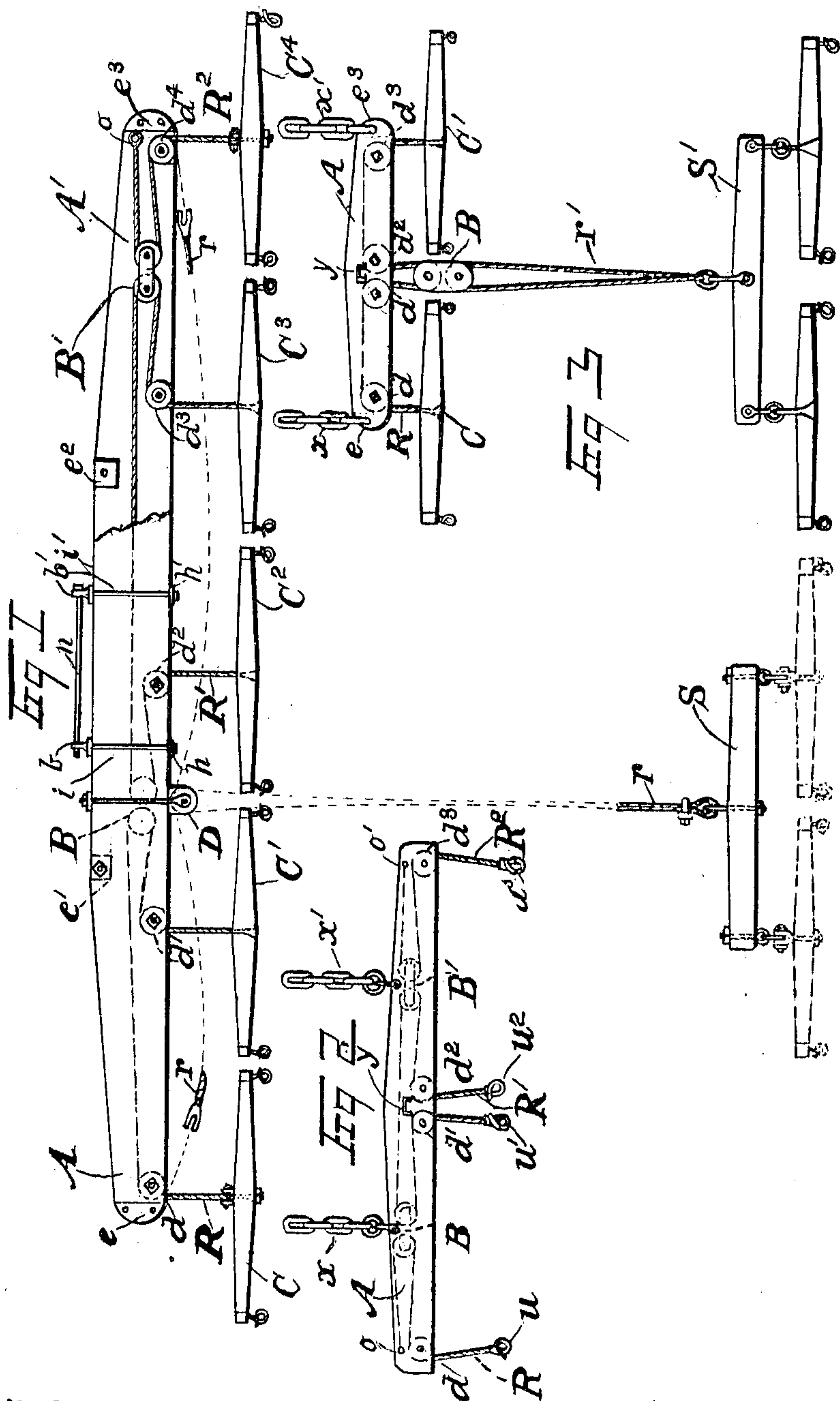


DRAFT EVENER.

APPLICATION FILED DEC. 16, 1909.

984,246.

Patented Feb. 14, 1911.



Witnesses.

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DRAFT-EVENER.

984,246.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed December 16, 1909. Serial No. 533,461.

To all whom it may concern:

Be it known that I, WILLIAM W. SWAN, a citizen of the United States, residing at Frankfort, in the county of Spink and State of South Dakota, have invented a new and useful Draft-Evener, of which the following is a specification.

My invention relates to improvements in mechanism for equally dividing the total hauling strain between several draft animals; and the objects of my improvement are, first, to provide a device that is simpler, stronger and more compact in construction, and more durable and effective in operation than those now used for the purpose; second, to provide an evener that will compel each of several animals to pull the same in starting or hauling a load; third to provide an evener, which, when one of several horses lags back, pulling nothing, its share of the draft is equally divided between all the others; fourth, to provide an evener that can be quickly and easily adjusted so that the horses may be worked all abreast, or strung out as desired; and fifth, to provide an evener that may be used in connection with any implement, and with any number of horses within its limit. I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a top-plan view of my evener for five horses or less. This view shows a portion of the upper frame-member A removed. Fig. 2 shows a modified construction of my invention, in which swingle-trees are eliminated; and Fig. 3 is a top-plan view of a modified construction of my invention, showing how it may be used in road work as a two horse evener, or as a four horse double team evener with one team in the lead.

Similar letters refer to similar parts throughout the several views.

The body of my invention consists of the two similar long frame-members A, A', which may be of either wood or metal as desired. The frame-members A, A', are held the proper distance apart, and parallel with each other, by means of spacing blocks of a suitable thickness. The frame-members A, A', and the spacing blocks e , e' , e^2 , e^3 , are provided with suitable holes, adapted to receive bolts, by means of which

the body is clamped and held securely together. Mounted within the body-frame between A and A', at suitable points, are the stationary pulleys d , d' , d^2 , d^3 , d^4 . Each stationary pulley is adapted to turn freely on a journal-sleeve which is clamped securely between A and A', by means of a suitable bolt passing through it and the body-frame. The stationary pulleys are provided with suitable grooves for the running mediums R, R', R², and they fit closely between A and A' so as to prevent running off.

The movable double opposed-pulley blocks B, B', are adapted to fit closely and move freely between A and A'. The running mediums R, R', R², may be of any material or construction adapted to the purpose; I prefer steel rope, as it combines lightness, strength and durability in the highest degree.

In Fig. 1, the swingle-trees C, C¹, are detachably connected with the wire-lines R, R², by means of clevis-headed bolts in the swingle-trees, and suitable eyes in the ends of R, R². The swingle-trees C', C², C³, may be attached to their respective lines in any suitable manner; I prefer to provide C', C², C³, each with a tapered hole, into which the steel lines are leaded, in the usual manner. The swingle trees C, C', C², C³, and C⁴ constitute means for connecting traces to the running mediums R, R', and R².

The parts b , b' , Fig. 1, are similar tee-shaped clamp-yokes, each provided with a suitable hole in its projecting stem, to receive the bolt or pin n . The remaining ends of b , b' , are provided with threaded holes, into which the clamp-bolts i , i' , and two similar lower bolts (not shown) are screwed. The yokes h , h' , are each provided with two holes adapted to receive duplicate clamp-bolts i . Each complete clamp is adjustable end-wise with the body-frame A, A'. The bolt n is designed to pass through b , b' , and the usual clevises of the plow or other implements, thus securing the frame A, A', rigidly at right-angles to the line of draft. By loosening the clamp-bolts, the evener may be shifted easily from either side to change the line of draft. My invention is detached, or connected with any machine, by removing or inserting the bolt n .

The double-block D, is adapted to be

clamped securely to the body-frame A, A', by means of two eye-bolts (the upper one only shown) and a suitable yoke. D is adjustable longitudinally with the frame A, A', and readily detachable.

The lead-line r , Fig. 1, passes through a suitable connecting eye of the double-tree S, and is secured at the proper point by a clamp or other device as shown. The ends of r are passed through the double-block D, from opposite sides, and each end is provided with a clevis connection securely attached thereto. The clevis ends of r are adapted for connection with R, R², in place of the swingle-trees C, C⁴. The dotted lines show the continuation of the lead-line r . When it is desired to work with one team in the lead, the double-block D is connected at the proper point as illustrated in Fig. 1; the swingle-trees C, C⁴, are detached and connected with S as shown in the dotted lines. R and R² are then connected with the lead-line ends, and the apparatus is then ready to hitch the two outside horses in the lead, and in the case of a gang-plow leave the two off horses in the furrow.

The stationary ends of the equalizing lines R, R', R², are attached to pins or bolts o o' , passing through A A'. It is obvious when swingle-trees are used that in an even for an even number of horses, there are no stationary ends; for an odd number of horses one line has a stationary end.

When swingle-trees are dispensed with, and the equalization is between the traces individually, it is obvious, that with any number of horses exceeding one, each outside transmission line must have one stationary end.

In Figs. 1, 2, and 3, dotted lines show the continuations of the draft equalizing ropes R, R', R², and the manner of their adjustment with the stationary and movable pulleys within the frame A, A'.

In Fig. 2, the frame A, is a single piece of sheet metal bent longitudinally into a U-shaped bar. The front or closed edge of A is suitably perforated with slot-shaped holes, adapted to receive the lines R, R', R². The arrangement of the stationary sheaves d , d' , d^2 , d^3 , the movable-blocks B, B', and their manner of adjustment with R, R', R², is shown in dotted lines. In this construction the draft equalization is between the different traces of all the horses, instead of the individual horses. The ends of R, R', R², are provided with suitable socket-hooks u , u' , u^2 , u^3 , adapted to connect with the harness traces; swingle-trees are disposed with, the shoulder movements of the horse being counteracted by the equalization of strain on the traces. This evener is attached in the usual manner, by means of the draw-bolt y , and secured at right-angles to the line of draft by the stay-chains, x , x' ,

which are adapted for the purpose. It is obvious that this construction is applicable to an even for more than two horses.

In Fig. 3, is shown a modification of my invention, that is adapted to four horse work with one team in the lead. In this case, the movable-block B is outside the frame A, and the equalizing motion is in line with the draft, instead of at right-angles to it. The lead-line r' is provided with an eye at each end. The ends lead up approximately even with the end of the tongue, (not shown) and are attached to the double-tree S, by means of the ordinary clevis as shown. When used with two horses, the clevis is disconnected from the double-tree S, and attached to the end of the tongue, by means of the pole-cap eye, the hold-back hook, or any suitable means.

It is obvious that my invention can be used to equalize draft between any number of two horse teams strung out. In this case the frame would be replaced by a long draw-chain, to which stationary pulley-blocks were attached at regular intervals, the movable double-blocks alternating with the stationary ones.

Changes in the form, proportion, and minor details of construction may be resorted to, without departing from the principles of this invention, or sacrificing any of its advantages.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is:—

1. A draft evener including spaced members fixedly connected and constituting a body, pulleys interposed between said members and mounted upon fixed bearings, double pulleys slidably mounted between the members, flexible members mounted upon the double pulleys and certain of the fixed pulleys, a whiffle tree secured to each end of each of said flexible members, an additional flexible member secured at one end to the body and mounted upon one of the double pulleys and one of the fixed pulleys, and a whiffle tree secured to the free end of said member.

2. A draft evener including spaced members fixedly connected and constituting a body, pulleys interposed between said members and mounted upon fixed bearings, double pulleys slidably mounted between the members, flexible members mounted upon the double pulleys and certain of the fixed pulleys, and trace connecting means attached to the movable ends of the flexible members.

3. A draft evener including spaced members fixedly connected and constituting a body, pulleys interposed between said members and mounted upon fixed bearings, double pulleys slidably mounted between the members, flexible members mounted upon

certain of the double pulleys and certain of
the fixed pulleys, the ends of said flexible
members being movable and provided with
trace connecting means, and a flexible mem-
5 ber mounted upon a double and a fixed pul-
ley and having one end secured to the body
and the other provided with trace connect-
ing means.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

WILLIAM W. SWAN.

Witnesses:

G. A. FEHLMAN,
R. B. SMITH.