

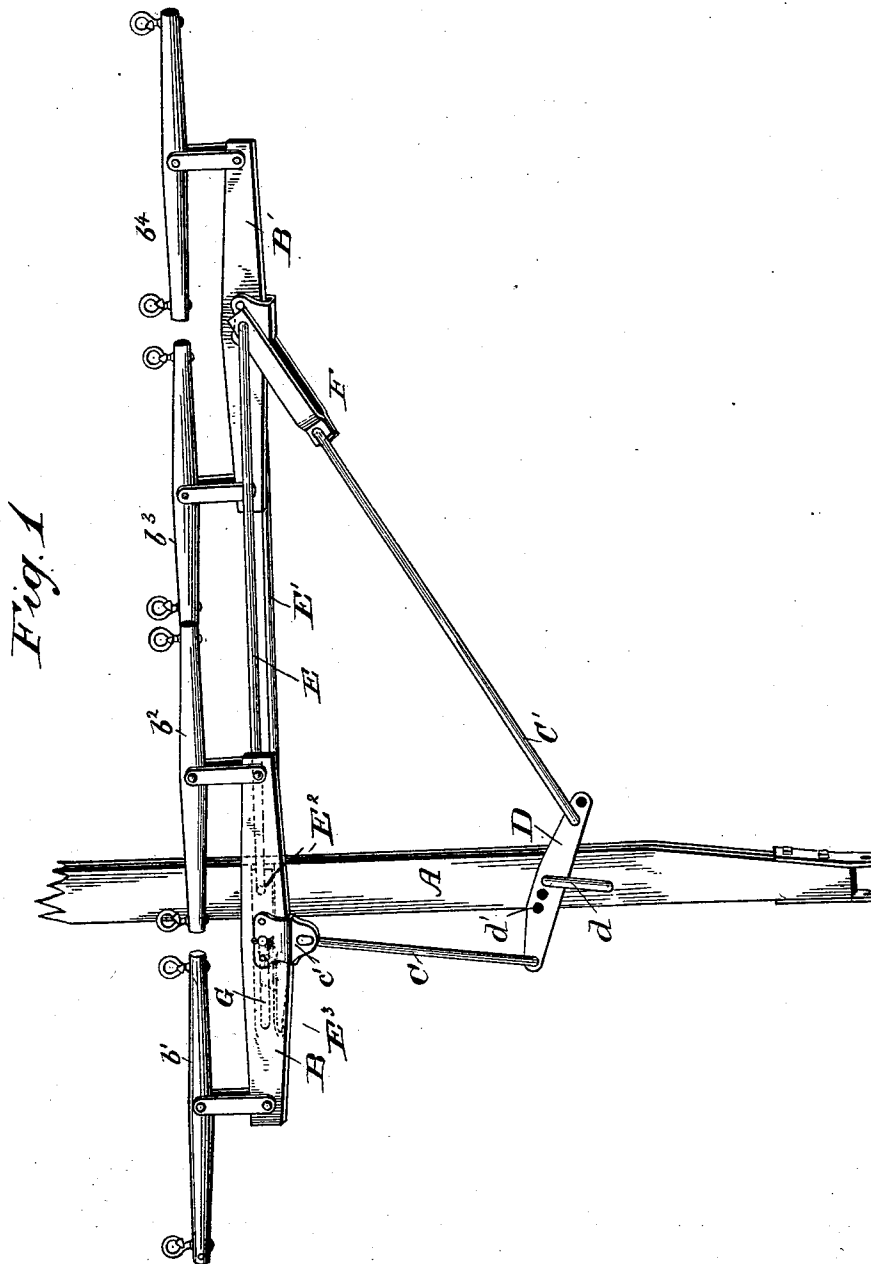
(No Model.)

2 Sheets—Sheet 1.

O. S. ELLITHORP.
DRAFT EQUALIZER.

No. 507,113.

Patented Oct. 24, 1893.



Witnesses:
Arthur Johnson
A. L. Upton.

Inventor.
Orren S. Ellithorpe

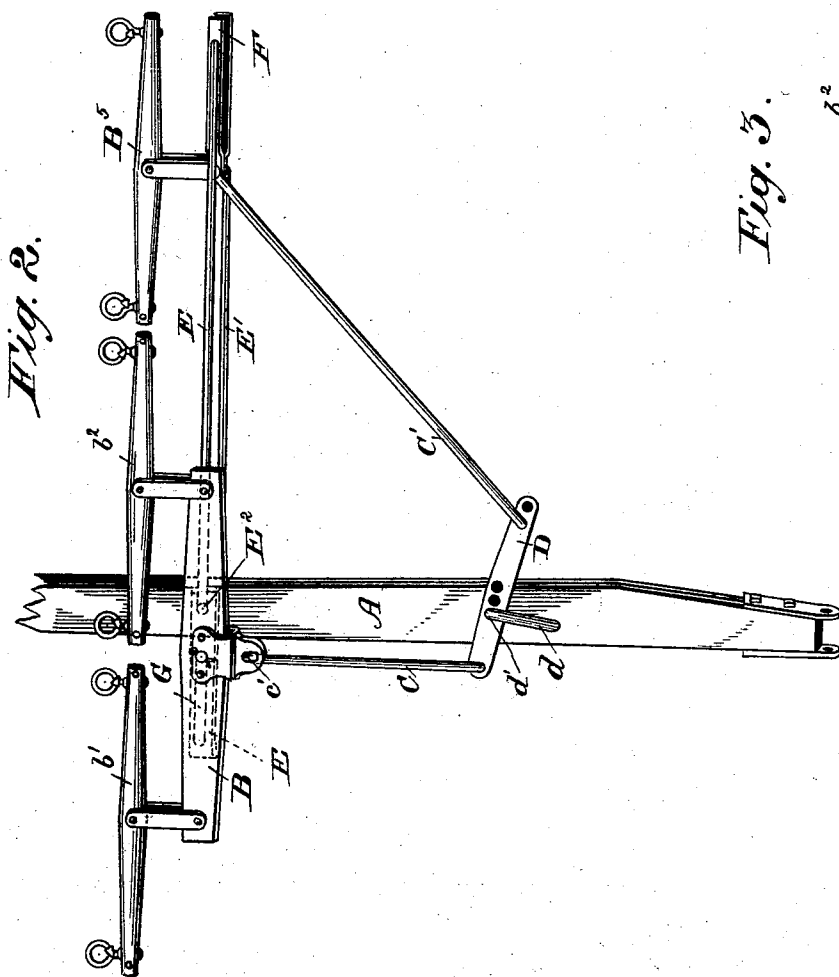
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O. S. ELLITHORP.
DRAFT EQUALIZER.

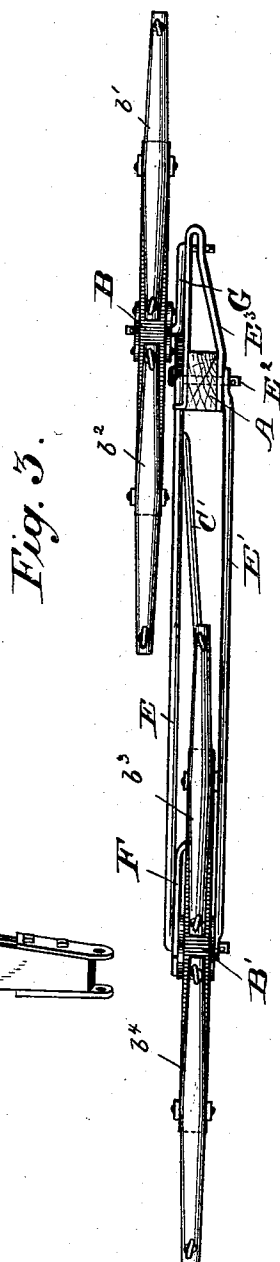
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UNITED STATES PATENT OFFICE.

ORREN S. ELLITHORP, OF CHICAGO, ILLINOIS.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 507,113, dated October 24, 1893.

Application filed August 16, 1893. Serial No. 483,244. (No model.)

To all whom it may concern:

Be it known that I, ORREN S. ELLITHORP, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the equalizer as adapted to four horses. Fig. 2 is a perspective view of the same as adapted to three horses. Fig. 3 is a front elevation.

A is the draft tongue of a harvesting or other machine, jointed to the said machine that is to be drawn.

B and B' are ordinary doubletrees, having connected thereto the whiffletrees b^1 , b^2 , b^3 and b^4 . The animals are arranged relative to the whiffletrees, as usual, and in order that the stress of draft may be transmitted to the tongue, links C and C' are provided that extend backwardly to the equalizing lever D, held to the tongue by the staple d , one fork of the staple serving as a pivot upon which the said lever may vibrate. The doubletrees are shown as constructed alike, except that B has a clasp having an eye c' into which the rod C is hooked and between the broad parts of which the doubletree is placed.

E and E' are radius rods pivoted in the tongue at E^2 .

E^3 is a radius piece extending from the pivotal point E^2 in the tongue outward beneath the doubletree B, preferably made of flat steel. Between the radius bars E and E', the doubletree B' is placed.

F is a stirrup, its two parts lying above and below the doubletree B', and connected to the rod E, the latter being hooked into an eye thereof.

The evener B' is sustained by the stiffness of the bars E and E'. If stress be applied to this evener in the proper direction it will be drawn forward being permitted to move because of the freedom of the equalizer bar D to move on its axis. The equalizer B is sustained by the radius piece E^3 and made free to move forward, as stress is applied to it by connecting it to the outer end of said radius piece E^3 by a cranked radius bar G. This passes down through the parts forming the arm E^3 and is thus pivoted, and upward through

the doubletree B. Being free to move on its axis in E^3 , the equalizer B will be moved forward and backward as stress is applied to it. Being attached, however, by the link C to the equalizer bar D, the equalizer B is moved forward when B' is drawn backward, and vice versa.

The equalizer B, the bars E and E' and the link C' are so proportioned as to properly equalize the stress applied by the two teams, but preferably a number of holes are provided so that the fulcrum can be changed at will.

In Fig. 1 the link connecting the doubletree B' to the equalizing lever D is shown as made of two parts C' and F, but in that figure they serve but one function, namely, that of a draft-rod.

In Fig. 2 the doubletree B' is not shown but a singletree B^5 is connected to the hook at the forward end of C', and the stirrup F is swung forward somewhat. With the parts in this position it will be seen that the leverage is decreased because of the stirrup F having been swung forward, and in effect the radius rods E and E' thus shortened. This would give the single horse attached to the whiffletree B^5 a disadvantage. To restore the proper leverage so that the single horse may be required to exert but one half the draft of the two applied to the doubletree B, I adjust the equalizing lever D so that the draw pin d shall be in another of the holes, for instance, that of d' . With the parts in these positions I have a perfect three-horse equalizer.

In Fig. 1 it will be seen that the direction of the rod E' is sufficiently far away from the line of the tongue to give room for the span of horses attached to the doubletree B'. If this doubletree be taken away and the singletree applied, the single horse would be much farther away from the side of the tongue than necessary, and unnecessary side draft would be produced, but the length of the stirrup F is such that when thrown to the position shown in Fig. 2 the single horse attached to the whiffletree B^5 will be the nearest possible to the tongue, consistent with leaving room for the middle horse.

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

In combination with the tongue the equalizing lever D, having an adjustable fulcrum,

the doubletree B, supported on the tongue, but free to move forward and backward and connected to the equalizing lever by the link C, the arm E—E' supporting the doubletree
5 or singletree as required, the stirrup F and the link C', the latter connected to the equalizing lever D, all combined substantially as described, whereby provision is made for the

attachment of a singletree or doubletree as required, to act upon the equalizing lever D 10 through the link C', substantially as described.

ORREN S. ELLITHORP.

Witnesses:

MANUEL B. HART,
ARTHUR JOHNSON.