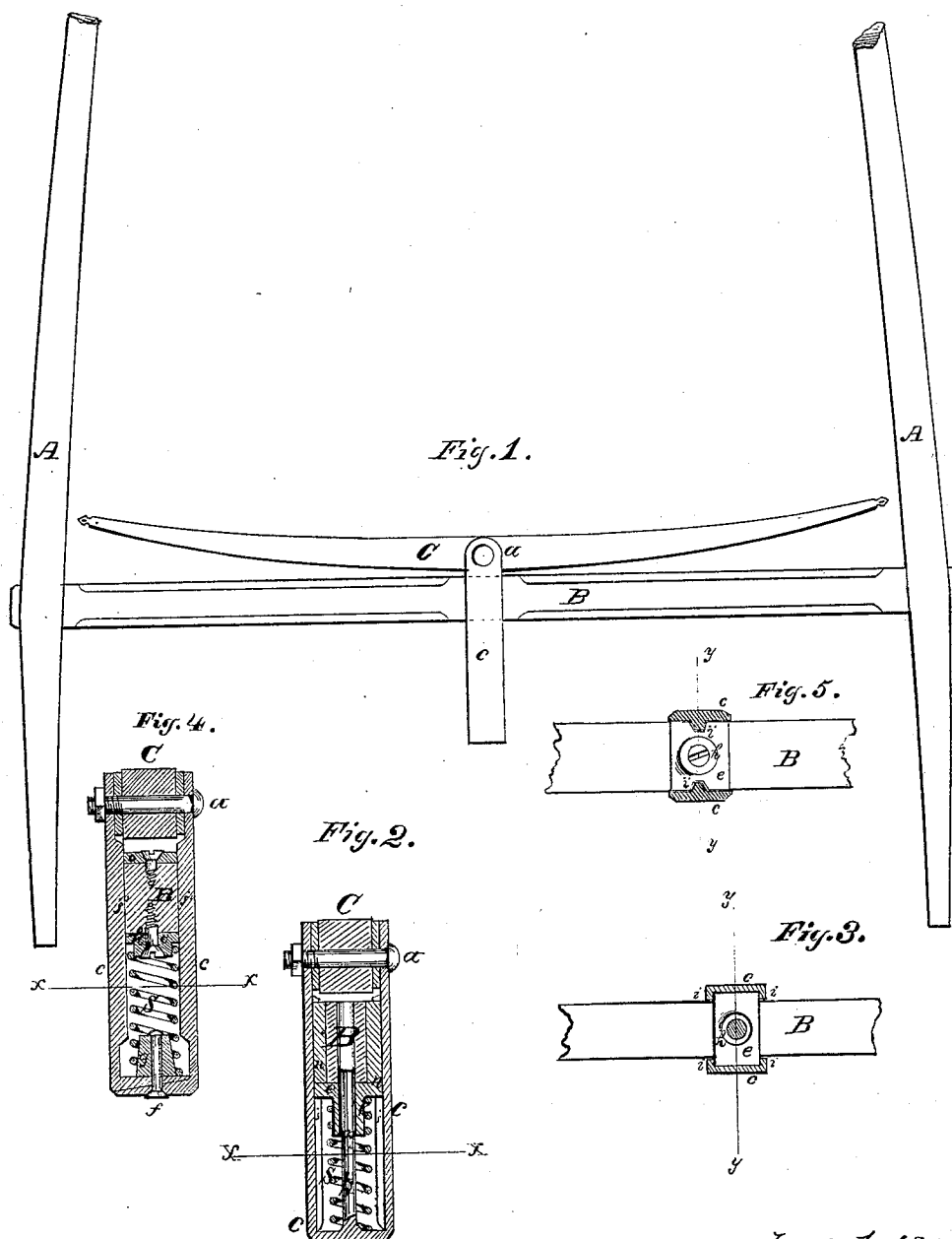


J. A. & J. BEACH & J. G. ROGERS.

Whimmetree-Couplings.

No. 150,126.

Patented April 28, 1874.



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IMPROVEMENT IN WHIFFLETREE-COUPPLINGS.

Specification forming part of Letters Patent No. **150,126**, dated April 23, 1874; application filed
October 21, 1872.

To all whom it may concern:

Be it known that we, JOHN A. BEACH, JOS. BEACH, and JOS. G. ROGERS, of the city of Madison, county of Jefferson, and State of Indiana, have jointly invented an Improvement in Whiffletree-Couplings, of which the following is a specification:

Our invention consists, essentially, in a device for coupling whiffletrees with cross-bars of vehicles, so as to secure elasticity, safety, and durability in the attachment.

Figure 1 is a plan of carriage-shafts embodying our invention. Fig. 2 is a longitudinal vertical section of a whiffletree-coupling, showing those parts which are at the right hand of the line *y y* drawn through Fig. 3. Fig. 3 is a transverse vertical section, showing some of the parts which are above the line *x x* drawn through Fig. 2. Fig. 4 is a longitudinal vertical section of a coupling, showing those parts which are at the right hand of the line *y y* drawn through Fig. 5. Fig. 5 is a transverse vertical section, showing parts which are above the line *x x* drawn through Fig. 4.

Figs. 4 and 5 exhibit an arrangement of parts which are equivalent to those shown in Figs. 2 and 3.

A A are shafts of a vehicle; B, a cross-bar; C, a whiffletree; *c*, a strap-loop or clevis. *e* is a cross-bar fixture. *a* is a bolt. S is a spiral spring. The strap-loop *c* embraces the cross-bar B in such a manner as to be capable of a limited sliding motion backward and forward, and is attached to the whiffletree C by means of a bolt, *a*, in such a manner as to permit to the whiffletree a limited horizontal oscillation. The cross-bar fixture *e* is secured to the cross-bar. It affords wearing-surfaces above and below, over which the strap-loop *c* moves. The spiral spring S has a bearing at one end against the cross-bar fixture *e*, and at the other against the inner posterior surface of the strap-loop *c*.

The parts being thus arranged, all tractile force applied to the whiffletree is imparted to the vehicle through the medium of the spiral spring S in an elastic, gradual manner, so that all jerking is obviated, and the vehicle is enabled to move over rough roads with much less wear to itself, and much less discomfort to the occupant, than when a rigid whiffletree-coupling is used.

In order to prevent the strap-loop *c* from being displaced laterally, it is provided with the vertical flanges *i i i i*, as shown in Fig. 3, which embrace the lateral edges of the horizontal plates *n n* on the upper and lower surfaces of the cross-bar B, as shown in Figs. 2 and 3.

We do not confine ourselves to this particular device for preventing lateral displacement of the strap-loop *c*. An equivalent is shown in Figs. 2 and 3, the object being attained by a pin, *p*, sliding in a perforation made through the cross-bar B and cross-bar fixture *e*. Still another equivalent is shown in Figs. 4 and 5, lateral displacement being prevented by the ribs *i' i'* on the inner horizontal surfaces of the strap-loop *c* sliding in grooves in the upper and under edges of the cross-bar fixture *e*, which grooves are prolonged entirely across the cross-bar B, and through the upper and lower edges of a plate, *o*, on the anterior surface of cross-bar.

In order to retain the spiral spring S in its place, and to prevent crushing of the same, it is made to encircle bosses *g h*, as shown in Figs. 2 and 4.

The form and arrangement of parts as shown in Figs. 4 and 5 we consider preferable, on account of facility and cheapness of manufacture.

We claim as our invention—

1. In a device for coupling whiffletrees to cross-bars, a sliding strap-loop, *c*, provided with ribs *i' i'*, in combination with a cross-bar, B, provided with grooves and grooved fixtures *e o*, substantially as and for the purpose hereinbefore set forth.

2. As a device for coupling whiffletrees to cross-bars, the combination of a sliding strap-loop, *c*, and bar-fixture *e* with a spiral spring, S, and a bolt, *a*, substantially as and for the purpose set forth.

3. The combination of a whiffletree, C, and cross-bar B with a sliding loop, *c*, a bar-fixture, *e*, a spiral spring, S, and a bolt, *a*, substantially as and for the purpose set forth.

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Witnesses:

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M. TEMPERLY.