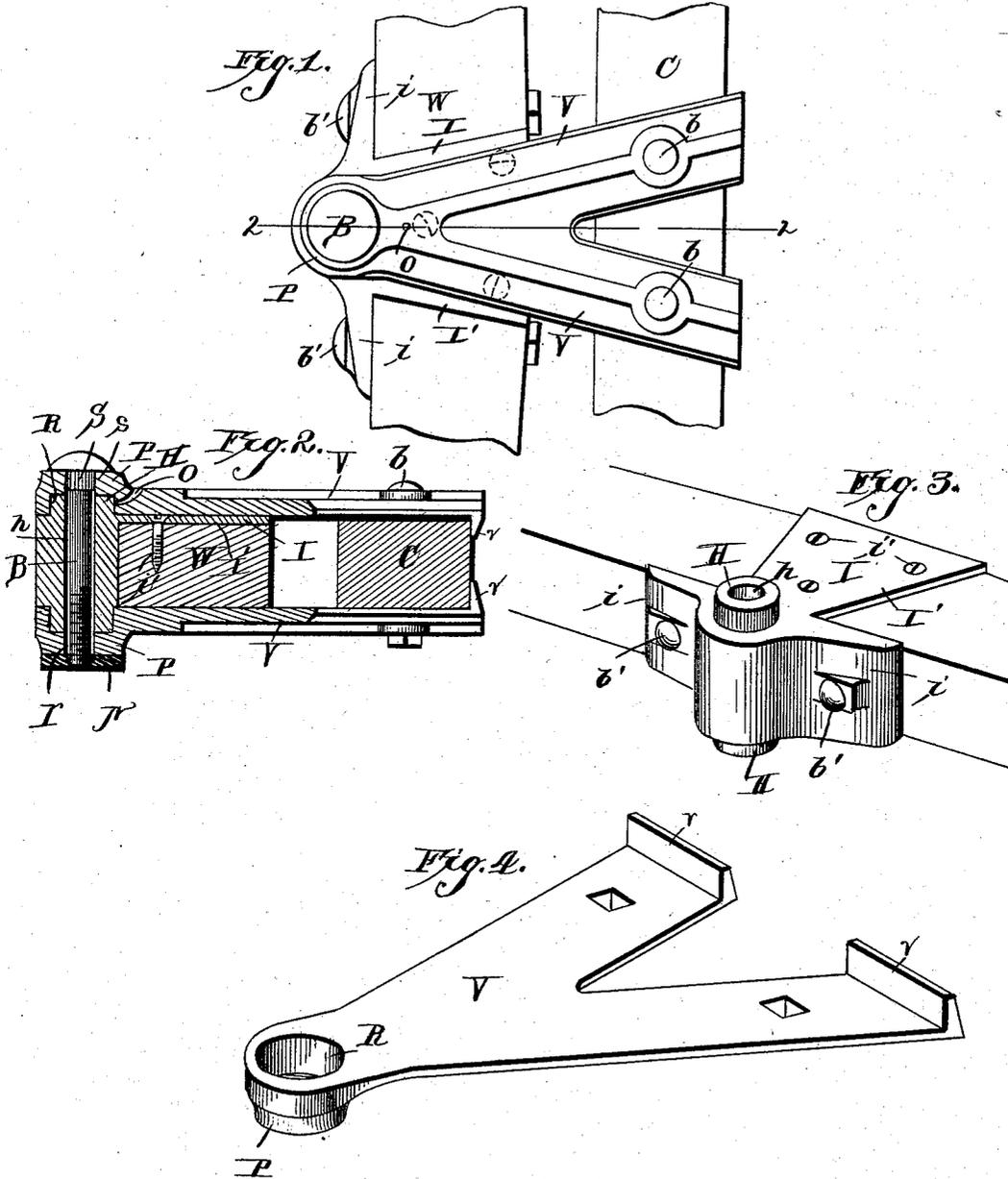


(No Model.)

S. J. ARNOLD.
WHIFFLETREE.

No. 406,691.

Patented July 9, 1889.



Witnesses
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UNITED STATES PATENT OFFICE.

SAXTON J. ARNOLD, OF EVERETT, MASSACHUSETTS.

WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 406,691, dated July 9, 1889.

Application filed April 9, 1889. Serial No. 306,506. (No model.)

To all whom it may concern:

Be it known that I, SAXTON J. ARNOLD, a citizen of the United States, residing at Everett, in the county of Middlesex and State of Massachusetts, have invented a new and useful Whiffletree, of which the following is a specification.

This invention relates to whiffletrees; and it consists of a new and improved device for attaching them to the cross-bar at the rear of the tongue or thills on a wagon or carriage, all as will be more fully hereinafter described.

In the drawings hereto annexed, Figure 1 is a plan view of the entire device. Fig. 2 is a vertical longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the whiffletree with its "iron" attached, and Fig. 4 is a perspective view of one of the braces detached.

The same letters of reference indicate corresponding parts throughout.

The letter C represents the cross-piece, which is coupled at its ends to the front axle of the vehicle, and W is the whiffletree. In a single-horse vehicle this will be a "singletree," and in a two-horse vehicle a "doubletree;" but in either event it is centrally pivoted to the cross-piece C, and this invention relates to improved means for effecting such pivoting.

V V are V-shaped braces precisely similar, except as hereinafter specified. The upper brace lies upon the cross-piece C, with its feet *v* resting against its rear face, and the lower brace occupies a corresponding position beneath the cross-piece, the braces being connected and held in place by bolts *b*, extending through said cross-piece. At their forward ends the braces are recessed on their inner faces at R, and on their outer faces preferably provided with corresponding raised portions P. The upper brace has a square hole *s* through its raised portion P, opening into the center of the recess R, and adapted to receive the squared portion or neck S of the main bolt B, while the lower brace has a round hole *r*, through which the round shank of the bolt passes, and below which the nut N is applied. It will thus be seen that the bolt B cannot revolve or oscillate within the braces V, and hence the nut N, when screwed

tightly home to place, will be unlikely to work loose and be lost.

I is the whiffletree-iron, having enlarged heads or bearings H at top and bottom, which are journaled loosely within the recesses R and provided with a vertical hole *h*, adapted to contain the bolt B, but large enough to be out of contact therewith. The body of the iron is extended laterally in arms *i i*, which lie against the front face of the whiffletree and are bolted thereto by bolts *b'*, passing rearwardly through said whiffletree. Projecting rearwardly from and flush with the upper edge of the iron is an integral dovetailed plate I', approximately triangular in form and set in a correspondingly-shaped recess in the upper face of the whiffletree and secured therein by a number of screws *i'*, though this plate may be omitted, if desired. The iron being secured to the whiffletree, as just described, the braces V placed in position, with their recesses R embracing the bearings H and their feet *v* behind the cross-bar C, and the bolts *b* secured in place, if now the main bolt B be passed downwardly through the aligned holes *s*, *h*, and *r* and the nut N screwed tightly in place, the device is ready for use.

The principal advantage of this invention lies in the fact that the iron I is journaled by its bearings H in the braces V and not upon the bolt B, as in most cases, thereby lessening the liability of the nut N unscrewing (without any real practical harm, however, even if it does) and bringing the friction and wear upon two large bearings, instead of upon the smaller body of a single bolt. In addition, the location of the iron in front of the whiffletree avoids the possibility of the separation of these parts, while the feet *v* on the braces also prevent the latter from becoming detached from the cross-piece C. On the whole the device is cheap, neat, durable, and, above all, almost utterly impossible of becoming detached from the parts to which it is connected.

The parts may be of any material desired; but I prefer wrought-iron throughout, except, possibly, for the braces, japanned, painted, or galvanized to prevent rust. If desired, the braces may be provided with oil-ducts O; but these are not generally necessary.

I claim as the salient points of my invention—

1. The combination of the braces adapted to be secured to a cross-bar and provided with the recesses in their inner faces, the whiffletree-iron having the projecting bearings upon its upper and lower faces journaled in said recesses, and a bolt passing through the braces and whiffletree-iron, as set forth.
2. The combination, with the bolt, of the braces adapted to be secured to a cross-bar and provided with recesses on their inner faces, the whiffletree-iron having projecting bearings upon their upper and lower faces and provided with a vertical hole *h*, of greater diameter than the bolt, whereby the whiffletree-iron is out of contact with said bolt, substantially as described.
3. The combination of the V-shaped braces provided with recesses in their inner faces, the whiffletree-iron having bearings journaled in the recesses of the braces and provided with the rearward-extending plates approxi-

mately triangular in form and designed to be set in corresponding recesses in the whiffletree, and a bolt passing through the braces and the whiffletree-iron, substantially as described.

4. The combination of the V-shaped braces provided with recesses in their inner faces and having bolt-holes concentric with said recesses, one of said bolt-holes being square, the whiffletree-iron having bearings journaled in said recesses and provided with a central hole *h*, adapted to receive a bolt, and a bolt passing through the braces and the whiffletree-iron and being out of contact with the latter, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAXTON J. ARNOLD.

Witnesses:

SAMUEL P. CANNELL,
G. C. TUFTS.