

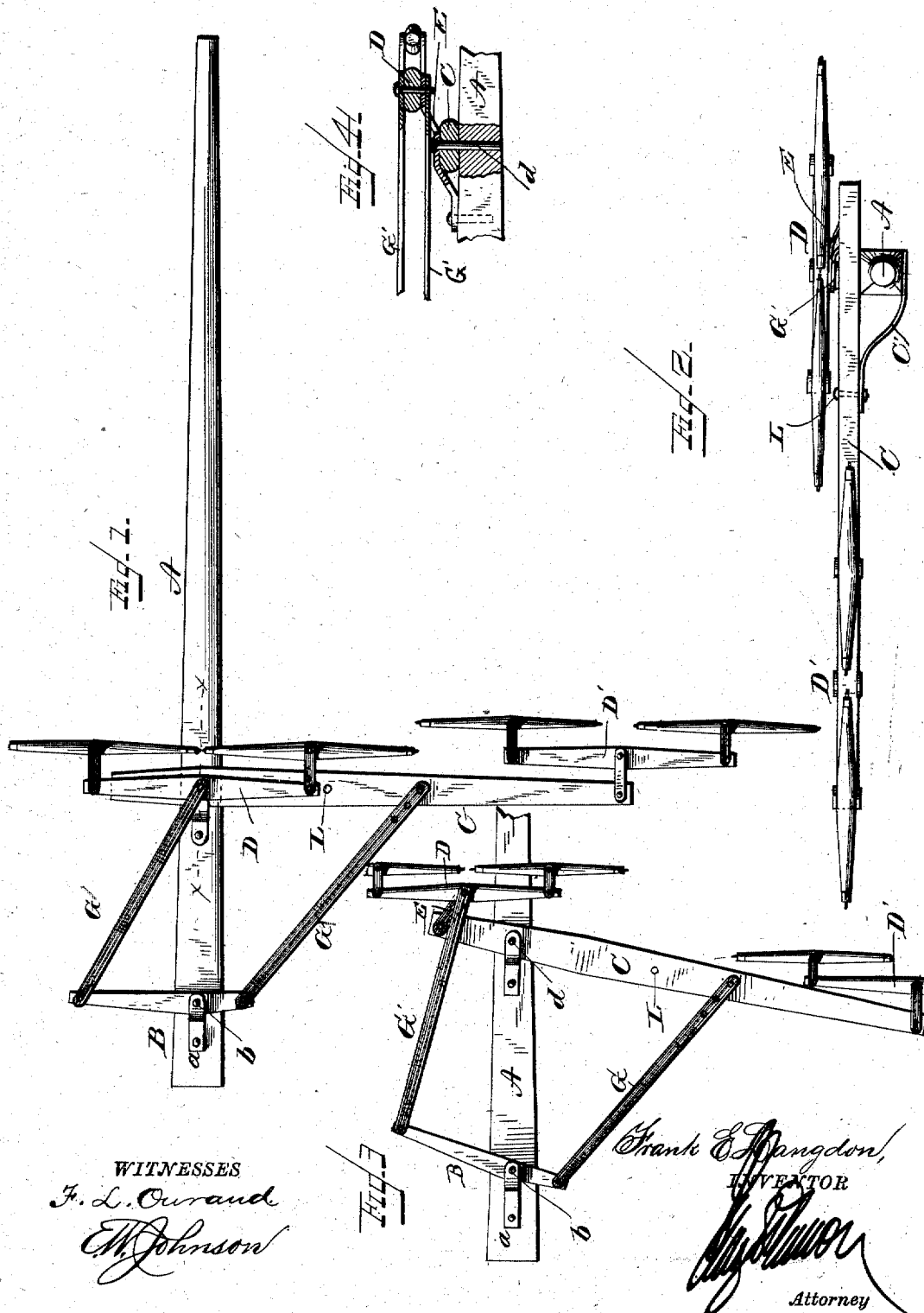
(No Model.)

F. E. LANGDON.

DRAFT EQUALIZER.

No. 342,612.

Patented May 25, 1886.



WITNESSES
F. L. Ouraud
E. M. Johnson

Frank E. Langdon,
INVENTOR
[Signature]
Attorney

UNITED STATES PATENT OFFICE.

FRANK E. LANGDON, OF GRUNDY CENTRE, IOWA, ASSIGNOR TO JOSEPH C. RICE, OF SAME PLACE.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 342,612, dated May 25, 1886.

Application filed August 6, 1885. Serial No. 173,751. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. LANGDON, a citizen of the United States of America, residing at Grundy Centre, in the county of Grundy and State of Iowa, have invented certain new and useful Improvements in Draft-Equalizers; and I do hereby 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in draft-equalizers; and it consists in the construction and combination of the parts, whereby one horse may be used on one side of the pole and two or more on the other side, said device being adapted for use in connection with plows, reapers, self-binding harvesters, or other devices where it is desirable to overcome the side draft.

In the accompanying drawings, which illustrate my invention, Figure 1 is a plan view of my improvement. Fig. 2 is a front view. Fig. 3 is a plan view showing the whiffletrees out of line, and Fig. 4 is a sectional view taken through the line *xx* of Fig. 1.

A represents a pole or tongue of ordinary construction, which may be attached to the wagon or implement in the ordinary manner, which pole is provided near its rear end with a lever, B, one-third of which is located to one side of the bolt *b*, while the other two-thirds projects on the opposite side. A suitable bent strap, *a*, which is secured to the pole, is employed for attaching the lever B pivotally to the pole.

At a suitable distance in front of the lever B a lever, C, is similarly pivotally secured to the pole A, and from the under side of the pole extends a brace, C', which is pivotally attached thereto and to the under side of the lever C. This brace C' will prevent the long end of the lever C from sagging. The lever C projects a short distance over the pole A, as shown, and at a point equal to one-half the length of the opposite end of the lever is pivotally attached the bars G, the opposite ends

of said bars being secured to the short end of the lever B.

Instead of employing parallel connecting-bars, G, a single bar having bifurcated ends may be used.

To the short end of the lever C, preferably on the upper side of the same, a link, E, is pivotally attached thereto, said link being of sufficient length to extend over the pivot-pin *d*, which connects the lever C with the pole, and this link, as well as the double-tree D, is connected to the long end of the lever B by the connecting-bars G.

To the long end of the lever C is attached a double-tree, D', both of the double-trees D D' hereinbefore referred to being provided at their ends with clevises, to which are attached single-trees.

By the construction shown in the drawings, one of the horses will be located on one side of the pole, while the other three will be abreast of each other and on the opposite side of the pole. If the horses attached to the double-tree D move forward faster than the horses attached to the double-tree D', they will draw said double-tree forward, which will carry with it the link E, as well as the long end of the lever B, this forward movement of the double-tree D drawing the long end of the lever C, with the double-tree D', backward, thereby putting more strain upon this double-tree. If the double-tree D' is moved forward, the opposite movement takes place, and each team is compelled to do its share of work.

It will be noticed that in the organization of the parts hereinbefore described the levers B C are pivotally connected to the center of the pole and on a line with each other, and that the parts are all movable or pivotally connected to each other, and that it is necessary to provide the pole with rigid cross-bars or side blocks, and that the construction of the parts are such that they may be readily applied to poles or tongues without alteration.

By pivotally connecting the parts to each other so that they will move in unison, all side draft is avoided.

In the drawings I have illustrated my invention as adapted for use as a four-horse equalizer; but by removing the double-tree D' a

and placing a single-tree in its place, and also moving the bar G to the point L and attaching the same at this point, I provide an improved three-horse equalizer. At this point
5 L the bolt which is used to attach the brace G to the lever C passes through the same and forms a convenient connecting means.

I claim—

1. In a draft-equalizer, the combination,
ic with a tongue and front and rear levers, each having arms of unequal lengths, of a bar connecting the short arm of the rear lever with the long arm of the front lever, a double-tree, a link for connecting the double-tree to the
15 short arm of the front lever, and a bar connecting the short arm of the rear lever with the double-tree, substantially as set forth.

2. In a draft-equalizer, the combination, with the front and rear levers, substantially as described, of the bar pivoted to the short
20 arm of the rear lever and adjustably secured to the long arm of the front lever, a whiffletree, a link connecting the whiffletree and short arm of the front lever, and a bar pivoted at one end to the long arm of the rear lever
25 and at its opposite end to the whiffletree, substantially as described.

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

FRANK E. LANGDON.

Witnesses:

G. B. VAN NEST,
H. L. SIMPSON.

It is hereby certified that in Letters Patent No. 342,612, granted May 25, 1886, upon the application of Frank E. Langdon, of Grundy Centre, Iowa, for an improvement in "Draft-Equalizers," an error appears in the printed specification requiring correction, as follows: In line 16, page 2, the word "short" should read *long*; and that the Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 12th day of November, A. D. 1889.

[SEAL.]

CYRUS BUSSEY,

Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,

Commissioner of Patents.