

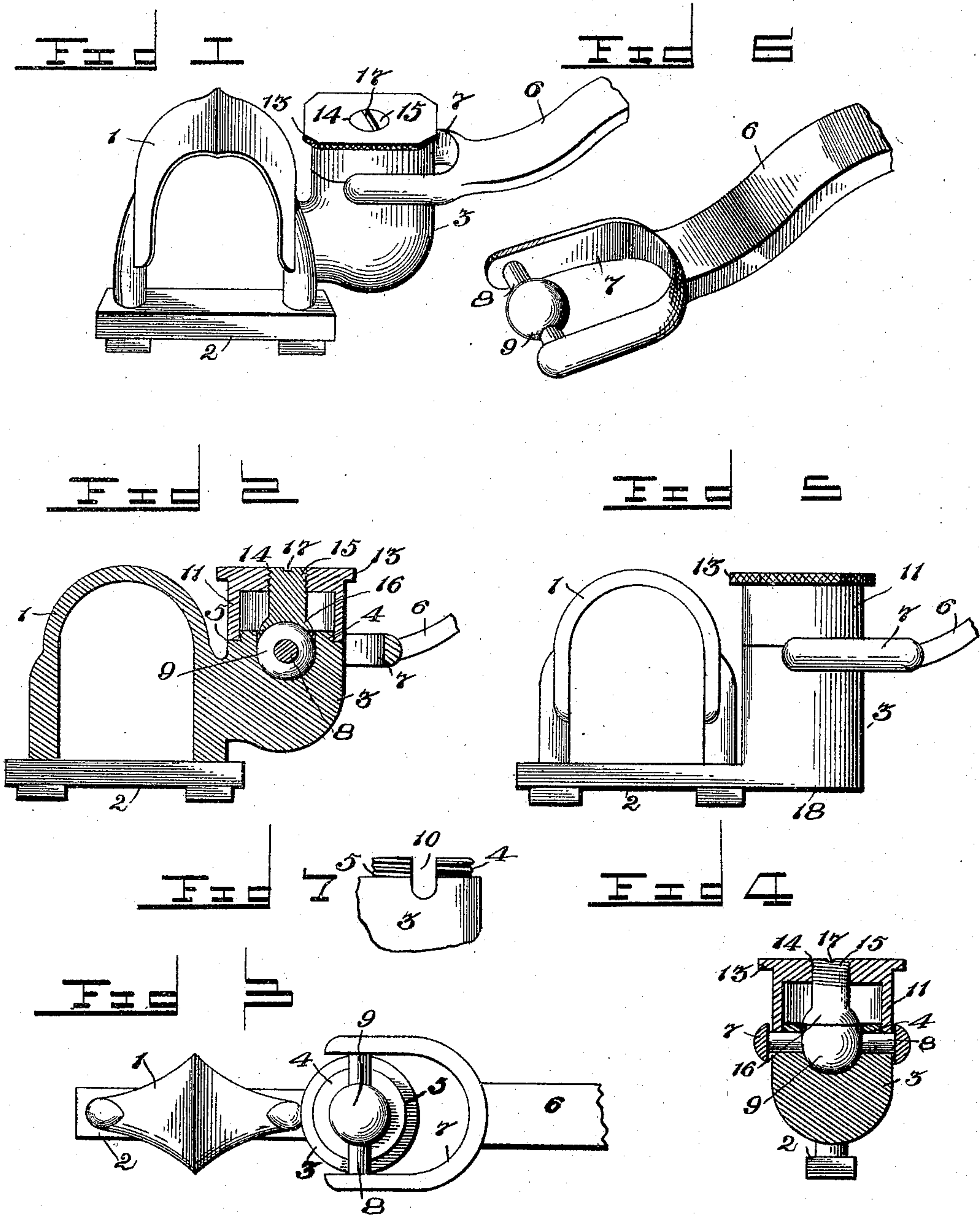
No. 638,379.

Patented Dec. 5, 1899.

L. L. COLE.
THILL COUPLING.

(Application filed June 29, 1899.)

(No Model.)



Witnesses

John Maupin.

[Signature]

Leander L. Cole Inventor,

By *his* Attorneys,

Ca Snow & Co.

UNITED STATES PATENT OFFICE.

LEANDER L. COLE, OF KINGSTON, ILLINOIS, ASSIGNOR TO JACOB HECKMAN,
OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 638,379, dated December 5, 1899.

Application filed June 29, 1899. Serial No. 722,308. (No model.)

To all whom it may concern:

Be it known that I, LEANDER L. COLE, a citizen of the United States, residing at Kingston, in the county of De Kalb and State of Illinois, have invented a new and useful Thill-Coupling, of which the following is a specification.

This invention relates to thill-couplings, and has for its object to provide an improved construction whereby the thills may be readily positioned and detached and the movable parts of the coupling are effectively incased and protected against damage by dirt and foreign matter.

A further object is to provide improved means for taking up the wear of the movable parts, so as to prevent rattling and maintain the several parts in their proper relation.

To these ends the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes in the form, proportion, size, and the minor details of construction may be made within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the present invention.

In the drawings, Figure 1 is a perspective view of a thill-coupling constructed in accordance with the present invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a top plan view, the retaining-cap being removed. Fig. 4 is a transverse sectional view of the coupling. Fig. 5 is a side elevation showing a modified arrangement of the device. Fig. 6 is a detail perspective view of the thill-iron. Fig. 7 is a detail elevation of the body, the retaining-cap being removed.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates a common or ordinary axle-clip, having the usual tie-plate 2 connecting the opposite ends thereof. Extending longitudinally from the front face of one of the sides of the axle-clip is an integral cup-shaped body 3, having its open end extending upwardly. The upper end of the body is contracted, so as to provide an upstanding externally-thread-

ed neck 4 and an annular shoulder 5, surrounding said neck.

As best illustrated in Fig. 6, the rear end of the thill-iron 6 is provided with an integral and substantially U-shaped yoke 7, extending in substantially the same plane with the thill-iron. The free ends of the yoke are connected by means of a fixed transverse pivot-bar 8, having a ball or spherical enlargement 9, located midway between the ends of said bar. The yoke 7 is adapted to loosely embrace the body or cup 3, as clearly shown in Fig. 3, the ball 9 being received within the cup and the opposite ends of the pivot-bar 8 being received in the diametrical opposite slots 10, formed in the opposite sides of the cup 3 and at the upper end thereof. Thus it will be seen that the thill-iron is pivoted or hinged to the cup or body 3 and is held against lateral displacement by the opposite sides of the yoke 7 embracing said cup or body.

To protect the coupling against the ingress of foreign matter, there is provided a screw-cap 11, which is fitted to the externally-threaded neck 4 and is seated upon the annular shoulder 5, thereby closing the upper open end of the cup and not interfering with the movement of the thill-iron. The lower end of the cap fits down upon the opposite ends of the pivot-bar 8, so as to hold the latter and the thill-iron from jolting or working upward by the movement of the vehicle. An outer marginal flange 13 is provided about the upper end of the cap, and the outer edge of said flange is milled or roughened, so as to facilitate the application and removal of the cap.

Provided centrally through the top of the cap is a threaded opening 14, in which is fitted a threaded stem or pin 15, having its lower end enlarged into a cup 16, the socket or interior of which fits the upper side of the ball 9, so as to hold the latter in position. The upper end of said pin or stem is provided with a diametric slot 17 for the reception of a screw-driver or suitable implement whereby the pin may be adjusted so as to properly engage the ball 9, and thereby take up any wear in the movable parts of the coupling.

It will be noted that the upper end of the stem or pin 15 is flush with the top of the cap

11, so that said stem or pin does not project above the cap, whereby accidental movement or displacement of the pin or stem is prevented. The cup 16 being integral with the stem 15 is therefore removable with the screw-cap 11, so that when the latter is detached there is no liability of the parts becoming detached and lost.

From the foregoing description it will be obvious that the present invention provides an exceedingly simple and practical form of thill-coupling, the movable parts of which are effectively housed and protected against the ingress of foreign matter and all wear may be readily and effectively taken up.

In some instances it may be desirable to mount the cup-shaped body 3 upon the tie-plate 2 instead of upon one side of the axle-clip, and this arrangement is provided for, as shown in Fig. 5. The tie-plate 2 is provided with an extension 18, which projects longitudinally in front of the axle-clip, and the body 3 is formed integral therewith and extends upwardly in front of the axle-clip. Otherwise the coupling is constructed precisely the same as hereinbefore described.

As the sides of the yoke 7 embrace the body 3 the draft is placed equally at opposite sides of the body, so as to prevent lateral twisting of the thill-iron upon the body.

Attention is called to the construction of the body 3, with the threaded neck 4 forming the annular shoulder 5, and to the vertical slots 10, located at diametrically opposite points in the body and extending through the neck 4 and the shoulder into the body to terminate below the shoulder. The cap 11 is screwed to the neck to rest firmly on the shoulder 5, and thereby confine the pivotal bar 8 within the lower terminals of the slots 10, and said cap supports the take-up screw, which has

threaded engagement with the cap, so that the screw may be adjusted independently of the cap to compensate for wear on the parts. This screw is a single piece, with an enlargement at its lower extremity forming a concave bearing-foot adapted to rest directly upon the spherical central boss 9 of the pivotal bar 8; thus simplifying the construction and providing for proper engagement of the parts to keep them from rattling.

What I claim is—

A thill-coupling comprising a body projecting from a clip and provided with a reduced threaded neck, 4, forming an annular bearing-shoulder, 5, and having the diametrically opposite vertical slots, 10, extending through the neck and into the body to terminate at points below the bearing-shoulder, 5, a yoke-shaped thill-iron having the pivotal bar, 8, and the spherical enlargement, 9, arranged for said bar to bear loosely in the slots, 10, below the shoulder, a cap screwed to the threaded neck and engaging frictionally with the annular shoulder, 5, to confine the pivotal bar loosely on the body, and a single-piece take-up screw having an integral concave foot at one end and arranged to have threaded engagement with the cap, the concave foot of said screw engaging directly with the spherical enlargement of the pivotal bar and the screw being adjustable in the cap independently of any adjustment of the cap itself on the threaded neck of the body, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LEANDER L. COLE.

Witnesses:

FRANK C. POUST,
AMI S. GIBBS.