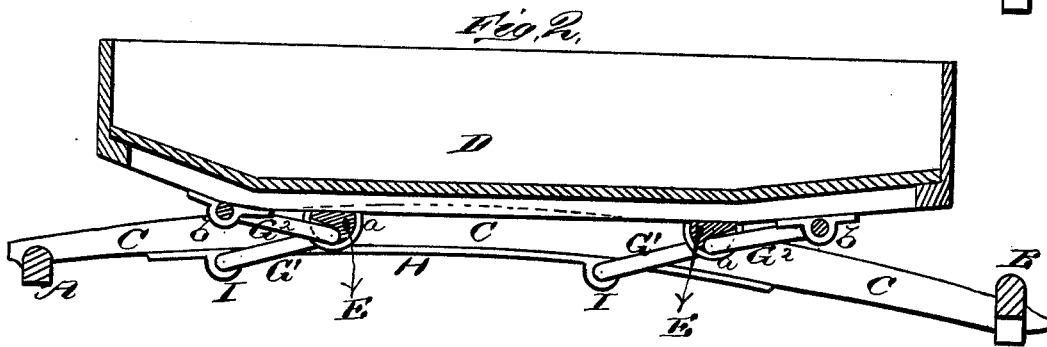
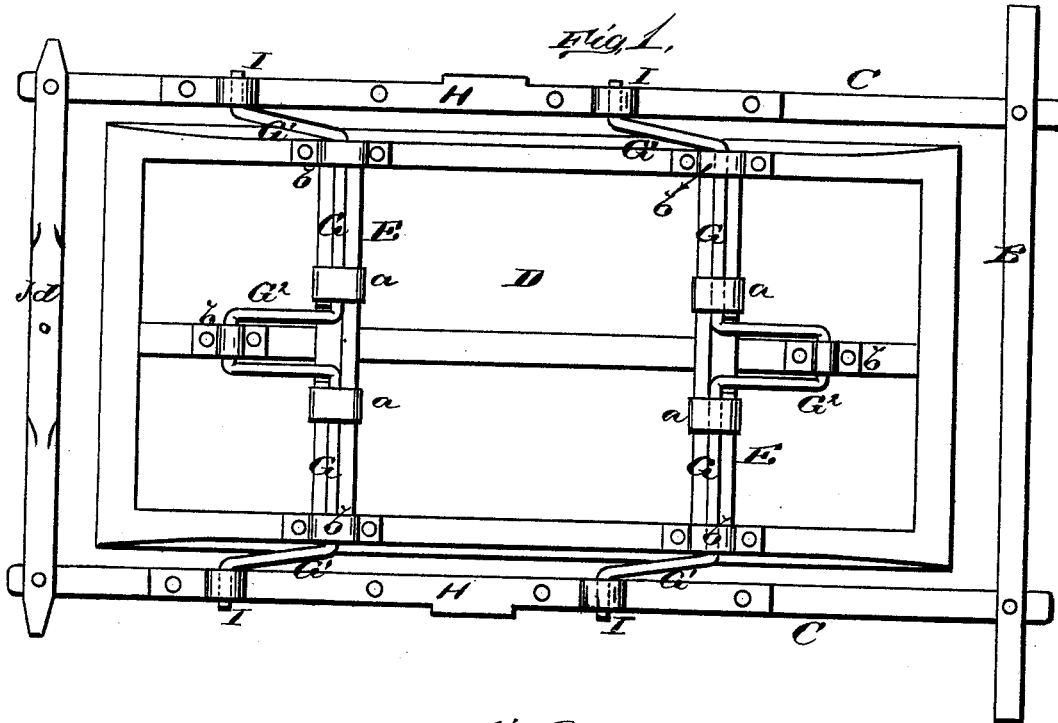


C. H. FERGUSON.
Torsion-Spring for Vehicles.

No. 197,351.

Patented Nov. 20, 1877.



WITNESSES
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CHARLES H. FERGUSON, OF CAMBRIDGE, NEW YORK.

IMPROVEMENT IN TORSION-SPRINGS FOR VEHICLES.

Specification forming part of Letters Patent No. **197,351**, dated November 20, 1877; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, CHARLES H. FERGUSON, of the town of Jackson, State of New York, (P. O. address, Cambridge, Washington county, New York,) have invented a new and valuable Improvement in Wagon-Springs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a bottom-plan view of a wagon, showing my wagon-spring; and Fig. 2 is a longitudinal vertical sectional view thereof.

The nature of my invention consists in the construction of a wagon-spring for supporting the body of a side bar or other wagon, as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the front head-block, and B the rear axle, of a vehicle, said parts being connected by means of side bars or perches C C. D represents the body of the vehicle, to the under side of which are fastened two cross-bars, E E. These cross-bars are grooved longitudinally on their under sides, and in said groove in each cross-bar is laid a spring, G, made of round steel, and having its ends bent to form cranks G^1 G^1 . The ends of these cranks are inserted in boxes or bearings I I, permanently secured on the under sides of the side bars C C. The boxes or bearings I I on each side bar may be formed, as shown, in the

ends of a single bar, H, or they may be made separate, as desired.

In the center of each spring it is bent to form a crank, G^2 , which may extend in the same direction as the end cranks G^1 , or in the opposite direction from the same, according to the construction of the wagon.

The springs G are held, by means of clips *a*, to the cross-bars E, and to the body of the vehicle, and the crank G^2 is held, by a clip, *b*, or its equivalent, to the bottom of the body D.

These springs, it will be seen, act by torsion when any weight is put in the body of the wagon, as the center-cranks G^2 of the springs are fastened to the bottom of the wagon-body, and the end cranks placed in the boxes under the side bars.

These wagon-springs are applicable to both side-bar and platform wagons.

What I claim as new, and desire to secure by Letters Patent, is—

The side bars C C, provided with the plates H H, having boxes I I, in combination with the body D, having the longitudinally-grooved cross-bars E E, and staples *b*, and the continuous springs G, each having a central double crank, G^2 , and end cranks G^1 , substantially as described, and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES H. FERGUSON.

Witnesses:

W. E. HAWKINS,
HENRY GRAY.