

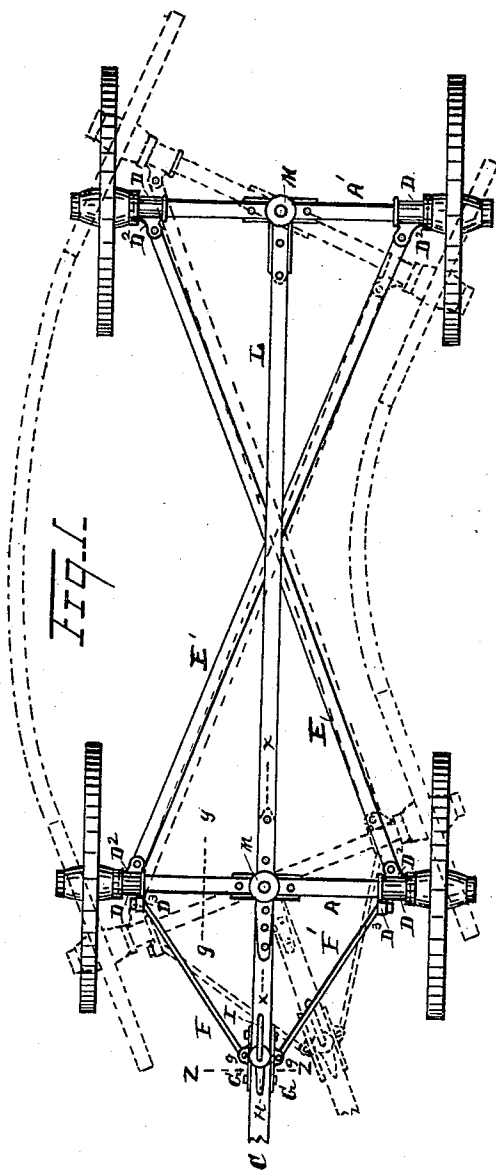
(No Model.)

3 Sheets—Sheet 1.

S. E. OVIATT.
RUNNING GEAR FOR WAGONS.

No. 463,669.

Patented Nov. 24, 1891.



Witnesses
John Schuman.
John F. Miller

Inventor
Solomon E. Oviatt
By his Attorney
Newell S. Wright.

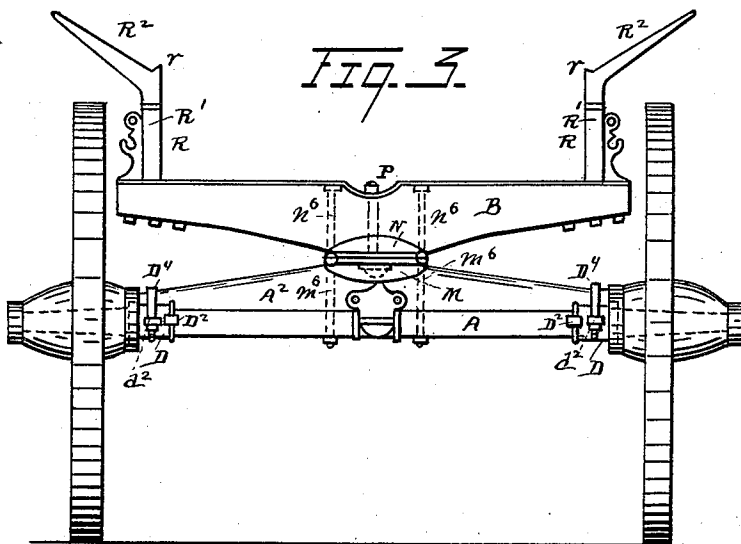
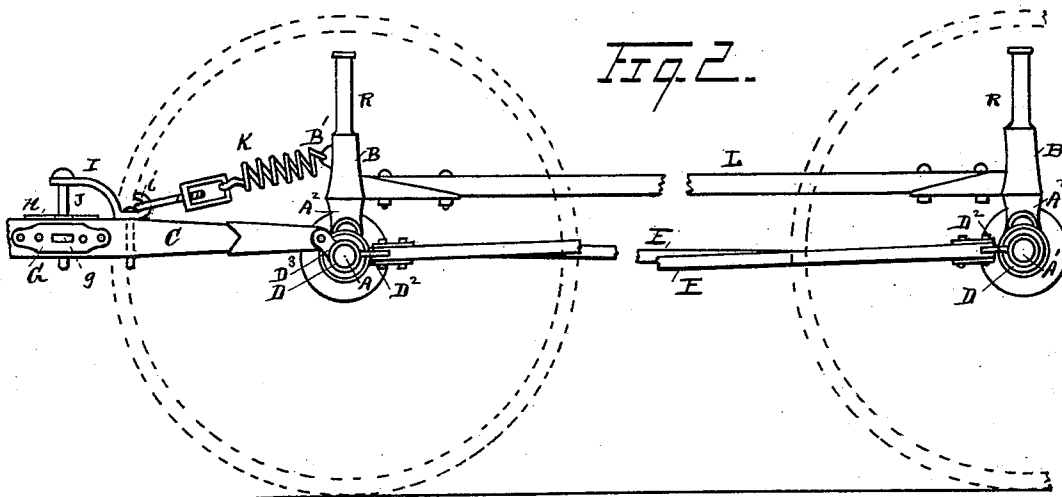
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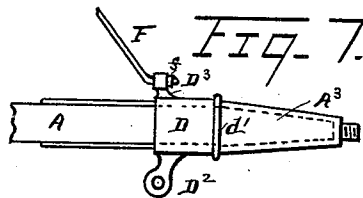
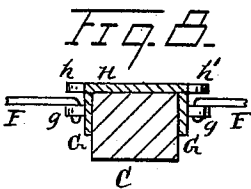
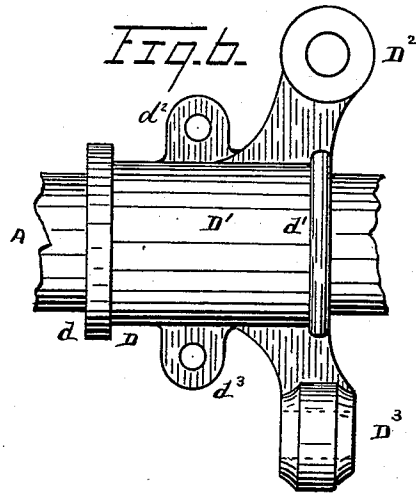
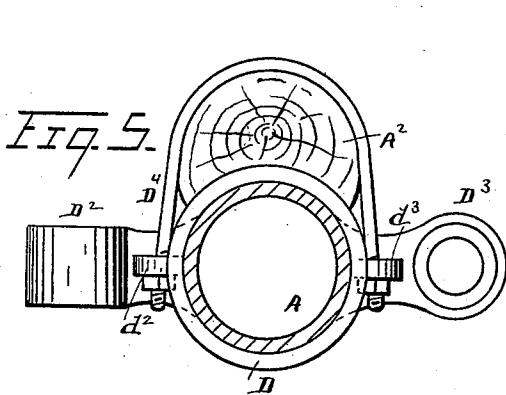
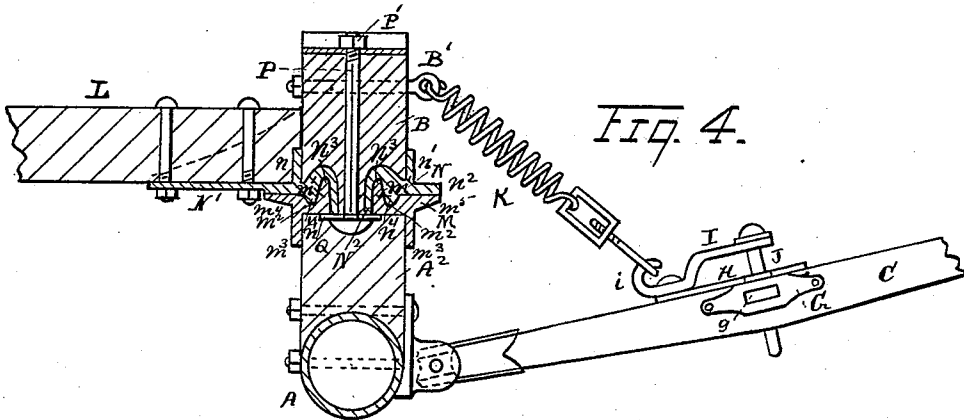
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UNITED STATES PATENT OFFICE.

SOLOMON E. OVIATT, OF LANSING, MICHIGAN, ASSIGNOR OF ONE-HALF TO
GEORGE COLWELL AND D. R. CORY, OF SAME PLACE.

RUNNING-GEAR FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 463,669, dated November 24, 1891.

Application filed March 16, 1891. Serial No. 385,253. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON E. OVIATT, a citizen of the United States, residing at Lansing, county of Ingham, State of Michigan, have invented a certain new and useful Improvement in Wagons; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My present invention relates to certain new and useful improvements in the construction of wagons; and it consists of the devices and appliances hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of certain features of my invention, the bolsters being omitted. Fig. 2 is a side elevation. Fig. 3 is a rear elevation of the front axle and related parts. Fig. 4 is a vertical longitudinal section on the line $x x$, Fig. 1. Fig. 5 is a vertical section through the axle on the line $y y$, Fig. 1. Fig. 6 is a plan showing the sleeve applied to an axle. Fig. 7 is a plan showing the sleeve applied to a wagon-skein. Fig. 8 is a vertical section on line $z z$, Fig. 1.

The objects of my invention more especially include the provision of a farm-wagon capable of a shorter turn than has heretofore been common in wagons of this style, whereby also the hind wheels follow the same track in turning as that of the front wheels, avoiding increased draft often caused where the front and rear wheels follow different tracks. This construction is of frequent advantage in turning about an obstruction, as there is thereby no liability of the hind wheels striking the obstruction when the front wheels have avoided it, as is often the case in other constructions.

Another advantage contemplated in my invention is to limit and avoid to a very considerable degree the throw of the tongue heretofore liable in wagons of ordinary construction when the front wheels strike an obstruction, since by my improvement the shock to the wagon in such a case is imparted to the hind wheels as well as to the front wheels,

thereby preventing entirely or in large measure the lateral throw of the tongue against the team.

The present invention, moreover, contemplates such provisions as will permit the use of front and hind wheels of uniform or nearly uniform size; also, certain features whereby the wagon may be conveniently, cheaply, and quickly provided with a rack, and also aims to secure greater strength of parts and increased durability.

I carry out my invention as follows:

A A' represent the front and rear axles, of any ordinary construction, which may or may not be provided with an axle-cap A².

B is the bolster.

C is the wagon-pole.

D denotes sleeves of special construction located upon the extremities of the front and rear axles. These sleeves of themselves constitute more specifically the subject-matter of a separate application filed simultaneously herewith, and consist, essentially, of a hollow body D', provided with collars $d d'$ at its extremities and with an attaching-arm D². For use upon the forward axle the said body is also provided with an additional forwardly-extending integral attaching-arm D³. This sleeve, with its attaching-arms and lugs, is constructed of a solid casting.

D⁴ denotes clips, which may be employed with axles of certain construction. Where clips are employed the body of the sleeve is further provided with perforated lugs $d^2 d^3$, through which the clips are extended.

E E' denote adjusting draft-bars extending from the front to the rear axle. Said bars preferably extend diagonally from one end of one axle to the opposite end of the other axle. These bars E E', respectively, have a jointed engagement at their extremities with the attaching arm D² of the respective sleeves, said arms being each constructed with a perforation through which the end of the adjusting draft-bar is engaged therewith in any suitable manner. This construction and arrangement insures the rear wheels following in the track of the front wheels in turning, as before alluded to, and permits a short turning of the wagon.

F F' represent draft-bars leading from the

sleeves on the extremities of the front axle to the pole. These bars are united to the attaching arms D^3 in any suitable manner, as by constructing the bars $F F'$, with an angular arm entering the eye of the arm D^3 , a nut being engaged upon the extremity of the angular arm, as shown at f . At their forward extremities the said draft-bars are united to side plates G , being constructed with perforated lugs g , with which the draft-bars engage.

H denotes a metal plate located upon the top of the pole to take the wear of the eveners as well as to give stability to the hammer-strap I and draft-pin J . The plate H is preferably extended toward front and rear, so as to prevent wear upon the wood of the pole and afford durability and strength. At the sides I prefer to extend the plate to form side lugs $h h'$, adjacent to the perforated lugs g , as shown in Fig. 8, and over the ends of the draft-bars when engaged in place, so as thereby to effectually prevent the disengagement of said bars from the side plates. The hammer-strap is formed with a hook i , with which may be engaged an adjustable spring-tension tongue-support K , preferably provided with a turn-buckle, as shown. At the rear said support is engaged with a bolster, as shown at B' .

To unite the bolster B , axle-cap A^2 , and reach L , I employ an axle-plate M and a bolster-plate N of novel construction and arrangement, in connection with a king-bolt P and washer Q . The axle-plate is formed with upwardly-extended collar m' . Said plate is also preferably constructed with an annular recess m^2 surrounding said collar. It is further constructed, preferably, with depending flanges m^3 to engage the sides of the axle cap, and with front and rear flanges $m^4 m^5$ to form an extended seat for the bolster-plate. The bolster-plate is constructed, preferably, with upwardly-extended flanges $n n'$ to engage the bolster, also with a rear flange n^2 and forwardly-extended reach-socket N' . The bolster-plate is further provided with an annular downwardly-extended hollow rim n^2 , an annular recess n^3 , outside said rim to receive the collar m' of the axle-plate, and with an outer rib n^4 to seat in the recess m^2 of the axle-plate. The rim N^2 extends downwardly through the collar m' of the axle-plate and is of a length to project through said opening to a limited extent to permit the engagement thereof of a washer Q between the head of the bolt P and the under side of the axle-plate and yet permit the nut P' on the top of the king-bolt to draw the head of the bolt up snugly against the end of the rim, and so unite the axle and bolster plates in a firm manner to prevent the required rocking movement thereof. The axle-cap and bolster are suitably constructed to admit said plates between them. The said

plates are bolted upon the axle-cap and bolster, respectively, as shown at $m^6 n^6$. This construction and arrangement of the axle-cap and bolster-plates are adapted both for the front and rear of the wagon. The bolster is of a width sufficient to permit the king-bolt to be passed therethrough and yet allow all sufficient strength therein. It will be observed that the king-bolt thus does not pass through the axle-cap or axle, so that the latter is left of full strength. At the same time also, the parts may be readily separated, if desired, for any purpose, by simply removing the nut from the king-bolt. It will be seen that by this particular construction the strain of the draft is communicated to and distributed throughout various parts of the axle and bolster plates and is relieved from the king-bolt.

R denotes the wagon-stakes, each made with an upright arm R' , engaged with the bolster and with outwardly-extended angular arm R^2 , removably engaged upon the upper end of the upright arm. The angular arm is provided with a lug r , suitable to hold a side board upon said angular arm R^2 . By this construction it will be seen the wagon may very conveniently and very quickly be provided with a rack by simply locating a side-board upon the angular arm on each side of the wagon.

Certain of these improvements, it is obvious, may be used upon wagons where the front axle only is made to turn without this particular connection with the rear axle to provide for the turning of the rear axle also.

I prefer so to construct and arrange the king-bolt as to prevent its turning when in place, which may be done by flattening the bolt or squaring it, as shown in Fig. 4.

A^3 is a wagon-skein.

What I claim as my invention is—

The combination, with an axle and bolster, of an axle-plate located upon the axle constructed with an opening therein, and a surrounding upwardly-extended collar m' , a bolster-plate located on the under side of the bolster constructed with a downwardly-extended rim N^2 , passed through said opening in the axle-plate, and a recess n^3 to receive the upper end of said collar, a king-bolt passed from beneath the bolster therethrough, a washer located between the head of said bolt and the lower extremity of said rim, and a nut located upon the upper end of the king-bolt to draw the head of the bolt up snugly against the washer and the washer against the extremity of said rim, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

SOLOMON E. OVIATT.

Witnesses:

N. S. WRIGHT,
JOHN F. MILLER.