I. C. HAM.

Whiffletree Hook.

No. 93,532. Patented Aug. 10, 1869.

Fig. 1

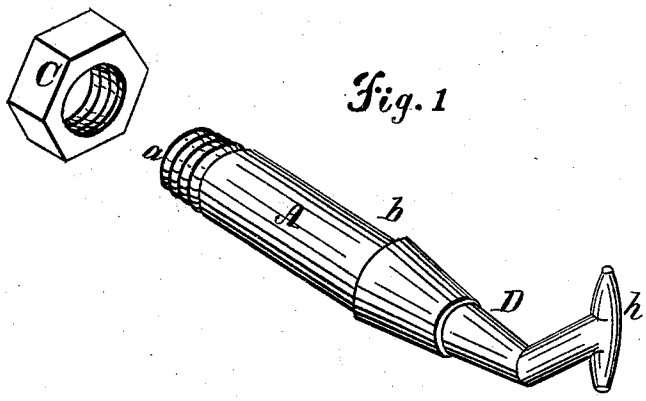
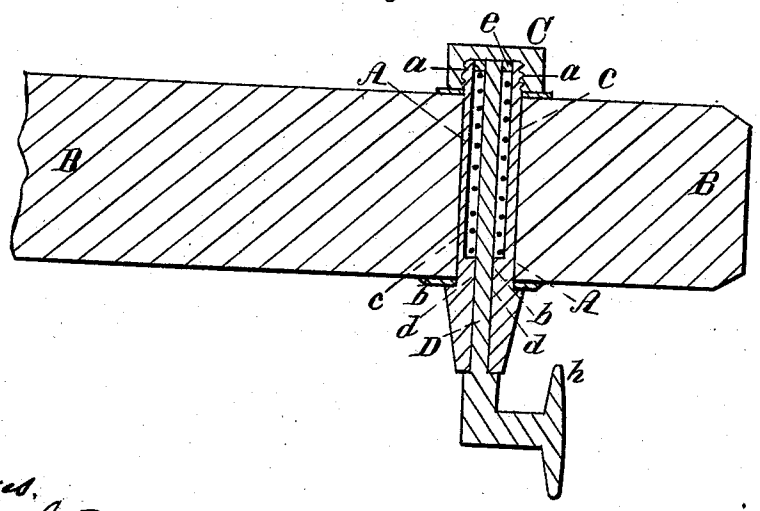


Fig. 2



Witnesses,
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IVORY C. HAM, OF CHARLESTOWN, MASSACHUSETTS.

Letters Patent No. 93,532, *dated August* 10, 1869.

IMPROVED DEVICE FOR ATTACHING TRACES TO VEHICLES.

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

To all whom it may concern:

Be it known that I, IVORY C. HAM, of Charlestown, in the county of Middlesex, and State of Massachusetts, have invented an Improved Device for Attaching Traces to Vehicles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved device.

Figure 2 is a section through the centre of the same, when secured to the "shaft-bar" of a vehicle.

Serious accidents are frequently occasioned by the breaking of the whiffletree of a vehicle, or the bolt by which it is attached thereto, the whiffletree being thus allowed to come in contact with and frighten the horse.

My invention has for its object to avoid this danger, and to dispense entirely with the whiffletree, and consists in securing the hooks or "starts," to which the traces are attached, to the "shaft-bar" of the vehicle, the hooks being provided with springs, and so constructed as to yield, and thereby allow of the same play or movement of the traces as when a whiffletree is employed.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings—

A is a circular bolt, which passes through a hole of corresponding size in the "shaft-bar" B.

The inner end of this bolt is provided with a screw-thread, *a*, which projects through the hole beyond the inside of the bar, to receive a nut, C, which is turned over the screw-thread *a* sufficiently to draw a shoulder, *b*, near the outer end of the bolt, snugly up against the outside of the "shaft-bar."

The bolt A, from the shoulder *b* to its outer end, is of a tapering form, as shown.

The bolt A is made hollow, for the reception of a wrought-iron bar, D, which is surrounded by a spiral spring, *c*, one end of which rests against a shoulder, *d*, in the interior of the bolt, the other end being confined by a nut, *e*, screwed over the end of the bar D, the diameter of the nut being a trifle less than that of the interior of the bolt.

The outer end of the bar D extends beyond the end of the bolt A, and is bent at right angles, and provided with a cross-piece, thus forming a T-shaped hook or button, *h*, to which the end of the trace is attached.

From the foregoing construction, it will readily be perceived that the bar D is free to yield, or be drawn out by the trace against the resistance of the spring *c*, which returns it to its original position when released, and the traces are thus allowed the same longitudinal play or movement which they would have if attached to the ends of an ordinary whiffletree.

It will be seen, that as the outer end of the nut C is closed, it will, when in place, as represented in fig. 2, serve as a cap, to exclude the dirt and moisture from the interior of the bolt A, and thus protect the spring *c* from rust.

Among the advantages resulting from my improved method of attaching traces to vehicles may be enumerated the following:

The attachment is more secure, and less liable to break than a whiffletree, while, if such event should happen, there would be nothing to strike the horse's heels, and thereby frighten him.

Furthermore, if broken, my improved device may be replaced in a few minutes, at a trifling cost, whereas the replacing of a broken whiffletree necessitates considerable expense and loss of time.

Again, the bar D is prevented, by the spring *c*, from rattling, while, at the same time, there is no liability of its becoming loose, and getting out of place, which is sometimes the case with hooks or buttons attached to the ends of whiffletrees.

I am aware that the application of I. M. Andrews, rejected, and withdrawn August 20, 1855, as well as the rejected application of John Atkinson, shows a spiral spring attached to the shafts, and in the rear of the cross-bar, the spring being secured within a cylinder, and operated upon by a hooked bar passing through the cross-bar. I therefore do not claim, broadly, the use of the spiral spring and bar; nor do I claim what is shown in the applications referred to; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The hollow bolt A, with its shoulders *b b* and its nut C, in combination with the bar D, provided with a T-shaped hook, *h*, and the spring *c*, when the same are constructed and arranged, in reference to each other, substantially as and for the purpose described.

IVORY C. HAM.

Witnesses:

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