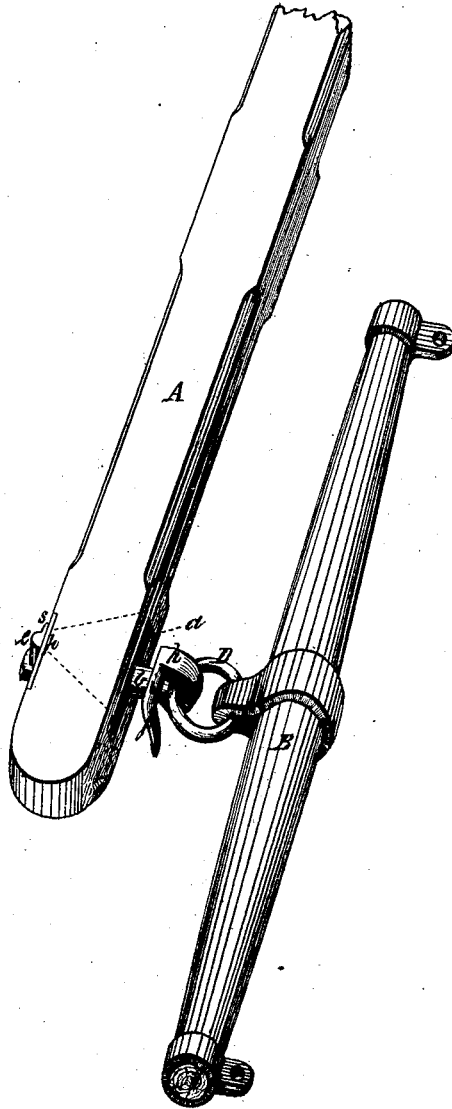


W. W. BENTLEY.

Whiffletree.

No. 112,888.

Patented Mar. 21, 1871.



Witnesses.  
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# United States Patent Office.

WARREN W. BENTLY, OF LEE TOWNSHIP, MICHIGAN.

Letters Patent No. 112,888, dated March 21, 1871.

## IMPROVEMENT IN CLEVIS-HOOKS FOR DOUBLE-TREES.

The Schedule referred to in these Letters Patent and making part of the same.

I, WARREN W. BENTLY, of the township of Lee, in the county of Calhoun and State of Michigan, have invented certain Improvements in Clevis-Hooks for Double-Trees, of which the following is a specification.

My invention relates to the combination, with the double-tree or evenner of a wagon or other vehicle, of vibrating draw-bars having hooked ends of a peculiar form, as a means of attachment for the single or whiffletrees in place of the ordinary clevis or ring-staple, a descending side prong being formed at the extremity of the hooked end of each bar to act as a guard in compelling a tortuous or twisting motion of the whiffletree while hooking in the ring, or unhooking the same by hand, the object being to render it impossible for the whiffletrees to become detached from the evenner by any accident short of breakage.

The accompanying drawing, in perspective, represents my improved clevis-hook connecting the single with the double-tree.

A is a broken section of a double-tree, having a mortise, *a*, with angular sides, as shown by the dotted lines, through each end, for the insertion of the straight-bar portion *b* of the clevis-hook.

The bar portion *b* should nearly fill the small end of the mortise, and project sufficiently beyond the double-tree to receive a vertical key-bolt, the upper end of which is seen at *c*, and which key-bolt passes through a slot or hole in the bar and bears against a washer-plate on the edge of the double-tree, to prevent wearing into and indenting the wood.

To prevent the key-bolt from dropping or being jerked out of place I usually furnish it with a spline, *s*, notched the thickness of the clevis-bar across the middle, and introduce said spline into a key-way in the bar, when, by revolving the key partially, it will be interlocked with the bar.

It is unimportant, however, how this draw-pin is secured or formed, provided it is sufficiently stout for the draft, has a good bearing against the double-tree, and its exterior edge is so constructed relatively with the mortise as to permit the clevis-hook bar *b* to rock or vibrate freely against it; and, above all, it should be so secured that it cannot accidentally become detached, and for this there is ample facility, as the clevis-bars are designed to be permanent connections of the double-tree.

The hitching end of the clevis-bar is bent hook-fashion, as shown at *h*, and has a prong extension, *j*,

which I term a guard, that is first laterally bent as at *i*, and extended away from the side of the hook a distance equal to the thickness of the ring D of the whiffletree B, and is then bent downward, as shown, to any suitable extent.

To hitch the whiffletree by its ring to the clevis-hook, the ring is first passed upward over the prong *j*, and then twisted round between the lateral bend and the edge of the double-tree, when it drops into its place in the main hook.

It will be readily seen that in thus manipulating the ring the whiffletree must be turned or swung upside down, and that although this is quite easy to do by hand, as well as the reverse motion for unhitching the whiffletrees, yet, when the horses are attached, the tugs effectually prevent any reverse swinging, and thus prevent any accidental unhitching of the whiffletrees under any possible contingency.

The usual mode of detachably securing the whiffletree, by means of a bent clevis through the ring, and secured by a drop-bolt passed through the wood of the double-tree, is confessedly unsafe and inconvenient; for the hole in the wood gets enlarged by wear, and serious accidents frequently occur by the jerking out of the bolt.

Should a nut or split key be used to keep the bolt in place, they generally get rusted in and require suitable tools to remove them, which tools are seldom at hand.

In addition, the bent clevis is liable to get mislaid or otherwise lost, and its use is attended by other disadvantages and inconveniences, which are so well known as to need no recapitulation.

My hook and guard-clevis, while it costs no more than the common one, renders the whiffletree connection perfectly safe, and of easy attachment and detachment by the hand at all times and under all circumstances.

I claim as my invention—

The vibrating clevis-bar *b*, having a triple bend, consisting of the hook *h* and guard-prong *j*, arranged and combined with the double-tree A for the detachable connection of the whiffletree B, substantially in the manner and for the purpose set forth.

WARREN W. BENTLY.

Witnesses:

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