

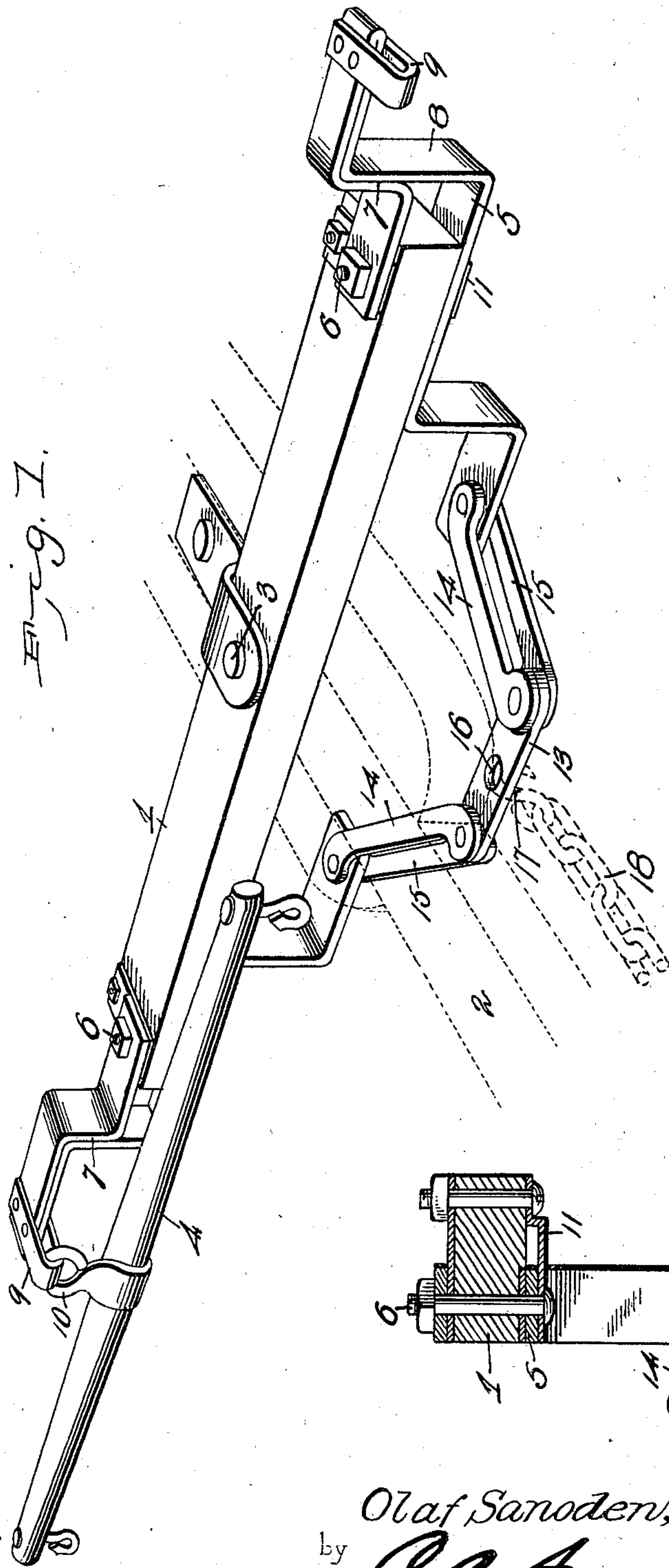
No. 724,047.

PATENTED MAR. 31, 1903.

O. SANODEN.  
DRAFT EQUALIZER.

APPLICATION FILED NOV. 15, 1902.

NO MODEL.



Witnesses  
*E. K. Shwab*  
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# UNITED STATES PATENT OFFICE.

OLAF SANODEN, OF LEESTON, MINNESOTA, ASSIGNOR OF ONE-HALF TO HALVOR SANODEN, OF LEESTON, MINNESOTA, AND ELLEF G. BORGES, OF MELVIN, MINNESOTA.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 724,047, dated March 31, 1903.

Application filed November 15, 1902. Serial No. 131,567. (No model.)

*To all whom it may concern:*

Be it known that I, OLAF SANODEN, a citizen of the United States, residing at Leeston, in the county of Polk and State of Minnesota, have invented a new and useful Draft-Equalizer, of which the following is a specification.

This invention relates to improvements in draft-equalizers.

The object of the present invention is to improve the construction of draft-equalizers and to provide a simple, inexpensive, and efficient device designed for use on vehicles and adapted to equalize the draft between a tongue-team and a front or lead team.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a draft-equalizer constructed in accordance with this invention. Fig. 2 is a detail sectional view illustrating the manner of fulcruming the equalizing-levers on the ends of the doubletree.

Like numerals of reference designate corresponding parts in both figures of the drawings.

1 designates a doubletree pivoted at its center to the upper face of a tongue 2 by a pin 3 in the usual manner and having its ends connected with singletrees 4 by means of equalizing-levers, which are also designed to be connected by the means hereinafter described with a front or lead team. Each equalizing-lever 5 is fulcrumed between its ends at the lower face of the doubletree by means of a bolt 6 or other suitable pivot, and the inner and outer arms of the equalizing-lever are angularly bent in opposite directions to arrange the inner end of the lever in a plane below the tongue and the outer end of the lever in a plane above the upper face of the doubletree. The outer arm of the doubletree is supported by a brace 7, formed by bending the material of which the lever is constructed back upon itself, as shown, and extending from the upper face of the doubletree to the upright portion 8 of the outer arm of the equalizing-lever and perforated to re-

ceive the pivot 6. The outer arms of the equalizing-levers are provided with loops or clevises 9 for the reception of rings or eyes 10 of the singletree; but the latter may be connected with the outer arms of the equalizing-levers in any other desired manner. The doubletree is provided at its upper and lower faces with wear-plates, and the pivot is supported at the lower face of the doubletree by a brace 11 disposed transversely of the said doubletree. The inner portions of the equalizing-lever are approximately L-shaped and are spaced apart to provide an opening or space of sufficient size to enable the draft-equalizer to be placed on the tongue from the rear end thereof. The inner ends of the equalizing-levers are connected with a clevis 13 by links 14 and 15, arranged in pairs and located at the upper and lower faces of the parts, as clearly shown in Fig. 1 of the drawings. The clevis 13 is provided with a central opening 16 for a hook 17 or other suitable device of a rope or chain 18, which is designed to extend forward to the front or lead team. The transverse equalizing-levers are adapted to oscillate on the ends of the doubletree and equalize the draft between the front and rear teams of a vehicle.

It will be seen that the draft-equalizer is simple and comparatively inexpensive in construction, that it is strong and durable, and that it is adapted to be readily applied to and removed from a vehicle.

What is claimed is—

1. A draft-equalizer comprising a doubletree centrally pivoted at the rear portion of a tongue, a pair of equalizing-levers fulcrumed on the doubletree at opposite sides of the tongue and having their inner portions arranged in a plane below the tongue, singletrees connected with the outer arms of the equalizing-levers, a clevis connected with the inner arms of the equalizing-levers and located beneath the tongue, and means for connecting the clevis with a lead team, substantially as described.

2. A draft-equalizer comprising a doubletree, adapted for pivotal attachment to a tongue, equalizing-levers fulcrumed on said doubletree and having their inner and outer ends arranged respectively below and above

the plane occupied by the tongue, singletrees connected with the outer ends of said levers, and a clevis connected with the inner ends of the levers and adapted to be connected to a  
5 lead team.

3. A draft-equalizer comprising a double-tree, equalizing-levers fulcrumed on the lower face of the doubletree and having their ends angularly bent and arranged above and be-  
10 low the tongue, the outer portions of the levers being provided with braces connected

with the doubletree, a clevis located beneath the tongue, and links connecting the clevis with the inner ends of the levers, substantially as described.

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

OLAF SANODEN.

Witnesses:

J. W. ALSETH,

GILBERT SANODEN.