

A. BETTELEY.
Thill Coupling.

No. 95,417.

Patented Oct. 5, 1869.

Fig 1.

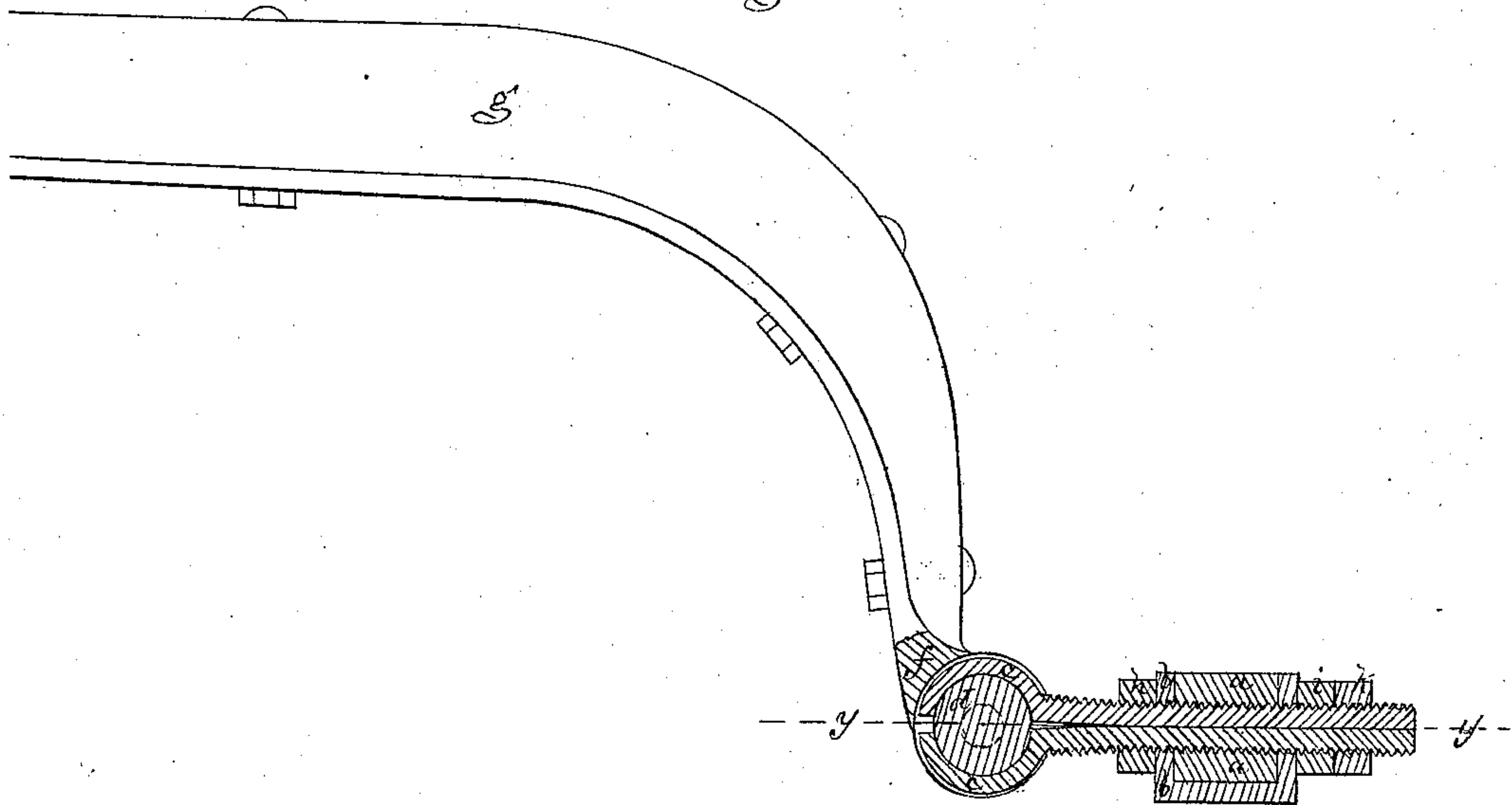
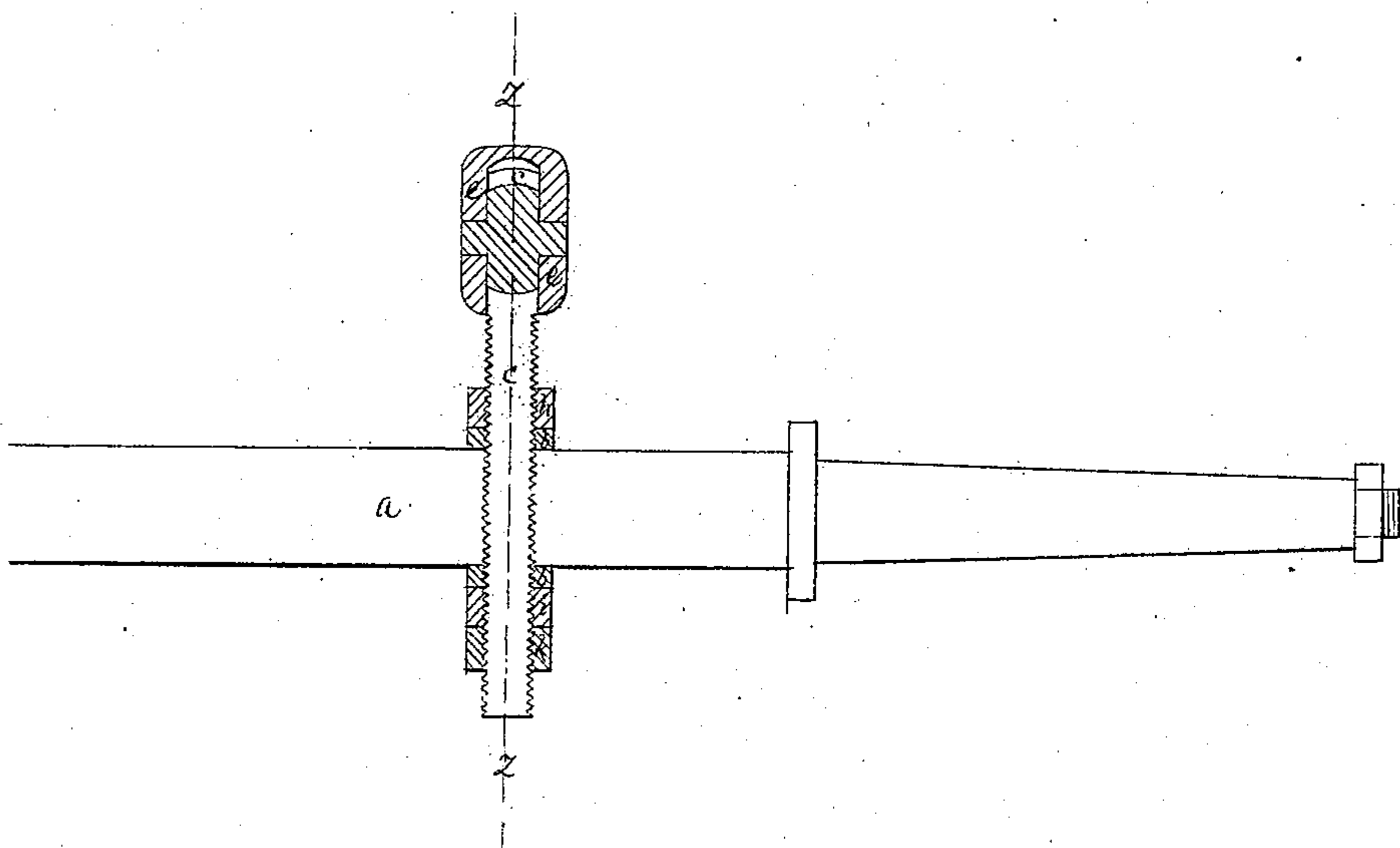


Fig. 2.



United States Patent Office.

ALBERT BETTELEY, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 95,417, dated October 5, 1869.

IMPROVEMENT IN SHAFT-COUPPLINGS FOR CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ALBERT BETTELEY, of Boston, in the county of Suffolk, and State of Massachusetts, have invented an Improvement in Coupling Shafts to Vehicles; and I do hereby declare that the following, taken in connection with the drawings, which accompany and form part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practise it.

In vehicles, especially such as are used for pleasure and the conveyance of persons, it is desirable that all joints and moving parts shall be so connected as to be noiseless in their action, to effect which, provisions of various kinds have been made to compensate for the wear of the moving parts.

The joints by which shafts or thills have been connected with vehicles are subject to considerable movement and wear, and soon get loose and disagreeably noisy when the vehicle of which they form part is in motion.

My invention relates to the detail of construction, by which I so connect the shafts with the vehicle that wear in the connecting-joints is quickly and readily compensated for by manipulatory adjustment, so that with slight care the fit of the connecting-joints is kept perfect and noiseless; and

My invention consists in the detail of construction and arrangement of said joints, by which they are rendered noiseless, and have capacity of adjustment to compensate for the loss of material consequent upon wear.

Figure 1 illustrates, in sectional elevation, an embodiment of my invention, and

Figure 2 is a sectional plan of the same, the section in fig. 1 being taken in the plane of the line *z z*, fig. 2, in which figure the section is taken in the line *y y* of fig. 1.

In the drawing, the front axle of a vehicle is denoted by *a*, which is surrounded by a staple-formed strap, *b*, through the ends of which passes a bolt, screw-threaded

at one end, and formed at the other into jaws *c c*, which are formed on the inside to the curvature of a portion of a sphere, the ends of said jaws falling short of actual contact, so that the spherical connection *d*, placed and fixed within the jaws *e* of the irons *f* on the shaft *g*, is nearly, but not quite covered by the straps.

The screw-threaded bolt, before mentioned, is either split entirely through its length, as shown in the drawings, or it may be solid at the rear end and split or opened for some distance back from the jaws *c c*.

The split parts of the bolt nearest the jaws *c c* are bent outward slightly, so that by advancing the nut *h* toward jaws *c c*, they are thereby brought toward each other, and made to fit and clasp firmly on the spherical piece *d*, thus preventing any looseness of fit between the jaws *c c* and the connection *d*, and preventing the jaws *c c* from rattling against the jaws *e* of the shaft-irons.

Whenever any looseness of the parts occurs by wear, the nut *h* is advanced toward the jaws *c c*, bringing them closely into contact with the periphery of the connection *d*, and then the bolt is drawn through the holes formed in the ends of the staple-strap *b*, by turning the nut *i*, till nut *h* is brought firmly against the one bar of the staple-strap, when the check-nut *k* is turned hard against the nut *i*, and all the parts thereby secured firmly in position. By taking the nuts off from the bolts, the shafts may be easily detached from the vehicle to be replaced by a pole, or for repairs, cleaning, or transportation.

I claim shaft-connections for vehicles, made with spherical pieces, to be fixed to the shafts, and split screw-threaded bolts, provided with open spherical jaws, made capable of pinching said spherical pieces, by means of nuts, substantially as described.

ALBERT BETTELEY.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.