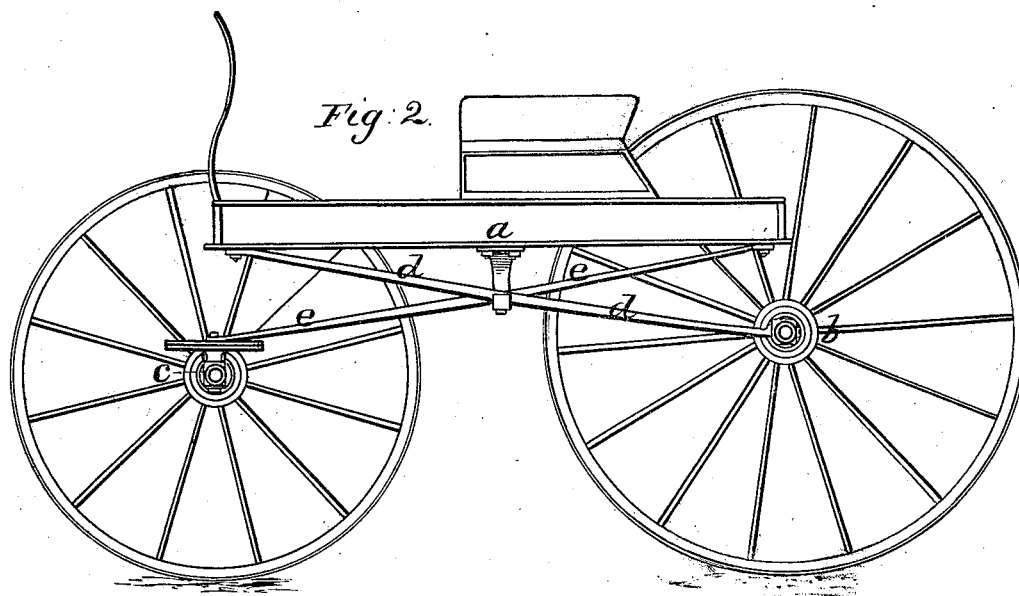
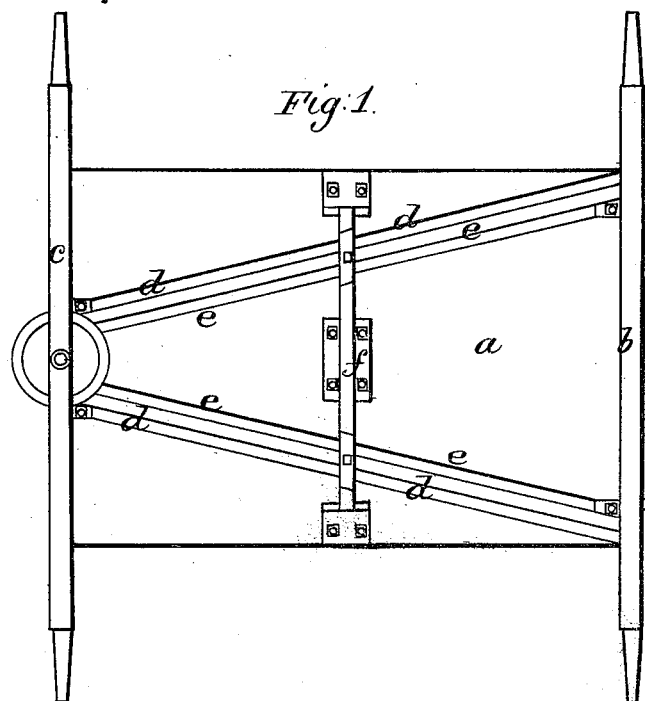


*M. G. Hubbard.*

*Running Gear*

*N<sup>o</sup> 7,796. Patented Nov. 26, 1850.*



# UNITED STATES PATENT OFFICE.

M. G. HUBBARD, OF GENEVA, NEW YORK.

## HANGING CARRIAGE-BODIES.

Specification of Letters Patent No. 7,796, dated November 26, 1850.

*To all whom it may concern:*

Be it known, that I, M. G. HUBBARD, of Geneva, in the county of Ontario and State of New York, have invented certain improvements in Carriage-Reaches, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is an inverted plan showing the arrangement of the reaches, and Fig. 2 an elevation of the same. In a former patent granted to me I claimed the combination of cross reaches with a spring under the center of the carriage body; but while noticing the working of buggies constructed on this plan I have observed that much of the elasticity was due to the reaches themselves, though not made purposely elastic. Consequently it occurred to me that by making the cross reaches elastic, the center spring might be dispensed with, and a nonelastic support substituted in its place. By this means I am enabled to construct the running gear of a carriage, having the advantages of being thoroughly braced diagonally from the axles; possessing great elasticity; and effecting at the same time a great saving in the expense of construction.

In the drawings (a) represents the body of the carriage, (b) the hind axle; and (c) the fore axle. The hind axle (b) is connected with the fore part of the buggy by two elastic reaches (d) which proceed from near the ends of the axles to points near the center of the fore end of the bottom of the

carriage. Two other elastic reaches (e) proceed from the king bolt on the fore axle to the after corners of the body. At the center of the body underneath is a cross piece (f) under which the elastic reaches pass, which serves to support the buggy from the center of the elastic reaches, the reaches, which are elastic throughout their length, being confined to the cross piece (f) in such a manner that they shall have perfect freedom to bend, at the same time being secured so that they can not be thrown out of place by the motion of the carriage, and also having a slight freedom of motion in the direction of their length to allow of the bending of that part of the reach between its attachment to the carriage and the center support. Thus by only a slight bending of the reaches the buggy will rise and fall through considerable space, thereby imparting great ease of motion.

In some cases I use three, five or more elastic reaches in place of four as herein described, but arranged so as to produce similar effects.

Having thus fully described my improvements, what I claim as new therein and which I desire to secure by Letters Patent is:

The combination of elastic cross reaches, with a non-elastic center support, the reaches being so connected with the center support that they shall be free to bend throughout their length substantially in the manner and for the purpose described.

M. G. HUBBARD.

Witnesses:

C. S. BAILEY,  
L. B. JOHNSON.