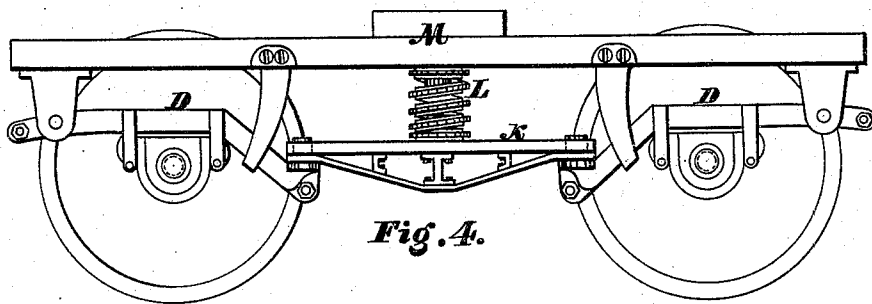
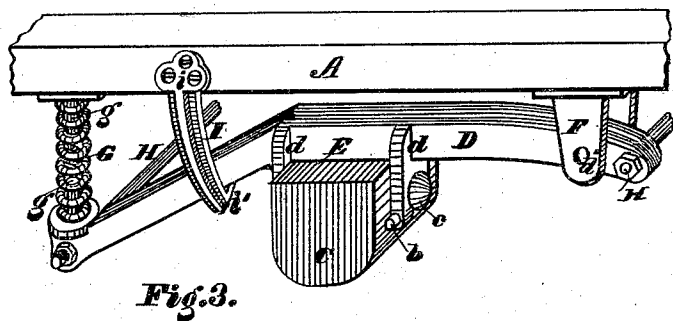
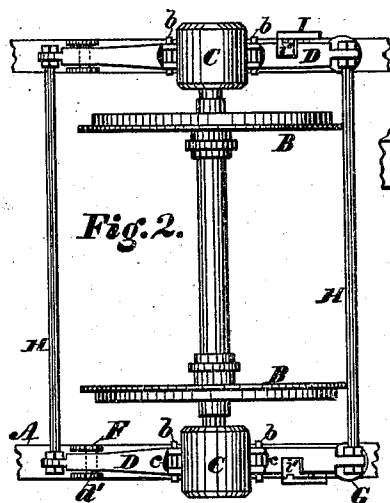
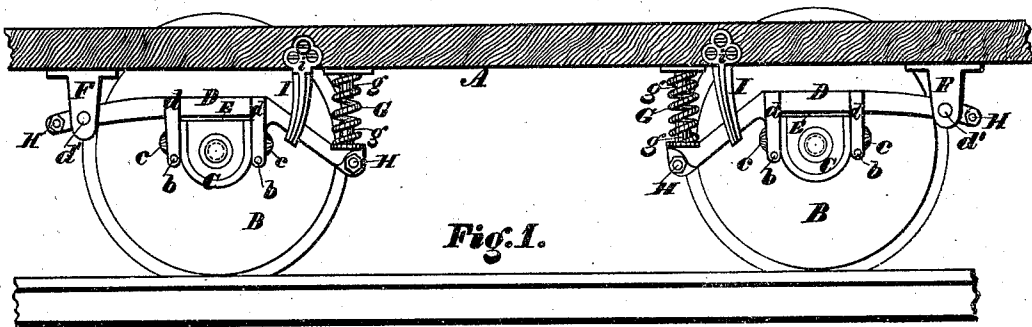


RUNNING-GEAR FOR RAILWAY-CARS.

Patented Feb. 22, 1876.



Witnesses

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN RUNNING-GEARS FOR RAILWAY-CARS.

Specification forming part of Letters Patent No. **173,919**, dated February 22, 1876; application filed January 3, 1876.

To all whom it may concern:

Be it known that I, DAVIS H. DOTTERER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Running-Gear of Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a plan. Fig. 3 is a perspective. Fig. 4 is a modification of my invention when applied to car-trucks.

The object of my invention is to provide means for causing cars to ride more easily than heretofore; also, to obtain the desired elasticity on its body for a car by the employment of only half the usual amount of spring. The nature of my invention consists in the peculiar construction and combination of parts as hereinafter more fully described.

Referring to the accompanying drawing, A designates the sill, and B B the wheels, of a car. C C are the boxes formed with side trunnions *c c*, sustained in the slotted or recessed jaws *d d* of the levers D D, these parts being relatively so arranged that a space, E, will be left between the tops of the boxes and the under side of said lever, to permit said boxes to rock on their trunnions, as hereinafter more fully described. One end of each of the levers D is pivoted at *d'* in a hanger or bracket, F, fastened to the sill A, and between said sill and the other end of each of said levers is a bearing-spring, G, of any desired material and construction. I have illustrated a spiral metallic spring, with rubber plugs *g g*, secured respectively to the levers and sill, but do not limit myself thereto, reserving the right to substitute any other form of spring I may deem expedient or desirable. H H represent rods extending from side to side, or across the car-body, and uniting the ends of the levers D D. I I are keepers, fastened by screws *i i* to the sill A, and formed or provided with ears or studs *i' i'*, which pass under the levers D D, as shown.

The advantages of the foregoing construc-

tion are briefly as follows: The provision of the lever-bearings serves to divide the weight between the springs G and the brackets F, thus permitting said springs to be made only one-half the size heretofore required, and yet affording the requisite amount of bearing power and elasticity. By locating the springs on the levers instead of directly over the boxes, as heretofore, said springs are rendered more sensitive, and less liability to their becoming solid is incurred. This construction also dispenses with the pedestals found necessary with the ordinary construction, and, as the boxes have no movement except upon their trunnions, they are not liable to become worn on their sides, as are those not furnished with my improvement. The rods H H prevent the levers D D from spreading apart, thus correcting a tendency which the outer lever would have in going around a curve. The keeper I subserves the same purpose, and also prevents said levers from swinging on their pivots out of their proper position with relation to the sill A. By providing the boxes with trunnions, and hanging them so that a space will be left above and between them and the boxes, said boxes are free to rock when one wheel or one side of the car becomes more depressed than the other, thus preventing undue wear and friction on the shoulders and outer extremities of the axle-journals, and avoiding all tendency toward bending said journals out of line with their axles. The boxes C C may be readily removed by withdrawing the pins *b b* and raising the levers D D along with the sill A. When the boxes are removed, the ears *i' i'* on the keepers I I prevent the levers D D from dropping down, thus serving to keep the springs G G, under such circumstance, in place.

These improvements may be readily applied to boxes of ordinary construction without trunnions, by fitting them in the jaws *d d* as in a pedestal, without vertical movement therein, however. A modification adapted to cars running on trucks is shown in Fig. 4, wherein the levers are united by a trussed rod, K, sustaining a spring, L, beneath the beam M, the springs on the ends of the levers D being dispensed with, and one spring, L, on each side answering for every two trucks.

What I claim as my invention is—

1. An axle-box connected to a sill, A, through the intervention of a lever pivoted at one end, and sustaining a bearing-spring at the other, substantially as set forth.

2. The spring-supporting lever D, provided with jaws *d d*, for the reception of the axle-box, substantially as shown and described.

3. In combination with the lever D, having jaws *d d*, the axle-box C, provided with trunnions *c c*, substantially as shown and described.

4. In combination with the levers D D the rods H H, to prevent spreading, as described.

5. In combination with the lever D the keeper I, for the purpose set forth.

6. The box C, having trunnions *c c*, lever D, provided with jaws *d d*, bracket F, spring G, rods H H, and keeper I, the several parts being constructed and combined for operation substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of December, 1875.

DAVIS H. DOTTERER.

Witnesses:

M. DANL. CONNOLLY,
CHAS. F. VAN HORN.