

P. E. BIRD.
THILL-COUPLING.

No. 188,096.

Patented March 6, 1877.

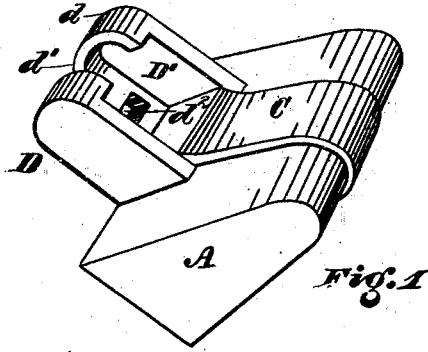


Fig. 1

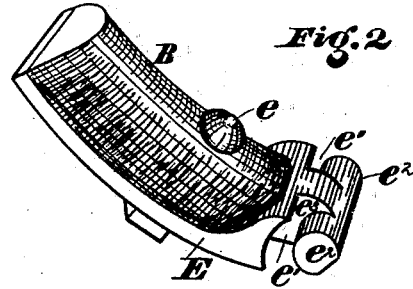


Fig. 2

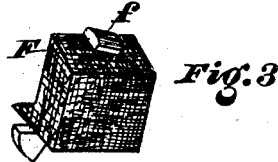


Fig. 3

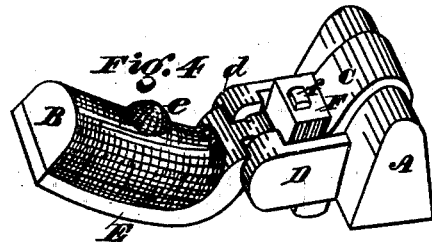


Fig. 4

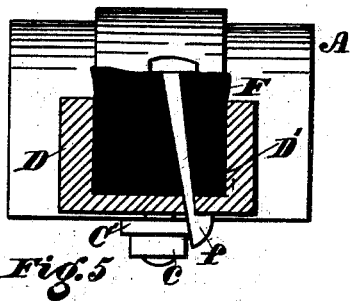


Fig. 5

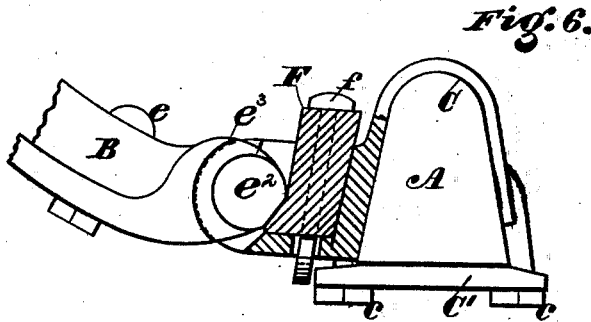


Fig. 6.

Witnesses
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UNITED STATES PATENT OFFICE.

PETER E. BIRD, OF JENKINTOWN, PENNSYLVANIA.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **188,096**, dated March 6, 1877; application filed November 16, 1876.

To all whom it may concern:

Be it known that I, PETER E. BIRD, of Jenkintown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Thill-Coupling; 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification, in which—

Figures 1, 2, and 3 are detailed perspectives. Fig. 4 is a perspective of my invention. Fig. 5 is a vertical transverse section, and Fig. 6 is a vertical longitudinal section.

My invention has for its object to provide an anti-rattling thill-coupling of improved construction.

My improvements consist in the peculiar construction and combination of parts, having reference particularly to the joint by which the sections forming the coupling are united, and to a rubber plug and key, by which said parts are held in position without jarring or rattling.

Referring to the accompanying drawing, A designates an axle, and B the shaft of a carriage or other vehicle. C is a clip embracing the axle, and C' a plate through which the threaded parts of said clip pass, being held by nuts *c c*. D is a boss or projection on the front side of the clip, recessed as shown, to form a cubical or rectangular chamber, D', the front side or wall of which is curved, as shown at *d*. This front wall is cut or divided vertically by an opening, *d*¹. E shows a tang or strap, secured to the end of the shaft B by a bolt, *e*. The rear end of this tang is enlarged or thickened and grooved, as shown at *e*¹ *e*¹, so as to form two bosses, *e*² *e*², connected with the main portion of the tang by the rib *e*². The bosses *e*² rest in the chamber D' on each side of the opening *d*¹, the rib or web *e*³ fitting in said opening. F is a rectangular block of india-rubber, in which is embedded a metallic key, *f*, said rubber block being inserted in the chamber D' back of the bosses *e*² or cross-head, which said bosses constitute, the barbed end of the key passing through an opening, *d*², in the bottom of said chamber.

To unite the sections D and E, which constitute the coupling proper, the shafts are elevated to, or nearly to, a vertical position. The cross-head formed by the bosses *e*² *e*² is then passed down into the chamber D', and slid forward until it meets the curved front wall of said chamber, the web *e*³ entering partly into the opening *d*¹. The shafts are then allowed to drop, bringing said web fully into said opening, the lower edge of the former meeting the bottom of the latter. The grooves *e*¹ *e*¹ being concentric with the curved front of the chamber D', the joint fits and turns very nicely. To prevent, however, any rattling or jarring, I insert the rubber plug F, which is securely held in place and prevented from becoming accidentally dislodged by means of the metal key *f*.

The side of the cross-head adjacent to the plug may be made flat, or the plug may be formed with a concave side, so as to fit snugly against said cross-head.

To remove the shafts, they are first elevated and the plug F withdrawn, the rubber being compressed to allow the shoulder of the key *f* to clear the edge of the opening through which said key is passed. The cross-head is then slid back in the chamber D' until it touches the rear wall of said chamber, when it is lifted vertically out of the latter.

What I claim as my invention is—

In a thill-coupling, substantially as described, the combination with the clip C, having the open chambered projection D, and the removable tang E, having bosses or cross-head *e*², of the rubber plug F, provided with the embedded key *f*, having a barb or shoulder on its lower end, said plug and key being fitted within the recessed portion of the projection D, and held in place, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of November, 1876.

PETER E. BIRD.

Witnesses:

CHAS. COTTMAN,
C. MATHER.