

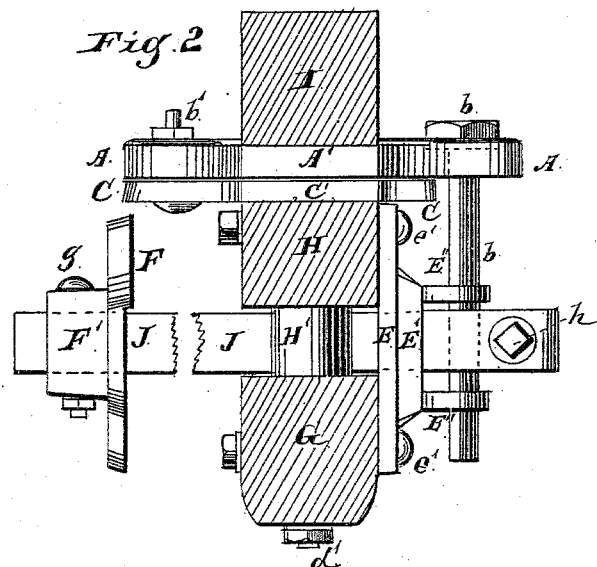
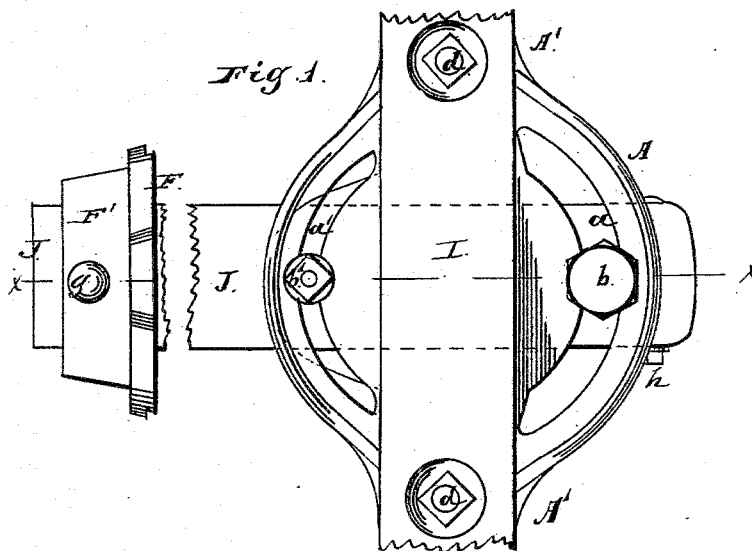
(No Model.)

2 Sheets—Sheet 1.

H. W. WHITNEY.
WAGON RUNNING GEAR.

No. 301,546.

Patented July 8, 1884.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

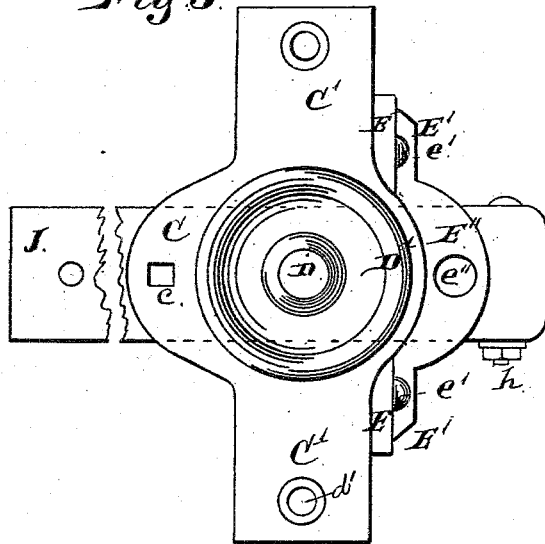


Fig. 4.

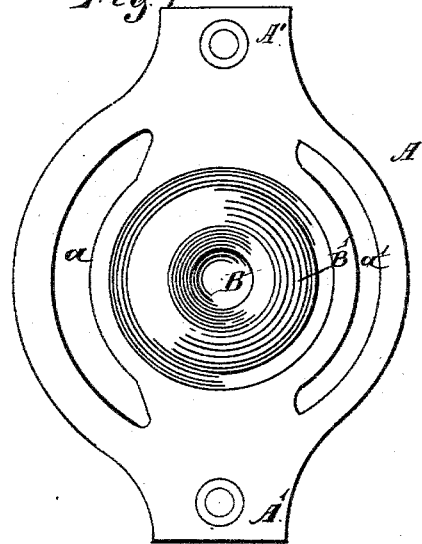


Fig. 5.

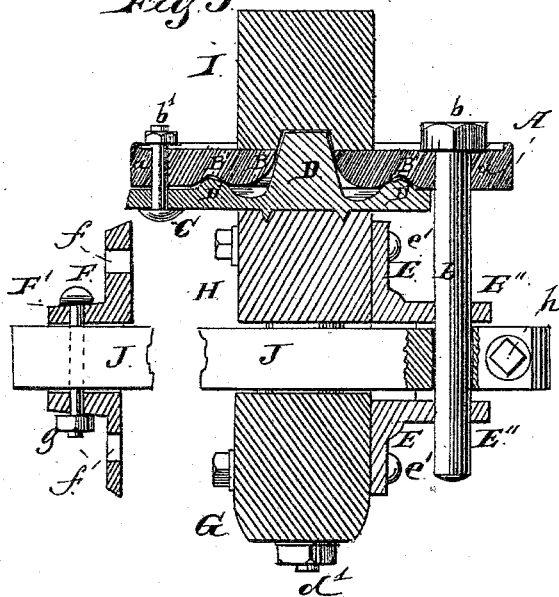


Fig. 6.

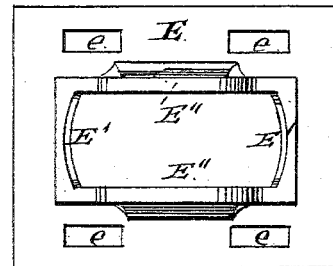
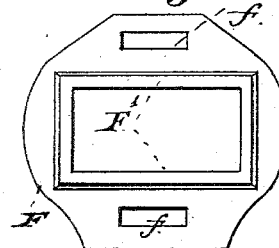


Fig. 7.



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UNITED STATES PATENT OFFICE.

HEZEKIAH W. WHITNEY, OF MONROE, WISCONSIN.

WAGON RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 301,546, dated July 8, 1884.

Application filed June 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, HEZEKIAH W. WHITNEY, residing at Monroe, in the county of Green and State of Wisconsin, and a citizen of the United States, have invented new and useful Improvements in Wagon Running-Gear, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view with the bolster, sand-bar, and axle broken off at each end, and the reach broken in two, showing the devices of the invention; Fig. 2, a side elevation of the parts shown in Fig. 1; Fig. 3, a plan view of the sand-bar plate, showing also the reach and its couplings; Fig. 4, a bottom view of the front bolster-plate; Fig. 5, a section on line *xx* of Fig. 1; Fig. 6, a side elevation of the front coupling of the reach; Fig. 7, a side elevation of the rear coupling of the reach.

This invention relates to the running-gear of wagons and other vehicles, and has for its objects to connect the front bolster with the axle and avoid the passage of the king-bolt through the bolster, sand-bar, and axle, and prevent the wearing of these parts from the king-bolt in use, and furnish a connection which will do the required work in a perfect and reliable manner, and be less liable to breakage, and to insure the lining or tracking of the wheels; and its nature consists in the several parts and combinations of parts hereinafter described, and pointed out in the claims as new.

In the drawings, A represents a plate, of malleable iron or other suitable material, having its front and rear sides formed on the arc of a circle, and having at each end an ear, A', in which is an opening for the passage of a bolt, by which the plate can be secured to the under side of the bolster. The front of this plate A is provided with a curved slot, *a*, through which the king-bolt *b* passes, and the rear of the plate is provided with a curved slot, *a'*, for the passage of a bolt, *b'*.

B is a conical-shaped opening, located at or near the center of the plate.

B' is an annular groove, formed in the face of the plate A around the central opening, B, which groove, as shown, is of a V shape, but

may be circular in cross-section, or of some other suitable form. The plate A is secured to the under side of the bolster by the bolts *d*, so as to bring the opening B in line with the center of the bolster longitudinally and transversely, and the openings in the ears A' for the passage of the attaching-bolts are countersunk, so that the heads of the bolts will come flush, or nearly so, with the face of the ears, and, as shown, the upper face of the bolster is countersunk at the point where the bolts *d* come, to allow the nuts of the bolts to lie below or come flush with such upper face.

C is a plate, of malleable iron or other suitable material, having its front and rear edges formed on the arcs of circles, and having at each end an ear, C', in which is an opening for the passage of a bolt for attaching the plate to the upper surface of the sand-bar. The front of the plate C is not as wide as the front of the plate A, so as to leave a clear space in front of C, for the passage of the king-bolt through the slot *a*; and the rear edge of the plate is provided with an opening, *c*, for the bolt *b'* to pass through, connecting the plates A C at the rear with each other.

D is a conical-shaped boss or stud, located at the center, or nearly so, of the plate C, and entering the conical socket B in the plate A, and around this stud D, on the face of the plate C, is formed an annular flange or ring, D', corresponding in cross-section to the form in cross-section of the groove B', and entering such groove in whole or in part when the parts are together. The plate C is secured to the upper face of the sand-bar by bolts *d'*, the heads of which enter the countersunk openings in the ears C', and this plate is located at the center longitudinally and transversely of the sand-bar, so as to bring the plug or cone D and the head or ring D' in proper relation to enter respectively the socket B and groove B' of the plate A, when the bolster is placed in position, and furnish the pivot and bearing for the bolster in use.

E is a plate, of malleable iron or other suitable material, having at its center an opening surrounded by a strengthening-flange for the passage of the front end of the reach, and having projecting out from its front face, at the top and bottom of the opening, ears E'', in

each of which and in line is an opening, *e''*, which openings, when the parts are together, are also in line with the openings *a* in the plate A, to allow the king-bolt to be passed through the ears and connect the bolster with the axle. This plate E is secured to the front face of the axle and the sand-bar by suitable bolts, *e'*, passing through slots *e* in the plate and through the axle and sand-bar, and is located to bring the opening at its center in line with the opening between the sand-bar and the axle, or nearly so. The slots *e* are located one at each corner of the plate, and are elongated to allow the plate to be moved to the right or left, as required, to change the relative position of the reach to cause the wheels to track or run in line.

F is a plate, of malleable iron or other suitable material, having at its center, or nearly so, an opening for the passage of the rear end of the reach, which opening is surrounded by a strengthening-flange, F', through which and the end of the reach a bolt, *g*, is passed, vertically connecting the reach with the plate. This plate has in its upper and lower edge a slot, *f*, for the passage of a suitable bolt, by means of which the plate can be secured to the rear face of the rear bolster and axle at the proper point for the location of the reach, and these slots are elongated to permit the plate to be moved to the right or left, as required, to change the rear end of the reach and bring the wheels so that they will track or run in line properly.

G is the front axle; H, the sand-bar; H', thimbles between the front axle and the sand-bar and around the bolts *d'*, for keeping the sand-bar and axle at the proper distance apart; I, the front bolster; J, the reach, the front end of which, as shown, has a bolt, *h*, passing through it transversely for strengthening purposes. These parts G, H, and I, may be of any of the usual and well-known forms of construction, except no opening is provided through them for the passage of the king-bolt, thus avoiding the weakening of these parts from such king-bolt opening.

In use, the plate A is secured to the under face of the front bolster by the bolts *d*, or otherwise, and the plate C is secured to the upper face of the sand-bar by the bolts *d'*, or in some other suitable manner, and, as shown, these bolts *d'* also furnish the means for securing the sand-bar to the axle. The plate E is secured to the front face of the sand-bar and to the front axle by the bolts *e'*, or otherwise, and the plate F is secured to the rear face of the rear axle and bolster by bolts passing through the slots *f*. The reach is passed between the rear axle and bolster, and its rear end secured in place by the bolt *g* passing through it and the flange F'. The front end of the reach is passed between the front axle and

the sand-bar through the opening in the plate E and between the ears E'' to bring the openings in its front in line with the openings *e''* in the ears. The bolster is placed on the sand-bar, the stud D entering the opening B, and the ring D' entering the recess B'. The bolt *b'* is passed through the opening *c* and slot *a*, and secured by a nut, and the king-bolt *b* is passed through the slot *a'*, opening *e''* in E'', and the opening in the reach, and in case the wheels do not track or run in line properly the plates E F can be moved to the right or left, as required, by simply loosening the bolts, and when the proper adjustment is reached the plates can be secured by again tightening the nuts of the bolts which secure the plates in position.

It will be seen that by this construction and arrangement of devices the king-bolt is entirely removed from the bolster, sand-bar, and axle, and at the same time it furnishes the proper connection for the front of the wagon. There can be no wearing of the bolster, sand-bar, and axle from the king-bolt in use, and these parts are not weakened by having a hole made through them. A pivot is furnished for the bolster to turn on with greater freedom than on an ordinary king-bolt, and a bearing-surface is provided around the pivotal point of small dimensions, and a ready and easy means of adjustment is provided by which the wheels can be made to track or run in line properly.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plate A, having slots *a a'*, socket B, and groove B', plate C, having pivot D and ring D', bolt *b'*, king-bolt *b*, and plate E, having ears E'', in combination with a front axle, sand-bar, front bolster, and a reach for furnishing a connection for the front end of a wagon, substantially as and for the purposes specified.

2. The plate E, having an opening for the passage of a reach, and provided with slots *e*, in combination with a front axle, sand-bar, and reach for changing the lateral position of the reach, substantially as and for the purpose specified.

3. The plate F, having an opening for the passage of a reach, and provided with slots *f* for attachment to the rear axle and bolster of a wagon for laterally adjusting the reach, substantially as and for the purposes specified.

4. The plates E F, each provided with an opening for the passage of a reach, and with slots, in combination with a reach for attaching the reach to be laterally adjustable, substantially as and for the purposes specified.

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