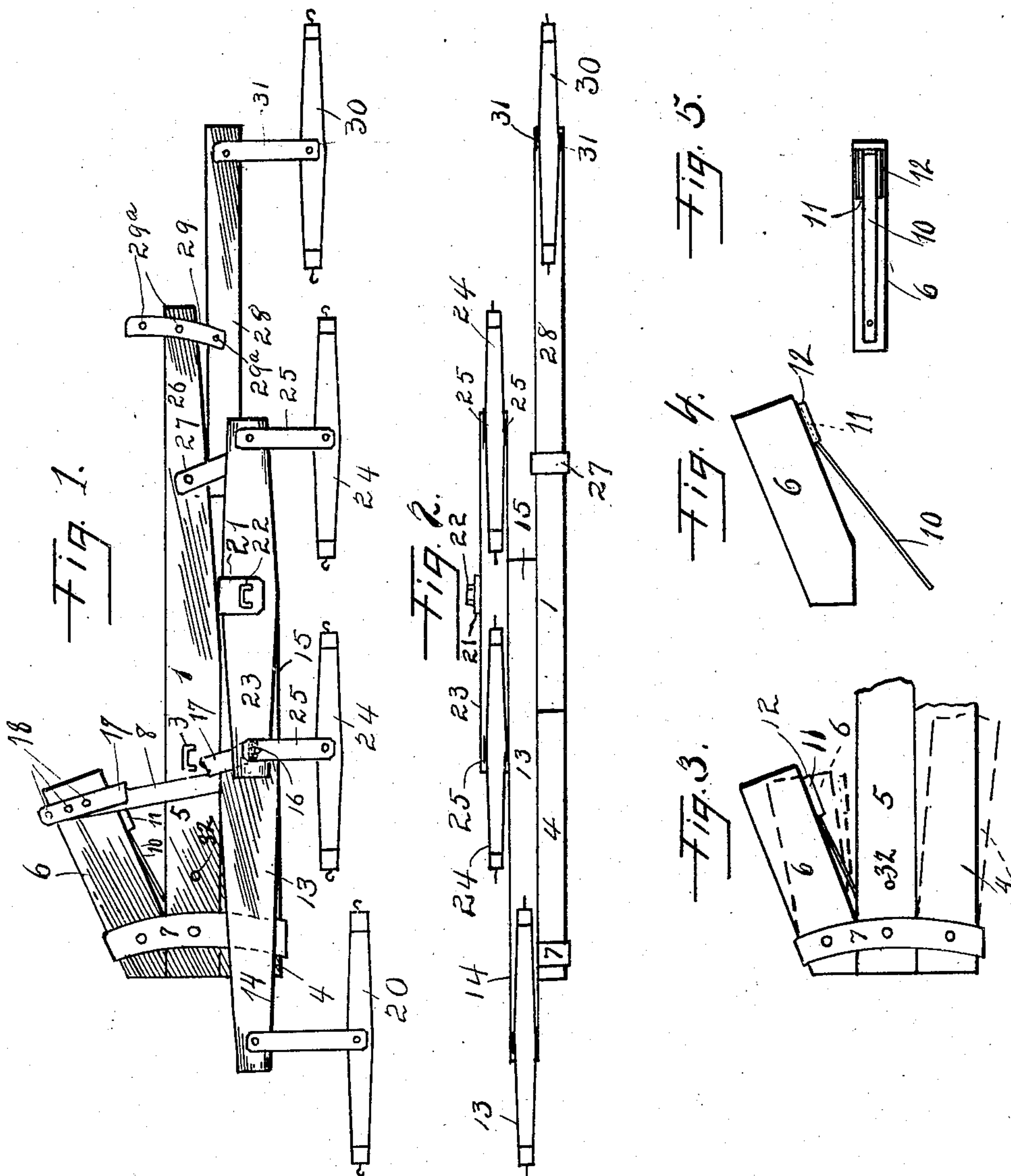


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PATENTED JUNE 23, 1908.

W. R. CAMPBELL.
FOUR HORSE EVENER.
APPLICATION FILED APR. 4, 1907.



WITNESSES:

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FOUR-HORSE EVENER.

No. 891,524.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM R. CAMPBELL, a citizen of the United States, residing at Little York, in the county of Warren and State of Illinois, have invented a new and useful Improvement in Four-Horse Eveners, of which the following is a specification.

The invention set forth in the following specification, illustrated in the accompanying drawings and pointed out in the claims hereto appended relates to differential draft appliances and particularly to that type thereof in which compensating arms are connected to the main equalizing bar or lever at one end thereof to furnish a yielding connection for the draft and to provide an automatic adjustment for the respective parts. An early type of this form of evener is shown in my patent of January 22nd, 1907, No. 841,930.

One of the main objects of the invention is to provide an improved construction of such form of device whereby it may readily be changed from a three to a four horse evener.

Another object is to provide a simple means for rendering effective the operation of said arms after they have by reason of long use become of themselves inefficient or powerless to return to their normal positions when, after stress has been put upon them, they have been drawn forwardly of such positions.

To provide a simple, strong and inexpensive construction, any part of which may be repaired or replaced by a novice should it become damaged or broken constitutes a further object, while a fourth and final aim is to effect a more perfect equalization than has heretofore been had.

In the evolution of this invention subsidiary improvements have been developed, which improvements will be presently related.

In the drawings hereinbefore referred to: Figure 1 is a top plan; Fig. 2, a front elevation; Figs. 3, 4 and 5, details.

Referring to the drawings, let the numeral 1 indicate the main equalizing bar or lever pivoted to the tongue in the usual manner by a clevis pin 3. A longer compensating arm 4 normally parallels the shorter arm 5 of the lever 1 forwardly thereof, and a like but shorter arm 6 is offset therefrom at its rear side. Said bar and arms are connected by means of bolts passed loosely through a yoke 7.

8, 8 are hammer straps to connect the inner ends of the arms 4 and 6 in any suitable manner and restrain them from movement independently of each other. While the yoke is constructed preferably of resilient material and the arm 6 so shaped that its bearing against the bar 1 will tend to return it to its normal position (shown by full lines) after a sudden jerk or other agent which causes it to assume the forward position shown by dot lines, continued usage will render its resiliency weak and non-effective. To counteract this I have provided a spring 10 fixed at one end to the main bar and its free end adapted to take against and slide freely on an anti-friction plate 11 fixed to the arm 6 and provided with flanges 12. A second equalizing bar 13 comprising a longer arm 14 and a shorter arm 15 is pivoted to the bar 4 by a pin 16 extending therethrough and through a connecting strap 17 which extends rearwardly and is pivoted to the arm 6 by a pin passed through any one of a series of perforations 18, by which means the distance or extent of separation of said parts is regulated. At the outer end of the arm 14 and in its horizontal plane is swiveled a swingletree 20 to which the furrow horse is attached. By a clevis 21 and pin 22 a doubletree 23 is pivoted to the shorter arm of the bar 13 and at each end it carries a swingletree 24 connected thereto by links 25. It will be evident without further illustration that this construction is such that said swingletrees as well as another presently described can be swung in either direction to fold and lie closely against the respective parts to which they are coupled.

Midway of the longer arm 26 of the main bar is pivoted a keeper 27 into which is loosely slipped one end of a second auxiliary bar 28 coupled near its midlength by adjusting straps 29 provided with apertures 29^a to the distal end of the arm 26. By adjusting the straps 29 forwardly the outer end of the bar 28 may be adjusted forwardly to place the animal hitched thereto in front of the others. A swingletree 30 is coupled by links 31 to the outer end of the bar 28. If the animal hitched to the swingletree 30 be relatively more powerful than the others, the main bar may be slipped outwardly through the yoke and the pin dropped through the aperture 32, thereby shortening said bar and decreasing the leverage at that end.

In order to change the device from a four

to a three horse evener, the doubletree 23 is removed and a swingletree substituted therefor, the single animal hitched thereto being thus placed equidistant from those 5 hitched respectively to the trees 20 and 30. It will then be necessary to readjust the bar 13 in an evident manner in order to maintain the draft in equilibrium.

By the employment of the construction 10 shown I have centralized the draft more perfectly than heretofore in eveners of this type. All the stress exerted on the bars 13 and 23 and the parts to which they are connected comes finally upon the arms 4 and 6 and is 15 compensated or taken up thereby and by the spring 10. The bar 13 being connected directly and indirectly to said arms is, after being suddenly jerked or drawn forward of its normal position by any means, caused to be 20 automatically adjusted by said arms and the spring to the normal position shown at Fig. 1. No sudden jerk will cause the necks or shoulders of the draft animals to become chafed, galled or sore when this device is used, as the 25 spring will obviate all possibility thereof.

Unessential and minor changes may be made in the form, construction and assemblage of the device without departing from the general idea thereof. For instance, a 30 tension spring might be employed between the main bar and the arm 4; or a coil spring might be employed instead of the one shown. In fact, I desire it understood that I comprehend my claims as covering any construction 35 of equalizer of the type shown in which elastic means is employed to return the parts to their normal positions after they have been drawn therefrom by reason of abnormal draft.

40 I therefore claim:—

1. In an evener, a main bar, like, divergent compensating arms at one end thereof and a spring interposed between one of them and the bar.

45 2. In an evener, a main bar, like, divergent compensating arms at one end thereof adapted to have movement with relation thereto,

and means for returning said arms to their normal positions after they have been drawn therefrom. 50

3. In an evener, a main bar, like, divergent compensating arms at one end thereof, a pivotal connection between said bar and arms, and a spring interposed between said bar and one of the arms. 55

4. In an evener, a main bar, like, divergent compensating arms at one end thereof, a pivotal connection between said bar and arms, a spring interposed between one of them and the bar, an auxiliary bar pivoted at the other 60 end of the main bar, a second auxiliary bar pivoted to one of said arms and means whereby it is connected to the other.

5. In an evener, a main bar, like, divergent compensating arms pivoted at one end thereof, means for uniting their inner ends, means 65 interposed between one of them and the bar whereby both will be returned to their normal positions after being drawn therefrom, an auxiliary bar pivoted to the other end of 70 the main bar, a swingletree connected thereto, a second auxiliary bar pivoted at one side of its midlength to one of the arms, and means for attaching draft animals to the ends thereof. 75

6. In an evener, a main bar, like, divergent compensating arms pivoted at one end thereof, means for uniting their inner ends, means interposed between one of them and the bar whereby both will be returned to their normal 80 positions after being drawn therefrom, an auxiliary bar pivoted to the other end of the main bar, a swingletree connected thereto, a second auxiliary bar pivoted at one side of its midlength to one of the arms, a double- 85 tree pivoted to its shorter and a swingletree to its longer arm.

In witness whereof I hereunto subscribe my name in presence of two witnesses this 23rd day of March, 1907.

WILLIAM R. CAMPBELL.

Witnesses:

J. M. BOSTON,

H. M. RICHARDS.