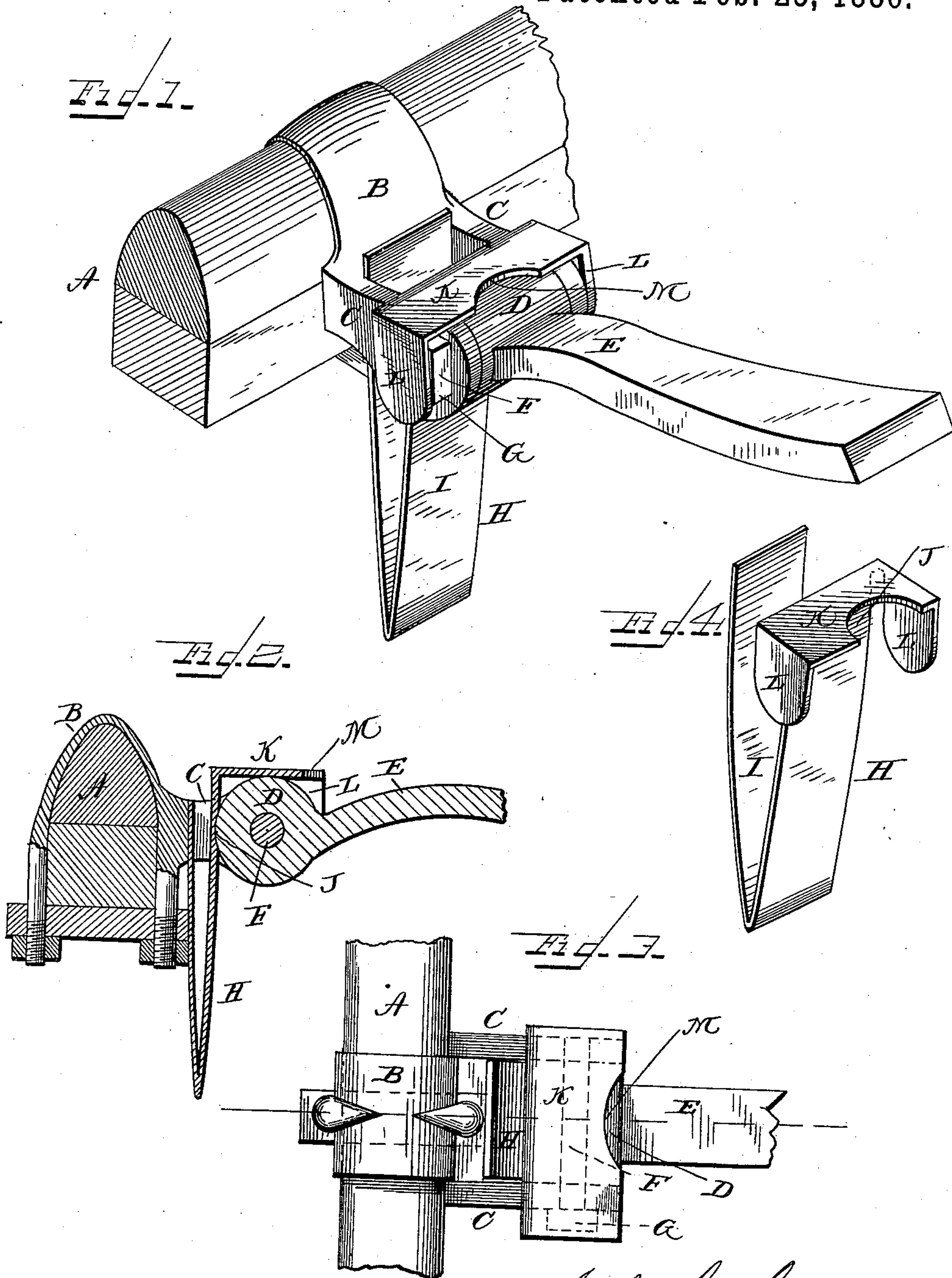


(No Model.)

J. G. STAIR.
THILL COUPLING.

No. 336,825.

Patented Feb. 23, 1886.



WITNESSES
H. L. Ourand
Wm. J. J. J.

John G. Stair,
INVENTOR,
By Louis Baggett & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN GARRETT STAIR, OF MANTENO, ILLINOIS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 336,825, dated February 23, 1886.

Application filed September 12, 1885. Serial No. 176,934. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. STAIR, a citizen of the United States, and a resident of Manteno, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved thill-coupling. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a top view, and Fig. 4 is a perspective view, of the spring.

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

My invention has relation to that class of thill-couplings in which a bent spring bears with one end against the eye of the thill-iron, and with the other end against the clip upon the axle; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the axle. B is the clip secured upon the axle and having the perforated lips C, between which the eye D of the thill-iron E is pivoted upon the bolt F, which is smooth and passes through the perforated eyes, having a head, G, at one end.

H is the spring, which consists of a narrow strip, I, of spring metal bent at a very acute angle, so as to be inserted with its doubled end between the clip and the eye of the thill-iron, and the end of the spring which bears against the eye of the thill-iron is formed with a transverse groove, J, which will bear against the rear cylindrical side of the thill-eye and serve to retain the spring in its position between the clip and the thill-iron, preventing it from working itself loose while in use.

The upper end of the portion of the spring bearing against the thill-eye is provided with a T-head, K, which bears against the upper

edges of the perforated lugs of the clip, and which has its ends bent down to form lips L, which bear against the two ends of the bolt which secures the thill-iron in the clip, the said lips preventing the bolt from slipping out from the thill-eye and clip. The forward edge of the T-head of the spring has a recess, M, cut out for the purpose of allowing the thill-iron to be swung upward, the said T-head being bent forward from the spring at a right angle and resting upon the upper side of the thill-eye and the upper edges of the perforated lugs. It will be seen that this spring with its T-head will not only prevent the thill-iron from rattling upon its bolt when the eye or the bolt becomes worn, but will also prevent the bolt from becoming loose, and thus prevent the thills from becoming unfastened by the bolts falling out.

The spring may be attached to any common thill-coupling, and may be removed by an upward stroke of a hammer against the doubled lower end of the spring, and the spring may again be inserted by a blow of a hammer upon the T-head, which will drive it into position again, so that the shafts may be removed and again be inserted, or the ends of a pole be inserted instead of the thills, in a moment of time.

It will thus be seen that a very simple and inexpensive device for retaining the bolt of a thill-coupling and for preventing rattling of the thill-eye upon the bolt is produced in my device, the manufacture of the entire spring requiring very little work in cutting it out or forming it and in bending it, and the device may be applied to any common coupling now in use.

I am aware that it is not new to construct an anti-rattling thill-coupling by bending a spring at an acute angle one arm of which forms a head projecting over the thill-eye, and having downwardly-projecting ears adapted to retain the bolt in its position, neither do I claim such construction, broadly.

What I claim as my improvement and desire to secure by Letters Patent of the United States, is—

The combination of a vehicle-clip, thill-iron,

bolt, and a spring bent at an acute angle, the front part of said spring being provided with a T-head having a notch at its front edge and a downwardly-projecting lip at each side, said
5 spring also having a transverse notch across its front side below said T-head, as shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN GARRETT STAIR.

Witnesses:

F. M. WRIGHT,
J. A. GRANT.