No. 809,913. PATENTED JAN. 9, 1906.

H. L. FERRIS.

WAGON.

APPLICATION FILED FEB. 23, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

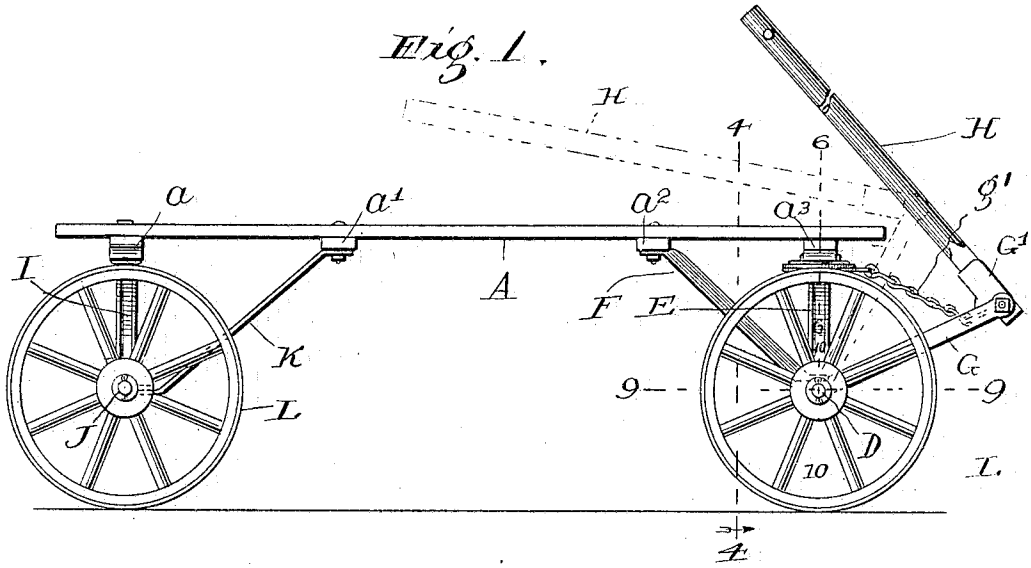


Fig. 2.

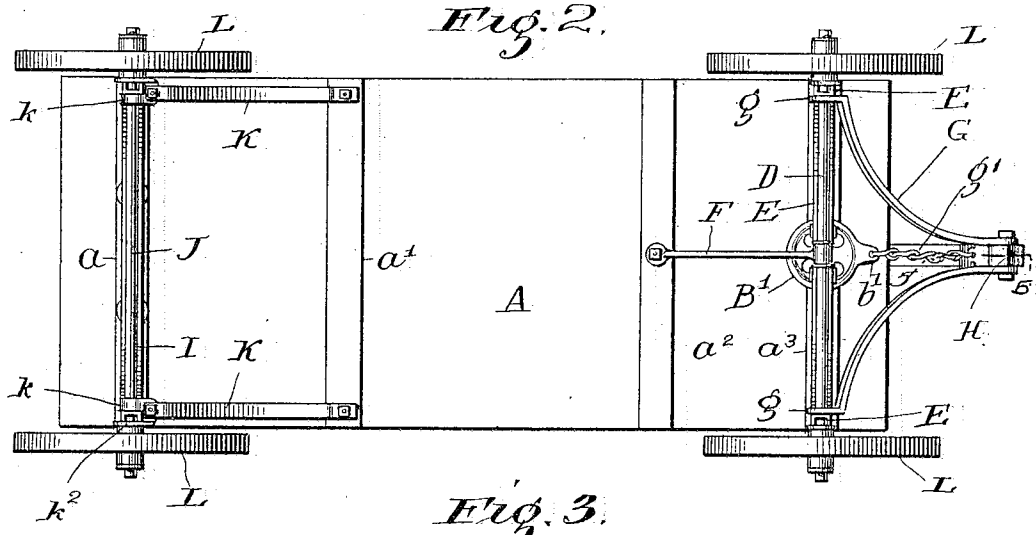
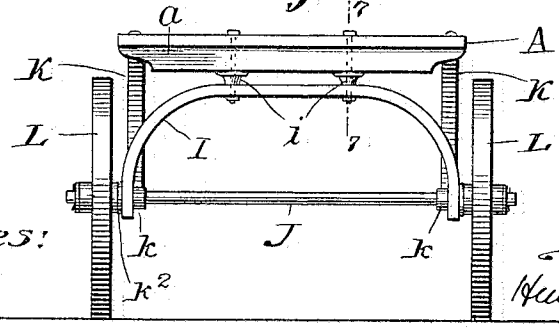


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

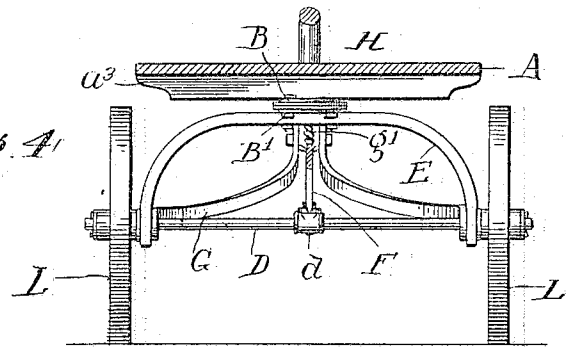


Fig. 6.

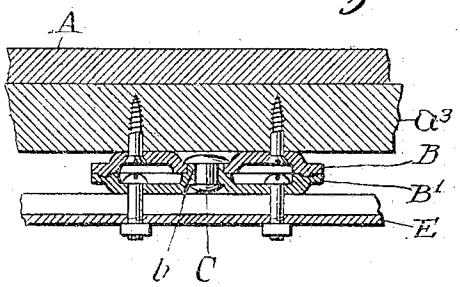


Fig. 5.

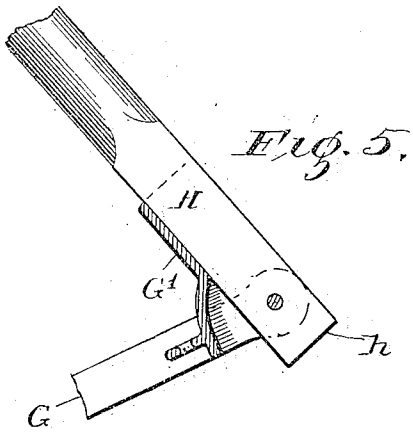


Fig. 10.

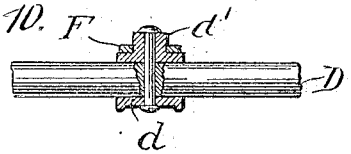


Fig. 7.

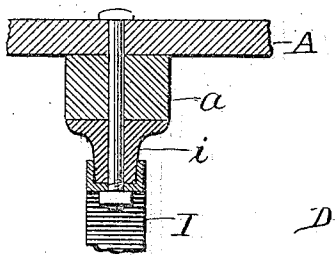


Fig. 8.

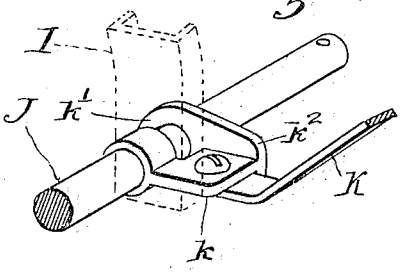
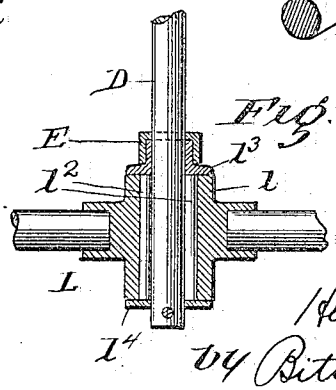


Fig. 9.



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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. 809,913. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed February 23, 1905. Serial No. 247,066.

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 produce 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 certain 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 of the same. Fig. 3 is a rear elevation. Fig. 4 is a section in the line 4 4 of Fig. 1. Fig. 5 is a section in the line 5 5 of Fig. 2. Fig. 6 is a section in the line 6 6 of Fig. 1. Fig. 7 is a section in the line 7 7 of Fig. 3. Fig. 8 is a perspective view of a portion of the rear axle, one of the braces secured thereto, and the connecting-bracket. Fig. 9 is a section in the line 9 9 of Fig. 1, showing the wheel construction; and Fig. 10 is a section in the line 10 10 of Fig. 1.

Referring to the drawings, A is the bed of my improved wagon, which is braced by transverse stringers a a' a^2 a^3. To the lower face of the forward stringer a^3 is secured an upper turn-table member B, which is centrally perforated to receive a central boss b on the lower turn-table member B'.

C is a king-bolt having a head lying in a central depression in the upper face of the upper turn-table member B, the said king-bolt passing through the boss b and being headed on the under side thereof to connect the two halves of the turn-table member.

To the lower face of the lower turn-table member B' is bolted or otherwise secured an arch E, preferably of channel-iron, placed open side up, said arch being perforated at its end and passed over the ends of the axle D. A brace F is secured at one end to the lower face of the stringer a^2 and is swiveled on a boss d' on a bracket d, riveted or otherwise secured upon the axle D against movement relative therewith.

The hounds of my improved wagon are preferably made of a single **V**-shaped casting G, the ends g of which are parallel and passed over the axle D, lying just inside the ends of the arch E. A chain g' connects a point at the apex of said **V** with a perforation in an ear b' on the lower turn-table member, the said chain serving to limit the downward angular movement of the hounds. It will be seen that the hounds are free to swing from the position shown in solid lines in Fig. 1 to the position shown in dotted lines therein. At the apex of the casting forming the hounds is a preferably integral diagonally-projecting channel-piece G', which projects upward and backward from the hounds, so that when the hounds are in their lowest position said channel-piece projects diagonally upward and backward at an angle of about forty-five degrees to the horizontal. At the lower and forward end of the channel-piece G' is pivoted a tongue H, the upper end of which may be of any desired shape and provided with a handle of any sort, but the lower end of which is squared at h to fit the channel-piece G'. In drawing my improved wagon by the tongue the hounds occupy the position shown in solid lines in Fig. 1 and the tongue, exercising as it does a pulling force, needs no guiding member. When, however, my wagon is used as a coasting-wagon, the hounds swing up to the position shown in dotted lines in Fig. 1 and the tongue swings down, so that its squared end fits the channel-piece accurately, whereby a long bearing is afforded for the tongue upon the hounds, so that the device can be readily steered without lost motion. In practice the hounds are made long enough for the tongue to lie entirely above the wagon-bed.

At the rear the construction is similar to that in front, except, of course, no turn-table is necessary. I indicates a suitable arch similar to the arch E, which is secured to the rear stringer a, two members or blocks i being interposed between the stringer and the arch. This arch I is passed over the ends of a rear axle J, which is braced by two brackets K, secured at their forward ends to the stringer a' and at their rear ends to the axle by means of brackets k of a form indicated in Fig. 8. Said brackets are notched at k' to receive the ends of the arch and have flanges k^2 to furnish bearings for the wheels.

The four wheels of my improved wagon (indicated by L) are made of any desired type,

but preferably formed as shown in Fig. 9, where l is a hub; l^2, antifriction-rollers; l^3 l^4, caps or washers by which the rollers are held in place.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not 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 and a front axle swiveled thereto, of the hounds pivoted to said axle, means for limiting the downward swing of the hounds and a tongue swiveled to the hounds.

2. In a device of the class described, the combination with a wagon-bed and a front axle swiveled thereto, of the hounds secured to the front axle, a channel-piece secured to the hounds, and a tongue pivoted to the channel-piece and having an end held therein against lateral movement when the tongue is swung upward.

3. In a device of the class described, the combination with a wagon-bed and a front axle swiveled thereto, of the hounds secured to the front axle, a squared channel-piece secured to the hounds and a tongue having a squared end pivoted to the channel-piece, said squared end being adapted to fit the channel-piece when the tongue is swung up.

4. In a device of the class described, the combination with a wagon-bed and a front axle swiveled thereto, of the hounds pivoted to the axle, means for limiting the downward movement of the hounds, a channel-piece secured to the hounds and a tongue pivotally secured to said channel-piece and having an end adapted to fit therein when the tongue is swung up.

5. In a device of the class described, the combination with an axle and a support passed over the same and supporting the wagon-bed, of a bracket perforated to receive the axle and having a notch to receive the support and a brace running from the wagon-bed to said bracket.

6. In a device of the class described, the combination with an axle and a support passed over the same and supporting the wagon-bed, of a bracket perforated to receive the axle and having a notch to receive the support and a brace running from the wagon-bed to said bracket, said bracket being provided with a flange against which one of the wheels of the wagon can run.

7. In a device of the class described, the combination with a wagon-bed, of an arched member supporting the same, said arched member being channel-shaped in cross-section, an axle extending through perforations in the main web of said arched member, and wheels mounted upon the ends of the axle outside of said arched member.

8. In a device of the class described, the combination with a wagon-bed, of an arched member supporting the same, said arched member being channel-shaped in cross-section, an axle extending through perforations in the main web of said arched member, perforated caps mounted upon the axle outside of said arched supporting member and wheels mounted upon the axle outside of said caps.

In witness whereof I have signed the above application for Letters Patent, at Harvard, in the county of McHenry and State of Illinois, this 17th day of February, A. D. 1905.

HENRY L. FERRIS.

Witnesses:
BLAKE B. BELL,
C. F. REYNOLDS.