

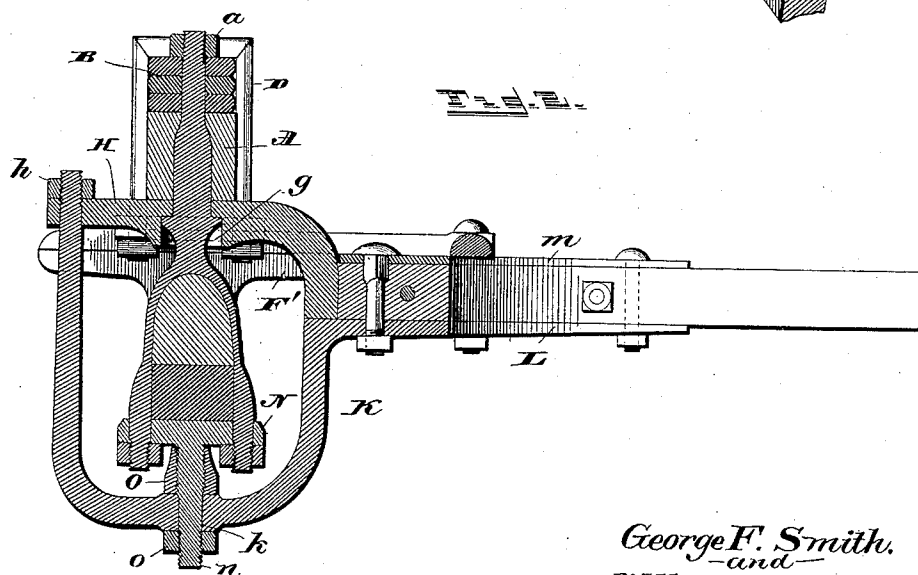
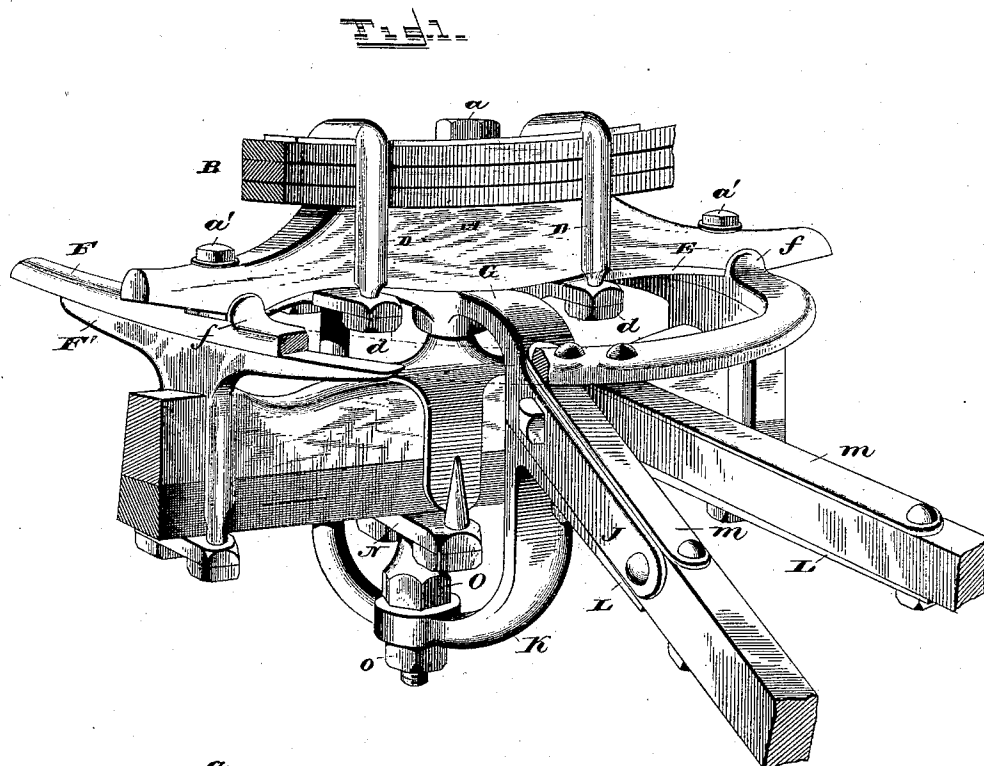
(No Model.)

G. F. SMITH & W. H. WARREN.

VEHICLE COUPLING.

No. 392,467.

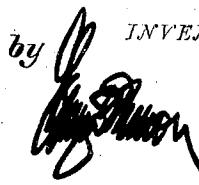
Patented Nov. 6, 1888.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE F. SMITH AND WILLIAM HENRY WARREN, OF COVINGTON,
KENTUCKY.

VEHICLE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 392,467, dated November 6, 1888.

Application filed July 17, 1888. Serial No. 280,156. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. SMITH and WILLIAM HENRY WARREN, citizens of the United States of America, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Couplings for Vehicles; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to certain new and useful improvements in couplings for vehicles; and it consists in the construction and combination of the parts, as will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a coupling constructed in accordance with our improvement. Fig. 2 is a sectional view.

A refers to any suitable head-block, above which is located a spring, B. The spring B is secured to the head-block A on each side of its center by clips D, which pass through four projecting lugs, *d*, formed integral with head-block plate E, this plate being secured to the under side of the head-block in the usual manner.

The upper circle, F, of the fifth-wheel is provided with upwardly-projecting lugs *f*, which lie on each side of the head-block A, and between them is placed the ends of the head-block plate E, so as to secure, by means of bolts *a' a'*, the head-block A to the upper circle, F, of the fifth-wheel. The lower sections, F', of the fifth-wheel are clipped to the axle in the usual manner.

The laterally-extending head-block plate E is formed integral with the drop reach-iron G, which is provided with a central recess, *g*, through which passes the king-bolt, the lower portion of the king-bolt being bifurcated to embrace the axle.

The drop reach-iron G, besides having head-block plate E and projecting lugs *d d*, through which pass clips D, formed integral therewith,

has also a forwardly-projecting portion, H, the outer end of which is perforated for the reception of one end of the drop-iron K. The rear portion of the drop reach-iron G is curved downward and has formed integral therewith rearwardly-extending plates J J, adapted to be bolted to the reach. When a double reach, as shown, is used, the plates J J will diverge; but with a single reach they will be compressed or bent to lie almost parallel with each other and embrace the sides of the reach.

It will be noted that the drop reach-iron, consisting of the parts E H G J J and the projecting lugs *d d*, through which pass clips D, are all rigidly connected and formed integral with each other, so that there are no parts to rattle or become detached.

K refers to the drop-iron, which has rearwardly-projecting diverging plates L, adapted to be secured to the under side of the reach when double reaches are used. From these diverging plates L the drop-iron extends downwardly and forwardly and is provided with an opening, *k*, through which passes a bolt formed with the clip-yoke which connects the king-bolt to the axle, said bolt being threaded and provided with a nut, O, which operates between the clip-yoke and drop-iron described above. The drop-iron K also extends upwardly in front of the axle, and is passed through the perforation in the extension H of the drop reach-iron G, to which it is secured by a nut, *h*. The drop reach-iron G and the drop-iron K are secured to the reach or reaches by bolts, as shown in accompanying drawings, and the reach or reaches are provided with plates *m m*, which are connected at one end. Through these plates *m* pass bolts for connecting the fifth-wheel F thereto, the same bolts also passing through perforations in the drop-iron K.

Beneath the axle, and securing the bifurcated ends of the king-bolt, is a king-bolt clip-yoke, N, the ends of which are provided with perforations through which the bifurcated ends of the king-bolt pass and are secured by nuts. This clip-yoke N is provided with a depending screw-threaded portion, *n*, which passes through the opening *k* of the drop-iron K, and on the threaded portion adjacent to the clip-yoke N is placed a tightening-nut, O,

which when turned downward will bear upon the upper side of the drop-iron K, thus taking up all wear of the fifth-wheel plates F F, so that the parts may be tightened when desired.

The drop-iron K is secured beneath by a nut, o.

It will be observed that there are but few parts to our improved coupling, and that they have been designed so that as many parts as possible have been formed integral with each other to avoid loosening of the parts and rattling.

The device hereinbefore described may be used as a coupling for carriage and buggy gears, and as the parts are not directly connected with the wearing-plates of the fifth-wheel any style of fifth-wheel may be used with the hereinbefore-described coupling.

The king-bolt clip-yoke, when constructed as shown and used in connection with the drop reach-iron G and the drop-iron K, makes an adjustable coupling which can be fitted to different sizes of fifth-wheels, and by turning the nut O the wear may be taken up.

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

1. The combination, with the king-bolt and coupling, of the yoke N, having a depending screw-threaded portion which passes through the drop-iron, nuts O and o, engaging with the screw-threaded portions above and below the drop-iron, substantially as shown, and for the purpose set forth.

2. The combination, in a coupling for vehicles, of a king-bolt bifurcated at its lower

end to embrace the axle, a yoke through which the bifurcated portions of the king-bolt pass, said yoke having a depending portion screw-threaded adjacent to the yoke, and a nut adapted to be turned upon the screw-threads between the drop-iron and cross-bar, and a head-block iron and drop-iron constructed substantially as shown, and for the purpose set forth.

3. The combination, in a coupling for vehicles, a king-bolt provided at the under side of the head-block plate with a shoulder, said king-bolt being bifurcated and attached to a cross plate or yoke having a depending screw-threaded portion, n, a nut adapted to turn upon said depending portion, and a securing-nut, o, beneath the drop-iron, the parts being combined with a head-block iron and drop-iron, constructed substantially as shown, and for the purpose set forth.

4. As an improved article of manufacture, a head-block iron having a front projection, H, with a perforation, a recess, g, rearward and downward projecting member G, with diverging plates J J, and laterally-extending plates E E, adapted to lie under the head-block, the parts being formed integral with each other and adapted for use, substantially as shown, and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE F. SMITH.

WILLIAM HENRY WARREN.

Witnesses:

J. H. MINDERMANN,
BALTZER YAGO.