

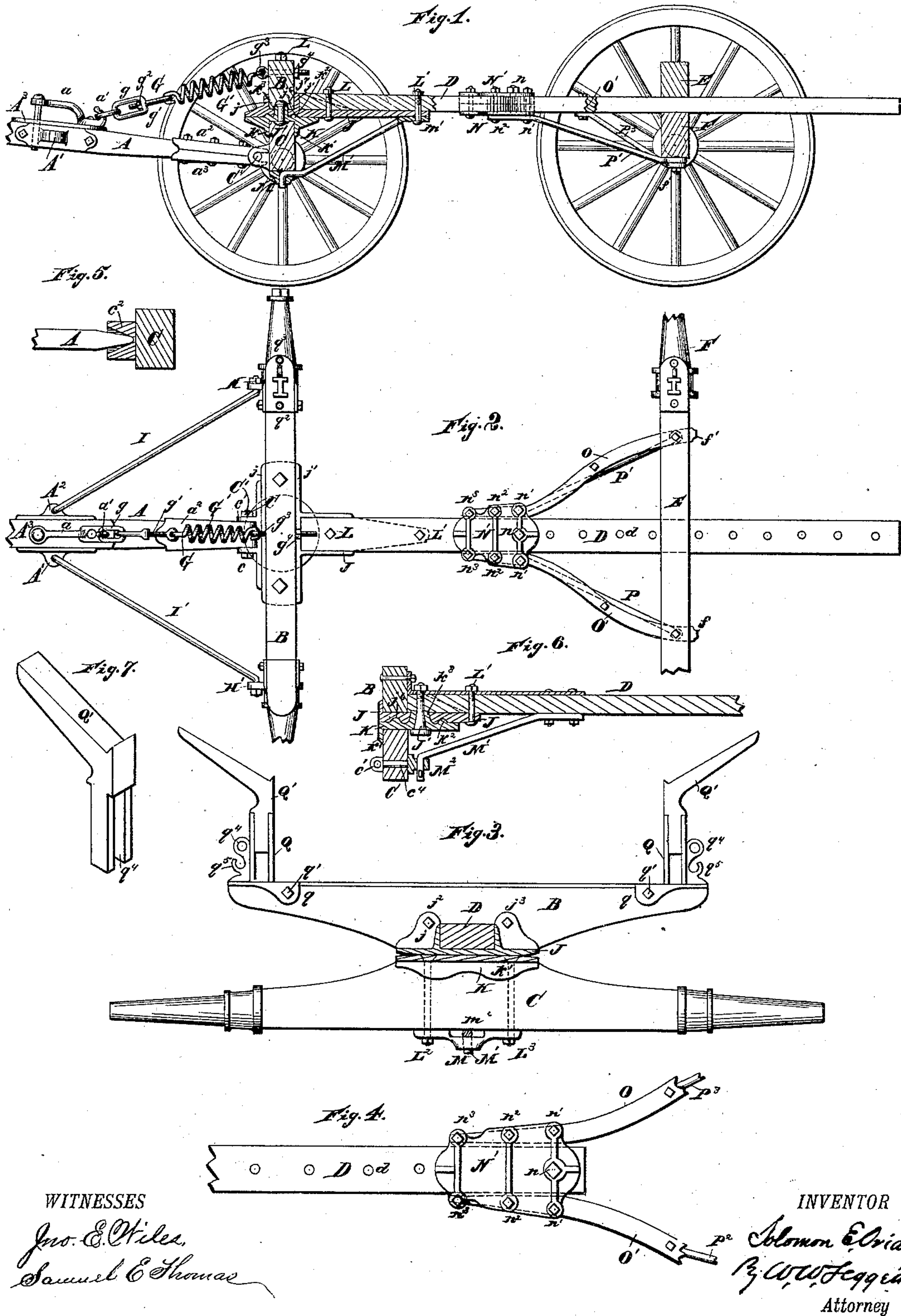
(No Model.)

S. E. OVIATT.

WAGON.

No. 331,254.

Patented Nov. 24, 1885.



WITNESSES

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WAGON.

SPECIFICATION forming part of Letters Patent No. 331,254, dated November 24, 1885.

Application filed April 8, 1885. Serial No. 161,585. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON E. OVIATT, of Detroit, county of Wayne, State of Michigan, have invented a 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 pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in wagons, and it consists in the construction and arrangement of the devices more fully hereinafter described, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical longitudinal section of a device embodying my invention. Fig. 2 is a plan view. Fig. 3 is a vertical cross-section in the rear of the front bolster and axle. Fig. 4 represents the reach fully extended. Fig. 5 is a modification of the method of engaging the end of the pole with the axle. Fig. 6 is a modification of the method of connecting the bolster with the axle and reach. Fig. 7 is a separate view of the removable part of the stake in perspective.

I carry out my invention as follows:

A represents the pole; B, the front bolster; C, the front axle; D, the reach.

E is the rear bolster; F, the rear axle.

a represents a hammer-strap constructed with a hook, a' , upon its rear end.

G represents a spring-support. I prefer to construct this support of a desired number of links, g , which may be engaged at the forward end upon the hook a' of the hammer-strap, one of said links having a swivel connection with a screw-bolt, g' , engaged therewith by means of a nut, g^2 , so as to be extended or shortened, as may be desired, said bolt also connected with a spring, G' , said spring engaged with the bolster B by means of the bolt g^3 , preferably engaged with the bolster by means of the nut g^4 , in which manner the support may be adjusted either by means of the nut g^4 or g^2 , as may be desired. I do not limit myself to the use of both of these means of adjustment, as either one might answer the purpose of my invention.

I would have it understood that I design to

make the support adjustable in either or both of the ways shown and described.

$a^2 a^3$ are metallic plates engaged upon the rear of the pole.

$c c'$ represent ears engaged with the forward bolster, adapted to receive the bolt C'. The plates $a^2 a^3$ are constructed to engage over said bolt C', as shown in Fig. 1; or, as shown in Fig. 5, instead of the ears, a cup-shaped clip, c^2 , may be employed and the plates $a^2 a^3$ engaged within the recess, so as to permit a suitable vertical motion of the tongue, but preventing the lateral motion of the tongue.

The constructions of the ears and plates in Figs. 1 and 5 are simply the opposites of each other, and either is designed to prevent lateral motion and permit a vertical movement.

$A' A^2$ represent ears engaged upon the sides of the pole.

H H' represent ears engaged upon the axle or upon the skein of the axle.

I and I' represent draft-rods connecting said ears H H', respectively, and with the ears $A' A^2$, respectively.

A^3 is a plate engaged with the top of the pole, extending underneath the hammer-strap. Said plate may be extended to any length desired. It will be seen that the pole as thus engaged with the axle is readily removable, as these draft-rods may be engaged with said ears in any suitable manner. Their forward ends may be bent to engage in the ears $A' A^2$, or may be caused to straddle said ears and engaged therewith with a bolt. Ordinarily, however, the engagement of a double-tree in place will effectually prevent their accidental displacement, so that no fastening device is necessary; or, in case the ends of the rods are bent and inserted through the ears upon the tongue, they may be secured by a key.

I would have it understood that I do not limit myself to any particular manner of engaging these draft-rods in place, as the rear end of the pole is simply engaged with the bolt in the ears $c c'$, or with the cup-shaped socket c^2 , as the case may be. By disengaging the draft-rods from the ears or other coupling upon the tongue the tongue can be removed.

To couple the bolster with the axle and reach, I employ a T-shaped plate J, constructed to

engage the bolster and to be engaged upon the reach. This plate is constructed with flanges $j j'$, to engage upon the front and rear of the bolster, said flanges constructed with bolt-orifices to permit said plate being bolted firmly upon the bolster, as shown more particularly in Fig. 3 at j^2 and j^3 . These flanges not only permit the bolting of the plate upon the bolster but give firmness and strength to the engagement of the one with the other.

K represents a recessed plate engaged with the axle. Said plate is constructed with flanges $k k'$ to engage the axle.

L L' represent bolts passed through the bolster and the T-plate.

$L^2 L^3$ are similar bolts passed through the axle and said recessed plate. The bolts inserted through the flanges of the T-plate to engage it with the bolster may be dispensed with, if preferred, or the main dependence may be placed upon said bolts passed through the flanges into the bolster, the bolts L L' being dispensed with, or both may be employed, as preferred. So likewise the recessed plate may be engaged with the axle in either or both ways. I prefer, however, to engage the recessed plate to the axle by vertical bolts, as in this case said bolts also engage with the axle my improved brace plate or clip M. The T-plate is extended on its forward end, as shown, and the recessed plate is also extended, so as to form a circle, as shown in Fig. 1. The recessed plate is constructed preferably with an annular flange, k^2 , and a collar, k^3 , the T-plate with the annular depression at j^6 adapted to fit over said annular flange. The T-plate is also perforated to receive the collar freely.

J' is a bolt engaging the T-plate and the recessed plate together, the same being inserted through the collar and headed down upon each end by an intervening washer, j^7 , setting over the bolt upon the end of the collar to permit a free rotation of the plates about the collar. This bolt J' serves the purpose of keeping the two plates in engagement with each other, the draft coming almost entirely upon the annular flange and collar. The use of this short bolt J', it will be seen, dispenses entirely with the common long king-bolt. It has heretofore been necessary to bore through the bolster and axle to receive the long heavy king-bolt, thereby very materially weakening the bolster and axle, which weakening is entirely prevented by the use of my device. The clip M is recessed, as shown, at m , and constructed with an orifice to admit the forward end of the brace-rod M'. This method of constructing said clip and of engaging said brace-rod therewith dispenses with the necessity of a fastening device for the end of said brace-rod, since the clip being located directly beneath the axle, the rod is thereby prevented from accidental displacement when the opposite ends are engaged with the reach or T-plate, as shown at m' , by a bolt or in any other suitable manner.

N N' represent hound-plates, one located above and the other below the hounds, and arranged to provide a recess to receive the reach, as shown, said plates being firmly secured upon the forward ends of the hounds O O'. The reach along its rear end is provided with a series of bolt-holes, d .

n represents a bolt by which the reach is secured at any desired point with said hound-plates. By doubling the hound-plates, using one above and one below the reach, and extending said plates longitudinally, a very firm engagement of the reach may be had, so that the reach may be so extended as to be disengaged entirely from the rear bolster and axle and drawn forward, so that its rear end may be laterally engaged by said hound-plates, if desired, as shown more particularly in Fig. 4; or the reach may be forced back through said plates and through the rear bolster and axle, as shown in Figs. 1 and 2.

My improved construction permits a longer extension of the reach than has hitherto been possible with any of the devices in common use, and this forms a special feature of my invention.

P and P' represent braces engaged at their forward ends with the bolts $n' n^2 n^3$, respectively, which engage the hound-plates upon the forward end of the hounds. At their rear ends these braces are engaged with the axle by means of the bolts $f f'$, which also engage the hounds, as well as said braces, with the axle. These braces P P' serve the purpose of truss-rods, and hold the forward ends of the hounds in engagement with the reach in a very firm manner in case the reach is drawn forward so as to be disengaged from the axle and bolster.

In addition to the braces P P', I may also employ additional braces, $P^2 P^3$, engaged at their forward ends with the hounds intermediate of their ends, and engaged at their rear ends with the axle by means of the bolts $f f'$. When the reach is drawn forward so that its rear ends are disengaged from the bolster and axle, there will be considerable strain upon the hounds; but this strain is communicated to and relieved by these braces, so as still to make a very firm engagement of the hounds with the reach.

Q represents the stakes. I prefer to make these stakes of metal. The lower ends of the stakes are constructed with flanges q , through which they are engaged to the bolster by means of bolts q' . They may also be engaged upon the bolster by vertical bolts, as shown more especially in Fig. 2 at $q^2 q^3$. The upwardly-extended portion of the stake is also preferably constructed with side flanges, as shown.

Q' represents a removable arm, constructed with a socket, q^4 , at its lower end, the construction being such that it may be slipped upon the fixed portion of the stake, as shown in Fig. 3. I prefer to construct these arms of an angular form, as shown, so as to widen the

load. These removable arms may be so fitted to the fixed portion of the stake as to be readily held in place by their own weight, as shown in Fig. 3.

5 Instead of connecting the T-plate J with the recessed plate K, as shown in Fig. 1, essentially the same principle may be retained and the short bolt J' be located in the rear of the bolster and axle, the recessed plate K
10 being extended rearwardly and provided with the annular flange in the same manner and with the collar, the bolt J'; however, being passed through said recessed plate, the T-plate, and the forward end of the reach, and
15 engaged in place by a nut. This construction limits the number of parts as compared with the manner in which wagons have heretofore been constructed.

The parts are simple, may be economically
20 made, and at the same time are very firm.

Instead of employing the plate M, I may employ the eye-plate M², said eye-plate being conveniently secured upon the axle by the bolt c⁴, whereby the ears c c' or the equivalent
25 cup-shaped socket is secured upon the front of the axle.

By connecting the T-shaped plate J and recessed plate K, connected by a bolt in the rear of the axle, as shown in Fig. 6, and connect-
30 ing the brace-rod M' with the reach and the eye-plate, as shown also in said figure, the line of oscillation, it is evident, is in the rear of the bolster and axle.

The fixed section of the stake I prefer to construct with a ring, q⁴, and hook q⁵, said 35 hook and ring being ornamental, and also useful to receive the lines or to tie to supporting-chains and the like.

The method herein described of engaging the rear extremity of the tongue with the axle 40 constitutes in effect a mortise-and-tenon engagement. The mortise may be upon either the axle or tongue and the tenon on the other, it being immaterial which.

What I claim is—

1. The combination, with a bolster and 45 reach, of a T-plate engaged therewith, an axle engaged with a recessed plate, K, and an eye-plate, M², a bolt engaging the T-plate and the recessed plate together, and a brace-rod con- 50 necting the reach with said eye-plate, the construction being such that the line of oscillation will be in the rear of the bolster and axle, substantially as described.

2. A stake constructed with a fixed lower 55 section adapted to be secured to the bolster and provided with a hook and ring and side flanges, and a removable section provided with a socket to receive said fixed section, substan- 60 tially as described.

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

SOLOMON E. OVIATT.

Witnesses:

N. S. WRIGHT,
M. B. O'DOHERTY.