

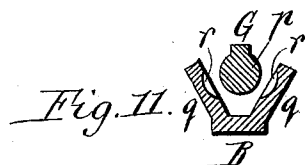
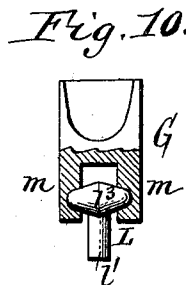
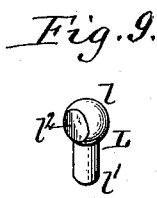
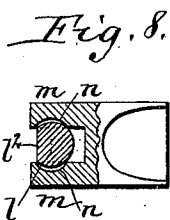
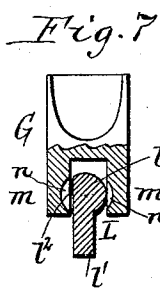
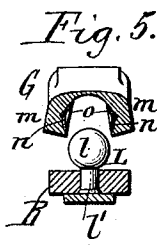
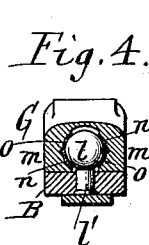
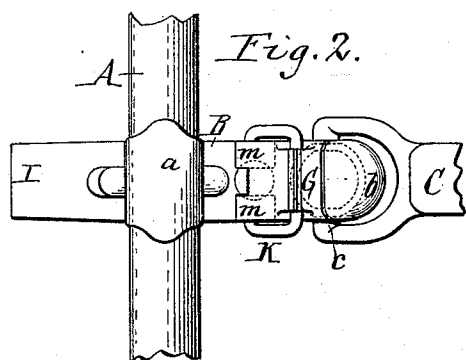
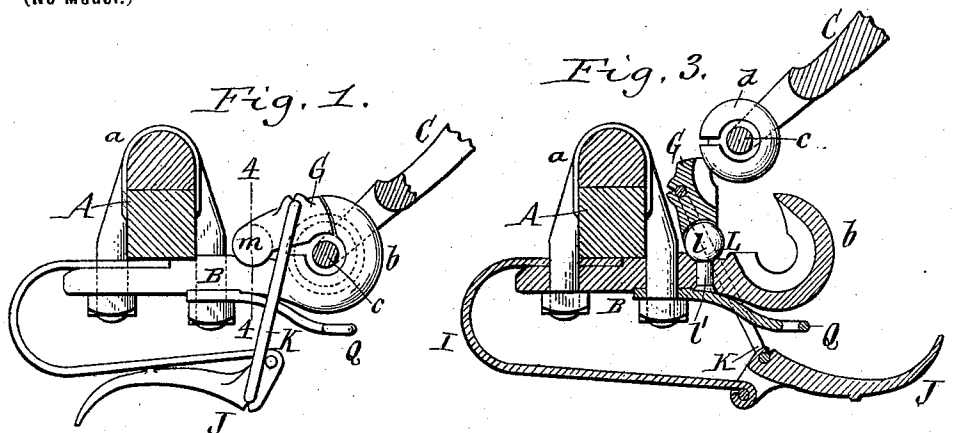
No. 617,558.

Patented Jan. 10, 1899.

C. C. BRADLEY.
THILL COUPLING.

(Application filed July 9, 1898.)

(No Model.)



Witnesses:
Henry L. Deck
Chas. F. Burkhardt.

C. C. Bradley, Inventor.
By Wilhelm & Forner,
Attorneys.

UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BRADLEY, OF SYRACUSE, NEW YORK, ASSIGNOR TO
CHRISTOPHER C. BRADLEY, JR., OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 617,558, dated January 10, 1899.

Application filed July 9, 1898. Serial No. 685,466. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER C. BRADLEY, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to that class of thill-couplings in which the draft-eye is provided with a hinged or pivoted jaw which is held down upon the wrist or knuckle in the draft-eye by a suitable fastening or locking device, which is most generally a spring device, which not only holds the jaw down, but also takes up the wear of the parts. When it is desired to remove the wrist or knuckle from the draft-eye, the fastening or locking device of the hinged jaw is released and the hinged jaw is swung open. It often happens that for a long time there is no occasion for removing the wrist from the draft and that the hinged jaw is not moved for so long a time that its pivot becomes set by rust and dirt, so that the jaw cannot be swung open when the occasion arises except by applying so great a force that the jaw or its pivot is liable to be injured or broken. When the movable jaw has so become set or unyielding, it no longer responds to the pressure of the spring tending to take up wear, and the spring is liable to take a set, which renders it unfit to further act as a means for taking up wear.

The object of this invention is to overcome this difficulty and to connect the movable jaw to the fixed portion of the draft-eye by a pivot device which is so free in its action that the jaw is not liable to become set and which is simple, cheap, and durable.

In the accompanying drawings, Figure 1 is a side elevation of a thill-coupling provided with my improvement and showing the movable jaw closed. Fig. 2 is a top plan view thereof. Fig. 3 is a side elevation, partly in section, showing the movable jaw open. Fig. 4 is a vertical cross-section through the pivotal connection in line 4 4, Fig. 1. Fig. 5 is a similar view showing the two members of the bifurcated movable jaw spread or distended preparatory to applying the same to the pivot

on the fixed jaw. Fig. 6 is an elevation of the pivot-stud and the linings of the movable jaw detached. Fig. 7 is a vertical cross-section of a modified construction of the movable jaw and pivot, showing the parts in the position in which they are engaged with each other. Fig. 8 is a top plan view, partly in section, showing the jaw turned on the pivot to interlock it therewith and prevent its detachment from the pivot. Fig. 9 is a perspective view of the pivot. Fig. 10 is a vertical cross-section of another modified construction of the pivotal connection. Fig. 11 is a cross-section of another modified construction of the pivotal connection, the parts being shown preparatory to connecting the same. Fig. 12 is a side elevation of the movable jaw of this construction. Fig. 13 is a top plan view thereof.

Like letters of reference refer to like parts in the several figures.

A represents the front axle of the vehicle.

B is the fixed portion of the draft-eye, secured to the under side of the axle by a clip *a* and provided at its front end with an up-turned fixed jaw *b*.

C is the thill-iron, having a wrist or knuckle *c*, which may be of any suitable form and construction, that shown in the drawings being spherical and covered by a correspondingly-shaped washer or bushing *d*.

G represents the movable jaw of the draft-eye, which closes the mouth of the fixed jaw and bears upon the wrist resting in the latter. The movable jaw is pivotally connected at its rear end to the stationary portion of the draft-eye, so as to be capable of swinging vertically and completing the inclosure of the wrist when closed down, as shown in Fig. 1, while permitting the wrist to be removed when swung up, as shown in Fig. 3. The movable jaw is provided in its under side with a recess corresponding with the form of the wrist.

The fastening device for the movable jaw shown in the drawings is of well-known construction, and consists of a bent spring I, secured to the under side of the axle, a clamping-lever J, pivoted to the free end of the spring, and a link or bail K, connecting this

lever to the movable jaw. Any other suitable fastening device may, however, be employed.

The pivotal connection between the movable jaw and the fixed jaw is constructed as follows:

L represents a pivot-stud secured centrally to the fixed jaw in rear of its wrist-socket and composed of a spherical head *l*, which stands above the upper surface of that part of the fixed jaw to which it is secured, and a pin or shank *l'*, which passes down through a vertical opening in the jaw and is secured in the same by riveting or otherwise. This pivot-stud is preferably constructed of brass or other material which does not rust, while the fixed and movable jaws are preferably formed of steel or iron by drop-forging. The rear portion of the movable jaw is bifurcated, so as to straddle the head *l* of the pivot, and is provided in the inner faces of the members *m* of its bifurcated portion with spherical recesses *n* for engagement with the sides of the head *l*. These recesses are preferably provided with linings or bushings *o*, of brass or other material which does not rust; but these linings may be omitted, in which case the members of the movable jaw bear directly against the head of the stud. The movable jaw is made with the two members *m* of its bifurcated rear portion spread or distended, as shown in Fig. 5, to such an extent that they can be dropped over the head of the stud. The recesses are then engaged with the head of the stud by closing the two members against the head by a cold-shut, as shown in Fig. 4. This pivotal connection works freely under all circumstances, remains in good working condition even when not moved for a long time, and is cheap and strong.

Instead of connecting the movable jaw to the stud by a cold-shut, as described, the head *l* of the stud may be flattened on one side, as shown at *l'* in Figs. 7 to 9, so that it can be inserted between the two members of the bifurcated rear portion of the jaw without requiring the members to be spread apart by placing this flat side against the inner face of one of the members, as shown in Fig. 7. By then giving the stud a quarter-turn, as shown in Fig. 8, it is engaged in both re-

cesses and is then secured in this position to the stationary jaw.

It is not necessary that the head of the pivot-stud should be spherical, as other forms—for instance, the transversely-elongated form *l''* (shown in Fig. 10)—will answer the purpose.

Q represents a loop of ordinary construction secured to the under side of the fixed jaw in the ordinary manner for receiving a safety-strap.

As shown in Figs. 11, 12, and 13, the spherical pivot-head *p* may be formed on the movable jaw and the stationary jaw may be provided with upwardly-diverging ears *q*, which contain the recesses *r* and are closed against the pivot-head by a cold-shut.

I do not wish to claim in this application anything which is claimed in another application filed by me July 14, 1898, Serial No. 685,899.

I claim as my invention—

1. The combination with the fixed and movable jaws of a thill-coupling, of a spherical pivot-head secured to one of said jaws and a bifurcated portion formed on the other jaw and provided in its inner faces with spherical recesses in which the sides of said spherical pivot-head engage, substantially as set forth.

2. The combination with the fixed jaw of a thill-coupling, of a vertical stud secured to the same and provided above said jaw with a head projecting laterally from said stud, and a bifurcated movable jaw which straddles said head and is provided in the inner faces of its members with recesses which engage against the sides of said head, substantially as set forth.

3. The combination with the fixed jaw of a thill-coupling, of a pivot-stud secured to said jaw and consisting of a spherical head and an attaching shank, and a bifurcated movable jaw which straddles said head and is provided on the inner faces of its members with spherical recesses which engage against the sides of said head, substantially as set forth.

Witness my hand this 30th day of June, 1898.

CHRISTOPHER C. BRADLEY.

Witnesses:

CALVIN S. BUNNELL,
F. L. SCHARFF.