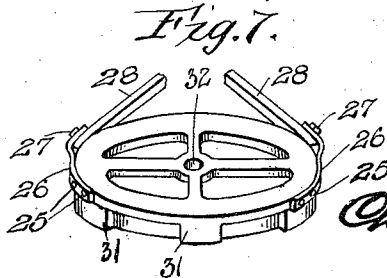
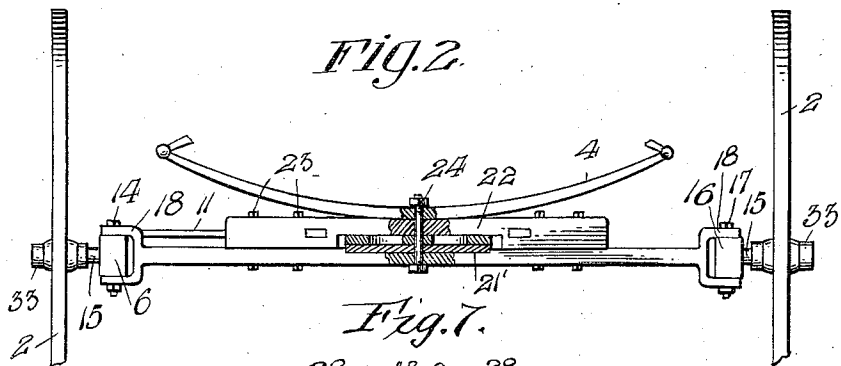
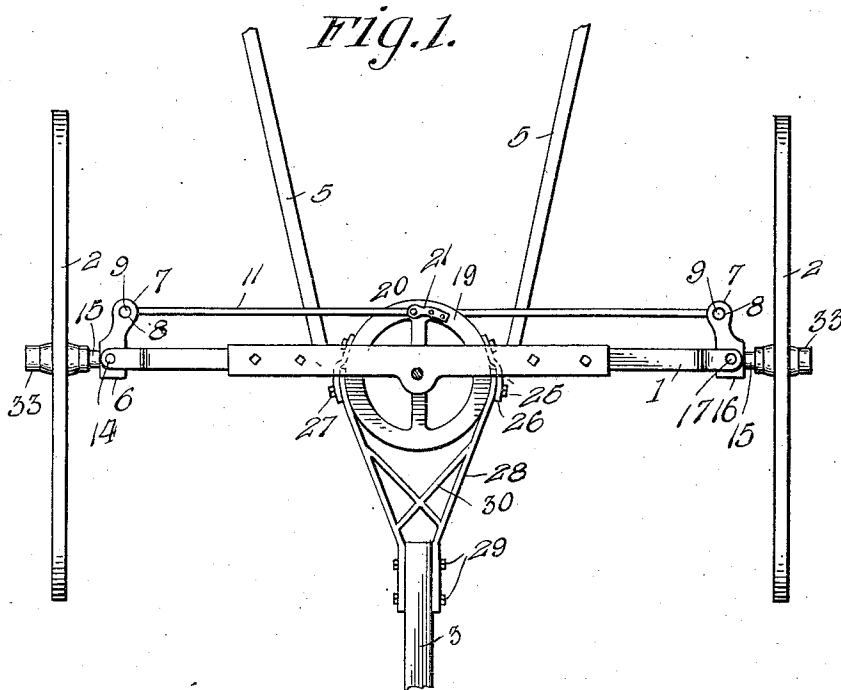


C. A. WIBERG.
VEHICLE GEAR.
APPLICATION FILED JUNE 26, 1911.

1,019,108.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

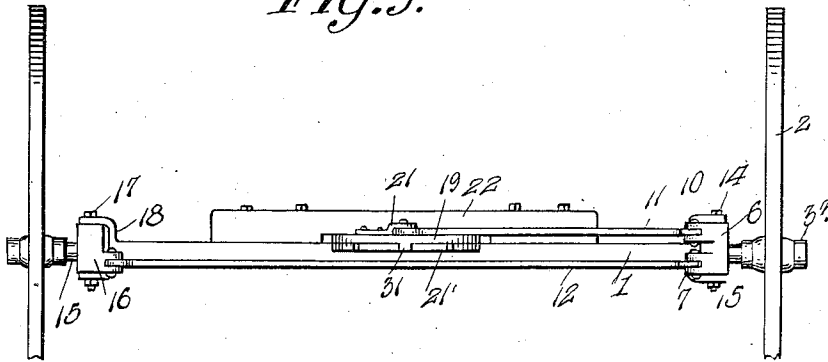


Fig. 4.

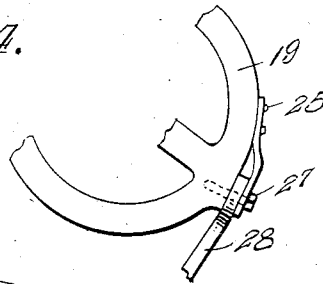


Fig. 5.

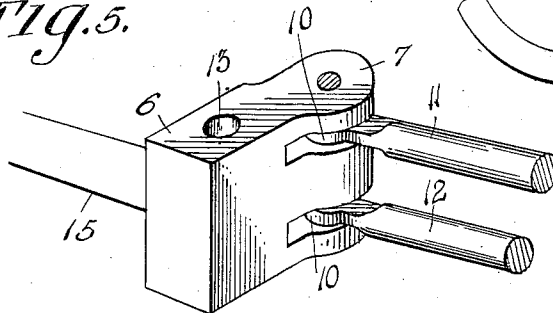
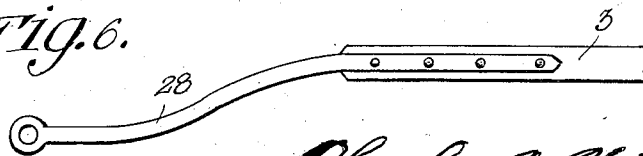


Fig. 6.



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UNITED STATES PATENT OFFICE.

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VEHICLE-GEAR.

1,019,108.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed June 26, 1911. Serial No. 635,374.

To all whom it may concern:

Be it known that I, CHARLES A. WIBERG, a citizen of the United States, residing at Lindstrom, in the county of Chisago and State of Minnesota, have invented certain new and useful Improvements in Vehicle-Gear, of which the following is a specification.

My invention relates to improvements in vehicle gear and has particular reference to a short-turning gear for carriages, wagons and the like, whereby the vehicle may be completely turned in a comparatively small arc or circle.

The leading object of my invention is the provision of a gear of this type, which will be of such a construction as to permit turning of the vehicle in practically its own length, and will at the same time be simple, and inexpensive of production, entail few working parts, and be thoroughly practical and efficient from every point of view.

Another object of my invention is the provision of means of this character which will permit of the introduction of mudguards or fenders over the front wheels of the carriage or wagon.

A further object of my invention is the provision of means located on the turning head or wheel of the vehicle whereby the rubbing or scraping of the vehicle wheels against the sides of the wagon body may be prevented.

My invention consists in the provision of a device of the character described and for the purpose stated embodying novel features of construction and combination of parts for service substantially as disclosed herein, and in order that the novel arrangement of my device may be understood and its many advantages be fully appreciated, I have illustrated in the accompanying drawings a practical embodiment of my invention, in which:

Figure 1 represents a top plan view of the complete invention. Fig. 2 is a front elevation, partly in section, of the complete device, showing clearly the novel arrangement of turning head. Fig. 3 is a rear view of the device. Fig. 4 is a detail of the turning head and pole attaching means. Fig. 5 is a detail of the head or casing in which the connection rods are secured, and Fig. 6 is a detail view of one of the pole or shaft connecting members, a portion of the pole being shown attached thereto for pur-

poses of illustration. Fig. 7 is a detail view of the turning head.

In the drawings, in which similar characters of reference denote corresponding parts in the several views: The numeral 1 designates the vehicle axle, 2 the vehicle wheels, 3 the pole or shaft to which the horses are attached, 4 the vehicle spring, and 5 the usual body rods, all being of ordinary and customary construction and forming no part of my invention. Mounted on one end of the said axle is a head 6 having inwardly extending ears 7, provided with openings 8 to receive bolts 9 adapted to pass therethrough and enter alining openings in the reduced heads 10 of a pair of upper and lower rods 11 and 12 designed to be rigidly secured in said head 6, said head 6 having an opening 13 for the reception of a bolt 14 for securing the entire device upon the axle spindle 15. The other end of the axle 1 has a head 16 secured to the spindle by a bolt 17, said head being somewhat similar to the head 6 and having the other end of the rod 12 secured thereto as described above, said axle having a cranked portion 18 secured to said head 16 by the bolt 17.

The upper rod 11 has its inner end secured to the upper and reciprocating portion 19 of the two-part turning head or wheel 20 by means of a brace or bracket 21 secured to said reciprocating or movable member 19, said wheel 20 having a rigid lower member 21' fixedly secured to the axle 1, the entire wheel being mounted in a housing or casing 22, held upon the axle by the securing bolts 23 and the king bolt 24, which also retains the vehicle spring 4 upon said housing.

The turning wheel or head 20 has secured upon each side thereof by means of the bolts 25 a curved plate 26 to which is fastened as at 27 the curved connecting rods 28 having their forward ends secured on either side to the pole or shaft, by the bolts 29, and the said rods 28 are further provided with the transversely inclined brace rods 30, which are formed integral therewith and serve to help retain the rods 28 in position.

The movable and rigid members 19 and 21' of the turning wheel 20 are each provided with the lugs or projections 31, formed on their outer peripheries, which serve as stops to retard the movement of the wheel and prevent the scraping or rubbing of the carriage wheels against the sides of the wagon

body, and said wheel 20 has the opening 32 in the center thereof through which the king bolt 24 is adapted to pass to secure the wheel in the housing 22.

5 From the foregoing it will be seen that instead of the axle turning on the king bolt, as is customary in vehicles now in use, I have provided a rigid axle and that only the wheel hubs 33 turn.

10 In use it will be seen that when the vehicle is rounding a corner or turning about, the horses attached to the pole will turn the pole upon the reciprocating member 19 of the turning head or wheel 20, which in turn moves the upper rod 11, thus turning the wheel out or in, as the case may be, and since both wheels are connected by the lower rod 12, the wheel turned tends to turn the opposite wheel, thus enabling the vehicle to be turned quickly and in a comparatively small arc or circle. Also it will be seen that by providing the movable and fixed members of the wheel 20 with the stops 31, the movement of the upper member 19 of said wheel is retarded when the turn to be made is too "short", and the carriage wheels are thus prevented from rubbing against the sides of the vehicle body.

From the foregoing description taken in connection with the drawings it will be readily seen that I have provided a device of the character described and for the purpose stated which is exceedingly simple in construction, can be produced at a low cost, is thoroughly practical, and will operate satisfactorily and efficiently at all times.

I claim:

1. In short turning gear, in combination, a main axle, a head upon one end thereof, inwardly extending ears formed thereon, long and short transverse rods having re-

duced ends secured to said head at their outer ends, a head secured upon the opposite end of the axle, the other end of the long rod being secured therein, a two-part turning wheel mounted upon the axle intermediate its length and comprising an upper reciprocating member and a lower stationary member secured to the axle, a bracket carried by the upper member to which is secured the inner end of the short rod, a curved plate secured upon each side of the two-part wheel, curved connecting rods secured to the curved plates, braces therefor, and a draft connection with said connecting rods.

2. In short turning gear, in combination, a main axle, a head having a vertical opening carried upon one end of the axle, inwardly extending parallel ears formed integral with said head, said ears having aligning openings therein, long and short transverse rods secured in said head, said rods having outwardly extending reduced ends provided with openings and being adapted to be secured between said ears of the head, a head secured upon the opposite end of the axle, the other end of the long rod being secured therein, a two-part turning wheel mounted upon the axle intermediate its length and comprising an upper reciprocating member and a lower stationary member secured to the axle, a bracket carried by the upper member to which is secured the inner end of the short rod, and a draft connection with said turning wheel.

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

CHARLES A. WIBERG.

Witnesses:

P. M. QVIST,
K. O. VICTOR.