

No. 695,855.

Patented Mar. 18, 1902.

J. C. & J. BELL.  
DRAFT EQUALIZER.

(Application filed Jan. 29, 1902.)

(No Model.)

Fig. 1.

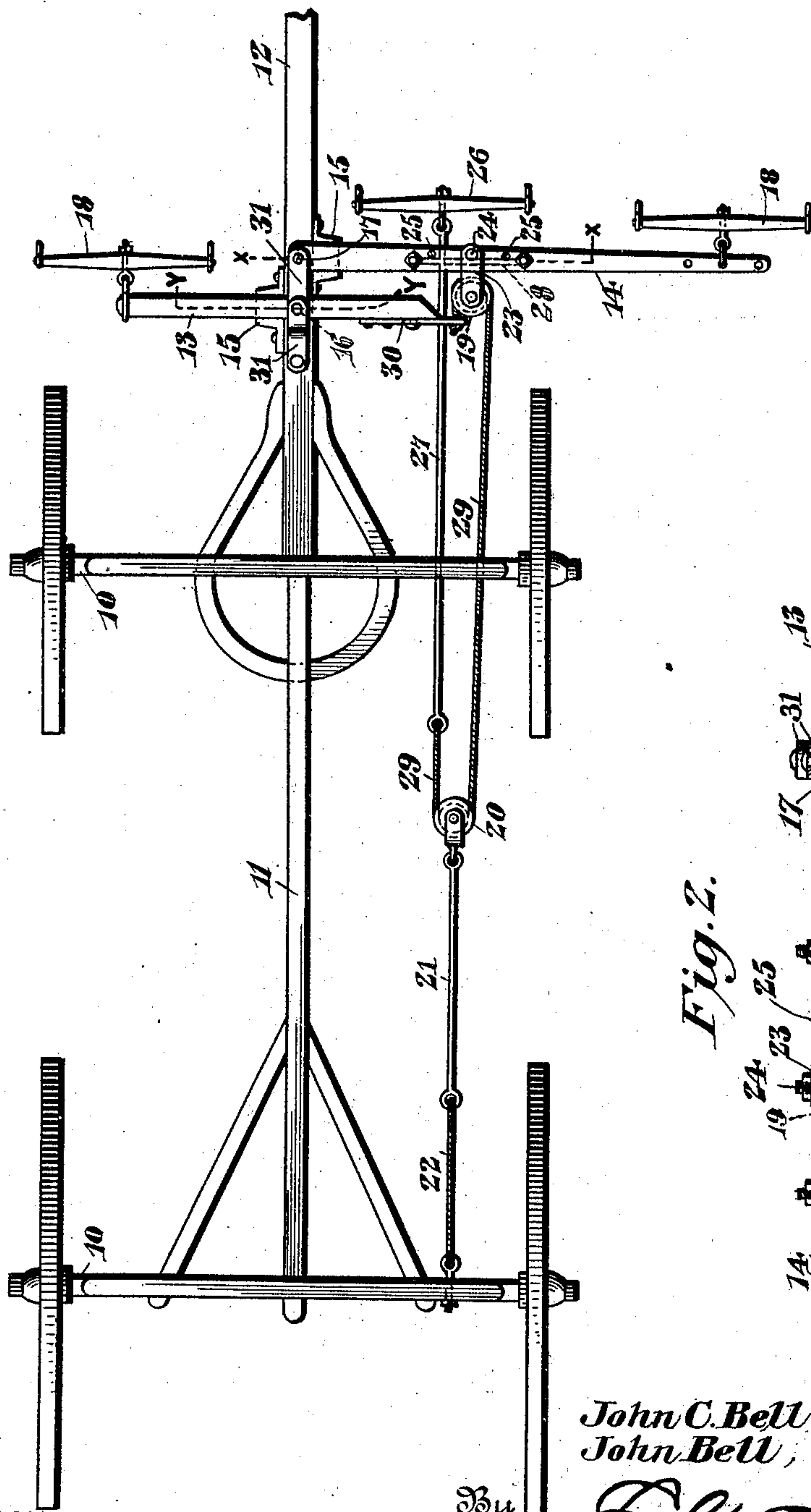
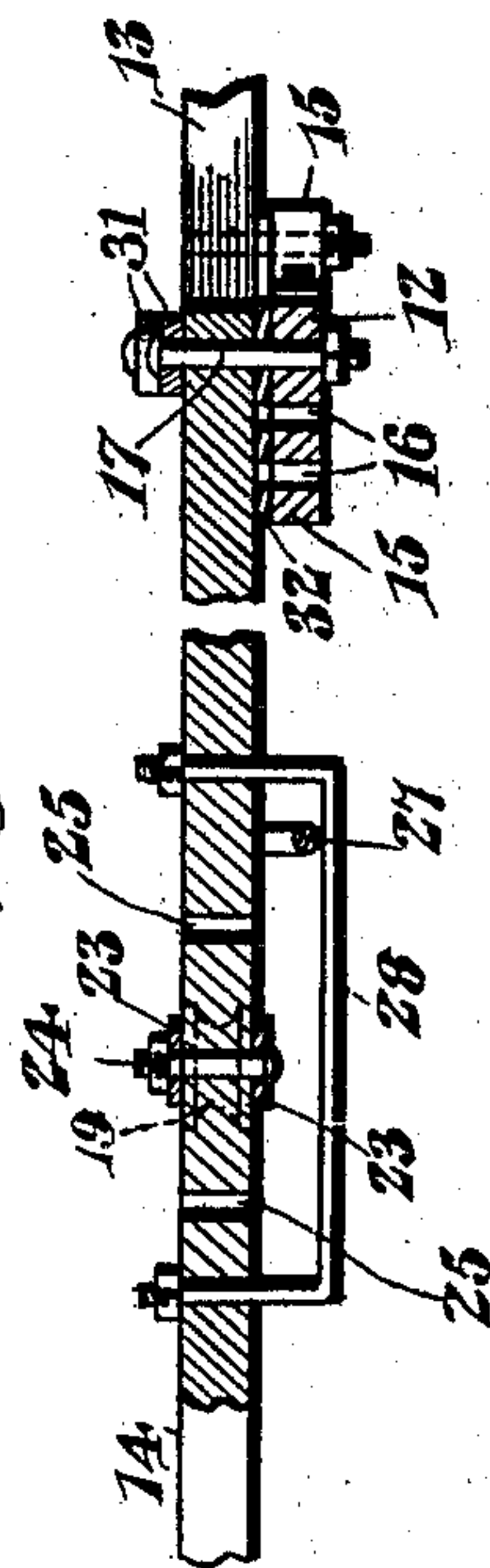


Fig. 3.



Fig. 2.



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# UNITED STATES PATENT OFFICE.

JOHN C. BELL AND JOHN BELL, OF ESKRIDGE, KANSAS.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 695,855, dated March 18, 1902.

Application filed January 29, 1902. Serial No. 91,695. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN C. BELL and JOHN BELL, citizens of the United States, residing at Eskridge, in the county of Wabaunsee and State of Kansas, have invented a new and useful Draft-Equalizer, of which the following is a specification.

The present invention relates to draft-equalizers; and the object thereof is to provide mechanism of an exceedingly simple character which will permit the use of an unequal number of draft-animals on opposite sides of a tongue without creating any side draft.

A further important object is to provide a structure which can be employed in connection with machines having side drafts and can be adjusted so as to neutralize such side drafts.

The preferred embodiment of the invention is fully described in the following specification and shown in the accompanying drawings, wherein—

Figure 1 is a plan view of the running-gear of a vehicle with the improved equalizer attached thereto. Fig. 2 is a sectional view taken on the line X X of Fig. 1, and Fig. 3 is a detail sectional view taken on the line Y Y of Fig. 1.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In order to clearly show the application and operation of the device, a simple form of vehicle running-gear has been illustrated, the axles being designated 10, the reach 11, and the tongue 12. The invention may, however, be employed in connection with various types of machines, such as plows and the like.

The equalizer is constructed substantially as follows: A pair of draft members in the form of a whiffletree 13 and an evener-lever 14 are employed, which are independently pivoted upon the tongue. Under certain conditions it is desirable that the pivots be located on opposite sides of the tongue, and for this purpose said tongue is provided on its opposite sides with projections 15, which may be bolted or otherwise secured thereto, one of said projections being located in advance of the other. A plurality of openings 16 are made in these projections and also in the ad-

jacent portion of the tongue, said openings being adapted to receive the pivots 17 of the members. It will be seen by reference to Fig. 1 that the whiffletree 13 is located behind the evener-lever and projects on opposite sides of the tongue, whereas the evener-lever is located upon one side only. Singletrees 18 are attached to the ends of the whiffletree and evener-lever on opposite sides of the tongue, the one secured to the lever being adjustable thereon. A pulley 19 is attached to an intermediate portion of the evener-lever, and another pulley 20 is secured to any convenient part of the vehicle running-gear. As shown, this latter pulley is attached through the medium of a rod 21 and a flexible rope 22 to the rear axle; but it may be secured to any other part desired. The pulley 19 is adjustably secured to the lever by plates 23 and a pin 24, which pin may be passed through any one of a suitable number of openings 25 made for the purpose in said lever. A third singletree 26 has a connection with the adjacent portions of the whiffletree and evener-lever, said connections being made as follows: A link 27, attached to the singletree 26, is slidably mounted in a supporting-bracket 28, fastened beneath the lever 14, as shown in Fig. 2. To the rear end of this link is attached a flexible connection 29, that passes about the pulley 20 and the pulley 19, the end of said connection being secured through the medium of a plate 30 to the end of the whiffletree which is located directly in rear of the lever. Suitable braces 31 may be employed, if desired, to connect the tongue and the several pivots 17 above the draft members, though these devices are not necessary, and wear-plates, as 32, may be interposed between said tongues and members. It will of course be understood that the elements as above described may be constructed of any material that may be found most desirable.

The operation of the device will be apparent. When the equalizer is applied to an ordinary vehicle, the pivots of the whiffletree and evener-lever are located in alinement, as shown in Fig. 1; but when it is employed on machines having side drafts the pivots are thrown out of alinement by being moved to one side or the other, as will be readily understood. The draft applied from the single-



trees will therefore be evenly distributed by means of the several elements, which may be adjusted to suit the varying conditions of the work to be done. The forward strain applied  
 5 by animals attached to the outside singletrees will tend to move the adjacent portions of the draft members apart; but this movement will be prohibited by the animal attached to the intermediate singletree, be-  
 10 cause of the arrangement of levers and pulleys. The apparatus has proved entirely successful in actual use under all conditions of work.

From the foregoing it is thought that the  
 15 construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape,  
 20 proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, what  
 25 we claim as new, and desire to secure by Letters Patent, is—

1. In a draft-equalizer, the combination with independently-swinging draft members movable away from each other, of singletrees  
 30 attached to said members, another singletree, and connections between the latter singletree and the draft members to move them toward each other when draft strain is applied to said last-mentioned singletree.

35 2. In a draft-equalizer, the combination with a tongue, of oppositely-extending draft members pivoted to the tongue, one of said members projecting across the tongue and located contiguous to the other member, single-  
 40 trees connected to the members on opposite sides of the tongue, and another singletree having connections with one member and the adjacent projecting portion of the other.

3. In a draft-equalizer, the combination  
 45 with a tongue, of a whiffletree pivoted on the tongue and projecting on opposite sides thereof, an evenner-lever also pivoted to the tongue in front of the whiffletree, a singletree, and a flexible connection between the singletree and  
 50 the whiffletree, said connection also having a movable engagement with the evenner-lever.

4. In a draft-equalizer, the combination  
 55 with a tongue, of a whiffletree pivoted on the tongue and projecting on opposite sides of the same, an evenner-lever also pivoted to the tongue in front of the whiffletree and provided with a pulley, a singletree, and a flexible connection secured to the singletree and passing about the pulley of the evenner-lever,

said connection being attached to the whiffle- 60 tree.

5. In a draft-equalizer, the combination with a tongue, of a whiffletree pivoted to the tongue and projecting on opposite sides of the  
 65 same, an evenner-lever also pivoted to the tongue and projecting from one side thereof in front of the whiffletree, said evenner-lever being provided with a pulley, a pulley secured to the vehicle, a singletree, and a flexible con-  
 70 nection between the singletree and the whiffletree, said connection passing about the pulley of the vehicle and the pulley of the evenner-lever.

6. In a draft-equalizer, the combination with a tongue, of a whiffletree pivoted on the  
 75 tongue and projecting on opposite sides of the same, an evenner-lever also pivoted to the tongue in front of the whiffletree, said evenner-lever being provided with a pulley, a pulley secured to the vehicle, a supporting-bracket  
 80 attached to the evenner-lever, a singletree having a link that is slidably mounted in the supporting-bracket, and a flexible connection between the link and the whiffletree, said con-  
 85 nection passing about the pulley of the vehicle and the pulley of the evenner-lever.

7. In a three-horse equalizer, the combina-  
 90 tion with the tongue, of two draft members independently pivoted to the tongue and arranged on opposite sides thereof, each draft member having a singletree connected to the  
 95 outer end thereof, a flexible running connection between the two draft members, and a singletree fastened to the free end of said flexible connection and located on one side of the tongue.

8. In a three-horse equalizer, the combina-  
 100 tion with the tongue, of two draft members independently pivoted to the tongue and arranged on opposite sides thereof, one of said draft members extending from the tongue to a greater distance than the other member,  
 105 each draft member having a singletree connected to the outer end thereof, a flexible running connection between the two draft members, and a singletree fastened to the free end of said flexible connection and located on that  
 110 side of the tongue which has the long draft member, and means thereon for supporting the singletree in proper position.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN C. BELL.  
 JOHN BELL.

Witnesses:

JOHN Y. WAUGH,  
 CHAS. E. EDLIN.