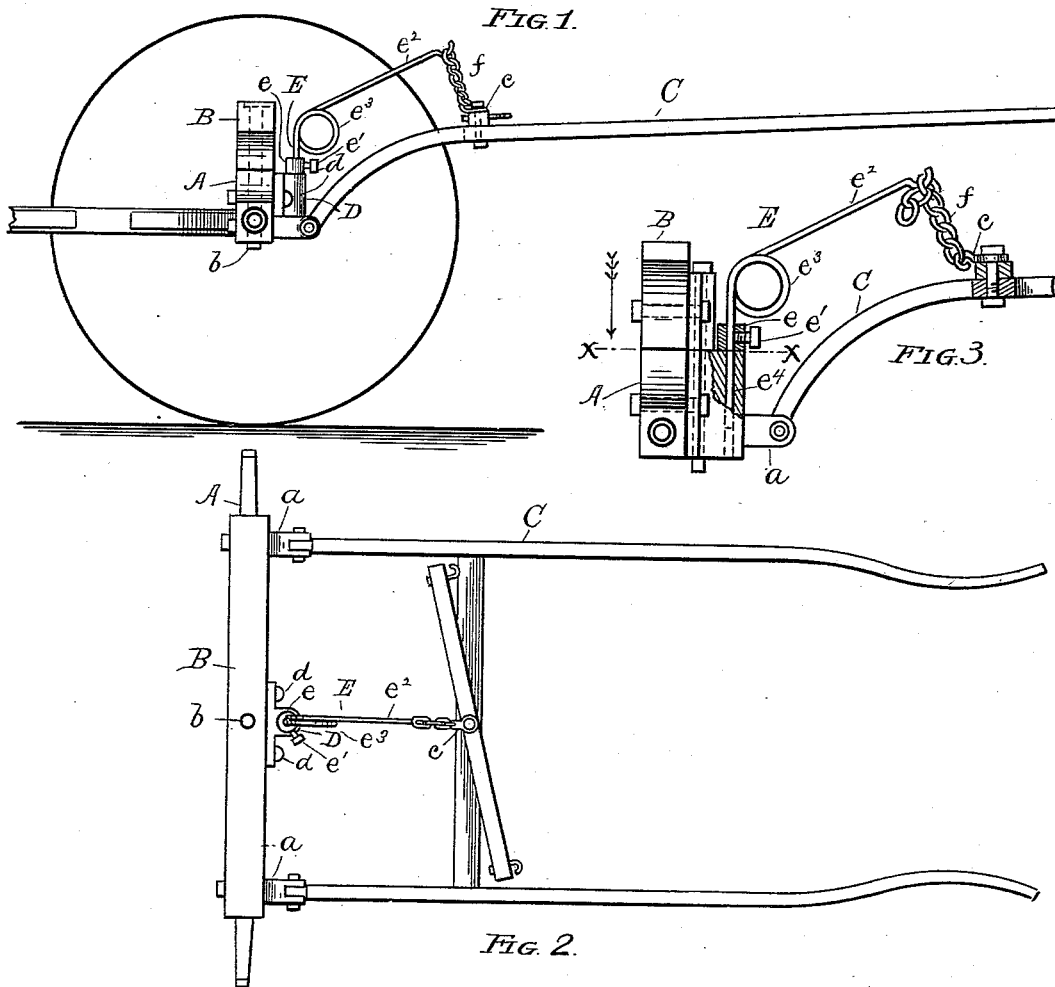


(No Model.)

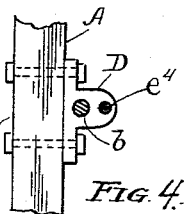
J. LAUTH.
TONGUE SUPPORT.

No. 420,204.

Patented Jan. 28, 1890.



Witnesses:
Eva Fletcher
David Stevens.



Inventor:
Jacob Lauth
By Knudley & Dalton
His Atty.

FIG. 5.

UNITED STATES PATENT OFFICE.

JACOB LAUTH, OF CHICAGO, ILLINOIS.

TONGUE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 420,204, dated January 28, 1890.

Application filed October 4, 1889. Serial No. 325,968. (No model.)

To all whom it may concern:

Be it known that I, JACOB LAUTH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improved Vehicle-Shaft Support, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of a portion of the front end of a vehicle, showing my improved device applied for supporting the shaft. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged side view in detail of a portion of the shaft and axle together with said shaft-supporting device. Fig. 4 is a plan view in detail taken upon the line *x x*, Fig. 3; and Fig. 5 is a like view of a modification of said invention.

Like letters of reference in the different figures indicate like parts.

The object of my invention is to so construct a shaft-support that it may sustain the weight of the thills and yet permit them to conform to the movement and height of the horse and the constantly-varying positions caused by the irregularities of the road or the varying directions of movement without varying its relation to or its effect upon the thills. I accomplish said object substantially in the manner hereinafter more particularly described and claimed.

Referring to the drawings, A represents the axle, B the bolster, and C the shafts, of a vehicle, said shafts being attached to the axle by means of the usual clips *a*.

In Figs. 1 and 2 I have shown the bolster attached to the axle by means of the usual king-bolt *b*, inserted through the bolster and axle. In such a construction I prefer to attach to the front and middle of the axle by means of bolts *d d*, a metal plate D, which is provided with a bore, into which I insert the end of a spring E, which is preferably provided with a collar *e*, adjustably secured thereto by means of a set-screw *e'*, so that said spring may be raised or lowered for the purpose hereinafter stated. An arm *e²* of said spring is bent forward, and is provided with a hook at the end for the reception of a chain

or link connection *f*, which in turn is attached to a clip *c*, secured to the cross-bar of the shafts. A coil *e³* is preferably formed in the spring E. Thus it will be seen that the shaft receives a uniform support from the spring at all times, and by raising the spring and adjusting the collar *e* lower down the spring may be made to exert a greater force.

To prevent weakening the axle, a plate constructed like the plate D is frequently attached both to the bolster and axle and a suitable bore provided therein for the insertion of the king-bolt, as shown in Figs. 3, 4, and 5. When this construction is employed and there is sufficient room, I provide a secondary bore *e⁴*, Figs. 3 and 4, into which I insert the spring E. Otherwise I provide a plate D', Fig. 5, which is fitted and bolted to the plate D, said plate D' being bored in like manner for the reception of the spring. It is obvious that the end of the spring may be placed beneath the cross-bar of the shaft, while the other end may be bolted directly to the axle, as illustrated in Fig. 5; but I prefer the construction shown in Fig. 1, in that it enables the spring to be accurately adjusted to the weight of the shafts and height of the horse by varying the position of the collar, as stated.

Having thus described my invention, I claim—

The combination, with the axle of a vehicle, of the plate D, rigidly secured to the middle of said axle, a vertical bore formed in said plate, spring E, having one end loosely inserted in said bore, collar *e*, set-screw *e'*, detachable chain *f*, and shaft cross-bar, whereby the weight of the shafts may be normally supported and their height adjusted to the requirements of horses of varying height, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 30th day of September, 1889.

JACOB LAUTH.

Witnesses:

D. H. FLETCHER,
J. HALPENNY.