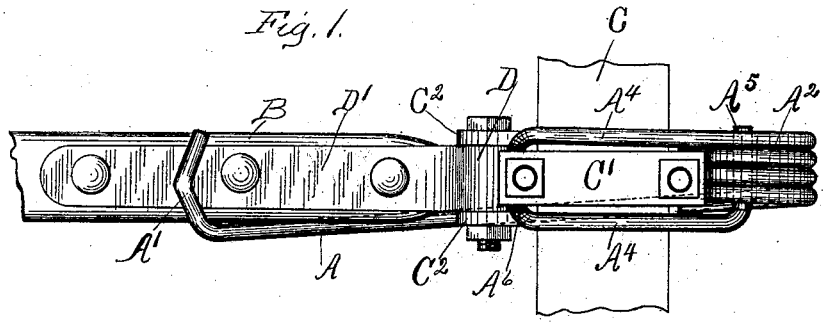
(No Model.)

W. E. DERRICK.

THILL SUPPORT.

No. 493,487. Patented Mar. 14, 1893.

Fig. 1.



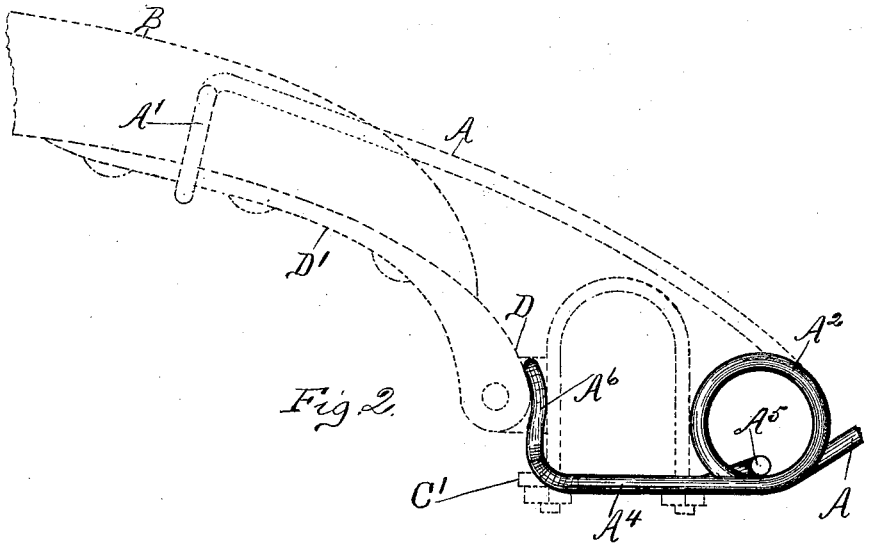


Fig 2.

Witnesses:
Frank C. Curtis
A E. Delaney.

Inventor:
William E. Derrick,
by Geo. A. Mosher
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM E. DERRICK, OF LANSINGBURG, NEW YORK, ASSIGNOR TO CHARLES E. PEABODY, CHARLES W. PARKS, AND STEPHEN PARKS, OF SAME PLACE.

THILL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 493,487, dated March 14, 1893.

Application filed May 7, 1892. Serial No. 432,117. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. DERRICK, a citizen of the United States, residing at Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Thill-Supporters, of which the following is a specification.

My invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in both the figures therein.

Figure 1 of the drawings is a bottom plan view of portions of a carriage axle and thill showing my improved supporter in use. Fig. 2 is a view in side elevation of my improved supporter detached with a portion of the supporting arm broken away, the relative positions of the axle, thill, and supporting arm when in use being indicated by the dotted lines.

My improved thill-support is made of a single integral length of wire bent to form a supporting arm, A—, having a V-shaped offset, A′— at one end adapted to engage with the thill, B—, and at the other end a coil spring A^2—, which connects the arm with an attaching shank. The attaching shank is formed by bending one end of the length of wire upon itself to form the approximately parallel rods A^4—, which bear upon the lower side of the axle, C, and inclose the socket-plate, C′—, of the clip, the introverted end A^5—, being bent at right angles and inserted within the spring coils. The rods converge toward the bend, A^6—, which is sufficiently contracted and inclined upwardly to be inserted between the ears, C^2—, of the clip and bear upon the head, D, of the thill-iron, D′, as shown in Fig. 2 partly by dotted lines. The length of the parallel rods is preferably such that the forward portions of the spring coils bear upon the axle and the lower portions upon the introverted end, A^5—. The coils are thus severally supported on two sides which wholly prevents their lateral movement one upon another. The coils also co-operate with the parallel rods and the upwardly inclined bend, A^6—, to hold the supporter firmly in place upon the axle without other special means of fastening. I am able therefore to, easily and quickly attach to and detach from vehicles as heretofore constructed, my improved device, it only being necessary to insert the bend from below, between the clip ears and between the clip and the thill-iron head, bring the parallel rods up against the lower side of the axle, and the coils against the rear vertical wall of the axle or intervening clip, as indicated by the dotted lines representing the thill-iron, the axle and clip, and then force the supporting arm, A, over the axle and the offset, A′, under the thill, B, to the position indicated by the dotted lines, in Fig. 2. The device is thus locked in the desired position and the resilient force of the spring serves to balance the weight of the thill. A supporter is thus inserted near each end of the axle, one for each thill. The force of the spring is sufficient to support the thill in any position between a horizontal and vertical plane. The friction between the V-shaped offsets and the thills is sufficient to cause the latter to retain the position in which they are placed until their position is changed by some force other than gravity. By having the pair of supporters "rights and lefts" with a single series of spring-coils, I am able to locate the supporting arm either on the outside or inside of the respective thills as desired, and sufficient clearance is obtained between the coils and the hubs of the vehicle wheels.

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

1. A thill supporter consisting of a single length of bent wire comprising a supporting arm with an end-offset, an attaching shank composed of two portions of the wire approximately parallel with each other, an upwardly inclined bend which unites the parallel portions, a single series of spring-coils which connects one of the parallel portions with the supporting arm, and an end offset on the other

parallel portion inserted within the coils, substantially as described.

2. The combination with a thill-coupling and vehicle axle; of a bent wire thill-support having a supporting arm with an end offset in engagement with the thill, parallel portions of the wire in engagement with the lower side of the axle on opposite sides of the socket-plate, an upwardly inclined bend which connects the parallel portions in engagement with the head of the thill-iron, a series of spring coils which connects one of the parallel portions with the supporting arm in engagement with the rear side of the coupling clip, and an end offset on the other parallel portion inserted within the coils, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of April, 1892.

WILLIAM E. DERRICK.

Witnesses:
FRANK C. CURTIS,
GEORGE DICKER.