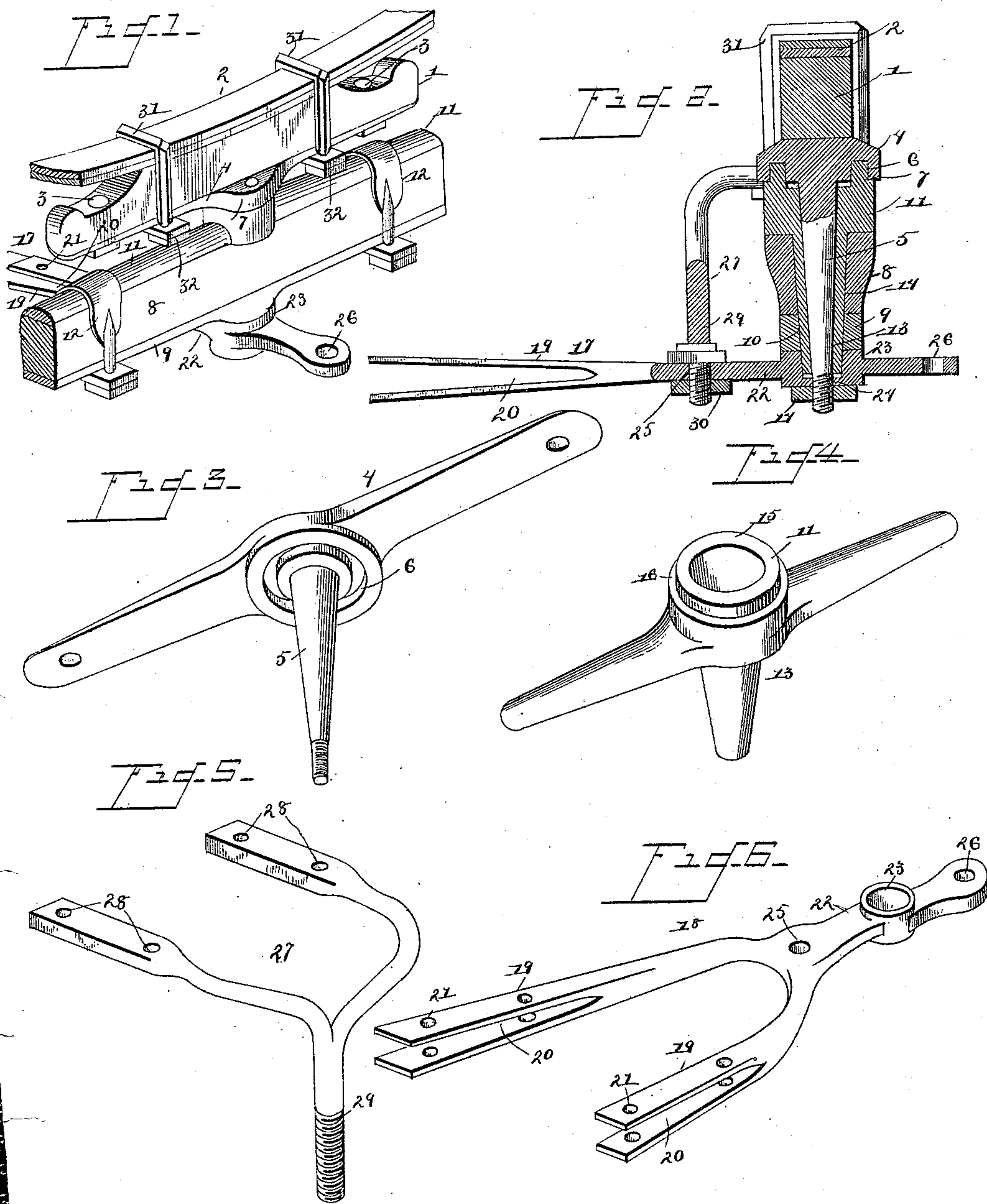


(No Model.)

J. W. LEETE.  
RUNNING GEAR FOR VEHICLES.

No. 440,867.

Patented Nov. 18, 1890.



Witnesses:

*Geo. French.*

*W. J. Duval.*

By *his* Attorneys,

*C. A. Snow & Co.*

Inventor  
*John W. Leete*



# UNITED STATES PATENT OFFICE.

JOHN WM. LEETE, OF CARSON CITY, NEVADA, ASSIGNOR OF ONE-HALF TO  
LOYAL A. HERRICK, OF SAME PLACE.

## RUNNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 440,867, dated November 18, 1890.

Application filed June 26, 1890. Serial No. 356,837. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WM. LEETE, a citizen of the United States, residing at Carson City, in the county of Ormsby and State of Nevada, have invented a new and useful Running-Gear for Vehicles, of which the following is a specification.

This invention has relation to running-gear for vehicles, and has special reference to the means for pivotally connecting the reach-iron, bolster, and axle.

The objects and advantages of the invention, together with the novel features and combination of parts thereof, will hereinafter appear, and be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of the front portion of the running-gear constructed in accordance with my invention. Fig. 2 is a central vertical transverse section of the same. Fig. 3 is a perspective of the king-bolt plate. Fig. 4 is a similar view of the king-bolt-receiving plate; Fig. 5, of the yoke, and Fig. 6 of the reach-iron or perch.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents the usual head-block, upon the upper face of which is mounted the usual bow-spring 2.

To the under surface of the head-block 1 by bolts 3 there is bound a longitudinal plate 4, which at its center is flared at either side of said head-block and provided with a downwardly-depending integral tapered king or pivot bolt 5, the lower end of which is in this instance screw-threaded, and surrounding said bolt is an annular groove 6, the wall of which is raised above the surface of the plate 4, forming an annular bearing-ring 7.

8 represents the axle, and 9 the axle-bed, which in this instance is provided with a central perforation or opening 10.

11 represents a metal longitudinal plate mounted upon the upper face of the axle, and in connection with the bed 9 is snugly bound thereupon by clips 12. The plate 11 is provided with a depending hollow stud 13, of a length sufficient to extend through an opening 14, formed in the axle and through the

opening 10, formed in the axle-bed and beyond the same. The internal bore of the stud is such as to agree with that of the bolt or pivot 5—in other words, slightly tapered—so that as said pivot or bolt wears said wear may be compensated for and no rattle occur, the bolt being retained in snug position by means of a nut 14, threaded on the lower end of the bolt below the end of the hollow stud. The upper end of the stud 13 is surrounded by an annular vertical flange 15, which occurs coincident with and is adapted to rotate in the annular groove 6 of the plate 4. The flange 15 below its upper edge is provided with an annular shoulder 16, which overlaps the annular rim 7 of the plate 4 and surrounds said annular groove.

17 represents the reach, which in this instance is double, but may, if desired, be a single reach, the ends of the reach converging toward the front axle of the vehicle. 18 represents the reach-iron, the rear end of which is forked, forming tines 19, each of which is transversely bifurcated, as at 20, and by a series of bolts 21 securely bound to the reach. Forward of the tines 19 said reach is extended to form a neck 22, provided with a central annular recess or collar 23, the bottom of which is reduced and provided with a smaller opening 24. In rear of the collar 23 there is formed a bolt-receiving opening 25, and forward of the same a perforation 26. The head-block and its adjuncts having been assembled as described, and pivotally mounted upon the axle and its adjuncts, the lower end of the hollow stud 13, which projects below the axle-bed 9, is seated in the collar 23, and the threaded end of the king-bolt or stud projects below the reach-iron and through the reduced opening 24, after which the nut 14 is applied thereto.

27 represents a bifurcated yoke, the bifurcations being divergent and then bent forwardly parallel with each other and provided with clip-holes 28. In rear of the bifurcations the yoke is extended vertically to form a shank 29, which is threaded and takes into the bolt-opening 25, within which it is secured by a nut 30.

31 represents a pair of ordinary clips, which



embrace the spring, head-block, and plate 4, the ends of the clips being threaded and passed through the openings 28, formed in the bifurcations of the yoke, which bifurcations 5 take under the plate 4 at each side of the king-bolt, and to the ends of the clips are secured nuts 32, by which the parts are bound snugly in position.

From the above description it will be apparent that the axle may be actuated in its pivotal movements with ease and with very little friction, that the pivotal seats between the axle and bolster, which in reality form a fifth-wheel, are entirely covered and practically dust and water proof, whereby the pivotal movement is facilitated and the clogging of dust from accumulated grease is obviated. If desired, the opening 26 in the forward end of the neck of the reach-iron may be omitted 20 and the said neck terminate with the collar 24, the only purpose of said opening being for the reception of an inclined brace, one end of which may be secured within the opening and the other to the front of the head-block. This, however, is of no importance as regards my present invention, and is only incidentally mentioned.

Having thus described my invention, what I claim is—

30 1. The combination, with the head-block and a metal plate 4, secured to the under side of the same and provided at its center with a depending king-bolt 5, formed integral therewith and having a surrounding bearing, of an axle provided upon its upper surface with an 35 annular bearing plate or surface 11 and with a depending hollow stud 13, projecting below the axle and adapted to receive the king-bolt, which in turn depends below the stud, and 40 the reach-iron provided with a collar adapted for the reception of the lower end of the stud and having an opening for the passage of the lower end of the king-bolt, substantially as specified.

45 2. The combination, with the head-block and a plate 4, secured to the under surface thereof and provided at its center with an annular groove 6, from the center of which depends an integral king-bolt 5, threaded at its 50 lower end, of an axle, a plate 11, mounted upon the same and provided with a centrally-bored stud 13, depending below the axle and having a surrounding annular rib or flange for operation in the groove of the opposite plate, said 55 king-bolt being mounted for movement within the stud, and a reach-iron 17, having a neck provided with a collar for the reception of the lower end of the stud and with an opening for the passage of the lower end of the 60 bolt, and a binding-nut threaded on the lower end of said bolt, substantially as specified.

3. The combination, with the head-block and a longitudinally-disposed metal plate bolted to the head-block and provided with a 65 depending integral king-bolt 5 and a sur-

rounding annular groove 6, of an axle 8, plate 11, mounted upon the same and provided with a depending hollow stud 13 for the reception of the king-bolt, a reach-iron 17, provided with a neck having an opening for the reception 70 of the bolt and stud, and a reach-opening 25, and a bifurcated yoke 27, the lower end of which is mounted in said latter opening, and the bifurcations of which are perforated and extend under the bolster, and clips straddling 75 the bolster and having their terminals passed through the openings in the bifurcations and snugly bound thereto, substantially as specified.

4. The combination, with the head-block 1, 80 the plate 4, bolted thereto and widened at its center, and provided with a depending tapered bolt 5, surrounded by the annular groove 6 and flange 7, of the axle 8, having the central opening 14, the plate 11, clipped 85 thereto and provided with the raised flange 15, having the shoulder 16 and depending hollow stud 13, extending through the opening 14, the reach-iron 17, having a neck 22, provided with an opening 25, a central collar 90 23, for the reception of the stud 13, and a smaller opening 24, for the reception of the lower end of the king-bolt, and a nut 14, mounted on the end of the bolt, substantially as specified. 95

5. The combination, with the head-block 1, the plate 4, and the depending king-bolt 5, of the axle, the plate 11 secured thereto, and the depending hollow stud 13, the reach-iron 100 secured to the reach and having the opening 25 and collar 23, in the latter of which are pivoted the bolt and stud, and the bifurcated brace 27, the bifurcations of which extend forwardly under the plate 4 and are perforated, the clips 31, straddling the bolster and 105 plate 4 and passed through the openings in the bifurcation, and nuts for binding the same to the bifurcations, said yoke terminating at its rear end in a threaded shank 29, taking in the opening 25 of the shank-iron, 110 and a nut applied to the shank, substantially as specified.

6. The combination, with the metal plate 4, provided with a depending king-bolt 5, formed integral therewith, of an axle provided upon its upper surface with a bearing 115 plate or surface 11 and with a depending hollow stud 13, projecting below the axle and adapted to receive the king-bolt, the latter extending through and terminating below the hollow stud and provided with a nut, 120 substantially as specified.

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

JOHN WM. LEETE.

Witnesses:

T. J. EDWARDS,  
A. M. McCABE.