N. NILSON.
Vehicle-Spring.

No. 204,360. Patented May 28, 1878.

Fig. 1.

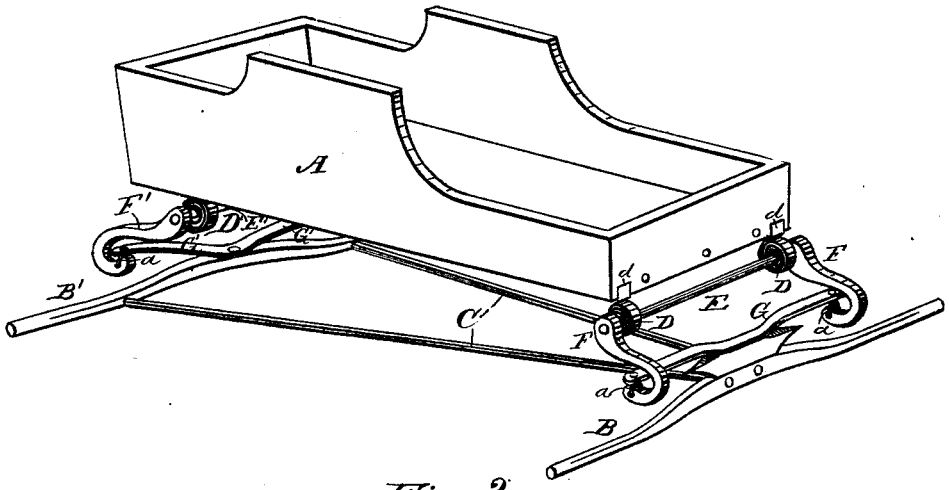
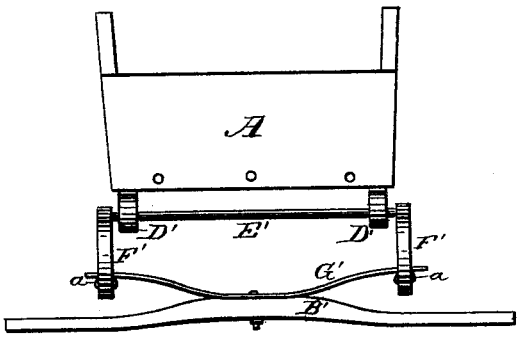


Fig. 2.



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UNITED STATES PATENT OFFICE.

NILS NILSON, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **204,360**, dated May 28, 1878; application filed November 6, 1877.

To all whom it may concern:

Be it known that I, NILS NILSON, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a wagon-body provided with my improved spring, and Fig. 2 is a rear elevation.

Similar letters of reference indicate corresponding parts in both the figures.

My invention has for its object to produce a vehicle-spring of superior elasticity and durability; and it consists in the construction and combination of parts, substantially as hereinafter more fully described, and pointed out in the claim.

In the drawings, A is the body of the wagon or vehicle; B B′, the axles, and C the reach. D D D′ D′ are flat coiled springs, bolted or otherwise secured by their outer projecting ends *d* to the corners of the wagon-body, and having their inner ends firmly secured in bars, denoted by E and E′, respectively, running parallel to the front and rear ends of the body A. The bars E and E′ project a short distance on each side of the wagon-body, each end being firmly secured in a bracket, F F F′ F′, the first two of which (secured in the ends of the front bar E) project forward, and the two last named, which are secured one at each end of the rear bar E′, projecting backward, as shown.

Brackets F F F′ F′ are curved, and their curved ends secured by short links or straps *a* in the ends of the semi-elliptical springs G G′, which are secured upon the bolsters and axles in the usual manner.

By this construction and combination of the springs D D G and D′ D′ G′, I obtain a much greater amount of elasticity and flexibility than can be produced by any of the various forms of springs now ordinarily in use. The four coiled springs give an easy up-and-down motion to the vehicle, while the springs G G′ give the requisite swinging motion sidewise, so that by combining these two motions by the means and in the manner described I produce a vehicle which will ride with ease over the roughest roads.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improvement in vehicle-springs, the combination of the flat coiled springs D D D′ D′, secured to the body A, bars E E′, brackets F F F′ F′, and springs G G′, all constructed and combined to operate substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

NILS NILSON.

Witnesses:
ANDREAS UELAND,
H. E. JACOBSON.