

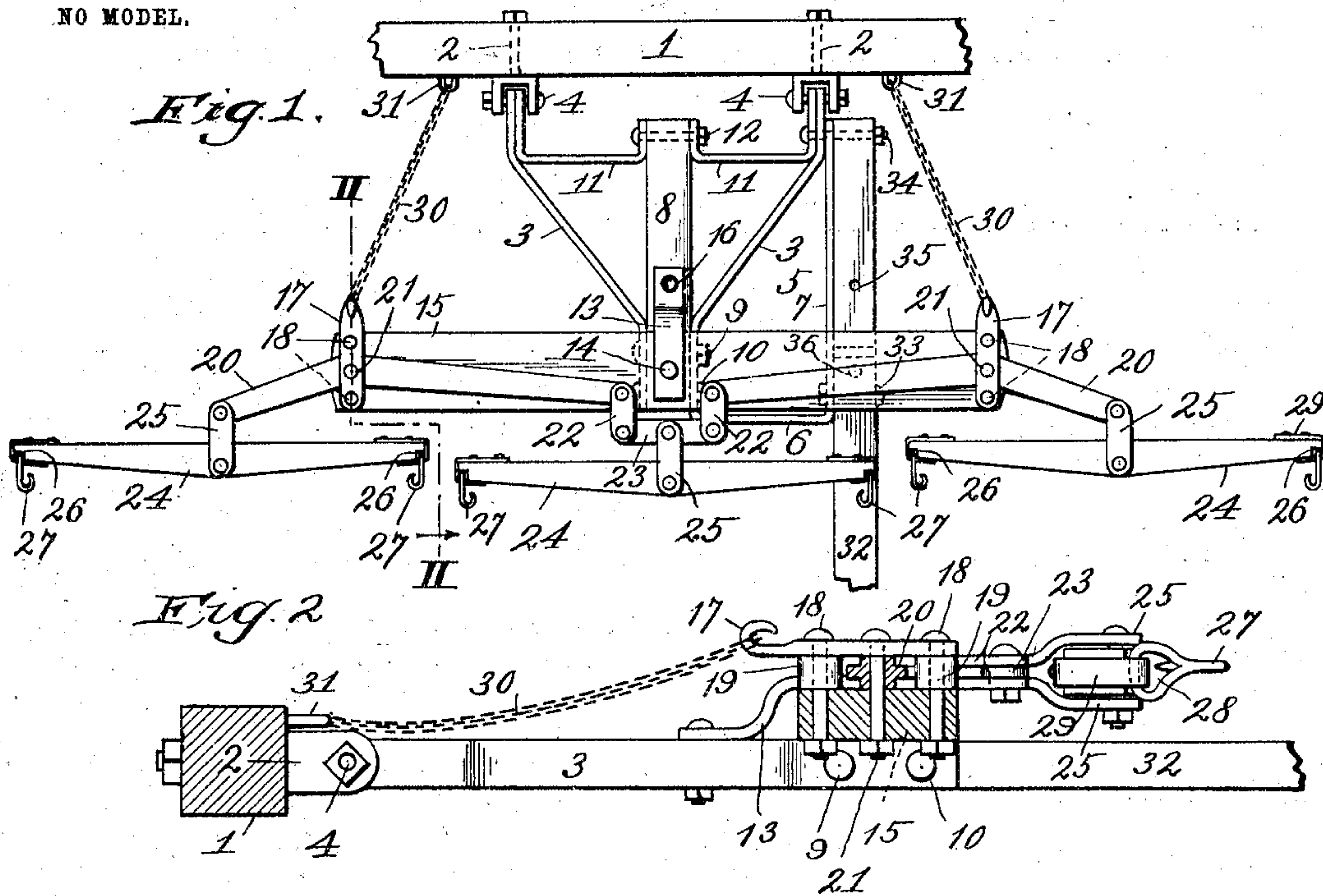
No. 768,532.

PATENTED AUG. 23, 1904.

W. S. LIVENGOOD.
DRAFT EQUALIZER.

APPLICATION FILED JAN. 8, 1904.

NO MODEL.



Witnesses:

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DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 768,532, dated August 23, 1904.

Application filed January 8, 1904. Serial No. 188,184. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. LIVENGOOD, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a specification.

My invention relates to improvements in draft-equalizers; and my object is to provide an arrangement of this character which can be readily changed from a two-horse to a three-horse equalizer without employing extra parts.

The invention consists in the novel arrangement, construction, and combination of parts hereinafter described, and pointed out in the claims, and in order that it may be fully understood reference will now be made to the accompanying drawings, in which—

Figure 1 represents a plan view of my improved equalizer arranged for three draft-animals. Fig. 2 is a longitudinal section of the same, taken on line II II of Fig. 1. Fig. 3 shows a plan view of the equalizer arranged for two draft-animals.

In said drawings, 1 designates the axle of the vehicle provided with a pair of clevis-bolts 2, to which the fore hounds are pivotally connected by bolts 4.

5 designates a knee formed integral with the forward end of one of the hounds and extends laterally and rearwardly therefrom, as shown at 6 and 7, respectively, and is secured at its rear end to the rear portion of said hound. The hounds converge toward their forward ends and are secured to the forward end of an auxiliary tongue 8 by bolts 9 10, respectively, and their rear ends are provided with L-shape braces 11, which extend inwardly and are secured to the rear end of the auxiliary tongue by a bolt 12. The upper forward surface of the auxiliary tongue is provided with a clevis 13, through which extends a removable pin 14, that pivotally secures a doubletree 15 between the clevis and the auxiliary tongue. Said clevis is removably secured to the auxiliary tongue by a bolt 16.

17 designates a pair of hooks secured to the opposite ends of the doubletree by bolts 18,

which latter also extend through sleeves 19, interposed between the hooks and the doubletree to provide a space for the reception of equalizing-levers 20, fulcrumed upon bolts 21, extending through the hooks and the doubletree.

The equalizing-levers are in the proportion of two to one, so the middle draft-animal will draw but one-third of the load, and their adjacent ends are pivotally connected to links 22, which latter are pivotally connected at their forward ends to an intermediate link 23, the central portion of which is connected to an intermediate swingletree 24 by a link 25. The outer ends of the equalizing-levers are also pivotally connected by links 25 to a pair of swingletrees 24, arranged on opposite sides of the intermediate swingletree above described. The opposite ends of the swingletrees are notched, as at 26, for the pivotal reception of draft-hooks 27, having rearwardly-extending loops 28 for the reception of straps 29, secured to the swingletrees for the purpose of reliably holding the draft-hooks in the notches.

By securing the swingletrees to the equalizing-levers with links 25 said swingletrees are always held in an extended position, as shown in Figs. 1 and 2, instead of dropping downwardly, as would be the case if secured by chains. The draft-hooks are also held in an extended position by straps 29, engaging the rear portion of loops 28, and consequently the swingletrees and draft-hooks are always in a convenient position for readily attaching the rear ends of the harness-tugs to said hooks.

30 designates a pair of chains attached at their opposite ends to staples 31 on the axle and hooks 17 for the purpose of limiting the pivotal movement of the doubletree.

32 designates a tongue of ordinary length secured to the longitudinal portion 7 of the knee by bolts 33 34, arranged opposite bolts 10 12, so that when converting the invention into a two-horse equalizer the last-mentioned bolts will fit the bolt-holes in the tongue when the latter is substituted for the auxiliary tongue 8, which latter, together with the equalizing-levers and intermediate swingletree, are removed. When this change is made,

links 25 on the two remaining swingletrees are removed from the outer ends of the equalizing-levers and secured between the forward ends of hooks 17 and the doubletree by bolts 18, the front sleeves 19 on the latter being previously removed to admit the rear ends of the links. The clevis 13 is also removed from the auxiliary tongue and applied to tongue 32, which latter is provided with bolt-holes 35 36 to receive bolt 16 and pin 14, respectively.

By providing knee 5 a support for tongue 32 is furnished. It also holds the doubletree in a horizontal position, and thus relieves pin 14 of the twisting strain to which it would be subjected were the doubletree to rock when attached to either of the tongues.

From the above description it is apparent that I have produced a simple interchangeable equalizer of comparatively few parts and thoroughly effective for the purpose intended.

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

1. A draft-equalizer consisting of a pair of hounds, inwardly-extending braces secured to the rear ends thereof, an auxiliary tongue removably secured between the forward ends of the hounds and the inner ends of the braces, a knee secured to one end of the hounds, a tongue removably secured to said knee and adapted to replace the auxiliary tongue, and equalizing devices adapted to be secured to the tongue or the auxiliary tongue.

2. A draft-equalizer consisting of a pair of hounds converging toward their forward ends, inwardly-extending L-shape braces secured to the rear portion of the hounds, a knee formed integral with one of the hounds, an auxiliary tongue removably secured between the forward portion of the hounds and the inner

ends of the braces, a tongue removably secured to the knee and adapted to replace the auxiliary tongue, and equalizing devices adapted to be secured to the tongue or the auxiliary tongue.

3. A draft-equalizer consisting of a pair of hounds, inwardly-extending braces secured to the rear portion of the hounds, a knee formed integral with the front end of one of said hounds and which extends laterally and rearwardly and is secured at its rear end to the rear end of said hounds, an auxiliary tongue removably secured between the hounds and the braces, a tongue removably secured to the knee and adapted to replace the auxiliary tongue, and equalizing devices adapted to be secured to the tongue or the auxiliary tongue.

4. A draft-equalizer consisting of a pair of hounds, an auxiliary tongue secured thereto, a doubletree pivotally secured to said tongue, equalizing-levers fulcrumed to the opposite ends of the doubletree, links pivotally secured to the inner ends of the equalizing-levers, an intermediate link secured to the outer ends of the first-mentioned links, swingletrees, and links pivotally secured at their opposite ends to the swingletrees, the outer ends of the equalizing-levers and the intermediate link.

5. A draft-equalizer consisting of a pair of hounds, a tongue secured thereto, swingletrees pivotally connected to the opposite ends of the tongue and provided with notches in their opposite ends, hooks provided with looped rear ends, and straps for securing the looped ends of the hooks in the notches.

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

WINFIELD S. LIVENGOOD.

Witnesses:

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