

(No Model.)

G. W. RAYMOND,
DRAFT EQUALIZER.

No. 508,120.

Patented Nov. 7, 1893.

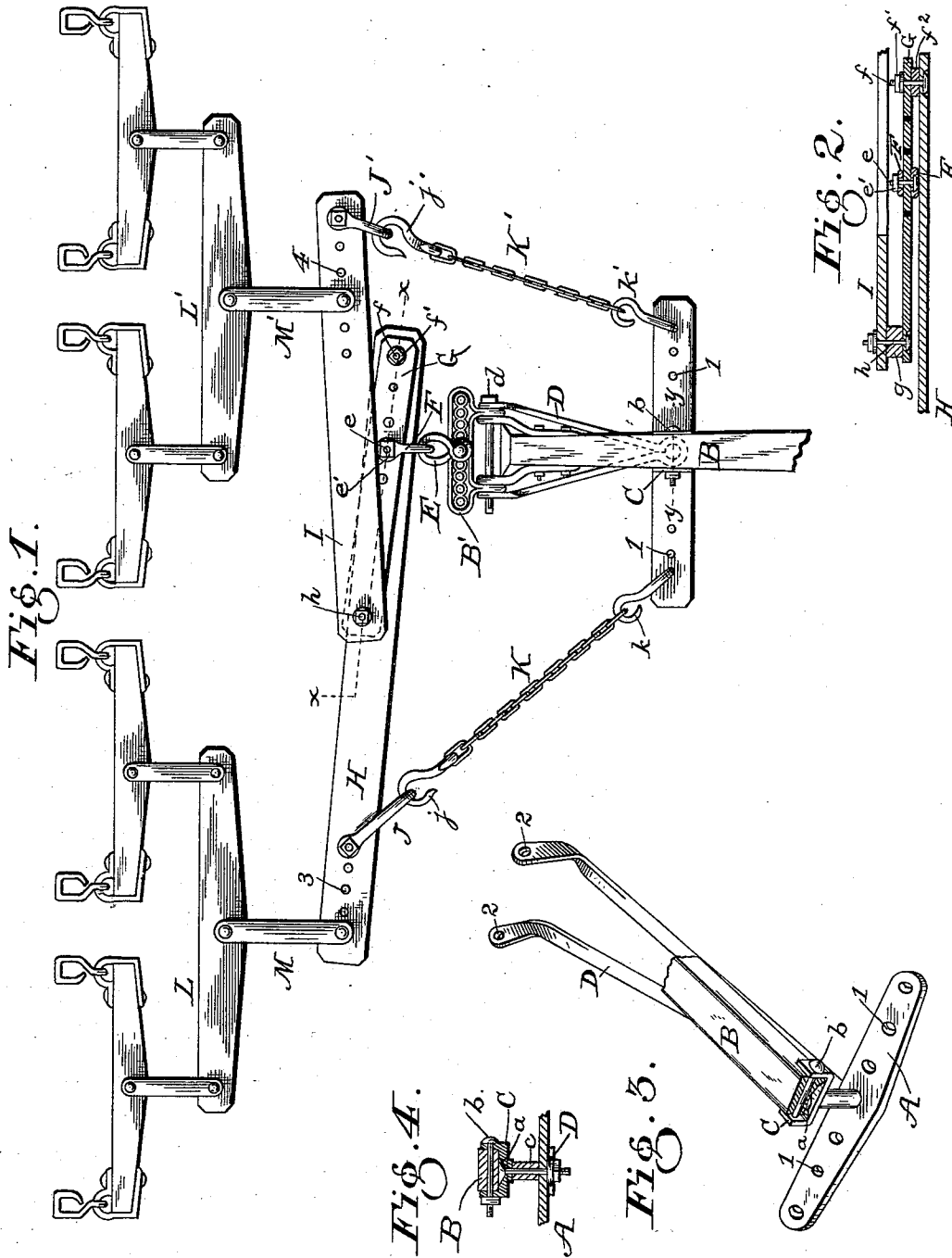


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

WITNESSES:
J. M. Burnham
James H. Spencer

INVENTOR
George W. Raymond
 BY
D. W. Tallmadge
 ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE W. RAYMOND, OF SENECA, ILLINOIS.

DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 508,120, dated November 7, 1893.

Application filed August 2, 1893. Serial No. 482,150. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RAYMOND, a citizen of the United States, residing at Seneca, in the county of La Salle and State of Illinois, have invented a new and useful Draft-Equalizer, of which the following is a specification.

My invention relates to an improved four-horse draft-equalizer well adapted for use with plows.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 of the drawings is a plan view of my improved draft-equalizer attached to the beam of a plow. Fig. 2 is a vertical section taken on the line $x x$, Fig. 1. Fig. 3 is a broken perspective view, showing the means of attaching the draft-bar to the plow-beam. Fig. 4 is a vertical section taken on the line $y y$, Fig. 1.

Referring to the drawings, A is the draw-plate, composed preferably of a narrow strip of iron, or other suitable material, having holes 1 located therein, as shown, and attached to the plow-beam B in the following manner: A draft-pin a is passed through a clamp C, which has its ends turned up at right angles to the plane of its length, and is securely fastened to beam B by a bolt b . The pin then passes through a tubular washer c ; then through the draw-plate A, the washer serving to keep the clamp and the draw-plate the proper distance apart. On the draft-pin a , beneath the draw-plate A, there is pivoted the rear end of a V-shaped brace D, whose diverging outer ends are preferably turned up at a right angle and given a half twist, they having bolt-holes 2, through which passes the bolt d , the latter serving also to secure the plow-beam head B' to the beam B. This brace serves to keep the draft-pin steady and prevent the pull on the draw-plate A from drawing it out of its perpendicular position. On the screw-threaded lower end of pin a there is a nut, serving to keep all the above parts together.

To the beam-head there is attached, by means of a flexible connection, preferably a pin and link E, as shown, a clevis F, to which there is removably secured, by a bolt e and a nut e' , what I term the equalizer G, the bolt

being passed through from the under side and countersunk in the clevis. In the equalizer, in a longitudinal line with the clevis-hole and equidistant from each other, there is a plurality of holes, by means of which the position of the clevis F may be changed, for a purpose hereinafter explained.

To one end of and beneath the equalizer G there is pivotally secured, by means of a bolt f and a nut f' , an evener H. A washer f^2 is placed on bolt f between the equalizer G and the evener H, this washer being of such a width as to prevent the evener H, in passing under the equalizer G, from coming into contact with clevis F. To the other end of and above the equalizer G there is pivoted one end of a lever I, these two parts being separated by a washer g on the bolt h , which connects equalizer G and lever I, so that the lever may swing clear of the upper part of clevis F and nut f' on bolt f . In the outer or free ends of the evener H and lever I there are formed a series of holes 3 and 4, respectively. In one of the holes 3 in the evener there is removably secured a clevis J, and in one of the holes 4 in the lever there is also removably secured a similar clevis J', these clevises engaging with hooks j and j' , respectively, which hooks are connected with the forward ends of draft-chains K and K', said chains carrying at their rear ends hooks k and k' , respectively, which engage with holes 1 in draft-plate A.

Ordinary doubletrees L and L' are removably secured, through links M and M', to the outer ends of the evener H and lever I, respectively, by means of bolts passed through either of the holes in those parts.

The operation of my equalizer is as follows: If the excess of draft is on the chain K, that end of the plate A to which that chain is attached will be drawn in the forward direction and the other end of the draw-plate will be moved backward, carrying with it draft-chain K', which will draw the outer end of the lever I with it. As the lever, pivoted to the end of link M', moves backward the other end will move forward, carrying with it the end of the equalizer to which it is attached, and sending the other end of equalizer G backward. As the evener H is attached to the end of equalizer G, it will be carried back-

ward, which will move the clevis J and chain K in the rearward direction, tending to allow the plate A to resume its normal position and thereby draw the plow perfectly true.

5 As the excess of draft differs with different teams, and as the amount of motion given the various parts in tending to equalize the pull, as above explained, depends on the location of the various clevises, hooks, &c., the

10 equalization can be easily effected in any of the following ways: by changing the point of attachment of links M or M' in the evener or lever; by changing the point of attachment of the clevises to which the hooks j and

15 j' of the draft-chains are attached; by changing hooks k or k' to any of the other holes in plate A, thereby altering the leverage on that plate; or by changing the pivotal support of the equalizer, by moving the clevis F to any

20 of the other holes in that part.

While I have shown and described my invention as applied to a plow, it is evident that it may be used with such other implements, wheeled vehicles, sleds, &c., as have

25 a draft beam or pole.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a draft-equalizer, the combination,

30 with a draft-beam, of a draw-plate pivoted to said beam, an evener, an equalizer pivoted at one end to one end of said evener, a lever

pivoted at one end to the other end of the equalizer, a clevis connecting the equalizer with the end of the draft-beam, chains adjustably attached to and connecting the draw-plate and the evener and lever, and double-trees adjustably attached to the evener and lever, respectively, substantially as described.

35

2. In a draft-equalizer, the combination,

40 with a plow-beam provided with a removable head, of a clamp secured to the under side of said beam, a draw-plate, a draft-pin connecting said plate and clamp, a washer, between the draw-plate and clamp, a pin-brace

45 connected at one end to the draft-pin and at the other end to the beam-head, an evener, an equalizer pivoted at one end to one end of said evener, a lever pivoted at one end to the other end of the equalizer, a clevis connect-

50 ing the equalizer with the beam-head, chains adjustably attached to and connecting the draw-plate and the evener and lever, and double-trees adjustably attached to the evener and lever, respectively, substantially as de-

55 scribed.

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

GEORGE W. RAYMOND.

Witnesses:

MICHAEL B. O'MALLEY,
THOMAS M. DROMGOLD.