T. S. HILL.
Whiffletree.

No. 213,198. Patented Mar. 11, 1879.

Fig. 1

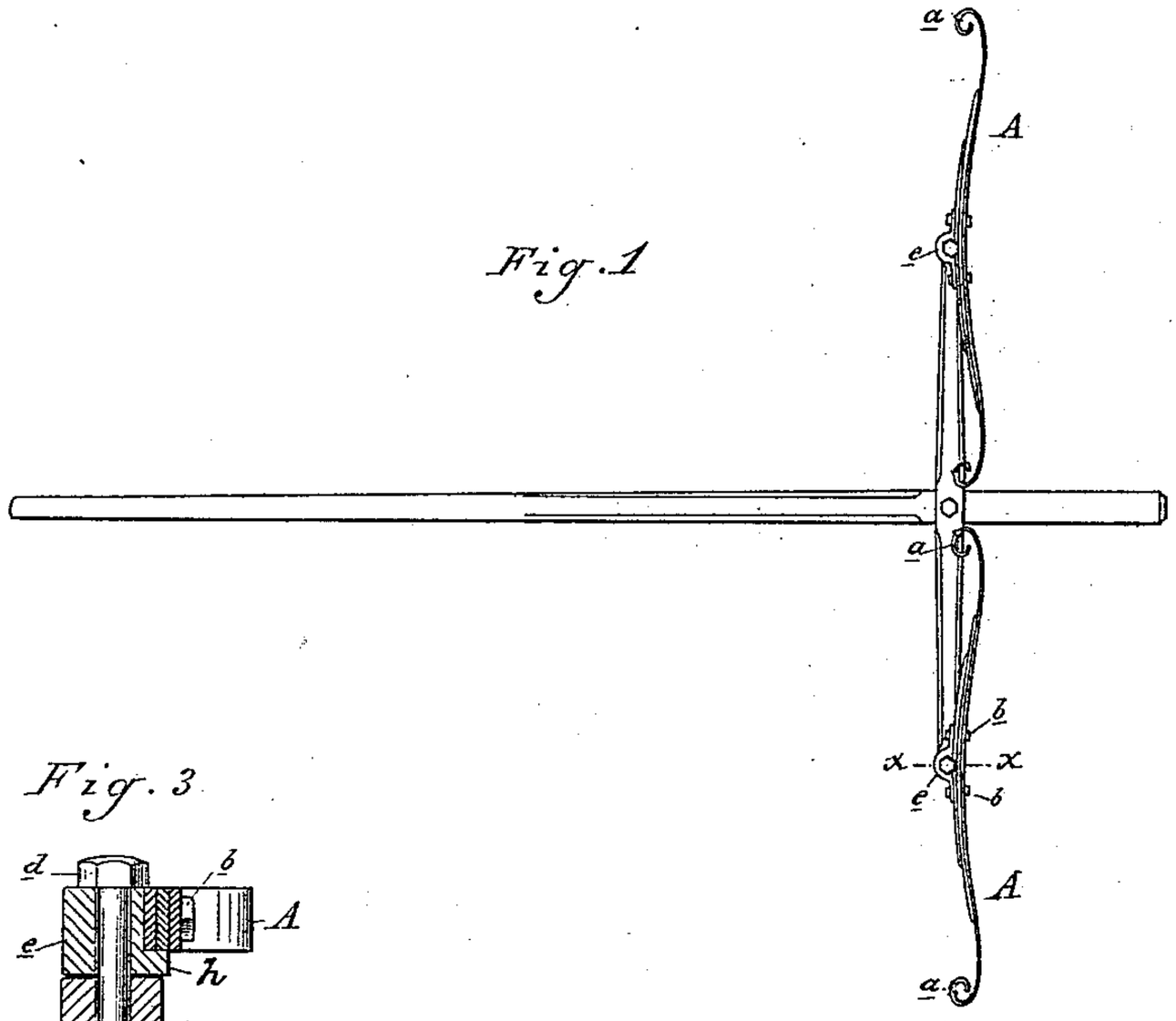
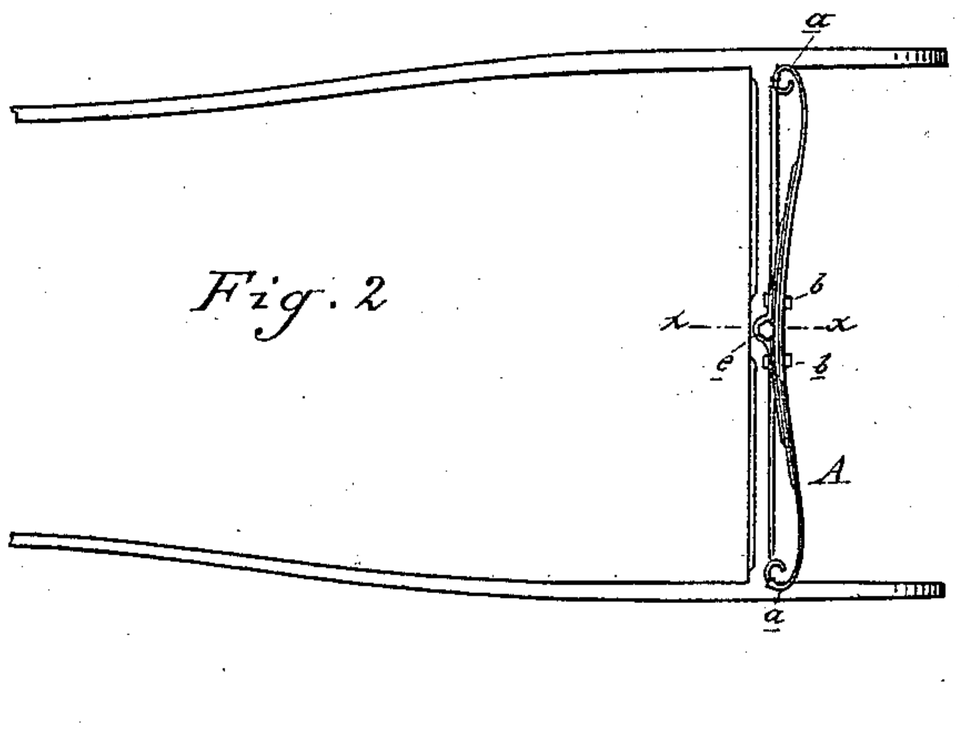


Fig. 3

Fig. 2



Attest:
A. Barthel
Charles J Hunt

Inventor:
Thos. S. Hill
By Atty
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

THOMAS S. HILL, OF DETROIT, MICHIGAN.

IMPROVEMENT IN WHIFFLETREES.

Specification forming part of Letters Patent No. **213,198**, dated March 11, 1879; application filed October 28, 1878.

To all whom it may concern:

Be it known that I, THOMAS S. HILL, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Whiffletrees, of which the following is a specification:

The nature of my invention relates to certain new and valuable improvements in the construction of spring-whiffletrees; and the invention consists in the peculiar construction and arrangement of the various parts composing the same, as more fully hereinafter described.

In rigid whiffletrees, as ordinarily constructed and attached to double-trees or to the draw-bar of shafts, a great strain is brought upon the horse's shoulders in starting a heavy load. The motions of the horse are communicated to the vehicle, to the serious annoyance of the occupant.

The object of my invention is to overcome these difficulties by the interposition between the horse and the vehicle of a spring-whiffletree of peculiar construction, which will, under all ordinary circumstances, prevent the slacking of the traces, and the consequent jerk upon the vehicle when the traces are again tightened, and equalize the motions of the horse's shoulders, and prevent their being communicated to the wagon.

In the drawings, Figure 1 is a plan of a pair of whiffletrees attached to an evener and pole. Fig. 2 is a similar view of a whiffletree attached to the draw-bar of a pair of shafts. Fig. 3 is a vertical cross-section on the line *x x* in Figs. 1 and 2.

In the accompanying drawings, which form a part of this specification, A represents a semi-elliptic spring, constructed, in the usual manner, of one or more leaves, except that the longest leaf at each end is curved to the front, and the outer end of the curve terminates in a hook, *a*, curved inwardly upon the curve of the end, as shown. Upon the front and at the longitudinal center of the spring thus constructed there is secured, by means of bolts *b*, a socket-clip, *e*, the upper edge of which is coincident with the upper edge of the spring, while the center or socket part projects below the lower edge of the springs, to form a rigid washer or bearing-surface at the point where the bolt *d*, which passes through said socket-clip, secures the spring to the evener or draw-bar, as shown at *h* in Fig. 3.

By the use of this whiffletree all the evils and annoyances which arise from the employment of rigid whiffletrees are avoided, and its utility is so self-apparent as to need no further explanation.

I am aware that whiffletrees have before been made in the shape of semi-elliptical springs, with the longest leaf of the spring bent at its ends into hooks, to which the tugs are attached; and I wish it understood that I do not claim such a whiffletree, broadly, but only the peculiar construction of my whiffletree and the manner of pivoting it to the draw-bar or evener.

If desired for a double team, where a pair of whiffletrees are employed, attached to an evener or double-tree, the latter may also be a semi-elliptic spring, with my improved whiffletrees swiveled or pivotally attached to each end thereof.

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

The combination, with the compound spring-whiffletree A, of the socket-clip *e*, bolted to the forward side of the whiffletree, and extending under the leaves of the spring to form a washer, and the bolt *d*, passing through the clip in front of the spring, to pivot the whiffletree to the draw-bar or evener, substantially as described and shown.

THOS. S. HILL.

Witnesses:
H. S. SPRAGUE,
CHARLES J. HUNT.