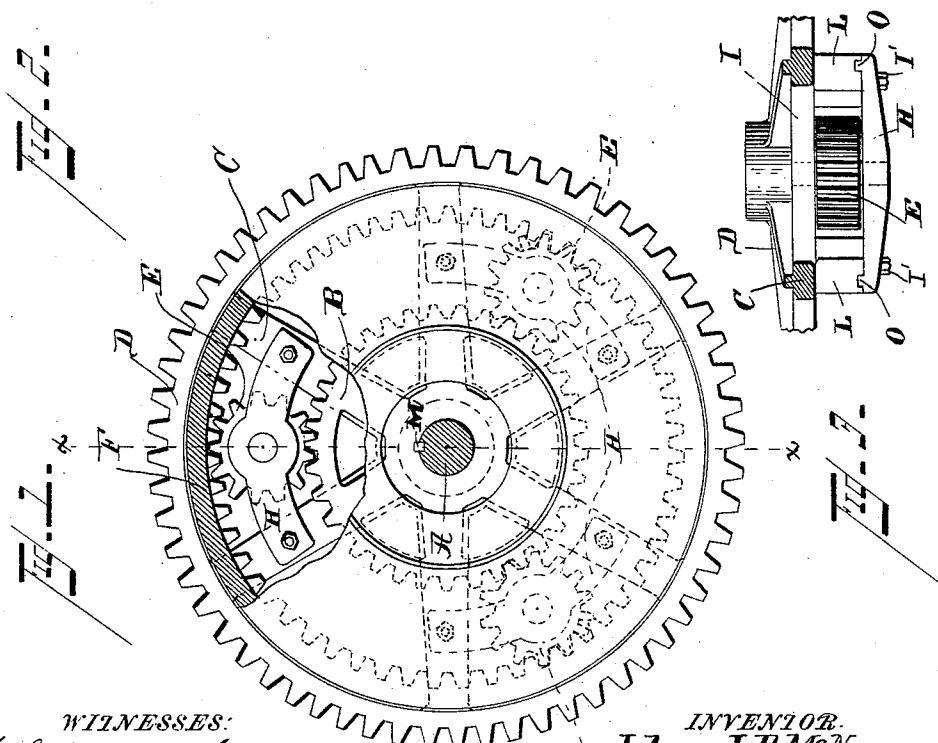
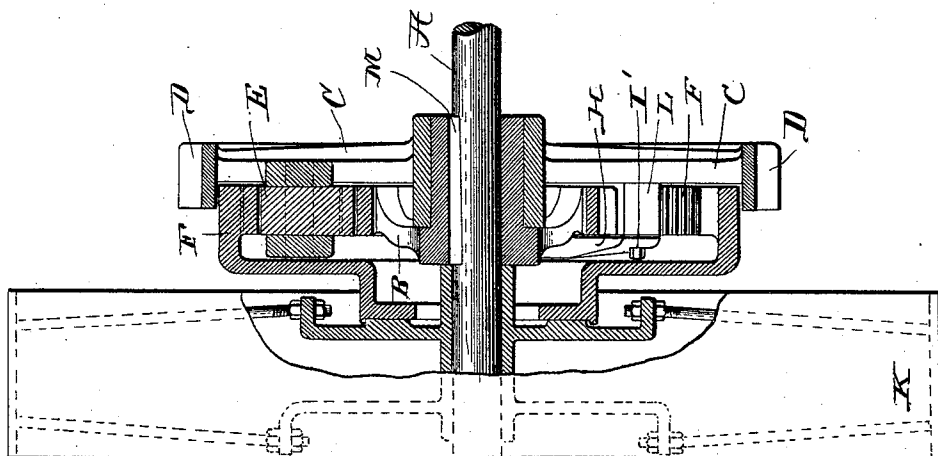


(No Model.)

J. J. D. McNAMAR.
TRACTION ENGINE.

No. 475,597.

Patented May 24, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JULIUS J. D. McNAMAR, OF NEWARK, OHIO.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 475,597, dated May 24, 1892.

Application filed November 11, 1891. Serial No. 411,591. (No model.)

To all whom it may concern:

Be it known that I, JULIUS J. D. McNAMAR, a citizen of the United States, and a resident of Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Traction-Engines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in mechanical movements, and has reference more particularly to gearing for connecting two shafts or wheels revolving in the same axial line by which the driving-power is divided, allowing either to revolve at a higher rate of speed than the other.

The object of the invention is to provide an improved construction of device of the above character, which shall possess superior advantages with respect to simplicity, economy, and efficiency.

The invention consists in the novel construction and combination of parts herein-after fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, showing my improvements, the road-wheel being removed. Fig. 2 is a section on the line *xx*, Fig. 1, also showing the road-wheel in elevation, partly broken away at one side. Fig. 3 is a detail section of the master-wheel.

In the said drawings, the reference-letter A designates the shaft of a traction-engine, having a spur-wheel B rigidly attached to it by means of a key M, the hub of said wheel being elongated, forming a bearing for a master-wheel D, which is capable of freely revolving thereon. The master-wheel carries in the openings between its radial arms C three spur-pinions E E E, constructed to turn freely upon their axes, but at the same time are carried by the master-wheel as it rotates.

The letter F denotes an internal gear rigidly secured to the hub I of the traction or road wheel K, which turns freely upon the shaft A. The opposite end of shaft A is provided with a corresponding wheel. (Not

shown.) The diameter of the spur-gear B is such that the three pinions E E E will revolve fully around it, the teeth of the pinions meshing with it and with the internal gear F. One end of each of the journals of the pinions E E E is secured to the ribs I, cast with the master-wheel, while the other ends are secured to caps H by means of screw-bolts I', blocks L being interposed between said caps and the arms C, so as to form spaces for the same pinions. These caps are provided with tongues O, which fit in corresponding grooves in the blocks L.

The operation is as follows: Power being applied to the master-wheel, it is communicated by the pinions E E E to the spur-wheel B and internal gear F, causing the shaft A and road-wheel to be rotated, and so long as the resistance is equal there will be no movement of the gearing other than simple revolution around and with the shaft A; but as soon as the resistance becomes unequal, as in turning a corner, where one of the road-wheels travels faster than the other, the pinions E E E will allow either the spur-wheel B or the gear F, with its corresponding road-wheel, to travel as much faster as may be necessary to equalize the power between the two road-wheels, one of which is rigidly connected with shaft A and the other secured to the gear F.

Having thus described my invention, what I claim is—

In a compensating gear for traction-engines, the combination, with the shaft, the spur-gear secured thereto, having an elongated hub, the master-wheel loosely mounted on said hub and having radial arms and ribs cast therewith, the pinions, the caps secured to the master-wheel, having tongues, the interposed blocks having grooves to receive said tongues, and the journals for said pinions secured to said caps and ribs, of the road-wheel loosely mounted on said shaft, and the internal gear connected therewith, substantially as described.

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

JULIUS J. D. McNAMAR.

Witnesses:

JAMES W. GRAY,
G. C. DAUGHERTY.