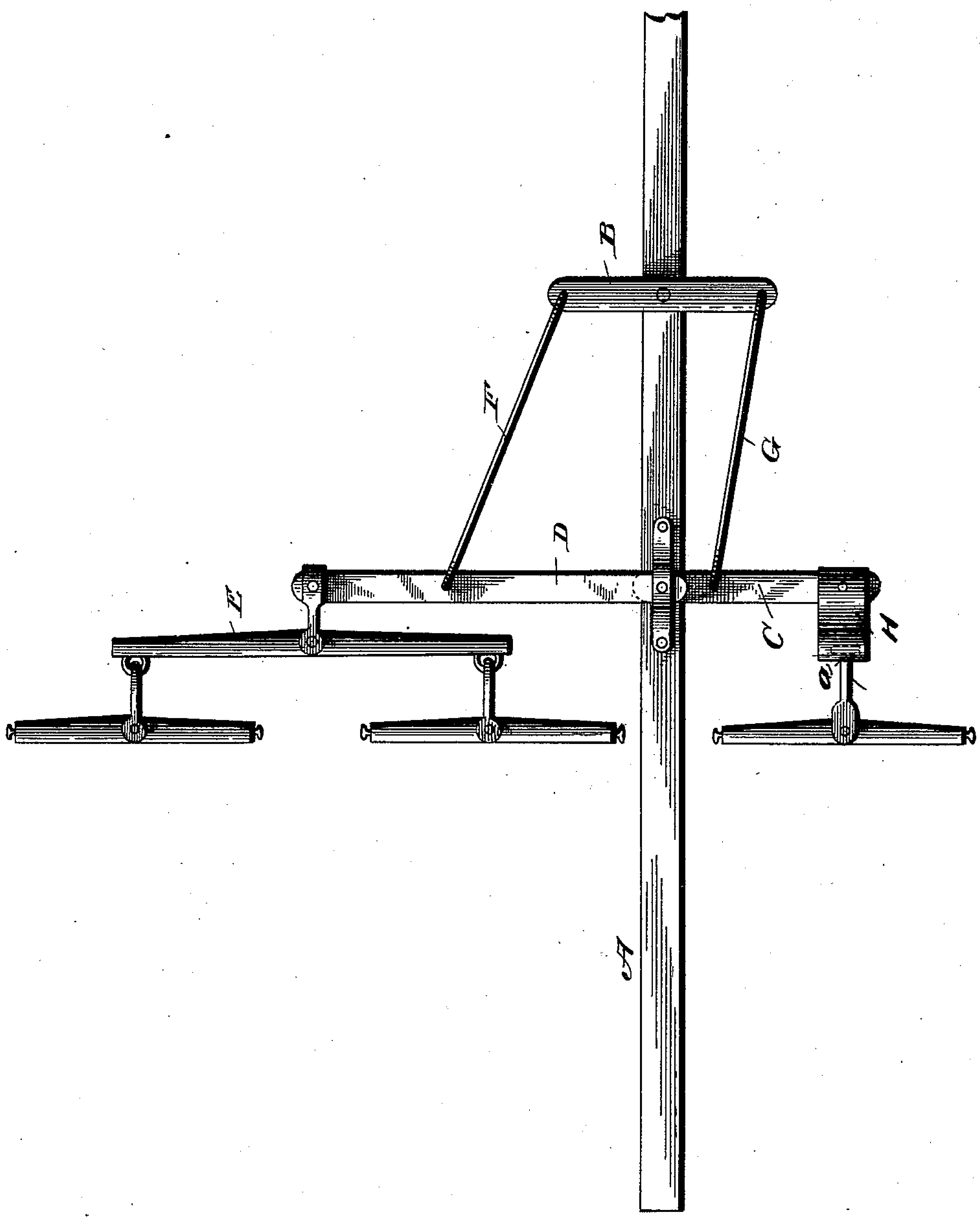
(No Model.)

L. C. HARRIS.

DRAFT EQUALIZER.

No. 405,161. Patented June 11, 1889.



Witnesses:

[signature]

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LISCUS C. HARRIS, OF OSKALOOSA, IOWA.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 405,161, dated June 11, 1889.

Application filed February 25, 1889. Serial No. 301,014. (No model.)

To all whom it may concern:

Be it known that I, LISCUS C. HARRIS, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Draft-Equalizers; and I do 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 appertains to make and use the same.

This invention has relation to improvements in draft-equalizers, and the novelty will be fully understood from the following description and claims, when taken in connection with the annexed drawing, in which the figure is a plan view of a draft-equalizing device constructed according to my improvements.

Before describing the details of construction, I desire to say that I am well aware that it is not new to provide a draft-equalizer with a rear doubletree pivoted to the draft-pole at such a point as to have one arm twice the length of the other, and to employ two levers in advance of the said doubletree, pivoted to the draft-beam, and one of the levers twice the length of the other, the levers being respectively connected at their pivot-points by a rod to the pivot-point of the doubletree, and the outer ends of said doubletree connected by rods of equal length to the long and short levers, respectively. It is obvious that with a device of this construction there will be a considerable amount of side draft, the equalization of draft depending altogether upon the length of the levers and doubletree employed.

Referring by letter to the accompanying drawing, A indicates a draft-beam such as usually employed.

B indicates a doubletree, which may be of any suitable length and pivoted about midway of its length to the draft-beam A.

C indicates a lever, which is pivoted at one end to the draft-beam, as shown, and its other end is adapted to receive a whiffletree for the attachment of a draft-animal.

D indicates a lever, which should be of greater length than the lever C, although it is not necessary to have this lever twice as long as the lever C, and care need not be taken to have it any particular length, it being only necessary to attain a length sufficient for the comfort of the draft-animal at one side of the pole or beam. This beam or lever D is pivotally connected with the draft-beam A by the same pivot-pin that connects the short lever C. To the outer end of the beam D is attached a doubletree E, adapted to receive at opposite ends a singletree, as shown.

F indicates a connecting-rod, which connects the large lever D with one end of the doubletree B, and the leverage or purchase which the two draft-animals may be allowed will depend upon the fulcrum-point or point at which the forward end of the rod F is attached to the lever D, the attachment being preferably at a point in close proximity to the attachment of the doubletree E.

G indicates a rod, which connects the opposite end of the doubletree B with the short lever C, and the point of attachment with the said lever C is preferably adjacent to its pivotal point with the draft-beam A. It will thus be seen that the regulation of draft and the prevention of lateral draft do not depend upon the size of levers or doubletree employed, but solely on the fulcrum-points, where a greater or less purchase may be afforded to the draft-animals. It will also be observed that the rod G is of a less length than the rod F.

The whiffletree H is connected with the lever C by means of a swivel-joint at *a*.

Having described my invention, what I claim is—

The combination, with the draft-beam A, of the doubletree B, pivoted midway of its length directly to the draft-beam and without any intermediate device, the short lever C, pivoted at its inner end to the draft-beam and carrying the swivel H at its outer end for the attachment of the singletree, the rod G, connecting said lever C near its pivotal point with one end of the doubletree, the long lever D, pivoted at its inner end to the

draft-beam and carrying at its outer end a clip for the attachment of the whiffletree, and the straight rod F, pivotally connecting one end of the doubletree B with the lever D, and near the outer end of the latter, so that both levers will have unequal arms, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

LISCUS C. HARRIS.

Witnesses:
O. D. REED,
J. P. O. HAND, Jr.