

No. 769,861.

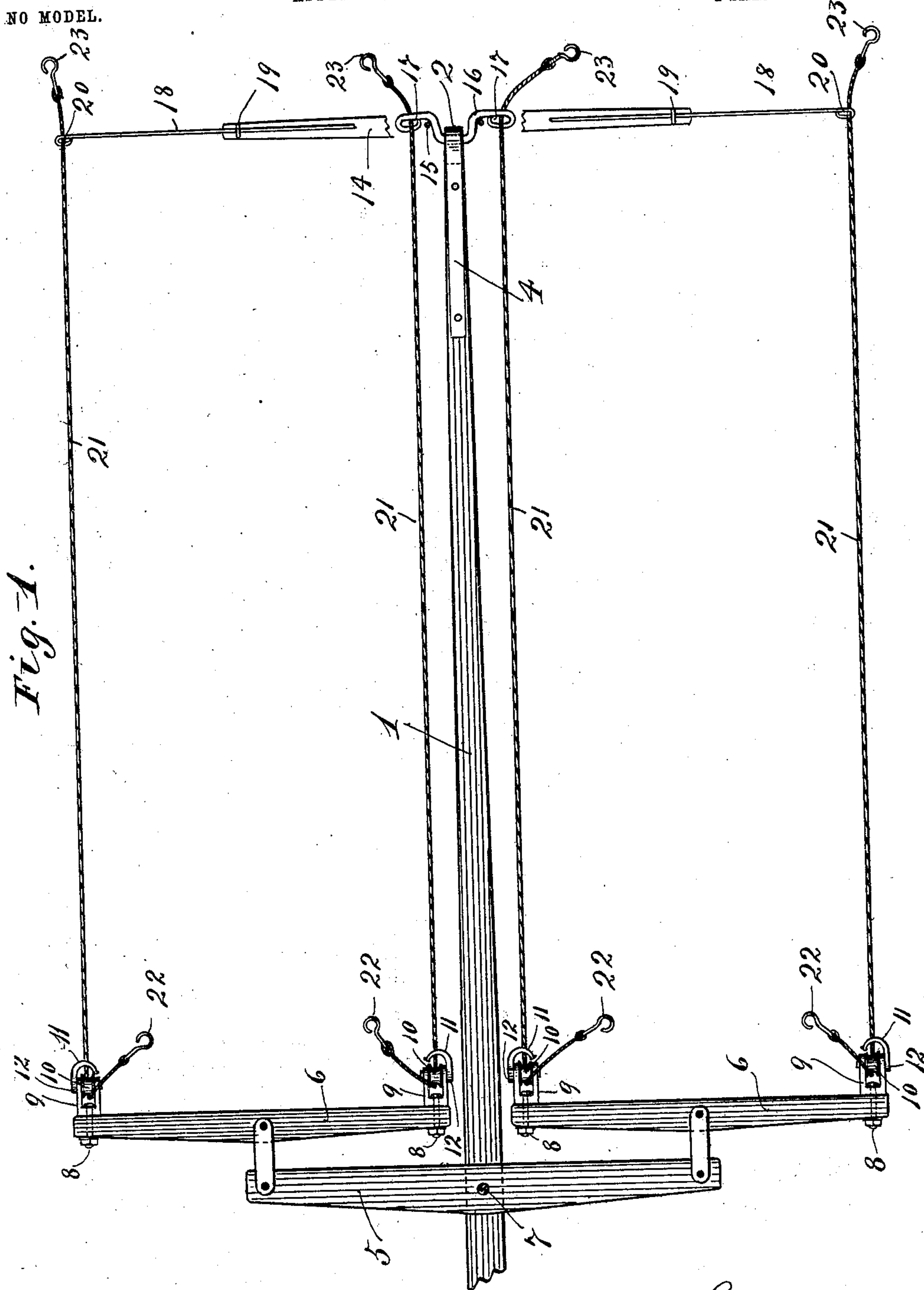
PATENTED SEPT. 13, 1904.

O. O. FJELD.  
DRAFT EQUALIZER.

APPLICATION FILED FEB. 10, 1902.

2 SHEETS—SHEET 1.

NO MODEL.



Witnesses  
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H. D. Kilgore

Inventor.  
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By his Attorneys  
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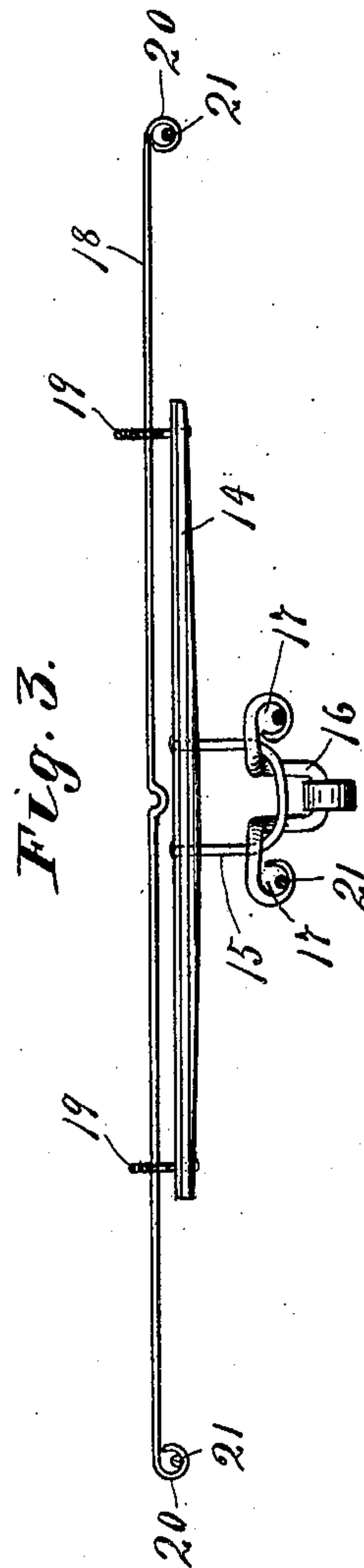
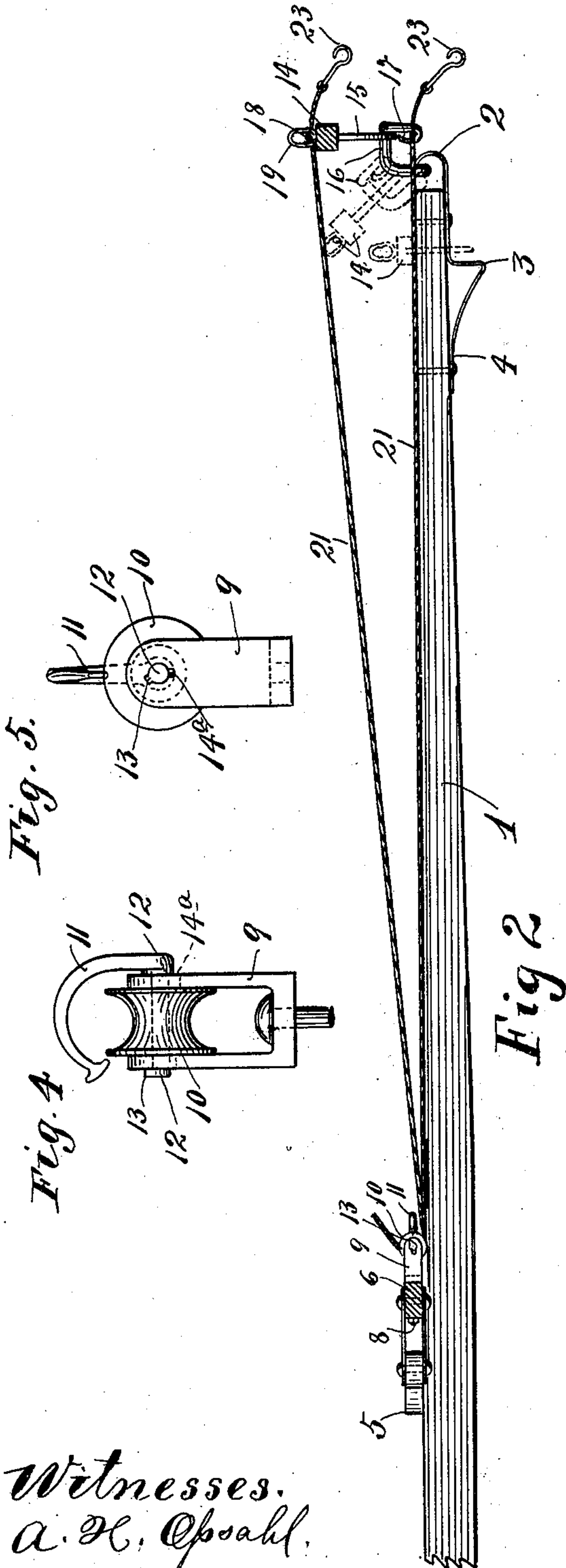
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# UNITED STATES PATENT OFFICE.

OLUF O. FJELD, OF MAYVILLE, NORTH DAKOTA.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 769,861, dated September 13, 1904.

Application filed February 10, 1902. Serial No. 93,655. (No model.)

*To all whom it may concern:*

Be it known that I, OLUF O. FJELD, a citizen of the United States, residing at Mayville, in the county of Traill and State of North Dakota, 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.

My present invention has for its object to provide an improved equalizing draft device; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view with some parts broken away illustrating my improved draft-equalizing device. Fig. 2 is a side elevation of the parts shown in Fig. 1, some parts being sectioned. Fig. 3 is a front elevation of a portion of the draft-equalizing device. Fig. 4 is a plan view of one of the sheave-brackets and coöperating tug-hook, and Fig. 5 is a side elevation of the parts shown in Fig. 4.

The numeral 1 indicates the pole of a wagon or other vehicle, the same being provided at its forward end with a loop or eye 2 and yoke-stop 3, both of which parts are, as shown, afforded by a strap 4 properly bent and secured to the end of the pole.

The numeral 5 indicates the equalizing-bar, and the numeral 6 the whiffletrees, of an ordinary two-horse draft-equalizer, said bar 5 being pivoted to the pole in the ordinary way, as shown at 7. To the ends of the whiffletrees are secured by a nutted bolt 8 sheave-supporting brackets 9, between the prongs of which sheaves 10 are loosely mounted. Tug-hooks 11 are provided with pin-sections 12, which are passed through the prongs of the brackets 9 and through the coöperating sheaves 10. On their projected ends the pins 12 are provided with lock-lugs 13, which coöperate with notches 14<sup>a</sup> in the prongs of the brackets 9. The relative locations of said lugs 13 and notches 14<sup>a</sup> are such that the said pins 12 can be withdrawn from working po-

sitions only when their tug-hooks 11 are turned upward and backward into extreme positions.

A neck-yoke 14 is provided with a large staple 15, which works over the end of the pole and when used with the two-horse evener coöperates in the ordinary way with the neck-yoke stop 3. A yoke-coupling 16, bent upon itself to form a double elbow and provided at its extremities with tug-guiding loops or eyes 17, is loosely pivoted to the loop 2 at the end of the pole. In one position of the parts, to be hereinafter more fully considered, the yoke-staple 15 is adapted to embrace the body of the coupling 16, as shown in Figs. 1, 2, and 3, while in another position it is adapted to be slipped therefrom into the dotted-line position indicated in Fig. 2.

The numeral 18 indicates a tug spacing and guiding rod which is passed through eyes 19 on the ends of the yoke 14 and is provided at its projecting ends with eyes 20. The eyes 19 are of such dimensions that the eyes 20 may be drawn therethrough, and thereby permit the rod 18 to be detached from the neck-yoke when not in use.

The numeral 21 indicates a plurality of so-called "equalizing draft-tugs" which work one over each of the sheaves 10 at the ends of the whiffletrees 6. The sheaves 10 constitute what are herein designated, broadly, as "draft-equalizing elements." At their rear ends the equalizing-tugs 21 are provided with tug-hooks 22, to which the rear horses may be hitched, and at their forward ends they are provided with tug-hooks 23, to which the lead horses may be hitched. The forward ends of the outer tugs 21 are passed through the eyes 20 of the spacing-rods 18, while the forward ends of the inner tugs 21 are passed through the eyes 17 of the yoke-coupling 16.

When the device above described is to be used as a four-horse equalizer, the parts are adjusted substantially as described. The two rear horses are hitched to the tug-hooks 22, while the two lead horses are hitched to the tug-hooks 23 of the equalizing-tugs 21. When the horses are thus hitched, it is evident that the tugs 21 and sheaves 10, acting as equalizing devices, equalize the draft strains of the



two horses hitched in tandem, or one directly in front of the other, or, in other words, the two horses on the same side of the pole. It is also evident that the draft strains of the two horses on the one side of the pole are equalized with those of the two horses on the other side of the pole through the two-horse eveners 5 6. To convert the draft-equalizing device back into a two-horse eveners or equalizer, it is only necessary to remove the equalizing draft-tug 21 and spacing-rod 18 and then slip the neck-yoke back into the position indicated by dotted lines in Fig. 2. This being done, the horses are hitched to the tug-hooks 11.

It will be noted that when the device is used as a four-horse eveners the tug-hooks 22 must necessarily stand in advance of the tug-hooks 11. Hence the purpose of arranging the neck-yoke 14 for operation in the two different positions described is obvious. In virtue of the L-shaped form of the yoke-coupling 16 it serves, when the parts are adjusted as shown by full lines in the drawings, as a stop to prevent the pole from running ahead with respect to the neck-yoke. (See dotted-line position, Fig. 2.)

From the above it is evident that I have provided an equalizing device at a very small cost which while convertible from a two to a four horse eveners with rapidity and ease is a perfect equalizer under all conditions.

Of course the above features of construction may be embodied in either a six-horse equalizer or eveners or in an eight-horse eveners. Either a six or an eight horse eveners would, however, involve as a part thereof a two-horse eveners or equalizer. It will therefore be understood that the device above described is capable of many modifications within the scope of my invention as herein set forth and claimed.

The sheaves or pulleys 10 serve as equalizing

devices for the equalizing-tugs 21, and it will therefore be understood that it would be within the scope of my invention, although not the full equivalent of the said sheaves, to provide short vertically-disposed equalizing-levers in lieu thereof.

The expression "tug-hooks" is used in a broad sense to include any devices to which the tugs or other draft portions of a harness may be connected.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a pole and a two-horse draft-equalizer 5 6, of the neck-yoke coupling 16 having the guide-eyes 17, the neck-yoke 14 having the staple 15 cooperating with said coupling 16, as described, the spacing-rod 18 detachably securable to said neck-yoke, brackets 9 on the whiffletrees 6, pins 12 working through the prongs of said bracket 9, the sheaves 10 mounted on said pins 12, and the equalizing draft-tugs working over said sheaves and provided with tug-hooks 22 23, said tugs working through the eyes 17 of said coupling 16 and through eyes 20 at the ends of the said rods 18, substantially as described.

2. The combination with a draft-equalizing device involving whiffletrees, of the pronged brackets 9 having pin-seats with notches 14<sup>a</sup>, tug-hooks 11 with pins 12 working through the pin-seats of said brackets and having lugs 13 cooperating with said notches 14<sup>a</sup>, as described, sheaves 10 mounted on said pins 12, and draft-equalizing tugs working over said sheaves, substantially as described.

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

OLUF O. FJELD.

Witnesses:

ELIZABETH KELIHER,  
F. D. MERCHANT.