2 Sheets—Sheet 1.

D. G. WYETH.

VEHICLE GEARING.

No. 187,694. Patented Feb. 20, 1877.

Fig. 1.

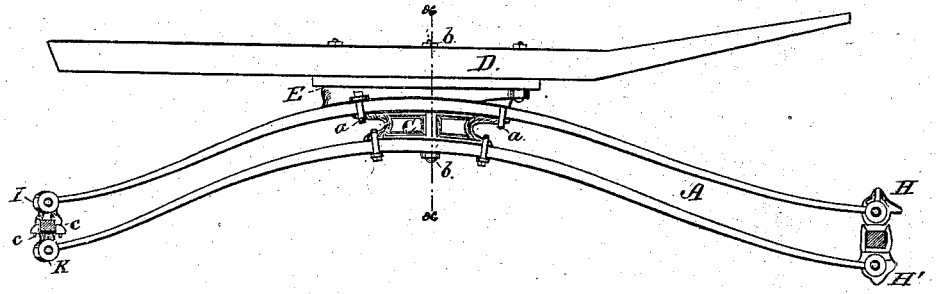


Fig. 2.

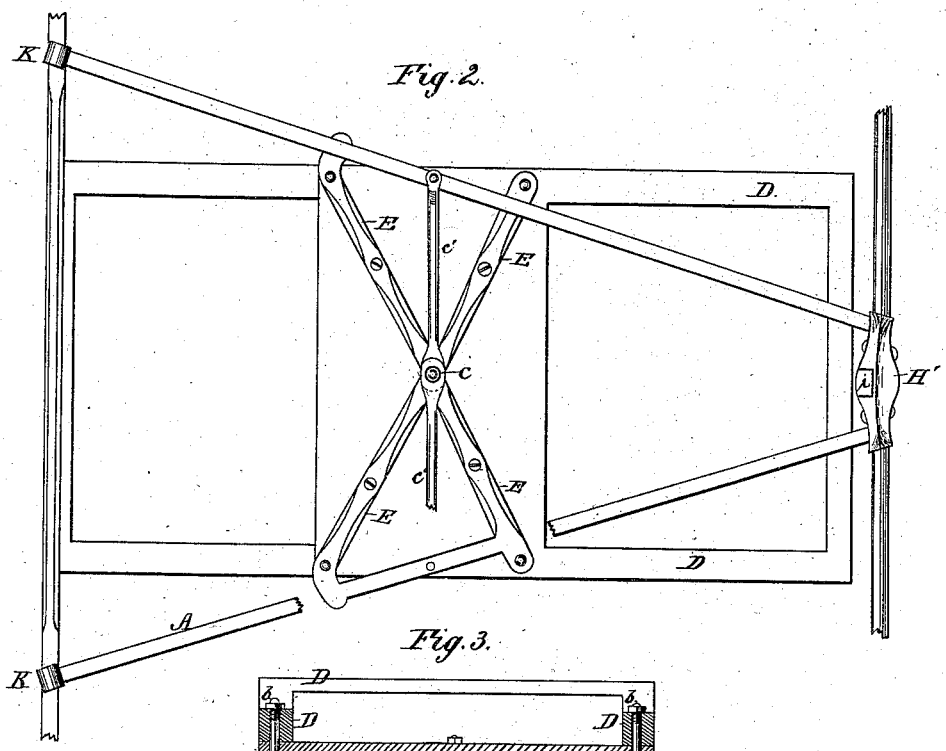
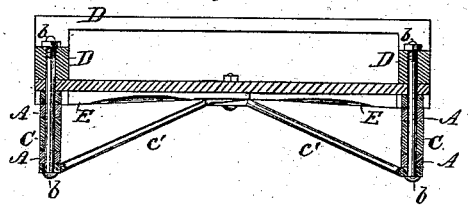


Fig. 3.



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2 Sheets—Sheet 2.

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VEHICLE GEARING.

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Fig. 4

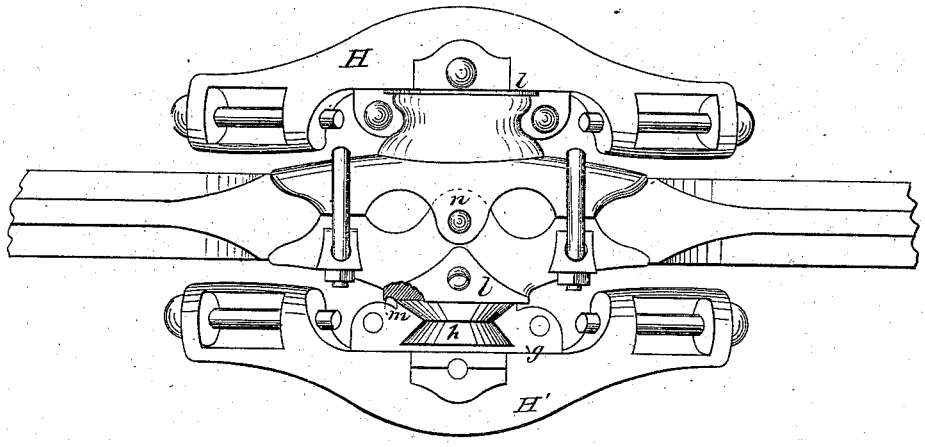
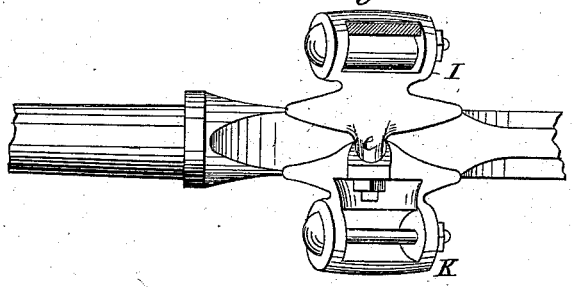


Fig. 5.



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UNITED STATES PATENT OFFICE.

DAVID G. WYETH, OF NEW WAY, OHIO.

IMPROVEMENT IN VEHICLE-GEARING.

Specification forming part of Letters Patent No. **187,694**, dated February 20, 1877; application filed September 30, 1876.

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.

The object of this invention is to provide a vehicle-gearing in which a reach, fifth-wheel, and ordinary form of bolster are dispensed with.

The springs are coupled in pairs, and arranged in a triangular relation to the rear axle. The front bearings of the springs are also constructed in a peculiar manner, as hereinafter fully described.

In the accompanying drawing, forming part of this specification, Figure 1 is a side view of my improved gearing. Fig. 2 is a bottom plan view. Fig. 3 is a cross-section on line *x x* of Fig. 1. Fig. 4 is a rear view of the front bearing or fifth-wheel. Fig. 5 is a detail view, showing the means (clip and clip-plate) for connecting the springs of each pair to the rear axle.

A A indicate two pairs of half, or semi-elliptical, leaf-springs, the individual springs of each pair being arranged parallel in a vertical plane, and the respective pairs being attached to the rear axle, near the journals thereof, and their front ends converging to the point of connection with the front axle. In other words, the pairs of springs and the rear axle are so arranged as to form a triangle. The springs of each pair are separated at the center by means of blocks C, which serve to prevent rolling of the axles. The body D of the vehicle is secured to the upper springs by means of braces E, having the form of a scalene triangle. These braces are attached to the springs by clips *a* and a bolt, *b*, which passes through the springs, block, brace, and sills of the wagon-body, as shown. The lapped inner ends of the triangular braces E are secured by a single bolt, *c*. The braces serve to prevent rocking of the body D when one of the hind wheels encounters a resistance, and they also rigidly connect the pairs of springs, so that they are held always in the same triangular relation to the rear axle. The springs A are also stayed laterally by transverse braces *c'*.

In order to provide a space between the front axle and the front end of the body D, which will allow bumping room, or for the movement of that portion of the body up and down, I attach the body to the springs at a point in rear of their lengthwise middle. I make their rear portions stiffer, to enable them to support the additional weight thus imposed on them.

The ends of all the springs are finished the same, and so fitted in their sockets in clips of rear axles and the ends of front bearers H H', that they bear on the lower side of said sockets, as well as on the pivot-bolts, thus taking part of the strain and wear off the bolts. The rear ends of the upper springs are socketed in clips I and the lower springs in clip-plates K. The arms *e* of these clips extend down on each side of the axle, through perforated ears of the clip-plates, and are suitably secured together by cross-pins, nuts, or other devices. The clips and clip-plates thus constitute a socket for the axle.

The substitute which I employ for the ordinary fifth-wheel is constructed in part upon the principle of the bearing for which I obtained Letters Patent No. 176,415. In this instance the bearing is extended laterally, forming a curved bar, H, in whose ends are the sockets of the upper springs A. The bearing for the lower springs is a curved bar, H', similarly provided with sockets in its ends. Half of the socket *g*, for the circular dovetailed or beveled portion *h* of the bearing, is formed or cast in one piece with the lower bar H', as shown in Fig. 3, and the other part of said socket is a detachable piece, *i*, Fig. 2. The ends of bars H H' are bent, respectively, downward and upward, or toward the axles, and also curved forward in a horizontal plane, so that the axis of each socket formed in the ends of the bars H H' may be in a line at right angles to the spring whose end rests in it, and so that the pressure and resistance, both vertically and laterally, shall be in a straight line, passing through the center of the part *h*. The pressure and resistance are, therefore, in the same vertical plane as respects both bars H

and H′ and the springs socketed therein, and there is no unequal or side twist or torsion, and hence no unequal friction and wear of the bearing proper. The respective bearers H and H′ have a projection, *l*, on the under side of which an annular groove, *m*, Fig. 4, is formed to prevent water entering the joint of the coupling. The bolt *n*, Fig. 4, passes transversely through the front axle and through the lapped portion of the clip-connections at that point.

What I claim is—

1. The triangular braces E and the blocks C, in combination with the pairs of springs and body of a vehicle, substantially as shown and described.

2. The upper and lower bearers H H′, the clips I and K, and the two pairs of springs A, arranged in a triangular relation to the rear axle, all combined as shown and described, whereby the upper and lower springs of each pair are connected to the axles, respectively, above and below the latter, as and for the purpose specified.

3. The front bearers H and H′, curved as shown and described, and provided with sockets having pivot-bolts, arranged diagonally, as and for the purpose specified.

DAVID G. WYETH.

Witnesses:

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T. G. WAKEFIELD.