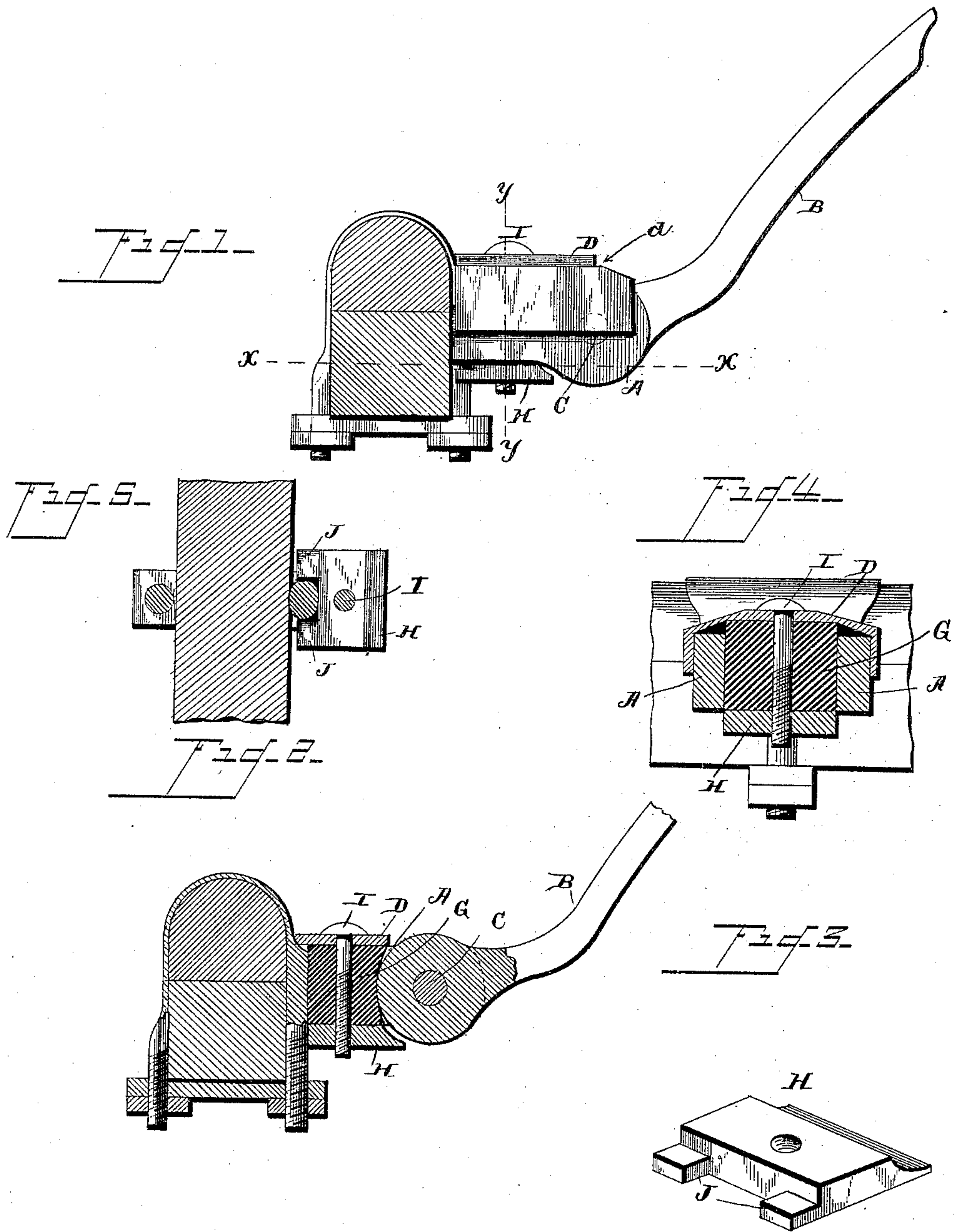


(No Model.)

T. A. WATROUS.  
THILL COUPLING.

No. 443,021.

Patented Dec. 16, 1890.



Witnesses  
*Geo. C. French.*

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# UNITED STATES PATENT OFFICE.

THOMAS A. WATROUS, OF ELMIRA, NEW YORK.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 443,021, dated December 16, 1890.

Application filed April 21, 1890. Serial No. 348,755. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. WATROUS, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented a new and useful Thill-Coupling, of which the following is a specification.

My invention relates to improvements in thill-couplings of that general class in which a rubber cushion or anti-rattler is employed and secured in place by a cap which fits over the ends of the coupling-pin to hold the same in its position.

The especial object of my invention is to provide means by which the cap and the anti-rattler can be quickly and easily secured in place upon completed vehicles provided for the ordinary thill-couplings; and it consists in certain novel features hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved thill-coupling. Fig. 2 is a longitudinal section. Fig. 3 is a detail perspective view of the locking plate or nut. Fig. 4 is a horizontal section on the line  $x x$ , Fig. 1. Fig. 5 is a transverse section.

Referring to the drawings particularly by letter, A designates the bearing-arms of the usual construction. The thill-iron B is pivoted between the bearing-arms A by a pin C, and a cap D is fitted over the bearing-arms and the end of the pin in the manner shown in Letters Patent No. 413,379, granted to me October 22, 1889. The rubber cushion or anti-rattler G is arranged in rear of the thill-iron and bears thereon, and below the anti-rattler and the arms A, I arrange the locking plate or nut H in position to engage the screw I after it has passed through the cap and anti-rattler. The locking plate or nut is preferably formed of brass, so as to prevent rusting, and is provided at its rear with lips or flanges J, which engage the under edge of the shackle and prevent the locking-plate being drawn upward between the bearing-arms, and the said flanges also engage the stem of said shackle-clip, so as to prevent it from rotating when the securing-screw is turned.

In practice the several parts are fitted together, as shown and described, and the se-

curing-screw is turned so as to move downward through the anti-rattler and engage the locking-plate, thereby drawing the cap down firmly on the bearing-arms and compressing the cushion, so that it will exert considerable pressure on the eye of the thill-iron. The locking nut or plate forms a bearing for the screw, so that the desired operation of the device is insured. The front edge of the locking-plate is beveled and grooved, as shown in Fig. 3, whereby it is adapted to fit and partly underlap the thill-iron.

My improved device is extremely cheap and simple and can be easily and quickly applied to the thills of completed vehicles without disturbing the fixed parts, marring the paint, or requiring the services of a skilled person.

The several parts are readily detachable, so that they can be easily removed when broken or worn and new parts applied. The cap-plate is preferably made a little crowning (see Fig. 4) instead of flat, as shown in my patent before referred to, the crowning form being better adapted to leave sufficient space for a rubber cushion of the size and form best calculated to be an effective anti-rattler. The edge of the cap is cut away in front, as seen at  $d$ , Fig. 1, to favor the rubber and render it more lasting by allowing it to move with the thill-iron when in action.

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

1. The combination, with the axle, the clip having bearing-arms, the thill-iron, and the coupling-pin pivotally connecting the thill-iron to the coupling-arms, of the crowning-cap resting on the bearing-arms and fitting over the ends of the pin, the cushion below the cap and in rear of the thill-iron, the locking-plate below the cushion and independent of the clip-plate, and the securing-screw passing through the cap, the cushion, and the locking-plate, substantially as specified.

2. The combination, with the bearing-arms, the thill-iron, and the coupling-pin inserted through the thill-irons and bearing-arms, of the cap resting on the bearing-arms and fitting over the ends of the coupling-pin, the cushion below the cap and in rear of the thill-

iron, the locking-plate having beveled grooved  
edge adapted to underlap and fit the thill-iron  
and provided with horizontal lips engaging  
the stem of the clip, and the securing-screw  
5 inserted through the cap and the cushion and  
engaging the locking-plate, as set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
presence of two witnesses.

THOS. A. WATROUS.

Witnesses:

J. E. VARNUM,

J. E. ALDRICH.