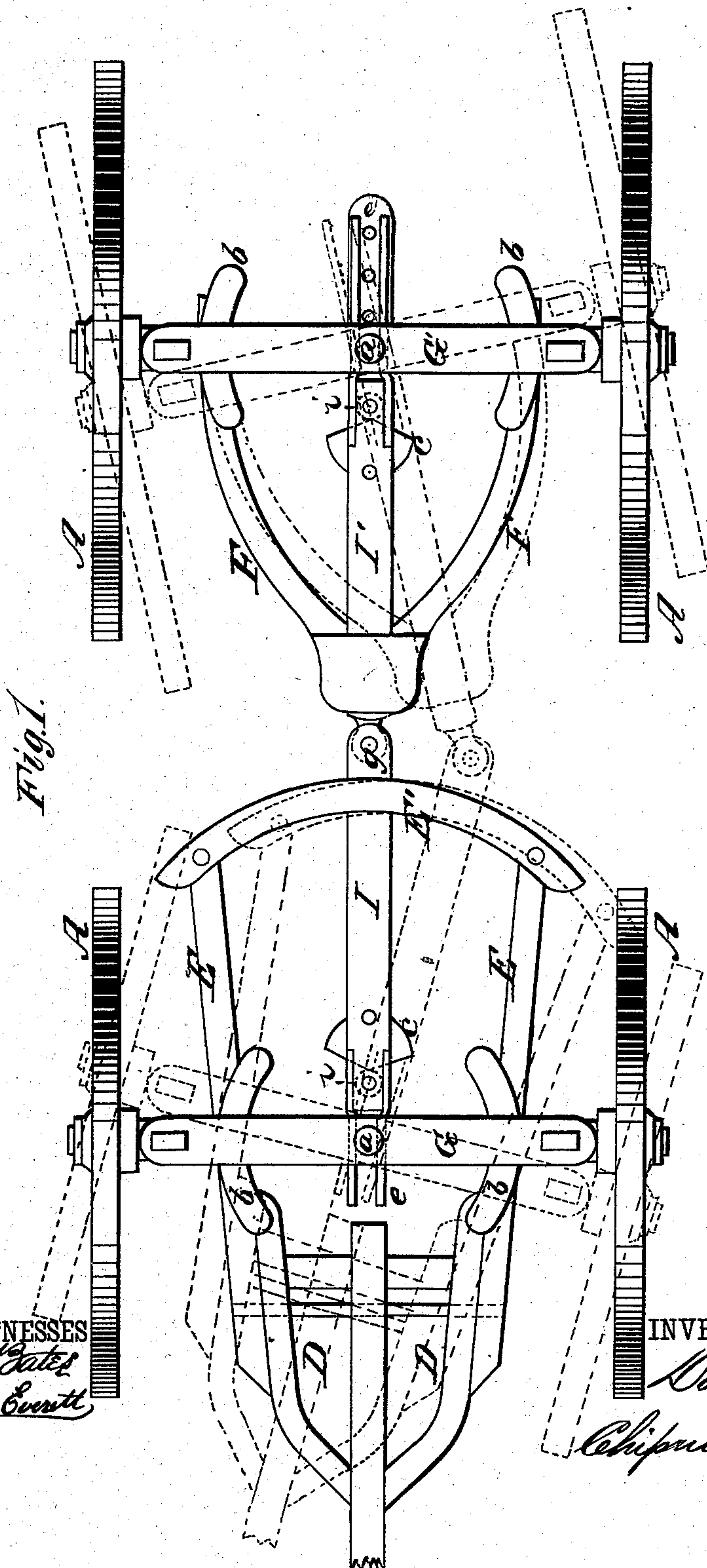


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Running-Gear for Vehicles.

No. 155,023.

Patented Sept. 15, 1874.



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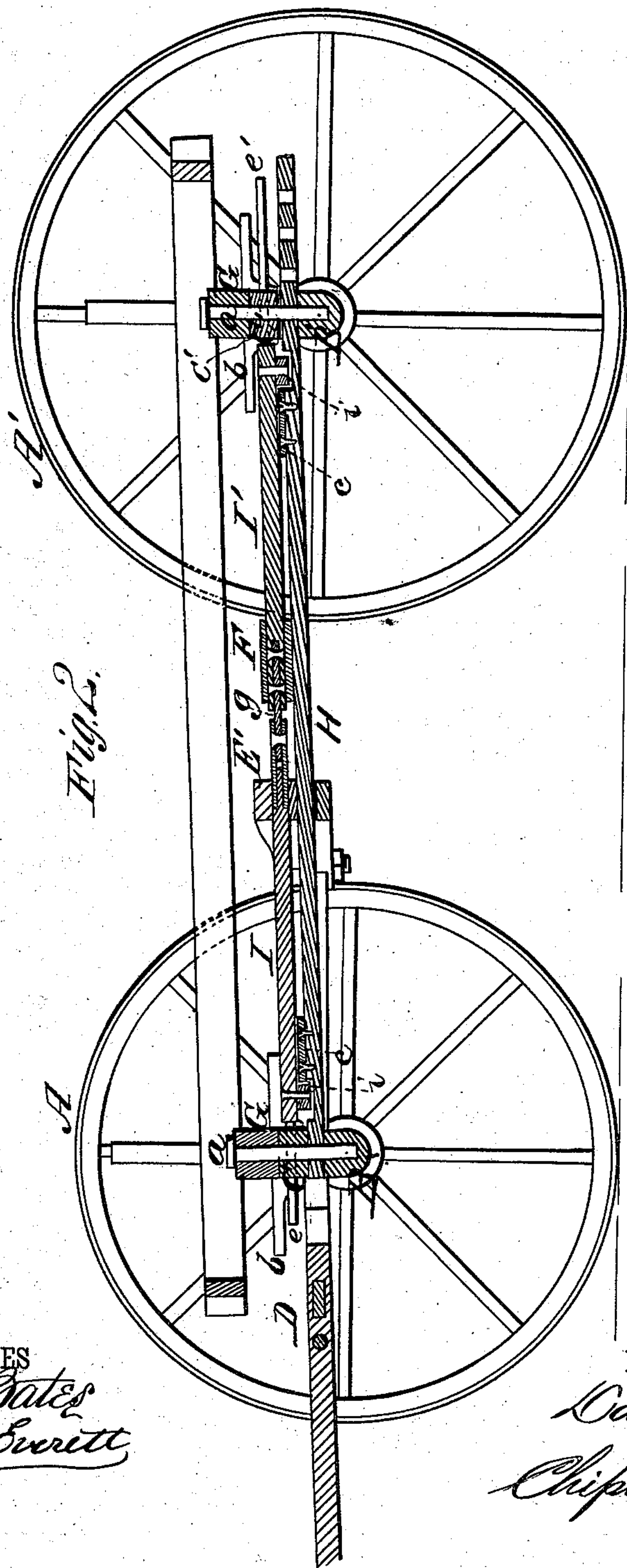


Fig. 2.

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UNITED STATES PATENT OFFICE.

DAVID GIBBENS, OF WEST NEWTON, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN F. COPPOCK, ISAAC COPPOCK, AND JAMES T. GIBSON.

IMPROVEMENT IN RUNNING-GEARS FOR VEHICLES.

Specification forming part of Letters Patent No. **155,023**, dated September 15, 1874; application filed August 1, 1874.

To all whom it may concern:

Be it known that I, DAVID GIBBENS, of West Newton, in the county of Marion and State of Indiana, have invented a new and valuable Improvement in Wagon and Carriage Couplings; 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 drawing is a representation of a plan view of my wagon and carriage coupling. Fig. 2 is a longitudinal vertical sectional view of the same.

This invention has relation to four-wheel vehicles having the front and the rear axles connected together in such manner that in turning the rear wheels follow in the tracks of the front wheels. The nature of my invention consists in a reach which is pivoted by king-bolts to the front and rear axles, in combination with endwise-movable auxiliary reach-bars, which are connected together at the middle of their length by a joint. It also consists in curved plates, which are applied on the sand-boards in such manner that they support and steady the body while turning the vehicle, as will be hereinafter explained.

In the annexed drawings, A A designate the front wheels of the vehicle, which are applied on an axle, B, and A' A' are the rear wheels, which are applied on an axle, B'. C C' are the sand-boards; D D, the rear portions of the pole or tongue; E E, the hounds in front with their arcs E', and F F are the rear hounds. G G are the bolsters for the body.

These parts may all be constructed in the usual well-known manner. H designates the perch. The front and rear ends are held between the axles and the sand-boards by means of king-bolts *a a*, about which the axles and said boards are allowed to turn freely. The perch passes through the connecting arcs E', so as to afford a firm support to the front running-gear when it is turned to the right or left, and keep the tongue or pole steady.

Above the perch H are the auxiliary perches

I I', which are connected together by means of a joint at *g*, and are allowed free endwise play through the arcs E', and the front connected ends of the rear hounds F. The front end of the auxiliary perch I and the rear end of the perch I' have rods secured to them, the front ones, *e*, playing freely through the sand-board C, and the rear ones, *e'*, playing freely through the rear bar C'. The auxiliary perch-bars are, by the means above described, allowed to flex laterally about the joint *g*, and also to receive endwise play, thereby causing the rear wheels A' A' to follow in the tracks of the front wheels at all times. In turning to the right, the right-hand wheels will approach each other, and in turning to the left the left-hand wheels approach each other. On the perch H are rigidly secured two angular plates, *c c*, which are located near the axles, to work in connection with the friction-rollers *i*, pivoted to the endwise-movable reach-bars. B B' are designed to afford support for the auxiliary perch-bars I I' when the vehicle is being turned. There are also secured to the sand-boards, near the ends of the same, segments *b*, which may be made of wood or metal, and which will support the ends of the bolsters, and prevent the body from tilting while turning the vehicle.

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

1. The combination of the endwise-movable auxiliary reach-bars I I', connected at the middle of their length by a joint, *g*, and having friction-rollers *i*, the perch H, pivoted to the front and rear axles, and provided with the supports *c c*, and the arcs E' and F, to operate substantially as described.

2. The combination of the sand-bars C C', having the curved plates *b*, and the bolsters G G, to support and steady the body while turning the vehicle, as specified.

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

DAVID GIBBENS.

Witnesses:

ABNER MILLS,
WILLIAM H. SANDERS.