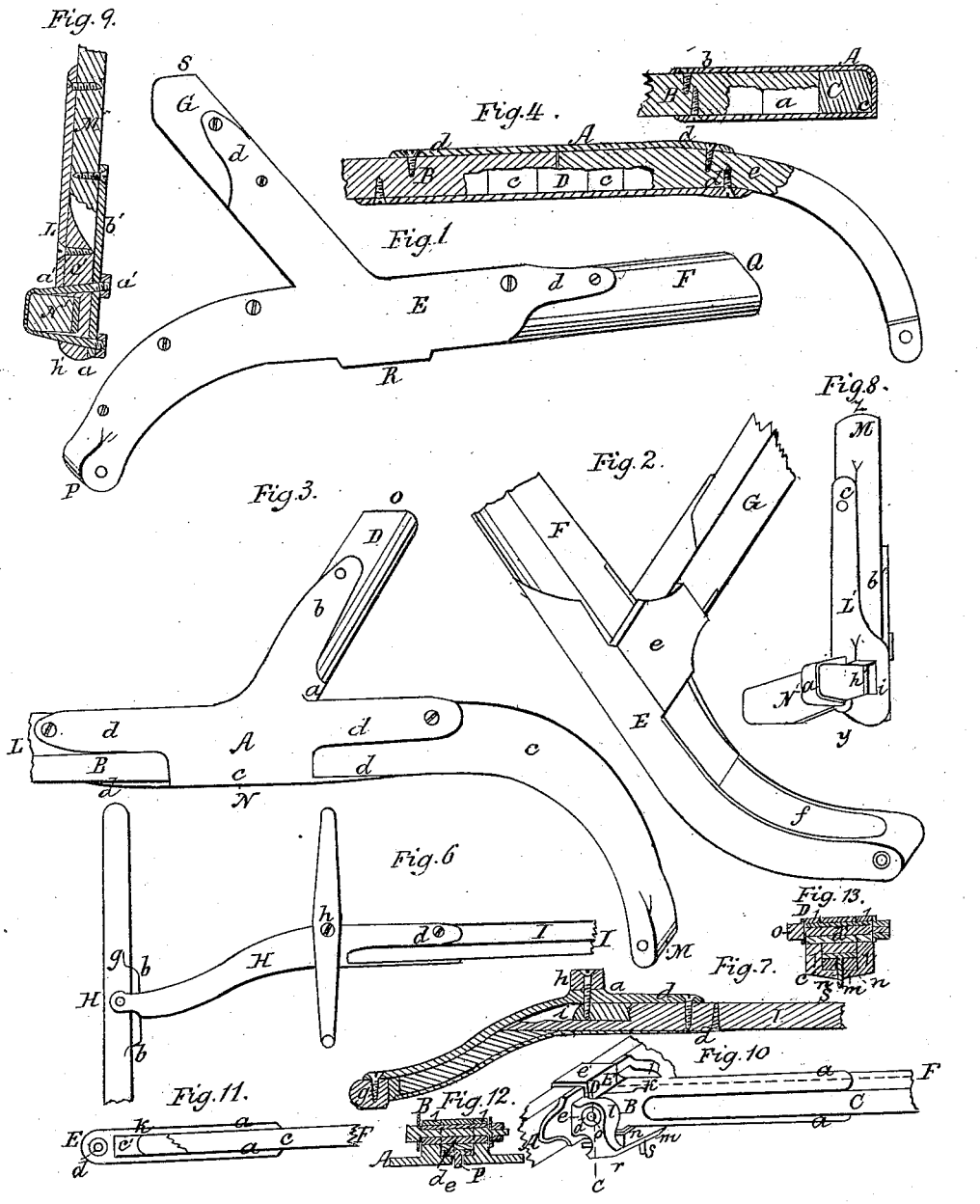
T. W. PORTER.

Thill-Coupling.

No. 52,600 Patented Feb. 13. 1866



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T. W. PORTER, OF BANGOR, MAINE.

IMPROVEMENT IN VEHICLES.

Specification forming part of Letters Patent No. **52,600**, dated February 13, 1866.

To all whom it may concern:

Be it known that I, T. W. PORTER, of Bangor, in the county of Penobscot and State of Maine, have invented a new and useful Improvement in Vehicles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a metallic shaft end formed to receive the shaft and cross-bar. Fig. 2 is an under-side view of the same. Fig. 3 is a perspective view of a metallic coupling connecting the shaft and cross-bar, and also connecting the two parts of which the shaft is formed. Fig. 4 is a longitudinal vertical section of the same, taken in the line L M. Fig. 5 is a longitudinal vertical section of the cross-bar, taken in the line N O. Fig. 6 is a perspective view of a metallic pole end formed to receive the pole, cross-bar, and double-tree. Fig. 7 is a longitudinal vertical section of the same, taken in the line H I. Fig. 8 is a perspective view of a metallic perch-coupling. Fig. 9 is a longitudinal vertical section of the same, taken in the line Y Z. Fig. 10 is a perspective view of a shaft tip and hinge, also an anti-rattling device. Fig. 11 is a longitudinal vertical section of the same, taken in the line E F. Fig. 12 is a horizontal section taken in the line A B, and Fig. 13 is a vertical section taken in the line C D.

Similar letters of reference indicate corresponding parts in the several figures of the same device.

This specification relates to a part of certain improvements in vehicles for which I have applied for Letters Patent, which application is now pending, and under instructions from the Commissioner of Patents I have been required to divide the same, and hereby make this application for that portion of said first application thus required to be divided, and to be canceled in said first application.

In the drawings, A, Fig. 3, is a metallic coupling formed with a tube or socket, *c*, and straps *d d*, to receive shaft B C, and straps *b b* and socket *a*, to receive the cross-bar D. The shaft is formed in two parts, B and C, meeting at the line N O. In Figs. 4 and 5 the union of the several parts is fully shown, portions of the wood being broken away to show the reverse sides of the sockets. By thus forming the shaft in two parts a great saving in expense is effected.

In Fig. 6, H represents the curved part of a pole formed of metal, hollow. I is the pole. *d d* are straps formed upon H, and which extend along pole I, being firmly secured to it. *h* is the double-tree, to which the single-trees are attached, the pivot *a* for the double-tree being formed on the pole end H. *g* is the bar by which the pole is attached to the vehicle. This bar is secured to the pole and by means of the straps *b b* formed on the pole end H.

In Fig. 7 the method of inserting the pole I in the end of coupling H is fully shown, the wood being broken away to show the metal socket on the reverse side at *i*.

L, Fig. 8, is a metallic coupling, formed at *i* like a bar or clip, while the other part is formed to receive the perch M in the socket *c'*, (shown in Fig. 9,) and with a strap, *c*, extending along the wood M. *b*, a plate of iron, is recessed into the under side of the clip part of L, and the clasp *a'*, which embraces the stock N and iron *h'*, passes through holes in clip *i* and plate *b*, and in the usual manner, by screw-nuts, secures the whole together, while bolts passing through L, M, and *b* serve to secure wood M firmly in its relative position to the other parts.

In Fig. 10, C represents the rear end of a shaft. K is a tip formed to connect with the vehicle, as hereinafter stated, and with a socket, *c'*, and straps *a a*, by which it is secured to the shaft, the end of the shaft being inserted in the socket *c'*, which prevents its splitting laterally, while the straps *a a* secure it in the opposite direction. *e* is a malleable-iron plate, upon which are formed the lips *l l*, which receive between them the tip K. Through the lips *l l* and tip K is a hole, in which is inserted the wooden tube *d'*, which forms the pivot on which the shaft plays. The bolt *o* serves to hold the tube *d'* in place. The lips *l l* project downward below tip K, and the shelf *m* extends from one to the other. Between the lips *l l*, and upon shelf *m*, is inserted the rubber cushion *n*, and a plate of metal, *r*, is interposed between tip K and rubber *n*, and a pin, *s*, attached to plate *r*, passes down through rubber *n* and loosely through a hole in shelf *m* thus holding the rubber in position, securing a uniform pressure upon it,

and protecting it from wear by the tip K. e' is a clasp of wrought-iron, which passes between the lips $l\ l$, and is secured to the plate e by the rivet p. The clasp e' is formed to pass through a clip or bar beneath the part to which it is attached, or it may be secured to the vehicle in any desired manner, the object sought to be accomplished being to form the lips $l\ l$ of malleable iron, they being expensive to forge of wrought-iron, and so combine them with wrought-iron as that the latter shall attach and hold them to the vehicle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The socket A, Fig. 3, made of malleable iron, with the projections $d\ d$ and $b\ b$, as an article of manufacture and sale, for the uses and purposes set forth.

2. As an article of manufacture and sale, the malleable-iron clip or shaft coupling, as shown in Fig. 10, with the lips $l\ l$ and tube d', cushion n, plate r, and wrought-iron clasp e', substantially as shown and described.

3. As a new article of manufacture and sale, the malleable-iron tip or coupling K, Fig. 10, substantially as shown and described, and for the purposes specified.

4. As an article of manufacture, the pole end H, of malleable iron, with the straps $b\ b$ and double-tree pivot a and projections $d\ d$, constructed and arranged as described, and for the purposes specified.

5. As an article of manufacture and sale, the malleable-iron perch-coupling L, Fig. 8, with projection or strap c and step i, constructed and arranged as described and shown, and for the purposes specified.

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