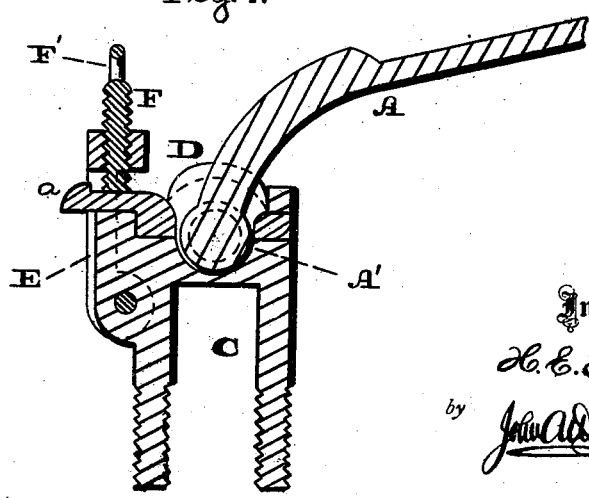
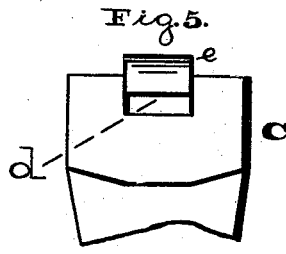
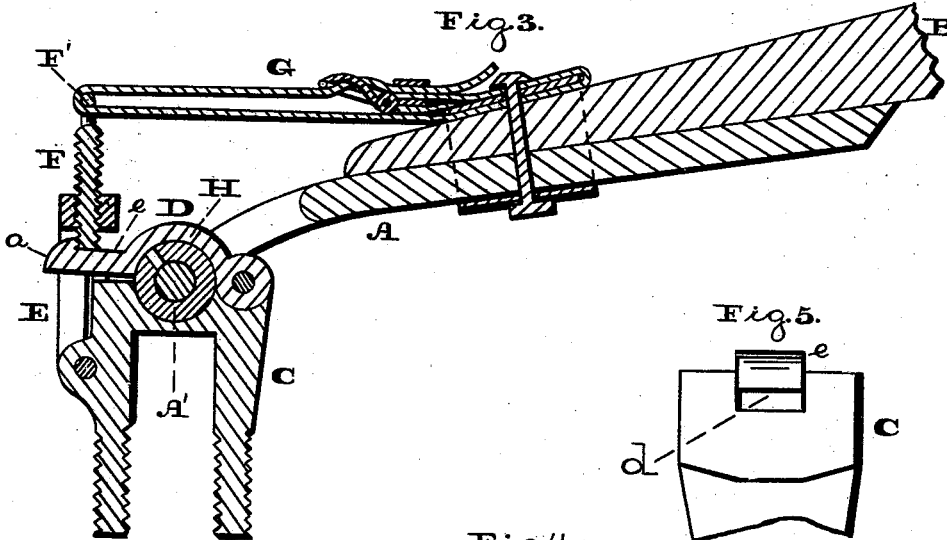
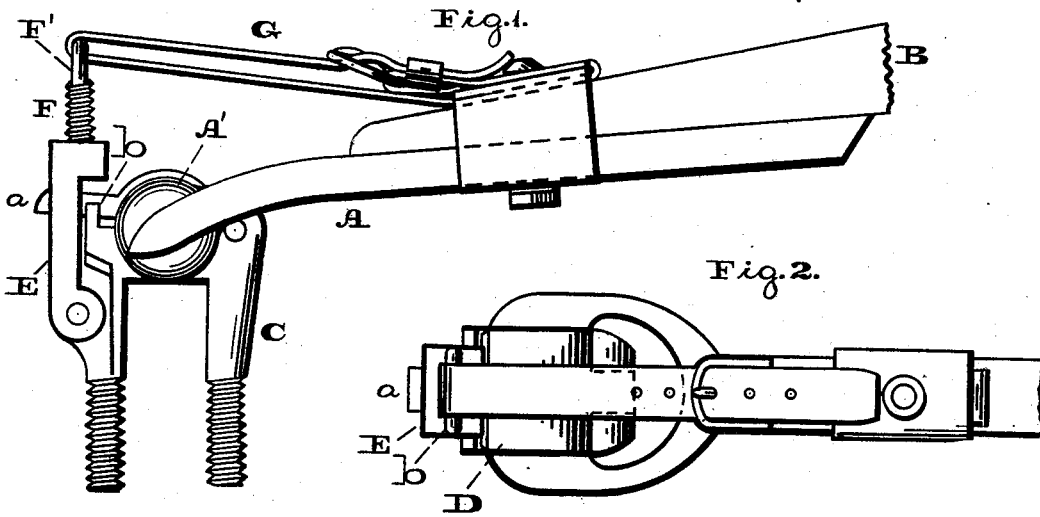


H. E. BRAUNFELD.  
Thill-Coupling.

No. 207,587.

Patented Sept. 3, 1878.



Witnesses:  
*Lewis F. Brown,*  
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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

HENRY E. BRAUNFELD, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN THILL-COUPINGS.

Specification forming part of Letters Patent No. 207,587, dated September 3, 1878; application filed January 25, 1878.

*To all whom it may concern:*

Be it known that I, HENRY E. BRAUNFELD, of the city and county of Baltimore, and State of Maryland, have invented a new and useful Improvement in Shaft-Couplings, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the coupling embodying my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a central vertical longitudinal section thereof. Fig. 4 is a central vertical longitudinal section of a modification thereof. Fig. 5 is a view of a detached part.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a hinged clasp for holding the head of the thill or shaft iron to the clip, in combination with a clevis for firmly securing the clasp.

It also consists in providing the clevis with a screw which engages with the head of the clasp, and has connected to it a strap which is attached to the shaft as a means of safety in the event of breakage of the iron.

It also consists of means of taking up lateral strain and preventing breakage of the clasp and clevis.

Referring to the drawings, A represents the neck of the coupling, to be attached to the shaft B in any desired manner, and C the clip, to be secured to the axle as usual. To the upper portion of the clip there is hinged a horizontally-arranged clasp, D, the inner face of which has a partial concavity, which, with a partial concavity on the upper face of the clip, forms a socket for the head A' of the coupling.

E represents a latch or clevis, which extends vertically, and is hinged to the side of the clip, so that its upper bar overhangs the free end of the clasp D. To said bar is fitted a screw, F, which is adapted to engage with the head *a* of the clasp D, and the upper or outer end of said screw is formed with an eye, F', to which is connected a strap, G, secured to the shaft or shaft and neck between the head A' and forward end of the neck.

Encircling the head A' is a rubber packing, H, which is of the form of a partial cylinder, whereby, when the clasp D is forced into position and compresses the packing, the latter

will yield and spread over the head, so that the elasticity of the rubber is not destroyed, and there is yielding connection of the head and clip, and rattling of the coupling is prevented.

In Fig. 1 the head A' projects through openings at the sides of the clip and clasp, and at said sides are forks extending to the neck of the coupling. In Fig. 4, an opening is made in clasp D, and into the same projects the neck directly attached to the head.

The operation is as follows: When the shafts are to be detached from the axle the strap is loosed and the screw F is turned so as to clear the head *a* of the clasp; then swing out the latch E and throw up the clasp D. This uncovers the head A', and permits the entire displacement of the latter and separation of the shaft.

In order to couple the parts apply the head A', lower the clasp D, raise the latch E over the clasp, and turn down the screw F' so as to take firm hold of the head of the clasp. This prevents the opening of the latch and consequent raising of the clasp, and thus the head is securely connected to the clip without liability of accidental displacement of the shaft, being thereby reliably coupled with the axle.

The upper portion, *b*, of the clip adjacent to the latch E is formed with a notch, *d*, into which enters the tongue *e* of the clasp, with which the head *a* is formed. In the event of lateral strain on the head A' or the clasp D, the tongue *e* of the latter is held by the walls of the notch, and thus the breakage of the clasp and latch is prevented.

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

1. The clip with the clasp D, in combination with the locking-clevis E, substantially as and for the purpose set forth.
2. The clip C and clasp D, in combination with the locking-clevis E, carrying the screw F and the safety-strap G, substantially as and for the purpose set forth.
3. The clasp D with tongue *e*, in combination with the clip C with notch *d*, substantially as and for the purpose set forth.

HENRY E. BRAUNFELD.

Witnesses:

JOHN A. WIEDERSHEIM,  
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