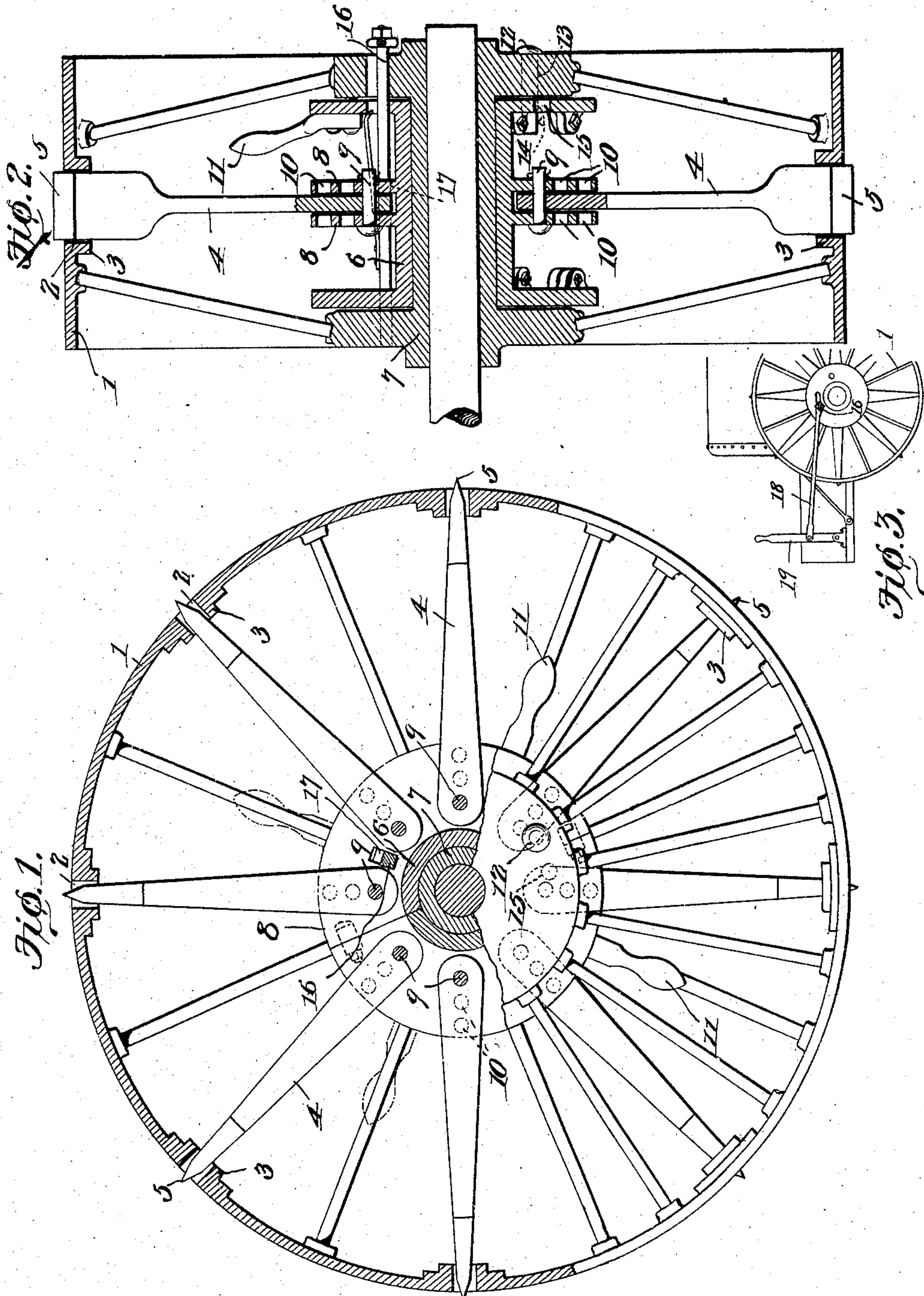


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PATENTED MAR. 12, 1907.

J. McNEAL.
TRACTION WHEEL.

APPLICATION FILED JUNE 9, 1906.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSEPH McNEAL, OF LAPORTE CITY, IOWA.

TRACTION-WHEEL.

No. 846,689.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 9, 1906. Serial No. 321,083.

To all whom it may concern:

Be it known that I, JOSEPH McNEAL, a citizen of the United States, residing at Laporte City, in the county of Blackhawk and State of Iowa, have invented a new and useful Traction-Wheel, of which the following is a specification.

This invention has relation to traction-wheels; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a wheel adapted to be used on traction-engines or agricultural implements, said wheel having a number of tractors which are adapted to be extended or drawn in with relation to the wheel-rim. A means is provided for extending or drawing in the said tractors while the wheel is at rest, and also means is provided for extending or drawing in the said tractors while the wheel is rotating. Means is also provided for adjusting or varying the length of the ends of the tractors that project beyond the wheel-rim.

In the accompanying drawing, Figure 1 is a side elevation of the traction-wheel, partly in section. Fig. 2 is a transverse sectional view of the traction-wheel; and Fig. 3 is a side elevation of the rear portion of a traction-engine, illustrating the application of the traction-wheel.

The wheel-rim 1 is provided with a number of perforations or openings 2, and attached to the inner side of said wheel-rim and adjacent to said perforations are the guides 3, said guides being perforated and having their perforations registering with the perforations 2. The tractors 4 are adapted to extend radially with relation to the wheel-rim when in extended position and extend tangentially with relation to the said wheel-rim when in withdrawn position. The said tractors are pointed at their outer ends, as at 5, and gradually increase in thickness toward their inner ends. The castings 6 6 are bolted together about the hub 7 of the said wheel. Said castings are adapted to describe partial rotation about the said hub.

The inner ends of the tractors 4 pass between the side plates 8 8 of said castings and are pivotally attached thereto by means of the bolts 9. The plates 8 8 are provided with a number of bolt-perforations 10, which extend in radial lines. By means of these perforations, arranged, as stated, in sets, the tractors 4 may be adjusted longitudinally with

relation to the said plates 8 8. When it is desired that the tractor-points 5 should project well into the ground, the inner ends of the tractors are secured to the plates 8 8 by passing the bolt 9 through the outer perforation 10 of the set of perforations. When it is desired that the tractor-points 5 should have but slight engagement with the ground, the inner ends of said tractors are secured by means of said bolt 9 at the innermost perforations 10. Thus a means is provided for adjusting said tractors longitudinally and at the same time affording a positive support and attaching means for the same.

It is obvious that in view of the fact that the tractors 4 are pivotally attached to the plates 8 8 at points between the circumferences and centers of the said plates that if the said plates are rotated slightly upon the hub 7 that the outer pointed ends 5 of the tractors 4 will be withdrawn within the periphery of the wheel-rim 1. To accomplish this, one or more of the plates 8 is provided with the handles 11, by means of which the said plates may be partially rotated, and when in proper position are fixed with relation to the wheel-hub 7 by means of the pin 12, which is passed through the perforation 13 in the side of the hub 7 and through a perforation 14 in the side of the plate 8. Said plate 8 is also provided with a perforation 15, which is adapted to receive said pin 12 when the tractors are in extended positions. It will thus be seen that when the plates 8 8 are in position that they are oppositely secured in such positions.

The plates 8 8 are adapted to be partially rotated by the means as above described when the wheel is at rest. A means is also provided for partially rotating the said plates 8 8 while the wheel is in motion. Said means consists of the pin 16, which enters the opening 17 in one of the plates 8 and is provided with a spring, which engages the side of said opening, and thereby affords a friction means for retaining the pin 16 in the opening 17. The link 18 connects the lever 19 with the pin 16. Said lever is suitably fulcrumed at any convenient point on the frame of the traction implement. As the traction-wheel 1 rotates the lever 19 vibrates back and forth upon its fulcrum-point, and in order to move the tractors with relation to the rim of the wheel 1 the lever 19 is either held stationary for a short space of time while the wheel 1 is rotating or the lever is

moved manually in the direction in which it is traveling faster than the rate at which it normally moves. Thus the pin 16 partially rotates the plates 8 with relation to the wheel 1, and the tractors 4 are also relatively moved.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A traction-wheel having openings at its rim, tractors having ends located in said openings, a plate rotatably mounted upon the wheel-hub, said plate having perforations which extend in radial lines with relation
15 thereto, and means for securing the inner ends of the tractors to said plate at the said perforations thereof.

2. A traction-wheel having perforations at its rim, tractors passing through said perforations, a plate rotatably mounted upon the wheel-hub, the inner ends of said tractors being adjustably pivoted to said plate, and lever-operated means operatively connected with said plate and adapted to partially rotate the same.

25 3. A traction-wheel having openings at its rim, tractors extending through said openings, a plate rotatably mounted upon the wheel-hub, the inner ends of said tractors

being pivotally and adjustably attached to said plate, a means for partially rotating said plate while the wheel is at rest, and a means for partially rotating said plate while the wheel is in motion.

4. A traction-wheel having openings provided in its rim, tractors located in said openings, plates connected together and being rotatably mounted upon the wheel-hub, the inner ends of said tractors being adjustably pivoted between said plates, and means for partially rotating said plates.

5. A traction-wheel having openings at its rim, tractors located in said opening, plates oppositely arranged and connected together and being rotatably mounted upon the wheel-hub, the inner ends of said tractors being adjustably pivoted between said plates, a means for partially rotating said plates, and a means for fixing said plates with the wheel-hub after they have been partially rotated.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH McNEAL.

Witnesses:

GEORGE E. KNAPP,
MARGARET H. KNAPP.