

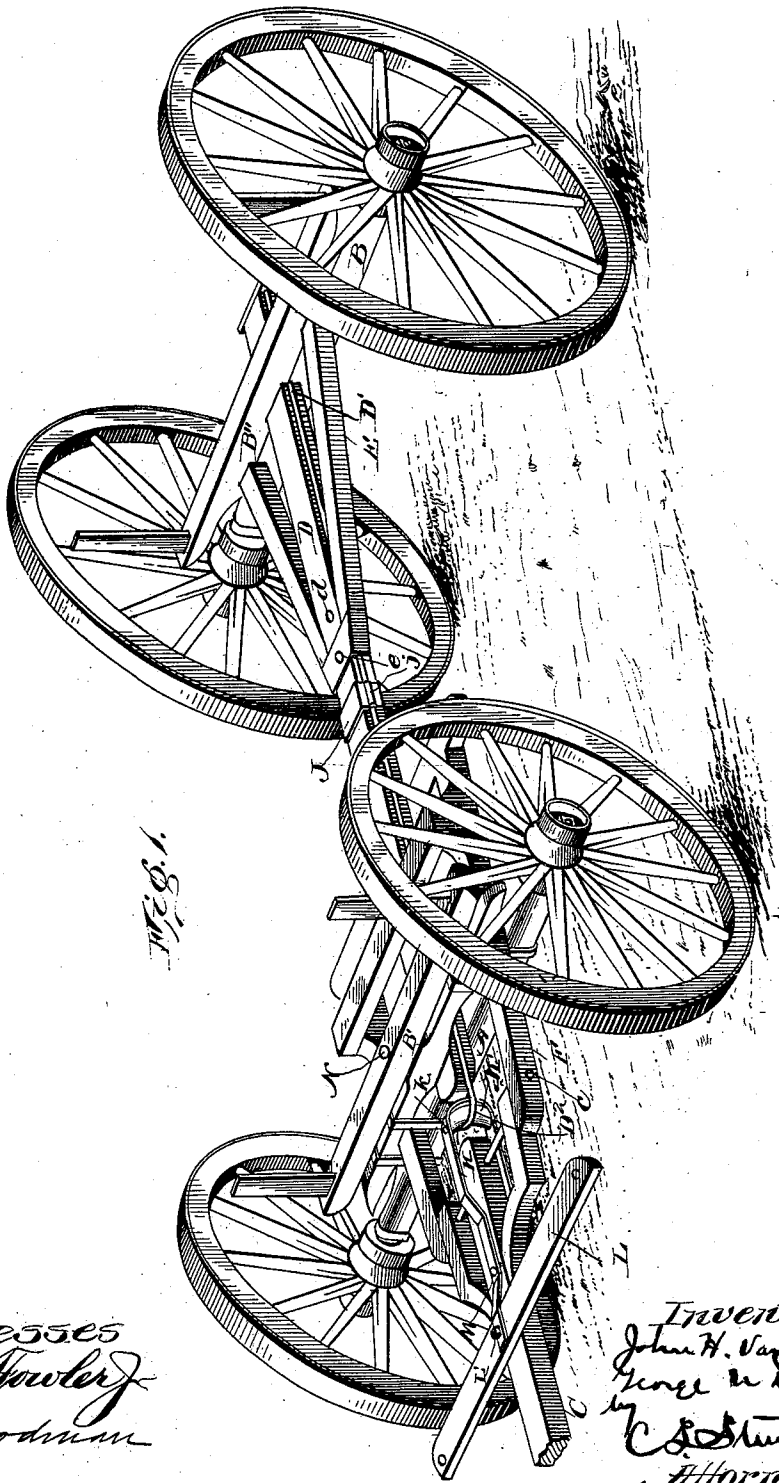
(No Model.)

2 Sheets—Sheet 1.

J. H. VAN STEETER & G. N. DOW.  
RUNNING GEAR.

No. 603,241.

Patented Apr. 26, 1898.



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# UNITED STATES PATENT OFFICE.

JOHN H. VAN STEETER AND GEORGE N. DOW, OF SALT LAKE CITY, UTAH.

## RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 603,241, dated April 26, 1898.

Application filed June 12, 1897. Serial No. 640,543. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN H. VAN STEETER and GEORGE N. DOW, citizens of the United States, residing at Salt Lake City, in the county of Salt Lake, State of Utah, have invented certain new and useful Improvements in Running-Gear, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention relates to the running-gear for wagons.

The objects of our invention are to relieve the king-bolt from draft strain and distribute such strain equally on front and back axles; to relieve the reach and hounds from strain, and thereby prevent breakage; to protect the reach, axle, sand-board, and plate from wear; to keep the uprights in proper position, and to make the wagon cramp freely at all times.

The invention will first be described and then specifically pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of the improved running-gear for wagons. Fig. 2 is a similar view of the rear end of the tongue and the front bolster and adjacent parts. Fig. 3 is a rear perspective of the rear bolster, reach, and connected parts. Figs. 4 and 5 are detail views.

A is the front and B the rear axle.

B' is the front bolster, and B'' the rear bolster, and D is the reach. The middle portion of the reach is provided, as usual, with apertures  $d$  for the pin  $e$  of the rear hounds E.

F are the front hounds, to which the rear end of the tongue C is pivotally connected by means of the bolts  $c$ .

The sides of the reach D are provided with longitudinal grooves  $d'$   $d'$ , in which lie the parallel draft-rods D', the front ends of which are connected at the front end of the reach by means of the curved cross-piece D<sup>2</sup>. These rods D' extend to the rear end of the reach and are there connected by a cross-plate D<sup>3</sup> and nuts  $d^3$   $d^3$ .

The rear bolster is provided with a plate G, having a rectangular opening  $g$  for the reach, and notches  $g'$  at the ends of said opening for the rods D'. The rods D' are provided in rear of said plate G with adjustable blocks H H, between which and the plate G are interposed yielding washers I I, preferably of

hard rubber. The blocks H H are adjusted by means of recesses  $d^4$   $d^4$  in the rods D', engaged by the keys  $h$   $h$ , passed down through apertures in said blocks and through the said recesses, the lower ends of the keys being provided with split locking-pins  $h'$   $h'$  to prevent accidental displacement.

The rods D' D' are held to the reach at the middle and by means of a sleeve J, provided with grooved sides  $j$   $j$ , registering with the grooves  $d'$   $d'$  in the reach and adapted to protect the rods when cramping the wagon.

K is a clevis on the rear end of tongue C and provided within the curved cross-piece D<sup>2</sup> with a curved block K', secured by a bolt  $k$ . This block is free to work vertically and laterally on the curved cross-piece D<sup>2</sup> and also transfers a portion of the draft strain from the tongue to the rods D', which in turn apply it to the rear bolster B'. In starting the team the washers I I serve as a cushion, and this is also the case when the wheels strike an obstruction.

The upper and lower straps of the clevis K extend along the upper and lower sides of the tongue to the doubletree L, where they are secured by the wrench-bolt L'.

M is a bolt passing through clevis and tongue, fastening on bottom through clevis, and passes through an oblong hole protected by washer in clevis to allow sufficient lateral motion to clevis when the wagon is cramped.

By the above construction it will be seen that the king-bolt N, which connects the front bolster B with axle A, is relieved considerably from draft strain, which is distributed to the rear bolster and axle by means of the rods D' and clevis K.

What we claim is—

1. The combination with the front and rear bolsters and axles, and the reach, of draft-rods extending from the front end of the reach along its sides to and connected with the rear bolster the front ends of the rods being connected by a cross-bar, and the tongue pivoted to the front hounds and having a clevis at its rear end having a cross-piece engaging said cross-bar; substantially as described.

2. The combination with the front and rear bolsters and axles and the reach, of draft-rods extending from the front end of the

reach along its sides and connected to the rear  
bolster, a curved cross-bar connecting the  
front ends of said rods, and the tongue piv-  
oted to the front hounds and having a clevis  
5 on its rear extremity provided with a curved  
block engaging said cross-bar; substantially  
as described.

3. The combination with the reach and  
front and rear bolsters, the latter being ad-  
10 justable, of rods extending alongside the reach  
from its front end and provided with adjust-  
able blocks, engaging the rear side of the rear  
bolster, the front ends of said rods being con-  
nected by a cross-bar and the pivoted tongue  
15 having a clevis at its rear extremity engaging  
said cross-bar; substantially as described.

4. The combination with the reach, the  
front axle and bolster, and the adjustable  
rear axle and bolster, of the rods provided at  
20 the front end of the reach with a curved cross-  
bar and extending rearwardly through and  
beyond the rear bolster and there provided  
with recesses or notches, adjustable blocks  
on the rods and provided with keys to engage  
25 said recesses, and the pivoted tongue con-  
nected with the said curved cross-bar; sub-  
stantially as described.

5. The combination with the running-gear  
and the draft-rods extending from the rear  
30 bolster to the front end of the reach and there  
connected by a curved cross-bar, of the tongue  
pivoted to the front hounds and provided at  
its rear end with a clevis containing a curved  
block engaging said curved cross-bar, the up-  
35 per and lower clevis-straps extending along

the tongue to the doubletree-bolt which passes  
through them, and a second bolt passing  
through the clevis-straps and tongue in rear  
of the doubletree-bolt; substantially as de-  
scribed.

6. The combination with the wagon run-  
ning-gear, and the draft-rods extending from  
end to end of the reach and connected in  
front thereof by a curved bar, a cross-plate  
45 connecting said rods at the rear end of the  
reach, a plate at the rear side of the rear bol-  
ster and provided with an opening for the  
reach and notches for the rods, blocks on the  
rods, yielding washers on the rods between  
50 the plate and blocks, of the tongue connected  
with the front hounds and the front end of  
the draft-rods; substantially as described.

7. The combination with the wagon run-  
ning-gear reach which has longitudinal side  
grooves, sleeves on the reach, and the draft-  
55 rods extending along said grooves and through  
the sleeves, the front ends of the rods being  
connected by a cross-bar and their rear ends  
being connected to the rear bolsters, of the  
pivoted tongue having a draft connecting also  
60 with the front ends of said draft-rods; sub-  
stantially as described.

In testimony whereof we affix our signa-  
tures in presence of two witnesses.

JOHN H. VAN STEETER.  
GEORGE N. DOW.

Witnesses:

MARY RANDS,  
BENJAMIN W. JENNANS.