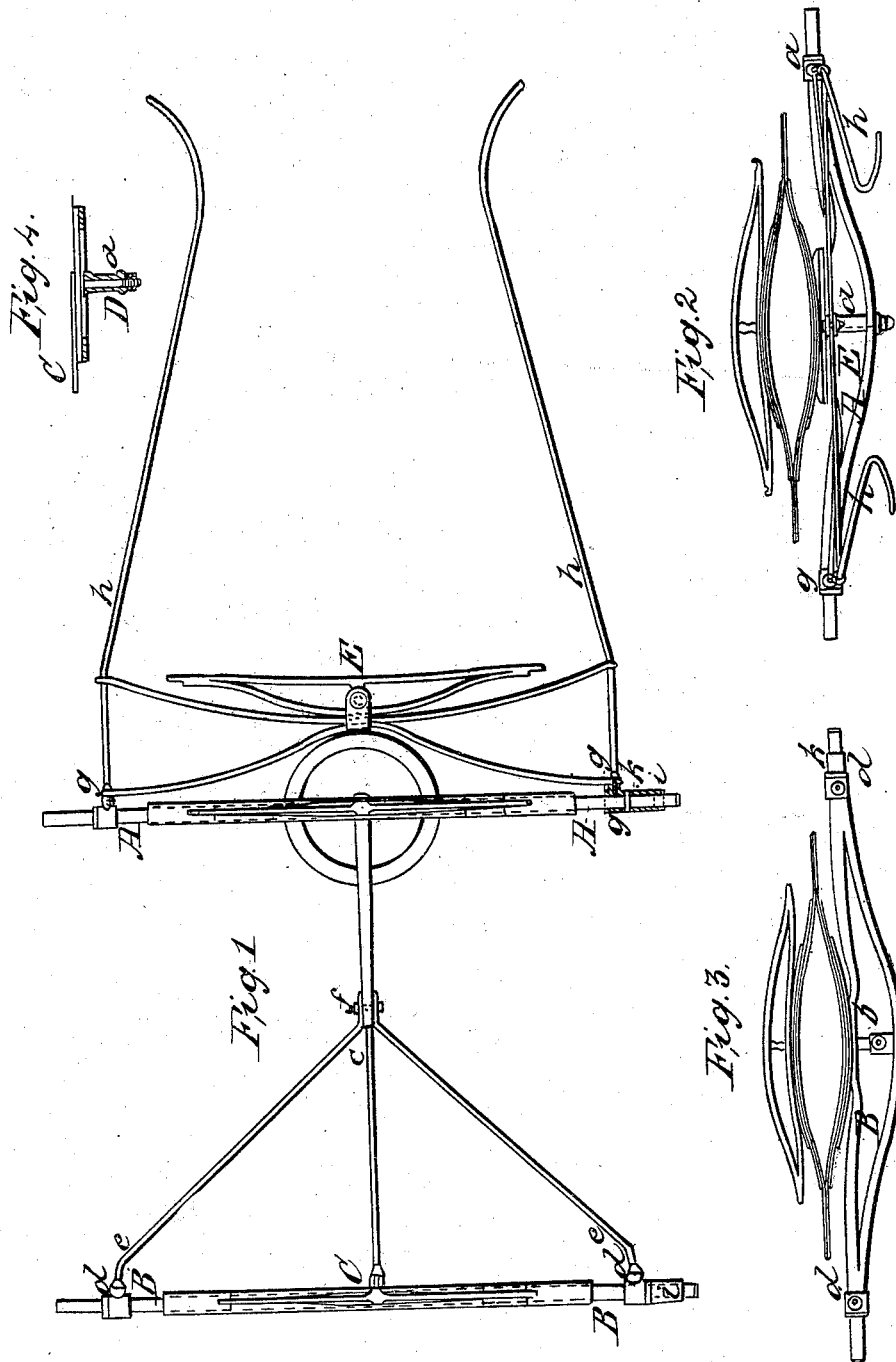


J. PATTERSON.

Running-Gear.

No. 7,290.

Patented Apr. 16, 1850



# UNITED STATES PATENT OFFICE.

JAMES PATTERSON, OF FRANKLINVILLE, NEW YORK.

## CARRIAGE.

Specification of Letters Patent No. 7,290, dated April 16, 1850.

*To all whom it may concern:*

Be it known that I, JAMES PATTERSON, of Franklinville, in the county of Cattaraugus and State of New York, have invented new and useful Improvements in the Running-Gear of Wheel-Carriages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a plan of my improved running gear, Fig. 2 is a front elevation of the same, Fig. 3 is an elevation of the hind-axle-tree, and Fig. 4 is a section through the center of the fore-axle-tree.

My invention consists, first in connecting the perch with the fore-axle-tree by means of a king-bolt which is in one piece with the perch and fixed ring of the fifth wheel instead of by the loose king-bolt usually employed for the purpose; second, in the method of connecting the hind-axle-tree with the perch, the parts being so arranged that while they are easily disconnectible they are not liable to work loose by the constant jar incident to the running of the wagon; third, in the method of connecting the shafts or tongue with the fore-axle-tree, whereby the clips usually employed are dispensed with and the thill-hangings or goosenecks of the shafts or the tongue are connected directly with the axle-tree which is made the axis on which they turn up and down.

In the drawing A is the fore and B the hind-axle-tree; these are retained at a proper distance from each other by the perch C which is rigidly connected with the hind-axle-tree but is connected with the fore-axle-tree by the king-bolt D, which allows the latter to turn. The king-bolt instead of being a mere loose bolt inserted in holes made in the middle of the axle-tree and in the front extremity of the perch is welded to the latter and is passed through a deep socket in the stay *a* of the fore-axle which in this example is of that description known as a framed axle. This welded king-bolt obviates the difficulties and danger incidental to the use of a loose king-bolt the head of which is not only continually wearing out, but is frequently broken thus allowing the bolt to drop out, and disconnect the fore-axle to which the horses are hitched from the body of the wagon on which the driver is seated.

The perch as usually constructed is directly connected with the hind-axle-tree by a bolt or by forming a T head upon its hinder extremity and securing that to the axle-tree by several bolts; its connection with the axle-tree is also further strengthened by the braces which are usually secured to the perch by bolts, and to the axle by bolts and clips which embrace the latter. This method requires a considerable number of screw bolts, the nuts of which are continually working loose by the constant jar of the wagon upon the road. The second portion of my improvement consists in connecting the perch and the braces with the hind-axle-tree in such manner that the great number of screw bolts usually employed is dispensed with, the only one required being that which secures the front extremities of the braces to the perch. In order to effect this desideratum I screw the hinder extremity of the perch into a pipe-clip *c* which is slipped upon the stay of the hind-axle-tree; the hinder extremities of the braces are also screwed into pipe-clips *d*, *d*, which are slipped upon the extremities of the hind-axle-tree just inside of the journal and which are held in place on the outside by collars and on the inside by shoulders formed on the axle which keep the pipe clips in place. By the use of these pipe-clips, all screw-bolts and nuts at the hind-axle-tree are dispensed with, and but one is required in the whole system to connect the front extremities of the braces with the perch. As but this one bolt is necessary it should be made with care and its nut should be prevented from loosening by a leather cotter, spring key, or by some other analogous device. It will be perceived that in this method of construction the perch-bolt acts as the lock of the whole system and if it alone is properly attended to no danger can accrue from the other portions which can not work loose, while at the same time this method of connecting the braces and perch with the axle by the pipe-clips is much cheaper than the ordinary method of screw-bolts and nuts.

The third portion of my improvement relates to the method of connecting the shafts or the tongue with the fore-axle-tree. In the usual method of construction, the shafts terminate at their hinder extremities in goosenecks or thill-hangings, which are hinged by bolts to clips bolted to the axle-

tree; my invention consists in connecting the  
goosenecks directly with the fore-axle-tree  
by sleeves which turn upon the axle-tree,  
thus making the latter the axis of motion  
5 and doing away with the constant danger  
which arises from the falling off of the nuts  
of the clip-bolts as well as of those which  
form the axes on which the shafts turn.  
This method of connection also possesses  
10 other advantages than those which would  
naturally be expected to accrue from the  
substitution of a permanent connection in  
place of the bolts, thus it is obvious that  
when the shafts are attached to clips the logs  
15 of which project in front of the axle tree,  
the draft of the horse acting upon these lugs  
as levers tends to twist the axle-tree, and in  
certain positions of the horse and carriage  
the torsion thus produced is very consider-  
20 able and is the frequent cause of breakage;  
as for instance when the fore wheels drop  
into a deep hole or cross ditch while the  
horse is upon the plane of the road, the  
line of draft of the shafts is nearly at right  
25 angles to the lugs; again, when, as is fre-  
quently the case, the shank of the lugs is  
passed through a wooden axle-tree the tor-

sion produced tends to split the axle, and if  
the lugs be projected from a clip, the torsion  
tends to work it loose upon the shaft and 30  
is the frequent cause of breakages of the lug  
and the shafts.

What I claim as my invention and desire  
to secure by Letters Patent is—

1. Making the king-bolt the fixed ring of 35  
the fifth wheel and perch in one piece where-  
by the liability to accident is diminished  
and the durability of the parts is increased  
as herein described.

2. I likewise claim connecting the perch 40  
and its braces with the hind-axle-tree and  
the thills with the fore-axle-tree by screw-  
ing them into pipe-clips as herein described  
whereby the great number of screw-bolts  
and nuts generally employed are dispensed 45  
with and a cheap and durable connection is  
obtained which at the same time admits of  
the ready disconnection of the parts.

In testimony whereof I have hereunto  
subscribed my name.

JAMES PATTERSON.

Witnesses:

P. H. WATSON,

E. S. RENWICK.