 1893.

Fig. 1.

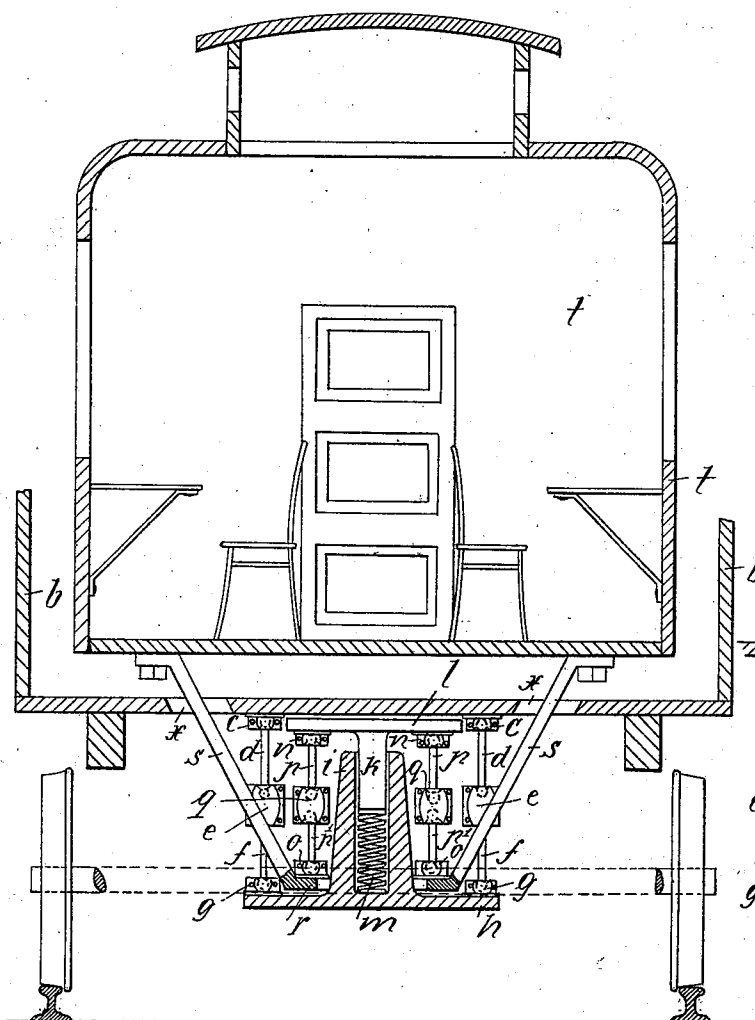


Fig. 2.

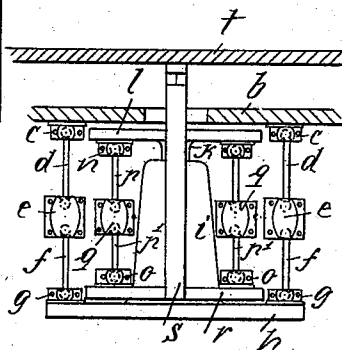
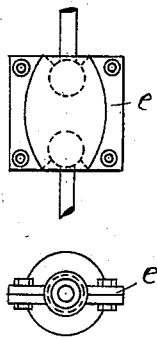


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WERNER KUHLMANN, OF BRUNSWICK, GERMANY.

ELASTIC SUPPORTING DEVICE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 507,739, dated October 31, 1893.

Application filed June 17, 1893. Serial No. 478,021. (No model.)

To all whom it may concern:

Be it known that I, WERNER KUHLMANN, a subject of the Duke of Brunswick, and a resident of Brunswick, in the Duchy of Brunswick, in the German Empire, have invented certain new and useful Improvements in Elastic Supporting Devices for Railway-Cars, of which the following is an exact specification.

My invention relates to railway-cars, which require a quiet and regular running without any shocks or oscillations, and is therefore especially intended for post-office cars and sleeping-cars. In order to attain the said result, I arrange a particular chest inside the proper body of the car in such a manner, that it is hovering over the latter.

In order to make my meaning clear, I refer to the accompanying drawings, in which—

Figure 1 is a transverse section of my improved car. Fig. 2 is a longitudinal section of the device for supporting the inner chest of the car. Fig. 3 shows a detail.

Similar letters denote corresponding parts throughout the different views.

In carrying my invention into effect, I construct my improved car in the following manner:

b is the body proper of the car, which is shown broken off in the drawings. Inside this body b is arranged the chest t preferably serving as writing or sleeping-room.

h is a plate which is suspended at the bottom of the body b by means of rods $d d f f$ and provided with a central, hollow block i . l is a plate bearing a cylindrical piece k , which rests in the hollow block i on a strong spring m . The plate l is connected with the car t by means of vertical rods $p p p' p'$ and stays $s s$, the latter of which pass through corresponding openings $x x$ in the bottom of the body b and are secured to the chest t . The stays or supports s are united at their lower ends and form a ring r .

The rods $d d$ are attached to the bottom of the body b by the ball-bearings $c c$ and connected with the rods $f f$ by means of double ball-joints $e e$ (Fig. 3). The rods $f f$ are secured to the plate by ball-bearings $g g$. In a similar manner the rods $p p$ are connected with the plate l by the ball-bearings $n n$, the

rods $p' p'$ with the ring r by the ball-bearings $o o$ and the rods $p p$ with the rods $p' p'$ by means of double-ball-joints and sockets $q q$. Thus, the supported chest t is movable in every direction and perfectly equilibrated. It is easily to be seen, that the occurring shocks are not transmitted to the chest t , for the horizontal oscillations and shocks are compensated by the suspension of the connecting-rods in ball-joints and the spring m serves for taking up the vertical shocks.

Any desired number of these supporting devices can be applied to a car as is suitable to its length and dimensions.

I do not confine myself to the application of my invention in sleeping or writing-cars, but also the general cars may be constructed in the described manner.

Having thus fully described the nature of this invention, what I desire to secure by Letters Patent of the United States is—

1. In a railway-car: the combination with the outer body b and inner chest t , of connecting-rods $d d$ secured to the body b , rods $f f$, plate h , with the hollow block i , spring m , plate l with piece k , connecting-rods $p p, p' p'$ and stays $s s$ passing through openings $x x$ of the body b and attached to the bottom of the inner chest t , substantially as and for the purpose as described.

2. In a railway-car: the combination with the outer body b and inner chest t , of ball bearings $c c$, connecting-rods $d d$, double ball-joints $e e$, connecting-rods $f f$, ball-bearings $g g$, plate h with the hollow block i , spring m , plate l with piece k , ball-bearings $n n$, connecting rods $p p$, double ball-joints $q q$, connecting-rods $p' p'$, ball-bearings $o o$ and stays $s s$, passing through openings $x x$ of the body b and attached to the bottom of the inner chest t , substantially and for the purpose as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WERNER KUHLMANN.

Witnesses:

JULIUS SECKEL,
A. HÄNSEHEN.