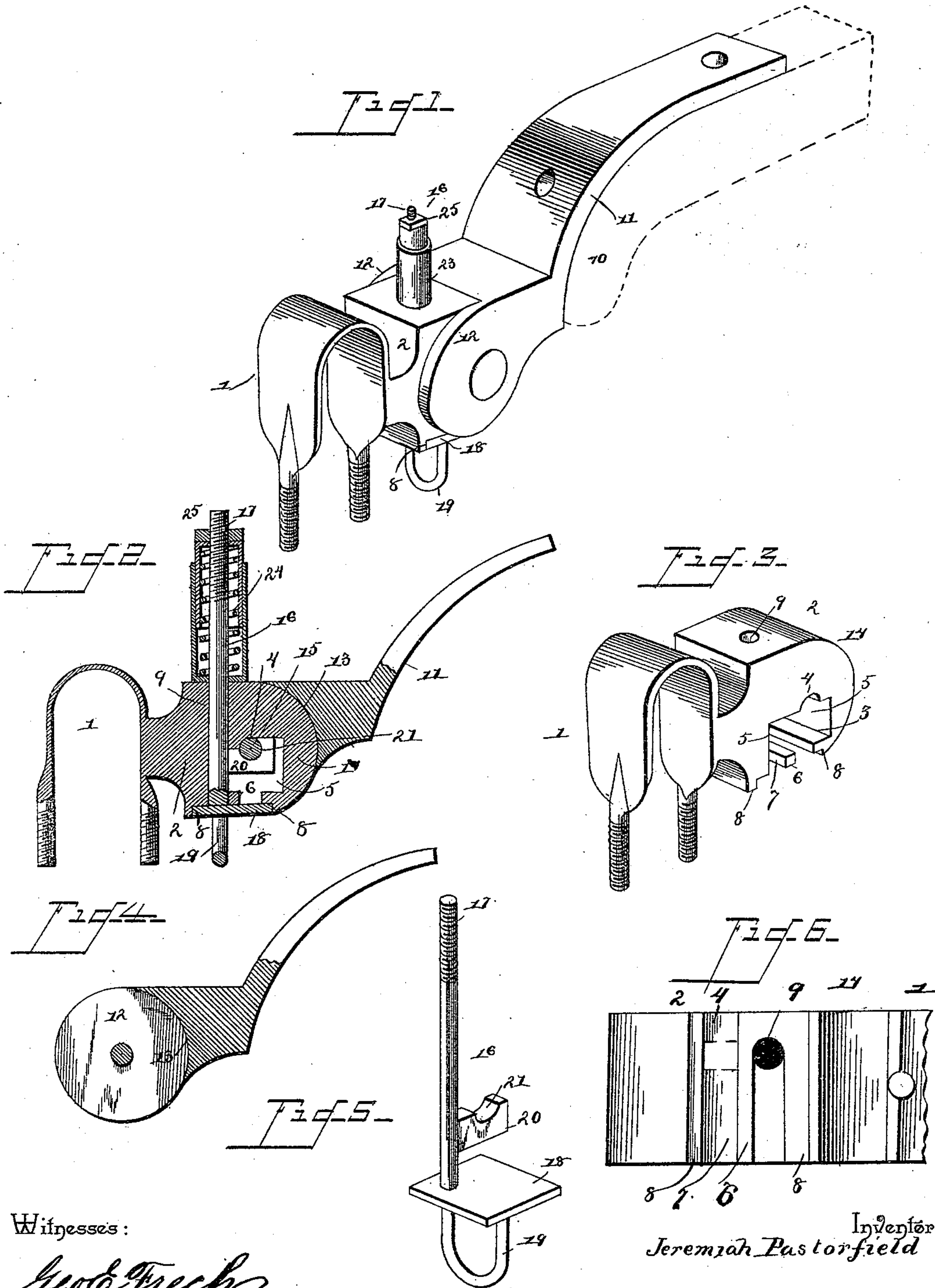


(No Model.)

J. PASTORFIELD.  
THILL COUPLING.

No. 438,559.

Patented Oct. 14, 1890.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JEREMIAH PASTORFIELD, OF NEWPORT, VIRGINIA.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 438,559, dated October 14, 1890.

Application filed August 1, 1890. Serial No. 360,702. (No model.)

*To all whom it may concern:*

Be it known that I, JEREMIAH PASTORFIELD, a citizen of the United States, residing at Newport, in the county of Giles and State of Virginia, have invented a new and useful Thill-Coupling, of which the following is a specification.

This invention has relation to improvements in thill-couplings or anti-rattlers, and the objects in view are to provide a cheap and simple device adapted for preventing the rattling of thill-connections and for taking up all looseness or wear from time to time.

With the above objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a portion of an axle and thill, the two being connected in accordance with my invention. Fig. 2 is a longitudinal section. Fig. 3 is a detail in perspective of the hook member or clip portion. Fig. 4 is a similar view of the thill-iron. Fig. 5 is a detail in perspective of the adjusting key or rod. Fig. 6 is a bottom plan view of the hook member.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the usual clip, which embraces the axle.

At the front side of the clip there is secured in any suitable manner or formed integral therewith the forwardly-projecting member 2. The member 2 is provided on its under side with an upwardly-disposed or vertical passage 3, which terminates at its upper end in a semicircular transverse bearing 4. Recesses 5 are also formed at each side of the passage, and that recess at the rear side thereof has its lower end spanned by a transverse horizontal bar 6, forming, in connection with the rear wall of the recess, a transverse slot 7.

At each side—that is, the front and rear sides—of the recess 3 and slightly beyond the edges thereof are formed transverse ribs 8. The roof of the rear portion of the recess 3 is provided with a circular opening 9.

10 designates the shaft or thill, to which is bolted the thill-iron 11, which iron at its rear end terminates in a pair of parallel rear-

wardly-disposed substantially circular perforated ears 12, the end of the iron being curved, as at 13, to ride over the front curved end 14 of the member 2. The ears 12 are connected by a bearing-pin 15, which is adapted to be passed through and into the vertical passage 3 and take bearing in the semicircular bearing 4 of the member 2. This union of the members may be accomplished by depressing the thill until its rear curved edge 13 is vertically below or opposite the front end 14 of the member 2. When in this united position, it will be observed that the thill has a pivotal bearing with the member 2 and may freely swing up and down with the movements of the horse.

16 designates the key or adjusting-rod, which latter is provided at its upper end with threads 17 and at its lower end is secured to a square plate 18, the latter having upon its under side a depending loop 19. Above the plate the rod is provided with a blade 20, the upper edge of which has a semicircular recess or half-bearing 21.

When the two members have been assembled, the key is inserted upwardly through the opening 9, and is turned so that its blade will pass through the transverse slot 7, after which it is given a quarter-revolution, which is permissible by reason of the recess 3, until it is under the transverse pin 15 and its semicircular recess or half-bearing 21 registers with the half-bearing 4 at the upper end of the passage 3. When in this position, the plate 18 will be opposite and may be inserted into the angular space bounded by the ribs 8.

23 designates a telescopic cylinder—that is, a cylinder formed of two sections telescopically connected—and between the sections of said cylinder is interposed a coiled spring 24. The axial ends of said cylinder are provided with openings, so that the cylinder may be introduced over the upper threaded end of the key 19, which latter, it will be observed, extends above the end of the opening 9 in the member 2 for a considerable distance.

Above the cylinder is applied an adjusting-nut 25. The tendency of the spring is to distend the sections of the cylinder and thus draw the rod or key up, so that its half-bearing formed in its blade 20 will be pressed up against the pin 15 of the thill-iron, and thus



avoid the rattling of the pin within the bearing 4 by reason of any non-conformity of these two elements. By moving the nut up or down upon the rod the tension of the spring, it will be obvious, may be increased or diminished and the joints between the two members thus rendered more or less loose, as occasion may require, it being preferable to retain just sufficient stiffness to avoid any absolute looseness and consequent rattling.

To remove the parts it is simply necessary to loosen the nut, place a tool or the finger in the loop 19, draw down the rod against the tension of the spring, and give the same a quarter-revolution until the blade 20 is opposite the opening 7, when the parts may be separated, as is evident.

Having described my invention, what I claim is—

1. In a thill-coupling, the combination, with the forwardly-disposed member 2, the front end of which is curved, said member being provided with the half-bearing 4 and at each side of the same with the recess 5, the rear half of which is crossed by the transverse bar 6, and at each side of said recess provided with the flanges 8 and also provided in rear of the bearing 4 and in line with the space between the bar 7 and the rear wall of the recess with the cylindrical opening 7, the thill-iron having the rear curved end and projecting ears connected by the pin 15, mounted in the bearing 4 of the rod or key 19, passing through the opening 9, threaded at its upper end, and inclosed by a telescopic cylinder having an interposed coiled spring and within the chamber 5, having a laterally-disposed blade provided with a half-bearing registering with the bearing 4, the plate 18, secured to the lower end of the rod and fitting between the ribs 8 and having the depending loop and the adjusting-nut mounted on the

upper end of the said rod, substantially as specified.

2. The combination, with the member 2, provided with a recess in its under side, a half-bearing in the roof of the recess, a vertical perforation or opening at one side of the bearing, a thill-iron having rearwardly-disposed ears to embrace the member 2 and provided with a bearing-pin taking in the half-bearing, of a threaded rod passed vertically through the perforation or opening and provided with a laterally-disposed blade having a half-bearing in its upper edge and taking under the pin of the thill-iron, and an adjusting-nut mounted on the upper end of the rod, substantially as specified.

3. The combination, with the member 2, the under side of which is provided with a recess, the roof of the recess having a transverse half-bearing and at one side of the same provided with a vertical perforation or opening, the thill-iron having rearwardly-disposed ears and a bearing-pin mounted therein and fitting the half-bearing of the member 2, of the vertical threaded rod inserted upwardly through the opening in the roof and provided with a laterally-disposed blade having a half-bearing opposite that in the recess, a telescopic or sectionally-formed cylinder having axial openings mounted on the upper end of the rod, a coiled spring interposed between the sections, a set-nut mounted on the rod above the cylinder, and a head or plate located at the lower end of the rod, substantially as specified.

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

JEREMIAH PASTORFIELD.

Witnesses:

FRANK PAYNE,  
G. L. MARTIN.