

C. H. CRATAR.
Couplings for Vehicles.

No. 143,404.

Patented Oct. 7, 1873.

Fig. 1.

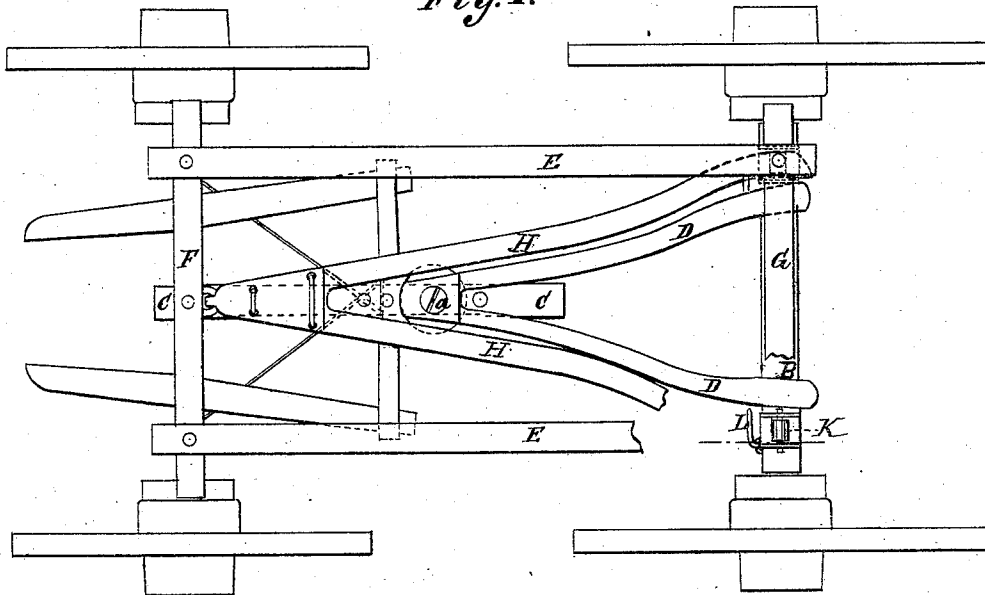
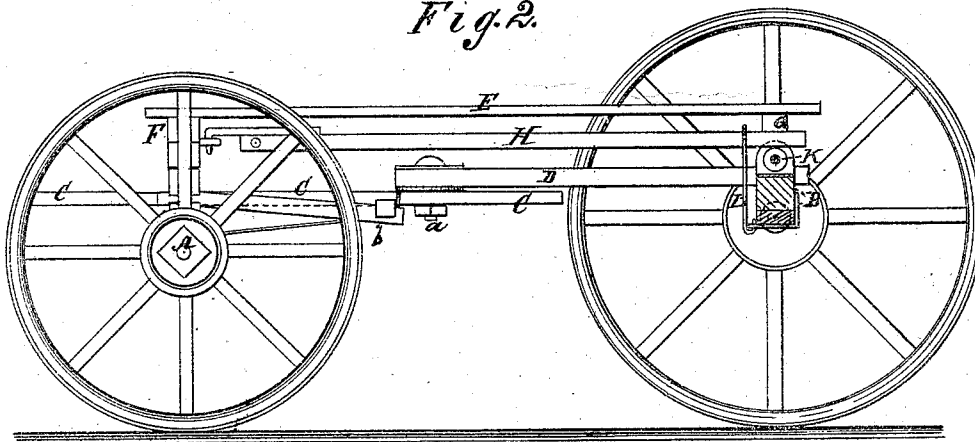


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE

CHARLES H. CRATAR, OF NORTH KINGSVILLE, OHIO.

IMPROVEMENT IN COUPLINGS FOR VEHICLES.

Specification forming part of Letters Patent No. **143,404**, dated October 7, 1873; application filed June 19, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. CRATAR, of North Kingsville, in the county of Ashtabula and State of Ohio, have invented a new and Improved Double Coupling for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a plan view of my improved wagon; and Fig. 2, a side elevation thereof, with the rear part in section.

My invention relates to improvement in the class of wagons provided with a divided reach, whereby their axles will always be parallel to different radiuses of any circle, or segment of a circle, that may be described, and the turning of sharp corners or angles, or change of position within a small space, is facilitated. The invention consists in the arrangement of parts, as hereinafter described.

The front and rear axles A and B are coupled by a reach formed of the two parts C and D, which are pivoted together at *a*. The part C is bolted rigidly to the hounds at *b*, and has a series of holes formed in it to allow the reach, as a whole, to be lengthened or shortened, as required. The part D is formed of two bars, as usual. In addition to the frame or bars E, the bolsters F and G are connected by curved

bars H H, which are bolted to the under side of the latter, and attached in any suitable manner to the former, but preferably by a hook, as shown. In place of the bars H resting on the rear axle B, friction-rollers K are interposed. When the wagon is making a curve of greater or less magnitude the pivotal point *a* of the reach is shifted laterally, so that the parts C and D thereof assume a corresponding angle to each other, and the bars H slide or move on the rollers K. The friction of the parts is thus reduced. The loops or hook L serve to hold the bars H down on the rollers, and prevent lateral displacement. When the reach is let out to its full length the rear bolster will of course be a corresponding distance in rear of axle B, but the bearing is on the bars D, as before.

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

The combination, with the axles A and B, and the reach formed of two parts, C and D, pivoted together, of the curved bars H and rollers K, substantially as shown and described.

C. H. CRATAR.

Witnesses:

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