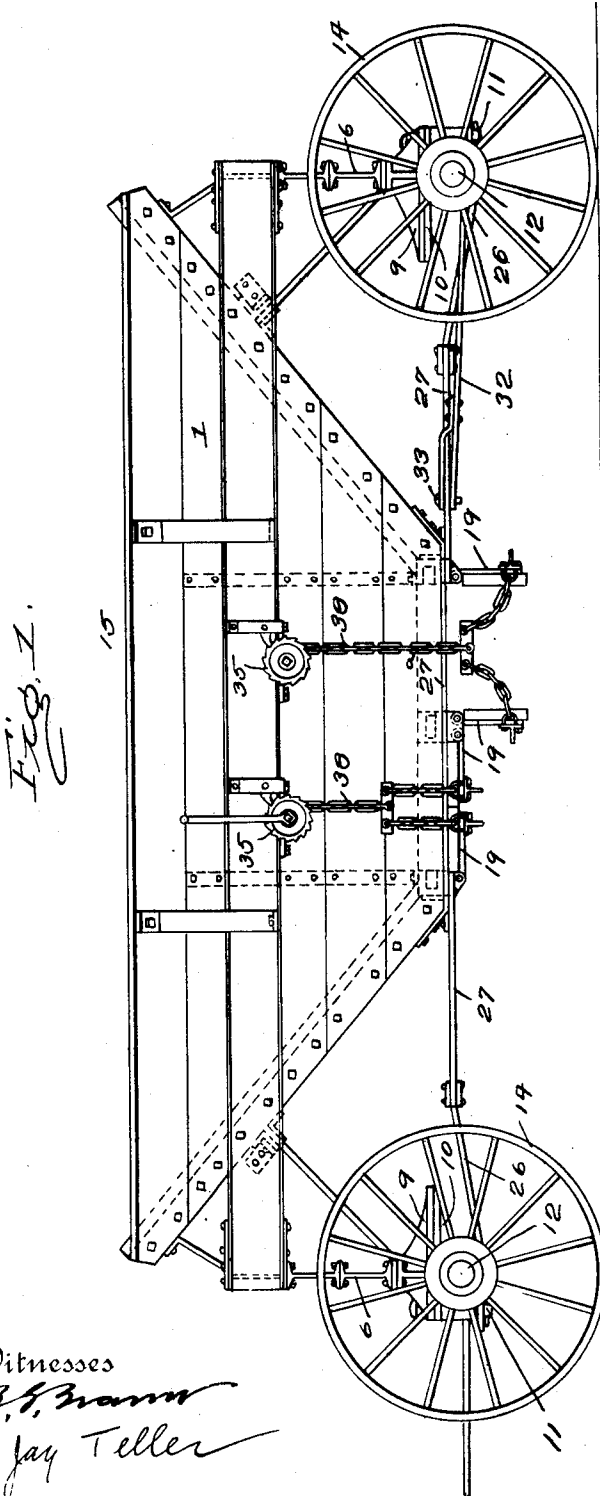


J. B. BARTHOLOMEW.
WAGON.
APPLICATION FILED MAR. 31, 1910.

1,058,693.

Patented Apr. 8, 1913.

3 SHEETS—SHEET 1.



Witnesses
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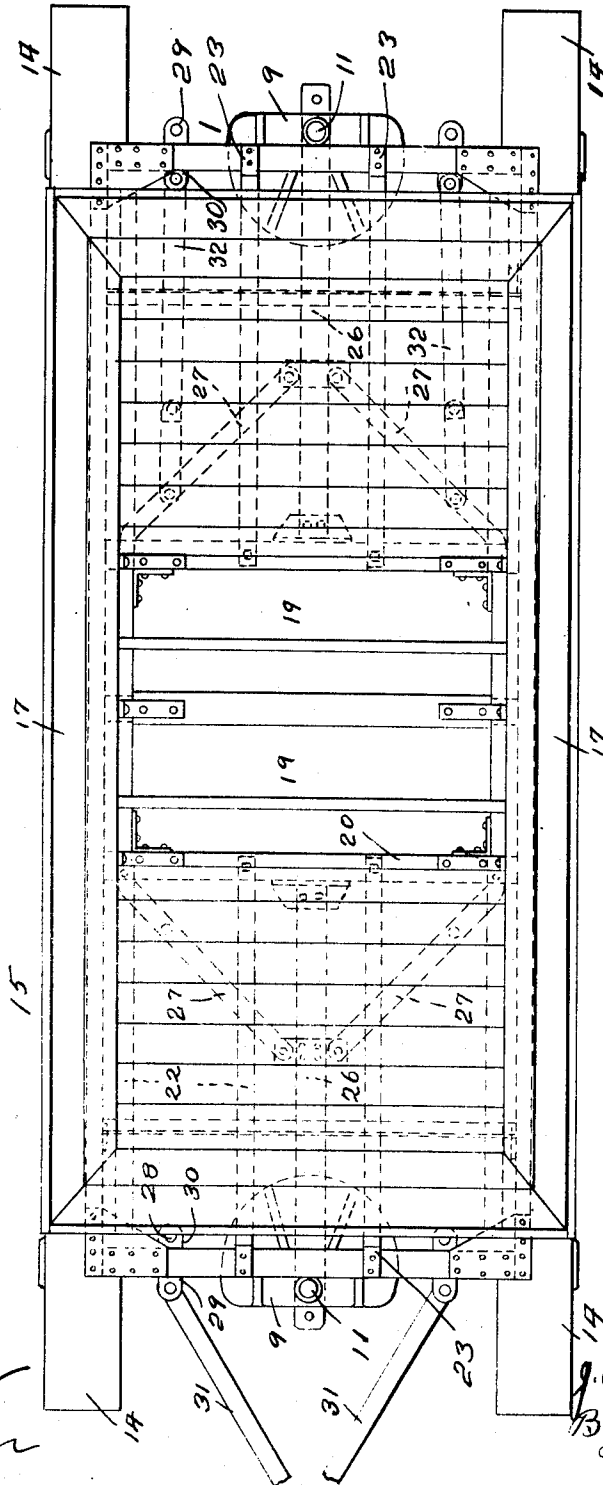
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3 SHEETS—SHEET 2.

Fig. 2.



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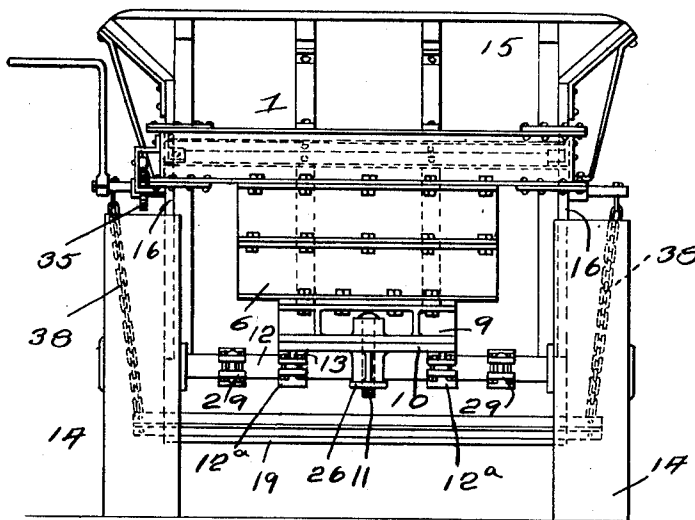
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN B. BARTHOLOMEW, OF PEORIA, ILLINOIS, ASSIGNOR TO AVERY COMPANY, A CORPORATION OF ILLINOIS.

WAGON.

1,058,693.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed March 31, 1910. Serial No. 552,685.

To all whom it may concern:

Be it known that I, JOHN B. BARTHOLOMEW, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Wagons, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wagons, and especially to wagons of that type which are adapted to be drawn by traction engines, either singly or in trains. A wagon embodying my invention is adapted to carrying crushed rock or other similar heavy materials.

The principal object of the invention is to provide a wagon of this class having improved means for connecting the wheels with the frame and body.

With this and other objects in view, the invention consists in the construction and arrangement of parts which I have shown in the accompanying drawings. I desire it to be understood, however, that many changes may be made in the construction without departing from the spirit of my invention.

Of the drawings—Figure 1 is a side elevation, Fig. 2 is a plan view, and Fig. 3 is an end elevation.

Referring to the drawings, 1 represents the body supporting frame. This frame is, as a whole, preferably rectangular in form and is constructed of structural steel parts. At the ends of the frame are downward extending structures 6, 6 upon which the frame is supported from the wheels.

9, 9 are castings bolted to the bottoms of the structures 6. These castings are partly circular in form, and are provided at their bottoms with horizontal smooth bearing surfaces.

10, 10 are castings similar to the castings 9, and are provided with oppositely formed bearing surfaces adapted to engage with the bearing surfaces of the castings 9. King bolts 11, 11 pass vertically through suitable apertures located centrally in the castings 9 and 10 and serve as pivots about which the castings 9 and 10 may rotate relative to each other.

12, 12 are the main axles and are connected to the castings 10, 10 by means of caps 12^a, 12^a secured by bolts 13, 13. I pre-

fer to make the axles round, but any other desired shape may be used.

The main supporting wheels 14, 14 are rotatably secured at the ends of the axles. These wheels are provided with broad tires which permit the use of the wagon on soft roads without injury to the road, and without excessive loss of power.

15 represents the wagon body as a whole. This body is mounted within and supported by the structural steel frame work 1. The body is preferably provided with parallel vertical side walls and with inclined end walls. The flat bottom of the wagon is made up of movable doors 19, 19 which are preferably pivoted, as shown, to swing downward and which may be controlled by suitable chains 38, 38 and suitable winding mechanisms 35, 35.

26, 26 are braces or reaches adapted to give longitudinal support to the bottom parts of the fifth wheels, which may be considered as comprising the castings 9 and 10. These braces 26 are connected at their inner ends to the wagon body and at their outer ends are provided with apertures through which pass the lower ends of the king bolts 11, 11. The braces are held in place by means of suitable devices such as washers and cotter pins.

27, 27 represent diagonal braces connecting the central parts of the reaches 26, 26, with the sides of the bottom framework of the wagon body. These braces are riveted to the straps 27^a, and in this way a direct metallic connection is made between the two axles. The straps 27^a have been shown in the drawings as connected with and reinforcing the body structure, but it will be understood that if desired, separate links corresponding in function to the straps 27^a may be used for connecting the inner ends of the braces 27. It will be understood that the purpose of the connecting system comprising the braces or reaches 26, the braces 27 and the straps 27^a is to provide a tension transmitting device which shall be as straight and direct as possible.

Near the outer ends of each of the axles 12 are provided clips 28, 28, each having outer and inner eyes 29 and 30. The outer eyes 29 are adapted to have connected to them by suitable pins, links 31, 31. The forward ends of these links are connected to a traction engine, or to another wagon, and

therefore serve as draft links for drawing the wagon.

The inner eyes 30, 30 of the clips 28, 28 are adapted to be connected with locking links 32, 32. These links are forked at their inner ends and are adapted to fit over the braces 27, 27, and to be secured thereto by means of pins 33, 33.

As has been stated, wagons embodying my invention are adapted to be hauled by traction engines either singly or in trains. In order that each wagon may have another wagon connected with it to be hauled, I provide an aperture in the outer end of each reach 26 as shown in Fig. 2. When two or more wagons are to be connected together, the draft links 31, 31 of one wagon are connected by means of a suitable pin to the reach 26 of the next wagon.

It will be noted that by means of the construction, which has been set forth for connecting the wheels with the body and the frame, this wagon is adapted to be drawn in either direction. The links 31, 31 may be connected at either end and the links 32, 32 may be secured in place at the end opposite to the links 31, 31. In this way it is always possible to secure whichever pair of wheels is in the rear in alinement with the direction of motion.

It will be observed that the framework of the wagon is largely independent of the body and that the framework is adapted to take the greater part of the stresses due to the load. Even the load on the doors 19 is transmitted through the chains directly to the framework. The stresses due to the movement of the wagon are taken almost entirely by the reaches 26, 26, the diagonal braces 27, 27 and the connecting straps 27^a, 27^a at the sides of the opening in the bottom. It will therefore be seen that the body itself is free from all unnecessary stresses.

In a co-pending application, Serial No. 562,204, filed May 19, 1910, as a division of this application, I have shown and claimed those features of invention connected with the frame structure, with the body structure and with the general arrangement of the various parts of the wagon.

What I claim is:—

1. In a wagon, the combination with a body, of two axles, two pairs of supporting wheels on the axles, connecting devices between the axles and the body constructed to permit either axle with its wheels to swing

relatively to the body about a vertical axis, a horizontal tension connection between the axles with its ends centrally disposed and pivotally connected with the axles to permit them to swing about the said vertical axes, means for locking either axle against swinging about the said vertical axis, draft devices adapted to be connected to either axle at points on opposite sides of the vertical pivotal axis whereby steering may be effected, and means at each end of the tension connection adapted for the attachment of the draft devices of a similar wagon.

2. In a wagon, the combination with a wagon-body having a bottom opening, of two axles and two sets of wheels, a horizontal tension device between the two sets of wheels, comprising two longitudinally central separated parallel members 27^a on opposite sides of the bottom opening of the body, two end transversely central members 26, diagonal connecting bars between the said members, connections between the end members and the wheels, whereby the wheels of either set may be moved about a vertical axis, and links for connecting either axle with the said diagonal connecting bars to hold the corresponding wheels against movement about their vertical axis, substantially as set forth.

3. In a wagon, the combination with a wagon body having a bottom opening, of two sets of wheels and a horizontal tension connection between the two sets of wheels comprising two parallel links on opposite sides of the bottom opening and tension members between the ends of the two said links and the said sets of wheels, substantially as set forth.

4. In a wagon, the combination with a wagon body having a bottom opening of two sets of supporting wheels and a horizontal tension connection between the two sets of wheels, the said tension connection comprising two parallel links 27^a on opposite sides of the bottom opening of the body, two transversely central end links 26, and diagonal connecting bars between the ends of the links 27^a and the links 26, substantially as set forth.

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

JOHN B. BARTHOLOMEW.

Witnesses:

J. M. CALDWELL,
W. A. GASS.