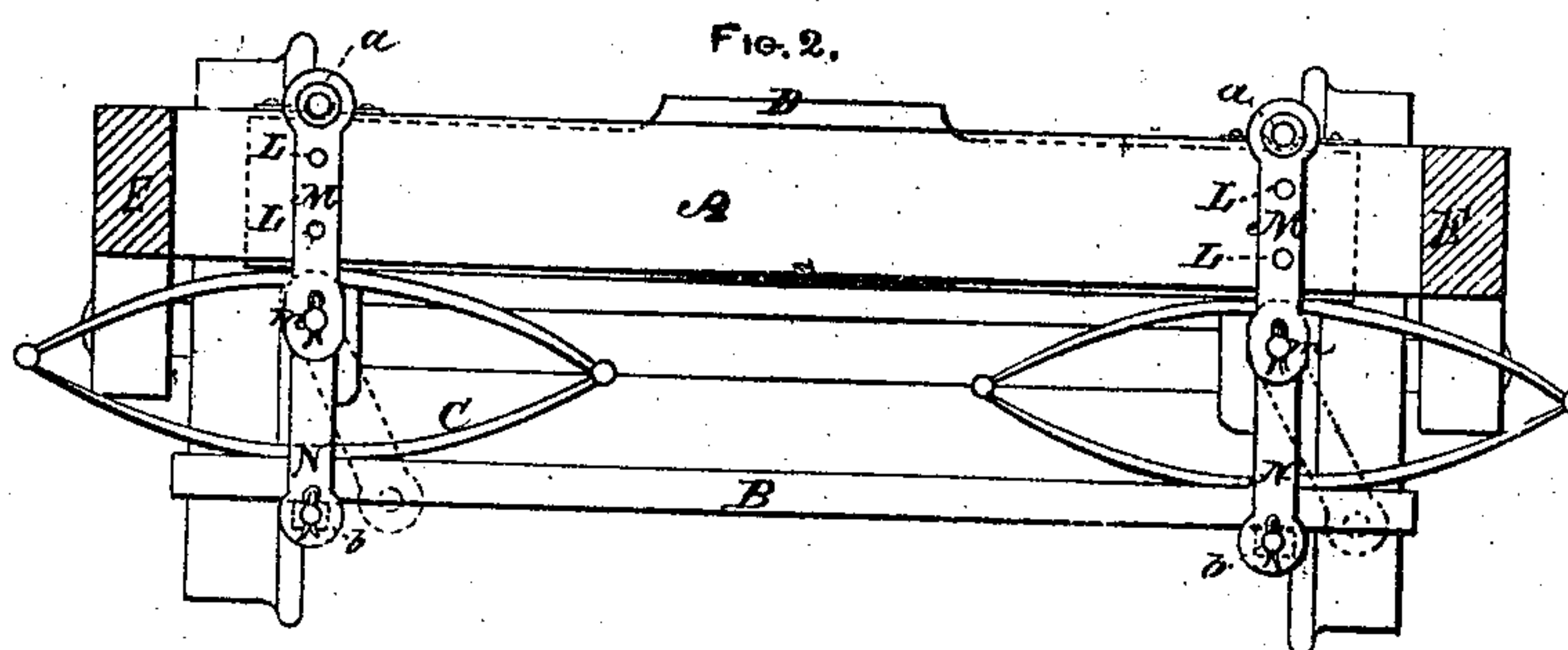
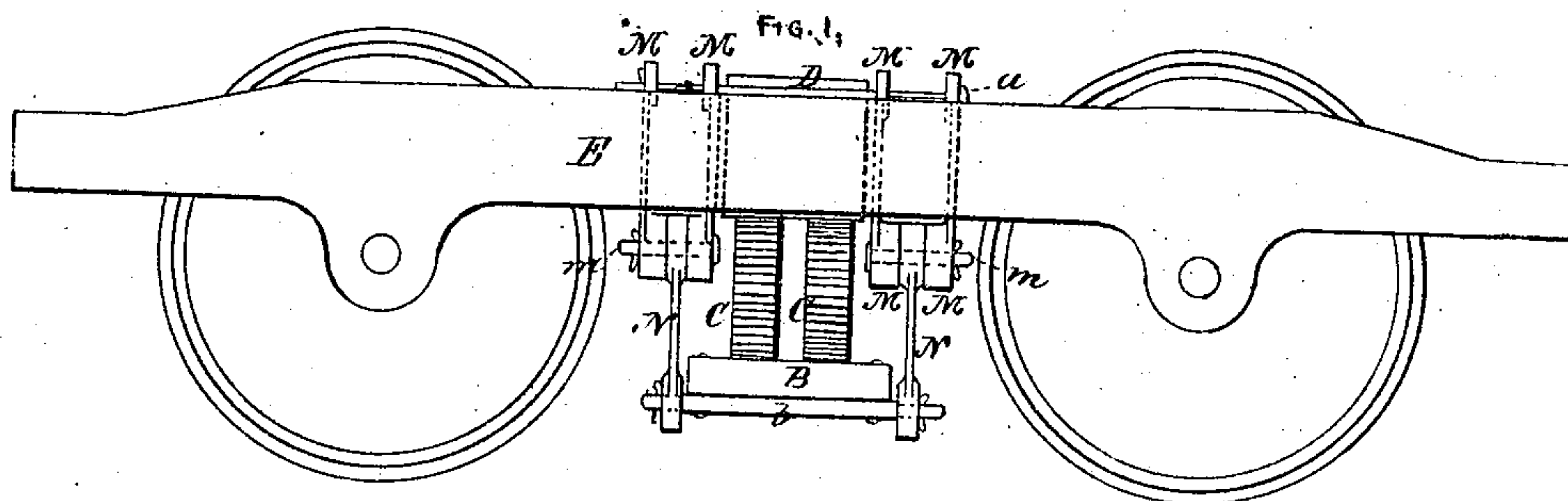


No. 40,957.

PATENTED DEC. 15, 1863.

A. F. SMITH.
RAILROAD CAR TRUCK.



Witnesses.

My Thomas L. Nelson

D. W. Watson.

Signature.

Ala Smith

UNITED STATES PATENT OFFICE.

ALBA F. SMITH, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN RAILROAD CAR-TRUCKS.

Specification forming part of Letters Patent No. 40,957, dated December 15, 1863.

To all whom it may concern:

Be it known that I, ALBA F. SMITH, of Norwich, in the county of New London, in the State of Connecticut, superintendent of the Hudson River Railroad, in the State of New York, have invented a certain new and useful Improvement in the Mode of Hanging the Swing-Beam in Railroad-Car Trucks; and I do hereby declare that the following is a full and exact description of the same, which I have prepared with a view to the obtaining of Letters Patent therefor.

The accompanying drawings form a part of this description and specification.

Figure 1 is a side view, and Fig. 2 a cross-section, of a truck in which my improvement is introduced, similar letters of reference referring to like parts in both figures.

The only novelties in this truck relate to the fitted parts M N, which take the place of the ordinary long-suspension links. In my invention parts M are rigidly secured to the fixed bearing-beams A of the truck, and short suspension-links N are jointed to the lower end thereof by pins *m*, so that while the height of the swing beam B is the same as with the ordinary long suspension-links, and consequently the space for the springs C and the elevation of the swinging bolster D, is the same as usual, the radius on which the suspended parts swing is much less than usual. Cross-bars *a* lie in suitable seats across the top of the bearing-beams A, as usual. Similar cross-bars, *b*, extend across the under side of the swing-beams B, as usual, and the centers of the corresponding bars *a* and *b* are some twenty or more inches apart, as usual.

In the common mode of hanging the swing-beam single links extend from *a* to *b*, and are free to turn on each, so that the radius on which the car and all the parts resting upon B swings is twenty inches or more. In my invention the bar *a* supports the weight upon A in the same manner as in the ordinary construction; but the links M, which depend therefrom, are not free to swing. On the contrary, they are bolted rigidly to the sides of A by the bolts L, as represented, and the swinging suspension-links N are only about nine inches or less in length; or by prolonging M and shortening N the radius on which the car and all the suspended parts swing may be made as small as may be desired, in order to prevent, by the action of the suspension-links alone, any too great lateral motion of the car.

Swing-beams hung according to my inven-

tion, as also those ordinarily suspended, allow the car to swing freely to a certain extent toward either side of the road independently of the truck; but in the ordinary mode the radius on which the swinging motion is performed is so great that gravity alone does not check the motion within the proper limits, and there requires to be employed other means of restraining the same. The common mode of effecting such restraint is to make the swinging bolster D of such length that its ends will strike against the inner sides of the truck-beams B at the end of its proper movements, striking either directly and with great violence, or through the action of a spring introduced to soften the shock. With my invention no such check is required, and gravity alone is sufficient to restrain the motion within proper limits.

I have tested the invention practically and find it of great importance. With the high speeds used on this road the violence of the lateral impact of the car and truck is very severe, even with the track in the best condition, and the introduction of springs to absorb these blows is but partially successful, and is obviously troublesome and expensive. The allowing of more motion than usual with the ordinary mode of hanging only increases the evil; but with my improved mode I allow free play to the parts, and gravity alone restrains the motion gently, and within proper limits, producing a more agreeable motion in the car and a more gentle action on the rolling stock and the track.

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

1. Suspending the car to the truck by freely-swinging links of so short radius that the gravity of the parts alone will effectively restrain the lateral motion at high velocities, substantially as herein set forth.

2. The employment of the within-described fixed straps M, swinging suspending links N, joint *m*, and bars *a b*, or their respective equivalents, arranged substantially as shown, whereby the vertical strain is borne by the top of the bearing-beam A and base of the swing beam B, as usual, and a shorter radius of lateral motion secured with the advantage specified.

ALBA F. SMITH.

Witnesses:

THOS. D. STETSON,
D. W. STETSON.