(No Model.)

T. DOLAND.

CARRIAGE GEARING.

No. 469,735. Patented Mar. 1, 1892.

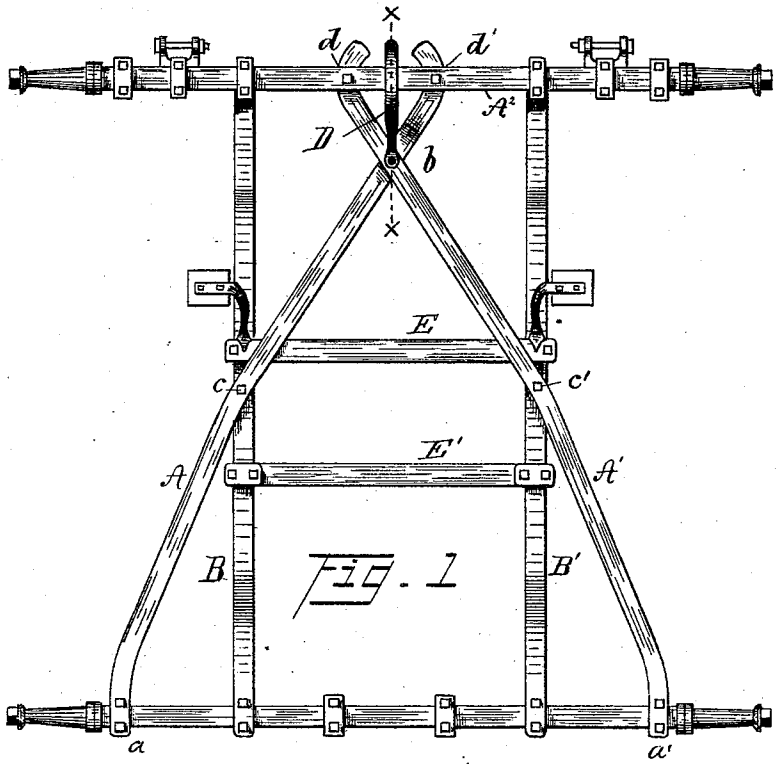

Fig. 1

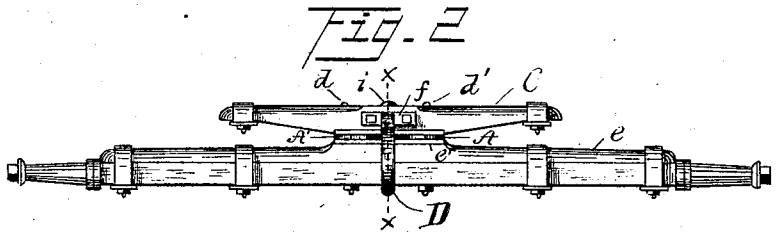

Fig. 2

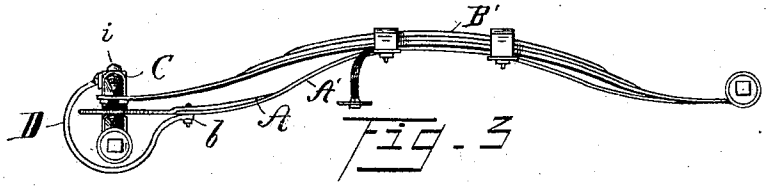

Fig. 3

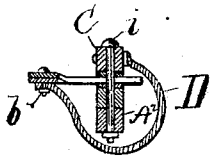

Fig. 4

Witnesses.
F. A. Cutter
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by W. A. Bunnage atty.

UNITED STATES PATENT OFFICE.

TIMOTHY DOLAND, OF WELLINGTON, OHIO.

CARRIAGE-GEARING.

SPECIFICATION forming part of Letters Patent No. 469,735, dated March 1, 1892.

Application filed October 14, 1891. Serial No. 408,676. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY DOLAND, a citizen of the United States, residing at Wellington, in the county of Lorain and State of Ohio, have invented certain new Improvements in Carriage-Gearing, of which the following is a full, clear, and complete description.

The nature of my invention relates to the arrangement of two spring-braces, in connection with the springs, spring-bar, and axles of the carriage, said spring-braces being attached as hereinafter fully shown, and crossing each other near the front axle, forming a device which does away with the ordinary fifth-wheel and forming a lighter and stronger gearing than the usual form of carriage-gearing.

That the invention may be fully seen and understood, reference will be had to the following specification and annexed drawings, forming part thereof.

Figure 1 is a view of the under side of the gearing of a carriage with the improved attachment shown thereon. Fig. 2 is a front end view thereof; Fig. 3, a side view; and Fig. 4 is a cross-section on line *x x*, Figs. 1 and 2.

Like letters of reference designate like parts in the drawings and specification.

The spring-braces A A′ are clipped to the rear axle at the points *a a′*, near the hubs of the wheels, and extend forward diagonally, as shown in Fig. 1, crossing each other at *b*, and being bolted to the side springs B B′ at their point of intersection *c c′* therewith.

The spring-braces A A′ extend forward of their point of intersection *b*, and are bolted to the spring-bar C at *d d′*, their forward terminals being curved, as shown in Fig. 1, and forming a substitute for a fifth-wheel, answering all the purposes of the ordinary fifth-wheel or circle now used, and at the same time enhancing the value of the gear in strength, lightness, neatness, and utility.

In case the axle is provided with axle-stock *e*, which is clipped thereto, a piece of steel or iron *e′* is secured to the top of the stock. This iron *e′* is called "friction-plate," being interposed between the axle and the curved ends of the spring-braces A A′. In case the axle is entirely of iron or steel the friction-plate is not necessary, as the braces will then be in direct contact with the body of the axle. The king-bolt *i* passes down through the spring-bar, axle-stock, friction-plate, and axle, as shown in Figs. 2, 3, and 4, having a nut on the under side thereof.

A safety-guard D, Figs. 1, 2, 3, and 4, is used in connection with my improved gearing. The guard D is bolted to the spring-braces A A′ at their point of intersection *b*, passing around under the axle A^2, and is fastened to the spring-bar C at *f* by means of screw-bolts passing through the T-head and said spring-bar C, Fig. 2. By this arrangement, as hereinbefore stated, the carriage-gearing is much lighter and stronger than in the usual form of construction, as the spring-braces A A′ extend diagonally from and across the central line of draft to the rear axle at a point near the wheel, thus forming braces and avoiding the lateral motion usual to the side-spring form of construction.

The ordinary circle or fifth-wheel referred to as now used soon becomes loose and rattles. This is avoided in my improvement by the firm, simple, and peculiar construction, attachments, and arrangement.

The diagonal spring-braces A A′ consist, preferably, of one or more steel plates or leaves fastened to the side springs B B′ at *c c′*, Fig. 1, on the under side thereof, thus supporting the body of the carriage upon four springs by means of the attachment of the side springs B B′ to the ties or body-rests E E′ with clips or bolts at any suitable point.

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

1. In a carriage-gearing, the diagonal spring-braces A A′, clipped to the rear axle near the wheels, crossing each other at *b*, near the forward axle, the extended portions curved and rigidly secured to the spring-bar C, in combination with the side springs B B′ and the safety-guard D, substantially in the manner as set forth.

2. In a carriage-gearing, the safety-guard D, in combination with the spring-bar C and diagonal spring-braces A A′, said guard being bolted to said braces at their intersection-point *b*, passing under the axle, and bolted to the front of the spring-bar, substantially as and for the purpose specified.

3. A carriage-gear formed by the diagonal spring-braces A A′, attached, as specified, to the rear axle, crossing each other at the point *b*, the forward terminals curved and bolted to the spring-bar, and the king-bolt passing down through the spring-bar and forward axle intermediate of the terminals of the two spring-bars, substantially in the manner set forth.

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

TIMOTHY DOLAND.

Witnesses:
R. N. GOODWIN,
C. B. RUSSELL,
R. C. ADAMS.