2 Sheets—Sheet 1.

D. GIBBENS.

Running-Gear for Wagons.

No. 217,276. Patented July 8, 1879.

Fig. 1.

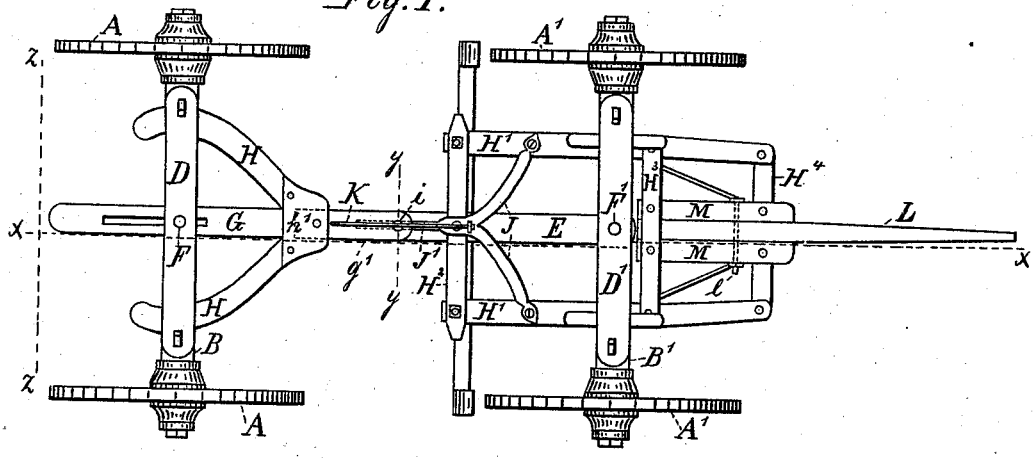
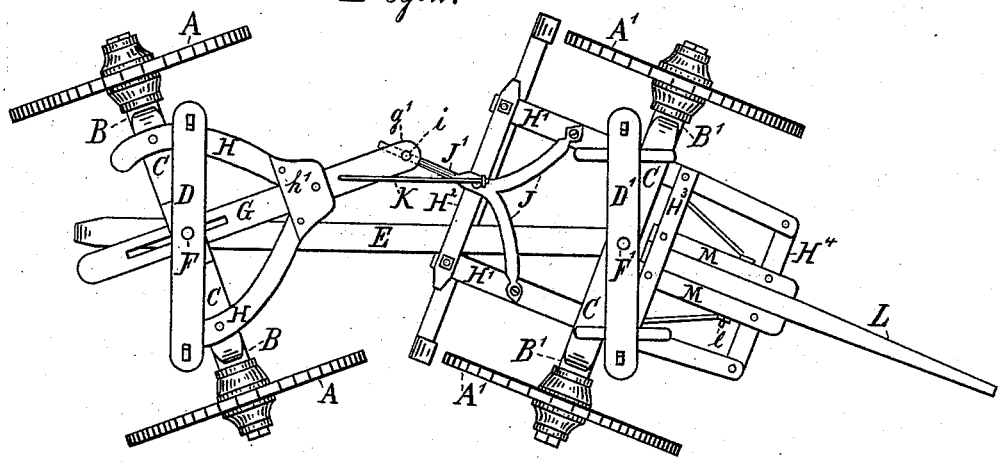


Fig. 2.



WITNESSES.

James B. Lizius

Fred. Mers

INVENTOR.

David Gibbens,

PER

C. Bradford,

ATTORNEY.

D. GIBBENS.

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Fig. 3.

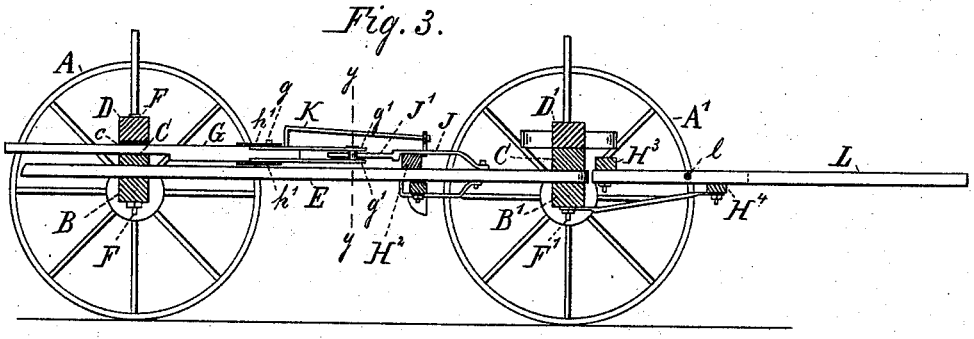


Fig. 4.

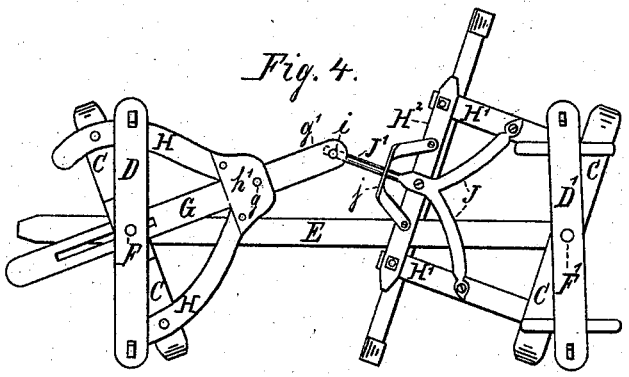


Fig. 5.

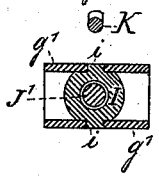
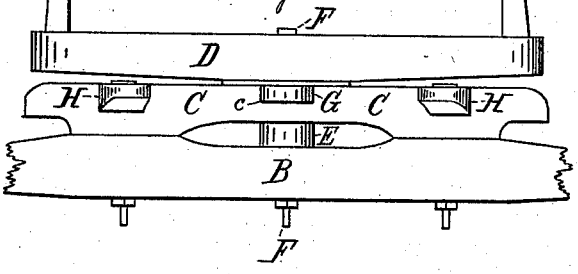


Fig. 6.



WITNESSES.

James B. Lizius

Fred. Merz.

INVENTOR.

David Gibbens,

PER

C. Bradford,

ATTORNEY.

UNITED STATES PATENT OFFICE.

DAVID GIBBENS, OF GUILFORD TOWNSHIP, HENDRICKS COUNTY, ASSIGNOR OF ONE-HALF HIS RIGHT TO SAMUEL J. HADLEY, OF MOORESVILLE, INDIANA.

IMPROVEMENT IN RUNNING-GEARS FOR WAGONS.

Specification forming part of Letters Patent No. **217,276**, dated July 8, 1879; application filed April 28, 1879.

To all whom it may concern:

Be it known that I, DAVID GIBBENS, of Guilford township, county of Hendricks, and State of Indiana, have invented certain new and useful Improvements in Running-Gears for Wagons, of which the following is a specification, reference being had to the accompanying drawings, which are made part hereof, and on which similar letters of reference indicate similar parts.

Figure 1 is a top or plan view of the running-gear of my improved wagon in position as when traveling in a direct line. Fig. 2 is a similar view when the wagon is traveling in a circle or around a curve. Fig. 3 is a sectional view, looking toward the upper side of Fig. 1 from the dotted line *x x*. Fig. 4 is a view similar to a portion of Fig. 2, but illustrating the position the joint assumes while the wagon is being turned when the connecting-rod K is not used. Fig. 5 is a sectional view of the joint on the dotted line *y y*. Fig. 6 is an elevation of the rear axle-tree and accompanying parts as seen from the dotted line *z z*. The front axle, especially in the central part, is of a similar construction.

In said drawings, those portions marked A A′ represent the wheels of the vehicle; B B′, the axles thereto; C C′, the sand-boards, and D D′ the bolsters upon said axles.

The front and rear parts of the vehicle are connected together by a plain straight coupling-pole, E, which passes through the open spaces between the axles and their respective sand-boards, and is held therein by the pins or king-bolts F F′ only; and as the said spaces are considerably longer than the width of said pole, it plays freely therein, and allows either of said axles to assume a position considerably at variance from right angles therewith. Immediately above the coupling-pole E is the auxiliary bar G, which passes through a notch or mortise, *c*, in the rear sand-board, C, and an orifice formed by the ends of the rear hounds, H H, and their plates *h′ h′*. This bar is thus held rigid laterally, but is permitted a longitudinal motion when not fastened by the pin or bolt *g*. Upon the forward end of the bar, and projecting therefrom, are the plates *g′ g′*, between which, and pivoted therein, is the device I, which turns freely on its vertical bearings *i i*.

Attached to the forward hounds, H^1 H^1, and to the bar H^2, connecting them, is the device J, bearing a straight plunger, J′, which passes through an orifice in the device I, and slides therein as the vehicle turns to one side or the other. The joint formed in this manner is intended to be equidistant from the bolts F F′, and the device is most accurate in its operation when it is in this position and the wheels are of equal size; but for all practical purposes a moderate variation does not materially affect it. Braces *j* may be used upon the plunger J′, as shown in Fig. 4, if desired.

Upon the bar G and device J, fastened at one end to each, is the connecting-rod K, which, when used, operates to draw the bar a distance toward the front end of the vehicle equal to that which the plunger slides through the device I, and thus maintains the joint at the same relative distance from the bolts F F′ at all points in the arc of a circle which it describes.

The forward hounds, H^1 H^1, are made of straight, or nearly straight, wood, and are connected together by cross-bars H^2 H^4 at the ends. The distance between them at the rear end under the bar H^2 is just sufficient to allow the coupling-pole E to move, as the wagon is turned, to the extreme limit to which it can go without having the wheels come in contact with the wagon-body, and no farther. The advantage of this is, that the wheels can never be impeded from this cause in turning, nor will they wear and disfigure the wagon-body, as is often the case. These hounds are also stronger and cheaper than crooked or circular hounds.

The tongue L is pivoted at *l* to the pieces M M, which are secured to the cross-bars H^3 H^4 upon the hounds H^1 H^1. Said tongue rests, at a point in front of said pivot *l*, upon the front cross-bar, H^4, and its rear end runs under a central cross-bar, H^3. It is thus held in position, and its front end prevented from striking the ground.

The hounds H H are let into the sand-board

C until flush with the top side thereof, and extend in both directions therefrom, as shown, so as to form supports for the bolster D when the wagon is in the position shown in Fig. 2.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a running-gear for wagons, in combination with an extensible joint, the connecting-rod K, operating substantially as herein shown and specified.

2. The combination of the laterally-rigid bar G, having the vertically-pivoted device I, the laterally-rigid plunger J′, and the connecting-rod K, substantially as shown, and for the purposes specified.

3. The combination, with the reach E of a circle-track wagon, of the cross-bar H^2 and the hounds H^1 H^1, or other pieces occupying the same position, located and arranged to prevent said reach from moving far enough to one side, as the wagon turns, to allow the wheels to strike the wagon-body, substantially as herein shown and specified.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 24th day of April, A. D. 1879.

DAVID GIBBENS. [L. S.]

In presence of—
C. BRADFORD,
W. J. MILLNER.