(No Model.)

B. F. PARSONS.

THILL COUPLING.

No. 302,519. Patented July 22, 1884.

Fig. 1

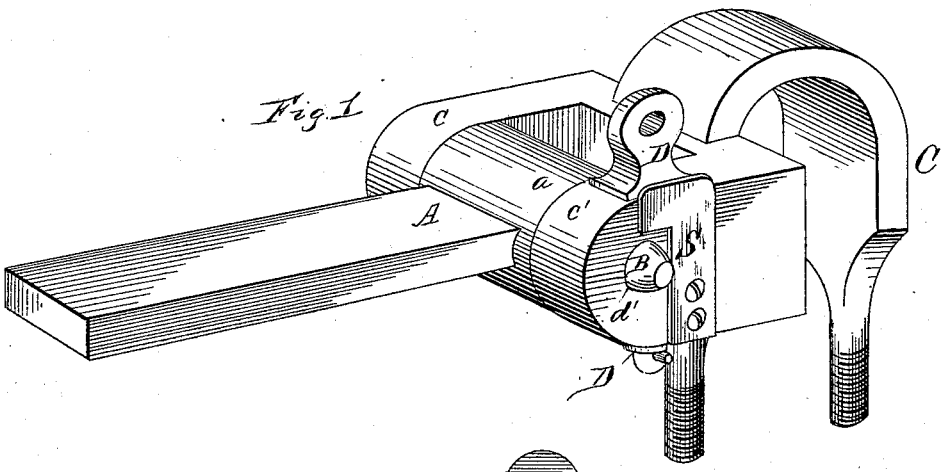


Fig. 2.

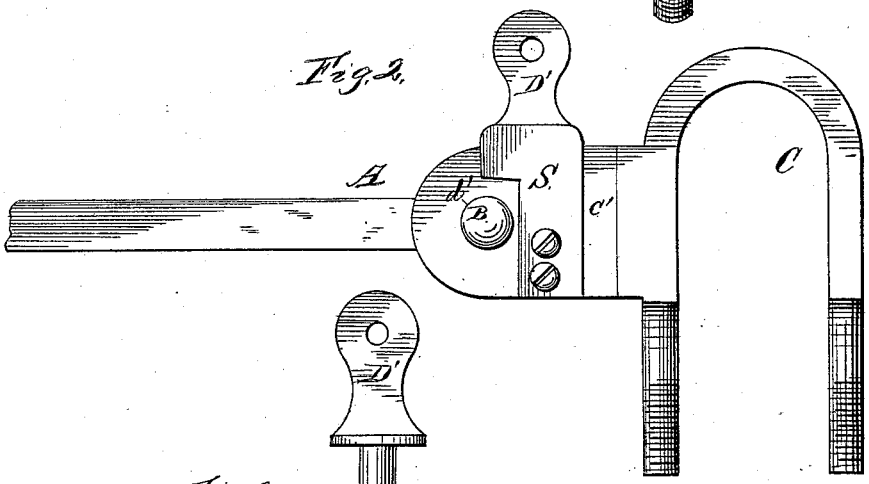


Fig. 3.

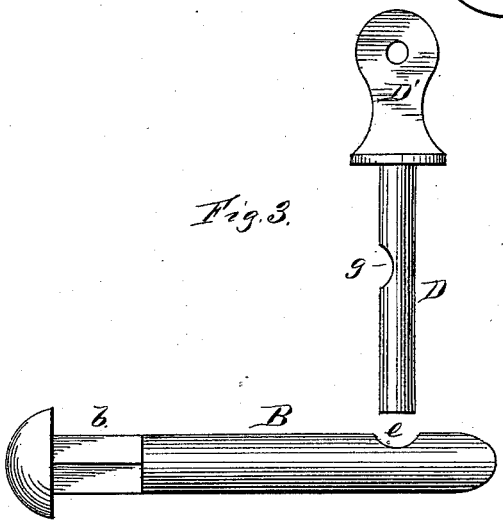
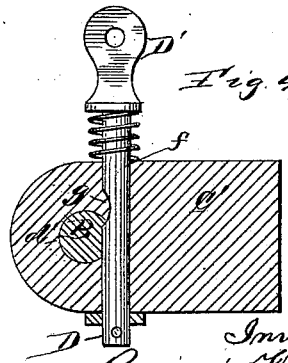


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN F. PARSONS, OF LITCHFIELD, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 302,519, dated July 22, 1884.

Application filed September 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. PARSONS, a citizen of the United States of America, residing at Litchfield, in the county of Bradford and State of Pennsylvania, 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in couplings for bolts, and the same is designed more especially to be used for the purpose of securing the shackle-bolt of a thill-iron, the object being to provide a means whereby a bolt may be securely held in position against lateral displacement without screw-threading the same or employing a nut, so that the bolt may be readily removed without the use of a wrench, which end is accomplished by the employment of the means as will be hereinafter described and is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view showing my invention applied as a thill-coupling. Fig. 2 is a side view. Fig. 3 is a detail view of the coupling-bolt and retaining-bolt detached, and Fig. 4 is a modification.

In the accompanying drawings, which illustrate my invention, A represents a thill-iron of ordinary construction, which is attached to the ends of the shafts. This thill-iron is provided with a transverse eye, *a*, through which passes the connecting-bolt B. The forwardly-projecting side wings, *c c'*, of the clip C embrace the edges of the thill-iron at a point opposite the eye *a*, and the wing is provided with a rectangular perforation, which is of a size to receive the angular portion *b* of the bolt B, which is formed on the same adjacent to its head, as shown. The thill-iron A is of ordinary construction, and is provided with a transverse perforation or eye, *a*, for the reception of the round portion of the connecting-bolt B. The wing *c'* of the clip C is provided at a point opposite the rectangular perforation with a circular perforation, *d'*, through which passes the end of the connecting-bolt B, which has formed therein a recess or depression, *e*, which, when the bolt B is placed in position, will be located at about the central portion of the perforation *d'*. The wing *c'* is also provided with a vertical perforation, *f*, which is located to one side of the center of the transverse perforation *d'*, and will extend within the same. This vertical perforation is for the reception of a securing-pin, D, which is of such a length as to extend through the perforation *f*. This pin D is provided on one side with a recess, *g*, which is curved so as to conform in shape with the perforation *d'*, and it is located at such a distance upon the pin that it will be opposite the perforation. The head of the pin D may be provided with a thumb-piece, D', the lower portion of which has rectangular shoulders, which lie upon the upper edge of the wing *c'* over the perforation. When it is desired to secure the bolt between the wings *c c'*, the bolt is first passed through the rectangular perforation in the wing *c*, so that its recess *e* will be turned toward the pin D, and also through the perforation *d'*, the pin D having been placed so that its recesses *g* will be toward the perforation *d'*, thus providing a free passage-way for the bolt B, which having been placed in position, the pin D is turned either a quarter or half way round, causing its round portion to lie within the recess of the bolt B, so as to prevent the same being displaced. The square shoulder on the end of the bolt will prevent the same turning, as well as the recess which bears upon the pin D.

In order to prevent the pin which secures the bolt in position from turning, I provide the outside of the wing *c'* of the clip with a spring which will bear against the same, which spring is indicated in the annexed drawings by the letter S, which is secured to the clip in any suitable manner at one side of the perforation *d'*, and is provided with an end which extends above the wing, so as to come in contact with the rectangular portion of the thumb-piece D'. This spring will admit of the pin being turned, but will hold the same against an ac-

cidental rotary movement. The lower end of the pin D is provided with a washer and key, as shown, which will secure the same against vertical displacement.

If desirable, instead of attaching a spring to the side of the forwardly-projecting portion of the clip, I may secure a spiral spring to the pin D, which pin is made longer for the purpose, and said spiral spring may be arranged upon either end of pin, so as to bear upon its head and against the upper side of the clip, or upon its lower portion, where it may be secured by a washer and a key, in which case it will bear upon the under side of the clip. When this construction is employed, the pin is either pressed downward or upward, so as to bring the notch in the bolt opposite the notch in the locking-pin, and when in this position the bolt may be either placed in position or removed.

Having thus described my invention, I reserve the right to use the same for all purposes to which my invention may be applied, and to modify the construction shown, so as to better carry out the spirit and intent of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

As a means for securing bolts having a recessed portion, *c*, in position without the use of nuts, a pin, D, which passes through a perforation at right angles with the perforation for the reception of the bolt, said pin being provided with a recess, *g*, and a spring for holding the pin so that its recessed portion will not engage with the bolt, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN F. PARSONS.

Witnesses:
F. T. PAGE,
T. D. WOLCOTT.