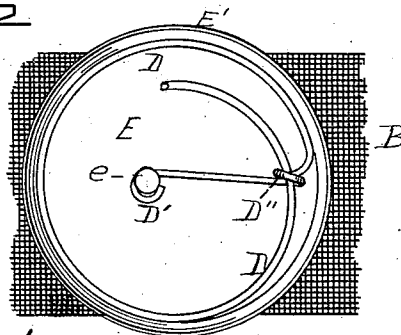
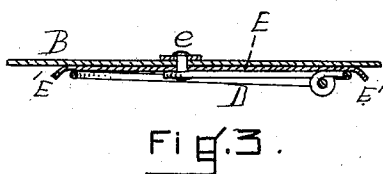
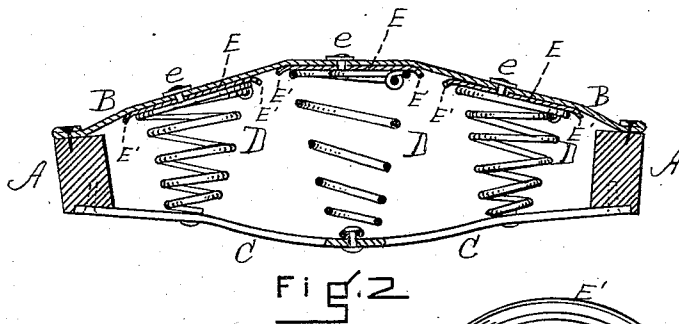
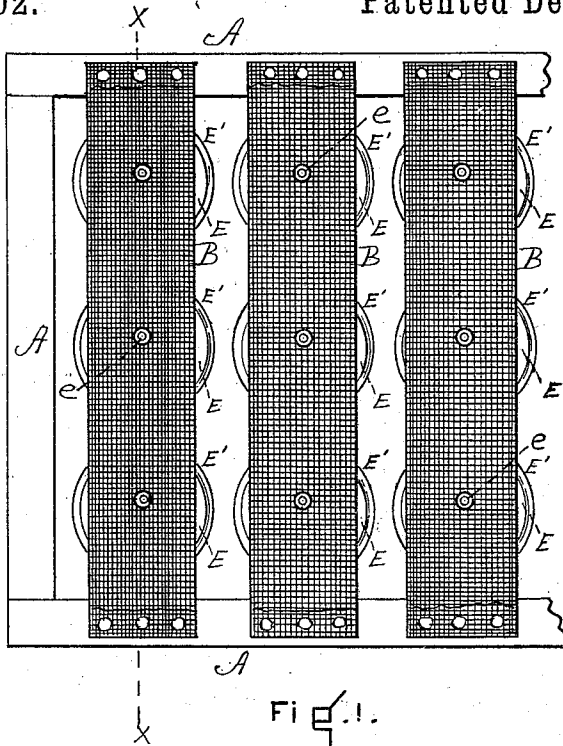


(No Model.)

F. H. HENRY.
CAR SEAT.

No. 466,302.

Patented Dec. 29, 1891.



WITNESSES

J. M. Hartnett.
B. M. Williams.

FIG. 4.

INVENTOR.
Fred H. Henry.
By his Atty.
Sperry Williams.

UNITED STATES PATENT OFFICE.

FRED H. HENRY, OF WAKEFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO THE WAKEFIELD RATTAN COMPANY, OF MASSACHUSETTS.

CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 466,302, dated December 29, 1891.

Application filed October 12, 1891. Serial No. 408,472. (No model.)

To all whom it may concern:

Be it known that I, FRED H. HENRY, of Wakefield, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Car-Seats, of which the following is a specification.

This invention relates to seats and chairs for railway-cars, and particularly to the arrangement and construction of the springs and the parts immediately connected therewith.

The nature of the improvement is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a portion of an uncovered car-seat embodying my invention. Fig. 2 is a vertical section on line *x*, Fig. 1. Fig. 3 is an enlarged sectional view of one of the sheet-metal disks and adjacent parts. Fig. 4 is a plan of the under side of the same.

Similar letters of reference indicate corresponding parts.

A represents the frame of the car-seat, constructed as usual.

B B are the ordinary strips of webbing, stretched transversely across the frame and secured to the upper edges of the side rails thereof.

C C are flat metal supporting-slats of substantially the shape of those illustrated in Letters Patent numbered 378,546, granted to me February 28, 1888.

D D are steel helical springs, with their apexes riveted at *d* to the metallic slats C, and set with their broad ends or bases up and supporting thin sheet-metal round disks E,

which are riveted at *e* to the strips of webbing B. These rivets *e* extend down sufficiently below the under surface of the disks to allow the ends D' of the upper coils of the springs to catch around them and thus secure the springs and disks together. Moreover, each upper coil, as it bends toward the rivet *e*, is wound at D'' around the next lower coil, thereby imparting additional firmness and stiffness to the spring. The disks E, which, as above mentioned, are of thin sheet metal, are dished at their peripheries so as to produce annular downwardly-projecting flanges E'. This construction stiffens the disks and prevents them from buckling under the pressure and movements of the occupant of the seat, and also prevents the edges from cutting the webbing or seat-cover.

As will be observed, the springs, disks, and slats are all metallic, and combine strength and rigidity with lightness.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In a seat or chair for railway-cars, the combination of the metallic helical springs D, set with their bases or broad ends up, and the metallic disk E, the upper ends of said springs being bent inward and coiled around the next coil at D'' and around the rivet *e* at D', whereby the disks and springs are secured firmly together, substantially as set forth.

FRED H. HENRY.

Witnesses:

HENRY W. WILLIAMS,
J. M. HARTNETT.