No. 830,701. PATENTED SEPT. 11, 1906.

J. H. BOOTH.

FIFTH WHEEL.

APPLICATION FILED JAN. 23, 1906.

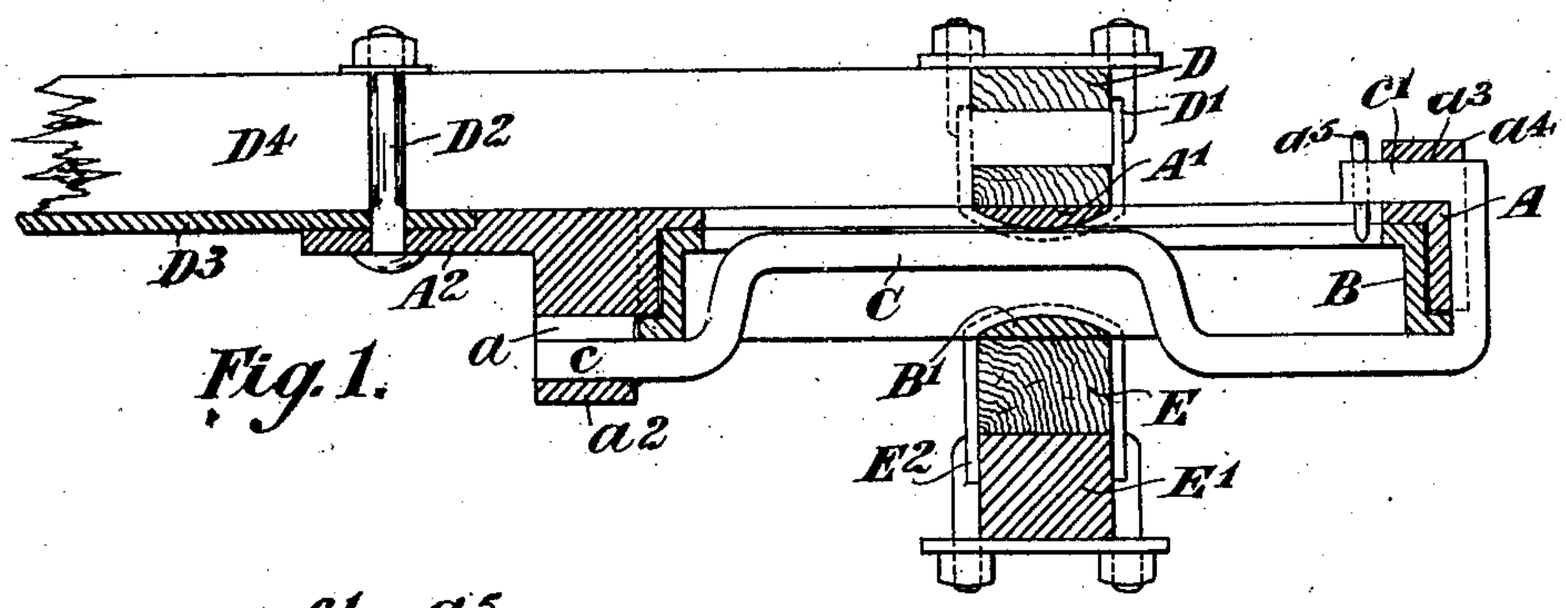



Fig. 1.

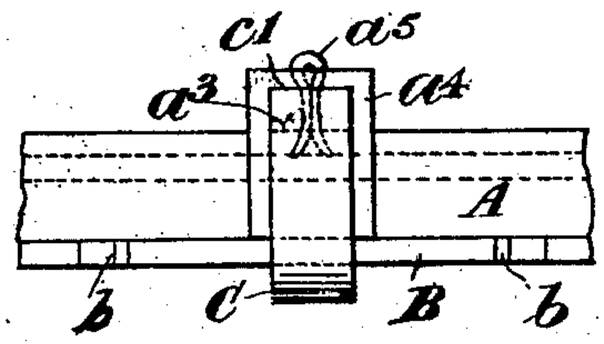



Fig. 3.

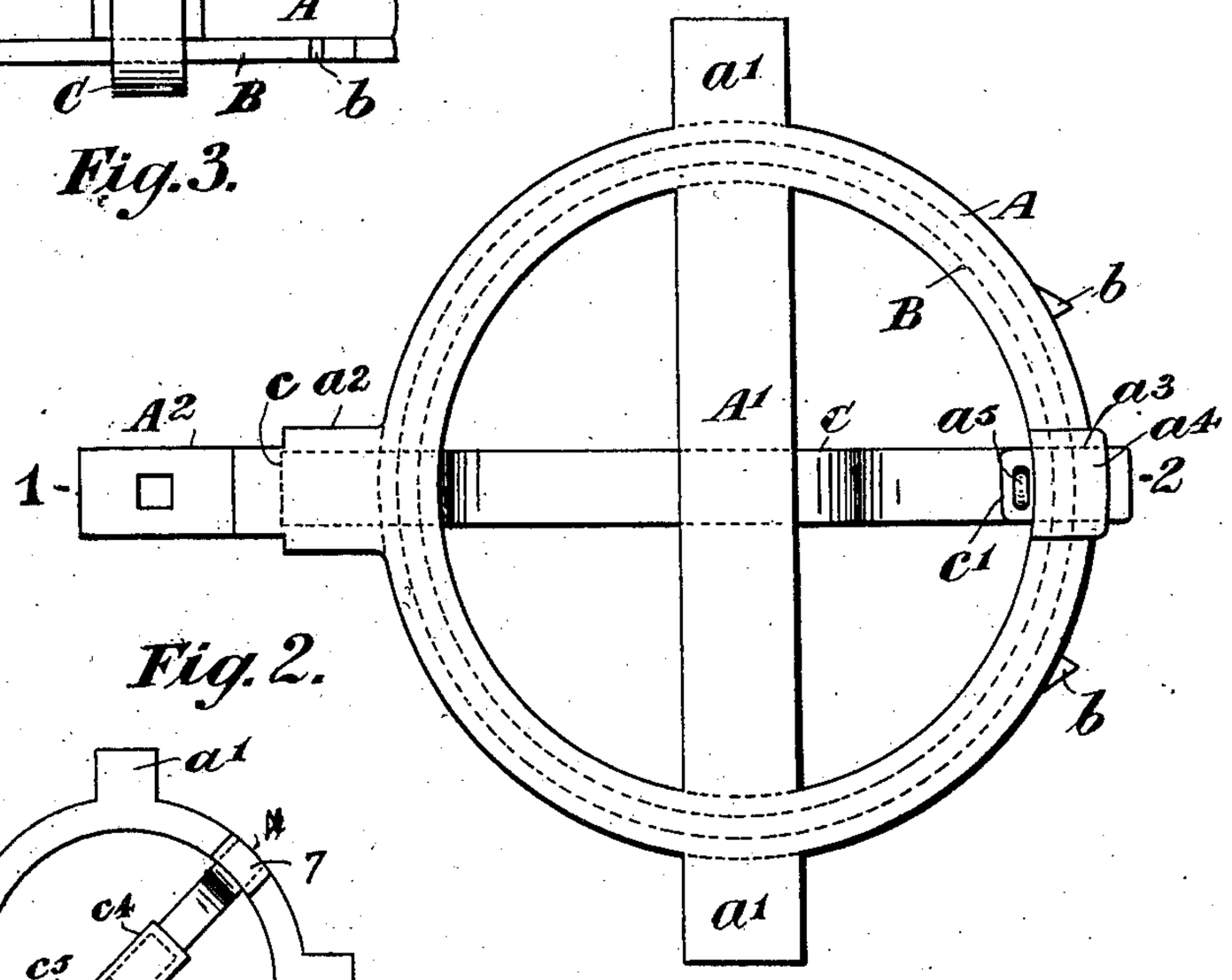



Fig. 2.

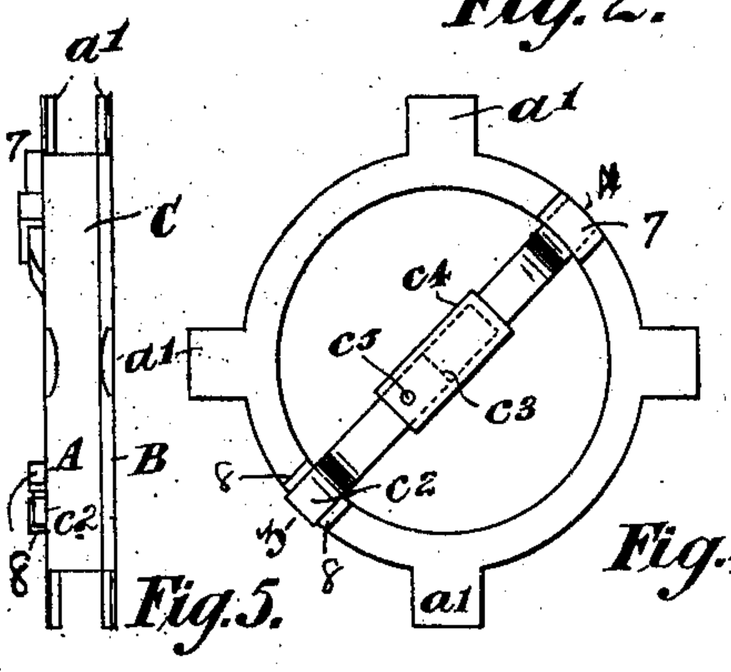
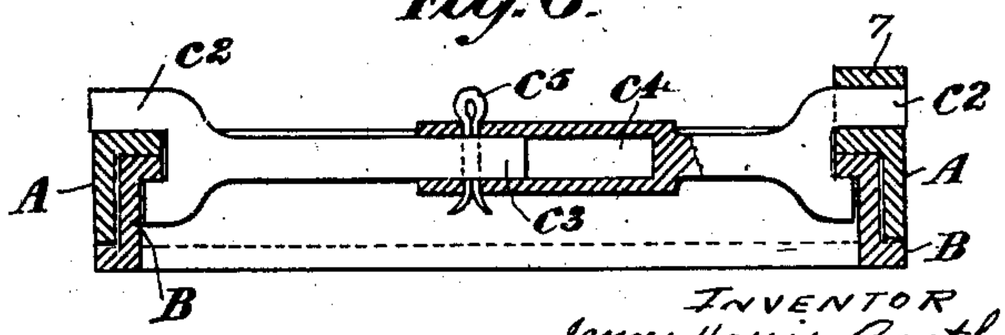



Fig. 5.

Fig. 4.

Fig. 6.




WITNESSES
W. P. Burke
John A. Percival.

INVENTOR
James Harris Booth
By Richardson & Co
ATTY'S.

# UNITED STATES PATENT OFFICE.

JAMES HARRIS BOOTH, OF JUMBUNNA, VICTORIA, AUSTRALIA.

## FIFTH-WHEEL.

No. 830,701. Specification of Letters Patent. Patented Sept. 11, 1906.

Application filed January 23, 1906. Serial No. 297,402.

*To all whom it may concern:*

Be it known that I, JAMES HARRIS BOOTH, blacksmith, a subject of the King of Great Britain and Ireland, residing at Great South Road, Jumbunna, in the British State of Victoria, Commonwealth of Australia, have invented a certain new and useful Improved Turn-Coupling for the Fore-Carriage of Vehicles, of which the following is a specification.

This invention relates to an improved turn-coupling for the fore-carriage of vehicles, and which has been designed to be used in place of the king-bolt to connect or couple together the fore-carriage with the front frame in such a manner that the fore-carriage can radiate or move upon the coupling to allow the vehicle to be steered and turned.

My improved turn-coupling is constructed of two metal rings, one fitting neatly within the other, the upper one being secured to the vehicle-frame and the under one to the axle or fore-carriage, and said coupling-rings are provided with ears or lugs to allow of their being secured in position by clamps, and hence without the aid of screws or rivets. Said coupling-rings are held together by a peculiar sliding lock-bar, which, with the other parts, will be hereinafter fully described, aided by a reference to the attached sheet of drawings, in which—

Figure 1 is a central section on line 1 2, Fig. 2; and Fig. 2, a plan of the preferred form of my invention. Fig. 3 is a part side view looking at the side marked 2. Fig. 4 is a plan of an alternative form of the invention; and Fig. 5, an edge view of same, both figures being drawn to a smaller scale. Fig. 6 is a section on line 3 4, Fig. 4.

A is the upper, and B the lower, metal coupling-ring, each made of the angle-section shown and with the lower ring fitting neatly and freely within the upper ring, while C is the sliding metal lock-bar. The upper ring A is constructed with a central round back bar A′, which terminates outside the ring with the ears or lugs $a'$, which ears are secured to the vehicle-frame bar D by the clamps D′, and said upper ring has a front rabbeted lug $A^2$, which is secured by a bolt $D^2$ to a metal reacher-bar $D^3$ and to the wood reacher-bar $D^4$. The bottom ring B also has a central round back bar B′ formed on it and provided, as in the case of the upper ring, with the outside ears or lugs, which are secured to the fore-carriage wooden axle-bar E and axle E′ by the clamps $E^2$. The sliding lock-bar C is of the form shown, having one end $c$ passing into a hole $a$, formed through a lug $a^2$, projecting down from lower side of upper ring A, while the other end part $c'$ of the lock-bar is formed to the channel shape shown, its end being designed to pass into a hole $a^3$ in a lug $a^4$, formed on the upper face of ring A, and said lock-bar is secured in position by the pin $a^5$. The lower ring B may be provided with stops, as $b$, which are designed to contact with the lock-bar C, which is carried with the upper ring, and thus the radial travel of the fore-carriage or front axle will be limited.

In the alternative construction of my invention the rings A and B are of similar section to the coupling shown in Fig. 1, and each ring is furnished with ears or lugs $a'$ to allow of the upper one being secured to the upper reacher and body-frame bars and the lower ring to the front axle or fore-carriage bars by clamps, as before described; but in this case the lock-bar C is made in two lengths, the ends $c^2$ of each part being constructed of the shape shown to grip or hold the two rings together, while at their center the said two parts telescope one another—that is to say, the plain or straight end part $c^3$ of the one passes into a sleeve $c^4$, formed on the other—and when said bar is in position to grip and hold the two rings together it is locked by the pin $c^5$. One end $c^2$ of the lock-bar engages with the hole formed in the lug 7, while the other end lies between the jaws 8 8 of the other side of the upper ring. This construction of the turn-coupling is not limited in its radial travel, and it is designed, mainly, for lorries, carriages, or other vehicles having an English fore-carriage.

My said turn-coupling may be constructed of any suitable metal—such as gun-metal, steel, malleable iron, or the like—and, as will be obvious, king-bolts are dispensed with. Further the couplings are easily secured in position, and when so secured they assist in strengthening the vehicle. Again, when once the coupling is greased the latter cannot easily fall or run out, as the wearing parts of the coupling-rings are practically dust and water proof.

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

1. A turn-coupling for the purpose specified, consisting of two rings, one fitting and working within the other and held together

by a sliding lock-bar, each coupling-ring being provided with ears or lugs whereby the upper one may be secured to the vehicle-frame, and the lower one to the fore-carriage or front axle-bar substantially as described and shown.

2. A turn-coupling for the purpose specified, consisting of two coupling-rings of angular section constructed to fit one within the other, the upper ring having a holed upper lug at one side and a holed lower lug at the other side, both designed to receive the end parts of a sliding lock-bar of the form shown, and both rings being provided with ears or lugs by which they can be clamped or otherwise secured in position substantially as described and shown.

3. A turn-coupling for the purpose specified consisting of two angular section-rings designed to fit and rotate or work one within the other and each provided with ears or lugs by which they are secured in position combined with a two-part sliding lock-bar having a telescopic joint at its center and with end jaws to grip the two rings and take into a holed lug at one side and lie between jaws at the other side of the upper ring substantially as described and shown.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES HARRIS BOOTH.

Witnesses:
BEDLINGTON BODYCOMB,
W. J. S. THOMPSON.