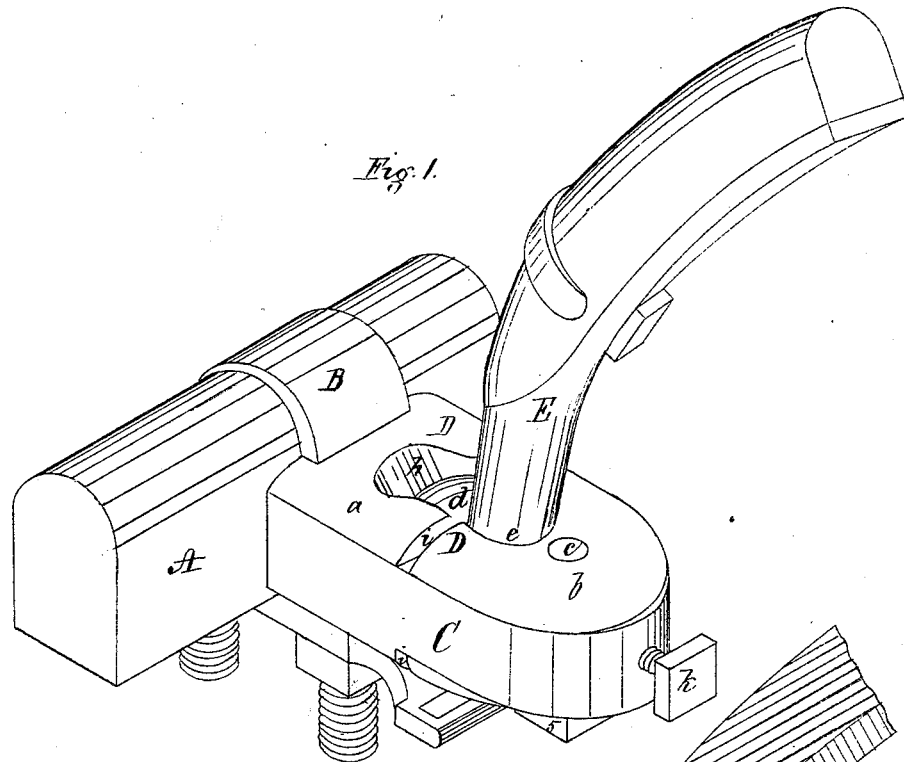


GEORGE I. BRADLEY.

Improvement in Thill-Couplings.

No. 114,258.

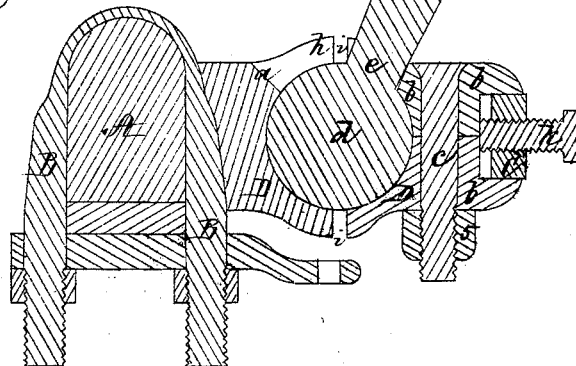
Patented May 2, 1871.



Witnesses,  
Thomas F. Lacey  
Thos W. Coane

*Fig. 2.*

Inventor,  
Geo. I. Bradley



# United States Patent Office.

GEORGE I. BRADLEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND EVERETT W. BIGELOW, OF SAME PLACE.

Letters Patent No. 114,258, dated May 2, 1871.

## IMPROVEMENT IN THILL-COUPPLINGS.

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, GEORGE I. BRADLEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Thill-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of an axle and a thill or carriage-shaft connected by means of my improvement.

Figure 2 is a longitudinal vertical section through the center of the same.

To diminish in a great measure and take up the wear between the thill-iron and the clip of the axle of a carriage, and also to avoid the vexatious and incessant rattling arising therefrom, is the object of my invention, which consists in placing within the clip a split socket for the reception of a spherical projection on the end of the thill-iron, thus forming a ball-and-socket joint, one portion of the socket being forced toward the other portion by a set-screw, so as to keep the socket at all times snugly in contact with the ball, thus preventing all play and consequent wear and rattling incident thereto.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing—

A is the axle of a carriage, around which is secured a wrought-iron band or "clip," B, in a well-known manner.

From the front of the clip and in one and the same piece therewith projects a strap, C, of the form seen in fig. 1, in which is permanently placed the rear portion *a* of a socket, D, and also the removable front portion of the same made in two pieces, *b b*, both of which are provided with flanges which bear on the top and bottom of the strap.

These pieces *b b* are held together and secured tightly in place by means of a screw, *e*, projecting down

from the upper piece and through the lower piece, a nut, *f*, being employed for clamping them together.

Within the socket so formed is placed a spherical projection or ball, *d*, at the end of the thill-iron E, the neck or portion *e* of which moves within the slot *h* in the top of the socket as the shaft is raised or lowered.

When the ball *d* is in place the front and rear portions of the socket are removed a short distance from each other, as seen at *i*, fig. 1, and as the parts wear the front pieces *b b* are forced against the ball so as to tighten it by means of a set-screw, *k*, passing through the front of the strap C.

This set-screw *k* may be provided with a check-nut, if desired, and when the parts wear so that the front and rear portions of the socket come together the front pieces *b b* may be removed and filed off so as to allow of their being brought up snugly against the ball to hold it in place.

The above-described thill-coupling is of simple construction and not liable to get out of order, while the wear is diminished and the rattling incident to an ordinary coupling is avoided.

It is evident that my invention may be successfully applied to the connection of booms with their masts, and to the joints of pump-handles, &c., to prevent the noise usually arising from the ordinary construction of these parts.

### Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

A "clip," B, provided with a split socket, D, and set-screw *k*, in combination with a thill-iron, E, provided with a ball, *d*, substantially as and for the purpose set forth.

Witness my hand this 16th day of March, A. D. 1871.

Witnesses:

THOMAS F. SWEENEY,  
THOS. W. DOANE.

GEO. I. BRADLEY.