No. 843,691. PATENTED FEB. 12, 1907.

W. McINTOSH.

RUNNING GEAR FOR WAGONS.

APPLICATION FILED APR. 21, 1904.

3 SHEETS—SHEET 1.

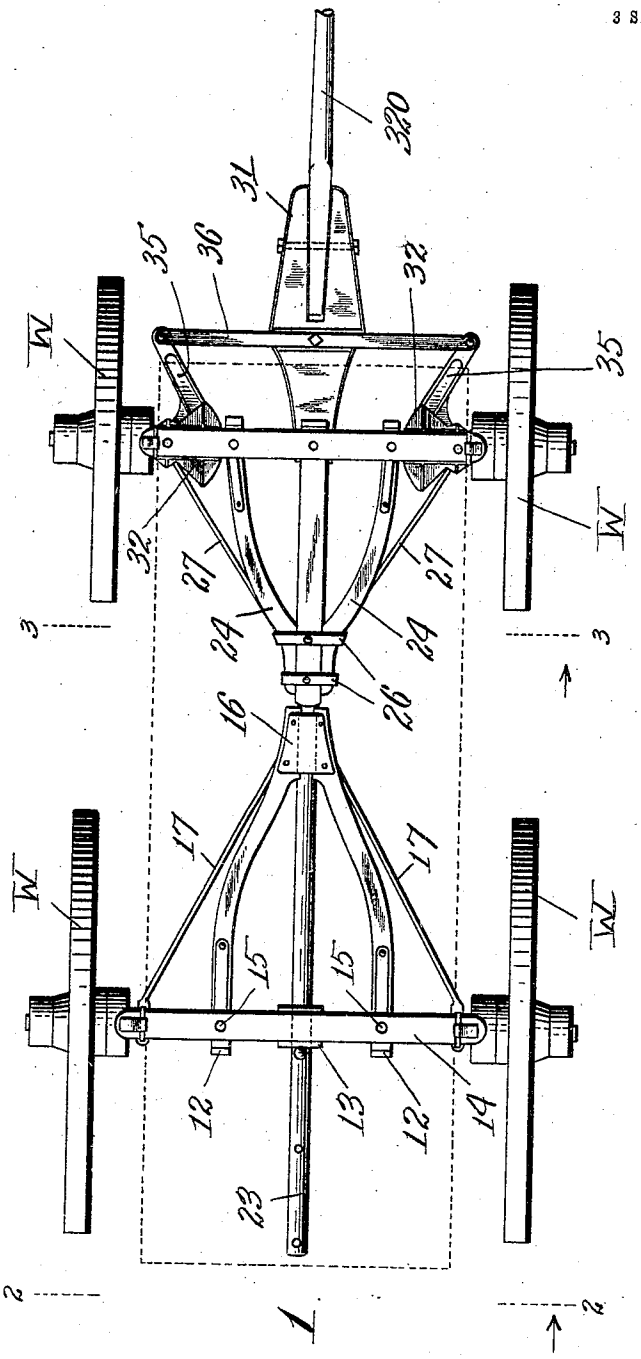


Fig. 1.

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M. E. Regan

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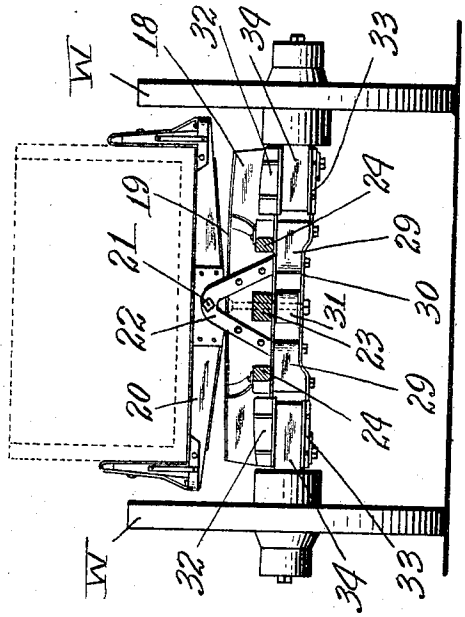


Fig. 3.

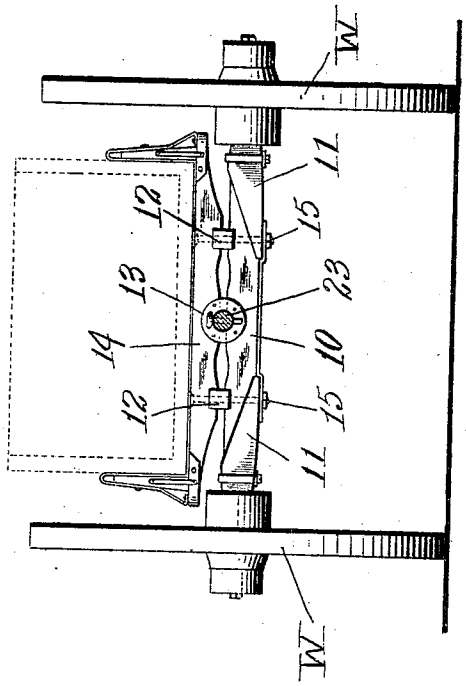


Fig. 2.

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3 SHEETS—SHEET 3.

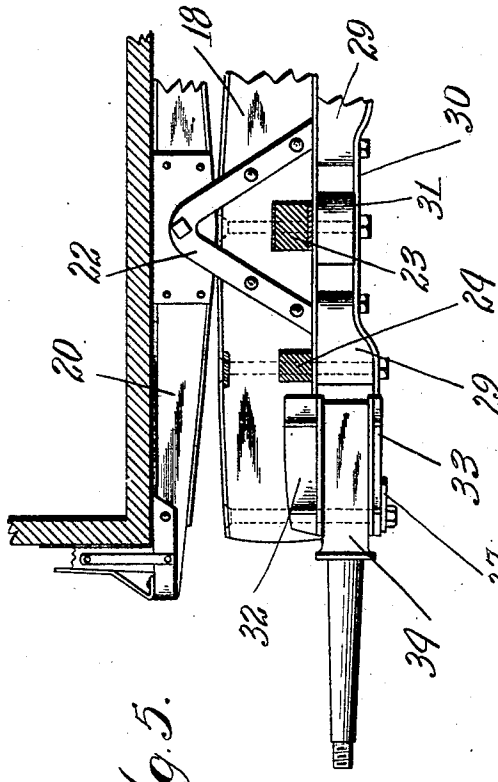


Fig. 5.

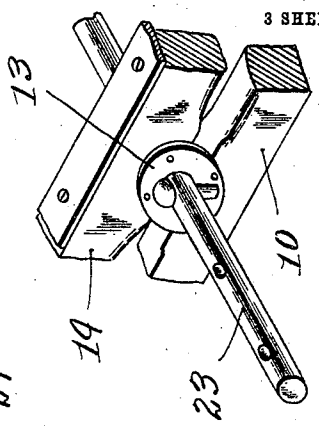


Fig. 7.

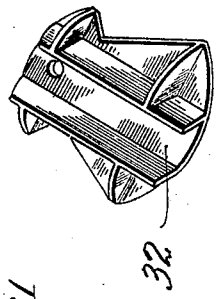


Fig. 6

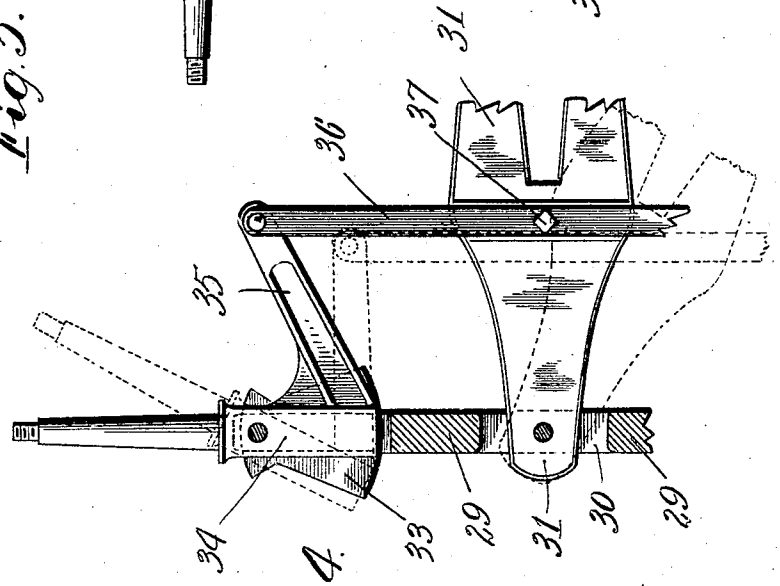


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM McINTOSH, OF IRON RIVER, WISCONSIN.

RUNNING-GEAR FOR WAGONS.

No. 843,691. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed April 21, 1904. Serial No. 204,147.

To all whom it may concern:

Be it known that I, WILLIAM McINTOSH, a citizen of the United States, residing at Iron River, in the county of Bayfield and State of Wisconsin, have invented a new and useful Running-Gear for Wagons, of which the following is a specification.

This invention relates to a running-gear for farm-wagons or other comparatively heavy draft-vehicles.

The especial objects of this invention are to provide a strong, simple, and efficient running-gear for vehicles of the class referred to which will have sufficient flexibility so that it will not be strained or weakened by use on comparatively uneven highways or other surfaces, to provide for securing equal distributions of the draft or hauling strains, and to provide a front-axle construction permitting the vehicle to make sharp turns, while the front wheels will be maintained in parallelism in all positions.

In the accompanying three sheets of drawings, Figure 1 is a plan view of a running-gear constructed according to this invention, the position of the wagon-body being indicated by dotted lines. Fig. 2 is a rear view of the same. Fig. 3 is a sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a detail plan view of part of the front-axle construction. Fig. 5 is a partial rear view of the front-axle construction, partly in section. Fig. 6 is a detail view of one of the top bearing-plates to which one of the axle-blocks is pivoted, and Fig. 7 is a detail view showing the adjustable connection between the rear-axle construction and the center pole or reach.

In United States Letters Patent No. 707,618, dated August 26, 1902, I have shown, described, and claimed a dumping-wagon in which the wagon-body takes the draft or drawing strain.

A running-gear for wagons constructed according to this invention has been designed with a view of applying the principles of construction disclosed in my prior patent to a wagon in which the draft is transmitted from the front-axle construction to the rear-axle construction by the specially-designed hounds and an adjustable reach or center pole.

Referring to the accompanying drawings and in detail, the rear-axle construction is most clearly illustrated in Figs. 1 and 2.

As shown in these figures 10 designates the rear axle, which is provided at its ends with metallic end pieces 11, extending from which are the studs upon which the wheels W are mounted. Resting upon the rear axle 10 are hounds 12 and a spool-shaped center bearing 13 for adjustably receiving the rear end of the reach or center pole 23. The hounds 12 and center bearings 13 are clamped in place by a bolster 14, which is fastened rigidly in place by bolts 15. The bolster 14 is provided with side posts or pieces for holding the wagon-body rigidly in position thereon. The front-axle construction is most clearly illustrated in Figs. 1 and 3.

As shown in Fig. 3, the front-axle construction comprises a bolster 18, carrying a metallic top plate 19. Resting upon the bolster 18 is a rocking bolster 20, which is pivoted on a horizontal bolt 21, carried by yokes 22, extending up from the bolster 18. The rocking bolster 20 is provided with side posts for connecting the same to the front end of a wagon-body.

I consider it a feature of advantage to use a rocking bolster in the forward-axle construction rather than in the rear-axle construction, as shown in my prior patent before referred to, because whenever the front axle is sharply tipped or inclined with respect to the wagon-body, which happens, for example, when one of the front wheels runs into gulley or deep rut, the weight of the wagon-body will not rest upon the wheel which has sunk into the depression or gulley.

In ordinary usage the front wheels of a vehicle are more liable to be driven into gulleys or deep ruts than the rear wheels, and inasmuch as the use of a rocking bolster in the front-axle construction will prevent the weight from resting on the sunken-down front wheel I have found that a wagon employing a rocking bolster in the front-axle construction is less liable to become stuck and can be hauled with less exertion than in constructions where the rocking bolster forms part of the rear-axle construction. This advantage is secured without lessening the advantages due to the fact that the front and

rear bolsters are always parallel with each other and also that the front bolster is parallel with the front axle.

Extending back from the bolster 18 and connected rigidly therewith are the hounds 24 and a reach or center pole 23.

As shown in Fig. 1, the hounds 24 are rigidly connected to the reach or center pole 23 by the strips 26. The rear end of the center pole 23 is round and extends loosely through the bearing-plates 16, carried by the rear hounds 12 and the center bearing 13 in the rear-axle construction.

The running-gear is adapted for use in connection with wagon-bodies of different lengths by means of a pin which may be put into any one of a number of sockets in the reach or center pole 23.

Connected with the ends of the rear hounds 12 are draft-rods 17, and connected with the rear ends of the front hounds 24 are draft-rods 27. Bolted onto the under side of the bolster 18 are blocks or separating-pieces 29. Carried by the pieces 29 is a metal plate 30. Secured on the ends of the bolster 18 are top bearing-plates 32, and secured on the ends of the metal plate 30 are bottom bearing-plates 33. Pivotally mounted between the plates 32 and 33 are axle-blocks 34, which carry the stub-axles on which the front wheels are journaled.

The connections for turning the front wheels from the wagon-pole are most clearly illustrated in Figs. 1 and 4. As shown in these figures, each of the axle-blocks 34 is provided with an outwardly-inclined arm 35. Pivotally connecting the inclined arms 35 with the bolt 37, mounted in the yoke which carries the wagon-tongue, is a link 36, which is always parallel with the central part of the front-axle construction—that is to say, when the parts are in normal position the pivotal connections between the link 36 and the outwardly-inclined arms 35 and the yoke 31 are directly opposite the pivots of the axle-blocks and the yoke 31, respectively. The motion of the parallel link 36 is the same as that of the movable member of a parallel ruler, and I regard this as a feature of advantage, because by means of this construction the front wheels will be maintained in parallelism in all positions. Pivotally mounted in the yoke 31 is the ordinary wagon-tongue 320.

In the use of a completed wagon constructed according to this invention the center pole or reach being rigid with the front-axle construction and having a loose bearing in the rear-axle construction will give sufficient flexibility so that the running-gear will not be strained, no matter how uneven the road or surface upon which the team is driven.

The front-axle construction is such that short turns may be made. If an obstacle is encountered, the wheels may be turned to leave it without backing. The pull of the load tends to centralize the pole, and at the same time the pole does not have a tendency to whip the team on rough roads. When one wheel is in a hole, the rocking bolster carries the weight onto the wheel which is out of the hole, leaving less weight on the one in the hole.

I am aware that changes may be made in the construction of my running-gear for wagons by those who are skilled in the art and that certain features of my wagon can be used in other connections without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a running-gear for wagons, the combination of a fixed front-axle construction, having stub-axles pivotally connected therewith and carrying the forward wheels, outwardly-bowed hounds extending rearwardly from the front axle, a rear-axle construction, outwardly-bowed hounds extending forward from the rear axle, and a reach rigidly connected to the front-axle construction and forward hounds and pivoted loosely in the rear-axle construction and rear hounds, a rocking bolster pivoted on the front-axle construction, and a wagon-body connected rigidly to the rear-axle construction and rocking bolster.

2. In a running-gear for wagons, the combination of a fixed front-axle construction, a rear-axle construction, a reach rigidly connected with the front-axle construction and pivoted loosely in the rear-axle construction, whereby either of the axle constructions can turn on a horizontal axis without interfering with the other, a rocking bolster pivoted on the front-axle construction on an axis parallel to the length of running-gear, and a wagon-body connected rigidly with the rear-axle construction and with the rocking bolster.

3. In a running-gear for wagons, the combination of a forward-axle construction, a reach having a circular cross-section at its rear end, and a rear-axle construction comprising a fixed axle, hounds extending therefrom, a center bearing for the circular part of the reach whereby the rear axle is pivotally connected with the reach and bolster, and means for clamping the bolster down onto the center bearing and onto the ends of the hounds to fasten them in place whereby a central draft may be secured on the rear axle

without having a perforation or hole at the center of the rear bolster.

4. In a running-gear for wagons, the combination of a front-axle construction, hound, extending rearwardly therefrom, a rear-axle construction comprising a fixed rear axle, a bolster thereon, a center-bearing piece and forwardly-extending hounds having their ends clamped in place between the bolster and rear axle, and a reach rigidly connected with the front-axle construction and forward hounds and pivotally mounted in the rear-axle construction and rear hounds.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM McINTOSH.

Witnesses:
P. J. SAVAGE,
BYRAN RIPLEY.