No. 619,515. Patented Feb. 14, 1899.

A. M. TEBBETTS.

SHAFT COUPLING FOR VEHICLES.

(Application filed Nov. 5, 1898.)

(No Model.)

Fig. 1.

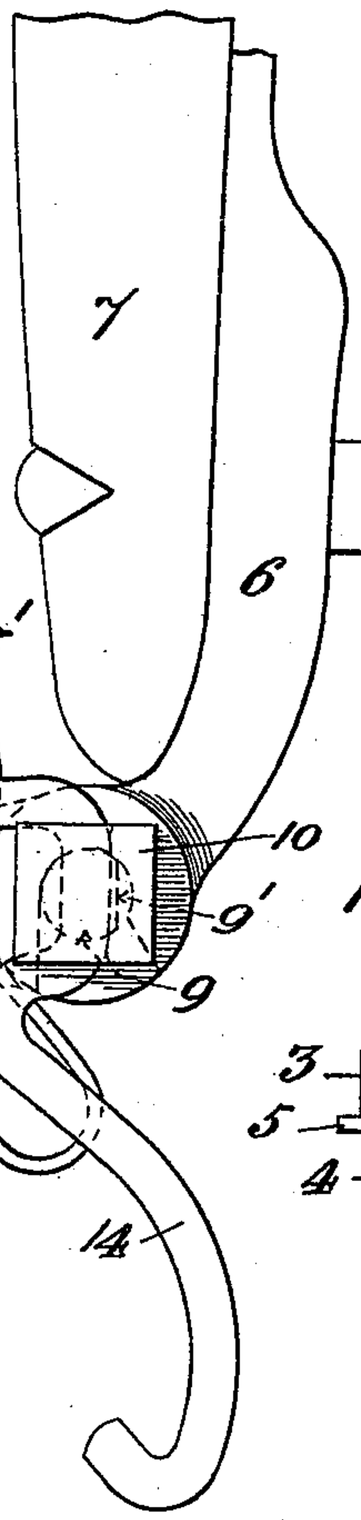


Fig. 2.

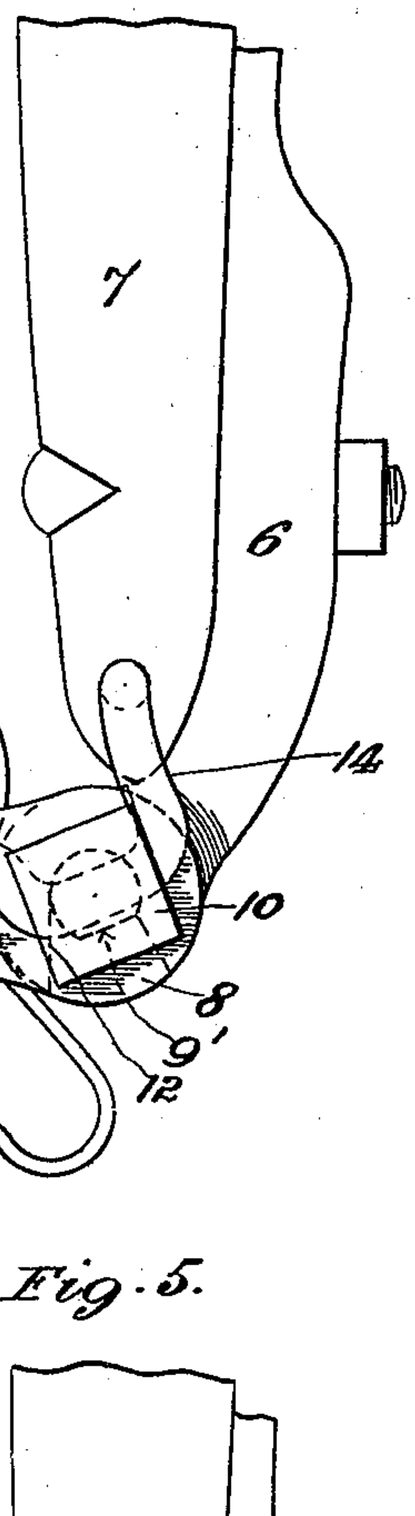
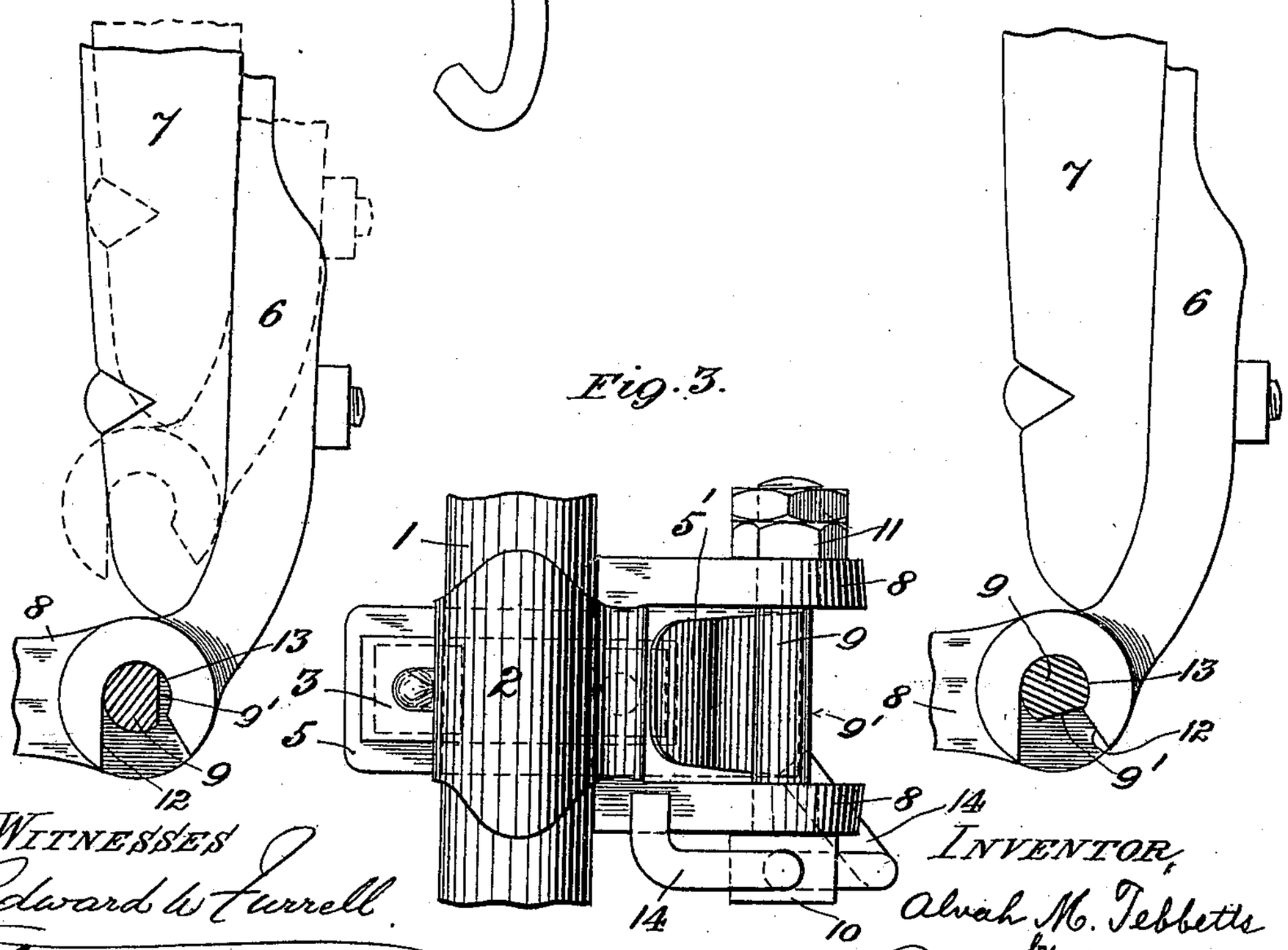


Fig. 4.

Fig. 5.

Fig. 3.



WITNESSES
Edward W. Farrell.
George L. Bulfy.

INVENTOR,
Alvah M. Tebbetts
by
Emil Starck atty

UNITED STATES PATENT OFFICE.

ALVAH M. TEBBETTS, OF ST. LOUIS, MISSOURI.

SHAFT-COUPLING FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 619,515, dated February 14, 1899.

Application filed November 5, 1898. Serial No. 695,587. (No model.)

To all whom it may concern:

Be it known that I, ALVAH M. TEBBETTS, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Shaft-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention has relation to improvements in shaft-couplings; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a cross-section of the axle, showing my device in side elevation, with the bolt of the clip in coupling (or uncoupling) position. Fig. 2 is a similar view with the bolt turned to the coupled or locked position. Fig. 3 is a top plan view with the shaft removed. Fig. 4 is a transverse section taken through the bolt of the clip, with the jaws of the shaft passed over the bolt, the latter being turned to a position corresponding with Fig. 1, also showing by dotted lines the shaft uncoupled; and Fig. 5 is a similar view, with, however, the bolt turned to its coupled position, corresponding to the position shown in Fig. 2.

The object of my invention is to construct a shaft-coupling for vehicles which shall be simple, cheap, and durable, one which is a perfect antirattler, and one devoid of all leather packing, milled joints, and washers and other details which tend to increase the cost of production of the article.

A further object is to produce a coupling by which the shaft (or pole) may be readily attached to or detached from the axle, all as will more fully appear from the detailed description, which is as follows:

Referring to the drawings, 1 represents an ordinary axle, over which the clip 2 of the coupling is passed, the clip being held in place by the clip-tie 3, whose opposite ends are passed over the screw-threaded extensions or arms of the clip, the whole being subsequently secured by the tightening-nuts 4, as usual. Interposed and securely held between the tightening-nuts 4 and the clip-tie is the body portion of an antirattler 5, whose free yielding forwardly-curved arm 5′ is adapted to bear against the outer wall of the eye formed at the end of the eyebar 6, carried by and forming a part of the rear curved end of the shaft 7. Mounted rotatably between the lugs 8, which form an integral part of the clip, is a cylindrical bolt 9, held in place, respectively, by the bolt-head 10 and the nuts 11. A peripheral section of the body of the bolt is removed, thereby leaving a flattened portion 9′ and reducing the dimension of the cross-section of the bolt in one direction. The jaws 12, which open out from the loop or eye 13 of the eyebar 6, are spaced sufficiently apart to readily pass over the reduced dimension of the bolt, admitting the latter into the eye or loop 13, whose inner diameter snugly embraces the bolt when the latter is turned at an angle to the position it is initially held to allow for the free passage of the jaws 12 thereover.

In connecting the shaft to the axle the bolt is turned with its flattened side vertical, in which position the jaws of the eyebar are passed over the same, the rear end of the shaft being held substantially as indicated in Figs. 1 and 2. When the bolt is inserted into the eye, it is turned at an angle to its original position, as clearly seen in Figs. 2 and 5, when the full cross-section thereof substantially fills the space of the eye, thereby preventing the withdrawal of the bolt and insuring the coupling of the shaft. The bolt is operated by a curved lever 14, passed through the bolt-head 10, one extreme position of the bolt being determined and limited by the short arm of the lever coming in contact with the upper edge of the adjacent lug 8, and the other extreme position being limited by the free end of the long arm of the lever coming in contact with and firmly locking or jamming against the side of the adjacent clip-securing nut 4, the arm of said lever being sufficiently yielding to snap over the edge of the nut and jam against the wall thereof.

While the nut 4 serves as a means for locking the operating-lever 14 when the bolt has been turned to its second or coupled position, it is apparent that any other locking device or latch can be substituted for the present construction. The object of locking the lever for the second position of the bolt is to prevent the accidental turning of the bolt from

such position. When it is desirable to detach the shaft, the bolt is turned to its first position, thereby allowing for the free withdrawal of the eyebar and hence the ready uncoupling of the shaft. (See also dotted position of shaft in Fig. 4.)

While the present device is specifically referred to as a shaft-coupling, it is obvious that the same arrangement may be applicable to carriage or wagon poles.

The antirattler always bears against the outer walls of the eye or loop, thereby preventing any rattling of the shafts.

It will be observed that my present coupling is without milled joints, washers, or leather packings, thereby materially reducing the cost of the coupling.

It is to be understood that the device may be altered in details without departing from the spirit of my invention.

Having described my invention, what I claim is—

1. A shaft-coupling comprising a suitable clip, a clip-tie carried by the same, terminal securing-nuts for said parts, an antirattler-plate interposed between said nuts and clip-tie, lugs forming part of said clip, a rotatable bolt mounted in said lugs, a lever for controlling said bolt, the latter having a peripherally-flattened portion, a shaft having jaws adapted to pass over the reduced portion of the bolt, an eye at the base of the jaws adapted to receive the bolt, and means for limiting the arms of the lever when swung in either direction, substantially as set forth.

2. A shaft-coupling comprising a suitable clip, a clip-tie carried by the same, terminal securing-nuts for said parts, an antirattler-plate interposed between said nuts and clip-tie, lugs forming part of said clip, a rotatable bolt mounted in said lugs, a lever for controlling said bolt, the latter having a peripherally-flattened portion, a shaft having jaws adapted to pass over the reduced portion of the bolt, an eye at the base of the jaws adapted to receive the bolt, the short arm of the lever being adapted to bear against the adjacent lug for the position admitting the jaws of the shaft to pass over the bolt and the long arm of the lever bearing against the clip for the locked position of the bolt, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALVAH M. TEBBETTS.

Witnesses:

EMIL STAREK,

GEORGE L. BELFRY.