

(No Model.)

J. E. BLACKBURN.

WHIFFLETREE.

No. 344,560.

Patented June 29, 1886.

Fig. 1.

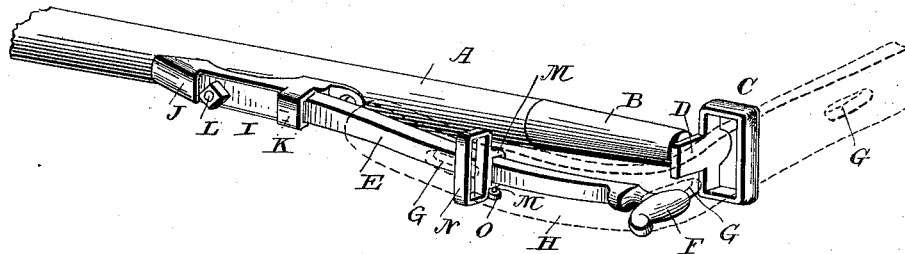


Fig. 2.

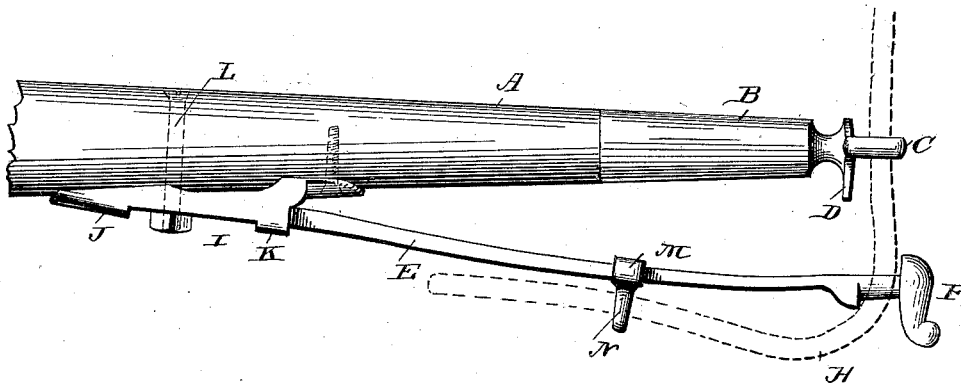
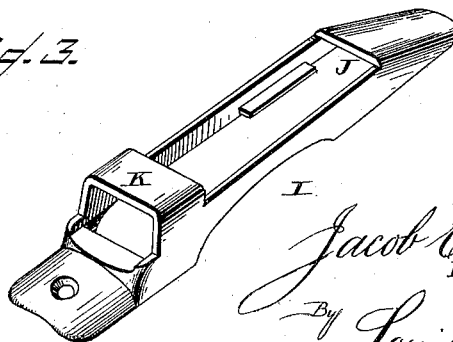


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JACOB E. BLACKBURN, OF FREDERICKTOWN, OHIO.

## WHIFFLETREE.

SPECIFICATION forming part of Letters Patent No. 344,560, dated June 29, 1886.

Application filed December 15, 1885. Serial No. 185,755. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB E. BLACKBURN, a citizen of the United States, and a resident of Fredericktown, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in Whiffletrees; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved whiffletree, showing traces attached to it. Fig. 2 is a top view of the same; and Fig. 3 is a perspective detail view of the box or casting holding the inner end of the spring.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of whiffletrees in which the ends of the traces are secured to springs secured to the whiffletree and curved rearward at their ends, the said springs breaking any jar upon the traces; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings the letter A indicates the whiffletree, which may be attached to the vehicle in any desired manner, and which may be of any size or shape desired, and the ends of this whiffletree are provided with thimbles B B, having vertically-slotted eyes C at their ends, the apertures in the eyes facing forward and back, and with spring-stops D or lugs, against which the springs may be brought to bear. The springs E E are flat and tapering toward their outer ends, which are curved slightly rearward, and the ends of the springs are formed with rearwardly-projecting hooks or cross-bolts F, over which the eyes or holes G of the traces H may be buttoned. The inner end of each spring is secured in a box or casting, I, which is secured to the rear side of the whiffletree, and formed with a socket, J, at the inner end and with a cross-strap, K, at the outer end, and the inner end of the spring is inserted into this casting, which is open upon its outer side, having the innermost end fitting into the socket, and having the cross-strap preventing the spring from dropping out of the casting.

A bolt, L, may be passed through the inner end of the spring and through the whiffletree, for the purpose of furthermore securing the spring in the casting, and this bolt may be made in any shape suitable for the amount of strain which is to be exerted upon it. A long eye, N, slides with its lips M, which project from one side, and are bent toward each other upon the spring, having a set-screw, O, passing through the lower lip and bearing against the lower edge of the spring with its end, and this sliding eye serves to receive the end of a trace, which is secured with a hole some distance from the end upon the end of the spring, preventing the said loose end of the trace from hanging loose and possibly catching into something and being torn or damaging something.

The set-screw may be dispensed with where the eye is desired to be rigidly attached.

The springs may be very easily removed from the boxes or castings, and may be consequently easily replaced in the case of a spring being broken or otherwise damaged, all that is necessary being to remove the bolt, if one is used, or, if no bolt is used, the spring may simply be pulled out of the box.

The eyes upon the ends of the whiffletree and the hooks upon the ends of the springs may be varied in shape, according to the shape of the traces used, long flat eyes and straight hooks or cross-bolts being most useful with flat leather traces, while round eyes and curved hooks will be more appropriate for chain traces.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a whiffletree having eyes at its ends, the combination of flat springs having hooks or cross-bolts at their outer ends and boxes or castings for the reception of the inner ends of the springs, having sockets at their inner ends and cross-straps at their outer ends, and secured to the rear side of the whiffletree, as and for the purpose set forth.

2. In a whiffletree having eyes at its ends, the combination of flat springs having means for the attachment of traces at their outer ends and having perforations at their inner ends, boxes or castings open at their outer sides and having sockets at their inner ends and cross-straps at their outer ends for re-

ceiving and holding the inner ends of the springs, and bolts passing through the perforated inner ends of the springs and through the boxes and the whiffletree, as and for the purpose shown and set forth.

3. In a whiffletree having eyes at its ends, an eye sliding longitudinally to the whiffletree and at the rear side of each end of the same, as and for the purpose shown and set forth.

10 4. The combination of a whiffletree having a flat vertical eye at its end, with a vertical flat eye sliding longitudinally to the whiffletree and at the rear of the end of the same, and having means for adjusting it, as and for the purpose shown and set forth.

15 5. In a whiffletree having flat vertical eyes at its ends, the combination of flat springs secured at their inner ends to the rear side of the whiffletree and having means for attaching the eyes of traces at their outer ends

with a flat vertical eye sliding adjustably upon the spring, as and for the purpose shown and set forth.

6. In a whiffletree having flat vertical eyes at its ends, the combination of flat springs secured at their inner ends to the rear side of the whiffletree and having hooks or cross-bolts at their ends with flat vertical eyes having clamping-lips bent toward each other and sliding upon the edges of the spring and having a set-screw in the lower lip, as and for the purpose shown and set forth.

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

JACOB E. BLACKBURN.

Witnesses:

FRANK V. OWEN,  
OMER P. ROWLEY.