

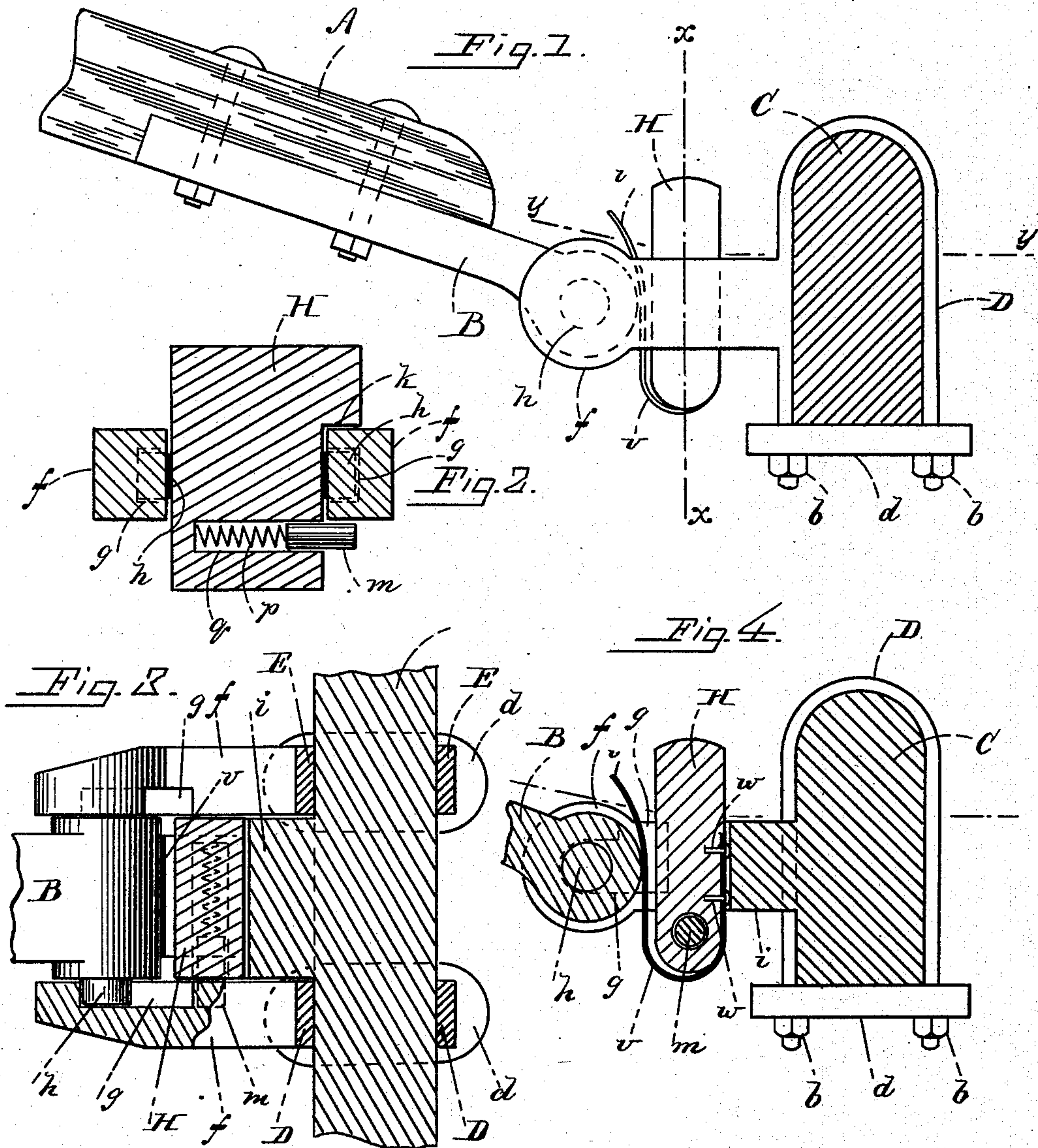
(No Model.)

S. H. & E. TYSON.

THILL COUPLING.

No. 413,378.

Patented Oct. 22, 1889.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL H. TYSON AND EZEKIEL TYSON, OF WEST BOYLSTON,  
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## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 413,378, dated October 22, 1889.

Application filed May 29, 1889. Serial No. 312,558. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL H. TYSON and EZEKIEL TYSON, both of West Boylston, in the county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of our improvement, the axle being shown in section and  
15 the shaft broken off; Fig. 2, a vertical transverse section taken on line  $x x$  in Fig. 1; Fig. 3, a horizontal section on line  $y y$  in Fig. 1, and Fig. 4 a central vertical longitudinal section of the same.

20 Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates to means for preventing carriage-thills from rattling; and it consists in certain novel features, as hereinafter  
25 fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

30 The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the shaft; B, the thill, and C the axle.

35 Two clips D E are preferably employed for each thill, and are secured to the axle in the ordinary manner by nuts  $b$  and straps  $d$ . Each clip is provided with an outwardly-projecting horizontal arm  $f$ , or a single clip may be employed provided with two of said arms, if  
40 desired. A vertically - arranged diagonal groove or socket  $g$  (see Fig. 3) is formed in the inner face of each arm  $f$ , to receive trunnions  $h$  on the sides of the thill B. A block  
45  $i$  is secured to the axle A between the clip-arms  $f$ , or the clips may be sunken into said axle to form said projection. A rectangular block H is fitted to enter the arms  $f$  between  
50 the projection  $i$  and thill B, said block having a shoulder  $k$  (see Fig. 2) for engaging a clip-arm  $f$ , and to prevent it from accidentally

falling. A pin  $m$ , cushioned on a spring  $p$  in a horizontal chamber  $q$  in said block, projects from the edge thereof below the clip-  
55 arms when said block is in position, and prevents it from being withdrawn. A curved flat spring  $v$  is bolted at  $w$  to the rear side of the block H, and passes around the lower edge thereof, its free end  $z$  engaging the thill B and acting expansively to hold it in position in the trunnion-sockets  $g$  of the clips.

In the use of our improvement the shaft is adjusted by inserting the thill-trunnions  $h$  in the clip-sockets  $g$ . The pin  $m$  is then  
65 forced into the chamber  $q$  against the pressure of the spring  $p$ , and the block H forced into the space between the clip-arms  $f$  until its shoulder  $k$  engages the top of one of said arms, at which time the pin  $m$  will be free  
70 and forced outward by its spring into the position shown in Fig. 2. The force of the flat spring  $v$ , pressing against the thill, drives its trunnions into the inner ends of the sockets  
75  $g$  and serves to cushion said thill, preventing it from rattling in a manner readily obvious without a more explicit description.

It will be seen that our improvement permits the shafts to be removed much more quickly and with less trouble than in ordi-  
80 nary couplings when nuts and bolts are employed.

Instead of the flat spring  $v$ , arranged as described, a coiled or elliptical spring, secured to the outer face of the block H, may be used,  
85 if preferred.

Having thus explained our invention, what we claim is—

The combination of an axle-clip provided with arms having inclined sockets, a thill  
90 provided with trunnions adapted to rest in said sockets, a projection on the axle between said arms, a removable block inserted between said arms and between said block and the thill, and a spring on said block bearing  
95 against said thill, said block being provided with a lateral shoulder and a spring-pin for engaging the upper and lower edges of said arm.

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Witnesses:

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