

No. 651,991.

Patented June 19, 1900.

H. J. FREARK.  
DRAFT EQUALIZER.

(Application filed July 24, 1899.)

(No Model.)

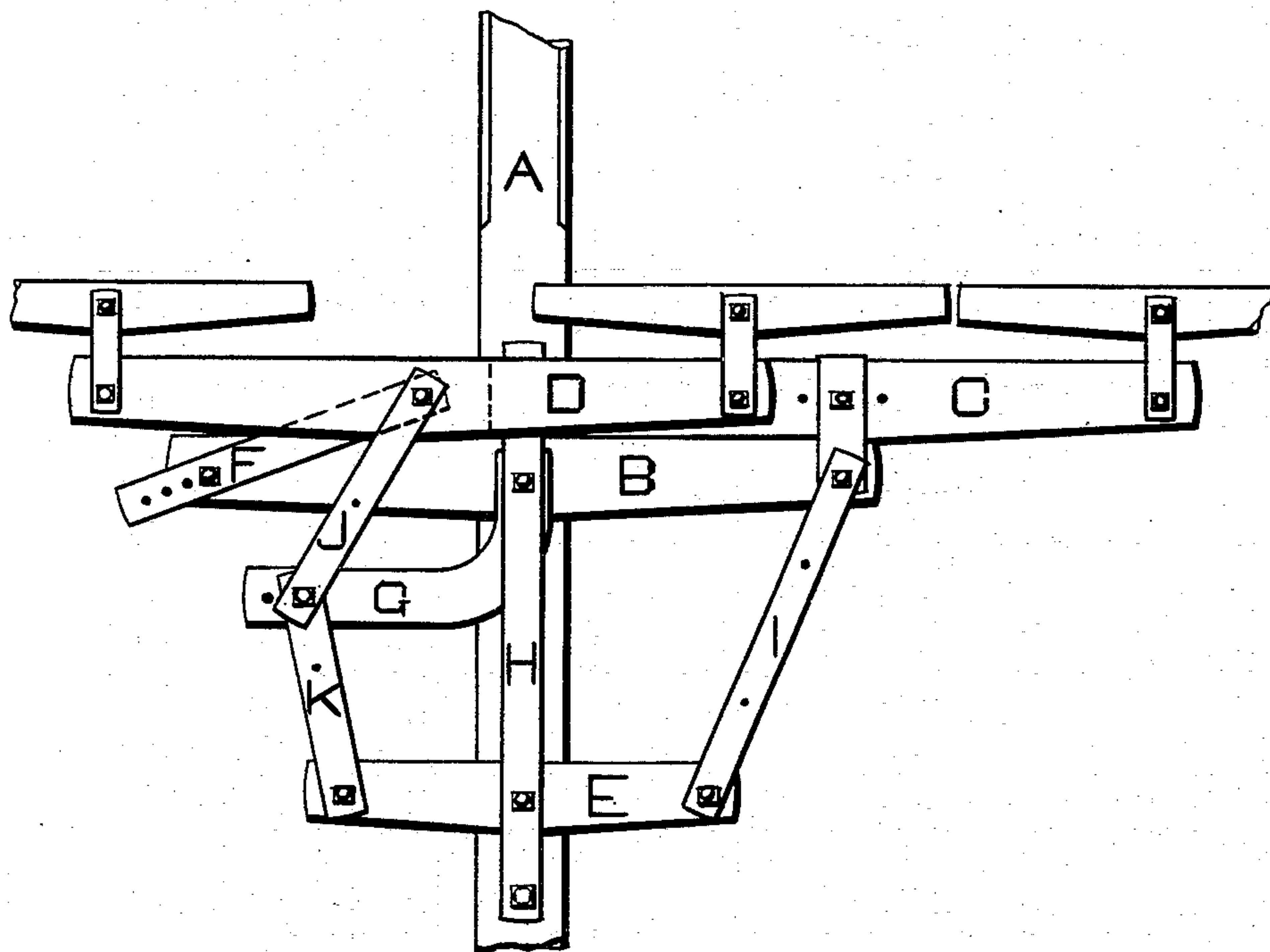


Fig. 1

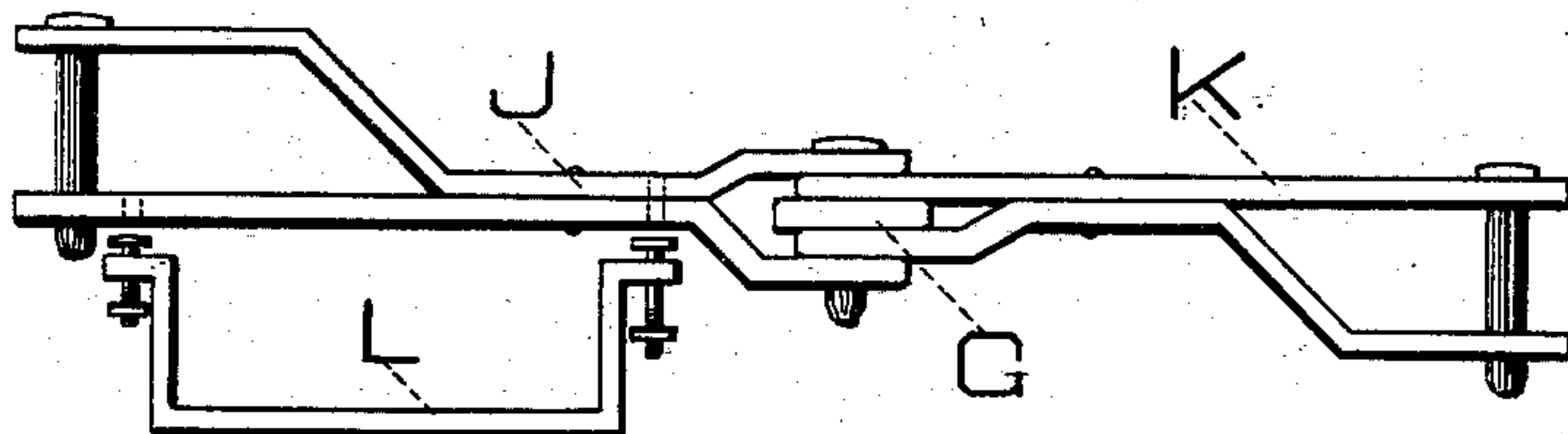


Fig. 2

Witnesses

B. H. Luers  
A. H. Smith.

Inventor

Henry J. Freark  
H. J. Freark  
Att'y



# UNITED STATES PATENT OFFICE.

HENRY J. FREARK, OF SPRINGFIELD, ILLINOIS.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 651,991, dated June 19, 1900.

Application filed July 24, 1899. Serial No. 724,913. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY J. FREARK, a citizen of the United States, residing at Springfield, in the county of Sangamon and State

5 of Illinois, have invented certain new and useful Improvements in Draft-Equalizers, of which the following, together with the accompanying drawings, is a complete specification. My invention relates generally to draft-  
10 equalizers for three horses as applied to any vehicle or machine drawn by a draft-pole, but particularly to equalizers for three horses as applied to farm and freight wagons, and has for its objects, in addition to equalizing the bur-  
15 den, the obviation of lateral draft and also of contact on the part of the levers with the front wheels of the vehicle, all existing contrivances being open to objection on both these ac-  
20 counts. I attain these results by a mechanism which consists in the combination, with the doubletree, of an adjustable extension-lever, a second doubletree, a bar pivoted to the draft-pole backward of the doubletree, a  
25 side-draft brace operating between the two latter, and a system of connecting-pieces joining the ends of the bar with the combination-lever and the outer end of the brace, this end of the brace with the second doubletree, and  
30 this second doubletree with the otherwise-free end of the extended doubletree, as will be more fully specified hereinafter.

Referring to the drawings, Figure 1 is a top view in position of a complete equalizer embodying my invention. Fig. 2 is a side view  
35 of the jointed connecting-piece, showing the position relatively of the brace and showing also in a detached condition the loop for hanging, by inverting the jointed strap J K, the second doubletree when for any reason the  
40 equalizer must be put beneath the pole.

A represents an ordinary draft-pole; B, an ordinary doubletree; C, the lever, extending this doubletree; D, the second doubletree; E, the rear bar; G, the brace; H, a hammer-  
45 strap long enough to cover both rear bar and the combination-lever; I, K, J, and F, the connecting-pieces, joining, respectively, one end of the rear bar with one end of the combination-lever, the other end with the brace,  
50 the latter with the second doubletree, and the last with the otherwise-free end of the combination-lever.

L represents the loop, which suspends the doubletree D from the short or free end of the combination-lever BC whenever the equalizer  
55 is put beneath the pole and is otherwise not used.

The doubletree B is pivoted to the draft-pole in the same place as when but two horses are used. To one end of this is attached, by  
60 means of a clevis, the lever C, with a single-tree at its outer end and in such a manner that its other end rests on the draft-pole or hounds, where it is held in position by the second doubletree D, which rests just above  
65 and loosely upon it. The bar E is pivoted to the draft-pole some twenty inches, more or less, back of the regular doubletree B. The bent draft-brace G is pivoted to the pole at its shorter end just back of or preferably just  
70 over the doubletree B and by the same pivot by which the latter is pivoted to the pole. Pivottally connecting one end of bar E with the combination-lever B C is a link I, while  
75 link K connects the other end of bar E with the outer end of brace G, the link J the outer end of brace G with the middle point of doubletree D, and the link F the middle point of  
80 D with the otherwise-free end of the combination-lever B C. If for any reason the equalizer must be put beneath the pole, the jointed strap J K is inverted—i. e., turned upside  
85 down—and L is attached to J for the suspension of D beneath B C, while the remaining parts take positions beneath the pole corresponding entirely to their positions when used  
above.

It will be observed that C is provided with a series of holes, so that it can be lengthened or shortened, according as more or less ef-  
90 ficient power is desired from the animal hitched to its end; also, that it is in front of B, thus securing some four or five inches more of backward-and-forward play without  
95 interfering with the front wheels of the vehicle; also, that it is reversible—i. e., that it can, by making the necessary changes in the connecting-links, be attached to the other end of B, so as to accommodate the vehicle to an  
100 animal that may work better on one side than on the other or to accommodate the animals to a given vehicle, piece of machinery, or condition of the highways. It will be observed also that the primary function of F, which is



provided with a series of holes for adjustment, is to hold D in position over A, but that in addition it will slightly reinforce J K and, what is of more importance, that it will  
 5 serve as the medium for a lateral poleward pull against the end of B, thus tending to counteract the lateral draft exerted by the mechanism to which the odd horse is hitched, the intensity of the pull being regulated by the  
 10 adjustment already mentioned. The part, however, of which the primary and only function is to obviate side draft is the bent brace G, of which the longer or outer end is also provided with a series of holes for adjustment. It  
 15 will be observed that when a forward pull is exerted upon D the jointed strap J K will tend to straighten out in the direction of the pole, thus through the medium of G exerting a lateral push against the pole at the very point at  
 20 which the push is exerted in the opposite direction by the mechanism to which the third horse is hitched, the intensity of the push again being regulated by the adjustment already mentioned. It will be observed in  
 25 addition that both parts of J, which is double, Fig. 1, as well as F, are above B, the lower part resting on B, thus causing the weight of D, which moves freely between the ends of J, to come upon the free end of B, with the effect  
 30 of holding the latter, with its extension, in a horizontal position, and that if the equalizer is put beneath the pole the weight of D will, through the medium of L, rest at the same point. It will be observed, moreover, that  
 35 the strap H extends over both B and its extension C, thus helping to hold the pole end of C in position and furnishing facilities for the easy backward-and-forward movement of D.

From the foregoing description and the laws  
 40 of levers it will appear that whenever, by reason of the application of a greater amount of power to the doubletree D or the lever B

C, the one or the other is moved forward the movement is at once communicated to the other in like intensity in the opposite direction and without interfering with the wheels  
 45 of the vehicle, the balance of power, both forward and lateral, being regulated by adjusting the extension-lever C, the brace G, and the link F. 50

It is obvious that slight variations in construction, such as the substitution of a one-piece lever for the combination-lever B C, may be resorted to without materially departing from the scope of the invention or  
 55 sacrificing its principal advantages.

Having thus described my invention, I claim—

1. The combination with a doubletree, B, of a reversible and adjustable extension-lever, C, making a draft-lever for three animals. 60

2. The combination of a draft-pole, a bar, E, pivoted thereto; a doubletree, B, with an adjustable extension-lever, C, cooperating  
 65 therewith; a brace, G, pivoted at one end to the draft-pole above or just back of the doubletree, B; a link, I, pivotally connecting one end of the bar, E, with one end of the doubletree, B; a link, K, pivotally connecting the  
 70 other end of the bar, E, with the other, or outer, end of the brace, G; a link, J, pivotally connecting the outer end of the brace, G, with the middle point of the doubletree, D, and an adjustable connection, F, pivotally uniting the doubletree, D, with the other  
 75 end of the doubletree, B, all arranged and located as set forth.

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

HENRY J. FREARK.

Witnesses:

B. H. LUERS,  
 D. SCHWENGELS.