907,015.

H. H. DUNNIHOO.

DRAFT EQUALIZER.

APPLICATION FILED DEC. 31, 1907.

Patented Dec. 15, 1908

2 SHEETS—SHEET 1

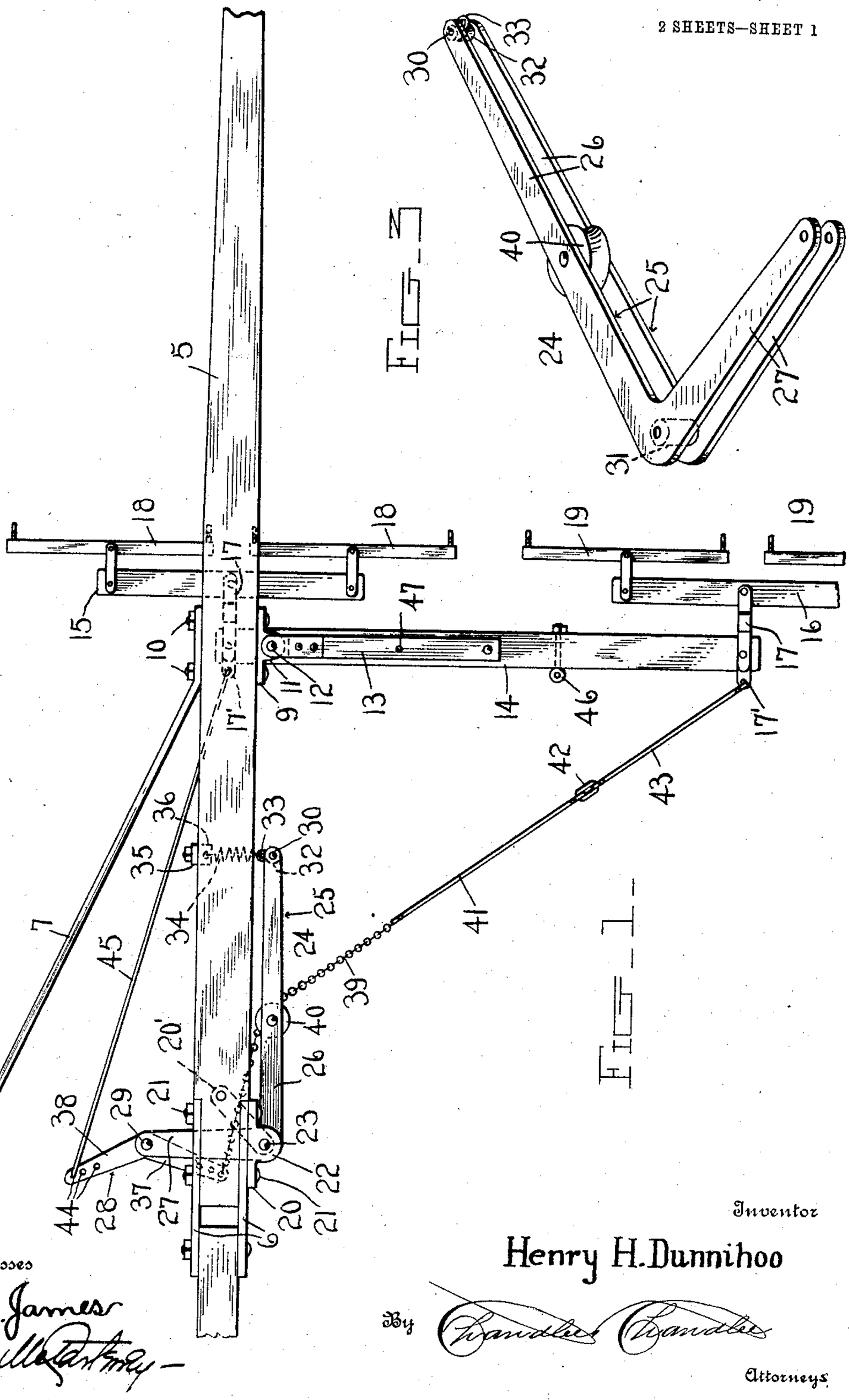

FIG. 1.

FIG. 2.

Witnesses

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FIG. 2.

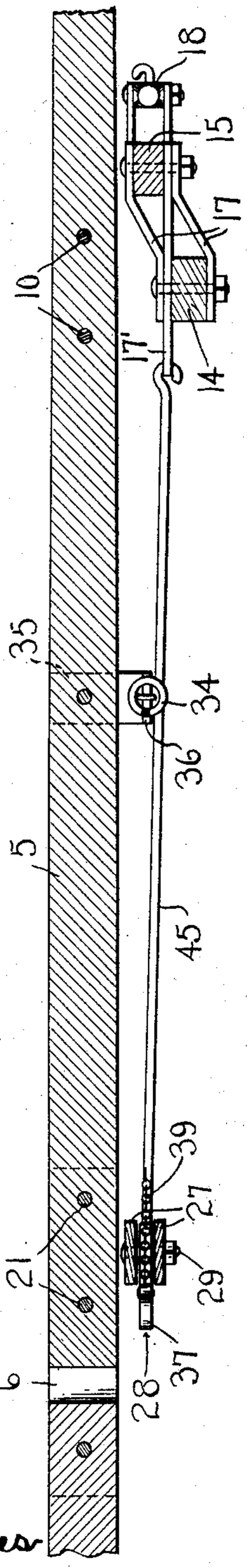
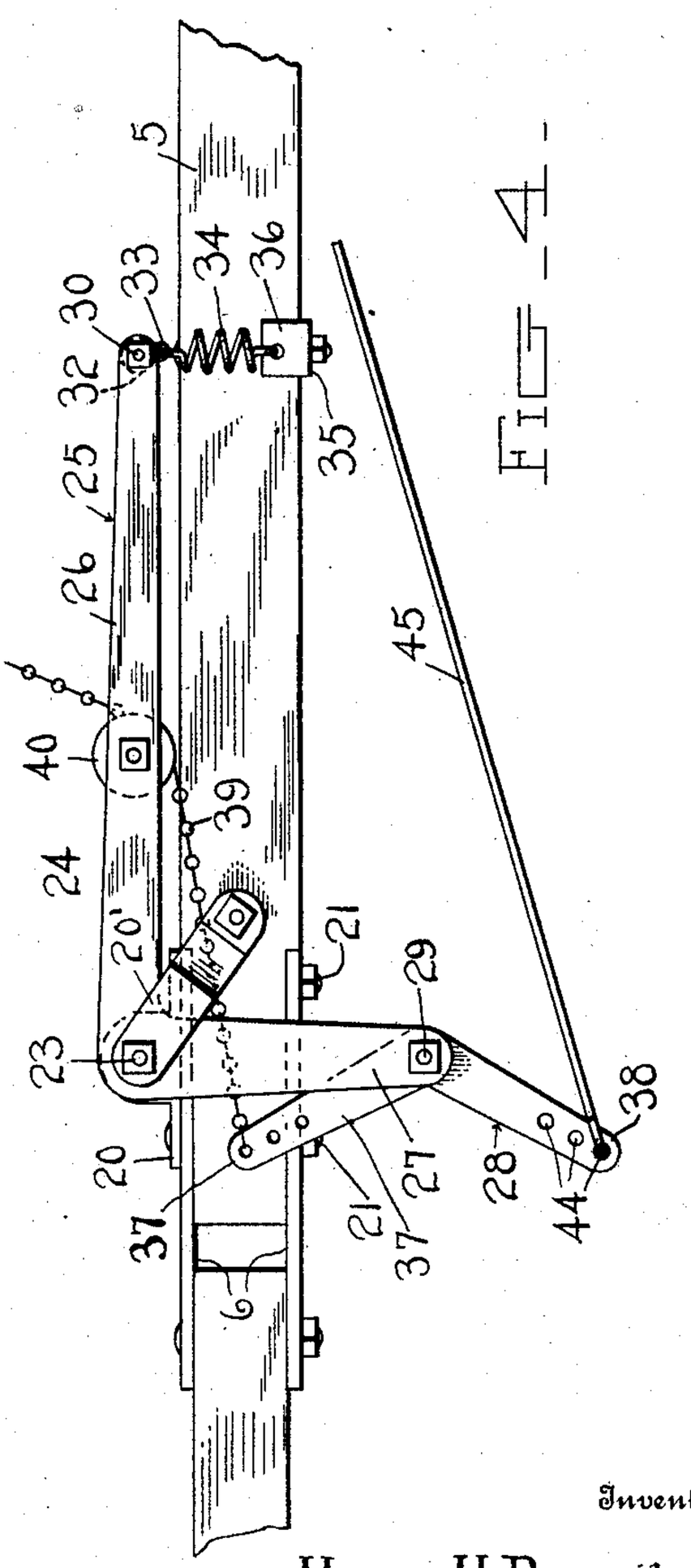


FIG. 4.



Witnesses

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DRAFT-EQUALIZER.

No. 907,015. Specification of Letters Patent. Patented Dec. 15, 1908.

Application filed December 31, 1907. Serial No. 408,738.

To all whom it may concern:

Be it known that I, HENRY H. DUNNIHOO, a citizen of the United States, residing at Shattuck, in the county of Ellis, State of Oklahoma, have invented certain new and useful Improvements in Draft-Equalizers; and I do hereby declare the following to be a full, clear and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in draft equalizers, and it has more particular reference to a four horse equalizer of that type, in which draft equalizing elements are mounted upon the tongue in such manner that three horses are on one side of the tongue and the other horse is on the other side thereof.

The present equalizer is designed for use more particularly with binders and similar agricultural machines, and the invention aims as a primary object to provide a novel construction, combination and arrangement of parts, including a pivotally movable, yieldable, resiliently held leverage arm for supporting the equalizer beam towards the end of eliminating all side draft.

The details of construction will appear in the course of the following description, in which reference is had to the accompanying drawings, forming a part of this specification, like characters of reference designating similar parts, throughout the several views, wherein:—

Figure 1 is a top plan view of the present equalizer. Fig. 2 is a sectional view taken longitudinally through the tongue. Fig. 3 is a detailed perspective view of the pivoted support for the equalizer beam. Fig. 4 is a fragmentary bottom plan view of the device.

In the accompanying drawings, the numeral 5 designates the tongue pivoted from the binder by the coupling 6 and having connection with a diagonal brace rod 7, the latter being in turn, pivoted to an element of the binder frame as at 8. At one side of the tongue 5, there is mounted a plate 9 held by tie bolts 10, the plate 9 being formed with a bearing sleeve 11 to receive the pivot pin 12 of a horizontally movable brace rod 13. The main whiffle-tree 14 is pivotally mounted upon the end of the rod 13 at a central point. Double-trees 15 and 16 are pivotally hung from the ends of the whiffle tree 14 by clevises 17, which clevises include straps 17′ which project rearwardly. The double-trees 15 and 16 carry respective swingle-trees 18 and 19, one of the swingle-trees 18 being located on one side of the tongue, and the other swingle-tree 18, together with the swingle-trees 19, being located on the other side of the tongue. At the rear end of the tongue, there is provided a plate 20 held by tie bolts 21, and formed with a bearing sleeve 22 to receive the pivot pin 23 of the equalizer beam support 24. The pin 23 is connected to the end of an angular brace strap 20′, the other end of which strap is secured to the under face of the tongue. Said support comprises two counterpart L-shaped members 25, having elongated arms 26 which lie normally in parallelism at one side of the tongue 5, and shorter arms 27 which extend at right angles to the arms 26 and between which the equalizer beam 28 is pivotally held, the pivot 29 of said beam being located at the ends of the arms 27. At the ends of the arms 26, a pin 30 is held between said arms, and surrounding the pins 23 and 30, are spacing spools 31 and 32, the spool 32 being formed at one side thereof with an apertured lug 33, with which is engaged one end of a retractile coil spring 34, the other end of said spring being connected to a bracket 35 having an offset portion 36 which is attached to the tongue. The beam 28 is formed with two arms 37 and 38 which extend at an obtuse angle to one another. The arm 37 is connected with a chain 39 which passes over a pulley 40 supported between the arms 26 midway of their length. To the end of the chain 39, there is connected a draft rod 41, having its ends bent into the form of hooks. The draft rod 14 is connected by a coupling ring 42 with a similar draft rod 43, which latter has its ends bent in the form of hooks, the ring 42 being engaged detachably with the adjacent hooked ends of the rods 41 and 43. The rod 43 has its other hooked end connected with the rearwardly projecting part of the strap 17′. The arm 38 of the beam 28 is formed with openings 44 in a selected one of which, is engaged the hook shaped end of a draft rod 45, which latter has its other end hook shaped for detachable engagement with the end of the strap 17′ located at the inner end of the whiffle-tree 14. At some distance from the outer end of the whiffle-tree 14,

there is provided an eye bolt 46, with which the end of the rod 41, is engaged when the device is used as a three horse evener, in which use, the whiffle tree 14 has its pivot pin engaged in an opening 47 which is arranged at some distance from the outer end of the rod 13.

In the use of the present device, the arrangement is such that all strain of draft is taken off of the tongue, and that the provision of the beam 28 in its specific relation to the other elements, assures of an even distribution of the pull of the horses. The provision of the pivoted supporting device 24 of said beam, and of the spring 34, assures of the movement of the parts without jarring, reaction, or loose play.

What is claimed is:

1. In a draft equalizer, a tongue, a plate secured at one side thereof and formed with a bearing sleeve, a brace rod, a pivot therefor passing through said bearing sleeve, a whiffle-tree pivotally mounted at the end of said brace rod, double-trees pivotally mounted at the ends of said whiffle-tree, swingle-trees carried in pairs by said double-trees, one of said swingle-trees being disposed at one side of said tongue, the other swingle trees being disposed at the other side of said tongue, a member pivotally mounted upon said tongue rearwardly of said brace rod, said member having angular arms, one of which projects in an opposite direction and on the other side of said tongue from said brace rod, a coil spring connected to said tongue and to the other angular arm, a main equalizer beam carried by said first-named angular arm, a pulley carried by said last-named angular arm, said equalizer beam being pivoted centrally thereof, a chain connected with the inner end of said equalizer beam and trained over said pulley, draft rods having connection with said chain, and with the outer end of said whiffle-tree, and a draft rod connected with the outer end of said beam and with the inner end of said whiffle-tree.

2. In a draft equalizer, in combination, a tongue, a whiffle-tree carried thereby, an L-shaped equalizer-beam support disposed rearwardly of the whiffle-tree and pivotally connected to the tongue, a plurality of swingle-trees connected with the whiffle-tree, an angular equalizer-beam pivoted to one arm of said support, a yielding connection between the other arm of said support and the tongue, and separate connections between each arm of the beam and the adjacent end of the whiffle-tree.

3. In a draft equalizer, in combination, a tongue, a whiffle-tree carried thereby, an L-shaped equalizer-beam support disposed rearwardly of the whiffle-tree and pivotally connected to the tongue, a plurality of swingle-trees connected with the whiffle-tree, an angular equalizer beam pivoted to one arm of said support, a spring connected at opposite ends to the other arm of said support and to the tongue, and separate connections between each arm of the beam and the adjacent end of the whiffle-tree.

4. In a draft equalizer, in combination, a tongue, a whiffle-tree carried thereby, an L-shaped equalizer-beam support disposed rearwardly of the whiffle-tree and pivotally connected to the tongue, said support comprising a pair of counterpart members arranged in spaced relation to each other, a plurality of swingle-trees connected with the whiffle-tree, an angular equalizer-beam pivoted to one arm of said support between the members thereof, a yielding connection between the other arm of the support and the tongue, and separate connections between each arm of the beam and the adjacent end of the whiffle-tree.

5. In a draft equalizer, in combination, a tongue, a whiffle-tree carried thereby, an L-shaped equalizer-beam support disposed rearwardly of the whiffle-tree and pivotally connected to the tongue, said support comprising a pair of counterpart members arranged in spaced relation to each other, a pulley arranged centrally of one arm of said support and located between the members thereof, a plurality of swingle-trees connected with the whiffle-tree, an angular equalizer beam pivoted to the other arm of said support between the members thereof and separate connecting devices between each arm of said beam and the adjacent end of the whiffle-tree, one of said devices including a flexible element passing around said pulley.

6. In a draft equalizer, in combination, a tongue, a whiffle-tree carried thereby, an L-shaped equalizer-beam support pivotally connected with the tongue and disposed rearwardly of the whiffle-tree, said support comprising a pair of counterpart L-shaped members arranged in spaced relation to each other and connected together, a plurality of swingle-trees connected with the whiffle-tree, a pulley arranged centrally of one arm of said support and located between the members thereof, a retractile spring connected at opposite ends to the free end of said arm and to the tongue, an angular equalizer beam pivotally connected to the free end of the other arm of said support and movable between the members thereof, and separate devices connecting each arm of said beam with the adjacent end of the whiffle-tree, one of said devices including a flexible element passing around said pulley.

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

HENRY H. DUNNIHOO.

Witnesses:

WM. G. SEARS,

G. A. SEARS.