

H. A. V. POST.  
Car Spring.

No. 81,536.

Patented Aug. 25, 1868.

Fig. 1.

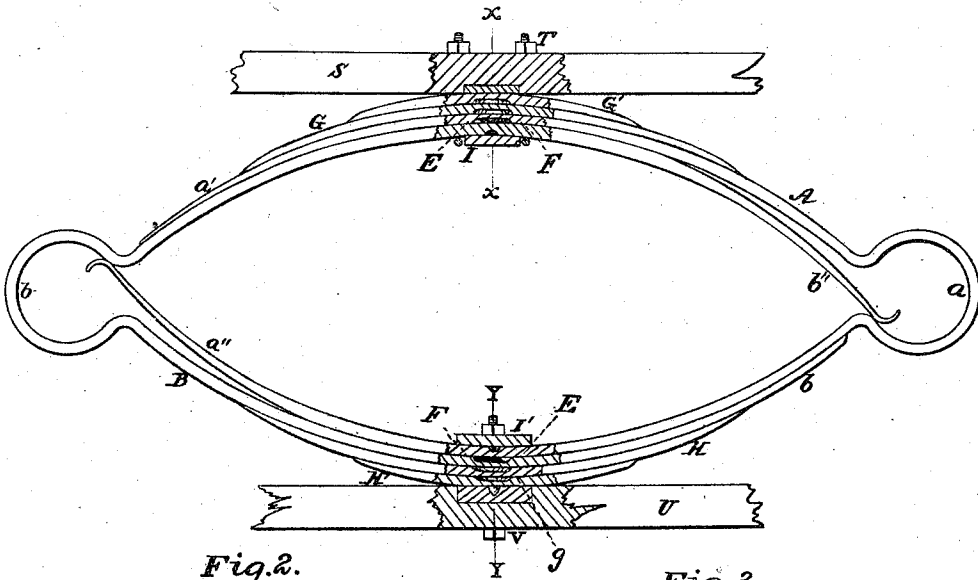


Fig. 2.

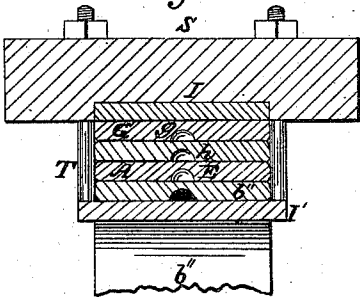


Fig. 3.

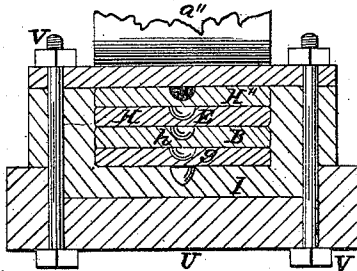
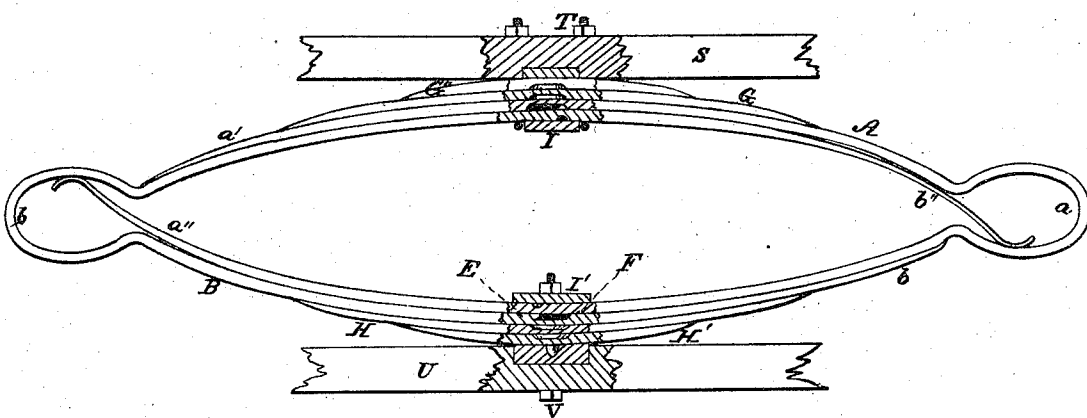


Fig. 4.



Witnesses:

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Inventor:

*H. A. V. Post*  
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# United States Patent Office.

HENRY A. V. POST, OF CINCINNATI, OHIO.

Letters Patent No. 81,536, dated August 25, 1868.

## IMPROVED SPRING.

The Schedule referred to in these Letters Patent and making part of the same.

### TO WHOM IT MAY CONCERN:

Be it known that I, HENRY A. V. POST, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Elliptical Spring; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

This is an improvement in the class of springs designed more particularly for sustaining the bodies of railroad-cars, and which consist principally of a pair of folded and interlocked plates or leaves; and my invention relates to—

First, a prolongation of the inner ends of the leaves, so as to support the spring generally, and especially the bent extremities thereof, against undue flexure or compression.

Second, an arrangement of a series of such bent leaves, of such form, and so secured to one another, and to additional outer leaves, as to combine the requisite mobility, strength, and elasticity, with great economy of weight and material.

Figure 1 is a partially-sectionized side elevation of my spring in its unloaded or expanded condition.

Figures 2 and 3 are enlarged transverse sections, at X X and Y Y, respectively

Figure 4 is a partially-sectionized side elevation of my spring in its loaded or collapsed condition.

S represents the sand-board, or other timber of the car-body, to which the upper part of the spring is attached by means of suitable clips, T, or otherwise.

U represents the truck-timber, to which the lower part of the spring is attached by means of bolts, V, or otherwise.

My spring consists principally of two plates, A B, which, a little to one side of their mid-length, are deflected into three-quarter circular bends or loops, *a* and *b*, whence the limbs *a'* *a''* and *b'* *b''* curve or camber away from each other, and are interlapped, in the manner shown, the shorter limb, *a'* or *b'*, in each case, hugging the convex or outer side of the longer limb, *b''* or *a''*, of the other, and said longer limb *a''* or *b''* entering and being curved inward away from the said short limb of the other, and pressing outward against the inner or concave side of the loop of the other, so as to relieve said loops of a portion of the compressible strain of a heavy load, while, at the same time, supporting the said limb, and the spring generally, more effectually, and also permitting greater freedom of motion, than if said limb *a''* or *b''* were not so bent and prolonged.

In order to hold said plates laterally in position within each other, and, at the same time, to permit them to slide longitudinally upon each other, each longer limb has, on its convex side, a teat, E, which enters a slot or groove, F, on the concavity of the other's shorter limb. The extremities of the limbs are, preferably, tapered in the manner shown.

For the heavier class of springs, I apply to the outside of the principal plates, A B, additional leaves, G H, substantially as represented; and these springs are secured against both lateral and longitudinal displacement by means of long teats or ribs, *g*, which fit and occupy corresponding grooves, *h*, on the concavities of the plates, outside of them.

The bundle of leaves may be held together by means of bands, I I', or otherwise.

I claim herein as new and of my invention—

1. The pair of folded and interlapped plates A and B, having the prolonged inner limbs *a''* and *b''*, constructed, arranged, and adapted to operate as set forth.

2. The pair of folded and interlocked plates A B, adapted to both slide upon and mutually support each other in the described combination with one or more pairs of stationary outer plates, G H.

In testimony of which invention, I hereunto set my hand.

HENRY A. V. POST.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.