(No Model.)

J. R. DAVIS.

WHIFFLETREE HOOK.

No. 348,191. Patented Aug. 31, 1886.

Fig. 1.

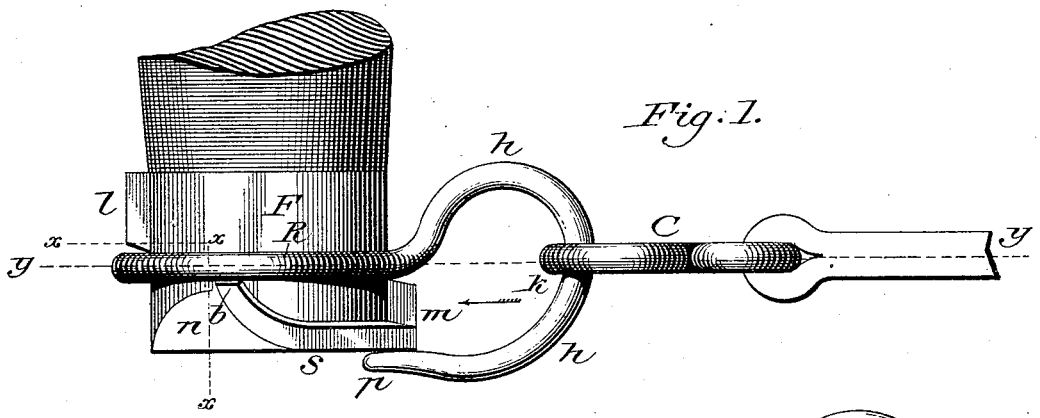


Fig. 2.

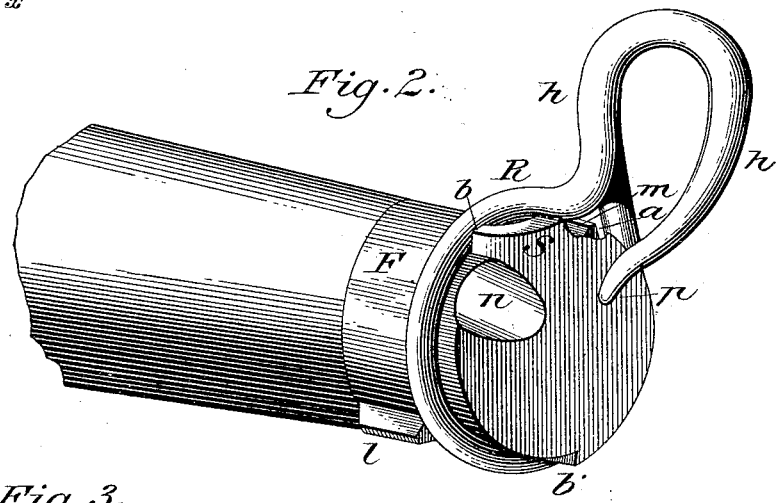


Fig. 3.

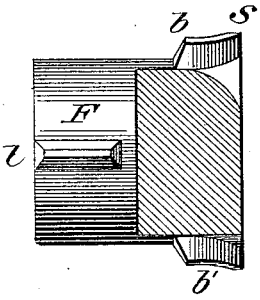
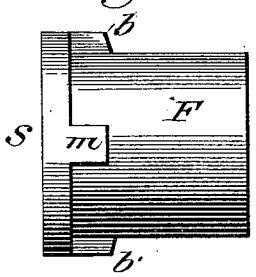


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WHIFFLETREE-HOOK.

SPECIFICATION forming part of Letters Patent No. 348,191, dated August 31, 1886.

Application filed December 7, 1885. Serial No. 185,858. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. DAVIS, a citizen of the United States, residing at Bristol, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Whiffletree-Hooks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The advantages secured by the use of my device are facilities for rapidly hitching to or detaching the draft-animal from the vehicle or machine, as well as the possession of means for so securing the harness-trace to the whiffletree that it cannot be accidentally detached or unhooked or get out of working order, the same being permanently attached to the whiffletree or other equivalent article.

Figure 1 is a top view of my device, showing the trace in attachment. Fig. 2 is a plan view of my device and a portion of the whiffletree to which it is attached. In this view a portion of the shoulder S is broken away in order to show the lug *m*. Fig. 3 is a side view of the ferrule, with a vertical section through the line *x x x*, shown in Fig. 1, a portion of the whiffletree and ferrule being removed. Fig. 4 is a side view of the ferrule, looking in the direction indicated by the arrow *k*, Fig. 1.

In the drawings similar letters refer to similar parts throughout the several views.

The ferrule F, the shoulder or flange S, terminating in the heels *b b'*, the lugs *l* and *m*, all constitute one solid casting or piece of metal. The ring R and the hook *h* are also welded or cast together, so as to form one continuous and separate part of my device. The lug *l* is preferably located at a point diametrically opposite the point *p* of the trace-hook R *h*, when the latter is held by tension in the line of draft. This lug is shaped to correspond with the space *a*, where the shank of the hook *h* joins the ring R, so as to allow the convenient passage of the ring over the lug. The ring R is made to fit as closely over the ferrule F as consistent with a free rotary movement of the same about the ferrule. The lug *m* is preferably of the same depth as the shoulder S, of which it may be called a part, and it extends the same distance inward from the end of the ferrule as do the heels *b b'*. This lug is made sufficiently large in cross-section to amply cover the space *a* between the ferrule and the hook, and is located, preferably, in a position diametrically opposite the lug *l*. The curve of the hook *h* is such that when the part R *h* is in position on the ferrule the point *p* will just clear conveniently the outer face or end of the ferrule without leaving sufficient space for the cockeye C to pass out. The shoulder S terminates above and below in the heels *b b'* and extends, preferably, over somewhat more than half the circumference of the end of the ferrule, as shown in the drawings. The balance or rear portion of the ferrule extends to the end face in the shape of a plain cylinder, with the exception of the circular notch or recess *n*, which, beginning at the inner end of the upper heel, *b*, extends downward nearly to the center of the ferrule and to the rear, in angular measurement about one-eighth the whole circumference, (more or less,) depending on the size of the cockeye C and the length of the point *p*. While the recess *n* should leave sufficient space for the quick and convenient attaching of the cockeye to the hook, it should not be made so broad and deep as to require cutting away an unnecessary portion of the end of the whiffletree. In general terms, this notch *n* should be of about the relative size and position shown in the drawings.

The ferrule is adapted to be driven and secured on the end of the whiffletree in the manner that such appliances are usually secured. These ferrules must be made with due regard to "rights and lefts."

Having described the parts of my invention, I will now proceed to explain how it operates. The hook R *h* is first attached to the ferrule F. This is done by sliding the part *a* over the lug *l*, which is made just small enough to allow of an easy clearance of the ring when thus applied. This having been done the hook is allowed to fall into position, the ferrule is secured to the whiffletree, and the hook is ready for use. The hook cannot now be detached or lost from the ferrule without first removing the latter from the whiffletree. It is as permanently secured as the ferrule itself. The hook is held in a position constantly at right angles to the whiffletree by means of the lugs *l* and *m*,

the heels *b b'* and the point *p* bearing on the outer end of the ferrule. Thus I obviate the necessity of extending the shoulder farther around the ferrule. The cylindrical bearing-surface of the ferrule enables the hook-ring to wear longer and more uniformly, while the separate and independent construction of the hook R *h* renders it cheap and convenient to supply new hooks in place of broken or worn ones. The recess *n* and the omission of the shoulder S on the rear side reduce the amount of metal necessary in the construction of the ferrule, thus cheapening its manufacture. The recess *n* also aids to secure the ferrule from any rotary movement on the end of the whiffletree.

To attach the trace, the point *p* is rotated up and over the recess *n*. The trace or the cock-eye C, attached to the same, is then hooked on and the hook is at once drawn in position by the weight and tension of the trace, as shown in Fig. 1. It is now practically impossible for the trace to become unhooked by accident. The hook is held at right angles to the ferrule in every position by the lugs *l* and *m*, the heels *b b'* and the point *p* bearing on the outer end of the ferrule. While free rotary movement is provided for, no lateral play is necessary.

In Letters Patent No. 322,527, granted me for improvement in whiffletree-hooks, and dated July 21, 1885, the point *p* of the hook R *h* travels inside the shoulder S, making it necessary before the trace can be attached to push the point *p* out through a slot in said shoulder. I have since discovered that the objection to this is that in cold weather ice and mud may so adhere on the ferrule between the ring and the shoulder as to prevent the lateral play of the former over the ferrule. It is my purpose in this invention to do away with that objection by obviating any necessity for lateral play, as I have shown. I have also found that this form of ferrule can be made from less material for reasons hereinbefore set forth. In this device I have also curved the shank or hook part *h* inward, so that the line of draft will be directly in line with the ring R, as indicated by the line *y y*. By this change in the shape of the hook I avoid side draft, which is liable to result from the shape of the hook, as shown in the patent referred to. This change in the form of the hook, however, I do not claim as new and patentable in itself.

I do not wish to be understood as claiming in this invention anything that is covered or has been granted to me in Letters Patent No. 322,527, above referred to; but

What I do claim, and desire to secure by Letters Patent, is—

1. The ferrule F, recessed at *n* and provided with the shoulder S, extending partially around said ferrule, terminating in the heels *b b'*, and provided with the lug *m*, substantially as described, and for the uses and purposes mentioned.

2. The ferrule F, recessed at *n* with the lugs *l* and *m*, shoulder S, and spurs *b b'*, in combination with the trace-hook R *h*, the point of which is adapted to rotate freely over the end of the ferrule F, substantially as described, and for the uses and purposes mentioned.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN R. DAVIS.

Witnesses:
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