(No Model.)

W. M. BUCHNAU.

ANTIRATTLING THILL COUPLING.

No. 577,232. Patented Feb. 16, 1897.

Fig. 1.

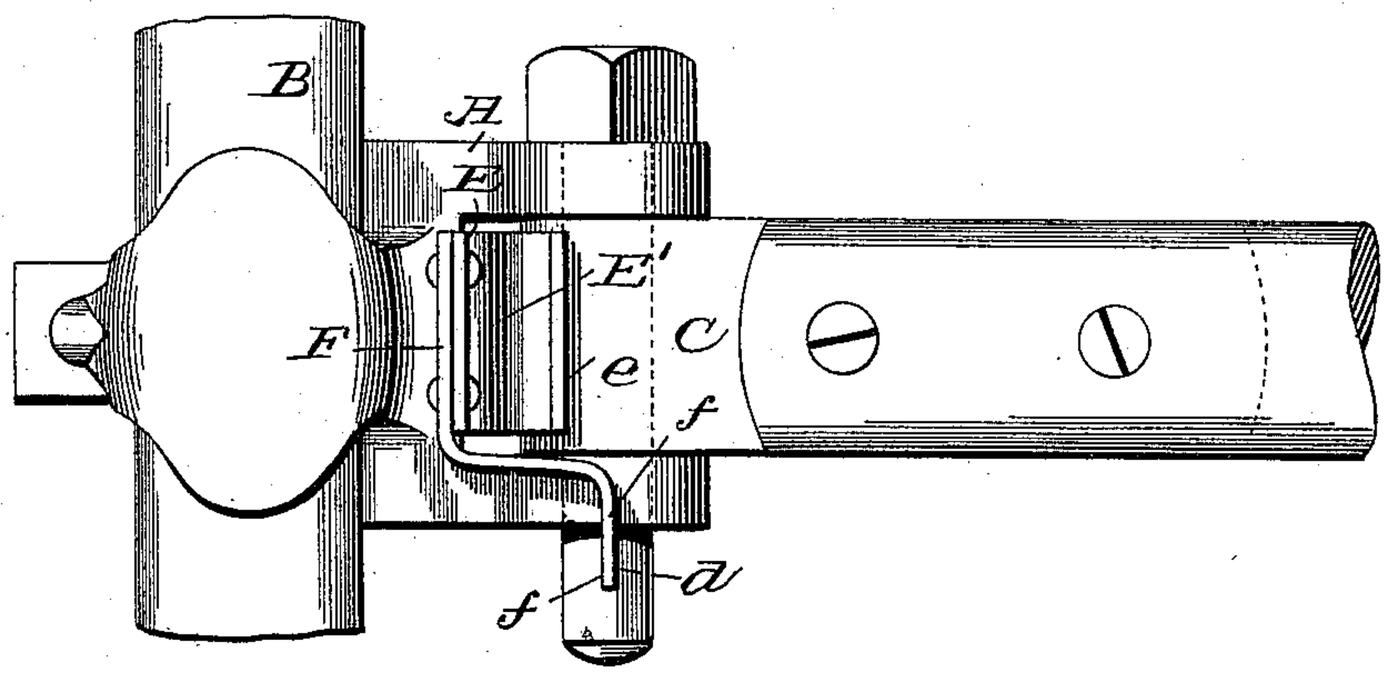


Fig. 2.

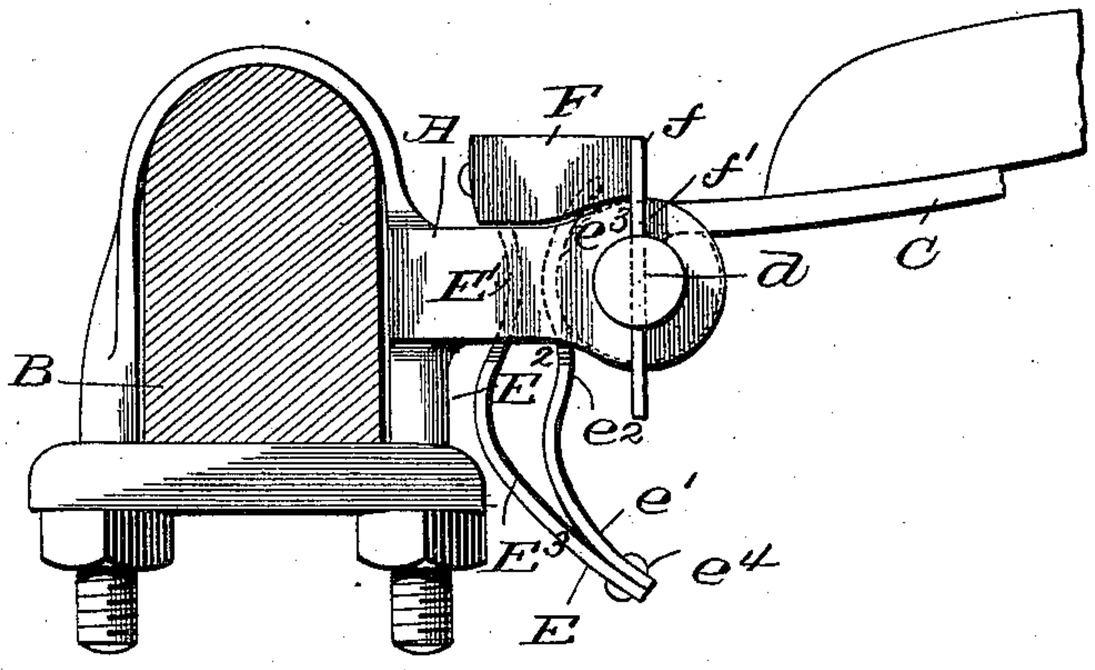


Fig. 3.

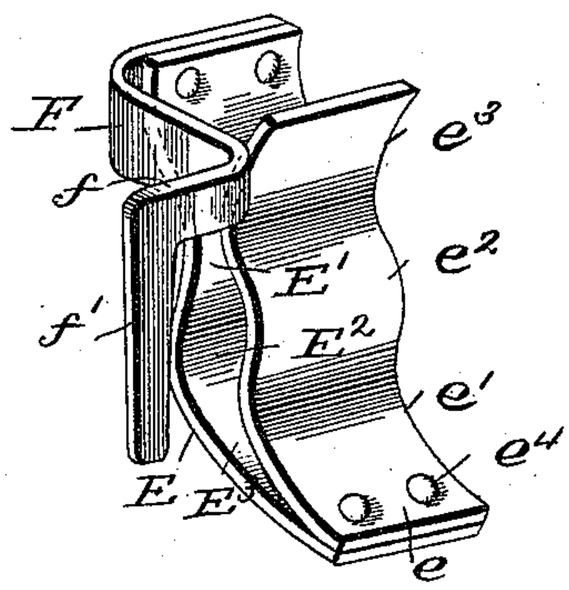
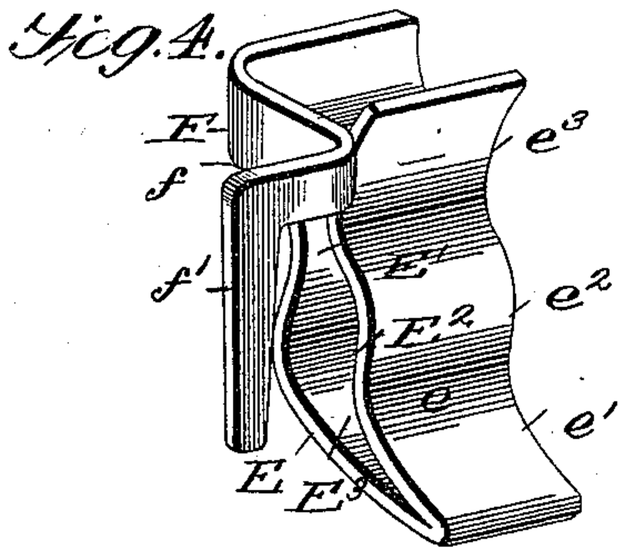


Fig. 4.



WITNESSES

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ANTIRATTLING THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 577,232, dated February 16, 1897.

Application filed April 25, 1896. Serial No. 589,075. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BUCHNAU, of Columbia, in the county of Maury and State of Tennessee, have invented certain new and useful Improvements in Antirattling Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention is an improved antirattling thill-coupling, and its object is to provide a device which will prevent rattling of the thill in the clip and which will also act as the means for securing the thill-coupling bolt in place.

The invention consists in the construction and combination of parts hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the device; Fig. 2, a side view of Fig. 1; Fig. 3, a perspective view of the spring detached. Fig. 4 is a view of a modification.

A designates the thill-clip, of ordinary construction, fastened to the axle B.

C designates the thill-iron, fastened to clip A by bolt D, said bolt having a head on one end, as usual, and a slot *d* in its other end for the passage of a retaining device.

The antirattling-spring consists of a rear leaf E and front leaf *e*. The upper end of rear leaf E is bowed forwardly, as at E′, then bowed rearwardly, as at E^2, and then bent forwardly, as at E^3, so that when the spring is in place part E′ is directly in rear of bolt D, part E^2 is below the bolt, and part E^3 projects forward below and under the bolt, as shown. To the lower end of part E^3 of leaf E the lower end of the front leaf *e* is secured by rivets e^4, as shown in Figs. 2 to 4, or leaf *e* may be formed integral with plate E, as shown in Fig. 5. From the point of its connection with leaf E leaf *e* is first bowed rearwardly, as at *e*′, then is bowed outwardly again, as at e^2, and then bowed rearwardly again, as at e^3, directly behind bolt D, against which part e^2 of leaf *e* bears, as shown. By this construction the leaves of the spring are separated more beneath the bolt than just in rear thereof, so that the tendency of the spring is not to pull up, as the ordinary V or U shaped springs do, which tendency renders them unreliable and therefore practically useless, for such springs will gradually work up and finally out of the clip, whereas my spring works down and binds the tighter against the bolt as the upper end of leaf *e* is curved forwardly sufficiently to prevent its actually slipping down between the clip and bolt.

To the upper end of rear leaf E is attached a plate F, set edgewise, which extends to the side of the thill-clip, then extends horizontally forward to a point directly over the bolt, and then bends laterally again, as at *f*, and from this extension *f* depends a tapered key *f*′, which passes through the slot *d* in bolt D and binds the bolt tightly to the clip. Plate F may also be formed integral with leaf E, as shown in Figs. 4 and 5.

The leaves E *e* are shown in Figs. 1 to 3 as made of two pieces of metal. Fig. 4 shows how they may be made in one piece.

I am aware that an antirattler device somewhat similar to what I have shown has been patented, but that device is open to the great objection I have above pointed out, and mine is noticeably different therefrom and from all others known to me in the peculiar curvatures of the leaves, and the plate F having the wedge *f*′ adapted to engage a slot in the bolt.

The advantages of this construction of the device are that the thill-iron is held firmly against the bolt, and the wedge *f*′ binds the bolt tightly in the clip, and at the same time is thereby held securely against lateral vibration, so that when the key *f*′ is driven home and secured there is no play between the parts, and consequently no vibration or rattling. This combination of the peculiar spring and bolt-fastener I believe wholly novel.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent thereon, is—

1. The combination of the thill-clip, thill-iron and the securing-bolt D having a head on one end and a slot in its other end; with the antirattling-spring having a rear leaf E, and front leaf *e*, connected at their lower ends; leaf E being bent at the points E′, E^2, E^3, and leaf *e*, at the points *e*′, e^2, e^3, and the

bolt-securing device consisting of a sheet-metal plate F fastened vertically edgewise to the upper end of rear leaf E, bent forwardly at right angles over the slotted end of the bolt and having a vertically-depending tapered extension *f'* on its lower edge adapted to transfix the bolt and bind it and the spring to the clip, all substantially as described.

2. The combination of the thill-clip A, the thill-iron C, and the bolt D securing the iron to the clip having slot *d* in one end; with the antirattling-spring having a rear leaf E, and front leaf *e*, connected together at their lower ends, and bent in the form shown and described; and the plate F attached edgewise to the upper end of rear leaf E, and bent forward to a point beyond leaf *e*, then bent outwardly as at *f* directly over the bolt, part *f* having a depending tapered key *f'* on its lower edge transfixing the bolt and securing the bolt and spring in place, all substantially as shown and for the purpose described.

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

WILLIAM M. BUCHNAU.

Witnesses:
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A. O. P. NICHOLSON.