

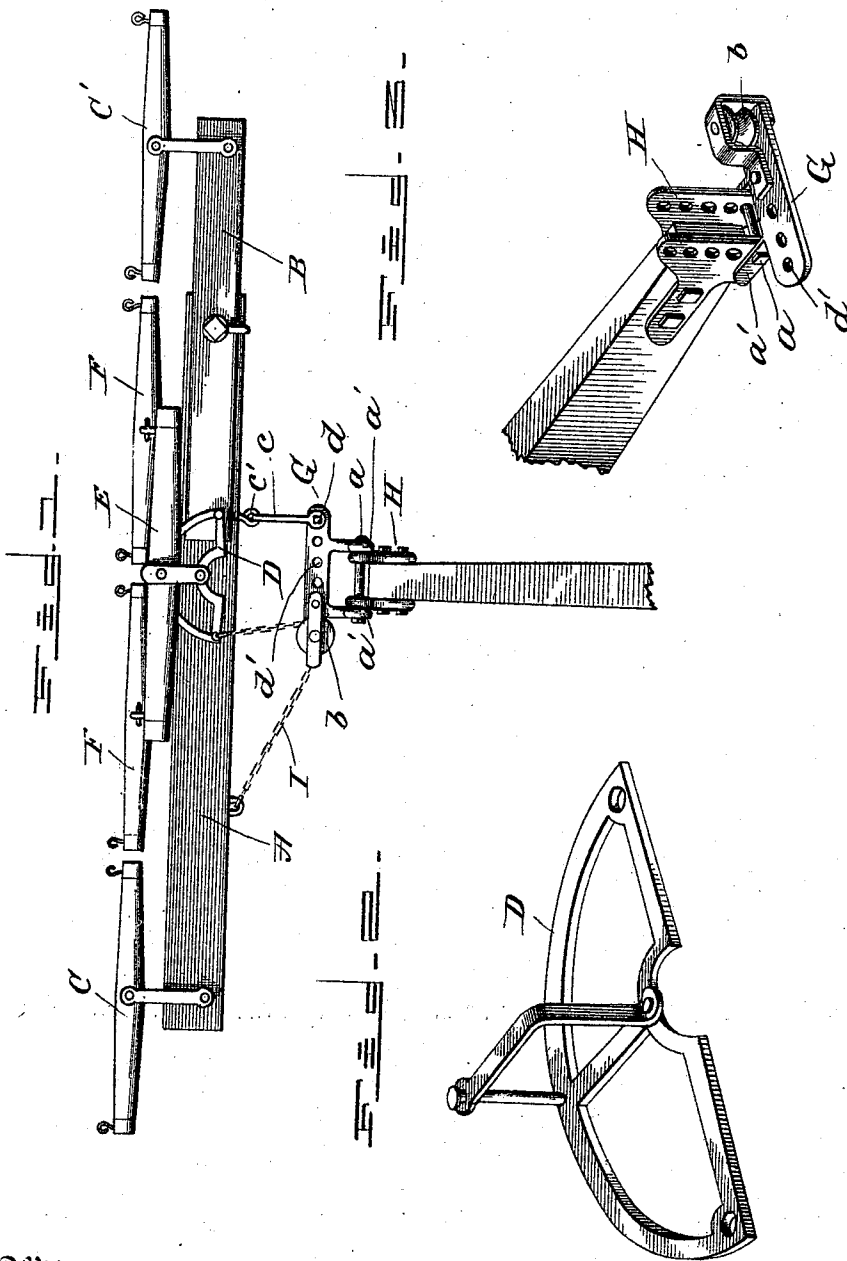
(No Model.)

2 Sheets—Sheet 1.

H. M. & R. M. HICKOK.
DRAFT EQUALIZER.

No. 501,141.

Patented July 11, 1893.



Witnesses

W. H. Humphrey,
George Hughes

Inventors.

Henry M. Hickok
& Rufus M. Hickok
By Paine & Ladd, Attorneys

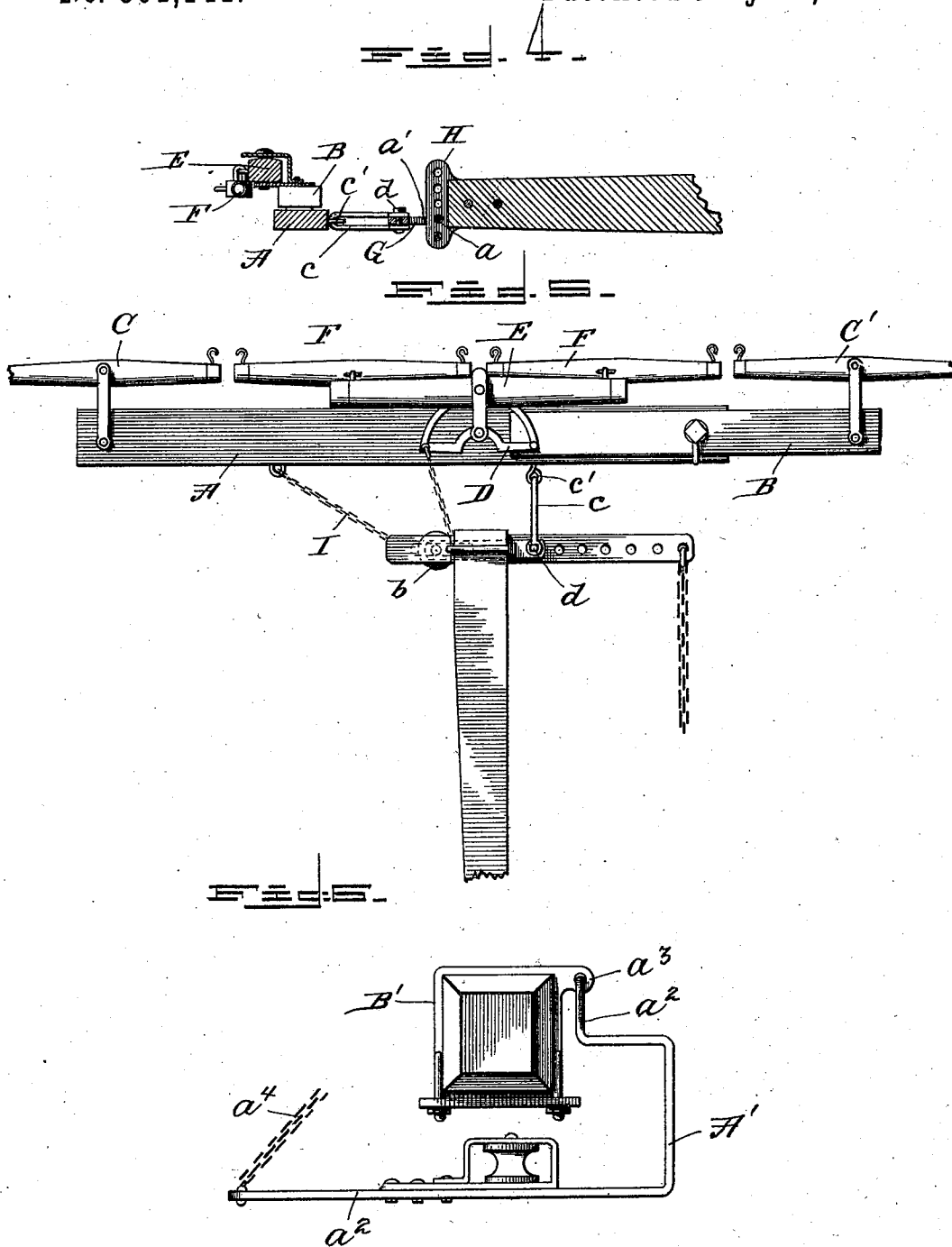
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UNITED STATES PATENT OFFICE.

HENRY M. HICKOK AND RUFUS M. HICKOK, OF WOONSOCKET, SOUTH DAKOTA.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 501,141, dated July 11, 1893.

Application filed October 12, 1892. Serial No. 448,697. (No model.)

To all whom it may concern:

Be it known that we, HENRY M. HICKOK and RUFUS M. HICKOK, citizens of the United States, residing at Woonsocket, in the county of Sanborn and State of South Dakota, have
5 invented certain new and useful Improvements in Draft-Equalizers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will
10 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 of reference marked thereon, which form a part of this specification.

15 Our invention relates to an improved draft-equalizer adapted more particularly for four horses, and for plows, while it is equally applicable to harvesters, and it has for its object to accommodate the sundry adjustments
20 necessary to vary the point of hitching to the beam or tongue, higher or lower, and to regulate or even up the leverage as occasion may require, and to these ends the invention consists in the several combinations of parts and
25 their arrangement, substantially as hereinafter more fully disclosed and pointed out in the claims.

In the accompanying drawings—Figure 1 is a plan view of our improved draft equalizer
30 as applied for use to a plow, a portion of a plow-beam being shown. Fig. 2 is an enlarged detailed detached perspective view of the whiffletree-plate lever, and Fig. 3 is an enlarged detailed perspective view, showing the
35 pulley carrying adjusting clip-plate, and Fig. 4 is a cross-section of our improved draft-equalizer. Fig. 5 is a modification of our invention, showing it as applied to the tongue of a vehicle, and Fig. 6 is another modification
40 of our invention, showing it as applied to the tongue of a harvester.

In carrying out our invention, we employ as usual, the whiffletree or draft bar A, to one
45 end of which is clipped a whiffletree B and, at its other end, is clipped a single-tree C, all done in the ordinary way, the single-tree, however, being directly at the front side of the whiffletree bar, and the whiffletree B being
50 above the latter. The whiffletree B has connected or clipped to it, at one end, a single-

tree C', and connected or pivoted to its other end is a whiffletree-plate lever D, carrying or having centrally clipped or pivoted to it a doubletree E provided at each end with a singletree F, in the ordinary manner. 55

G is an adjusting clip-bar adapted to be pivoted or connected to the plow-beam clevis H by a suitable bolt *a* passed through parallel eye-ended arms *a'* of said bar and the desired one of the series of adjusting apertures
60 of the clevis, according as to whether it is required to effect the point of hitching higher or lower to the plow-beam for obvious purposes. The clip-bar G carries, at one end, a
65 pulley *b*, and is adapted to be connected to the whiffletree bar A preferably, by a U-shaped link or loop *c* playing in an eye-bolt *c'* projecting from the rear edge or side of said whiffletree-bar, near the end thereof, carrying
70 the whiffletree B. Through eye-ended portions of the loop or link *c* is inserted a bolt *d* also adapted to be inserted through the desired one of the series of adjusting apertures
75 *d'* of the clip-bar G according as to whether it is required to increase or decrease the leverage of the whiffletree carrying end of the bar A.

I is a chain or line having one end suitably connected to the bar A, near that end carrying the singletree, thence passed around the
80 pulley *b* and having its other end connected to one end of the whiffletree plate lever D—the nearer end. Thus the pulling force or draft of the two intermediate or middle horses of the team will be readily equalized by the
85 conjoint pulling action of the other two horses, each pulling from a single point, and yet ample independent movement is allowed each of the middle, as well as the outside, horses, while
90 they are unhampered in their movements and the irregular movements of one horse are prevented from affecting or hindering the freedom of movement of any of the other horses.

It is obvious that our invention is equally applicable for the tongues or poles of vehicles, 95 as well, as shown in Fig. 5.

In the modification, as disclosed in Fig. 6, our invention is shown as applied to the tongue of a harvester, wherein A' is a perforated draft-bar having an angular or curved offset- 100

portion a^2 , loosely connected with an eye a^3 , formed or integral with one corner of a clip B' fitted and held upon the tongue. Said draft-bar A extends underneath the tongue and has its distant or free end connected by a chain a^4 to the frame supporting the elevator, just above the cutter-bar.

Having described our invention, what we claim is—

10 1. In a draft equalizer, the combination with a draft or whiffletree-bar equipped with a suitable whiffletree and a singletree and said whiffletree with a number of singletrees, of the clip-bar carrying at one end a pulley, 15 and having its other end connected to said whiffletree-bar, the whiffletree-plate lever pivoted to one end of said whiffletree and carrying a doubletree, and a line or chain connected to said whiffletree-plate lever and passed 20 around said pulley, and connected to said whiffletree-bar, substantially as set forth.

2. In a draft-equalizer, the combination with a whiffletree bar, of the clip-bar carrying a pulley at one end, and having a series 25 of adjusting apertures, the link or loop and bolt connecting said clip-bar with said whiffletree-bar, and the whiffletree-plate lever con-

nected to one end of whiffletree carried by said whiffletree-bar, and a chain or line having one end connected to said latter bar, passed 30 around said pulley, and having its other end connected to said lever, substantially as specified.

3. In a draft-equalizer the combination with a plow-beam clevis, of the adjusting clip-bar adapted to be connected to said clevis, 35 and carrying at one end, a pulley, a whiffletree-bar, a link and bolt connecting said clip-bar with said latter bar, a whiffletree-plate lever pivoted to one end of a whiffletree, carried by said whiffletree-bar, and itself carrying a doubletree, and a line or chain having 40 one end connected to said whiffletree-bar, passed around said pulley and having its other end connected to one end of said lever, substantially as specified. 45

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY M. HICKOK.
RUFUS M. HICKOK.

Witnesses:

WM. H. BURDECK,
EBER WILDE.