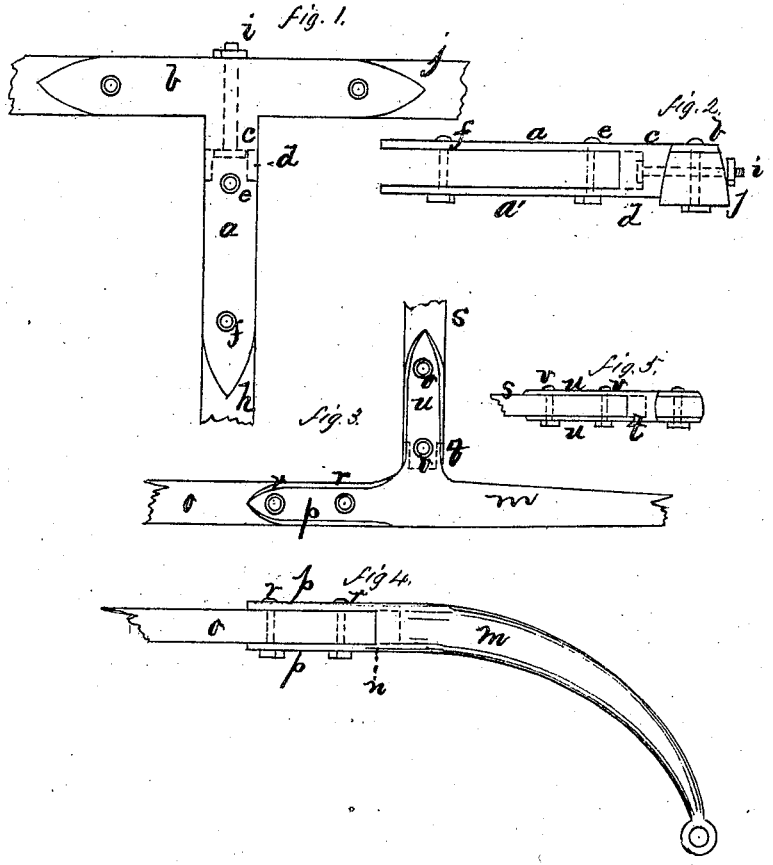
G. W. HAM.

Carriage.

No. 107,252. Patented Sept. 13, 1870.



Witness
Henry C. Houston
Wm Franklin Seavey

Inventor
G. W. Ham
Per Wm H Clifford atty

United States Patent Office.

GEORGE W. HAM, OF PARSONSFIELD, MAINE.

Letters Patent No. 107,252, *dated September* 13, 1870.

IMPROVEMENT IN CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. HAM, of Parsonsfield, in the county of York and State of Maine, have invented a new and useful Improvement in Carriages; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use my invention, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 shows a top view of a portion of a carriage-perch and of the rear axle.

Figure 2 is a side view of the same, with the method of construction indicated.

Figure 3 indicates a method of attaching the wood of the shaft to the curved metal part of the shaft, and also of putting in the cross-piece.

Figure 4 is a side partly sectional view of the same.

Figure 5 is a side partly sectional view of fig. 3.

Same letters show like parts.

My invention has two objects in view, first, to provide an improved method of connecting the perch of a carriage to the rear axle; second, a method of increasing the strength of the curved part of the shafts of a carriage.

In fig. 1 the union of the perch and rear axle is seen in plan, in which is delineated a metal tongue, *a*, stretching along the top of the perch, and at right angles to it the part *b*, formed of the same piece, on the top of the rear axle.

c is a piece of solid metal, bearing against the forward side of the rear axle, and formed of the same piece as *a* and *b*.

In fig. 2 it will be seen that the tongue *a* is also applied to the bottom of the perch at *a'*.

d is a small recess cored out of the solid metal part *c*, to receive the end of the perch, as indicated by the dotted lines in both figs. 1 and 2.

e f are the bolts passing from *a* to *a'*, and through the perch, which is shown by *h*.

c is made of solid metal, to receive the screw-bolt *i* and hold it firmly.

This bolt has a nut and washer on the rear side of the rear axle *j*. This gives a firm hold for the bolt *i*, and imparts great strength to the part. It will also be observed that the bolt *i* makes but a slight hole in the rear axle *j*, and so does not weaken it, as is the case when the perch is mortised into the axle, as common.

My improvement in shafts is well shown in fig. 4.

The curved part *m* is of metal, cored at *n* to receive the wood of the shaft *o*, and with two tongues, *p p*, to stretch some distance along the shaft, and receive the bolts *r r* through both tongues and shaft.

In those cases where the part *m* is made of wood, it is apt to become unbent and is weakened by the bending. In mine it is always rigid, and is much stronger.

At the point where the cross-piece *s* passes between the arms, there is a small solid metal projection, *t*, which is cored out to receive the cross-piece *s*. This is formed on the extension of the metal part *m*, on the inside, and so receives the ends of the cross-piece *s*.

There also extend along the cross-piece, on the top and bottom sides thereof, the tongues *u u* with the bolts *v v*. Fig. 3. illustrates this.

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

1. The improvement in the union of perch and rear axle, as described, that is, consisting of metal tongue *a*, part *b*, piece *c*, recess *d*, bolts *e f*, and bolt *i*, with its screw-nuts and washer, as described.

2. The improved shafts, as described, composed of the curved metal piece *m*, core *n*, tongues *p p*, bolts *r r*, metal projection *t*, with the shafts and cross-piece *s*, as set forth.

G. W. HAM.

Witnesses:

WM. HENRY CLIFFORD,

HENRY C. HOUSTON.