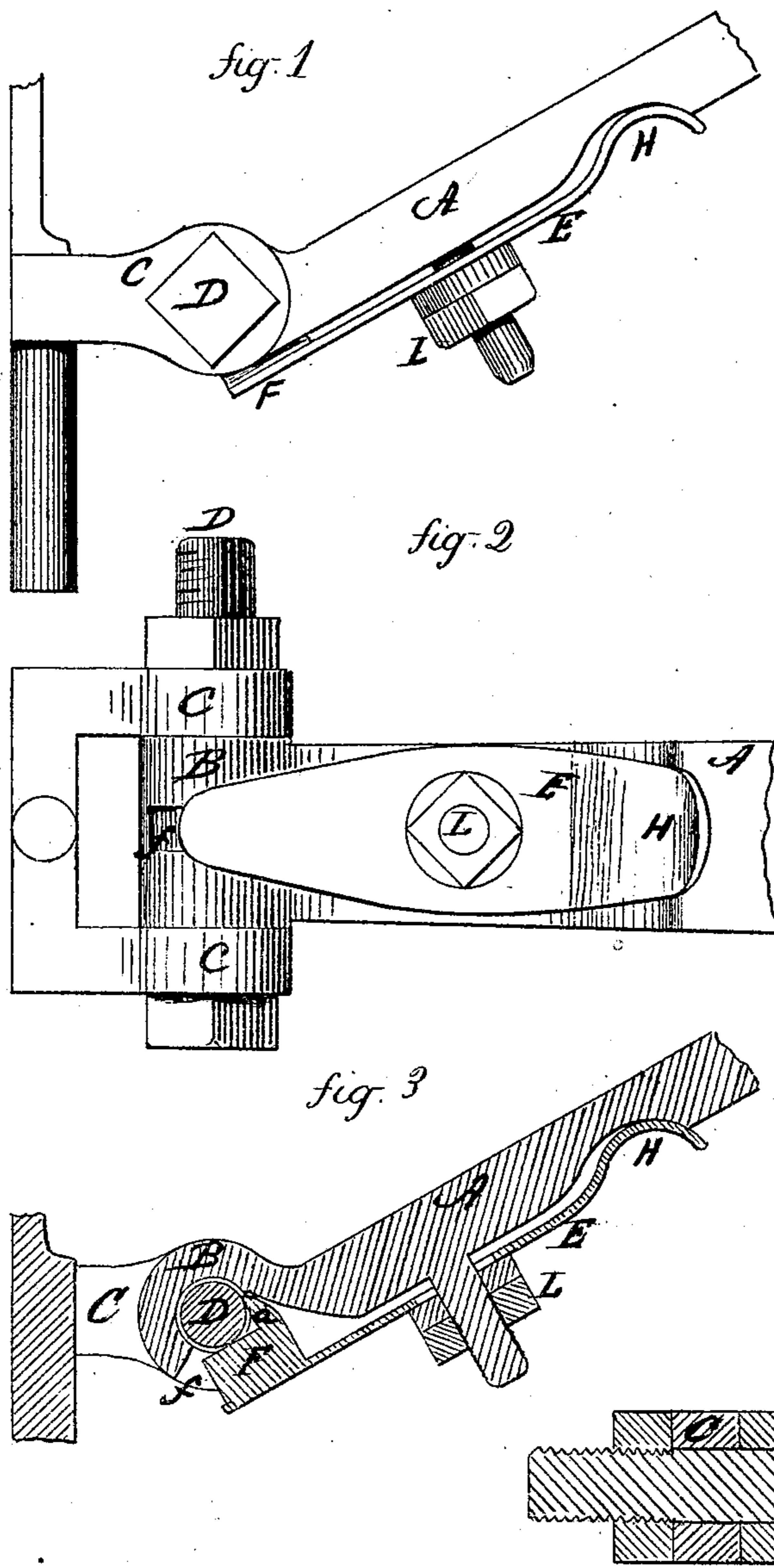


H. J. ILES.

Improvement in Thill-Couplings.

No. 130,374.

Patented Aug. 13, 1872.



Witnessed.

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UNITED STATES PATENT OFFICE.

HENRY J. ILES, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. 130,374, dated August 13, 1872.

To all whom it may concern:

Be it known that I, HENRY J. ILES, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new Improvement in Carriage-Shackle; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a side view; Fig. 2, an under-side view looking up; Fig. 3, a longitudinal central section; and, in Fig. 4, a transverse section through the bolt.

This invention relates to an improvement in the coupling by which the pole or shafts of a carriage are attached to the axle, known to the trade as "carriage-shackles," the object being to prevent the rattling of the thill-iron, as also to prevent the accidental removal of the bolt. The invention consists in combining with the thill-iron and bolt a spring, one end of which extends through one side of the eye of the thill-iron onto the bolt to prevent, by friction, the rattling of the thill-iron on the bolt, and also forming a groove or notch in the said bolt, into which the said projection on the spring will sit, so as to prevent the accidental removal of the bolt.

A is the thill-iron; B, the eye of the thill-iron; C C, the two ears of the shackle, which are attached to the axle in the usual manner. D is the bolt, which passes through the ears and eye of the thill-iron, also, in the usual manner. Upon one side of the thill-iron (by preference, the under side) I arrange a spring, E, the lower end F of which passes through an opening, *f*, in the eye of the thill-iron, so as to rest upon the bolt. Through this spring,

from the thill-iron or otherwise, a nut or bolt, L, is made to bear upon the outer surface of the spring to compress the spring toward the thill-iron and cause the end F of the spring to bear with a greater or less force upon the bolt D according to the adjustment of the pressure of the spring. In order to make a double bearing of this end of the spring upon the bolt, I form a lip, *a*, extending in forward of the bolt, and the other end curved, as at H, and fitted to a corresponding seat in the thill-iron. The pressure upon the spring by this construction causes a longitudinal force of the spring to bear the lip *a* against the bolt, making two bearings of the spring upon the bolt. The pressure of the spring should be adjusted so as simply to hold the thill-iron sufficiently firm to prevent its rattling.

To prevent the accidental removal of the bolt, I form a notch or groove, *d*, in the bolt, as seen in Fig. 4, into which the end of the spring sits, so that while the spring rests in this groove or notch it will be impossible to draw the bolt D from the shackle.

I claim as my invention—

1. The thill-iron A and bolt D of a carriage-shackle, combined with the spring E arranged upon the said thill-iron, and so as to bear upon the said bolt, substantially in the manner described, with or without the lip *a* and the curved end H of the spring.

2. In combination with the subject-matter of the first clause of claim, I claim a notch or groove formed in the said bolt, into which the end of the said spring rests, substantially as and for the purpose specified.

HENRY J. ILES.

Witnesses:

DAVID B. LOCKWOOD,
E. M. FRENCH.