F. M. CHAPIN & J. GERSBACHER.

Vehicle Torsion-Spring.

No. 206,703. Patented Aug. 6, 1878.

Fig. 1

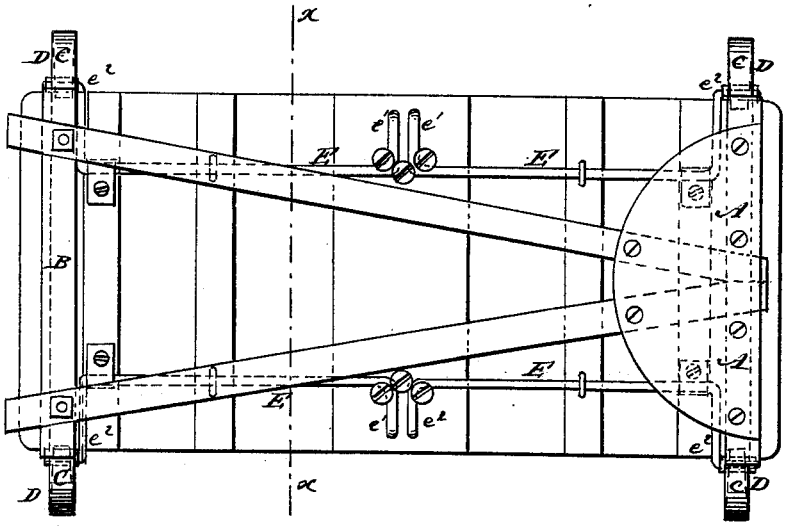
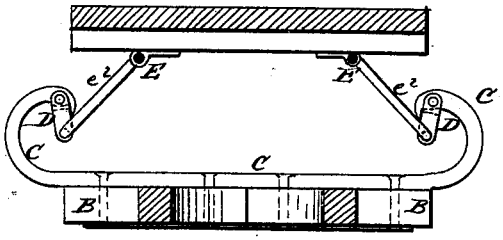


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK M. CHAPIN AND JOSHUA GERSBACHER, OF CUFFEY'S COVE, CAL.

IMPROVEMENT IN VEHICLE TORSION-SPRINGS.

Specification forming part of Letters Patent No. **206,703**, dated August 6, 1878; application filed May 8, 1878.

To all whom it may concern:

Be it known that we, FRANK MARION CHAPIN and JOSHUA GERSBACHER, of Cuffey's Cove, in the county of Mendocino and State of California, have invented a new and useful Improvement in Torsion Wagon-Springs, of which the following is a specification:

Figure 1 is an under-side view of the body and part of the running-gear of a wagon to which our improvement has been applied. Fig. 2 is a cross-section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish springs for wagons which shall be simple in construction, strong, and durable, and at the same time light and elastic, producing an easy riding wagon.

A represents the head-block, and B the rear axle, of the running-gear of the wagon. To the upper sides of the head-block A and axle B are attached bars C, the end parts of which project and are curved upward and inward, as shown in Fig. 2, and to their upper ends are pivoted, or from them are hung, the coupling-blocks D.

The ends of the bars C have shoulders formed upon them for the side of the coupling-blocks D to strike against to prevent the said coupling-blocks from swinging too far inward.

E are four steel rods, which are secured to the side parts of the bottom of the wagon-body, two upon each side and in line with each other. The inner ends, e^1, of the rods E are bent outward at right angles, and the ends of the arms thus formed are bent upward at right angles, and are inserted in holes in the middle cross-bar of the wagon-body. The rods E are secured to the said central cross-bar at or near their angles by bolts, screws, clips, or other suitable means that will hold them firmly in place. The rods E pass through keepers or staples attached to the cross-bars of the wagon-body, and their forward ends at the forward ends of the said wagon-body are bent outward at right angles and inclined downward, forming arms e^2. The ends of the arms e^2 are again bent at right angles to enter holes in the coupling-blocks D, as shown in Figs. 1 and 2.

By this construction as weight is applied to the wagon-body the rods E will be turned or twisted so as to give elasticity to the said wagon-body, the inner ends of the said rods being stationary.

We are aware that it is not new to combine single-shanked spring-bars so that they will act together or singly according to the load; but

What we claim is—

1. A hanger for torsion-springs having at its end a stop to limit the movement thereof, as shown and described.

2. The torsion-spring in combination with the hanger, having an end or shoulder to limit the upward motion of spring, as specified.

FRANK MARION CHAPIN.
JOSHUA GERSBACHER.

Witnesses:
JAS. HENNESSY,
ALBERT WARNER.