(No Model.)

H. WOOD.

WAGON TONGUE SUPPORT.

No. 272,180. Patented Feb. 13, 1883.

Fig. 1.

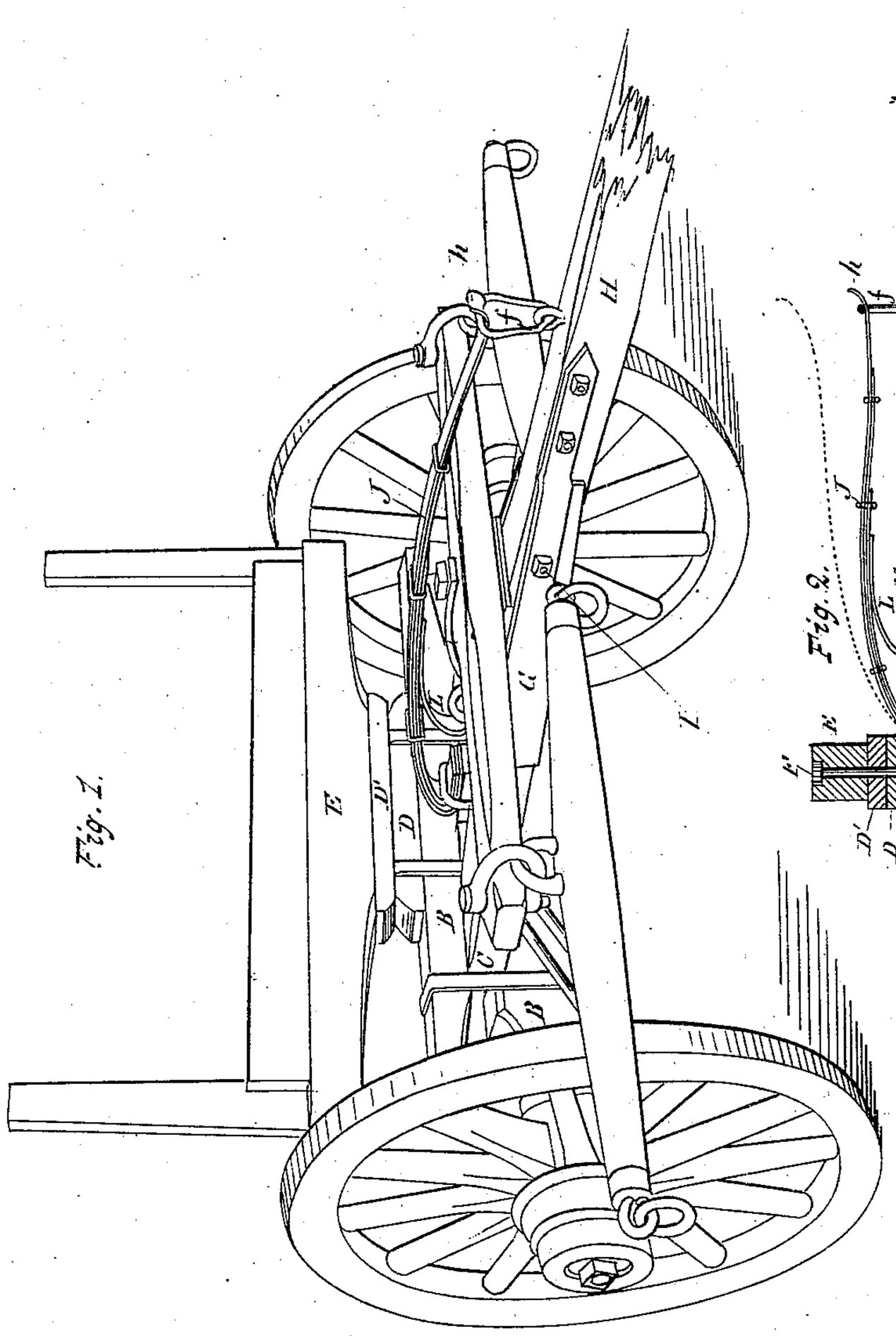
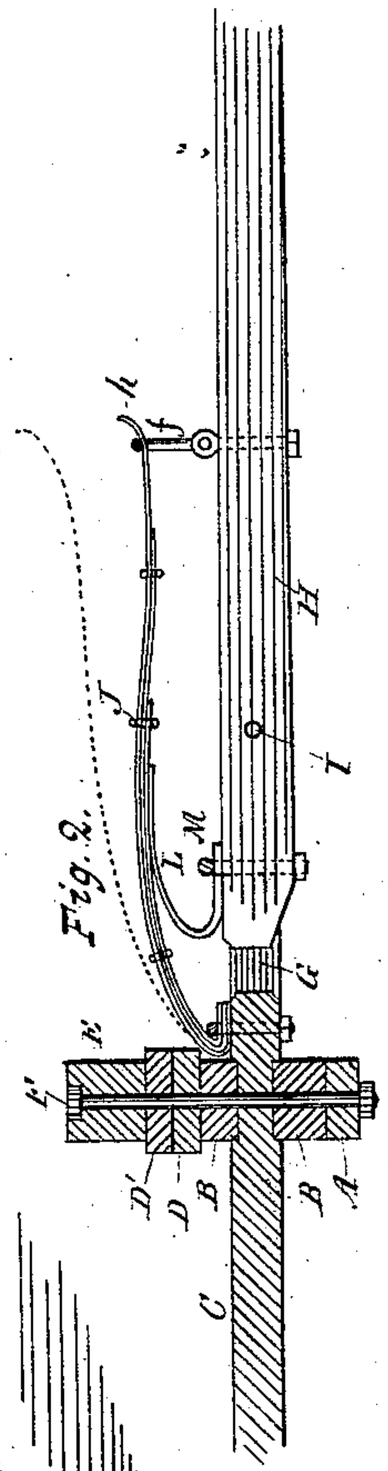


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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WAGON-TONGUE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 272,180, dated February 13, 1883.

Application filed October 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, HARVEY WOOD, a citizen of the United States, and a resident of the city of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Tongue-Supporters of Vehicles, of which the following is a specification.

My invention relates to tongue-supporters of wagons, in which an elastic arm is rigidly secured at its base end to the front of the forward axle-bed, or to a piece fixed thereto, with its body projected horizontally forward in a line relatively over the pole or tongue in direction of its length, and, having connection with a link attached to the tongue, will support the same, and also in which a reacting spring has its base secured to the rear end of the tongue and rearward of the pivoting-bolt of the same, with its upward and forward portion bearing upward against the elastic horizontal arm.

The objects of my invention are to provide an elastic arm which will be rigidly attached to the axle in front, so as to move with the same when the front axle is moved in either direction by the turning of the wagon, and, projecting forward over the pole, will have connection with the same at a point in front of its pivoting-bolt, and also to provide a reacting spring which will have a bearing on the rear end of the tongue and at a point rearward of the pivoting-bolt, and also a bearing upward and against the elastic arm projecting forward from the front axle, so that the elastic pressure of the said reacting spring will coact with the elastic arm to effect a more complete support of the forward end of the tongue from the neck of the animals, so that when the wagon is drawn over comparatively level roads the necks of the animals will be relieved of the weight of the pole or tongue, and when going down a hill, with the animals holding back, the end of the tongue will be free to rise. The elastic arm, being relieved of its weight, will also rise without its forward end becoming detached from the tongue. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of the forward portion of the wagon with my improvements attached thereto, and Fig. 2 is a sectional elevation of the same.

The same letters of reference indicate like parts throughout the several views.

In the drawings, A represents the front axle, and B B the axle-bed, which bed may be made of one or more pieces of timber secured to the said axle by clips or bolts, as practiced by the trade.

C is the reach-head, firmly secured to the said axle-bed at the middle of its length.

D is the lower sand-wear plate, firmly secured by clips or bolts to the axle and its bed; and D′ is the upper sand-wear plate, secured to bolster E.

The king-bolt F passes down through bolster E, wear-plates D D′, axle-bed B, and axle A, and is secured by a nut or key, as practiced by the trade.

The tongue-hounds G are made and secured to the axle-bed in the usual manner, and are projected back to form the circle-hounds, as practiced by the trade, to give support to the reach and steady the forward axle from rocking. Between the tongue-hounds is pivoted the tongue H by bolt I, from which bolt said tongue is free to be moved vertically up and down in a vibratory manner.

In my improvements I provide an elastic arm, J, which arm is made of several layers or plates of spring-steel, the uppermost one of which is extended forward, and is provided with a hook; *h*. The said elastic arm is secured to the axle-bed B by the forwardly-projecting portion of the reach-head by means of clips; or it may be secured by bolts or clips to the axle-bed itself. The main plate of the arm is stiffened by the plates below, which are made each successively shorter, and are held together with the main plate by clips or ties, as shown. The said elastic arm thus formed and secured at its base end to the axle-bed is arranged to project forward horizontally over the tongue H in direction of its length and past the pivoting-bolt I, as shown.

Secured in the tongue from its upper side by an eyebolt is link *f*, which link is located directly opposite hook *h* of elastic arm J, and engages with the same when the wagon is to be used. When the wagon is idle the link

should be removed from engagement with the hook end of the elastic arm, which is readily done by raising the tongue and removing the link from said hook, when the "set" of the arm will throw the same up to position of dotted lines in Fig. 2.

Secured to the rear end of the tongue, and at a point back of the pivoting-bolt I, is a reacting spring, L, which spring is made of spring-steel, with a width preferably the same as the spring-steel plates of elastic arm J. The reacting spring is preferably secured to the rear end of the tongue by a clip, though bolts may be employed, and is made to curve upward and forward, with its forward portion bearing against the lower side of elastic arm J. The reacting spring, being thus formed and secured, and bearing in its lower portion on the rear end of the tongue and its upper portion against the lower side of the elastic arm, while the latter is connected with the tongue by link *f*, operates, first, to stiffen and strengthen said arm for supporting the weight of the tongue, and, bearing on the rear end of the tongue rearward of bolt I, tends to force downward on the said rear end of the tongue, and thereby elevate the forward end of the same, the elastic force of said reacting spring operating to counterbalance the gravity of the tongue forward of bolt I, and thereby relieve the elastic arm J, to a great degree, of the strain, which would otherwise be exerted on the same in another direction. With the said reacting spring located between the base end and the hook end of the arm, said spring operates as an elastic fulcrum, and prevents the foot of the base of said arm from lopping or heeling down forward, while at the same time the said spring operates to transfer the pressing force of arm J to the rear end of the tongue as the weight of the forward portion of the same is drawing down on said arm, so that the said arm is in its forward portion made to lift up the forward portion of tongue H at the same time the rearward portion of said arm is made to press down the rearward portion of said tongue through the medium of the reacting spring, the said spring acting as an elastic fulcrum, while the arm will act as an elastic lever, with the weight of the tongue applied to the more elastic portion of the arm forward of the reacting spring.

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

The combination, with elastic arm J, secured to the front axle, or an attachment to the same, tongue H, and connecting link *f*, of the reacting spring L, connected and arranged with the rear end of said tongue, all substantially as and for the purposes set forth.

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Witnesses:
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