

# Elias Sanford, Draught-Attachment, Horses.

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Fig. 1.

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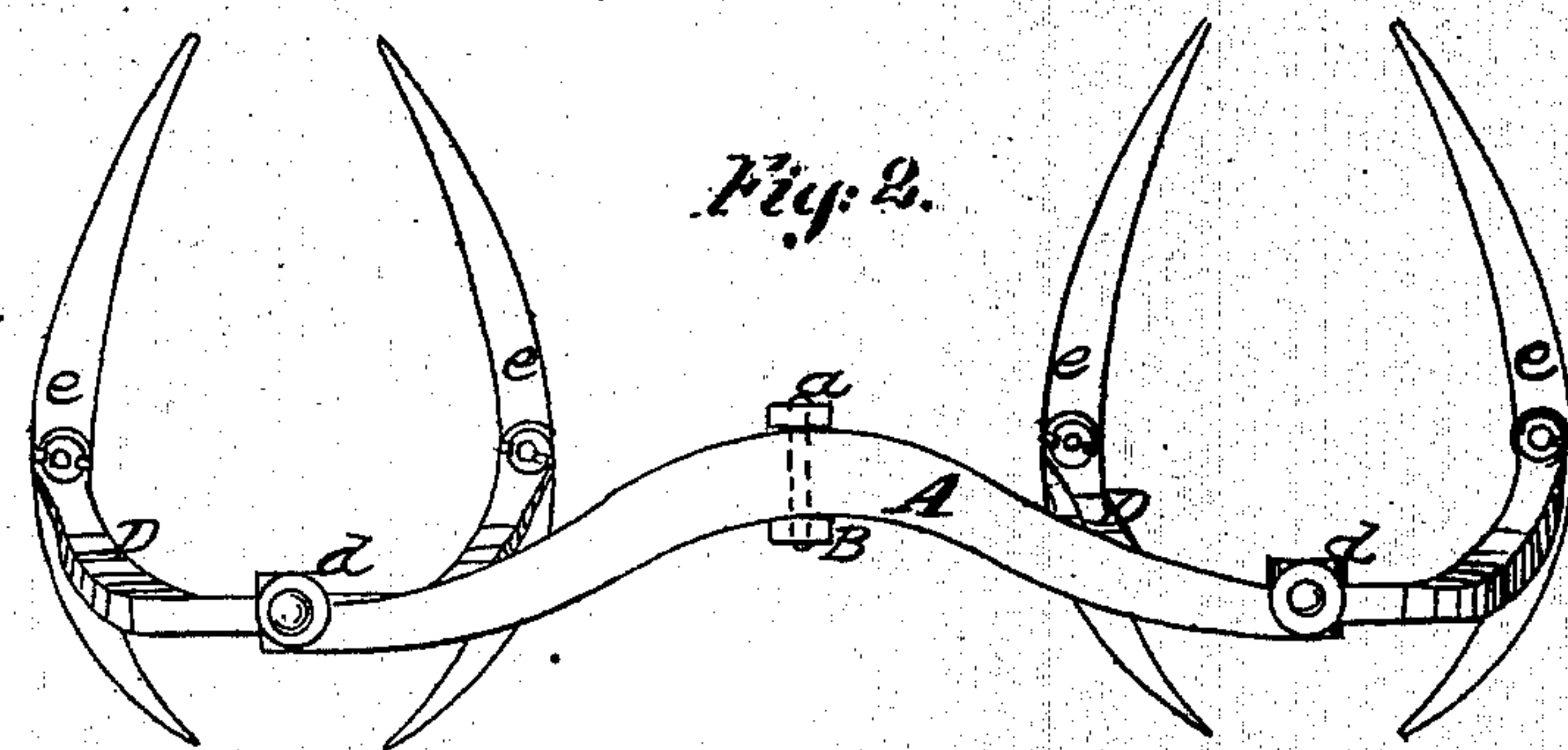
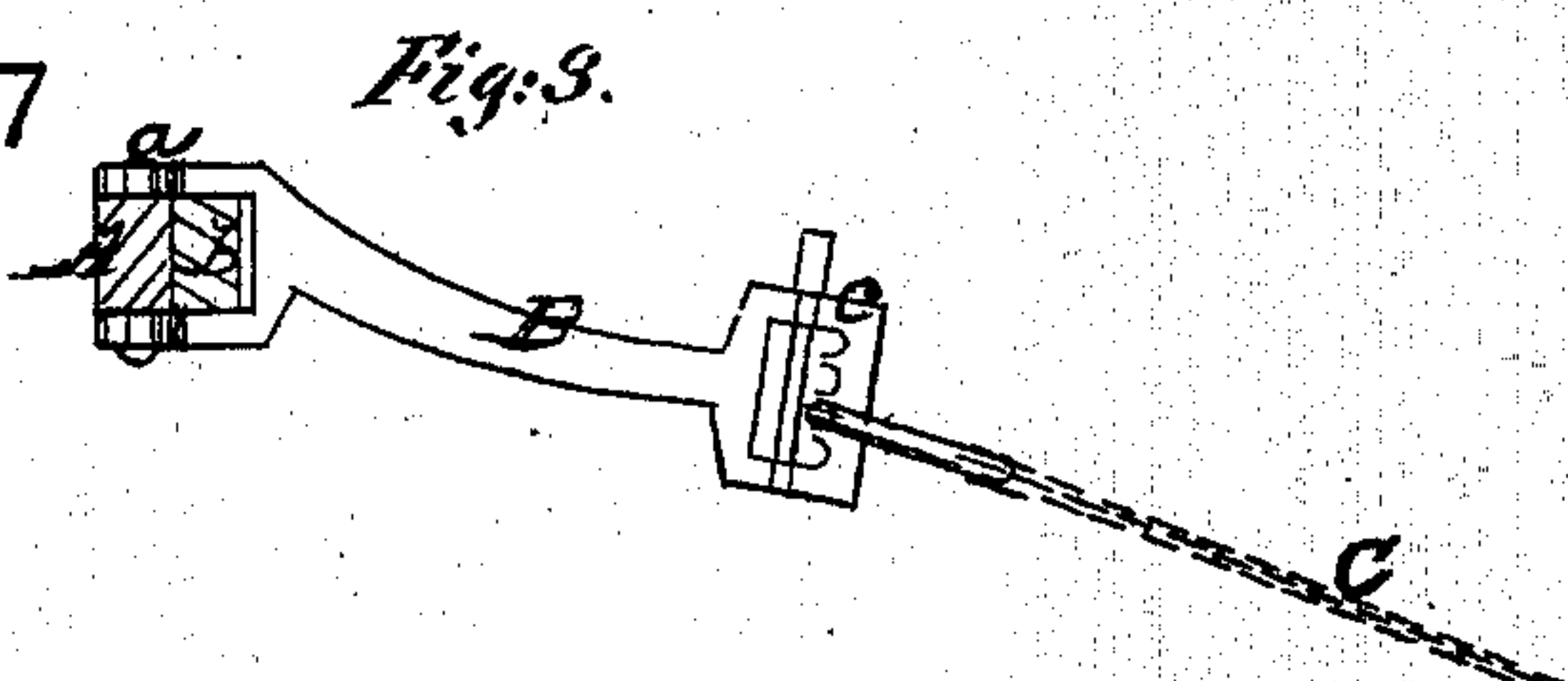
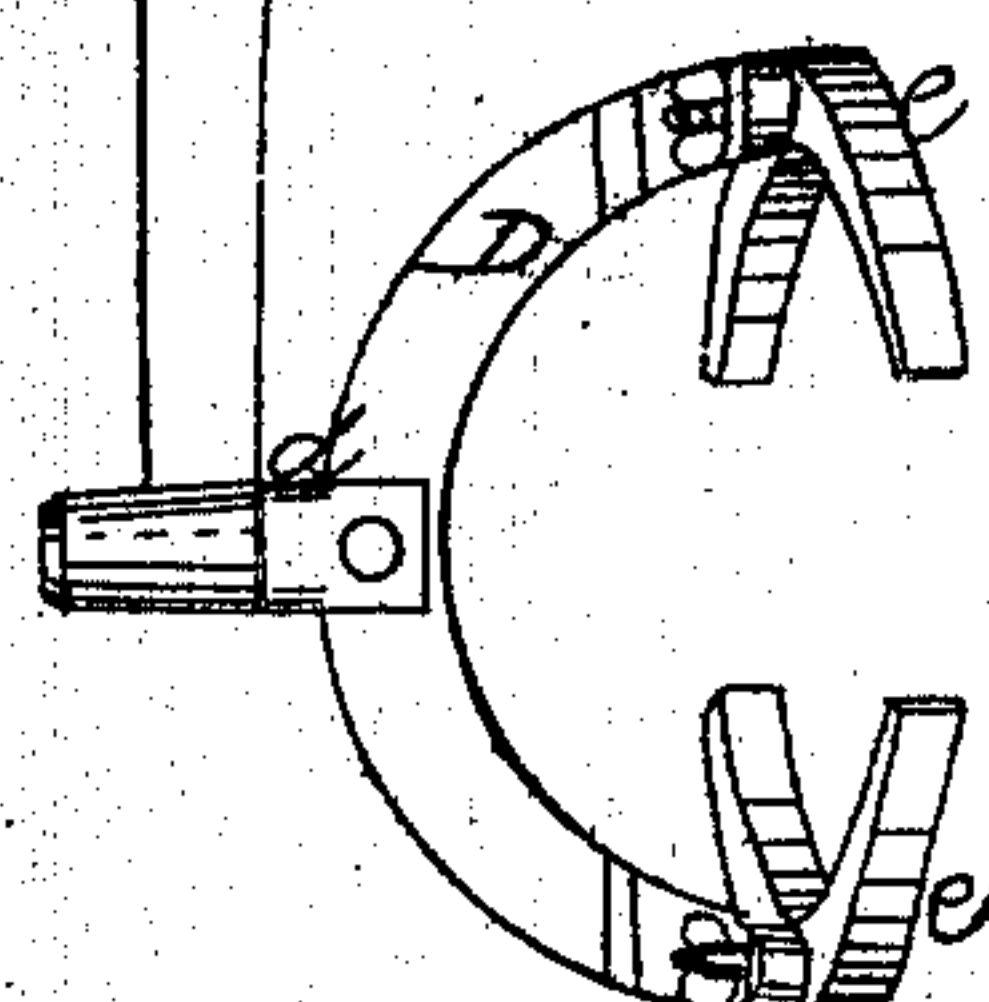
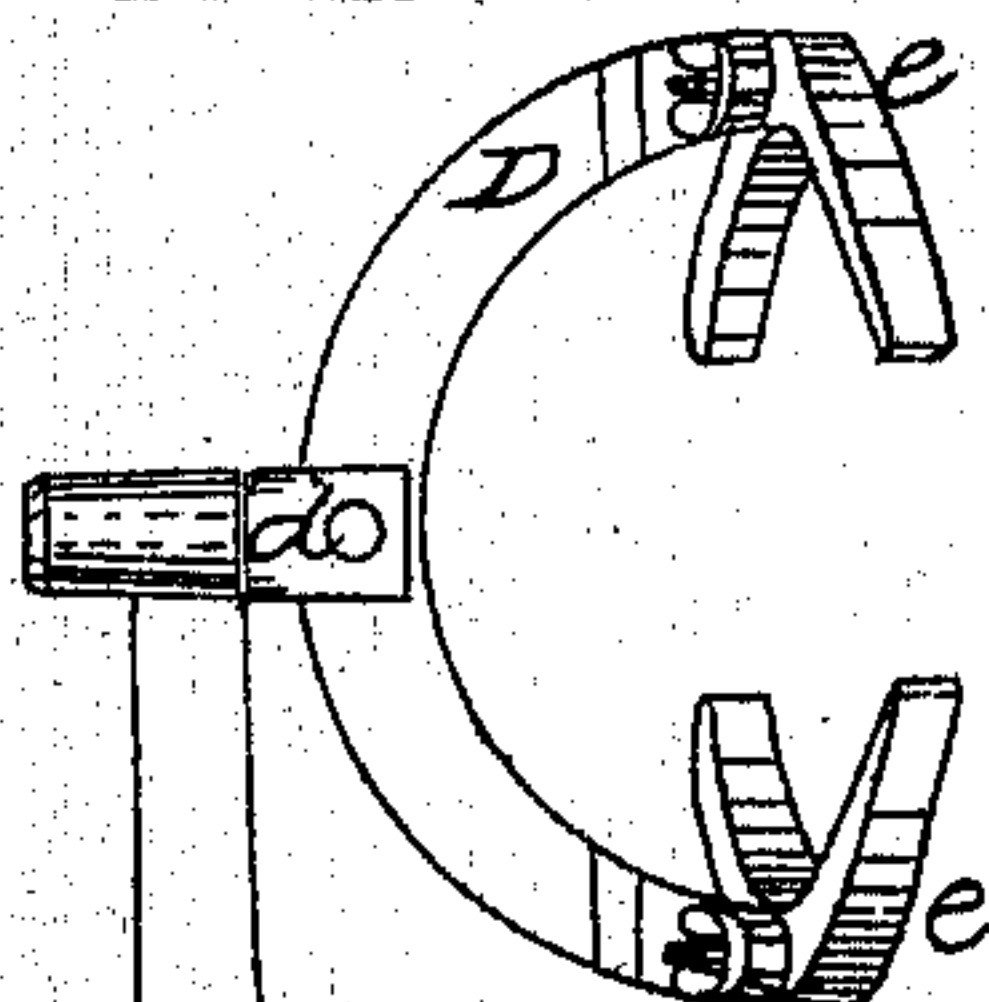


Fig. 4.

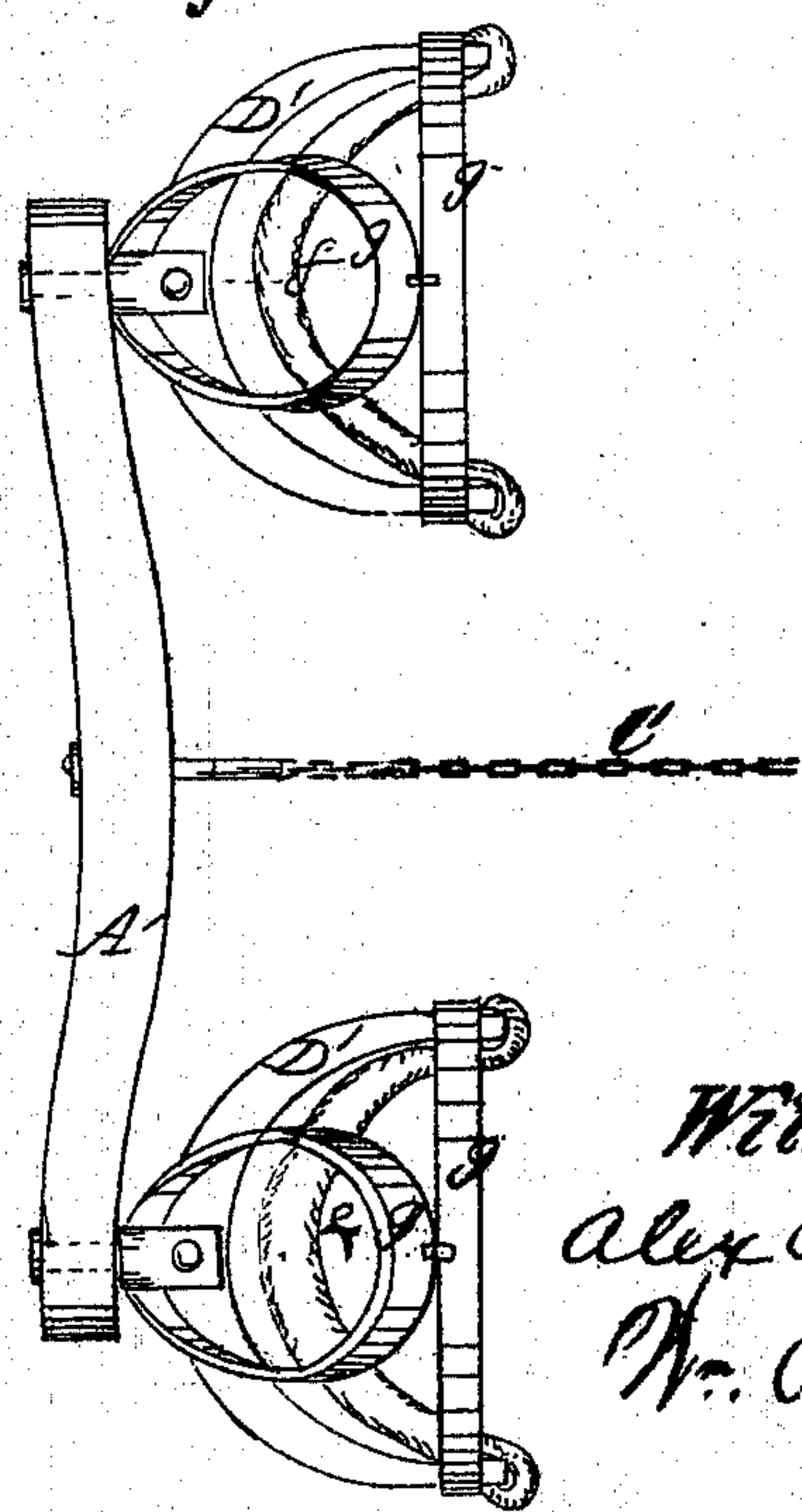
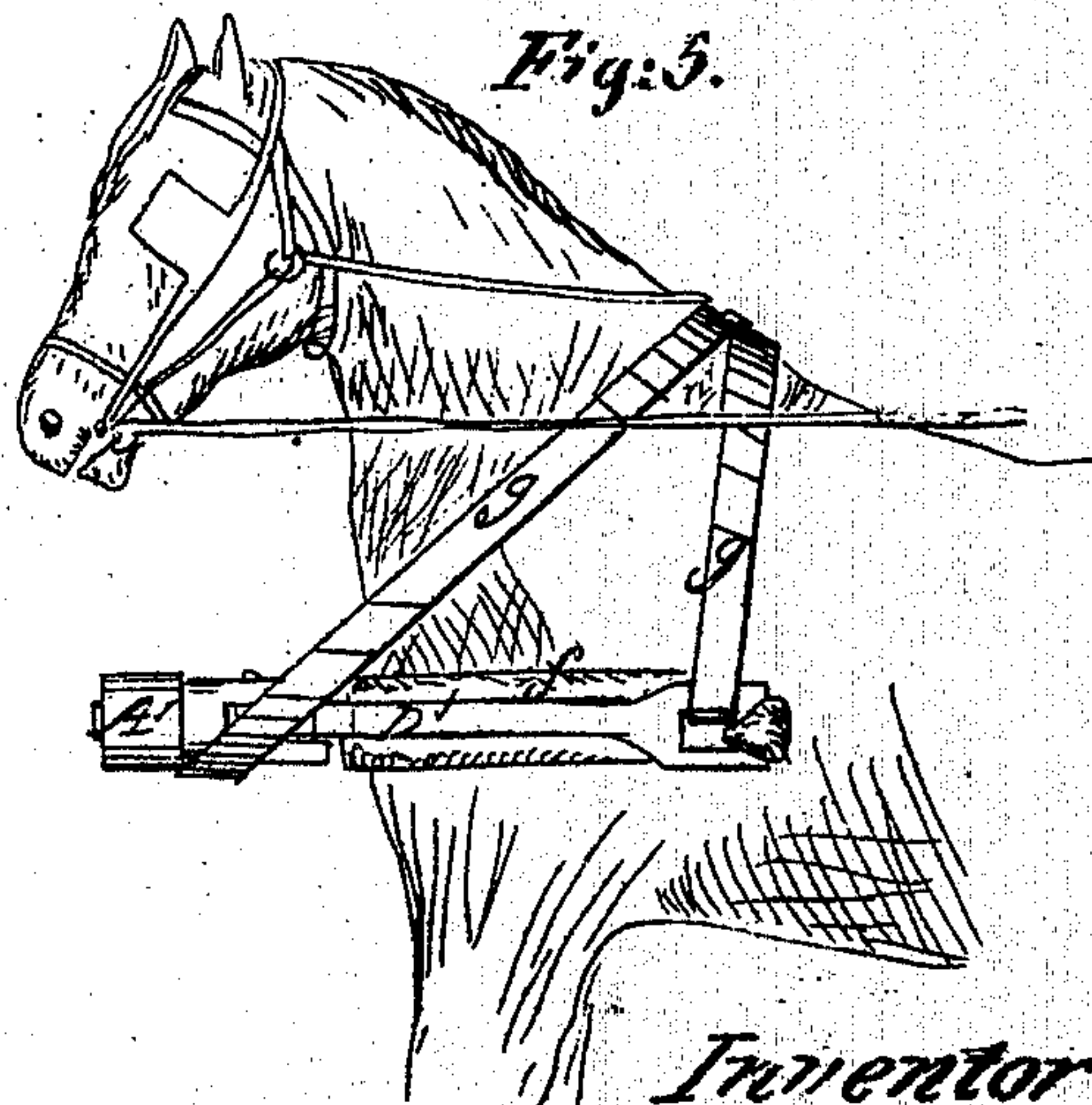


Fig. 5.



Witnesses  
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# United States Patent Office.

ELIAS SANFORD, OF MERIDEN, CONNECTICUT.

*Letters Patent No. 71,415, dated November 26, 1867.*

## IMPROVED DRAUGHT-ATTACHMENT FOR HORSES.

*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, ELIAS SANFORD, of Meriden, in the county of New Haven, and State of Connecticut, have invented a new and improved Draught-Attachment for Horses, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to have secured to me by Letters Patent.

This invention relates to a new and improved draught-attachment for horses, whereby the use of traces is avoided, and a central draught-chain employed, similar to that used with a yoke and cattle.

The object of the invention is to overcome the difficulty attending the ploughing of orchards with horses, to wit, the stripping of the bark from the trees, in consequence of the ends of the whiffle-trees coming in contact with the same. In the accompanying sheet of drawings—

Figure 1 is a plan or top view of my invention.

Figure 2, a front view of the same.

Figure 3, a transverse vertical section of the same taken in the line *x x*, fig. 1.

Figure 4, a plan or top view of a modification of the same.

Figure 5, a side or end view of fig. 4.

Similar letters of reference indicate like parts.

A represents a bar, which may be constructed of metal or wood, and curved upward at its central part, as shown in fig. 2. To the centre of this bar there is attached, by a pivot-bolt, *a*, a short tongue, B, said tongue being forked, so as to lap over the top and bottom edges of the bar A, as shown in fig. 3, and a space allowed at the rear side of the bar for the insertion of a spring, *b*, of India rubber or other suitable material. The rear end of the tongue B is provided with a clevis, *c*, in which the ring of the draught-chain C is fitted. To each end of the bar A, a whiffle-tree, D, is attached, by a universal joint, *d*. These whiffle-trees are of semicircular form, as shown in fig. 1, and bent or curved upward at their ends, as shown in fig. 2. The ends of the whiffle-trees are connected to the hames *e* by screws and nuts, or other proper means, which will admit of the bar and whiffle-trees being readily applied to and detached from the harness.

From the above description it will be seen that a double-tree and two whiffle-trees are virtually obtained, and a central draught-chain, which effectually obviates the stripping of bark from trees by the whiffle-trees coming in contact with them during the operation of ploughing.

The spring *b*, inserted in the fork of the tongue, has a tendency to keep the same in proper position, and at the same time permits of a free adjustment of the bar A to the movement of the team.

In figs. 4 and 5, my invention is shown adapted to what is known as the "Dutch" or "breast" collar, the latter consisting of a breast-strap, *f*, suspended by straps *g g*, passing over the neck of the animal, (see fig. 5.)

The bar A' and whiffle-trees D' are substantially the same as A D.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The whiffle-trees D, connected by a swivel-joint to the curved bar A, when such whiffle-trees are removably pivoted to the side of the hames *e*, as herein described, for the purpose specified.
2. In combination with the curved bar A, whiffle-trees D, and hames *e*, the tongue B, when provided with the elastic block *b*, substantially as described, for the purpose specified.

ELIAS SANFORD.

Witnesses:

ORVILLE H. PLATT,  
RATCLIFFE HICKS.