

D. I. Davis.

Railroad Chair.

N^o 15,036.

Patented Jun. 3, 1856.

Fig. 1.

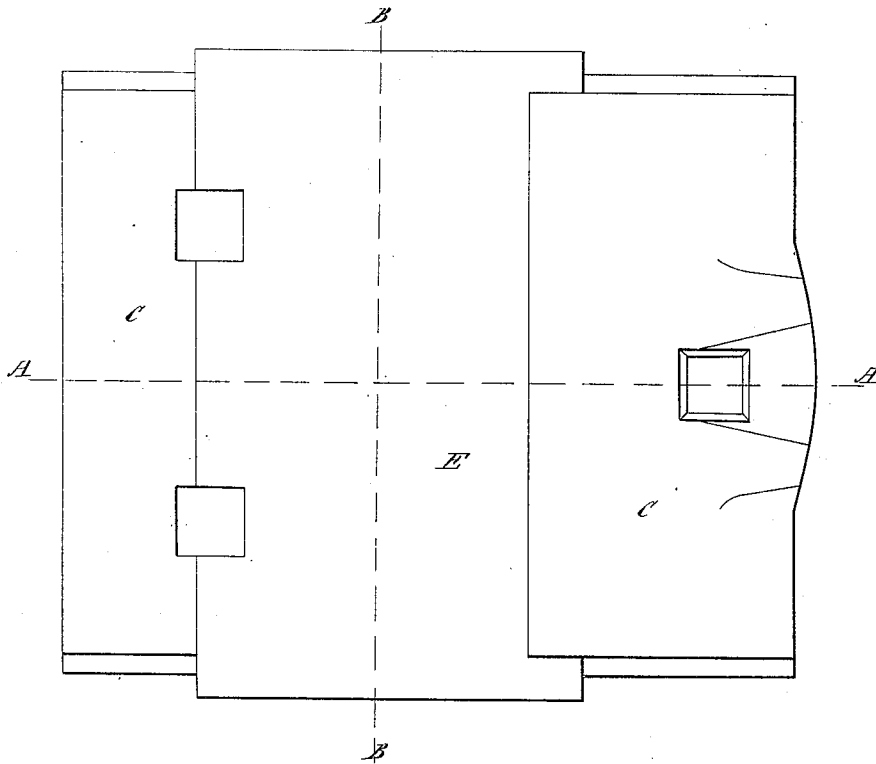


Fig. 2.

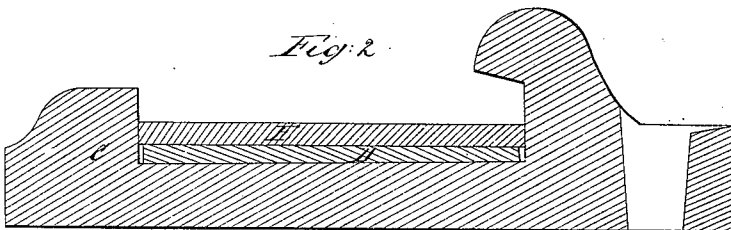
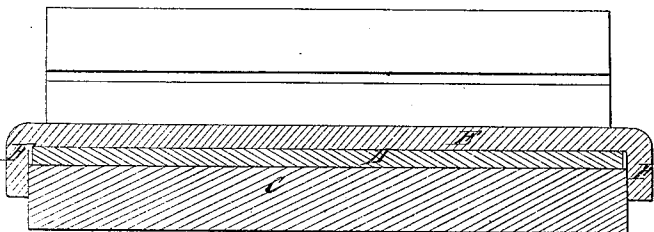


Fig. 3.



UNITED STATES PATENT OFFICE.

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ELASTIC BEARING FOR RAILROAD-CHAIRS.

Specification of Letters Patent No. 15,036, dated June 3, 1856.

To all whom it may concern:

Be it known that I, D. L. DAVIS, of Dedham, in the county of Norfolk and State of Massachusetts, have invented a new and Improved Method of Applying Elastic Bearings Beneath Railroads, Rails, Frogs, Switches, &c., of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making
10 part of this specification, in which—

Figure 1, is a plan of a chair having my improvements attached; Fig. 2, a section upon the line A, A, Fig. 1; Fig. 3, a section upon the line B, B, Fig. 1.

15 The effort has frequently been made to diminish the rigidity of the substructure of rail roads, and the injurious effects of this rigidity upon the rolling stock, by the introduction of india rubber or some other
20 elastic substance between the substructure and the rail. All efforts to accomplish this, have however signally failed on account of the difficulty experienced in preserving the elastic material made use of, from speedy
25 destruction, and no means have heretofore been devised of effecting this end. When the india rubber has been placed beneath the rail and between it and the chair, it has invariably been rapidly destroyed by the
30 concussions and frictions to which it was exposed, the india rubber being worn up into threads which are forced out from beneath the rail. Where the elastic material has been put beneath the chair and between it
35 and the sleeper the same destructive process went on though not quite so rapidly as in the former case.

To remove the above difficulty and to enable me to interpose an elastic substance between the substructure and the rail is the
40 object of my present invention, which consists in the use of a flanged metallic plate which is placed over the india rubber or other elastic substance for the purpose of
45 relieving it from the wear and friction which has heretofore proved so destructive to it—the protecting plate or shield being left entirely free to vibrate in a vertical direction independent of the spikes which confine the
50 chair to the sleeper, while it is prevented by flanges or other similar means from moving horizontally, by which means the india rubber is protected from the abrasion which has heretofore so speedily destroyed it.

55 To enable others skilled in the art to understand my invention I will proceed to describe the manner in which I have carried it out.

In the accompanying drawings C, is a chair of the usual construction upon which
60 is placed a disk or plate of india rubber D, which is made slightly smaller than the space between the sides of the chair which is to receive it; thus the disk is covered by an
65 iron plate E, so formed and applied to the chair as to be incapable of any motion except in a vertical direction, it being closely fitted between the sides of the chair as seen in Fig. 2, while the flanges F, effectually prevent
70 any motion in a longitudinal direction and in order that it may have free room to play up and down, it is essential that it be entirely uncontrolled by the spikes which confine the chair to the rail.

It is well known that the substructure of
75 rail roads cannot be laid in the most permanent and substantial manner by the use of stone sleepers, on account of the injury sustained by the rolling stock from the rigidity and want of elasticity of the rails. By the
80 interposition of an elastic substance between the sleeper and the rail, this injurious wearing effect upon the engine would be avoided and the roads might thus be laid in a more
85 permanent manner than has heretofore been found practicable. In winter also when the ground is frozen the whole substructure becomes a solid rigid mass, and it is estimated that the rolling stock is deteriorated by this
90 circumstance as much during the three months of winter as in the other nine months of the year. This would also be avoided by the use of my improvement, and I therefore
95 propose to apply it to all rail road chairs whether they rest upon wooden or stone sleepers

In the above description my invention is spoken of as particularly applicable to rail road chairs; it is my intention however to apply it to rail road frogs, and to the head
100 and tail blocks of switches; it may also be applied to any form of chair at present in use.

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

Covering the india rubber or other elastic substance with the metallic cap E, constructed and applied to the chair so as to be independent of the control of the spikes which secure the chair to the sleeper, that
110 the plate may be left free to vibrate in a vertical direction independent of the chair.

DAVID L. DAVIS.

Witnesses:

SAM. COOPER,
THOS. R. ROACH.