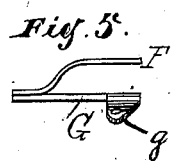
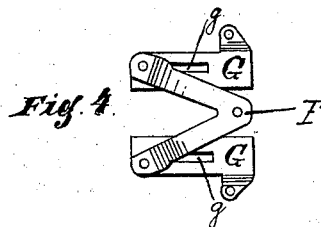
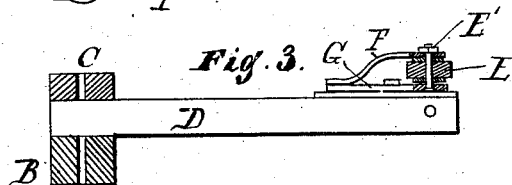
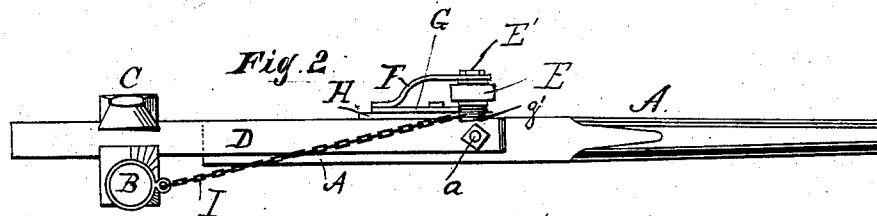
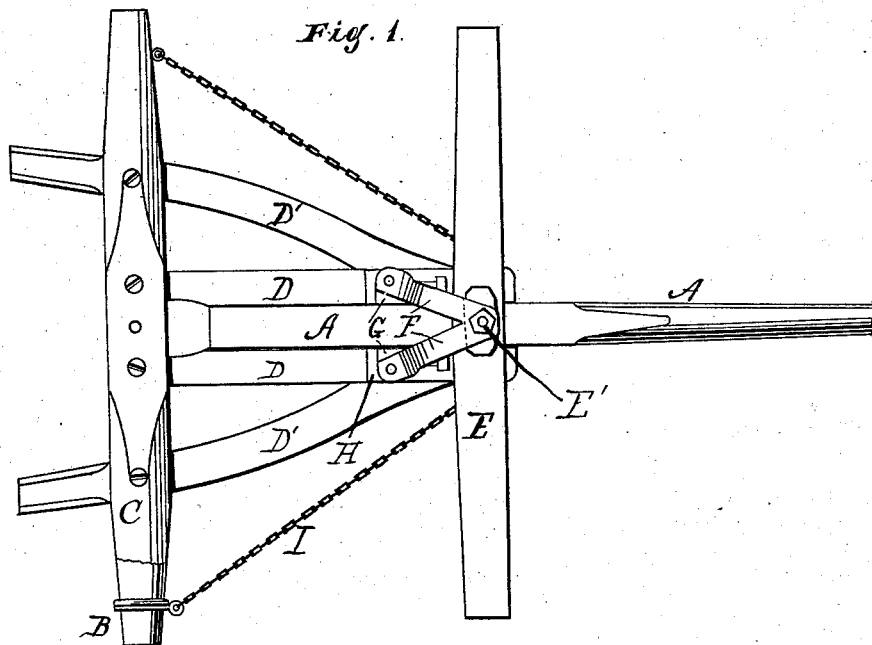


B. C. NELSEN.
Draft-Equalizer for Wagons.

No. 217,138.

Patented July 1, 1879.



Witnesses:
Edmund Adcock
Adelbert Hamilton.

Inventor:
Bengt C. Nelsen
by Munday & Coats
his attys.

UNITED STATES PATENT OFFICE.

BENQT. C. NELSEN, OF DE KALB, ILLINOIS.

IMPROVEMENT IN DRAFT-EQUALIZERS FOR WAGONS.

Specification forming part of Letters Patent No. **217,138**, dated July 1, 1879; application filed April 28, 1879.

To all whom it may concern:

Be it known that I, BENQT. C. NELSEN, of De Kalb, in the county of De Kalb, in the State of Illinois, have invented a new and useful Improvement in Wagons, of which the following is a specification.

This invention relates to an improved construction of the tongue and double-tree supporting devices of wagons and carriages.

In the accompanying drawings, Figure 1 is a plan, and Fig. 2 a side view of a part of the wagon embracing my improvements. Fig. 3 is a central section of the same with the tongue removed, and Figs. 4 and 5 are detail views of the hammer-strap and its attachment.

In the drawings, A is the tongue; B, the axle; C, the bolster, and D D' the hounds. The tongue is not secured directly to the axle, but is pivoted upon a horizontal bolt, *a*, passing through it and the forward ends of the hounds. It extends back from this pivot some distance, and is held from lateral motion by the parts D of the hounds upon either side. This backward extension also serves as a counter-balance to the portion of the tongue forward of the pivot.

The double-tree E is sustained upon the hounds and held thereon by the hammer E' and a V-shaped hammer-strap, F, with an opening for the hammer at the apex, and with its ends secured one to each hound, substantially as shown. This attachment of the strap ends to the hounds is through the medium of slotted plates G, one upon each side, to which the strap is rigidly secured by rivets or bolts, and which plates are in turn held to the hounds by guides or T-shaped devices passing through the elongated slots *g* in the plates into the

hounds below. It is intended that the slots *g* shall permit some back and forward play to the plates G.

To receive the wear caused by the plates G, bed-plates H may be put upon the hounds.

Draft-chains I extend from the axle ends to the plates G, and are attached to ears *g'* upon the latter. They receive the strain of the pull upon the double-tree. The play afforded by slots *g* in plates G allows the double-tree to work back and forth to a limited extent, as is desirable.

I do not confine myself to V-shaped hammer-straps, of course, as it is evident that any form of strap which will permit attachment to the hounds at either side and hold the hammer at the center will answer the purpose.

I am aware that the double-tree has heretofore been supported from the under side of the hounds and independently of the tongue. I place it upon the top of the hounds, and thereby am enabled to simplify the fastening, as well as to render it less liable to become accidentally detached.

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

The double-tree held to the top of the hounds by a hammer and strap, the latter of which is attached to both of the hounds by sliding plates secured to and having a limited movement upon the latter, in combination with the hounds, sliding plates, hammer, and strap, substantially as set forth.

BENQT. C. NELSEN.

Witnesses:

CHAS. H. SALISBURY,
B. M. WILCOX.