No. 751,470. PATENTED FEB. 9, 1904.

C. A. DAHLEN.

DRAFT EQUALIZER.

APPLICATION FILED JULY 6, 1903.

NO MODEL.

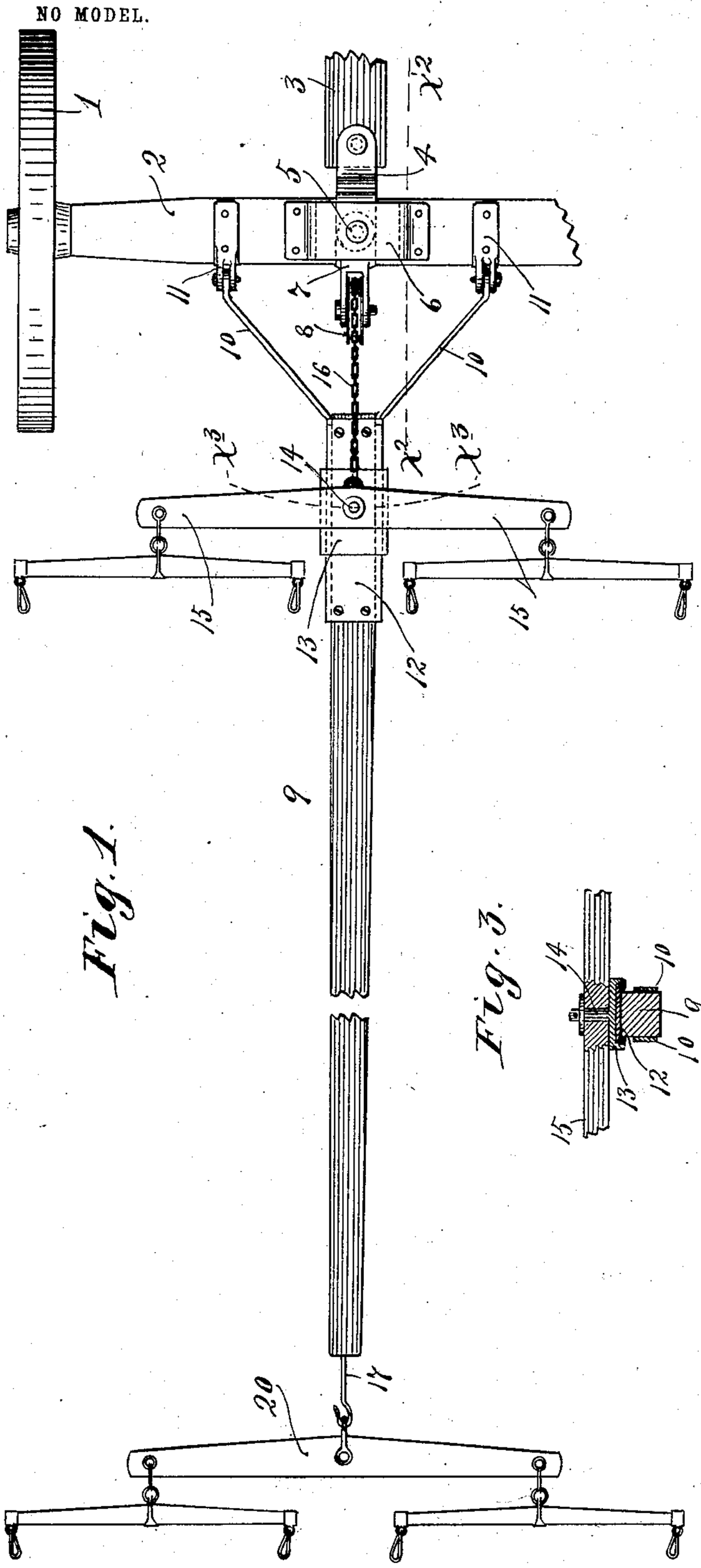

Fig. 1.

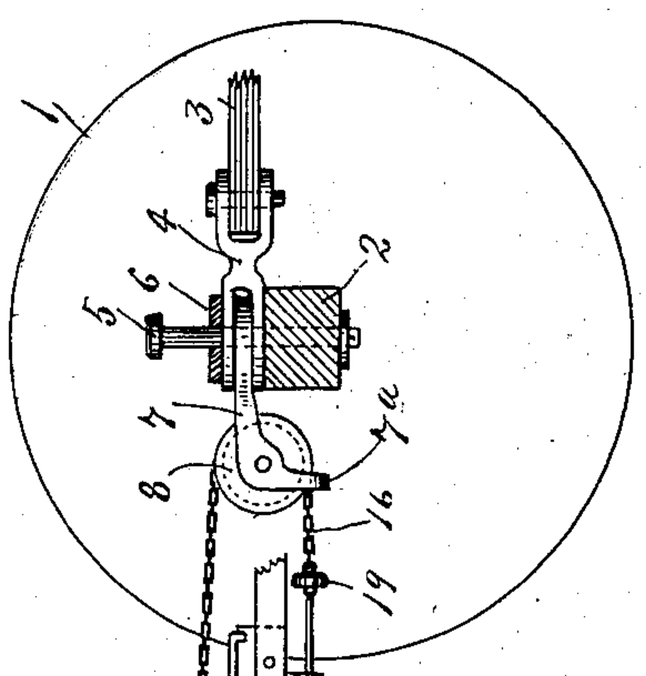

Fig. 2.



Fig. 3.

Witnesses
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No. 751,470. Patented February 9, 1904.

# UNITED STATES PATENT OFFICE.

CHARLES A. DAHLEN, OF FARWELL, MINNESOTA.

## DRAFT-EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 751,470, dated February 9, 1904.

Application filed July 6, 1903. Serial No. 164,502. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. DAHLEN, a citizen of the United States, residing at Farwell, in the county of Pope and State of Minnesota, 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 invention relates to draft-equalizing devices, and has for its object to improve the construction of the same in the several particulars hereinafter noted.

To such end the invention 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 showing a portion of an ordinary wagon and illustrating my improved draft-equalizing device applied thereto. Fig. 2 is a vertical longitudinal section taken approximately on line $x^2$ $x^2$ of Fig. 1, certain parts being shown in side elevation and some parts being broken away. Fig. 3 is a detail, principally in vertical section, on the line $x^3$ $x^3$ of Fig. 1.

The numeral 1 indicates one of the wheels, and the numeral 2 the front axle of the vehicle.

The numeral 3 indicates a portion of the wagon-reach, which reach, as shown, is pivotally connected to a link 4, which in turn is pivotally attached by a bolt 5 to the central portion of the axle 2 and to a bracket 6, secured on said axle. As shown, the ends of the link 4 are bifurcated. A bearing bracket or arm 7 is pivoted on the bolt 5, its rear end, as shown, being placed between the prongs of the forward end of the link 4, as best shown in Fig. 2. The forward portion of the bracket 7 is bifurcated, and between the sides of the same is pivotally mounted or journaled a guide-sheave 8, the purpose of which will presently appear.

The numeral 9 indicates the wagon-pole, which is of ordinary construction, being provided at its rear end with diverging metal straps 10, which are pivotally connected to bearings 11 on the axle 2. On top of the rear end of the pole 9 is rigidly secured by screws or other devices a flat metallic guide-plate 12, the edges of which project beyond the sides of the pole. A sliding block 13 is mounted on the bearing-plate 12 and is provided with depending and inturned flanges, which embrace the edges of said plate 12. The said sliding block 13 is further provided with an upright bearing-stud 14, on which is pivoted the equalizing-bar of a two-horse evener, indicated as an entirety by the numeral 15.) The central portion of the equalizing-bar of the said evener is attached to one end of a chain 16, which chain runs over the sheave 8 and is attached at its other end to the draft-rod 17, which works in and through guide-lugs 18 on the under side of the pole 9. The link of the chain 16, which is attached to the rear end of the rod 17, is shown as provided with a stop 19, which engages the rear guide-lug 18 to limit the forward movement of the rod 17 and which will engage a depending portion $7^a$ of the sheave-supporting bracket 7 to limit the rearward movement of said rod. A two-horse evener 20 is attached to the forward end of the draft-rod 17. The draft-rod 17 and chain 16 constitute what is herein termed a "flexible" draft connection. The sheave 8 constitutes what is herein designated, broadly, an "equalizing" element of the draft-equalizing device.

It is evident that the guide-sheave 8 will equalize the draft strains between the two two-horse eveners.

Of course instead of two-horse eveners three-horse or four-horse eveners might be attached to the ends of the flexible draft connection.

Inasmuch as the sheave 8 or draft-equalizing element is connected not to the pole directly, but directly to the axle of the vehicle, it is evident that even if the pole should break loose or otherwise become detached from the axle the draft device would still remain attached to the said axle.

The device is of course adapted to be attached to devices other than wagons or wheeled

vehicles—for instance, it might be applied to gang-plows or other agricultural ground-working devices, whether or not the same are provided with wheels. The device is also capable of modifications within the scope of the invention, as herein set forth and claimed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. The combination with a pole and a part to which it is attached, of a leverage-equalizing element attached to the same part to which said pole is attached directly at the rear of said pole, and in line therewith, an evener, mounted for a limited sliding movement on said pole, and an equalizing-draft connection attached to said evener, operating on the aforenoted draft-equalizing element, at the rear of said pole, the forwardly-extended end of said draft connection being guided by the said pole, substantially as described.

2. The combination, with a pole and a part to which it is attached, of a bearing-bracket pivotally attached to the part to which said pole is attached, a sheave mounted in said pivoted bracket, a sliding block mounted on said pole, an evener pivoted to said block, a chain or flexible connection attached to said sliding block and passed over said sheave, and a draft-rod attached to the other end of said chain and mounted in guides on the under side of the pole, substantially as described.

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

CHARLES A. DAHLEN.

Witnesses:
O. J. SANDVIG,
N. OGREN.