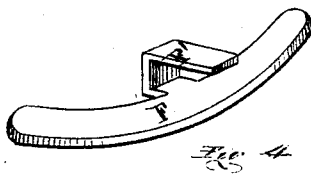
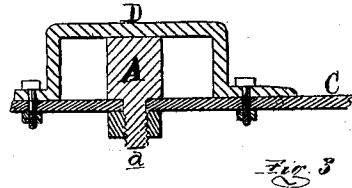
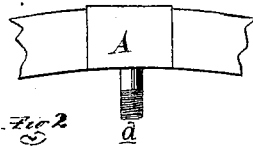
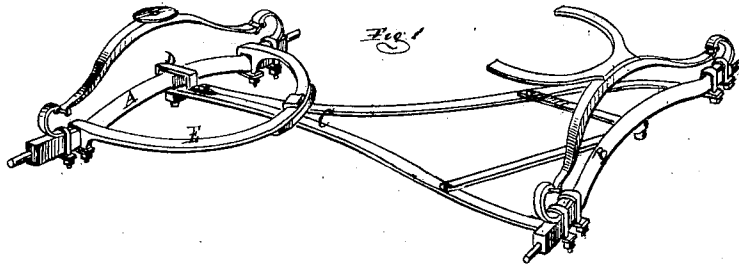


J. C. ANDERSON,
& A. W. BENSON.
RUNNING-GEAR FOR CARRIAGES

118093

PATENTED AUG 15 1871



ATTEST

H. S. Eberts.
Myro W. Church

INVENTORS

J. C. Anderson,
A. W. Benson,
per Attorney,
Ph. S. Sprague

UNITED STATES PATENT OFFICE.

JOHN C. ANDERSON AND ALLEN W. BENSON, OF SAGINAW, MICHIGAN.

IMPROVEMENT IN RUNNING-GEARS FOR CARRIAGES.

Specification forming part of Letters Patent No. 118,093, dated August 15, 1871.

To all whom it may concern:

Be it known that we, JOHN C. ANDERSON and ALLEN W. BENSON, of Saginaw, in the county of Saginaw and State of Michigan, have invented a new and useful Improvement in Running-Gears for Carriages; and we do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of our improved running-gear. Fig. 2 is a side elevation of the central part of the fore axle, showing its pivot-stud forged thereon. Fig. 3 is a cross-section through the middle of the fore axle and couplings, and Fig. 4 is a detached perspective view of the circle-iron hook and bearing-plate.

Like letters indicate like parts in each figure.

The nature of this invention relates to an improvement in the construction of running-gears for carriages, whereby their weight and cost are lessened without decreasing their strength, and the reach is coupled to the fore axle without putting a bolt or pin through it to weaken it. The invention consists in the peculiar method of coupling or pivoting the reach to the fore axle, and in a peculiar bearing-plate and hook in the upper side of the reach for supporting and taking the strain of the circle-iron, the improvements in question being applicable to all iron or combined wood and iron gears.

In the drawing, A represents the fore and B the rear axles, both of iron or steel, connected by the iron-forked reach C, which is rigidly secured to the latter by proper clips. Pendent from the under side of the center of the fore axle is a stud, *a*, forged on and with the axle, and is threaded at its lower end to receive a nut, *b*. This stud passes down through a hole drilled in the reach,

and the nut screwed up on the lower end, which thus pivots the reach to the axle in the same vertical line with the pivot through the top of the spring, without perforating the axle for the reception of a bolt, as is usual in such cases, and which is the cause of the frequent breakage of the axle at that point. To take the stress off the nut *b* and to prevent the reach from dropping, if by accident the nut should be lost, a yoke-strap, D, is caused to straddle the axle, bearing upon the flattened top thereof, with its ends bolted to the reach, as shown. E is the circle-iron—a semicircular segment with a clip or jaw forged at each end to embrace the axle and be secured thereto by suitable nuts under a cross-bar, through which the ends of the clip project. F is the bearing-plate immediately under the circle-iron, and is secured across the legs of the reach by bolts or otherwise. From the center front edge of the plate a hook, F', projects up and back over the circle-iron.

The advantage of this form of bearing-plate consists in the greater stability to the front axle, in connection with a crotched reach, which resists the torsional strains imparted to the plate in traveling on uneven roads.

The springs are hung from perches in the usual manner.

What we claim as our invention, and desire to secure by Letters Patent, is—

The segmental bearing-plate F and hook F' secured to the reach C, in the manner and for the purpose set forth.

JOHN C. ANDERSON.
ALLEN W. BENSON.

Witnesses:

H. F. EBERTS,
MYRON H. CHURCH.