No. 834,986. PATENTED NOV. 6, 1906.

J. LANGENFELD.

DRAFT EQUALIZER.

APPLICATION FILED MAR. 5, 1906.

Fig. 1.

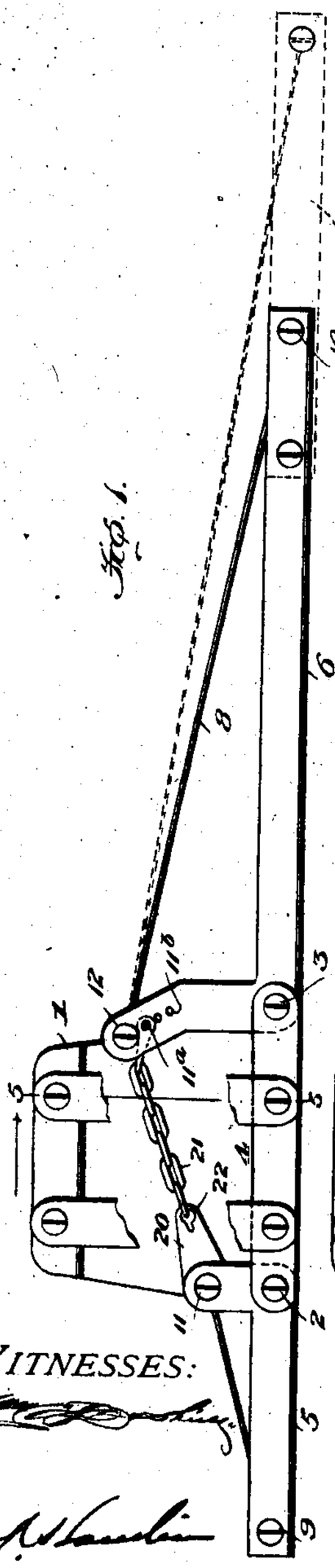


Fig. 2.

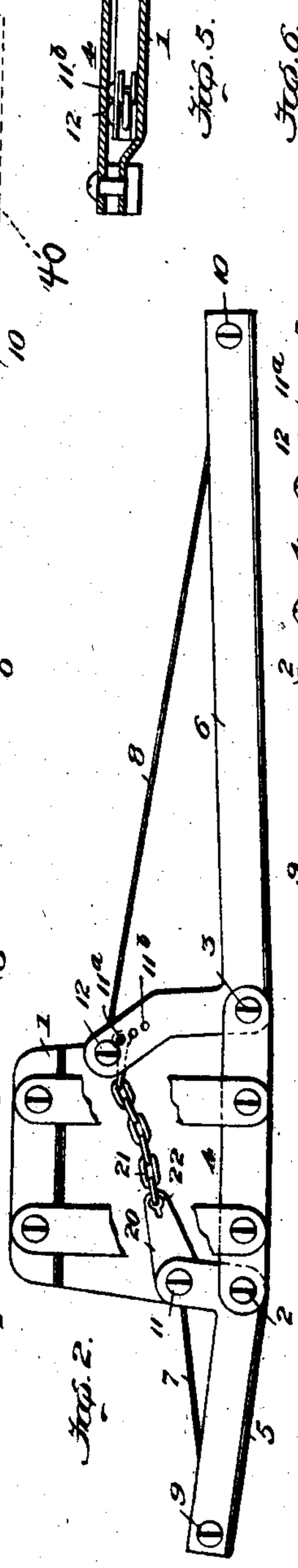


Fig. 3.

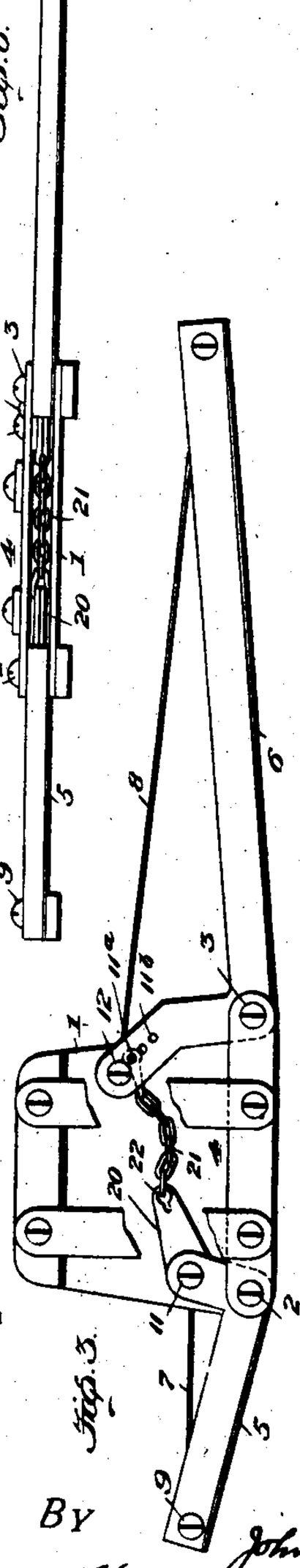


Fig. 4.

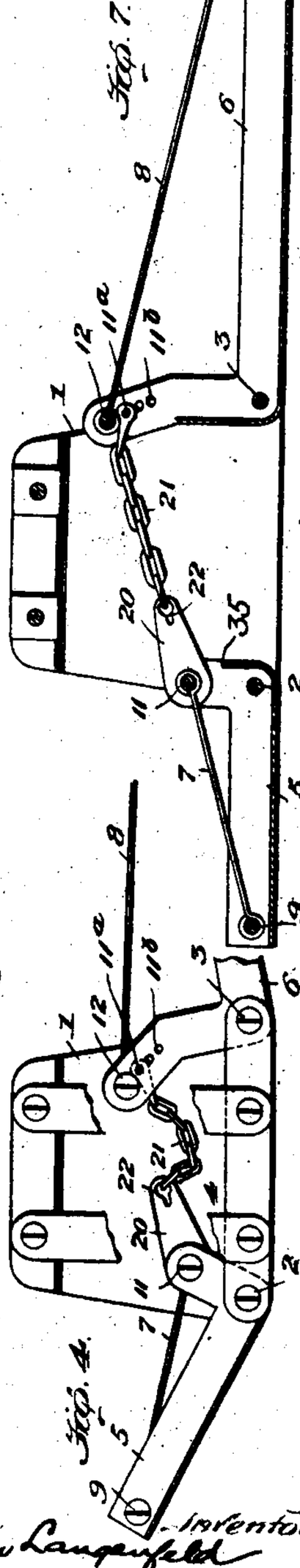


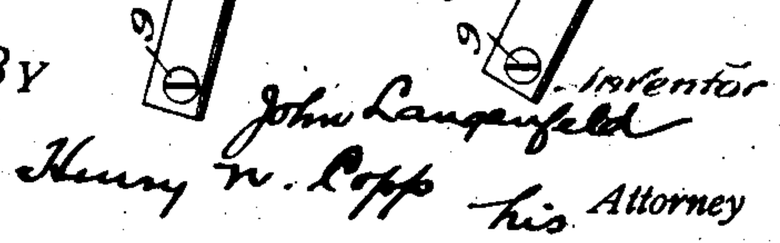
Fig. 5.

Fig. 6.

Fig. 7.

WITNESSES:

BY



Inventor

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UNITED STATES PATENT OFFICE.

JOHN LANGENFELD, OF EARLING, IOWA.

DRAFT-EQUALIZER.

No. 834,986. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed March 5, 1906. Serial No. 304,275.

To all whom it may concern:

Be it known that I, JOHN LANGENFELD, a citizen of the United States, residing at Earling, county of Shelby, and State of Iowa, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a specification.

My invention relates to draft-equalizers.

Heretofore it has been proposed to employ independently-pivoted bell-crank-equalizing levers, the arms of one of which are of much shorter length than the arms of the other bell-crank lever and to connect the short arms of the bell-crank levers by a rigid rod pivoted to them.

My object is to improve on the foregoing construction by the provision of a peculiar flexible connection between the short arms of the bell-crank levers, which comprises a short link pivoted to one of the short arms of the levers aforesaid and a flexible connection between said link and the short arm of the other bell-crank lever. With this improved construction I obtain advantages not possible with the old form of equalizer above set forth, such advantages consisting of the ability of the improved connection to throw the longer bell-crank lever farther back than has heretofore been possible when the horses pull too far forward on the short bell-crank lever, another advantage being that the draft on the short bell-crank lever is increased if the horses pull too strongly on the long bell-crank lever, while the improved connection also permits the long bell-crank lever to move farther forward than has heretofore been possible. In the old type of equalizer where the connection between the bell-crank levers is a direct rigid one the bell-crank levers cannot move back and forth as far as necessary to give proper draft equalization. My improved connection is particularly useful if the team turns a sharp corner, and the flexible part of the connection is useful in that the levers are enabled to be easily pushed back out of the way of the horses during such turning.

The invention is set forth fully hereinafter and recited in the appended claims.

In the accompanying drawings, Figures 1, 2, 3, and 4 are plan views partly broken away, showing different positions which may be assumed by the draft-equalizer; Fig. 5, a section on line 5 5 of Fig. 1; Fig 6, an edge view, and Fig. 7 a horizontal section.

The numeral 1 designates a plate which is adapted for connection to the vehicle in any preferred manner. Pivoted to the plate 1 on bolts 2 and 3, which are connected to the skeleton upper framework 4, are long and short bell-crank levers 5 and 6, which may be made of channel-metal construction instead of wood, and the parts of the respective bell-crank levers are braced by the guys 7 and 8, which are fastened to the end bolts 9 and 10 and to other bolts 11 and 12 at the ends of the short arms of the respective bell-crank levers. As thus described, except for the channel-metal construction and manner of guying or bracing the parts of the respective bell-crank levers, the construction is similar to draft-equalizers known to the art.

My improved connection between the short arms of the bell-crank levers comprises a link 20, pivoted on bolt 12, and a chain or flexible connection 21, pivoted on bolt 11^a, adapted for insertion in any one of the holes 11^b, and having a sliding connection at 22 with the link 20.

When the team attached to lever 5 pulls ahead, the link 20 comes against a shoulder 35 on lever 5, and thus throws lever 6 back double the distance.

The improved connection between the short arms of the bell-crank levers 5 and 6 obtains the advantages which I have set forth heretofore, such advantages not being possessed by rigid link connection between the short arms of levers in a construction of draft-equalizer which is known to the art.

In order to change the equalizer from a four to a five horse equalizer, it is desirable to add another piece 40 to the long bell-crank lever 6, as shown by dotted lines, while the openings 11^b are used, when such a change is made, for the shifting of the bolt 11^a, as found desirable.

In changing to a five-horse equalizer two extra beams are used, one being connected intermediate its ends to the end of bell-crank lever 5 and the other being connected intermediate its ends to the end of the extra piece 40. The inner ends of these extra beams are hitched to one horse and the outer ends of each extra beam are hitched to two horses.

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

1. In a draft-equalizer, the combination of independently-pivoted bell-crank levers, of a loose or flexible connection between said bell-crank levers.

2. In a draft-equalizer, the combination of independently-pivoted bell-crank levers, of a loose or flexible connection between the short arms of said bell-crank levers.

3. In a draft-equalizer, the combination with independently-pivoted bell-crank levers, of a connection between the bell-crank levers comprising a link pivoted to one of said levers, and a flexible connection between said link and the other of said bell-crank levers.

4. In a draft-equalizer, the combination with independently-pivoted bell-crank levers, of a direct connection between the short arms of said bell-crank levers comprising a link pivoted to one of said short arms, and a flexible member connected to the link and pivoted to the short arm of the other bell-crank lever.

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

JOHN LANGENFELD.

Witnesses:

AUG. LANGENFELD,

WENZEL HAHN.