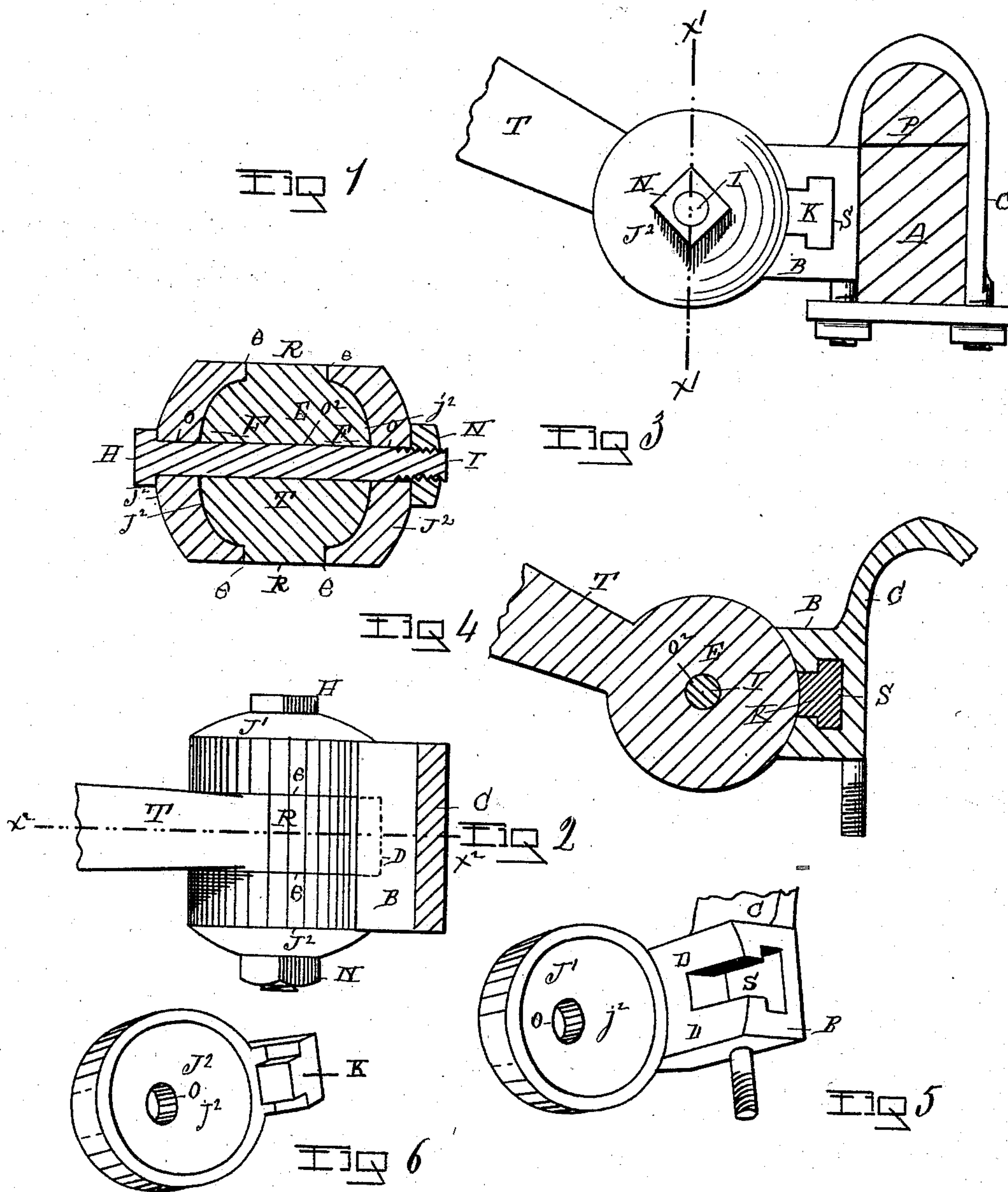


(No Model.)

T. RANSLEY, Jr.  
THILL COUPLING.

No. 505,674.

Patented Sept. 26, 1893.



WITNESSES

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# UNITED STATES PATENT OFFICE.

THOMAS RANSLEY, JR., OF TROY, NEW YORK.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 505,674, dated September 26, 1893.

Application filed November 25, 1892. Serial No. 453,049. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS RANSLEY, Jr., of the city of Troy, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Thill-Shackles, of which the following is a specification.

My invention relates to thill shackles and my improvements thereon have for their object the better adaptation of this class of devices to the uses for which they are designed.

Accompanying this specification to form a part of it there is a sheet of drawings containing six figures illustrating my invention, with the same designation of parts by letter reference used in all of them.

Of the illustrations Figure 1 is a side elevation of a shackle, containing my invention, with a part of the axle and axle base-plate shown in cross section. Fig. 2 is a top view of the shackle with part of the clip by which it is attached to the axle shown in transverse section, showing also a part of the thill. Fig. 3 is a section taken on the line  $x'$ ,  $x'$ , of Fig. 1. Fig. 4 is a section taken on the line  $x^2$ ,  $x^2$ , of Fig. 2. Fig. 5 is a perspective of the body-part showing a part of the clip as broken off, and Fig. 6 is a perspective of one of the cap-form end bearings of the shackle journal.

The several parts of the shackle and thill thus illustrated are designated by letter reference and the function of the parts is described as follows:

The letter A designates the axle, C the clip, by which the shackle is connected to the axle, and the letter P designates the axle base-plate.

The letter T designates the thill, which at its rounded shackle end is made with two convex ball journaling faces or cheeks, which are produced upon each of the opposite sides of the thill. These journaling faces are designated at F.

The letter R designates a rib that is arranged between the cheek-form journals F, and this rib in circular form extends outwardly from the latter, where within their bearings, so as to be flush with the latter.

The letters  $J'$  and  $J^2$  designate two journal boxes or bearings, each having a concave face  $j^2$ , corresponding in its concavity to the convexity of the cheeks or journals F, so that

when the latter upon the shackle end of the thill are placed between said bearings and the thill is operated at its outer end to rise or fall, said cheeks will rotate in the bearings  $J'$  and  $J^2$ , with the rib R, where projecting beyond the cheeks between and flush with the adjacent edges  $e$ , of said bearings.

The letter I designates a bolt, which at one of its ends is made with a head H, and at its other end is provided with a threaded nut N, and this bolt passes through the end bearings  $J'$  and  $J^2$ , and the shackle end E of the thill T, at the transverse center of the thill end and each of the bearings  $J'$  and  $J^2$ .

The letters O designate the bolt passages in the bearings, and  $O^2$  the bolt passage through the shackle end of the thill.

The letter B designates the body-part of the shackle on which is secured the clip C. The bearing  $J'$  is made integrally with the body-part, and projected frontwardly therefrom at one side of the former, and this body-part is made with a socket S, that is T-form in cross section, and this socket is formed in that end of the body-part which is opposite to that from which is projected the concave bearing  $J'$ . The concave bearing  $J^2$  is made with a key-piece K, that is projected from the said bearing at one side of its concave face, and this key-piece is of a T-form in cross section, and so that when the key-piece enters the socket S, it interlocks therein.

The letter D designates a concavity formed in the body-part B, into which the rib R, where projecting beyond the cheeks F, rotates when the outer end of the thill is raised or depressed.

As thus made and arranged when the outer end of the thill is raised or depressed, the shackle end turns in the bearings  $J'$  and  $J^2$ , and also in the concave surface D, formed in the shackle body B. So constructed and arranged the parts may be always kept in contact by means of the bolt I, and any slack motion from wearing may be readily and easily taken up by the nut N, on the bolt I. The construction of the journal part  $J'$ , integrally with the body-part, and with a T-form socket, provides a means by which the bearing  $J^2$  may connect with the body-part through the construction of the key-piece K, so as to avoid the effect of torsional strain,



and permits of adjustment on a line of the bolt connection to take up slack on account of wear.

By making the thill end with rounded journal cheek-form surfaces at the sides, and an intermediate projecting and encircling rib, the journaling faces of the thill end have three bearings which act to keep the parts together; one of these bearings is in each of the cheek-form journals, where the latter are rounded out concavely to receive the convexly rounded bearing faces of the thill sides at the thill end; one where the rib R, journals between the straight sides *e, e*, of the cheek-form journals, and another where the rib journals in the concavity D, of the body-part B. As thus made with the bolt I, passing through the thill end bearings and the cheek-form journals, the thill can only vibrate vertically, making my device differ from older devices in which one cheek-form journal is formed in an ear made integrally with the body-part and another in an ear that connects with the latter, by means of a bolt that does not pass through the thill at all, or one having an ear made integrally with the body-part, and another making a sliding connection with the latter with flat bearing surfaces between which the thill end is inserted and secured by a bolt passing through the thill end and the ears.

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

1. In a thill-shackle, the combination with

a convex journal face formed on each side of the shackle end of the thill, and an encircling rib arranged between said journal faces to project beyond the latter, said journal end of the thill being made with a transverse bolt passage, of a body-part having a concavity adapted to receive said rib, and made with a projection having a concave bearing, a central bolt passage and a T-form socket; and a concave bearing-part having upon one end a T-form key-piece adapted to interlock with the socket of the body-part, and a bolt provided with a head and threaded nut, adapted to be passed through said bearing parts and intermediately placed journal-end of the thill, substantially as and for the purposes set forth.

2. The combination with the rounded shackle end of the thill T, made with the convex side journal surfaces F, F, and the rib R, of the body-part B, made with the concave journal bearing J', the concavity D, and the T-form socket S; the concave journal bearing part J<sup>2</sup>, made with the T-form key-plate K, and the headed bolt I, made to pass centrally through said journal bearings and the thill end T, substantially in the manner as and for the purposes set forth.

Signed at Troy, New York, this 12th day of October, 1892, and in the presence of the two witnesses whose names are hereto written.

THOMAS RANSLEY, JR.

Witnesses:

W. E. HAGAN,  
CHARLES S. BRINTNALL.