

GEORGE ELLIOT.

Improvement in Railway Car Springs.

No. 119,129.

Patented Sep. 19, 1871.

Fig. 1.

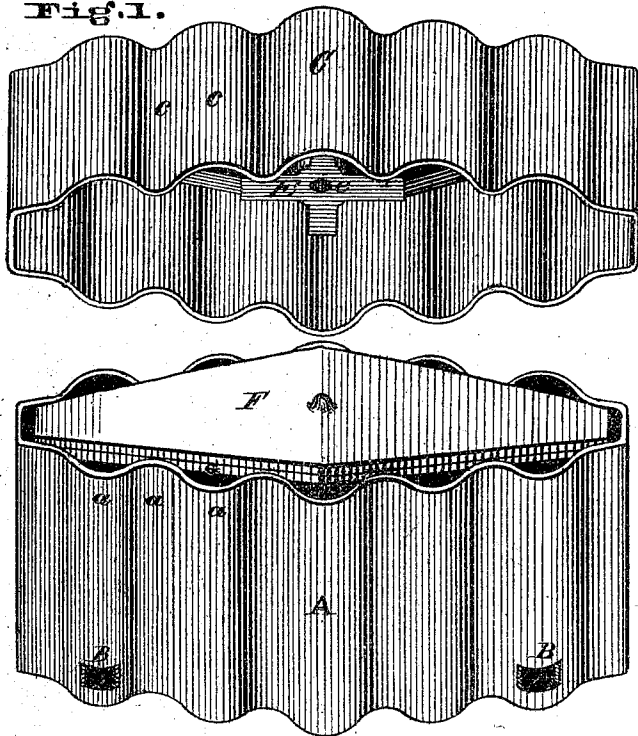
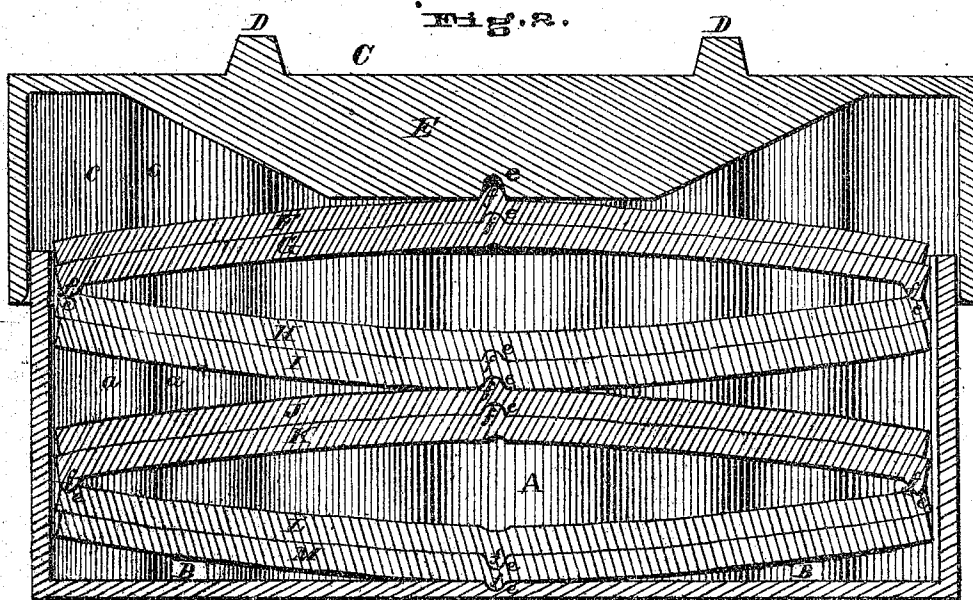


Fig. 2.



Scale of Fig. 2.

ATTEST
Wm. L. Allen
 Walter Allen

INVENTOR
 George Elliot.
 By Knight Bros. Atty.

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Fig. 3.

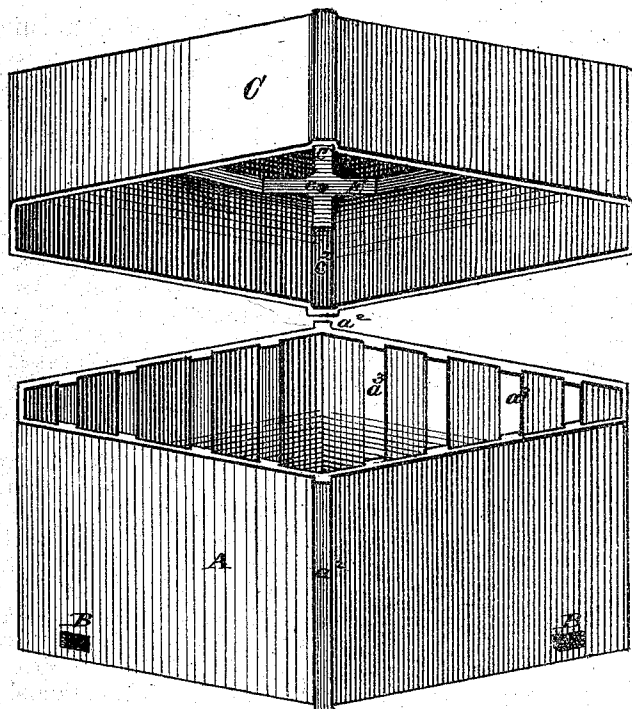
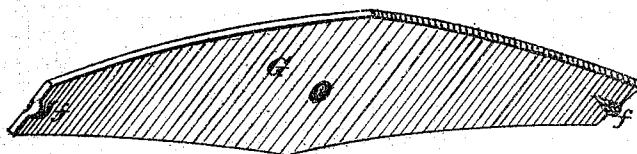


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE ELLIOT, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RAILWAY-CAR SPRINGS.

Specification forming part of Letters Patent No. 119,129, dated September 19, 1871.

To all whom it may concern:

Be it known that I, GEORGE ELLIOT, of the city and county of St. Louis and State of Missouri, have invented a certain Improved Spring for Railway Cars, of which the following is a specification:

My improvement consists principally in, first, combining with a case containing diamond-formed springs, curved longitudinally, and a cover sliding vertically thereon, and guided by ribs or corrugations, of a follower which rests upon the upper spring, and by which the springs are depressed; and, secondly, in connecting the leaves together by nipples on one sheet, entering dimples upon the part of the leaf, follower, or case in contact therewith.

Figure 1 is a perspective view of the spring, the cap being removed and an under view of the same being given to show the follower. Fig. 2 is a longitudinal section of the spring, to which a scale is annexed. In springs of the usual size the cap is made about fourteen inches long and seven or seven and a half inches wide at the middle, and about three and one-fourth inches deep, the box or case being about five inches deep. The leaves are shown in unloaded condition. Fig. 3 is a perspective view of a box and cap having a somewhat modified form from that shown in Figs. 1 and 2. Each side has a single guide-rib and groove upon the box and cap, and the box has a number of interior vertical guide-ribs for the spring-plates or leaves. Fig. 4 is an under perspective view of one of the leaves.

A is the box or case, having a somewhat diamond form, and in Figs. 1 and 2 shown with corrugations *a*, which serve to strengthen the sides and guide the cap in its movement on the box, and may serve, in some cases, to give side support to the springs. B are orifices to allow the escape of dust. C is the cap, whose sides have corrugations *c*, fitting the outer side of the corrugations *a*. D are studs on the top of the cap, that enter the under side of the bolster and hold it in position on the cap. E is a cruciform follower that is cast with the cap, and which rests upon the top of the upper leaf F of the spring. This leaf has a teat, *f*, entering a dimple or hole, *e*, in the follower, and a dimple, *e*, entered by a teat, *f*, of the spring-leaf G. The ends of the leaf G have teats *f* upon the under side at each end, entering dimples *e* in the ends of the leaf

H, which has a central dimple, *e*, receiving a teat, *f*, on the leaf I. The leaves J K are similar to those F G, and those L M similar to H I, except that the central teats extend downward, that of M entering a dimple in the bottom of the case. The teats *f* and dimples *e* hold the leaves in their relative positions with each other and with the case and cap. The spring-leaves may be associated together in couples, as F G, H I, as shown, or the whole spring may be formed of plates or leaves placed singly, as G H, K L. The object of associating them in couples is not only to increase the strength, as this might be done by increasing the thickness of the plate, but rather to render the movements of the spring less rapid, as I have found by experience is the case. The reason of this appears to be that there is considerable friction between the surfaces of the leaves, which checks the speed of their movements without adding proportionally to their inflexibility, and by the above means the action of the springs may be regulated. I make the leaves about twelve inches long, one inch wide at the ends, and four and a half inches at the middle, and with a longitudinal curve. They may be three-eighths of an inch thick, more or less.

In the modification shown in Fig. 3 the sides of the case and cap are plain, except that the case has exterior guide-ribs *a*² and the cap-grooves *c*² to receive these ribs, and the case has interior guide-ribs *a*³, that would act as a side guide to the springs to prevent them getting out of place. The ribs *a*² and *a*³ and the grooves *c*² perform the same functions as the corrugations of Fig. 1 in guiding the cap in its vertical movement on the box.

These springs, like other metallic car-springs, are placed beneath the ends of the bolsters supporting the car.

I claim as my invention—

The combination and arrangement of the case or box A, cap or cover C, and follower E with the diamond-formed leaves F G H, &c., when the said leaves have corresponding teats *f* and dimples *e*, all substantially as described.

In testimony of which invention I have hereto set my hand.

GEORGE ELLIOT.

Witnesses:

SAML. KNIGHT,
R. T. BRADLEY.

(20.)