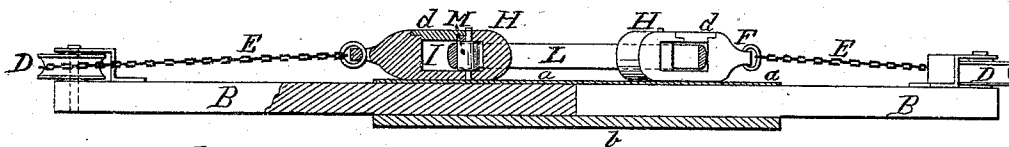
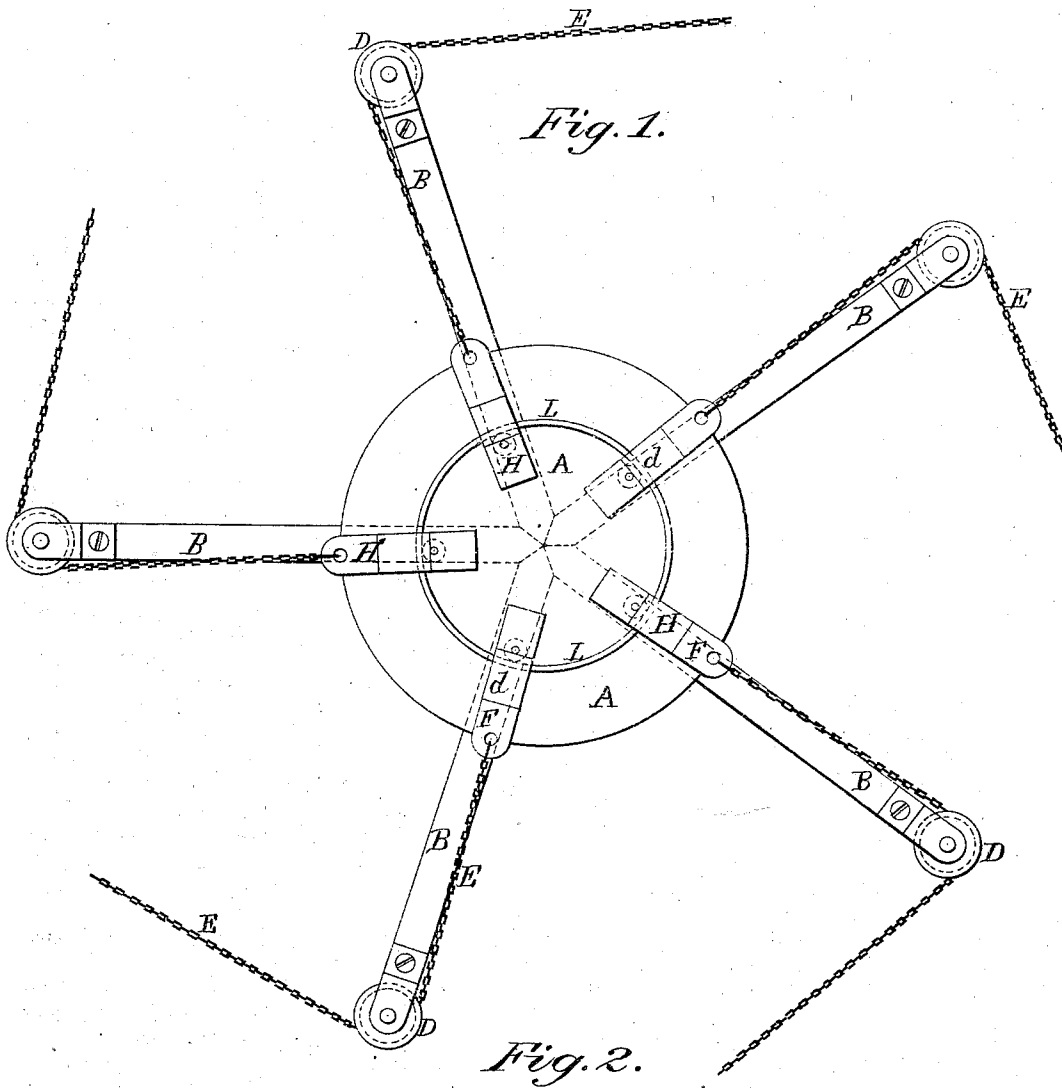


J. H. SPENCER.

Draft-Equalizers for Horse-Powers.

No. 147,994.

Patented Feb. 24, 1874.



Witnesses.
Wm. Howard.
W. E. Chaffee.

Inventor.
Joseph H. Spencer
By *box & box* Attys.

UNITED STATES PATENT OFFICE.

JOSEPH H. SPENCER, OF MILTON, INDIANA.

IMPROVEMENT IN DRAFT-EQUALIZERS FOR HORSE-POWERS.

Specification forming part of Letters Patent No. **147,994**, dated February 24, 1874; application filed July 23, 1873.

To all whom it may concern:

Be it known that I, JOSEPH H. SPENCER, of Milton, Wayne county, Indiana, have invented certain new and useful Improvements in Draft-Equalizers, of which the following is a description, reference being had to the accompanying drawings.

The invention relates to a platform, provided, in the present instance, with five radial arms, equally distanced and of corresponding dimensions, having pulleys at their outer extremities, which are provided with cords or chains, at one end of which the propelling power is attached, the other connecting with open blocks, in which are secured vertical rollers, which operate upon the interior of a ring connecting the blocks above the platform. By this arrangement the draft is increased upon the block whereon the least power is exerted, and thus the draft is equalized.

The object of the invention is to provide a device by means of which the draft of three or more teams of horses may be equalized by preventing their lagging, and by bringing the strain of the drawing horses upon any point where the draft is not sustained.

The device can be readily employed in any connection wherein platform horse-powers are used.

Figure 1 is a plan view of a device embodying the elements of the invention. Fig. 2 is a vertical central sectional view of same.

The device in the present instance is employed as a five-horse or team equalizer, though it is obvious that it is equally applicable to any number of horses or teams.

A in the accompanying drawings is a circular platform, in the present instance formed of the plates *a* and *b*, between which are secured, in any suitable manner, the bases of the equidistant arms B, which radiate from the platform as a center, and are of equal dimensions. The upper parts of the outer ends of the arms B are provided with pulleys D, about which pass, in a corresponding direction, the cords or chains E, to the outer ends

of which the propelling-power is attached, the other ends being secured to the ears F of the blocks H, which are composed of metal or other suitable material, having about their centers the apertures I, about the sides of the vertical ends of which the material is provided with a rounded bevel, to allow the block free movement on the ring L. The inner end of the aperture is provided with a vertical shaft, upon which rotates the roller M, while the upper part is provided with the gate or cover *d*, through which the ring may be inserted. The ring N passes through each of the apertures in the blocks H in front of the rollers M, so that as the blocks move the rollers operate upon the interior of the ring, serving to connect all the blocks and still allow them free horizontal movement.

Operation: A horse or team is attached to the loose ends of each of the cords or chains E, between the arms B, and all the horses started. The tension on the cords E causes the blocks H to press equally upon the several portions of the ring. Should any of the horses or teams lag or fail to draw, the tension upon the ring from the several other horses increases the strain, and either brings the succeeding arm against the laggard team or horse, or causes an extra exertion, by which the draft is at once equalized, and brings the strain of the drawing horses upon whichever of the cords E the tension on which is not sustained.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arms B and pulleys D, in combination with the cords E, blocks H, rollers M, and ring L, substantially as shown and described.

In testimony that I claim the foregoing improvement in draft-equalizers, as above described, I have hereunto set my hand and seal this 2d day of July, 1873.

JOSEPH H. SPENCER. [L. S.]

Witnesses:

MONROE IZOR,
WM. N. WHITELEY.