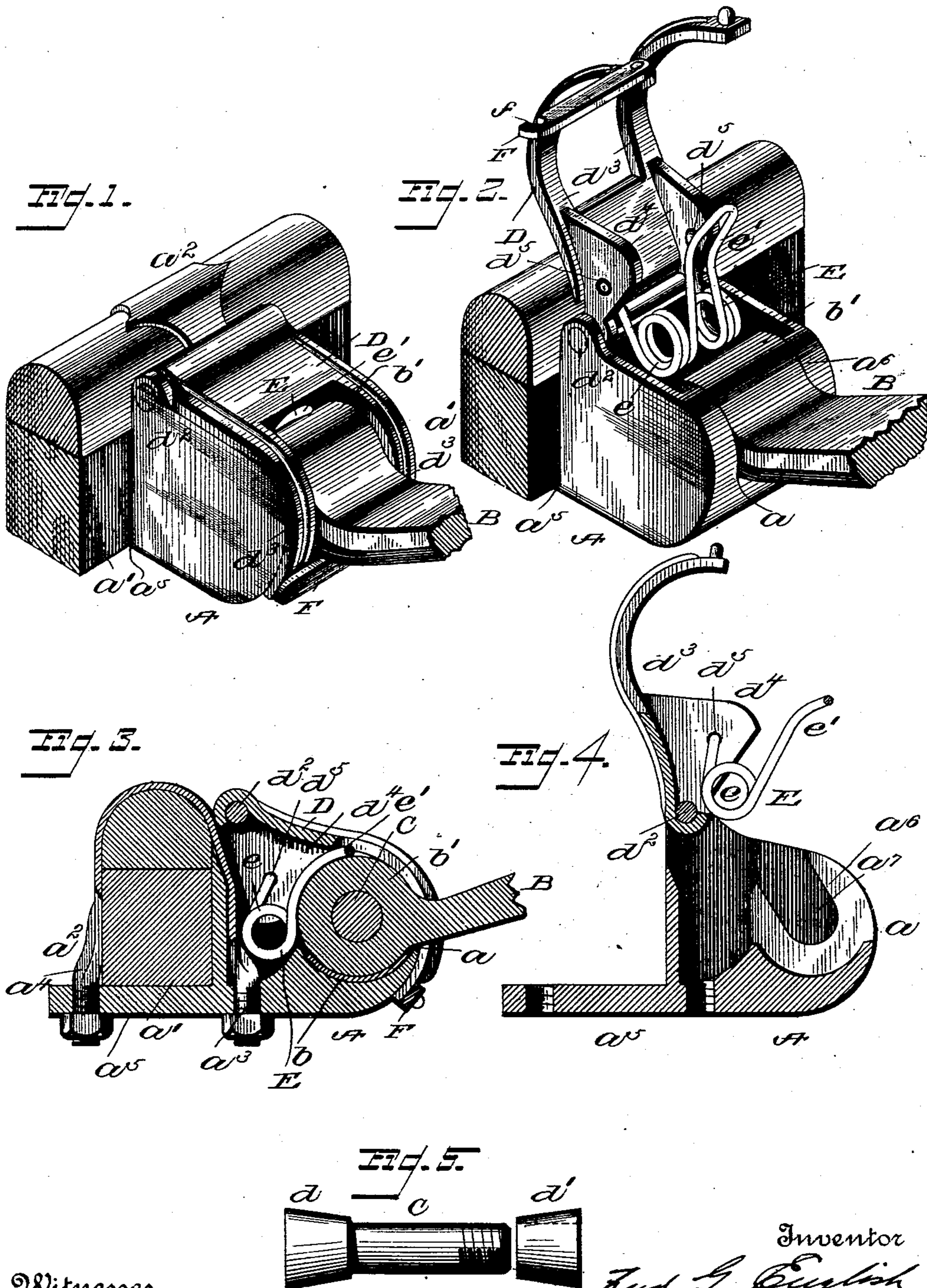


(No Model.)

F. G. ENGLISH.
THILL COUPLING.

No. 570,846.

Patented Nov. 3, 1896.



Witnesses

Johnnie
H. E. Dodge

Inventor

Frank G. English,

By *John W. Hill*
Attorney.

Attorney.

UNITED STATES PATENT OFFICE.

FRED G. ENGLISH, OF ROCHESTER, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 570,846, dated November 3, 1896.

Application filed April 14, 1896. Serial No. 587,481. (No model.)

To all whom it may concern.

Be it known that I, FRED G. ENGLISH, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention contemplates certain new and useful improvements in thill-couplings.

It has for its object the production of simple and highly-efficient means for preventing rattling and for holding or retaining the thill in place as against accidental displacement and to enable the same to be quickly and easily removed without the use of tools of any kind. This I accomplish by inclosing the pivoted end of a thill-iron in a box or casing having inclined grooves in which fit the cone-like ends of the thill-bolt. The top opening of this box is closed by a pivoted cover to which are connected the ends of a spring which bears against the end of the thill, said spring serving to firmly hold the cover closed down. This cover may be held locked as against accidental raising by a cross-plate pivoted to a curved arm of said cover and engaging a second arm thereof at its other end. The thill bears upon a cushion-seat.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective. Fig. 2 is a similar view with the cover raised. Fig. 3 is a central longitudinal sectional view. Fig. 4 is a view of the casing and cover with the thill-iron and axle-clip removed. Fig. 5 is a view of the bolt.

Referring to the drawings, A designates a box or casing open at its top and having a front cut-out a . This box is secured to the axle a' by a clip a^2 , one member, a^3 , of which is passed down through the box against the rear wall thereof, while the other member, a^4 , is extended through an opening in a rearward extension a^5 of the bottom of box A. In the sides a^6 of the box are inner opposite grooves a^7 , open at their upper ends and inclined downwardly and forwardly. A strip

of leather b , or other suitable material, rests on the bottom of the box between the inclined grooves, the same forming a cushion for the eye b' of the thill-iron B.

C is a bolt which is fitted in the eye b' , beyond which it projects, so that its ends rest in the inclined grooves a^7 , thus holding the thill-iron and forming a pivot therefor. The head d and the nut d' of this bolt are tapered or of cone form, constituting better bearings for the bolt in the grooves than if the same were straight or of uniform diameter.

D is the cover for the box A, to which it is pivotally connected by a cross-rod d^2 . This cover is designed to fit down over the open top of the box, and from it extend two curved arms d^3 , which in curvature conform to the forward curved ends of the sides of the box. From the under side of this cover depend two ears d^4 , in apertures of which fit the free ends d^5 of a spring E. This spring is of ordinary form, that is, it has coiled portions e and a forward central bend or loop e' , which bears against the thill-eye. When the cover is closed, the tension of this spring is exerted not only against the thill-eye, but also firmly holds the cover closed down.

In order to prevent the accidental raising of the cover, I employ a cross-plate F, which at one end is pivotally connected to the free end of one of the arms d^3 , its other hooked end f being designed to engage a lug of the other arm of the cover. This cross-plate being extended transversely beneath the thill-iron, the cover cannot be accidentally raised.

In practice the cover is elevated and the spring being out of the way the ends of the bolt are brought into line with the open ends of the grooves a^7 , and after being moved downward in the latter the cover is lowered and the spring being in rear of the thill-iron the tension of said spring will firmly hold the cover down on the box, after which the cross-plate may be positioned. The spring itself is sufficient for holding the cover closed down on the box and at the same time exerts pressure against the thill-eye sufficient to hold the bolt in the grooves.

The advantages of my invention are apparent to those skilled in the art, and it will be especially observed that the pivoted end of the thill-iron is prevented from rattling

and is entirely closed within the box and protected, the bolt being held in position, and also that no tools or implements are necessary to effect the coupling or uncoupling of the thill. The means employed are simple and inexpensive and not liable to readily get out of order or be deranged.

I claim as my invention—

1. A thill-coupling, comprising a box or casing open at its top and front and a pivoted cover for the top of said box having depending ears, a spring within said box connected at its ends to said ears and adapted to normally hold said cover closed, said spring having coiled portions and a central curved looped portion, and the thill-iron pivotally mounted in said box and extended through the front opening thereof, the curved looped portion of said spring bearing against the thill-iron when said cover is closed and acting as an antirattler, as set forth.

2. The herein-described thill-coupling, comprising the box or casing open at its top and front, the cover pivoted thereto having arms designed to extend down over the front edges of said box, means for preventing said arms from being raised, the thill-iron pivotally mounted in said box and extended through the front opening thereof, the cushion on the bottom of said box, and the spring within said box connected at its ends to said cover and having a curved looped portion bearing down on said thill-iron, said spring serving to hold said cover over the top of said box and acting as an antirattler, substantially as set forth.

3. The herein-described thill-coupling, comprising the box open at its top and front and having inner inclined grooves, the cover for said top opening pivoted to said box and having arms extending therefrom, the thill-iron, the pivot-bolt therefor having its ends fitting in said grooves, the spring within said box secured at its ends to said cover and having a central loop which bears against said thill, and the cross-plate connecting the free ends of the arms of said cover, substantially as set forth.

4. The herein-described thill-coupling com-

prising the box open at its top and front and having inner opposite grooves, the cover pivoted to said box, the thill-iron having an apertured eye, the removable bolt in said eye having conical ends fitted in said grooves, and the spring in said box bearing against said eye and connected to said cover, and serving to hold the latter closed down over said top opening, substantially as set forth.

5. The herein-described thill-coupling comprising the box open at its top and front and having inner opposite inclined grooves, the thill-iron having an apertured eye, the bolt in said eye having a conical head, a cone-like nut on the other end of said bolt, said head and nut fitting in said grooves, and the spring in said box bearing against said thill-eye and connected to said cover, substantially as set forth.

6. The herein-described thill-coupling comprising the box open at its top and front, and having inner inclined grooves, the thill-iron, the pivot-bolt therefor fitted at its ends in said grooves, the cover pivoted to said box and having depending apertured ears, the spring in said box having its ends secured to said apertured ears, and also having a central loop bearing against the inner end of said thill-iron, substantially as set forth.

7. The herein-described thill-coupling comprising the box open at its top and front and having inner inclined grooves, the thill-iron having an apertured eye, the bolt fitted in said eye having a cone-like head and a cone-like nut, said head and nut fitting in said grooves, the cover pivoted to said box and having forward downwardly-curved arms, the cross-plate designed to connect said arms, the apertured ears depending from said cover, and the spring connected at its ends to said ears and having a central loop bearing against said thill-eye, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRED G. ENGLISH.

Witnesses:

WILLARD D. BECKER,
PHIL BEGY.