(No Model.)

C. M. BLYDENBURGH.

VEHICLE GEAR.

No. 344,712. Patented June 29, 1886.

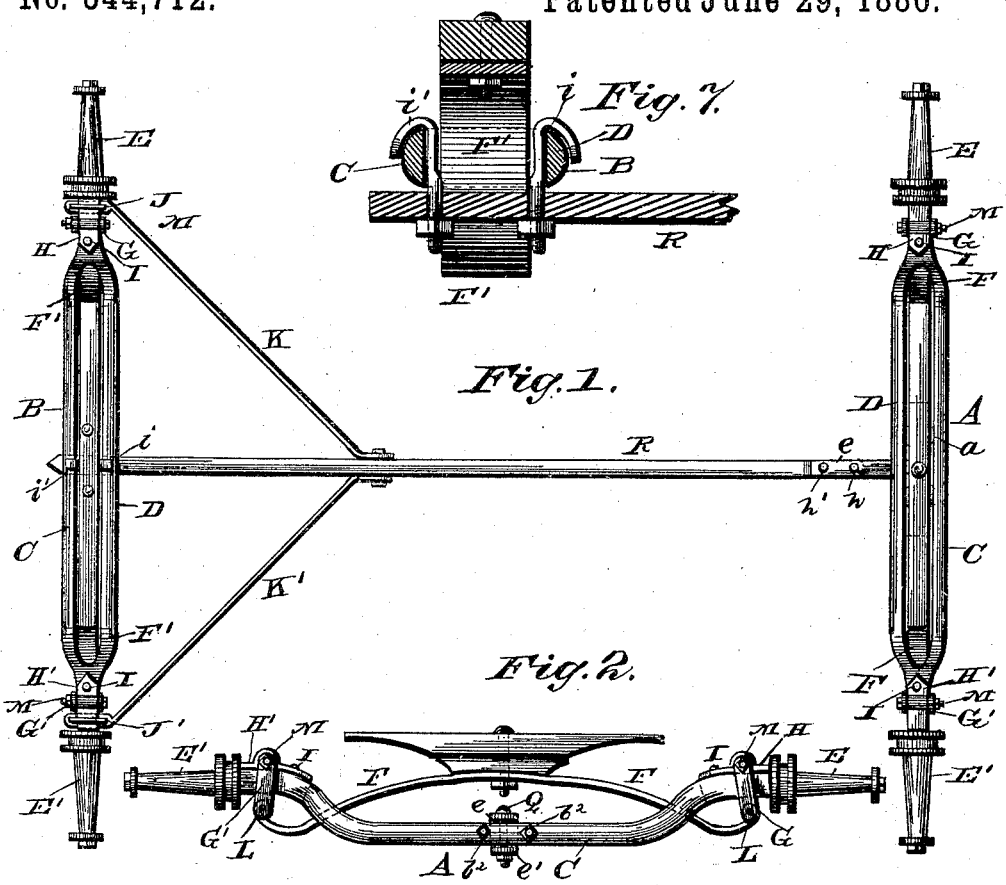

Fig. 7.

Fig. 1.

Fig. 2.

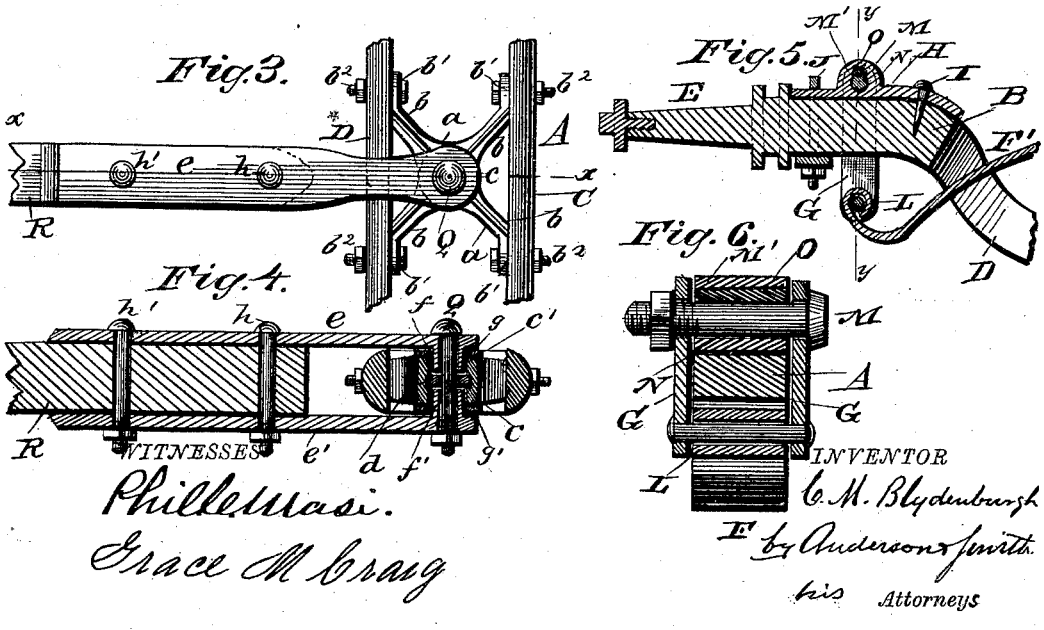

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

WITNESSES

Phillemasi.

Grace M Craig

INVENTOR

C. M. Blydenburgh

by Anderson & Smith

his Attorneys

UNITED STATES PATENT OFFICE.

CHARLES M. BLYDENBURGH, OF RIVERHEAD, NEW YORK.

VEHICLE-GEAR.

SPECIFICATION forming part of Letters Patent No. 344,712, dated June 29, 1886.

Application filed February 11, 1886. Serial No. 191,628. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. BLYDENBURGH, a citizen of the United States, residing at Riverhead, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Vehicle-Gear; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a plan view. Fig. 2 is a front elevation. Fig. 3 is an enlarged plan view of the reach-connection. Fig. 4 is a vertical section of the same on line *x x*. Fig. 5 is an enlarged vertical section of one end of the axle. Fig. 6 is a transverse section of the same on line *y y*, and Fig. 7 is an enlarged transverse section through the center of the rear axle.

My invention relates to the running-gear of vehicles; and it consists in the construction and novel combination of parts, as hereinafter set forth, and pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the front axle, and B the rear axle, of the vehicle-gear. These axles are made of thin parallel bars C D, of metal, either curved upwardly at their ends or without the curves, as may be desired, said bars C D being welded or secured by bolts to the sides of short axle-arms E E', so that there is sufficient space between said parallel bars C D for the spring F to pass between from above downwardly to the under side and couple into links G G', the latter being connected with suitable bearing-plates, H H', resting either on the top of or against the under side of the axle arms E E'. The bearing-plates H H' are secured to the axle-arms E E' by bolts I, passed down through the inner ends of said bearing-plates, and the outer ends of the bearing-plates are secured by clips or bolts J J'. The clips J J' on the rear axle-arms also connect the rear ends of the reach-braces K K' thereto. The ends of the springs F and F' are provided with eyes L, which are connected between the lower ends of the link-arms of the links G G' by transverse pivot-bolts. The bearing-plates H H' have each a space, M', cast in over the bolt-hole N, to receive a piece of rubber or leather, O. This piece of rubber or leather O is forced in its seat with the bolt M, that connects the upper ends of the link-arms of the links G G' to their bearing-plates, and causes a constant pressure on top of the bolt and prevents rattling at this point.

In this running-gear I aim to provide a strong connection of the reach and front axle, and one in which the king-bolt Q will be relieved of all strain. This I accomplish in the following manner: Between the parallel bars of the open axle, at the middle of the same, I secure a casting, *a*, having four radial arms, *b*, with bolt-holes *b'*, through which securing-bolts b^2 are passed into the parallel bars of the axle. The hub *c* of this casting *a* has its enlarged axial bore *c'* provided in its middle line with a washer or washers, *d*, of rubber or leather. On the inner faces of the metal straps or irons *e e'* are provided integral bosses or spools *f f'*, which are long enough when in place in the bore *c'* of the hub to extend to the internal washer or washers. The spools and washer or washers *d* fill the axial bores *c'* of the hub, so that when the king-bolt Q is in place the strain will come upon the bosses or spools *f f'*, and not upon the king-bolt. Washers *g g'* are interposed between the ends of the hub *c* of the casting *a* and the straps or irons *e e'*. These irons *e e'* are connected to the reach R by bolts and nuts *h h'*. The reach is connected to the rear axle by hook-clips *i i'*, or in the same manner as that described for the front end or in any other suitable convenient manner. An axle constructed as this one is constructed will be found to be lighter and yet stiffer and stronger than if constructed of a single bar.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. An axle having separated parallel connecting-bars between its journals and a casting secured therein for connecting the reach, substantially as specified.

2. The combination of an axle having curved parallel connecting-bars between its journals

and a spring clipped at the ends thereof and adapted to move between the said bars, substantially as specified.

3. The combination, with an axle having curved separated parallel connecting-bars between its journals, of the spring, the bearing-plates on its journal-arms, and the pivoted links connecting the bearing-plates and spring, substantially as specified.

4. The combination, with the downwardly-curved open axle having the parallel bars between its journals, of the casting secured between the said parallel connecting-bars, the reach provided with metal connecting plates and bosses on their inner faces, and the king-bolt passed through the connecting-plates, substantially as specified.

5. The combination, with the open axle having the parallel bars between the journals, of the casting provided with the attaching-arms around its hub, the reach provided with the metal connecting-bars, with bosses on their inner faces, and the king-bolt passed through the connecting-bars and said casting, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES M. BLYDENBURGH.

Witnesses:
H. H. BENJAMIN,
SETH R. JAGGER.