Z. B. WAKEMAN.

Tongue-Support.

No 16,813.

Patented Mar. 10, 1857.

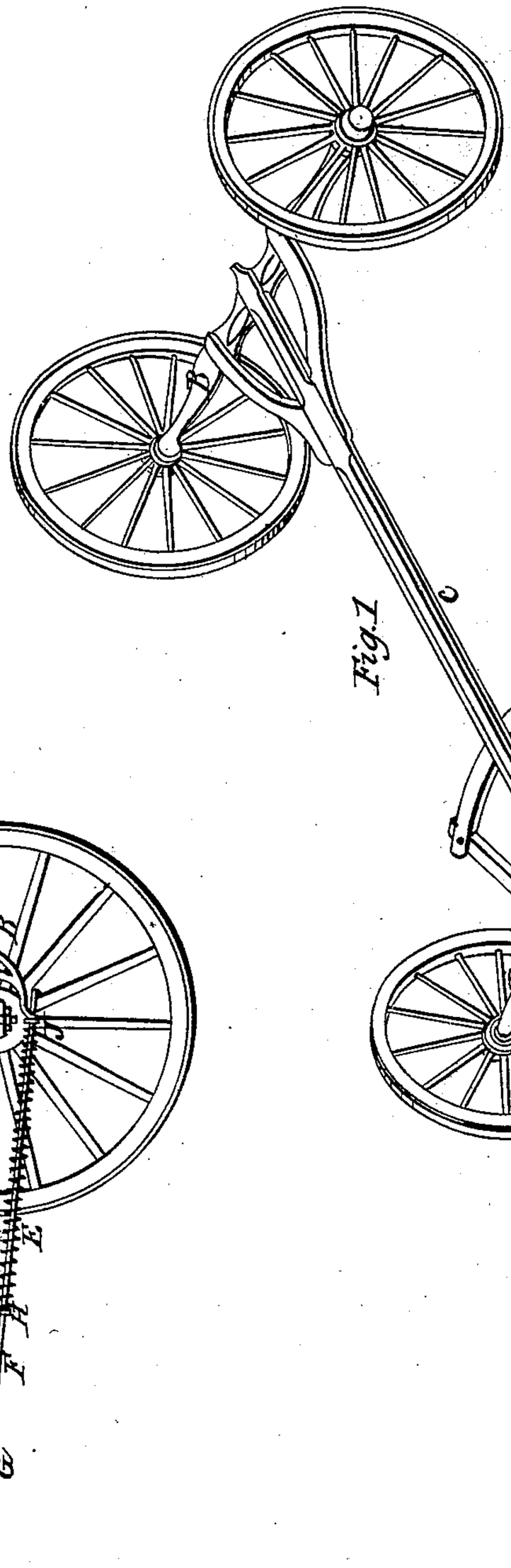

Fig. 3.

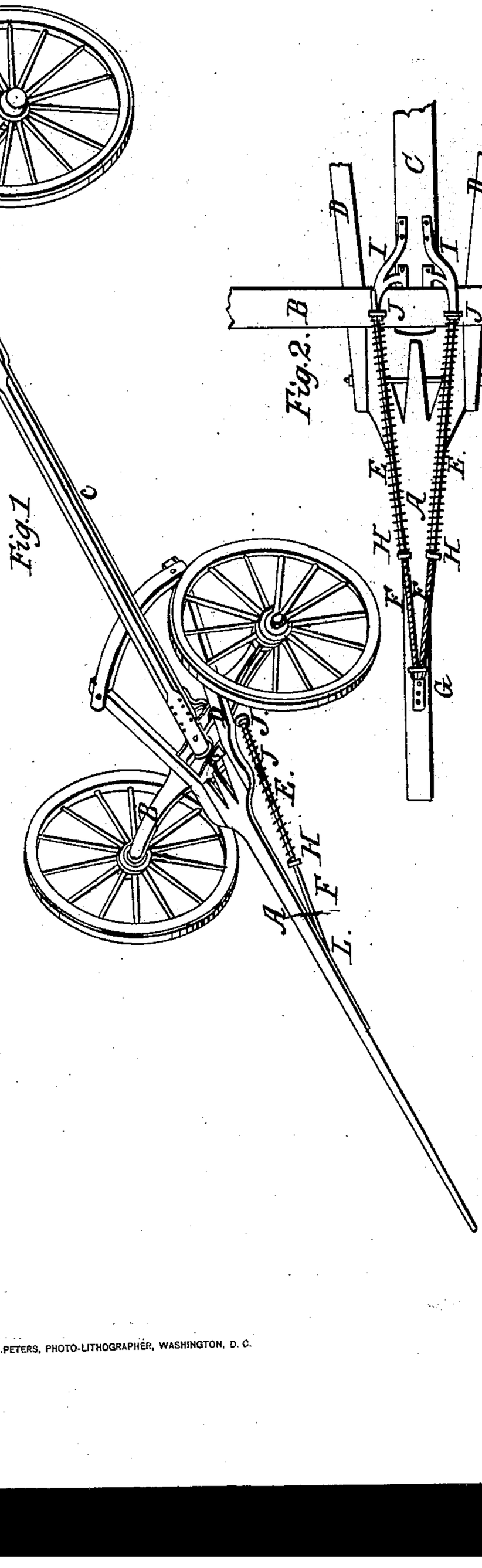

Fig. 1.

Fig. 2.

UNITED STATES PATENT OFFICE

ZALMON B. WAKEMAN, OF BELOIT, WISCONSIN.

IMPROVED MODE OF SUPPORTING THE TONGUES OF COACHES.

Specification forming part of Letters Patent No. **16,813**, dated March 10, 1857.

To all whom it may concern:

Be it known that I, ZALMON B. WAKEMAN, of Beloit, in the county of Rock and State of Wisconsin, have invented a new and improved mode of guiding the tongues of wagons and other carriages by means of a spring or springs, which at the same time holds the tongue any required height from the necks of horses; and the following is a full and correct description thereof, reference being had to the accompanying drawings and letters of reference marked thereon, the same letters referring to like parts in all the figures.

The nature of my invention consists in an arrangement and combination of parts for the purpose of guiding and holding the tongue of a wagon or any other carriage by means of one or more springs applied to the tongue in such a way as to guide and give it direction forward, and at the same time overcomes its resistance sidewise, preventing the tongue striking the horses when one or more wheels strike any obstacle, also supporting and holding the tongue at the same time any required height from the ground by means of the nut or nuts, screw or screws, and springs or springs, relieving the horses from the weight of the same and preventing their necks galling.

In order to apply my invention, a wagon or any other carriage may be constructed in the usual manner, with a loose tongue secured to the hounds by a bolt, (or pin,) as referred to in the accompanying drawings.

A rod or rods, F, intended to support a spiral spring or springs, E, has its forward end attached loosely to the tongue A at a proper distance from the bolt K, in such a manner as to leave the tongue A free to move up and down, but at the same time prevent the rod or rods F from being moved endwise without moving the tongue A. This may be effected by making the end of the rod or rods F smaller where it passes through the eyebolt G or plate G, leaving a shoulder to press against it, or in any other well-known way. The rod or rods F have a screw-thread cut upon their forward ends, with one or more nuts, H, on them, to bear against the end of the spiral spring or springs E E, and by their position on the rod or rods F to increase or diminish the force with which the spring or springs E shall press against the tongue A when the latter is held in any certain position. The other end of the rod or rods F passes loosely through a hole in the brace or braces I, which is intended to hold the rod or rods F in its proper place, and to take the pressure of the spring or springs E E.

The brace or braces I may be secured to the reach (or perch) C, as shown in Figures 1 and 2. In order to allow the tongue A a perfectly free motion in every direction, it is necessary that the hole in the brace or braces I through which the rod passes should be much larger than the rod or rods F. Therefore to prevent the end of the spiral spring or springs E from crowding into the hole with the rod or rods F, a washer, J, with a hole but little larger than the rod F, is placed between the end of the spring or springs E and the brace or braces I. A spiral spring or springs, E, is placed upon the rod or rods F, one end of which presses against the brace or braces I, and the other end against the nut or nuts H upon the rod or rods F, by which its pressure is communicated to the tongue A. The spring or springs E are made of a suitable stiffness corresponding with the weight of the tongue A, and by means of the nut or nuts H and the screw or screws upon the rod or rods F may be made to support the whole weight of the tongue A any desired height, and at the same time prevent it from bearing upon the necks of the horses. This in the most effectual manner secures all advantages attending either a loose or stiff tongue, while it avoids the peculiar disadvantages belonging to each of them, for it will be observed that the weight of a loose tongue of a wagon (or other carriage) dragging constantly on the necks of horses attached to the same has a tendency (which is increased by rough roads) to gall them and make their necks sore, so that in spite of the greatest care they are frequently disabled for a time, if not permanently injured, while a stiff tongue is found to fret and injure horses still more than a loose one; but, on the other hand, my invention enables the horses to move along a rough road as easily (so far as the guiding of the wagon is concerned or the thrashing or jerking of the tongue) as they would on a smooth road, for by dispensing with the neck-yoke, and using pole-straps instead, the horses move along as though there were no tongue to the wagon.

In the drawings, Fig. 1 is a perspective view of the forward axle, B, of a wagon, with a part of its rigging, and with the spring E

attached beneath the tongue A, intending to show two spiral springs; but as the other could not be shown without showing it on the top of the tongue it is omitted.

Fig. 2 shows the fore part of a wagon, bottom side up, with a part of the tongue, axle, hounds, reach, (or perch,) and wheels detached, I I showing the braces which hold up the tongue A by means of the spiral spring or springs E E, as attached to the reach (or perch) C; A, the tongue, (or pole;) B, the forward axle; C, part of the reach (or perch;) D D, hounds; E E, spiral springs holding the weight of the tongue A; G, eyebolt (or plate) to receive the forward ends of the rods F F, which press against it; H H, nuts on the rods F F for increasing or diminishing the pressure of the springs E E; I I, braces against which the springs E E press; J J, washers between the ends of the springs E E and the braces I I; K, bolt (or pin) through tongue A and the hounds D D.

Fig. 3 shows a side view of one spring and one brace applied single, and the letters referring to same parts as Figs. 2 and 1.

Another very important object is attained by the use of the spiral spring or springs E in connection with the brace or braces I, attached to the reach G, as shown in Figs. 1 and 2, for besides supporting the weight of the tongue it serves to guide and steady it, keeping it in a straight line with the reach, thus enabling the wagon or other carriage to guide itself straight forward in a very superior manner. This affords a great relief to the horses, as it saves them from the thrashing or jerking of the tongue, and allows them to travel close together or wide apart without turning the wagon from its true course, and also relieving their necks of the weight of the neck-yoke and tongue. This effect of guiding the wagon or other carriage by steadying the tongue may be increased by two spiral springs placed side by side, instead of the one spring E, as represented in Figs. 1 and 2. In this case the forward ends of the rods (with springs attached) are attached to the same part of the tongue, while their back ends are spread from eight to twelve inches apart, or any desired distance, being supported by the braces I I, which must be fastened to the reach (or perch) with an angle to receive the rods holding the springs, and it may become necessary to fasten a girder across the lower ends of the braces, (for very heavy tongues,) if made as represented in the drawings, I I. It is obvious that the more the back ends of these springs are spread the more they tend to steady the tongue and guide it straight forward. By this arrangement the set of axle is preserved in its true position. The pressure being against the reach helps maintain it in its true position by sustaining the weight of the tongue.

What I desire to secure by Letters Patent is—

The use of the brace or braces, or their equivalent, attached to the reach (or perch) of a wagon or other carriage, in combination with a spiral spring or spiral springs applied to the tongue of a wagon or other carriage, and pressing against the reach for the purpose of giving direction and steadiness to the tongue by checking its motion sidewise, keeping it in a straight line with the reach (or perch,) while it supports it and also preserves the set of the axle in its true position, as set forth in this specification. But I do not claim a patent for raising or sustaining the tongue in itself, as this has been done before in various ways; but what I claim is the arrangement and combination of parts, as illustrated in the drawings and set forth in this specification, for the purpose of giving direction and steadiness to the tongue while it supports it. Nor do I claim said parts or any other arrangement or combination of parts not used or described in this specification.

ZALMON B. WAKEMAN.

In presence of—
MAT. H. CARPENTER,
CARA CARPENTER.