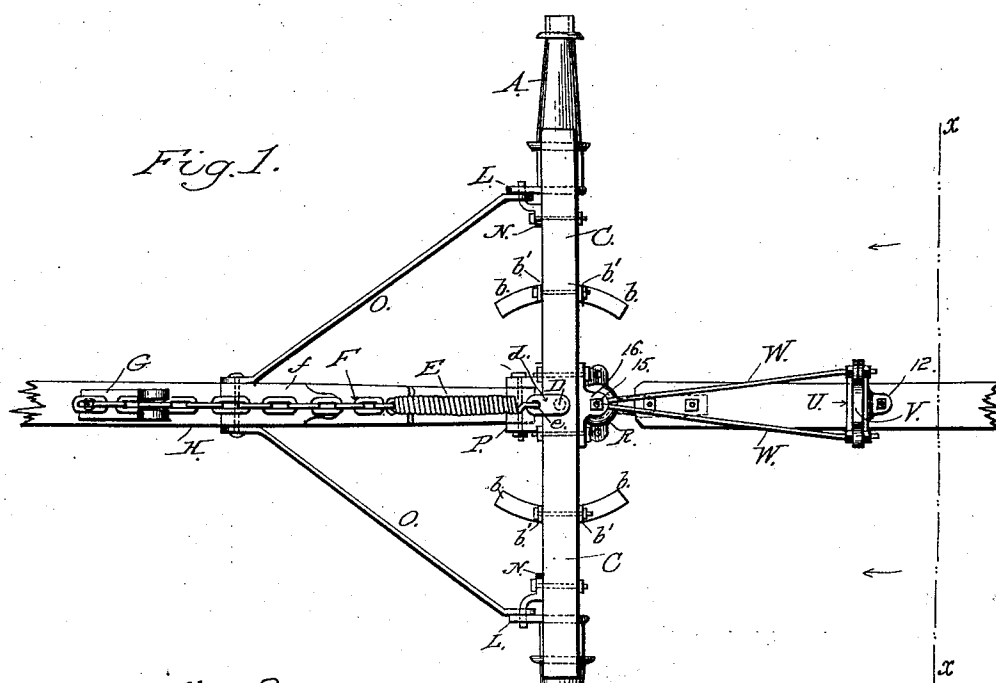
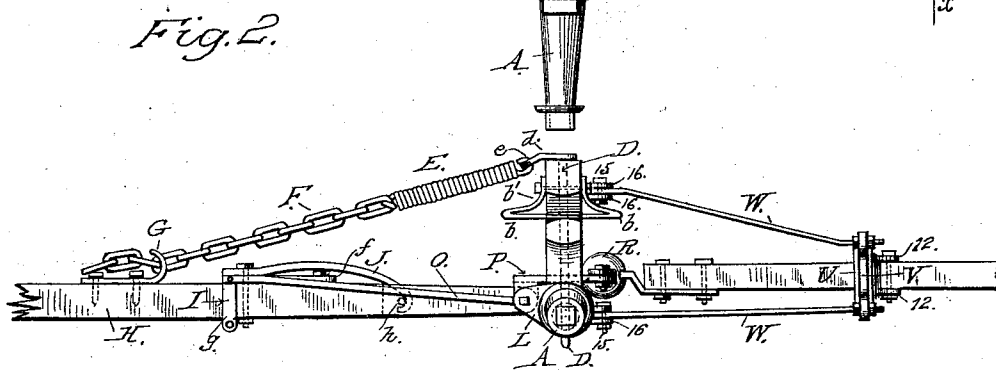
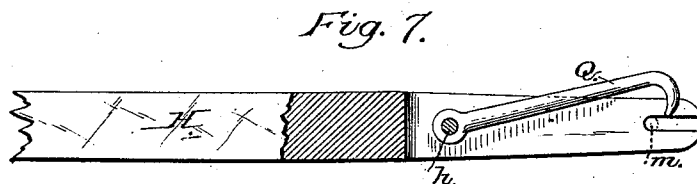


J. HERBY.
FARM WAGON.

No. 444,356.

Patented Jan. 6, 1891.



WITNESSES
W. D. Miller
Lucas Jones

INVENTOR
John Herby.

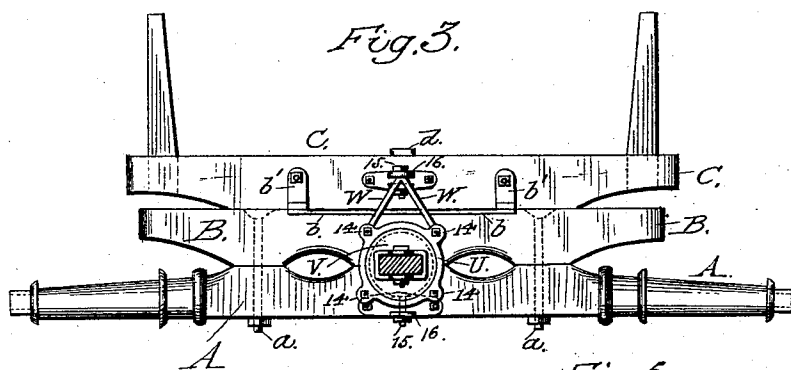
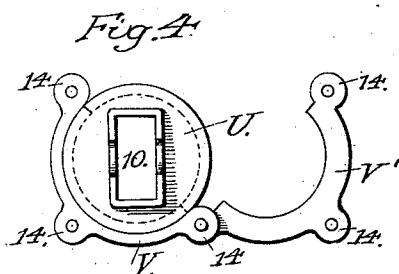
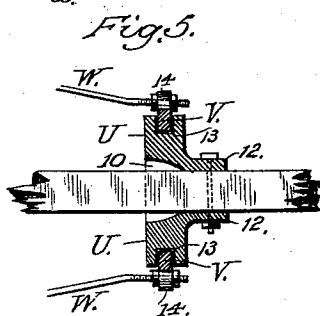
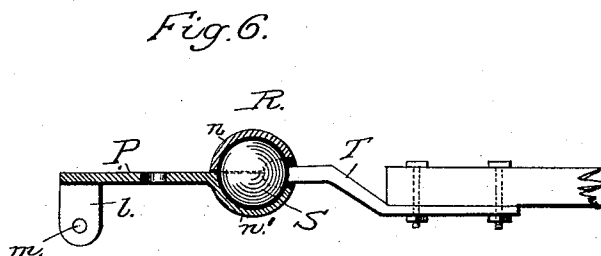
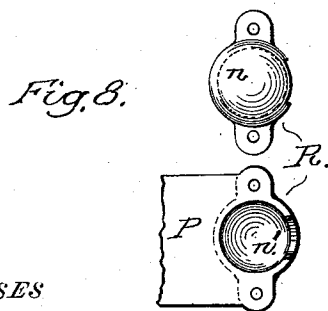
(No Model.)

2 Sheets—Sheet 2.

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INVENTOR.

John Herby.

UNITED STATES PATENT OFFICE.

JOHN HERBY, OF JAMESTOWN, NEW YORK.

FARM-WAGON.

SPECIFICATION forming part of Letters Patent No. 444,356, dated January 6, 1891.

Application filed September 11, 1890. Serial No. 364,680. (No model.)

To all whom it may concern:

Be it known that I, JOHN HERBY, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Farm-Wagons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in vehicles generally, and particularly to that class of wagons used for farm purposes and for hauling lumber and like commodities, the said invention being an improvement on the patent, No. 419,672, granted to me January 21, 1890, for similar purposes.

The object of my invention is to construct a strong substantial wagon, and at the same time make the same cheaper, lighter, and less liable to injury than many wagons of like character now in use.

My invention consists in the construction, combinations, and arrangements of parts constituting my improved wagon, as I shall hereinafter fully describe and claim.

Figure 1 is a plan view of the forward portion of the running-gear of a vehicle. Fig. 2 is a side elevation of the same. Fig. 3 is a cross-sectional view of the line X X of Fig. 1, looking toward the front. Fig. 4 is a detail of the swivel attachment for the reach, showing the hinged section of the outer ring thrown outward. Fig. 5 is a cross-section of the same. Fig. 6 is a detail showing the ball-and-socket connection for the reach. Fig. 7 illustrates a broken sectional view of the inner end of the pole. Fig. 8 is a detail to be referred to.

In the accompanying drawings, A represents the axle of the front gear of a wagon, having the sand-board B fastened securely to it by bolts *a* passing through both axle and sand-board and secured by nuts, as shown, the said sand-board having resting upon it the curved plates *b*, provided with extensions *b'*, which project up along both sides of the bolster C and are secured rigidly thereto, as shown. These plates may extend beyond the front and rear side of the bolster, whereby when said bolster turns about the king-bolt it will have a bearing on opposite ends, thus giving additional support to the bolster, mak-

ing it stronger than the ordinary bolsters, and insuring the bolster being always upright.

The king-bolt D extends through the center of the bolster, sand-board, and axle in the usual manner; but in the present instance it has a piece or plate *d* welded to its top surface and projecting slightly in front of the axle and provided with an eye or opening *e*, into which is fitted the upper end of a strong spring E, whose lower end engages and is secured to one of the links of a chain F, whose links at the lower end are adapted to engage a hook-shaped plate G, bolted to the pole, as shown in Fig. 2.

The pole H is suspended from the king-bolt through the medium of the connection just specified, and it passes through a suitable support, which is herein shown as consisting of a strap-like attachment I, having a horizontal portion *f*, bolted to the pole H, and vertical portions *g*, extending down along both sides of the pole and joined by a bolt passing under the pole, as shown in Fig. 2. The rear end of the pole is slotted for the purpose of making it springy, whereby it relieves the team of heavy jars on rough roads, and through the forward end of this slot passes a bolt *h*, which is designed to be engaged by a hooked plate J, bolted to the pole-supporting attachment I. From this description it will be observed that the king-bolt merely supports the pole and holds it in proper position, and that the reach does not draw from said bolt, but has an independent connection of a peculiar nature, as I will presently explain.

Secured to the axle in any suitable manner, one upon each side of its center, are the draw-clips L, and to the said axle adjacent to the draw-clips are plates N, bolted at one end to the axle and having their outer ends adapted to pass through holes in the inner ends of the pole-braces O and draw-clips, as shown plainly in Fig. 1, the said pole-braces being at about right angles with each other and having their outer or front ends bolted to the pole-support I. By thus joining the braces with the pole-support and by making the bolt ends of plates N square, with corresponding holes in the braces and draw-clips, it is manifest the pole-support is readily maintained in an approximately horizontal position and serves as efficient means for guid-

ing the pole when the latter is being withdrawn or introduced.

Between the axle and sand-board is rigidly bolted a plate P, having a hole for the passage of the king-bolt and having at its front end downwardly-extending ears *l*, (see Fig. 6,) provided with a hole for the reception of a bolt *m*, which is designed to be engaged by a hook Q, pivotally held within the vertical slot in the pole by the bolt *h* passing through the latter, (see Fig. 7,) whereby the pole is detachably connected with the plate P. The rear end of the plate P, just back of the axle and sand-board, is formed with a spherical socket R, which consists, essentially, of two sections *n n'*, each of which has a semi-spherical portion, the upper one *n* of said plates being a cap-plate and having lugs by means of which it is bolted to the similar lugs on the lower section, thus securing said sections together and forming the spherical socket above mentioned, and said socket being adapted to receive a spherical enlargement or ball S, (see Fig. 6,) formed on the front end of a plate T, bolted to the under side of the front end of the reach, thereby forming a ball-and-socket connection between the reach and axle and removing the strain from the king-bolt. At the same time the coupling thus formed enables the wagon to turn at any angle sidewise without danger of the reach being cramped, thereby overcoming a disadvantage common to farm-wagons now in use.

In addition to the features above enumerated, I connect the reach with the front gear by a swivel-connection, which, conjointly with the ball-and-socket joint at the front of the reach, makes a universal connection between the reach and front gear, this latter or swivel connection having a rotary or axial movement, as I will now describe. The swivel-connection is mounted on the reach some distance back of its front end, and it consists of an inner and outer ring U and V, respectively, both vertically disposed, and the inner ring having an opening 10 through its center for the reach to pass through, and having ears or lugs 12, by means of which it is bolted to said reach, thus keeping the latter in place. The outer circumference of this inner ring U has an annular groove 13 formed in it to receive and guide the exterior ring V, which is seated in said groove, and is provided with a hinged section V', which is designed to swing outward to permit the removal or application of the exterior ring, and said outer ring is also provided with ears or projecting lugs 14, through which the rear threaded ends of the brace-rods W pass and are held by nuts, while the front ends of said rods are secured by bolts 15 passing through the lugs on plates 16, bolted to the rear sides of the bolster and axle, respectively, as shown in Figs. 2 and 3.

The introduction of this swivel-connection enables the reach to turn independent of the braces, as the latter are secured to the ex-

terior or loose ring. Therefore the wagon may turn at any angle without danger of twisting or cramping the reach, which is common with many wagons on rough and uneven roads.

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

1. In a farm-wagon, the front gear thereof, in combination with a pole slotted longitudinally and transversely at its rear end and having a hook pivoted therein and adapted to engage a bolt on said front gear, a pole-support having a hooked plate adapted to engage the pin on which said hook is pivoted, the draw-braces, and the plates N, having bolt ends adapted to pass through openings in the rear ends of the draw-braces, whereby the pole-support is held in an approximately horizontal position, substantially as herein described.

2. In a wagon, the front gear thereof and a detachably-secured pole, in combination with a support for said pole, consisting of the pole-support I, the draw-braces secured to said support, the draw-clips on the front axle, and the plates N, having ends passing through openings in the ends of the braces and draw-clips and securing the pole-support in an approximately horizontal position, substantially as herein described.

3. In a wagon, the front gear thereof, in combination with a pole slotted at its rear end and detachably fitted on a bolt on said gear, a hook pivoted within said slotted end and engaging said bolt, a pole-support, and a hook therefrom adapted to engage the pin on which the first-named hook is mounted, substantially as herein described.

4. In a farm-wagon, the front gear thereof and the reach, in combination with a pole having its rear end slotted longitudinally and transversely, a plate P between the sand-board and axle, having its front end provided with lugs between which the rear end of the tongue is inserted, a bolt passing through said lugs and the transverse slot in the pole, a hook pivoted in the longitudinal slot of the pole, whereby the pole is detachably connected with said plate, and a ball-and-socket connection between the rear end of said plate and the front of the reach, substantially as herein described.

5. In a wagon, the swivel on the reach, consisting of an inner and outer plate or ring, the outer plate or ring having a hinged section and the braces extending from said outer plate or ring at points above and below the reach to the front gear, to the axle and bolster of which said braces are connected, substantially as herein described.

6. In a farm-wagon, the front gear and the reach, in combination with a swivel on the reach, consisting of an inner ring or plate secured by a flange to the reach and having a central opening through which the reach passes, an outer ring fitted in a groove in the periphery of the inner ring and having

a hinged section adapted to be swung outward, and the braces W above and below the reach, secured at one end in lugs or ears on the outer ring of the swivel and having their
5 forward ends secured to the bolster and axle, respectively, substantially as herein described.

7. In a farm-wagon, the front gear thereof and the reach coupled thereto by a ball-and-
10 socket connection, in combination with two concentric plates on the reach, one of which is movable and fitted in a peripheral groove in the other and provided with a hinged sec-

tion adapted to be swung outward, said movable plate having ears or projections 14, the
15 braces W, secured at their rear ends to said ears at points above and below the reach, and plates 16 on the axle and bolster, with which the front ends of said braces are connected, substantially as herein described. 20

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

JOHN HERBY.

Witnesses:

HARRISON BILLINGS,
ROBERT BRADY.