

No. 669,430.

Patented Mar. 5, 1901.

F. REESE.
THILL COUPLING.

(Application filed May 18, 1900.)

(No Model.)

Fig. 1.

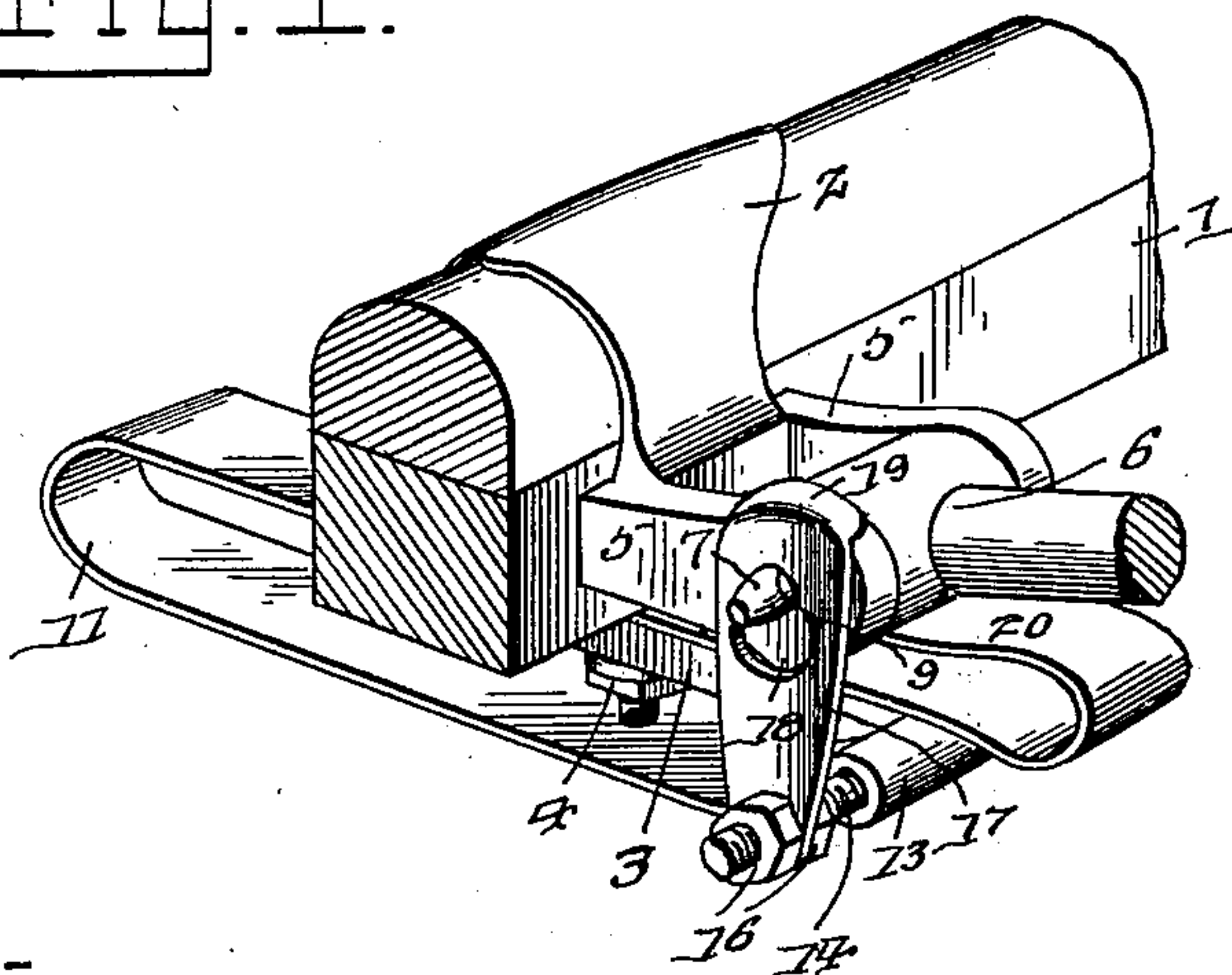


Fig. 2.

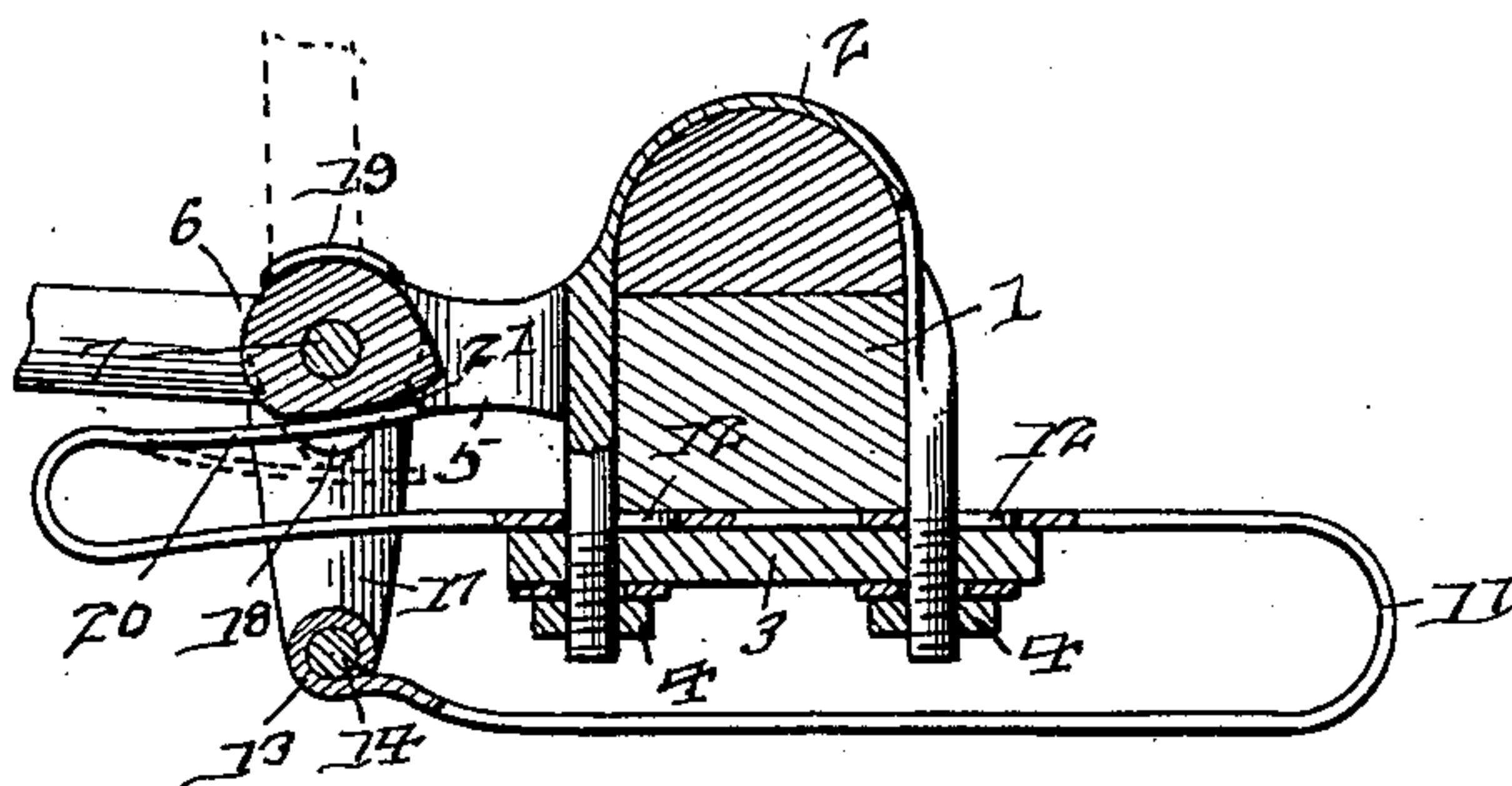


Fig. 3.

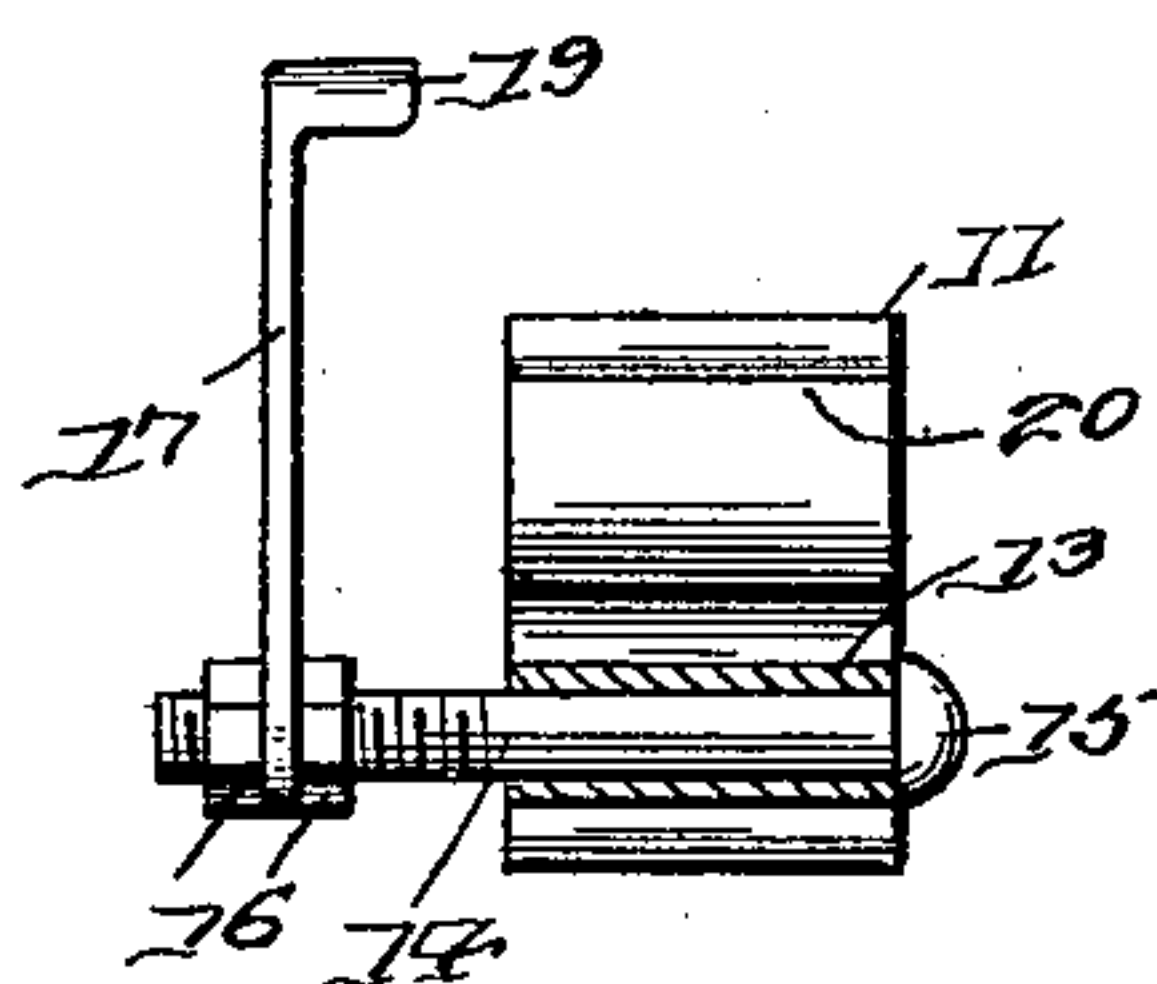
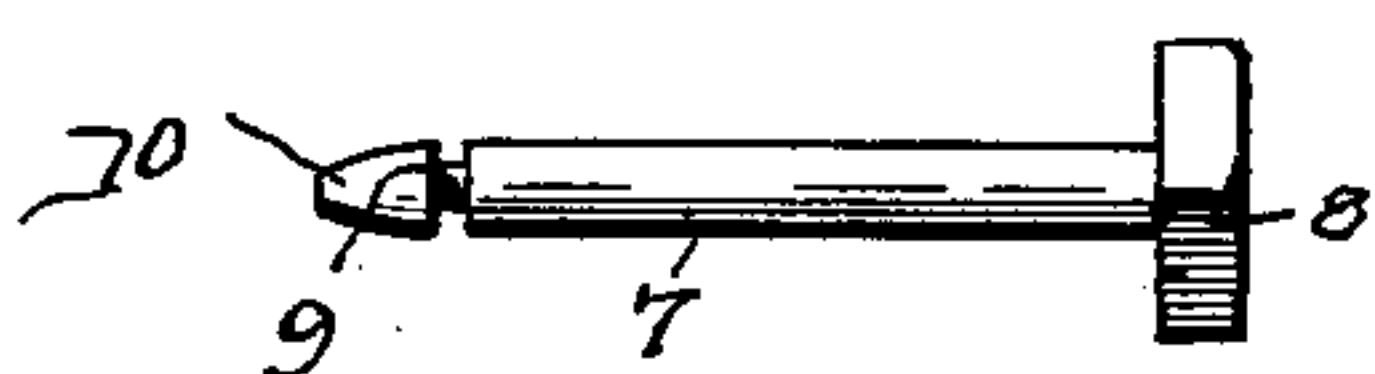
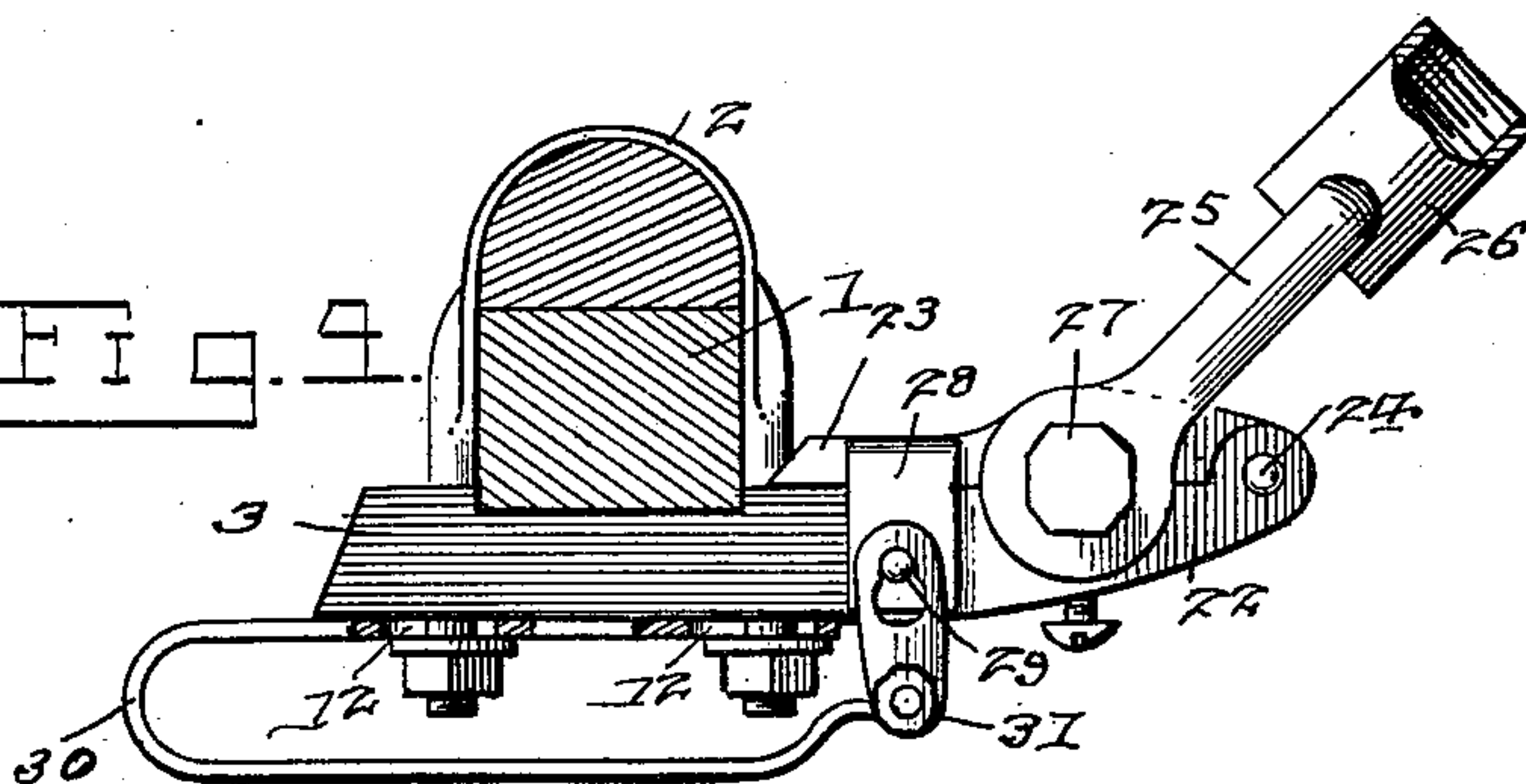


Fig. 5.



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Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERICK REESE, OF EUTAW, ALABAMA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 669,430, dated March 5, 1901.

Application filed May 18, 1900. Serial No. 17,138. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK REESE, a citizen of the United States, residing at Eutaw, in the county of Greene and State of Alabama, 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 improved means for locking the connection between the thill-iron and the axle-clip against accidental displacement, yet permitting of the convenient removal thereof whenever it is desired to disconnect the thills. It is also designed to provide a laterally-adjustable device, so that it may be accommodated to thill-couplings of different widths.

With these and other objects in view 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 claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the 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 detail transverse sectional view of the means for locking the connection between the thill-iron and the axle-clip. Fig. 4 is a side elevation showing an application of the present device to another form of thill-coupling. Fig. 5 is a detail view of the connecting-bolt between the thill-iron and the axle-clip.

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

Referring to the accompanying drawings, 1 designates an ordinary axle, having the usual clip 2 embracing the same and held thereon by means of the usual tie-plate 3 and the nuts 4, fitted to the opposite end of the clip. Projecting forwardly from the front side of the clip are the usual spaced bearing-ears 5, between which the thill-iron 6 is pivotally mounted by means of the lateral pin or bolt 7, that passes through corresponding perforations in the bearing-ears. As indicated

in Fig. 5 of the drawings, the pin 7 is provided at one end with a head 8, and its opposite end is provided with an annular groove 9, so as to form a head 10, which projects outwardly beyond the adjacent bearing-ear. To lock this pin against accidental displacement, there is provided a substantially U-shaped spring 11, which is located transversely below the axle and has its upper side provided with a pair of longitudinal slots 12 for the reception of the respective arms of the axle-clip, so that the spring may be held in place by means of the clip and the nuts 4. The forward end of the lower side of the spring is bent into a transverse eye or sleeve 13 to fixedly embrace a lateral pin or bolt 14, which is provided at one end with a head 15 to bear against the adjacent end of the sleeve, and thereby prevent endwise displacement in one direction. The opposite end of the pin is screw-threaded and projects a suitable distance beyond the adjacent end of the sleeve and has a pair of nuts 16 fitted thereto. A vertical locking arm or plate 17 is provided at its lower end with a perforation to loosely receive the projecting end of the bolt or pin 14 and is located between the two nuts 16, so that the arm may be adjusted longitudinally of the pin and laterally with respect to the coupling proper in order that it may be accommodated to couplings of different widths. The upper portion of the arm is provided with a vertically-disposed keyhole-slot 18 for the reception of the grooved or headed end of the bolt 7, whereby the latter is held against endwise displacement and at the same time may be conveniently removed by pressing upwardly upon the lower side of the U-shaped spring to elevate the locking-arm, and thereby disengage the keyhole-slot from the bolt. The upper end of the locking-arm is provided with a transverse inwardly-directed flange or shoulder 19 to overhang the upper side of the adjacent bearing-ear of the axle-clip, so as to steady and brace the upper portion of the arm.

As best illustrated in Fig. 2 of the drawings, the outer free portion of the upper side of the spring is bent rearwardly across the upper side of the spring, so as to form a spring-tongue 20, which is designed to bear against the under side of the eye of the thill-iron, so as to prevent rattling thereof. It will also be

noted that the underside of the eye is flattened and the rear portion thereof is thickened or enlarged, as at 21, so as to give the eye a cam shape. When the vehicle is not in use and the free ends of the thills are on the ground or floor, as indicated in full lines, the flattened portion of the eye is disposed downwardly, so that the spring-tongue does not bear tightly against the eye; but when the thills are raised into their operative position the thickened portion 21 of the eye will bear against the spring-tongue and force the latter downwardly, as indicated in dotted lines, whereby the spring-tongue will bear tightly against the eye and prevent rattling or looseness thereof.

In Fig. 4 of the drawings there has been shown the application of the present locking device to another form of coupling, in which the axle 1 and the clip 2 are the same; but the tie-plate 3 is provided with a forward extension 22, having a jaw 23 pivoted thereto, as indicated at 24, so that said jaw may be folded rearwardly upon the upper side of the extension. The thill-iron 25 is provided at its outer end with an internally-screw-threaded socket 26 for connection with a thill or pole, and its opposite end is forked and provided with corresponding perforations for the reception of a pin 27, which is held between the jaw and the extension of the tie-bar. At each side of the rear or free end of the jaw there is provided a pendent ear or wing 28, which has a perforation for the reception of a bolt 29, similar to the bolt 7 shown in Fig. 5. The spring 30 is substantially the same as the other spring 11, with the exception of the spring-tongue 20, which is dispensed with. Also the locking-arm 31 is the same as the other locking-plate and is designed to engage the pin 29 in the manner hereinbefore described. Moreover, the upper side of the spring is provided with slots for the reception of the arms of the axle-clip, so that the spring may be adjusted transversely of the axle, in order that the locking device may be adjusted to a position for proper engagement with the pin 29.

In each form of the device it will be noted that the locking-arm must be hooked over the adjacent end of the thill-bolt, whereby the lower side of the spring is drawn upwardly, so that a separating spring tension is placed upon the opposite sides of the spring and a downward spring tension is placed upon the locking-arm, whereby the latter is held in positive engagement with the thill-bolt and can be disengaged therefrom only by a positive upward movement of the free end of the lower side of the spring.

What is claimed is—

1. The combination with an axle-clip, a thill-iron, and a pivotal connecting-bolt therefor, of a substantially U-shaped spring hav-

ing its upper side connected to the clip, and its opposite sides having a separating spring tension, and an upstanding locking-arm carried by the free end of the lower side of the spring; and having a detachable hooked engagement with the thill-bolt, whereby the spring draws the locking-arm downwardly upon the bolt.

2. A locking device for the thill-bolt of a thill-coupling, consisting in a substantially U-shaped spring, the opposite sides of which have a separating spring tension, one side of the spring having one or more openings for the reception of fastening devices, and a thill-bolt locking-arm carried by the free end of the other side of the spring, said arm projecting laterally across the perforate side of the spring, and having a keyhole-slot for the reception of a thill-bolt.

3. The combination with an axle-clip, a thill-iron, and a connecting-bolt therefor, of a substantially U-shaped spring, and a laterally-adjustable locking-arm carried by the spring and for engagement with the connecting-bolt.

4. The combination with an axle-clip, a thill-iron, and a pivotal connecting-bolt therefor, of a horizontally-disposed substantially U-shaped spring having its upper side connected to the clip, a substantially horizontal pin or bolt carried by the free end of the lower side of the spring and projecting laterally beyond one side thereof, the projecting portion of the pin being screw-threaded, a pair of nuts provided upon the screw-threaded portion of the pin, and an upstanding locking-arm, having a perforation loosely receiving the projecting pin, and a locking engagement with the adjacent end of the thill-bolt, said arm being located between the pair of nuts, and the latter being clamped against the opposite sides of the arm to adjustably hold the same upon the pin.

5. As a new article of manufacture, a locking device for thill-couplings, comprising a substantially U-shaped spring, having openings in its upper side, the outer end of the opposite side being formed into a transverse sleeve, a pin or bolt held within the sleeve and having a screw-threaded projecting end, a pair of nuts fitted to the screw-threaded portion of the pin or bolt, and an upstanding locking-arm having a perforation to loosely receive the bolt and adjustably held between the pair of nuts, the upper portion of the arm being provided with a vertically-disposed keyhole-slot.

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

FREDERICK REESE.

Witnesses:

JNO. MCKINLEY,
EDWIN WILSON.