

A. D. FOX.
Railway Car-Springs.

No. 151,771.

Patented June 9, 1874.

Fig 1

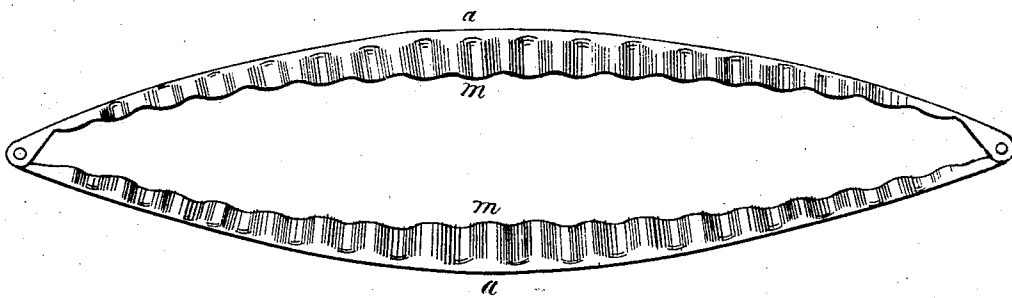


Fig 3

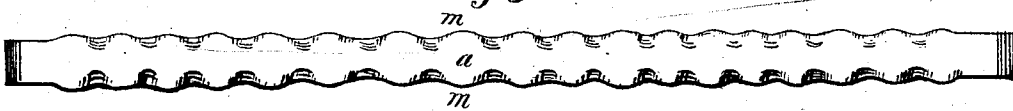
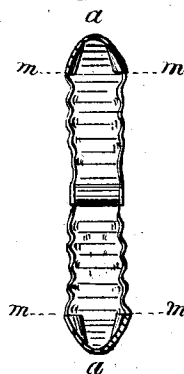


Fig 2



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED D. FOX, OF PRESCOTT, CANADA.

IMPROVEMENT IN RAILWAY-CAR SPRINGS.

Specification forming part of Letters Patent No. **151,771**, dated June 9, 1874; application filed June 13, 1873.

To all whom it may concern:

Be it known that I, ALFRED DEWING FOX, of the town of Prescott, Ontario, Canada, have invented a new and useful Improvement in Elliptic Springs; and I hereby declare that the following is a full, clear, and exact description and specification of the same, reference being had to the annexed drawing.

The object of my invention is to obtain a strong, durable, and elastic spring for carriages, cars, &c., with the least possible amount of metal.

In order that persons skilled in the art may understand and use my invention, I will proceed to describe what I consider one of the best forms of the same, and its mode of operation.

The accompanying drawings form a part of this specification.

Figure 1 is an elevation of a full elliptic spring. Fig. 2 is a cross-section; and Fig. 3 is a view of a half-elliptic spring, or a top view of the lower half of a full elliptic.

Similar letters of reference indicate like parts.

I employ one or more plates in the general form of a part of an ellipse. They may be composed of one or more leaves, and united at their ends by hinge-joints in the usual way. Their cross-section is semicircular, or thereabout, the edges being greatly bent relatively to the center and to each other, giving a kind of trough-like form to the plate. Each plate is also partially corrugated by corrugations

extending crosswise of the spring. The corrugations extend from each edge inward toward the center line, but a considerable breadth along the back is plain or not corrugated.

By means of these corrugations and this bent-edge form, I obtain great strength, elasticity, and durability with a minimum amount of metal.

When my spring is in use under a car or carriage, the weight rests on the central portion of its length in the usual manner, and when the jolting of the carriage increases the strain, it causes the plates to flatten; in doing so the corrugations *m m* are somewhat drawn out, and when the strain is lessened they contract, while the plain portion *a* along the back or center line is in the best position for resisting the compressive strain. Great range of elasticity is obtained by my spring without breaking, and without overstraining any portion. The members of the spring may be made very light.

I claim as my invention—

An elliptic spring for railroad-cars and other vehicles, composed of one or more metal plates with the edges turned down and corrugated, forming a partially corrugated and partially plain elliptic spring, as and for the purposes set forth.

ALFRED DEWING FOX.

Witnesses:

LUCIUS W. HOW,
WILLIAM E. JAMES.