(No Model.)

A. W. BALDWIN.

THILL COUPLING.

No. 428,061. Patented May 20, 1890.

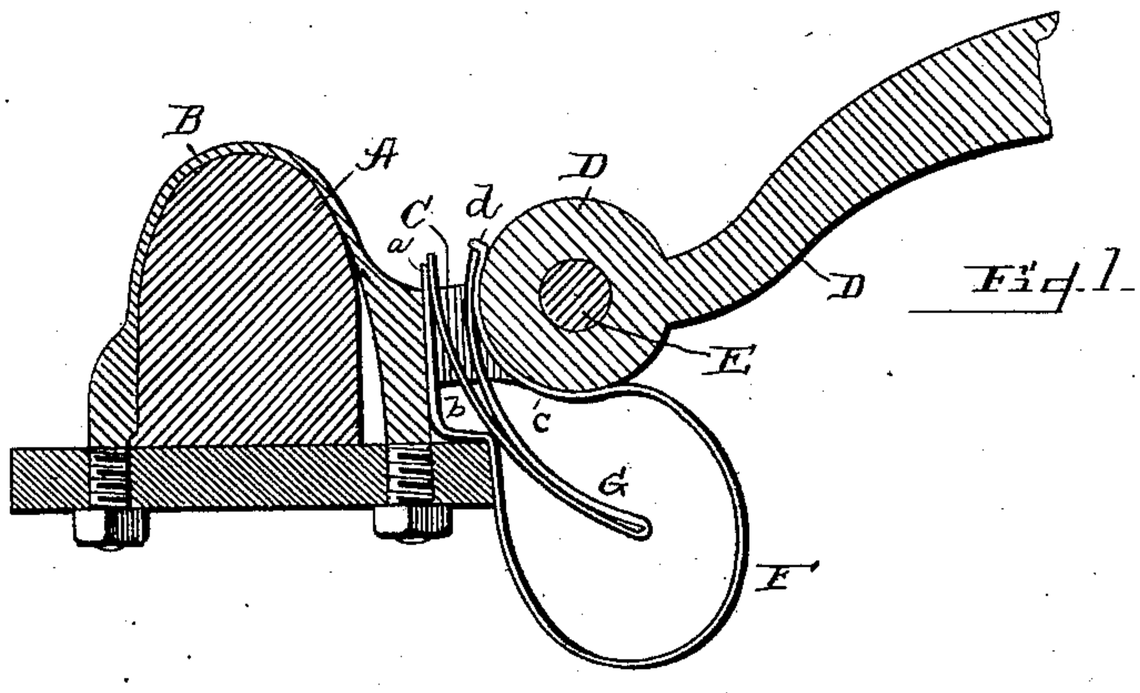
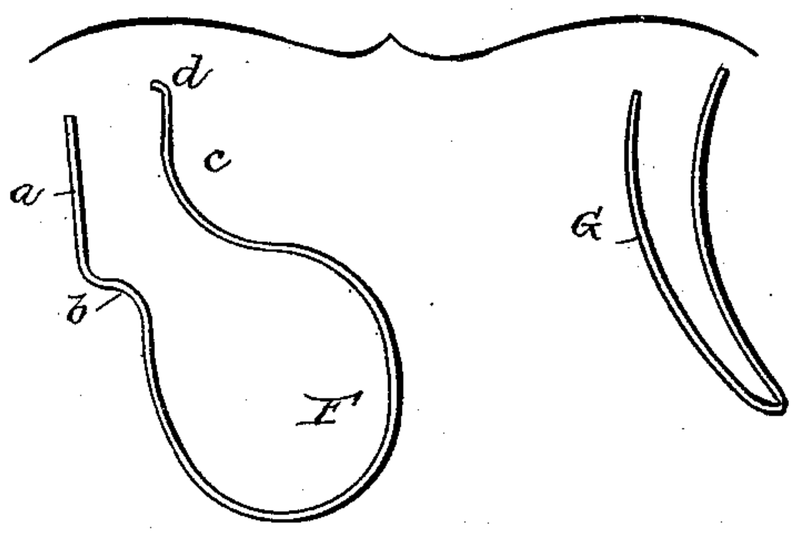


Fig. 1.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW W. BALDWIN, OF FREMONT, NEBRASKA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 428,061, dated May 20, 1890.

Application filed February 12, 1890. Serial No. 340,118. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. BALDWIN a citizen of the United States, residing at Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Anti-Rattling Thill-Couplings; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in anti-rattlers for thill-couplings; and it has for its objects to provide a device of this character which will prevent the rattle incident to the wear of bolts and other parts of the coupling and will also compensate for such wear.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

In the drawings similar letters of reference indicate like parts on the several views.

Figure 1 of the drawings is a sectional view through a thill-coupling provided with my improved anti-rattler. Fig. 2 is a side elevation of the two anti-rattling springs.

Referring to the details of the drawings, the axle A is surrounded with the usual clip B, said clip having the perforated ears C, between which are secured the shaft-iron D by the usual bolt E. The main anti-rattling spring F is formed of a flat leaf-spring bent into the form shown—that is, its central portion being bent into circular form—its free end *a* being bent outwardly and upwardly, thus forming a shoulder *b*, for a purpose which will hereinafter appear, its other end *c* being bent on the arc of a circle opposite from the curve of the circular portion above described and provided on its end with the lip or flange *d*.

The locking-spring G is formed of a single piece of flat steel spring bent upon itself at a point at or near its middle, being substantially V-shaped in side elevation, as shown in Fig. 2.

To apply my invention to an ordinary thill-coupling, the free ends of spring F are inserted between the ears C from the under side of the thill until the shoulder *b* rests upon the upper face of the cross-bar of the clip and the curved portion of end *c* bears against the rear curved portion of the shaft-iron D and also against its under side. To lock this spring, in order to prevent its jarring from position, the locking-spring G is driven downward between the free ends *a* and *c* until one of the free ends of spring G catches under the flange *d* of the spring F. By this construction all wear of the parts is taken up and the rattling of the thill effectually prevented, as the spring F not only bears against the rear of the shaft-iron D to prevent backward and forward movement, but also bears against the under side of the iron, so as to prevent up-and-down movement to prevent rattling in that direction.

The springs can be put in position without removing the shafts or pole, and under the construction shown are locked both top and bottom when in place, as is apparent. They can be removed by taking out the bolt E and releasing the shaft-iron.

The parts are inexpensive to manufacture, easily applied without special skill, efficient in use, completely preventing rattling, and very durable.

While I have described with particularity the details of construction of each part, I do not mean to be restricted thereto in all instances, as the substance of the invention may be employed without following all such details.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In an anti-rattling thill-coupling, the combination, with the main spring curved in the arc of two circles opposite to each other, with its lower central portion forming a loop and its two free ends extending above the loop, of an intermediate spring composed of a spring-plate bent upon itself and inserted between two parts of the main spring, with its open end uppermost and exerting an expansive force against said parts, substantially as and for the purposes set forth.

2. In an anti-rattling thill-coupling, the combination, with the main spring curved in the arc of two circles opposite to each other, with its lower central portion forming a loop and

its two free ends extending above the loop, one of said ends having a laterally-projecting flange, of an intermediate spring inserted between two parts of the main spring and exerting an expansive force against said parts, substantially as and for the purposes set forth.

3. The combination, with the clip and thill-iron, of the main spring curved in the arcs of two circles, with its central portion forming a loop, said spring being inserted between the eye of the iron and the portion of the clip to the rear thereof, with the front portion of the spring bearing against both the rear and bottom of the thill-eye, substantially as set forth, and a secondary spring inserted between the front and rear portions of the main spring, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW W. BALDWIN.

Witnesses:

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