(No Model.)

W. C. SHIPHERD.

THILL COUPLING.

No. 433,048. Patented July 29, 1890.

Fig. 3.

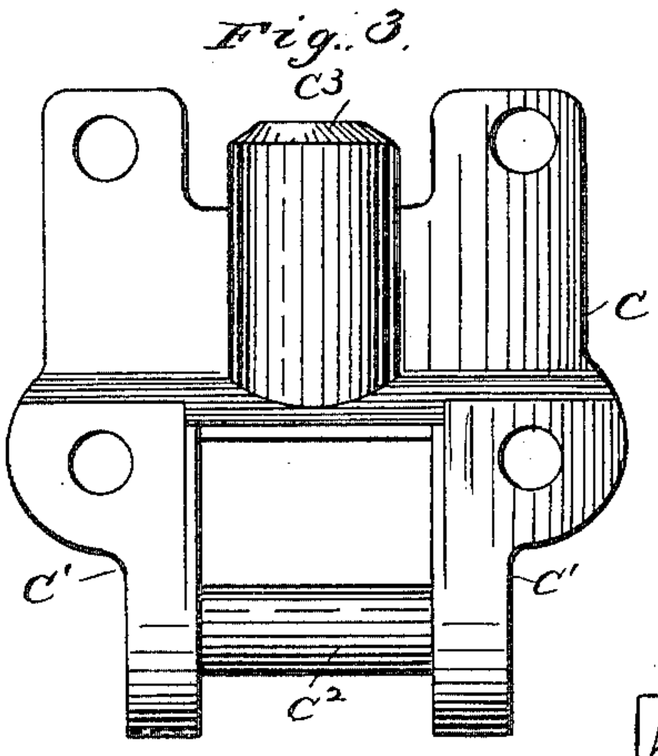


Fig. 1.

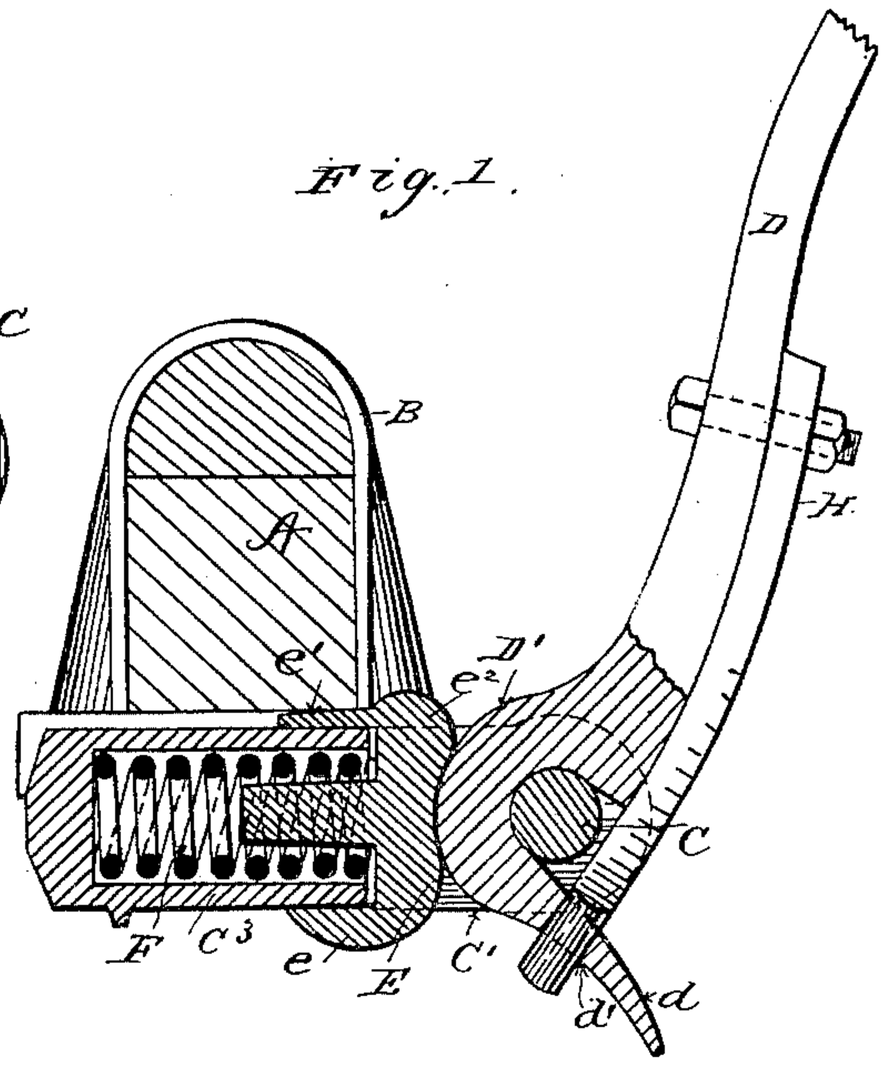


Fig. 5.

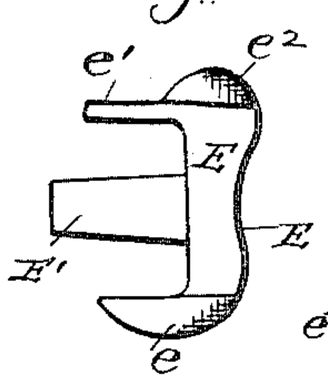


Fig. 4.

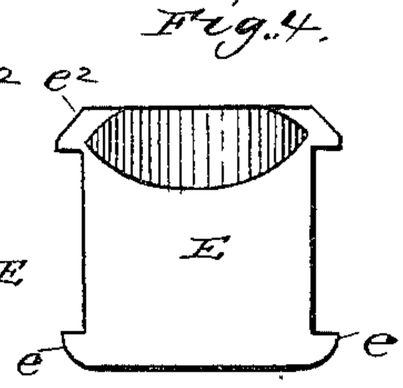
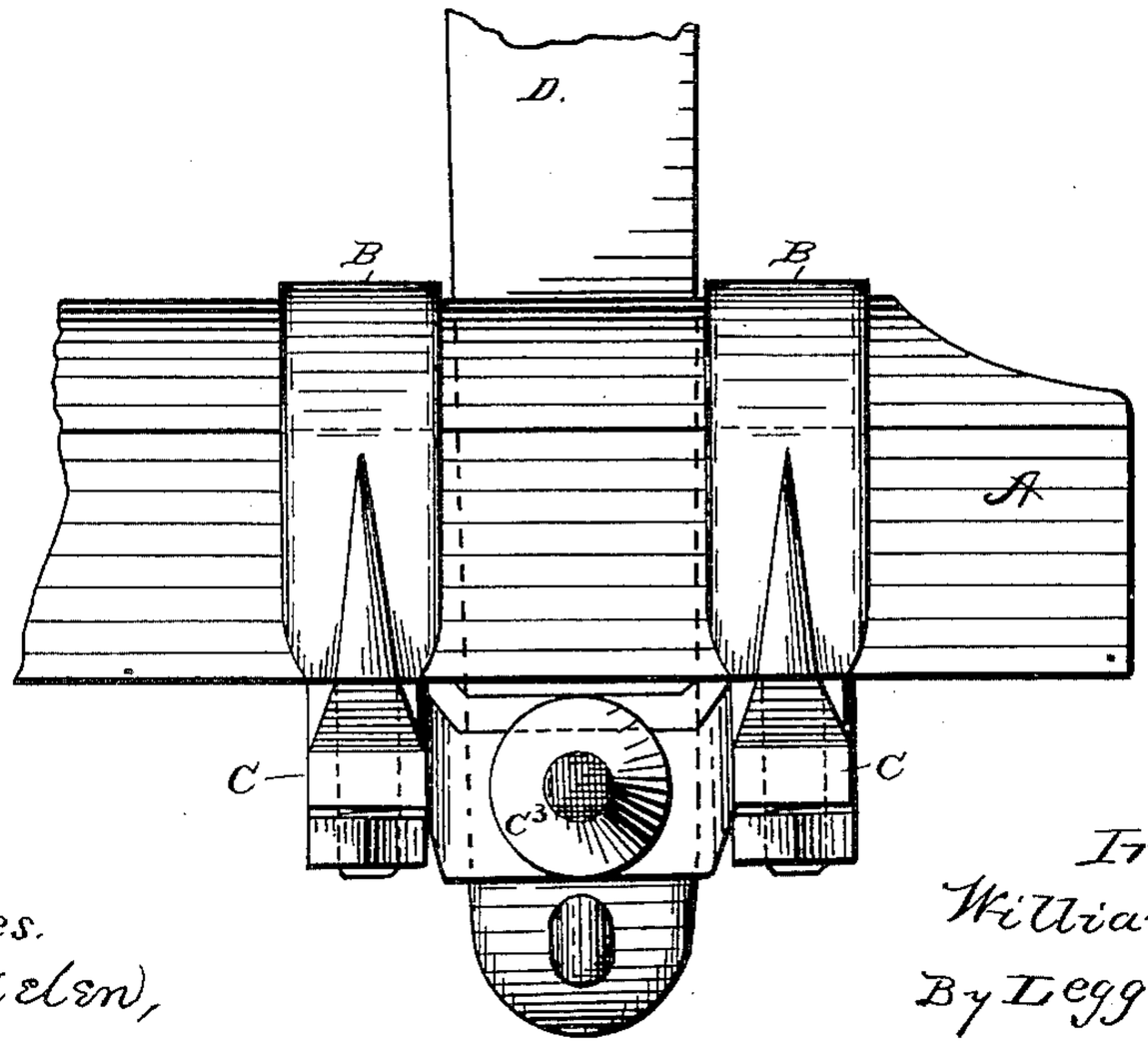


Fig. 2.



Witnesses.
W. R. Edelen,
Hill B. Sage

Inventor.
William C. Shipherd,
By Leggett & Leggett,
Atty's.

UNITED STATES PATENT OFFICE.

WILLIAM C. SHIPHERD, OF CLEVELAND, OHIO.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 433,048, dated July 29, 1890.

Application filed November 30, 1889. Serial No. 332,158. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. SHIPHERD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Anti-Rattler Thill Attachments; 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 the same.

My invention relates to improvements in anti-rattler thill attachments; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation, partly in section. Fig. 2 is a rear side elevation. Fig. 3 is a bottom plan of the double-clip bar. Figs. 4 and 5 are respectively front and side elevations of cap E.

A represents the axle, and B B are clips that connect with the double clip-bar C. This clip-bar has forwardly-projecting arms C′ C′, these arms being connected by lateral pin-bolt or wrist C^2, to which latter the thill-iron D is attached. Integral with the clip-bar is boss C^3, the latter being preferably cylindrical and extending crosswise the line of the axle, this boss having a cylindrical chamber therein opening forward, in which chamber operates the coil-spring F.

E is a cap that also performs the function of a cross-head. The rear face of this cap engages the forward end of spring F, and this face is provided with a pin or lug E′, that fits easily inside the spring and serves as a center-pin to hold the spring in place. Cap E has rearwardly-projecting flanges *e e′*, that extend, respectively, below and above astride boss C^3, flange *e* also projecting laterally to engage the under edges of arms C′. The cap above has laterally-projecting ears e^2, that engage the upper edge of arms C′, these arms serving as ways for the cap in the slight forward and rearward movement of the latter. The thill-iron D is provided with a hook or goose-neck D′, the internal face whereof is adapted to fit wrist C^2. The free end section of the goose-neck is wedge shaped, as shown at *d*, Fig. 1, and the forward face of cap E is slightly concaved to approximately fit the opposing section of the goose-neck when the thill-iron is in its elevated position, (shown in Fig. 1,) in which position the thills (not shown) are supposed to rest in the thill-straps of the harness, in which position of parts it is evident that the thills could not be detached. If, however, the forward end of the thills are lowered to bring member *d* to approximately a vertical position, the goose-neck could be lifted from its seat and the thills removed, whereupon the recoil of spring F would force cap E forward against wrist C^2.

In attaching the thills the thin edges of members *d* wedge in between the cap and wrist, thereby backing the caps against the action of the spring; hence with the parts assembled the recoil of the springs prevents the parts from rattling.

It will be observed that with the parts assembled, as shown in Fig. 1, cap E is only slightly separated from the forward end of boss C^3; hence if the parts were worn, so that there would be considerable play between the goose-neck and wrist, cap E in such case could be forced back but a trifle farther and could not possibly injure the spring—for instance, in holding back the carriage in descending a steep grade.

The goose-neck is provided with a small hole *d′*, and a leather strap H is attached in the position shown, the free end of the strap being reduced in size so as to enter hole *d′*. The strap is intended to fit snugly between arms C′, and although it would prevent the goose-neck from becoming detached from the wrist still the principal function of the strap is to prevent mud and dirt from entering the joint, and the same may be said of the overlapping flanges *e e′* in protecting the spring from dust and dirt.

What I claim is—

1. In a thill attachment, the combination, with a double clip-bar and integral arms bearing a lateral pin, bolt, or wrist, a thill-iron provided with a goose-neck adapted to engage such pin, bolt, or wrist, and a strap secured to the under side of such thill-iron in position to protect the under side of the pin, bolt, or wrist, such strap having a reduced end adapted to enter a hole in the goose-neck, of a hollow boss located in a plane between the arms of the clip-bar, a spring thereon, and a movable cap resting on said spring and bear-

ingagainst the goose-neck, substantially as set forth.

2. In combination, double clip-bar bearing-wrist, thill-iron provided with goose-neck for engaging such wrist, and strap secured to the under side of such thill-iron in position to protect the under side of the wrist, such strap having a reduced end adapted to enter a hole of the goose-neck, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 17th day of October, 1889.

WILLIAM C. SHIPHERD.

Witnesses:
C. H. DORER,
ALBERT E. LYNCH.