No. 849,109.

PATENTED APR. 2, 1907.

M. EMMERICH.

VEHICLE SPRING.

APPLICATION FILED JAN. 31, 1907.

Fig. 1

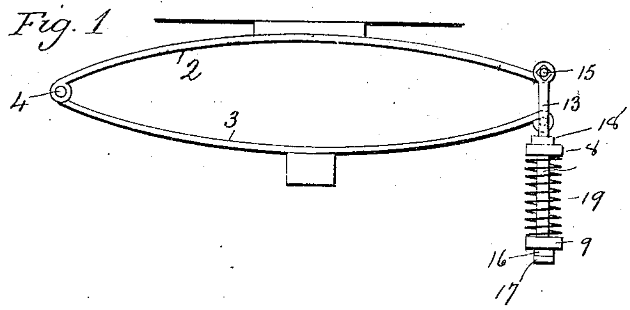


Fig. 2

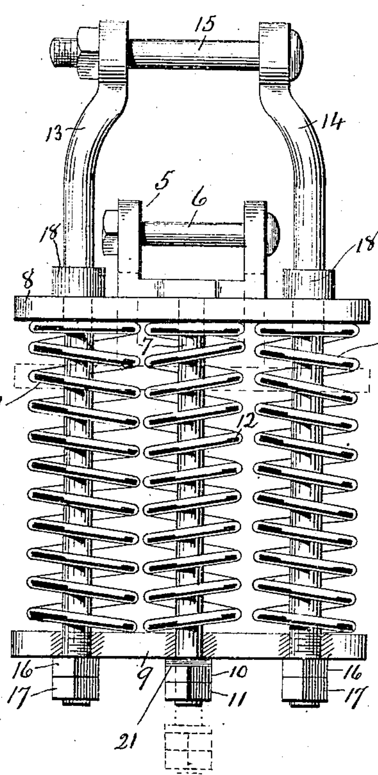
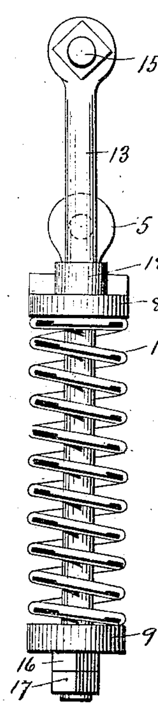


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

MARTIN EMMERICH, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO GEORGE ROTMAN, OF NEW HAVEN, CONNECTICUT.

VEHICLE-SPRING.

No. 848,109. Specification of Letters Patent. Patented April 2, 1907.

Application filed January 31, 1907. Serial No. 355,056.

To all whom it may concern:

Be it known that I, MARTIN EMMERICH, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Vehicle-Springs; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of an elliptical vehicle-spring showing my improved auxiliary spring connected therewith; Fig. 2, a front view of my auxiliary spring detached; Fig. 3, a side view of the same.

This invention relates to an improvement in vehicle-springs for vehicles adapted to carry a comparatively heavy load and in which the springs are subject to sudden action and in which comparatively yielding springs are desirable—such, for instance, as motor-vehicles employing elliptical springs—the object of the invention being to provide an auxiliary spring in connection with an elliptical spring to take the strain upon the springs caused by the wheels running into a rut or over an obstruction in the road; and the invention consists in arranging an auxiliary spring at one end of an elliptical spring, as will more fully hereinafter appear.

My invention may be employed in connection with an elliptical spring of usual construction comprising upper leaves 2 and lower leaves 3, which at one end are connected together by a bolt 4 in the usual manner. The rear end of the lower leaf 3 is connected with a yoke 5 by a bolt 6, this yoke being mounted at the upper end of a rod 7, which extends down freely through a top plate 8 and freely through a lower plate 9, the bolt being threaded at its lower end to receive nuts 10 and 11. Around the rod and between the top and bottom plates 8 and 9 is a coiled spring 12. The rear end of the upper leaf 2 is connected to the upper ends of rods 13 and 14 by a bolt 15, the rods extending down freely through the top plate 8 in a plane with and parallel to the rod 7 and threaded at their lower ends for positive engagement with the bottom plate 9, the ends of the rods projecting below the bottom plate to receive locking-nuts 16 and 17. Upon the rods above the top plate are fixed collars 18, and around the rods between the plates are coiled springs 19 and 20, the upper ends of the rods being bowed toward each other, so that the bolts 6 and 15 stand in line with each other.

It will be seen that the load is carried upon the top plate 8. If downward pressure is exerted upon the lower leaf 3, this plate will be depressed against the action of the springs 12, 19, and 20, and as the top plate is depressed the rod 7 passes through the bottom plate 9. Under reaction of the leaf 3 the rod 7 may rise independent of the top plate 8, and, if desired, a buffer-spring 21 may be inserted between the nut 10 and the under face of the bottom plate 9, so that if the rod is suddenly lifted the blow of the nut 10 upon the under side of the plate 9 will be checked. It will thus be seen that the load is carried not only by an elliptical spring, but also by the coiled springs 12, 19, and 20, and that sudden movement of the elliptical springs occasioned by running into a rut or over an obstruction will be taken by the auxiliary spring and not transmit the jar to the vehicle-body. In some vehicles the upper leaf of the spring is not used, in which case the side rods are connected to the gooseneck or crane, to which the end of the lower leaf or half-elliptical spring is usually attached, the auxiliary spring acting in the same way as above described.

I claim—

1. The combination with the upper and lower leaves of an elliptical spring, of a yoke to which one end of the lower leaf is attached, said yoke mounted at the upper end of a central rod the end of the upper leaf connected with the upper ends of two side rods arranged one on either side of the central rod, a top plate through which said rods extend, a bottom plate with which the side rods are engaged and through which the central rod passes, and springs around said rods between said plates, substantially as described.

2. The combination with the upper and lower leaves of an elliptical spring, of a yoke to which one end of the lower leaf is attached, said yoke mounted at the upper end of a central rod the end of the upper leaf connected with the upper ends of two side rods arranged one on either side of the central rod, a top

plate through which said rods extend, a bottom plate with which the side rods are engaged and through which the central rod passes, the central rod provided at its lower end with nuts, and a buffer-spring between said nuts and the under face of the lower plate, and springs around said rods between said plates, substantially as described.

3. The herein-described auxiliary spring for vehicles comprising a top plate and a lower plate, a central rod passing freely through the said plates, a nut at the lower end of said rod, side rods extending freely through the top plate and fixed to the lower plate, collars around said side rods above the top plate, coil-springs surrounding said rods between said plates, a yoke mounted at the upper end of said central rod, and the upper end of the side rods bowed inward over said yoke, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MARTIN EMMERICH.

Witnesses:
FREDERIC C. EARLE,
CLARA L. WEED.