No. 700,580.

Patented May 20, 1902.

J. TORRENT.

VEHICLE.

(Application filed Feb. 27, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig 1.

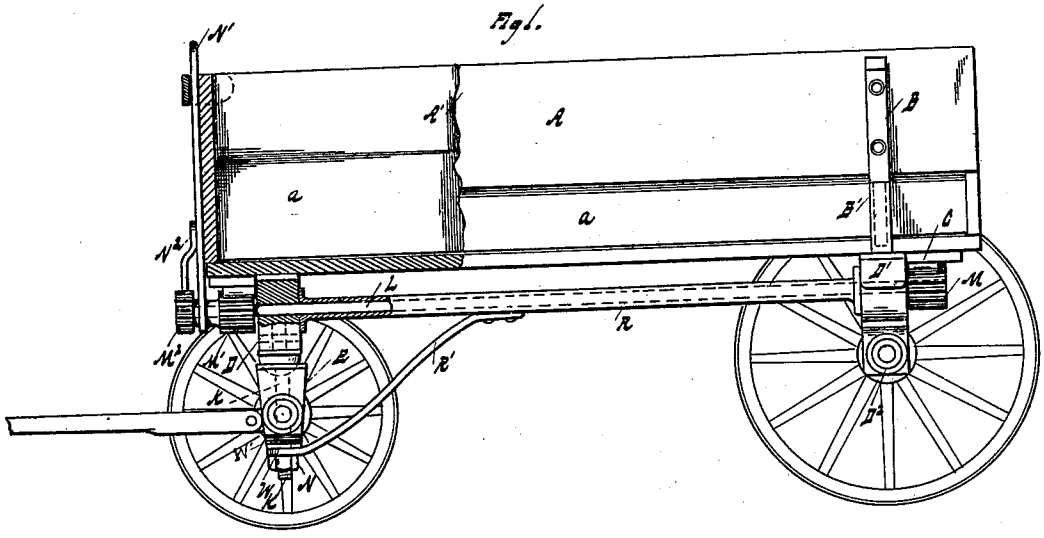
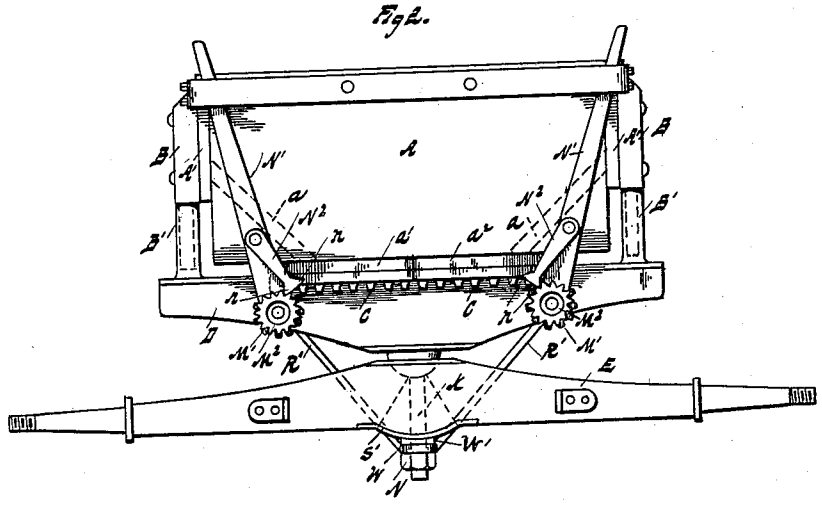


Fig 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

Fig 3.

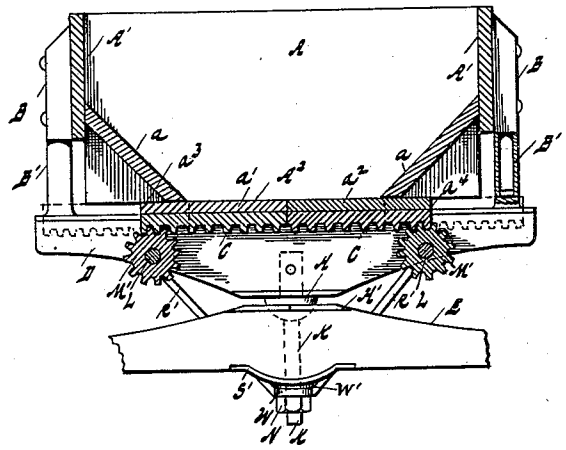


Fig 4.

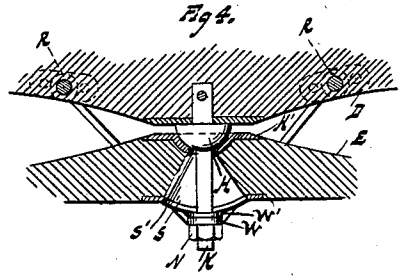
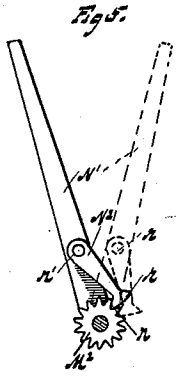


Fig 5.



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VEHICLE.

SPECIFICATION forming part of Letters Patent No. 700,580, dated May 20, 1902.

Application filed February 27, 1902. Serial No. 95,920. (No model.)

To all whom it may concern:

Be it known that I, JOHN TORRENT, a citizen of the United States, residing at Muskegon, county of Muskegon, State of Michigan, have invented a certain new and useful Improvement in Vehicles; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to vehicles; and it consists in the combinations hereinafter described and claimed.

It has for its object the construction of a vehicle which shall be simple, strong, not liable to get out of order, and which will permit opening of the bottom of the box for the dumping of a load and leave the opening free and clear from all reaches or other obstructions beneath it.

In the drawings, Figure 1 is an elevation of the vehicle, partly in section, and with the near wheels to the observer removed. Fig. 2 is a front view of the vehicle. Fig. 3 is also a front view partly in section. Fig. 4 is a sectional view of the fifth-wheel, showing the king-bolt and hemispherical bearing. Fig. 5 is a detail figure illustrating the ratchet.

Similar letters refer to similar parts.

In the drawings, A represents the wagon-body, which has a cross-section of the shape shown in Fig. 3.

a a are angle-boards placed at an angle of about forty-five degrees between the two sides A′ A′ and the bottom A^2.

The box is held between posts B B, which may be of the usual construction or may be hollow, as shown in section at B′, the side-board A′ of the box being attached to stakes B, which are inserted into the hollow post B′. This affords a convenient means of disassembling the box or taking it off from the bolsters bodily. The bottom of the box A^2 is divided into two parts a' a^2. At each end thereof, as shown in Fig. 1 and in cross-section, Figs. 2 and 3, are attached ratchets C C, which are held firmly to the under side of the separable bottoms a' a^2.

The front bolster D rests, practically, directly without the intervention of any hounds upon the front axle E. The rear bolster D′ rests and is rigidly bolted to the rear axle D^2 in the usual manner. About this there is nothing new, and therefore I do not show a detail of the manner of attaching the bolster D′ to the axle D^2.

Running from the rear bolster D′ to the front bolster D are two preferably hollow reaches R R. These are firmly attached to the two bolsters, uniting them in one rigid structure. Fixedly attached to these reaches are braces R′ R′, both braces being united under the front axle at R^2 by being welded to a washer W. The washer is perforated, and the king-bolt K passes directly through it and has a nut N upon its lower end. It is obvious, however, it might be secured with a key or any other convenient means.

The friction-plate on the bolster D has a hemispherical bearing H, and the friction-plate H′ upon the axle E is concaved to meet this bearing. The bolster D is raised thereby from the lower friction-plate a little distance, which permits the hemispherical bearing and the bolster and axle to turn relatively to each other to quite an extent, thus permitting the front axle to accommodate itself to any qualities of surface and also to swivel freely for turning the vehicle.

A longitudinal triangular slot S is cut through the front axle, and a friction-plate is attached to its lower side, which plate is curved upon the radius struck from the center of motion of the hemispherical bearing, the curve being longitudinal in the direction of the length of the axle E. This plate is cut out to correspond with the triangular opening S, thereby having a slot wide enough to accommodate the thickness of the king-bolt K. A washer W′ is interposed between the nut N and the washer W. The washer W′ rides upon the curved friction-plate S′ as the ends of the front axle oscillate to accommodate unevenness of surface.

Journaled in each bolster is a shaft L, this shaft carrying at the rear end, fixed thereto, a spur gear-wheel M and at its front end a corresponding spur gear-wheel of the same diameter, M′, also a ratchet-wheel M^2. Pivoted upon the shaft is a lever N′, carrying a pawl N^2, which has projections *n n* upon either side thereof, the pawl being pivoted to the le-

ver at n'. Hence by throwing it over upon the opposite side the ratchet-wheel can be operated in either direction. There are a number of movements for the purpose of reversing the action upon ratchets. Any one of these which is easy to reverse might be used in place of the structure shown. The spur-gears M M′ engage in the racks C C, and therefore by rotating the gears, which are connected by the shaft L, the racks would be moved transversely, carrying with them the bottoms a' a^2, to which they are attached. These bottom planks a' a^2 slide upon the bolsters, and room enough is left between their outer edges a^3 a^4 and the stakes B′ to permit of the full opening of the level portion of the bottom or one-third of the whole width of the top of the box. In other words, it permits of an opening as wide as the distance between the two inclined boards a a, and as it is obvious from the drawings that the reaches R R are as wide or wider than this opening it is clear that the opening below the box is completely unobstructed and that whatever material may be in the box is permitted to fall through without interruption. In order, therefore, to dump the load, it is only necessary to work the two ratchets by means of the levers N′ N′ (shown in Fig. 2) by the driver, who may sit between them. The pawls being properly arranged, the bottom planks are forcibly moved apart under the load and the load dumped. The driver with his foot can throw over the pawls to the opposite side of the ratchet-wheels, and thus by the same movement of the lever compel the return of the bottom planks to their original position, and thus close the bottom of the box.

It is obvious that many of the details of this structure could be modified without departing from the principle of my invention, and I do not, therefore, desire to be limited to strictly structural features.

What I desire to claim is—

1. In a dumping-wagon, the combination of a transversely-movable bottom adapted to open or close the bottom of the box as it is operated, two bolsters upon which said bottom is supported, means located at each bolster and connected with the bottom whereby it may be moved transversely to open and close the same, and reaches connecting the bolsters, said reaches being separated, substantially as described.

2. In a dumping-wagon, the combination of a transversely-movable bottom adapted to open or close the bottom of the box as it is operated, means connected with the bottom whereby it may be moved transversely and restored to its original position, and bolsters upon which the bottom is supported, reaches connecting the bolsters, said reaches being separated so that the space between them shall be as wide as the opening in the box, substantially as described.

3. In a dumping-wagon, the combination of a transversely-movable bottom adapted to open and close the bottom of a box, bolsters upon which the bottom is supported, reaches connecting the bolsters consisting of tubes, shafts traversing the tube reaches and journaled in the bolsters, spur-gearing upon the shafts, and racks upon the movable bottom, and means for actuating the shafts to rotate them in either direction, substantially as described.

4. The combination of a wagon, gearing consisting of two axles and wheels and fixed bolsters mounted upon the rear axle, a rocking, swiveled bolster mounted upon the front axle, reaches connecting the front and rear bolsters, said reaches being separated a distance equal to, or more than one-third of the width of the wagon, a king-bolt connecting the front bolster and front axle and diverging braces uniting below the front axle and passing upwardly and rearwardly and fixedly connected to the reaches, substantially as described.

5. The combination of a wagon, gearing consisting of two axles and wheels, and fixed bolsters mounted upon the rear axle, a rocking swiveled bolster mounted upon the front axle, reaches connecting the front and rear bolsters, said reaches being separated a distance equal to or more than one-third of the width of the wagon, a king-bolt connecting the front bolster and front axle, and diverging braces uniting below the front axle and passing upwardly and rearwardly and fixedly connected to the reaches, and a hemispherical bearing between the bolster and the front axle, and centrally traversed by the king-bolt, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN TORRENT.

Witnesses:
E. PERCY TURNER,
R. J. MACDONALD.