

UNITED STATES PATENT OFFICE.

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DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 581,586, dated April 27, 1897.

Application filed February 27, 1897. Serial No. 625,355. (No model.)

To all whom it may concern:

Be it known that I, EUGENE ELI HOBBS, a citizen of the United States, residing at Kelly, in the county of Nemaha and State of Kansas, have invented a new and useful Draft-Equalizer, of which the following is a specification.

The invention relates to improvements in draft-equalizers.

The object of the present invention is to improve the construction of draft-equalizers and to provide an efficient one which will be especially adapted for sulky-cultivators and which will enable three horses to be readily employed and completely eliminate the side draft.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a draft-equalizer constructed in accordance with this invention. Fig. 2 is a transverse sectional view on line *xx* of Fig. 1.

Like numerals of reference designate corresponding parts in both figures of the drawings.

1 designates a transversely-disposed equalizing-bar, provided at one end with a single-tree 2, adapted to be connected with the third horse, which is arranged at the right-hand side of the draft-beam 3 of a cultivator, the other two horses being arranged at opposite sides of the said draft-beam in their usual positions. The equalizing-bar 1, which is fulcrumed at one end on the left-hand side of the draft-beam to a diagonally-disposed bar 4, extends across the draft-beam, its portion lying to the right of the draft-beam being substantially twice the length of that portion on the left of the same.

The diagonally-disposed bar 4, which supports the equalizing-bar, extends across the draft-beam and is clipped at its rear end to the arch of the axle or to any other convenient portion of the frame of the cultivator.

The left-hand portion of the equalizing-bar is connected by an angularly-disposed bar 5 with a spring-actuated slide 6, which is mounted on the draft-beam in suitable ways 7, the rear end of the connecting-bar 5 being secured by a pivot 8 to the equalizing-bar and its front end being similarly attached to the

said slide. The ways 7 consist of opposite L-shaped flanges of a plate 9, which is secured to the upper face of the draft-beam, and the rod 10, which is disposed longitudinally of the draft-beam, is secured to the front end of the slide and extends forward therefrom, its front end being supported by a guide 11. The guide 11, which consists of an L-shaped plate, is provided in its upwardly-extending portion with a perforation for the rod 10, and the said upwardly-extending portion also forms a bearing for a spring 12, which is disposed on the rod 10 and engages a stop 13 thereof. The tendency of the spring is to force the slide backward, and it operates on the draft-equalizing bar 1 to counteract the side draft and preserve the draft-beam in its proper position; and its tension may be regulated by moving the guide 11 backward or forward on the draft-beam. The pivot 8 also serves to connect a lever 14 to the equalizing-bar, and this lever is fulcrumed between its ends on the lower face of the draft-beam. The left-hand end of the lever 14 is bent upward to bring its left-hand portion in proper position for connecting it to the equalizing-bar, and the other end of the lever 14 is connected with a spring 15, which is connected with the draft-beam at a point adjacent to the spring-actuated slide.

The spring 15, which is located at the right-hand side of the draft-beam, is secured to rods 16 and 17, extending forward and rearward from it to the draft-beam and to the lever 14. The effect of the spring 15 is to increase the action of the spring-actuated slide and serve to maintain the draft-beam in proper position.

The bar 5, which diverges rearwardly from the draft-beam, is connected between its ends by a link-bar 18 with a transverse lever or tree 19, which is pivoted between its ends at the left-hand side of the draft-beam to the rear end of the link-bar 18. The terminals of the transverse lever 19 are connected by links 20 with draft-levers 21 and 22, which are fulcrumed on depending arms 23 and 24 of a stationary doubletree 25. The stationary doubletree 25, which is bolted to the lower face of the draft-beam, extends from opposite sides thereof and has its end portions bent downward to form the arms 23 and

24, which are connected by chains 26 to the frame of the cultivator. The arm 23 is disposed vertically, and the other arm 24 is inclined outward, being disposed at about an angle of forty-five degrees, to position properly a singletree 27, which is connected with the lower end of the depending lever 22. The other depending lever 21 carries a singletree 28 at its lower end, and the positions of the singletrees 27 and 28 are such that the horses adjacent to the draft-beam assume natural positions relative to the same, so that there is no strain on the neck-yoke.

When it is desired to employ only two horses, the right-hand portion 29 of the equalizing-bar is detached from the other portion of the same by removing the bolts 30. The spring 15 is then detached from the draft-beam, and the lever 14 is removed from the position illustrated in Fig. 1 of the accompanying drawings and is temporarily secured to the front end of the diagonally-disposed bar 4 and to the draft-beam 3, the bent end being to the left.

When it is designed to increase the tension of the spring 15, the front end of the rod 16 is bolted or otherwise secured to the angularly-disposed bar 5 at the front end thereof. This increases the power of the equalizer to overcome the side draft, and this arrangement may be employed when it is desired to dispense with the spring 12.

It will be seen that the draft-equalizer is simple in construction and positive and reliable in operation; that it is especially adapted for sulky-cultivators, and that it completely eliminates side draft. It will also be apparent that the equalizing-bar is so positioned that it will not break down tall corn and that the tongue-horses are arranged in their natural positions at each side of the draft-beam. It will also be apparent that the parts may be arranged so that two horses may be employed and that the tension of the spring 12 may be readily regulated.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a draft-equalizer, the combination with a draft-beam, of a transversely-disposed equalizing-bar fulcrumed at one side of the draft-beam, extending across the same to the other side thereof and carrying a singletree, the bar 5 diverging rearwardly from the draft-beam and pivoted at its rear end to the equalizing-bar near the fulcrum thereof, a spring connected with the front end of the bar 5, a doubletree mounted on the draft-beam, depending levers fulcrumed on the doubletree and carrying singletrees at their lower terminals, and a transverse lever 19 connected

between its ends with the bar 5 and at its terminals to the upper ends of the depending levers, substantially as described.

2. In a draft-equalizer, the combination with a draft-beam, of an equalizing-bar fulcrumed at one end at one side of the draft-beam, extending across the same to the other side thereof and carrying a singletree, the rearwardly-diverging bar 5 pivoted at its rear end to the equalizing-bar near the fulcrum thereof, a slide mounted on the draft-beam in suitable ways and connected with the front end of the bar 5, a rod extending forward from the slide, a guide mounted on the draft-beam and supporting the rod, and a spring disposed on the rod, bearing against the guide and adapted to force the slide rearward, substantially as described.

3. In a draft-equalizer, the combination with a draft-beam, of an equalizing-bar fulcrumed at one side of the draft-beam and extending across the same to the other side thereof, the bar 5 diverging rearwardly from the draft-beam and pivoted to the equalizing-bar, a slide mounted on the draft-beam and connected with the bar 5, a spring for actuating the slide, the lever 14 fulcrumed between its ends on the draft-beam, connected at its left-hand end with the equalizing-bar and extending from the right-hand side of the draft-beam, and a spring located in advance of the lever 14 and connected with the right-hand end of the same and with the draft-beam, substantially as described.

4. In a draft-equalizer, the combination with a draft-beam, of a transverse equalizing-bar extending on both sides of the draft-beam, the bar 5 located at the left-hand side of the draft-beam and diverging rearwardly therefrom and pivoted to the equalizing-bar, a spring connected with the front end of the bar 5 and adapted to force the same rearward, a doubletree mounted on the draft-beam, extending from both sides thereof and provided at its ends with depending arms, the right-hand arm being disposed at an inclination, depending levers fulcrumed between their ends on the arms, chains for connecting the arms with the frame of a cultivator, a link-bar 18 extending rearward from the bar 5 at the left-hand side of the draft-beam, and the transverse lever 19 pivoted to the rear end of the link-bar 18 and connected at its ends to the upper terminals of the depending levers, substantially as described.

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

EUGENE ELI HOBBS.

Witnesses:

J. C. CORDILL,
C. W. RIDGWAY.