

No. 689,314.

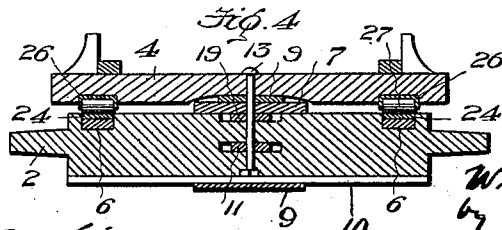
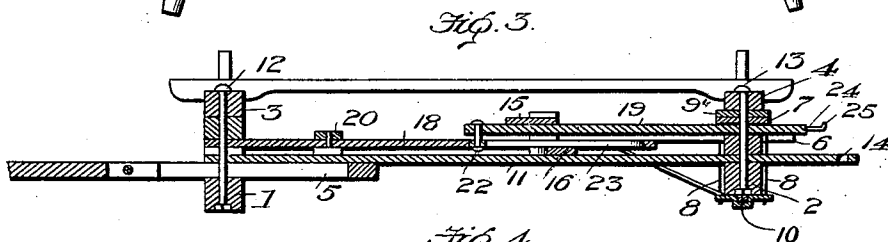
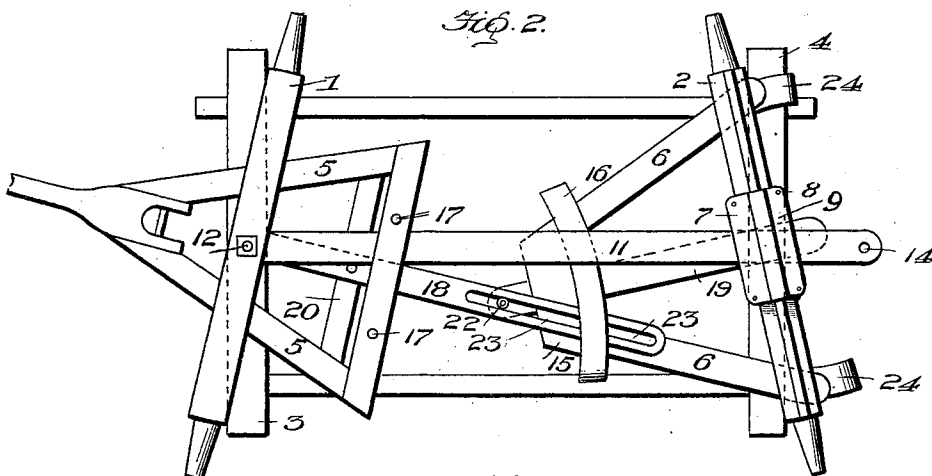
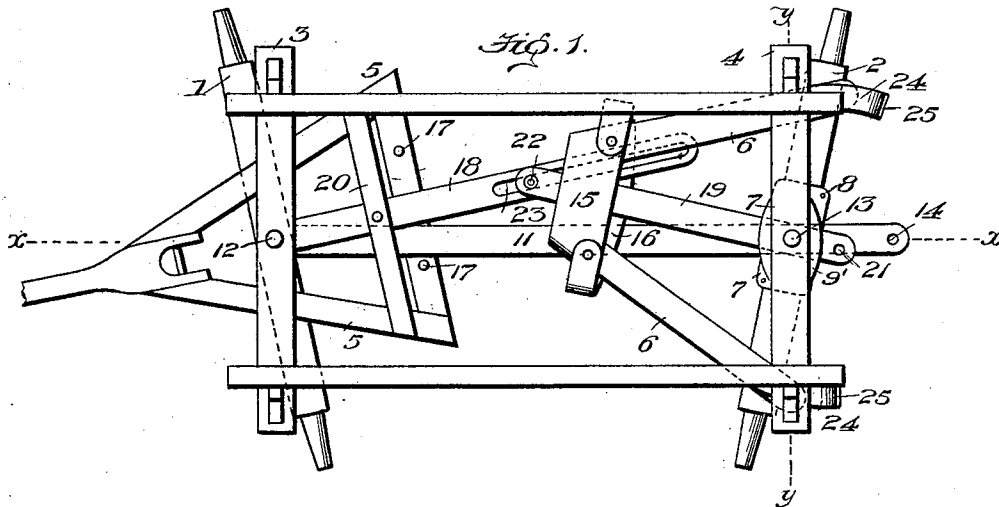
Patented Dec. 17, 1901.

W. A. KOON.

SHORT TURNING GEAR FOR VEHICLES.

(Application filed Mar. 30, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIS ASHER KOON, OF WOODLAND PARK, COLORADO.

SHORT-TURNING GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 689,314, dated December 17, 1901.

Application filed March 30, 1901. Serial No. 53,651. (No model.)

To all whom it may concern:

Be it known that I, WILLIS ASHER KOON, a citizen of the United States, residing at Woodland Park, county of Teller, State of Colorado, have invented certain new and useful Improvements in Short-Turning Gear for Vehicles, of which the following is a specification.

This invention relates to short-turning gear for vehicles.

The object of the invention is the provision of a short-turning gear which will be strong and durable and not readily susceptible to wrenching or derangement, which will operate easily and with little friction and permit the turning of the vehicle in a very small radius.

Having the foregoing object in view, the invention consists of a short-turning gear comprising certain improved features and novel combinations of parts set forth fully in detail hereinafter and recited in the appended claims.

In the accompanying drawings, Figure 1 is a plan view with the guiding-reach bent or flexed; Fig. 2, a similar bottom view; Fig. 3, a longitudinal section on line *xx* of Fig. 1, and Fig. 4 a similar view on line *yy*.

1 and 2 are the front and rear axles, respectively, and 3 and 4 the bolsters, 5 and 6 being the front and hind hounds respectively.

The numeral 7 designates a reach-boxing located on top of the axle and having the superposed wear-plate 9'. Extending longitudinally of the axle along its bottom is a brace-rod 10, held in place by a plate 9, which is secured at its four corners by fastenings 8, extending up and connected with boxing 7. The boxing is thereby held in position, and the rod 10, firmly secured against the axle and said rod, strengthens the axle.

The reach 11 is pivoted on the king-bolts 12 and 13 and preferably has apertures 14, through any one of which the bolt 13 can be passed to permit adjustment, as found desirable.

At the forward end of the hind hounds is a boxing 15 and a depending guide-loop 16. Beneath the latter the reach is adapted to play back and forth, being limited in its movements by stops 17 on the front hounds.

I employ a guiding-reach composed of the parts 18 and 19, the former being secured at its end by king-bolt 12 and by the cross-piece

20 on the front hounds and the latter having apertures 21, by which it is connected to the king-bolt 13 and extending through the boxing 15 and provided with a pin and friction-roller 22, adapted to travel in a slot 23 in the guiding-reach member 18, which latter is adapted to play below said boxing and in the guide-loop 16, which limits its swing.

On the rear axle and hounds are secured tracks 24, terminating at their rear ends in upturned stops 25. The rear bolster is provided with brackets 26, which have rollers 27, adapted to run on said tracks, and are prevented from passing off the ends of the latter by the upturned portions thereof. The provision of the boxing and guiding-loop prevents any sagging of the guiding-reach at the point of connection of its members, thus relieving strain, while the stops coöperating with the reach proper prevent undue swing or play thereof, and the adjustability of the reaches renders the construction perfectly adaptable to the vehicle on which employed. The provision of the antifriction-rollers and track on which they travel relieves the reach-boxing of strain and equalizes the pressure on the rear axle.

I am aware that changes might be resorted to in carrying out my invention which would not materially alter its construction or detract from any of its advantages. I do not therefore herein limit myself to the construction described, but consider that I am entitled to all such modifications as come within the spirit and scope of the invention.

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

1. In a short-turning gear for vehicles, the combination with the axles, of rear hounds provided with a boxing and a guide-loop, a main reach connecting the axles and located below the guide-loop, and a guiding-reach composed of two members having an adjustable or sliding connection at their inner ends, one of said members extending through the boxing on the rear hounds and connected to the rear axle and the other member being connected to the front axle and having its free end located below the boxing and adapted to play back and forth within the guide-loop, above the main reach.

2. In a short-turning gear for vehicles, the combination with the axles, of front and hind hounds, the front hounds being provided with a raised cross-piece and the hind hounds having a boxing and a depending guide-loop, a main reach pivoted to the axles and adapted to play under the guide-loop and on the front hounds under the cross-piece, stops on the front hounds to limit the play of the main reach in both directions, and a guiding-reach composed of two members having their inner ends adjustably or slidably connected together, one of said members being connected to the rear axle and extending through the boxing, and the other member being connected to the front axle and to the cross-piece above the main reach and having its free end located in the guide-loop and adapted to play back and forth therein.
3. In a short-turning gear for vehicles, the combination with the axles, of a main reach, a guiding-reach composed of parts adjustably

connected together, horizontal tracks on the rear axle terminating in upwardly-extending portions or stops, bolsters, and brackets on the rear bolster having rollers which travel on the top of said tracks.

4. In a short-turning gear for vehicles, the combination with an axle, of a reach pivoted thereto, a boxing for the reach which lies on top of the axle, a rod extending longitudinally underneath the axle and located thereagainst, a plate located below the said rod and against the same, fastenings connecting the boxing with the plate, a bolster, a wear plate superposed on the boxing and located between it and the bolster, and a king-bolt for securing the bolster to the axle.

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

WILLIS ASHER KOON.

Witnesses:

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C. L. HERRINGTON.