J. F. TALSON.

Car Spring.

No. 2,491. Patented March 18, 1842.

Fig: 1.

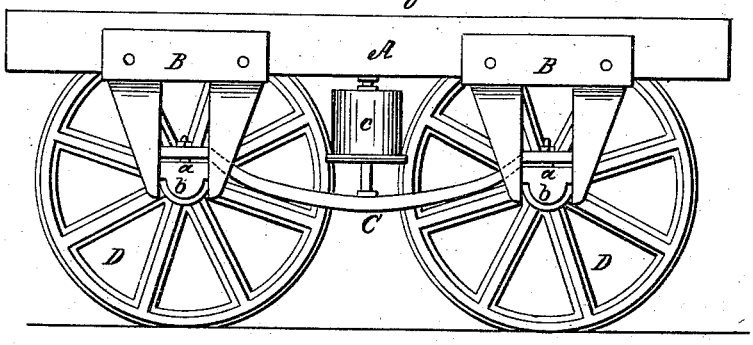


Fig: 2.

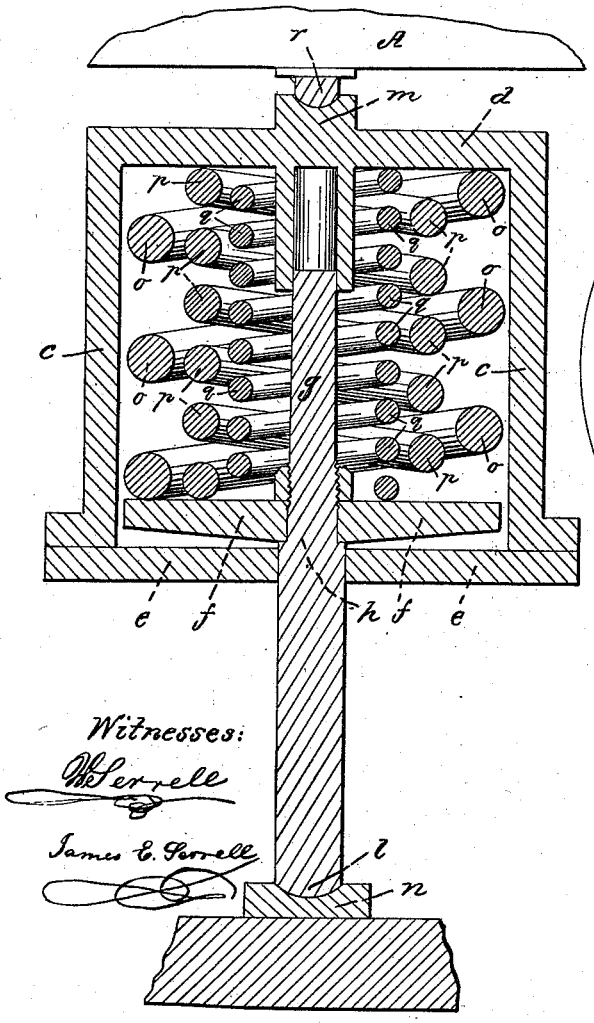
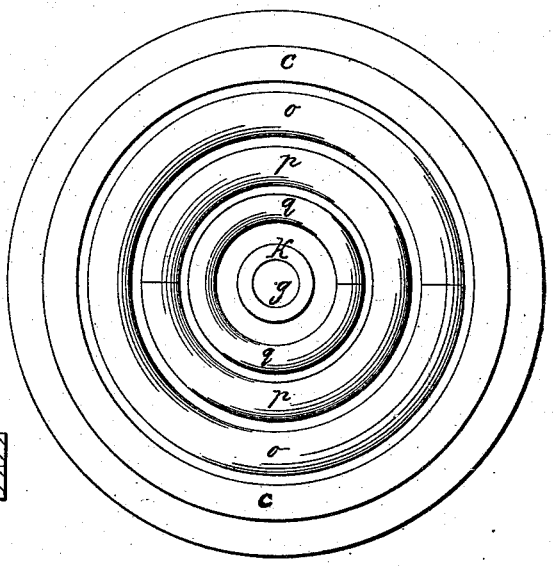


Fig: 3.



Witnesses:

W. Serrelle

James E. Serrelle

Inventor:

Joseph F. Talson.

UNITED STATES PATENT OFFICE.

JOSEPH F. TALSON, OF JERSEY CITY, NEW JERSEY.

RAILROAD-TRUCK SPRING.

Specification of Letters Patent No. 2,491, dated March 18, 1842.

To all whom it may concern:

Be it known that I, JOSEPH F. TALSON, of Jersey City, in the State of New Jersey, mechanical engineer, have invented and made certain new and useful improvements in the construction and arrangement of springs for the trucks of locomotive-engines and railroad-cars or other carriages, such improvements being intended for lessening or preventing the effects of shocks to the truck or carriage from inequalities or irregularities on the surface of the road by dividing and dispersing the shocks among the several parts of the truck or carriage, for which improvements I seek Letters Patent of the United States, and that the said improvements and the mode of constructing, mounting, and using the same are fully and substantially set forth and shown in the following description and in the drawings annexed to and making part of this specification, wherein—

Figure 1, is a longitudinal elevation of a truck with the said improvements fitted for use. Fig. 2 is a vertical section and Fig. 3 a plan of the construction and arrangement of the parts which I consider to be my improvements shown in larger size and the letters used as marks of reference apply to the same parts in all the figures.

A, is the bed frame of the truck, B, B, the pedestals and slides of the journal boxes *a*, the slides of which are divided to allow of the bearing bar C overlying the journal boxes *a* and shaft *b* on which the wheels D, are mounted.

Between the guide bar C, and frame A, is a cylinder *c* with a top *d* and bottom cover *e* and within the cylinder is the piston *f* mounted on the rod *g* and screwed up to the shoulder *h*, by the set nut *i;* the upper end of the rod *g* slides in the guide socket *k* on the inside of the top *d*, and the opposite or lower end of the rod *g* is fitted with a convex pivot-bearing *l*, into the seat *n* on the bearing bar C, and in the frame above a boss *r* enters a bearing cup *m* fitted on the upper part of the cylinder top above the socket *k*.

Within the cylinder *c* are three spiral expansion springs *o*, *p*, and *q*. The middle spring *p* is made either right or left handed but in all cases in a direction reverse to the other two, and the proportions I have judged best in common practice in a cylinder of eight inches internal diameter, and of ten inches in length, are to make the outer spring *o* of one inch diameter the middle spring *p* of three quarters of an inch diameter and the inner spring *q* of half an inch diameter and to make the springs of a form and strength that will allow the piston four inches of vertical motion so as to come down one inch with the load and allow three inches for yielding to irregularities in the road which being borne at both ends of the bar C, will allow for variations of six inches in the road without such variations being sensibly felt in the engine or car above the truck.

My improvement consists in the manner of arranging the combined spiral springs, so that they shall be alternately right and left handed, by which arrangement they will move freely one within the other, even when in contact with each other; there may be a greater number of springs than three, but I deem this number best, and sufficient for all purposes.

I do not intend to limit myself to the number of springs nor to the sizes and proportions given above but to vary these according to the circumstances of any particular case, nor do I mean to confine myself to the mode shown of mounting the cylinder *c* with the cover *e* below, as the cylinder may be vertically reversed and the convex pivot *l*, and seat *n* come under the frame with the cup *m* and boss *r* on the bar C, and the same effects be obtained.

I do not claim to have invented any of the parts described and employed in this arrangement, when taken individually, but

I do claim as new and of my own invention and desire to secure by Letters Patent—

The combination of a plurality, say of three or more, spiral springs, with a piston within a cylinder, the convolutions of such springs being alternately right and left handed; this combination of springs being applied in the manner set forth, or, for example, between the frame A and the bearing bar C, for the purposes hereinbefore made known; the whole being constructed and operating substantially as described herein.

In witness whereof I have hereunto set my hand this sixteenth day of February one thousand eight hundred and forty two.

JOSEPH F. TALSON. [L. S.]

Witnesses:

W. SERRELL,

JAMES E. SERRELL.