

J. E. BRIGGS.
STEERING MECHANISM.
APPLICATION FILED APR. 17, 1911.

1,055,313.

Patented Mar. 11, 1913.

Fig. 1.

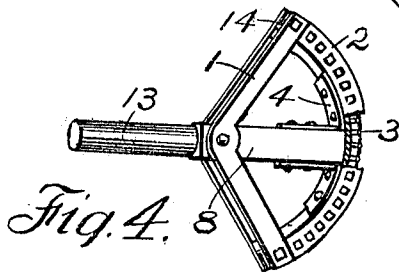
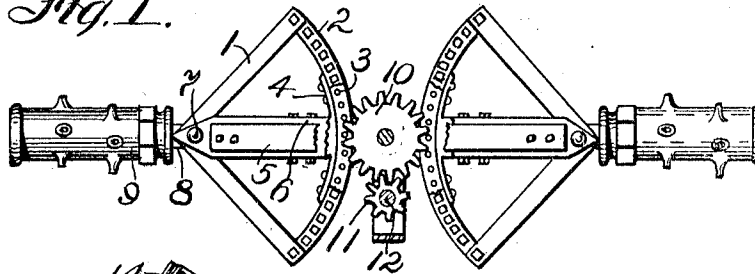


Fig. 2.

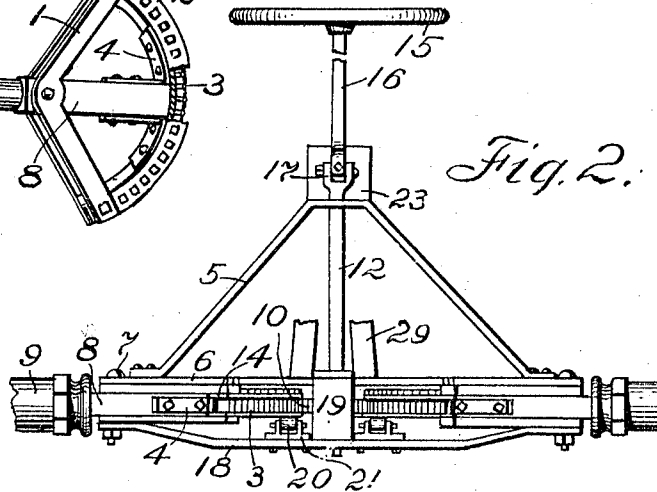
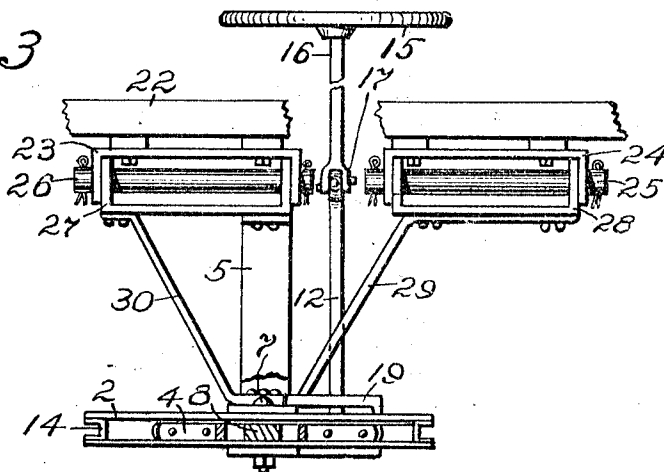


Fig. 3.



Witnesses.

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JAMES E. BRIGGS, OF WATERLOO, IOWA.

STEERING MECHANISM.

1,055,313.

Specification of Letters Patent.

Patented Mar. 11, 1913.

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To all whom it may concern:

Be it known that I, JAMES E. BRIGGS, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Steering Mechanism, of which the following is a specification.

My invention relates to improvements in steering mechanism, and the object of my improvement is to furnish a convenient, simple and strong steering-gear particularly for use in motor vehicles of a description which are intended to carry heavy loads, or in which the vehicle itself, with its motor and other accessories are weighty, but my invention by a simple proportioning of its parts may be rendered of service in connection with lighter vehicles than those especially mentioned. This object I have accomplished by the means which are hereinafter described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is an upper plan view of the swinging-quadrants and their connected stub-axes, with the superimposed parts of the mechanism removed, and parts being broken away to permit of a fuller disclosure. Fig. 2 is a front elevation of my improved steering mechanism, with parts broken away. Fig. 3 is a side elevation of the mechanism shown in Fig. 2, parts being broken away. Fig. 4 is a detail perspective view of one of the swinging quadrants.

Similar numerals of reference designate corresponding parts throughout the several views.

The spindle 13 of the stub-axes 8 are designed to have rotatably mounted thereon the hubs 9 of carrying-wheels (not shown). On each stub-axle a channel-iron quadrant is secured medially at its end opposite the spindle 13 by means of the corner-plates 4 riveted or bolted to both. Each quadrant 2 has angular braces 1 secured to its ends, and whose angles are secured to opposite upper and lower faces of said stub-axle by means of a bolt 7, the latter further serving to clamp the outer ends of the truss-bars 5 and 6, and 18 to said axle, respectively above and below it. The outwardly-directed flanges of each quadrant 2 are connected by a plurality of bolts 3, the latter being sufficiently numerous and properly and equally spaced apart. The lower truss-bar 18 is medially

bent downward to provide a space for the anti-friction rollers 20, which are located under and supporting the said quadrants, and are rotatably mounted in the bearing-uprights 21. The steering-wheel 15 is fixed on the short shaft-member 16, the latter being in line with and movably secured to another shaft-member 12 by means of a universal-joint 17. The shaft-member 12 is rotatably seated in bearing-orifices in the truss-bars 5 and 6 and the boxing 19, and has on its lower end in said boxing 19, a pinion 11 which meshes with a gear-wheel 10 located intermediately between said quadrants, the said gear-wheel meshing also with the pins 3 of said quadrants. It is to be understood, however, that geared segments may be substituted for said quadrants if desired, to be intermeshed with said gear-wheel 10, without departing from the scope of or the principle of my invention. The frame 22 of the vehicle is supported on said running-gear and connected parts as above described, as follows: 29 and 30 are obliquely erected supporting bars secured to the cross-bar 6 and respectively directed upwardly and forward and back. The bar 30, as well as the truss-bar 5 supports the rear boxing formed of the reversed angle-plates 23 and 27, while the forward bar 29 supports the forward boxing composed of similar angle-plates 24 and 28. The frame 22 is superposed upon and secured to these boxings. The angle-plates of said boxings are pivotally connected by means of the aligned shafts 26 and 25 which pass through registering bearing-openings in their contacting bent-over ends. This arrangement permits the transverse rocking of the forward axles under said frame. It will be observed that the universal-joint 17 of the shaft-members 16 and 12 is located intermediately and in line with said shafts 26 and 25, which permits of the wheel 15 being free of jerking movements, said joint being at the center of oscillation.

The said device is compact and strong, and particularly suited for use in heavy motor vehicles such as street-sweepers or trucks. Its action is positive and certain.

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

In combination, a vehicle-frame, transverse spaced apart bars, separated stub-

axles, geared segments secured to said stub-
axles, said axles being pivotally mounted be-
tween the ends of said transverse bars, a
gear-wheel located intermediately between
5 and intermeshing with both said segments, a
rock-shaft carrying a pinion in mesh with
said gear-wheel, and longitudinally and me-
dially alined pivot supporting connec-

tions between said transverse bars and said
vehicle-frame.

Signed at Waterloo, Iowa, this 30th day 10
of March, 1911.

JAMES E. BRIGGS.

Witnesses:

G. C. KENNEDY,
O. D. YOUNG.