D. G. WYETH.
Vehicle-Spring.

No. 208,452. Patented Sept. 24, 1878.

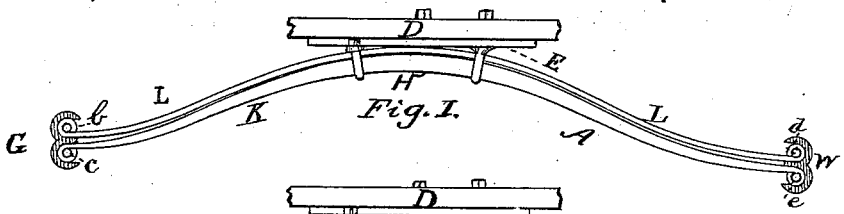

Fig. 1.

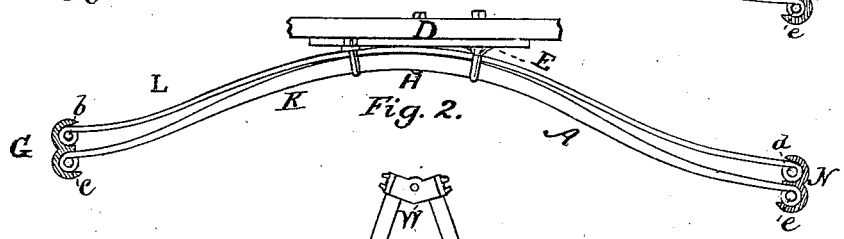

Fig. 2.

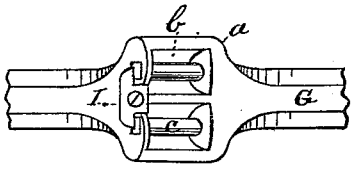

Fig. 6.

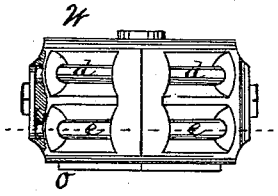

Fig. 5.

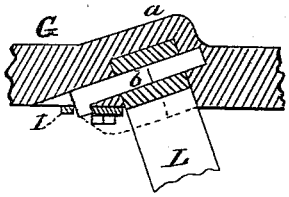

Fig. 7.

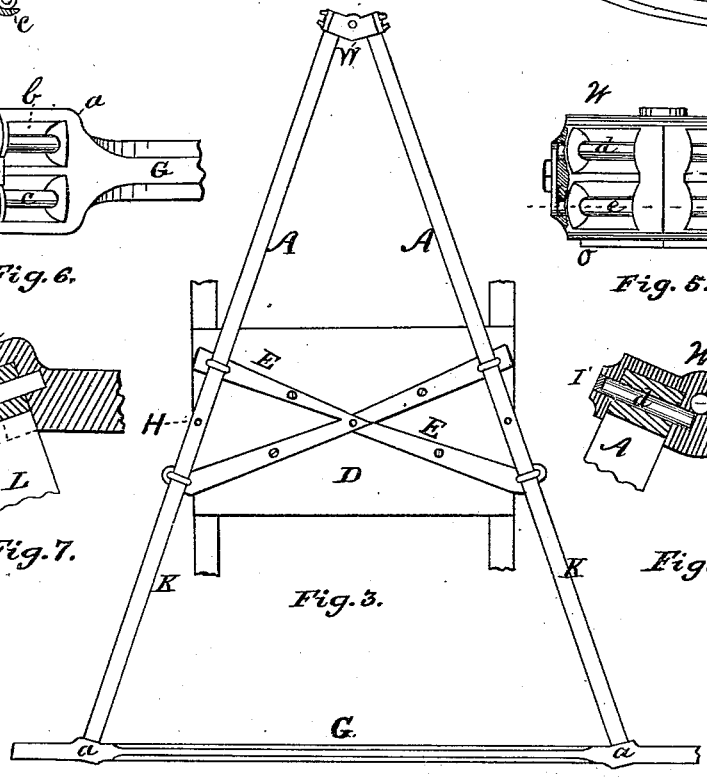

Fig. 3.

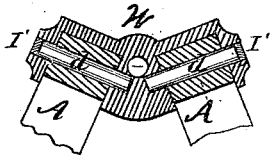

Fig. 8.

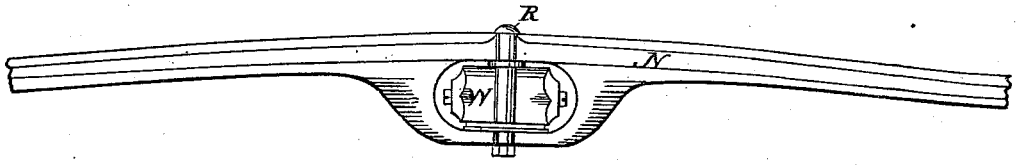

Fig. 4.

WITNESSES.

A. G. Wyeth

A. C. Bostwick

INVENTOR.

D. G. Wyeth

UNITED STATES PATENT OFFICE.

DAVID G. WYETH, OF NEW-WAY, OHIO.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **208,452**, dated September 24, 1878; application filed March 6, 1878.

To all whom it may concern:

Be it known that I, DAVID G. WYETH, of New-Way, in the county of Licking and State of Ohio, have invented a new and Improved Vehicle-Gearing; and I do hereby declare that the following is a full, clear, and exact description of the same.

My present invention is an improvement upon that for which I have obtained Letters Patent No. 187,694.

In this instance I employ, as before, two pairs of springs placed in triangular relation to the rear axle; but, unlike the former invention, the two springs of each pair are not separated by a central block, nor attached to separate bearers or clips to the axles on both the upper and under sides thereof. On the contrary, the two springs of each pair lie in contact at the middle, so that they form practically one spring, and the rear axle is provided with sockets formed in enlarged portions thereof to receive the rear ends of the springs, while their front ends are inserted in sockets formed in a block or fifth-wheel, which is pivoted in an opening in the front axle. The result is that the improved gearing has a less number of parts and also greater compactness as a whole, so that it is lighter and cheaper than the other.

I also secure other advantages by a new construction and arrangement of the devices for coupling the springs to the axles.

In the accompanying drawing, Figures 1 and 2 are side views of the springs with the axles in section. Fig. 3 is an inverted plan view of the springs and part of the body of the vehicle. Fig. 4 is a front view of the front axle. Figs. 5, 6, 7, and 8 are detail views, showing the devices for and mode of coupling the springs to the axles.

The semi-elliptic springs A A are each composed of two parts, K L, the upper one, L, being thinner, and the two being rigidly connected at the center, and also attached to the body D of the vehicle by means of bolts H and triangular braces E. The middle thirds of the two parts K L thus lie in contact while their end portions are slightly separated, so that these parts will act as braces to prevent rolling of the axles. The parts L are in effect an upper leaf of the spring K extended and coupled to the axles.

The rear axle, G, has sockets formed in enlarged portions *a* to receive the rear ends of the springs K L, which are secured by bolts *b c*, as shown in Figs. 6 and 7. The said bolts are at right angles to the springs, but diagonal to the axis of the axle G, the arrangement being such that one half the bolts lie on one side of the axis and the other half on the other side. The bolt *c*, for the lower leaf or part K of the springs, is below the axis of the axle; the other bolt, *b*, above it. The lower bolt, *c*, is designed to be in line with the center of the lower half of the axle-journals.

The bolts have a lug or projection on their outer ends, and are held in place by means of a T-shaped plate, I, which is secured to the axle by a screw in such position as to bear on the heads of the bolts, Figs. 6 and 7.

The front ends of the springs enter sockets formed in a curved block or fifth-wheel, W, and are secured by bolts *d e* similarly to the rear ends of the springs.

The ends of the fifth-wheel W are curved forward of the pivot R, by which it is secured in an opening formed in the vertically widened or enlarged portion of the axle N, Fig. 4.

The arrangement of the sockets and bolts of the fifth-wheel W has the same relation to the pivot of the latter and to the axis of the axle that the sockets and bolts of the rear axle have to it, except that the front axle is necessarily curved somewhat to bring its journals in a median line with the bolts *d e*. The bolts *d e* are held in place by a detachable plate, I′, as shown in Fig. 8.

What I claim is—

1. The rear axle, having the enlarged portions *a a* formed solid therewith, and provided with cavities or sockets for reception of the ends of the springs, half of each socket being below and half above the axis of the axle, as and for the purpose specified.

2. The combination of the springs and the pivoted fifth-wheel having double sockets, and

the front axle having a central opening to receive said fifth-wheel, as specified.

3. The combination of the springs formed of parts K L, connected as described, the rear axle, G, having double sockets, the front axle having a central opening, and the pivoted fifth-wheel provided with sockets to receive the springs, all as shown and described, to operate as specified.

4. The combination of the plates I with the bolts for coupling the springs and the axles, as shown and described.

D. G. WYETH.

Witnesses:
A. G. WYETH,
H. C. BOSTWICK.