

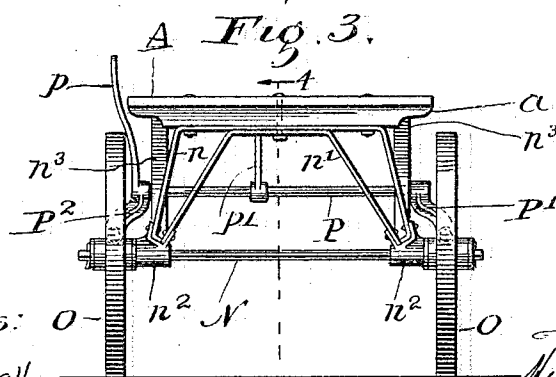
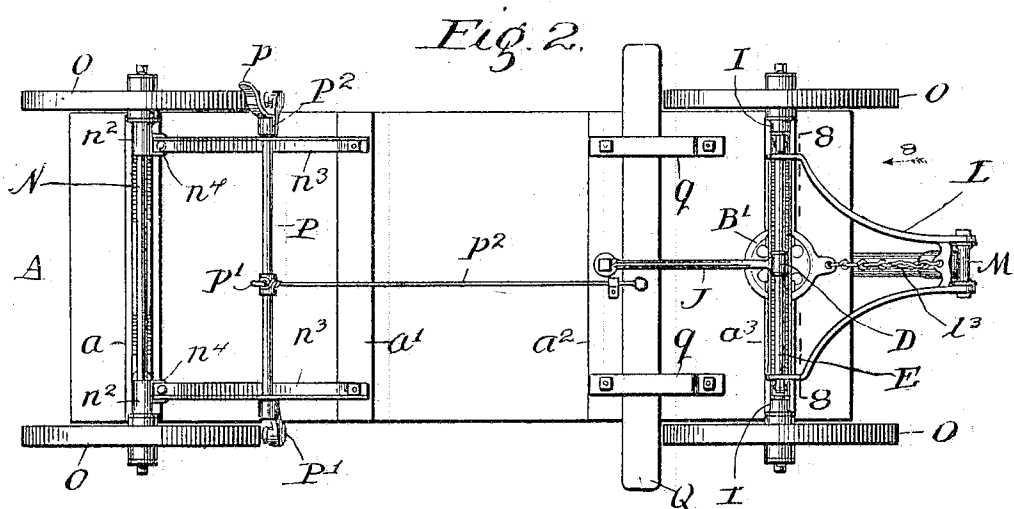
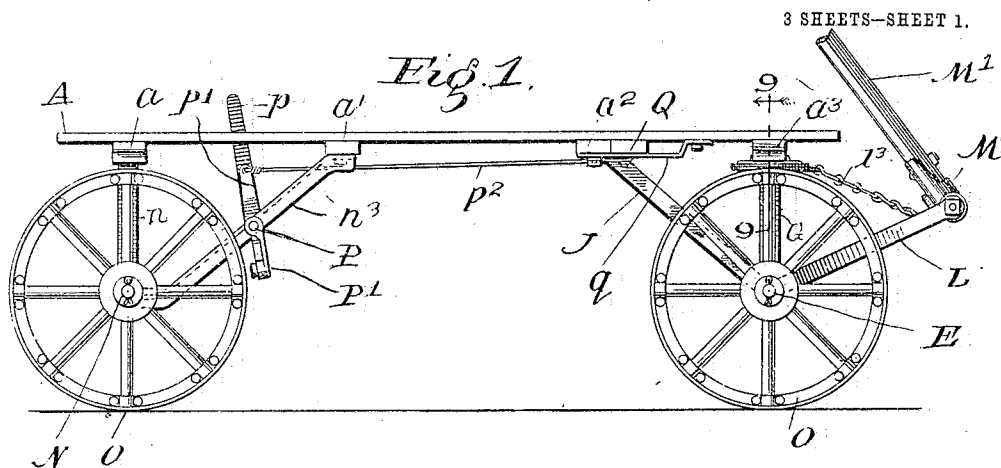
No. 809,912.

PATENTED JAN. 9, 1906.

H. L. FERRIS.
WAGON.

APPLICATION FILED FEB. 23, 1905.

3 SHEETS—SHEET 1.



Witnesses: O-
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No. 809,912.

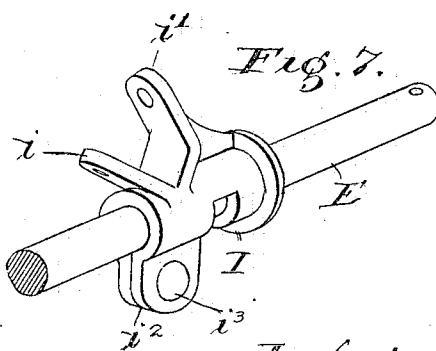
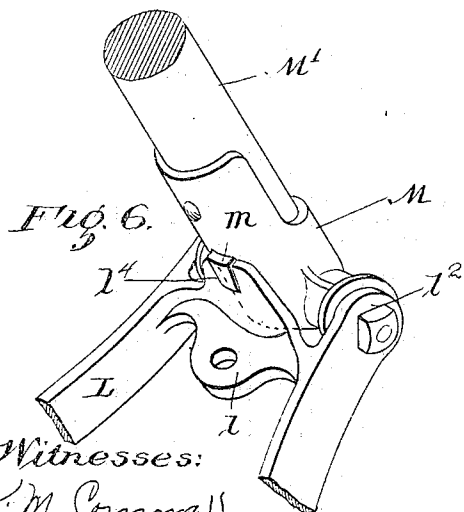
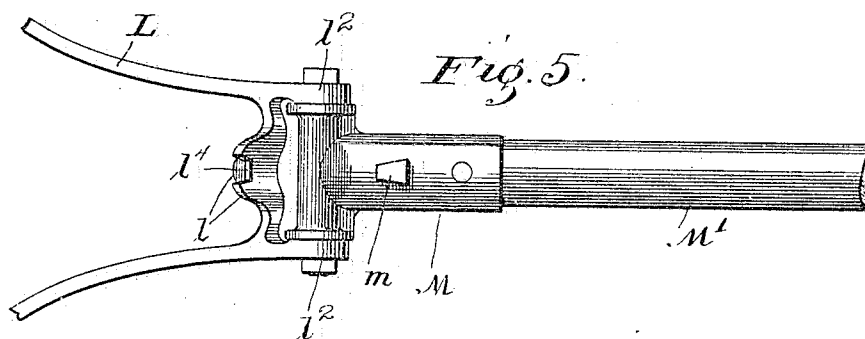
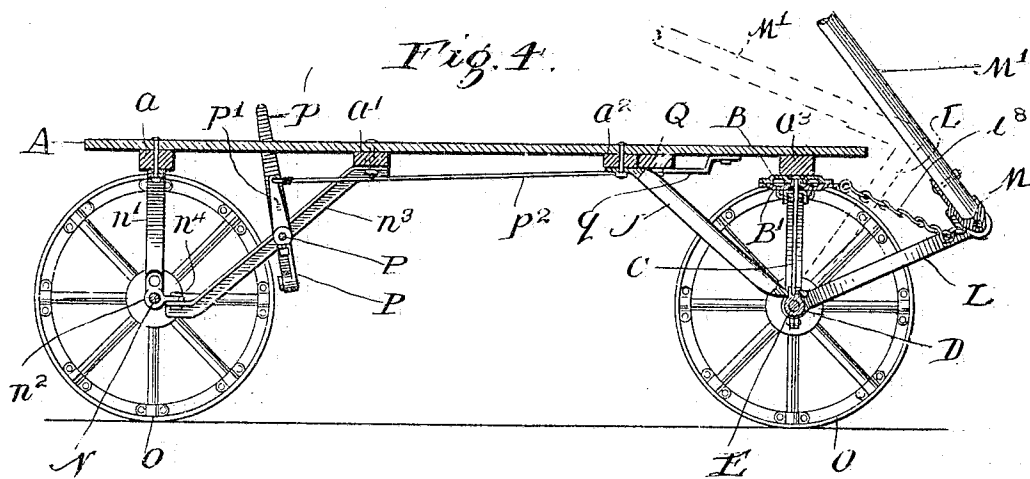
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 8.

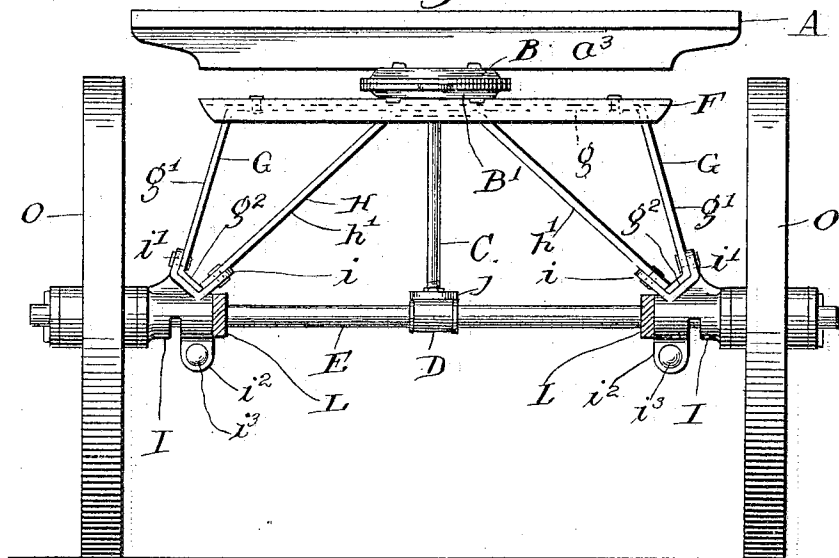


Fig. 9.

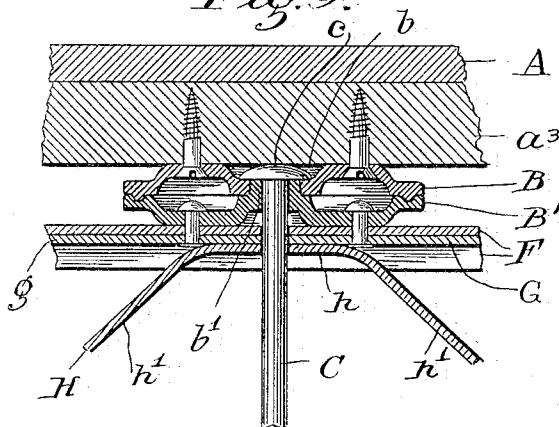
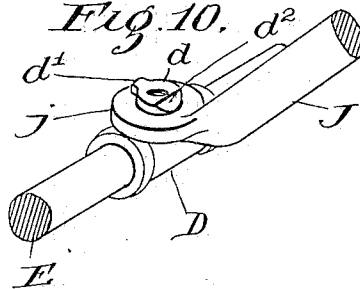


Fig. 10.



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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM, FERRIS & COMPANY, OF HARVARD, ILLINOIS, A CORPORATION OF ILLINOIS.

WAGON.

No. 809,912.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed February 23, 1905. Serial No. 247,065.

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Wagons, of which the following is a specification.

My invention relates to certain new and useful improvements in wagons; and its object is to provide a device of this class which shall have certain advantages which will appear more fully and at large in the course of this specification.

To this end my invention consists in the novel features which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is a side elevation of my improved wagon. Fig. 2 is a bottom plan thereof. Fig. 3 is a rear elevation. Fig. 4 is a longitudinal section in the line 4 4 of Fig. 3. Fig. 5 is a fragmental plan view of the hounds and the tongue. Fig. 6 is a perspective view of the same, showing the parts in a different position. Fig. 7 is a perspective view of the end of the front axle and the bracket thereon. Fig. 8 is a front view, the hounds being cut away in the line 8 8 of Fig. 2. Fig. 9 is a detail section in the line 9 9 of Fig. 1, and Fig. 10 is a perspective view of the central bracket on the front axle and the end of the brace running to the same.

Referring to the drawings, A is a wagon-bed having transverse stringers $a a'$ $a^2 a^3$. To the lower face of the stringer a^3 is secured an upper turn-table member B, having a central depression b in its upper face.

B' indicates a lower turn-table member which has a central upwardly-extending boss b' , which passes through a central perforation in the upper turn-table member B. A head c on a king-bolt C rests in the depression b in the upper turn-table member, the said king-bolt passing through the boss b' and extending downward into a boss d on a bracket D, which is slipped over the front axle E.

To the lower face of the turn-table B' is secured a downwardly-open channel-iron F. In the said channel-iron is a brace G, the same consisting of a central portion g , two downwardly and outwardly projecting legs g' , and two inwardly-turned ends g^2 . In the channel-iron is also a second brace H, likewise consisting of a central member h and two down-

wardly and outwardly projecting legs h' . The central portion of the brace H is shorter than the corresponding portion of the brace G, and the slant of its legs is less so that the ends of the legs come together and can be secured to brackets I on the opposite ends of the axle E. These brackets, it will be seen, have two inner ears i , adapted to receive the legs h' and outer ears i' , adapted to receive the legs g' . The brackets I are split and provided with ears i^2 , which when brought together by rivets i^3 hold the brackets firmly in place upon the axle. It will be seen that this construction makes a very rigid support for the wagon-body. In practice it is a matter of more or less difficulty to construct the braces of exactly the right length to insure their proper positioning in the brackets, and as a result the parts are first assembled, the brackets are then forced into the proper position and then clamped by setting the rivets.

Longitudinal swing of the axle with respect to the wagon-body is prevented by means of a brace J, the upper end of which is secured to the beam a^2 , and the forward end of which is passed over and pivotally secured to the boss d on the bracket D, heretofore referred to. In order to secure these parts together, the novel construction illustrated in Fig. 10 is adopted. In this construction the boss d is provided with a projecting lug d' at its upper edge, under which the flattened end j of the brace J can be passed. Thereupon the brace can be swung into position, passing down over a beveled surface d^2 on the boss opposite to the lug d' . When the brace is in this position, it will be obvious that it can only be removed by swinging it back through the same arc which it traversed in being placed in position, and such a swing is in practice impossible, as the upper end of the brace has been secured to the wagon-bed. In this way a perfectly positioned swivel-joint is provided which can be assembled without machine-work of any kind and which is incapable of accidental separation in use.

The hounds L of my improved wagon are pivotally secured to the front axle E, the said hounds being made in the form of a single V-shaped casting having a transverse brace l near the forward end and forwardly-projecting legs l^2 , between which is pivoted a socket M, which receives a tongue M'. A chain l^3 limits the downward movement of the hounds, so

that they are free to swing from the position shown in solid lines in Fig. 4 to the position shown in the dotted lines in the same figure.

When the wagon is drawn by the tongue, the hounds occupy their lower position and merely a pulling strain is exerted on the axle there-through, such lateral strain as takes place being more in the nature of a pull than a twist. When, however, the wagon is used as a coasting-wagon, the hounds swing up to the position shown in dotted lines in Fig. 4 and the tongue swings back as illustrated, and it then becomes necessary to have some device for preventing relative rotation between the hounds and tongue and consequent lost motion in steering. This is accomplished by means of a lug m , which engages a notch l' in the brace l , thus locking the tongue and hounds together and absolutely preventing any lost motion which might otherwise occur.

The rear axle N of the wagon is secured to the rear stringer a by braces n n' , similar to the braces G H , the ends of said braces being secured to brackets n^2 on the rear axle. Longitudinal motion of the axle is prevented by angle-iron braces n^3 , secured to the stringers a' and running down over two ears n^4 on the brackets n^2 . Outside the brackets n^2 I are wheels O . A shaft P is passed through the vertical flanges of the angle-iron braces n^3 and carries on its ends two levers P' P^2 , each having an end adapted to be brought into contact with the tire of the adjacent wheel to serve as a brake when the shaft P is rotated, the lever P^2 being provided with an upwardly-extending handle p , which can be grasped to set the brakes by hand. An arm p' extends upward from the shaft P near its center, the same being connected by a suitable link p^2 to a longitudinally-movable cross-bar Q , which is guided under yokes q , secured to the wagon-bed. The ends of this cross-bar project from the sides of the wagon-bed in position to be engaged by the feet of the user and the brake can be set thereby. It will be seen that when either end of this cross-bar is pushed forward the opposite yoke will serve as a fulcrum, so that the brake can be set by pushing either end of the bar or both ends, as desired.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of my invention, and I do not, therefore, intend to limit myself to the specific form herein shown and described.

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

1. In a device of the class described, the combination with a wagon-bed, of an axle swiveled thereto, hounds secured to the axle, a tongue pivoted to the hounds and devices on the hounds and handle which engage when the handle is swung up to prevent relative lateral movement.

2. In a device of the class described the

combination with a wagon-bed, of an axle swiveled thereto, hounds secured to the axle, a tongue pivoted to the hounds to swing vertically and means constructed and arranged to engage the tongue when swung up to prevent its lateral movement.

3. In a device of the class described, the combination with a wagon-bed, of an axle swiveled thereto, hounds secured to the axle, a tongue pivoted to the hounds, mutually engaging portions on the tongue and hounds above the pivot, said engaging portions being constructed and arranged to engage when the tongue is swung up to prevent its lateral movement.

4. In a device of the class described, the combination with a wagon-bed, of an axle swiveled thereto, hounds secured to the axle, a tongue pivoted to the hounds, a notch on one of said parts and a lug on the other, said notch and lug being constructed and arranged to engage when the tongue is swung up to prevent relative lateral movement of the tongue and hounds.

5. In a device of the class described, the combination with a wagon-bed, of an axle swiveled thereto, hounds secured to the axle, a tongue pivoted to the hounds, a notch on the hounds, and a lug on the tongue engaging therewith to prevent lateral movement between the tongue and hounds when the tongue is swung back.

6. In a device of the class described, the combination with a wagon-bed and an axle swiveled thereto, of hounds pivoted to the axle, means for limiting the downward movement of the hounds, a tongue pivoted to the hounds, and means independent of the pivot for preventing relative lateral movement between the tongue and hounds when the tongue is swung up.

7. In a device of the class described, the combination with a wagon-bed and an axle swiveled thereto, of hounds in the form of a V-shaped casting secured to the axle, projecting ends on the legs of said casting, a tongue pivoted between said projecting arms, a notched cross-bar behind said arms, a lug on the tongue engaging with the notch in the cross-bar when the tongue is swung back.

8. In a device of the class described, the combination with a wagon-bed and an axle swiveled thereto, of hounds in the form of a V-shaped casting pivoted to the axle, projecting ends on the legs of said casting, a tongue pivoted between said projecting ends, a notched cross-bar behind said ends, a lug on the tongue engaging with the notch in the cross-bar when the tongue is swung back, and means for limiting the downward movement of the hounds.

9. In a device of the class described, the combination with a wagon-bed and turn-table, of an arch secured to the turn-table, an axle secured to the arch, a bracket on the center

of the axle having an upwardly-projecting boss, a king-bolt entering said boss, a projecting lug on one side of said boss, and an oppositely-inclined edge on the other, and a
 5 brace surrounding said boss and secured at the opposite end to the wagon-bed, said brace being adapted to be first placed under said lug and swung down over said inclined edge, and when so positioned to be incapable of vertical
 10 removal, except upon angular movement.

10. In a device of the class described, the combination with a wagon-bed and turn-table, of a downwardly-open channel-iron secured to the turn-table, a brace having a central
 15 portion lying in said channel-iron and having two downwardly and outwardly extending legs, a second brace having a central portion lying in said channel-iron below said first brace and having downwardly and outwardly
 20 extending legs of less slant than the legs on said first brace, an axle, and brackets on the axle to which the adjacent ends of the braces are secured.

11. In a device of the class described, the
 25 combination with a wagon-bed and turn-table, of a downwardly-open channel-iron secured to the turn-table, a brace having a central portion lying in said channel-iron, and having two downwardly and outwardly extend-
 30 ing legs, a second brace having a central portion lying in said channel-iron below said first brace and having downwardly and outwardly extending legs of less slant than the legs on said first brace, an axle, and brackets on the
 35 axle to which the adjacent ends of the braces are secured, said brackets being split and secured on said axle by clamping means.

12. In a device of the class described, the combination with a wagon-bed, of a brace
 40 having a central portion and two downwardly

and outwardly extending legs, a second brace having a central portion lying below the central portion of the first-named brace, and downwardly and outwardly extending legs of
 45 less slant than the legs on the first-named brace, an axle, and brackets on the axle to which the adjacent ends of the legs are secured, said brackets being split and secured on the axle by clamping means.

13. The combination with a wagon-bed and
 50 a turn-table, of an arch secured to the turn-table and an axle secured to the arch, a bracket on the center of the axle having an upwardly-projecting boss, a king-bolt entering said boss and a bracket secured to the wagon-bed and
 55 surrounding said boss, said bracket being adapted to pass freely over said boss when in an abnormal position and to be rigidly secured to said boss when in its normal position.

14. In a device of the class described, the
 60 combination with the front axle of a wagon, of a pair of hounds pivotally secured to the axle, and a tongue pivotally secured to the hounds, whereby when the tongue is swung back its pivot upon the hounds will rise. 65

15. The combination with the front axle of a wagon, of a pair of hounds pivotally secured thereto and of sufficient length to reach when swung up substantially to the level of
 70 the wagon-bed, and a tongue pivotally secured to the end of said hounds.

In witness whereof I have signed the above application for Letters Patent, at Harvard, in the county of McHenry and State of Illinois, this 16th day of February, A. D. 1905. 75

HENRY L. FERRIS.

Witnesses:

BLAKE B. BELL,
 C. F. REYNOLDS.