

(No Model.)

J. R. SANBORN & E. A. FERRY.
Anti Rattler for Thill Couplings.

No. 240,851.

Patented May 3, 1881.

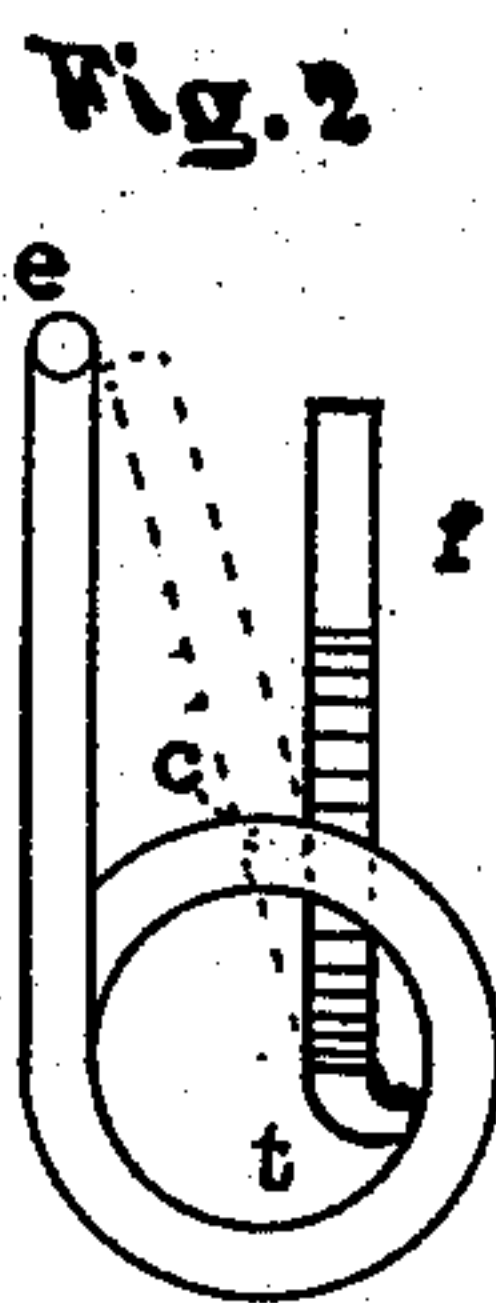
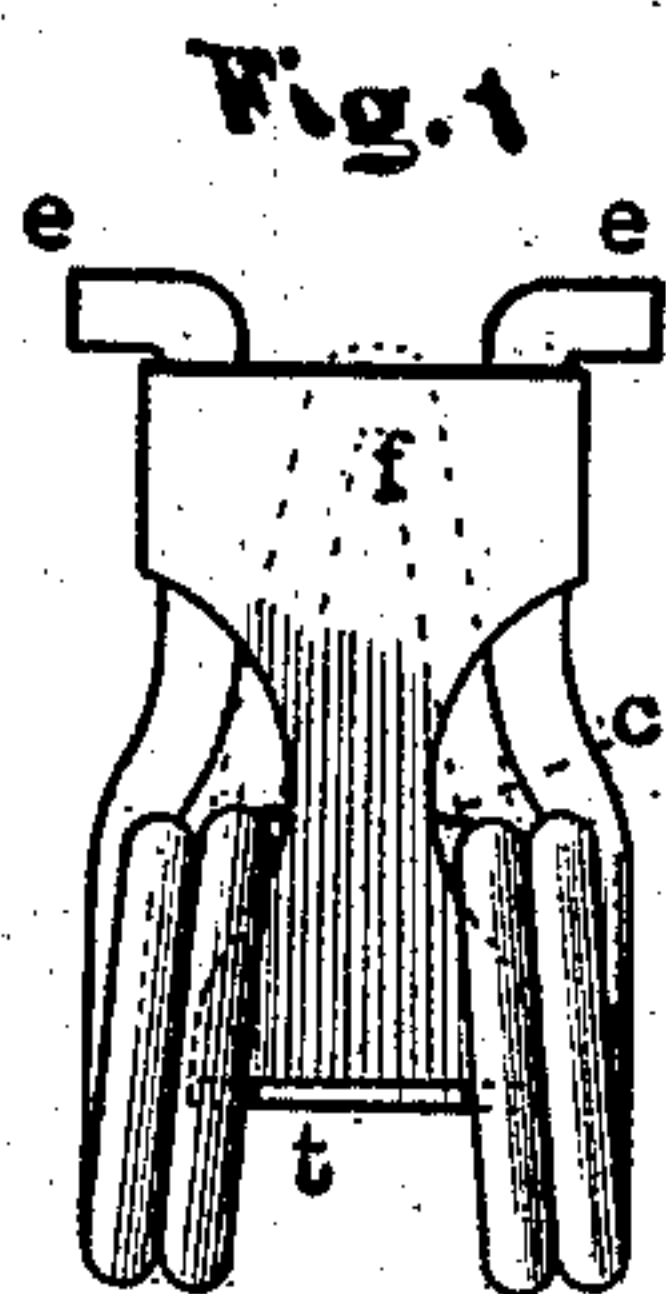


Fig. 5

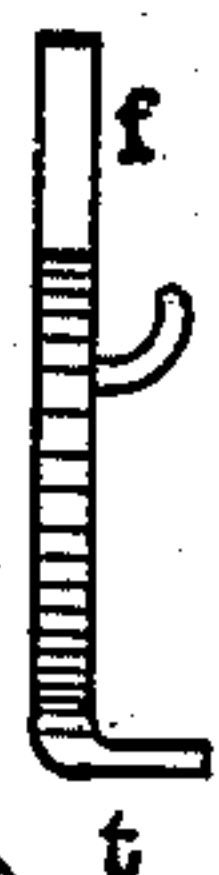


Fig. 4



Fig. 3

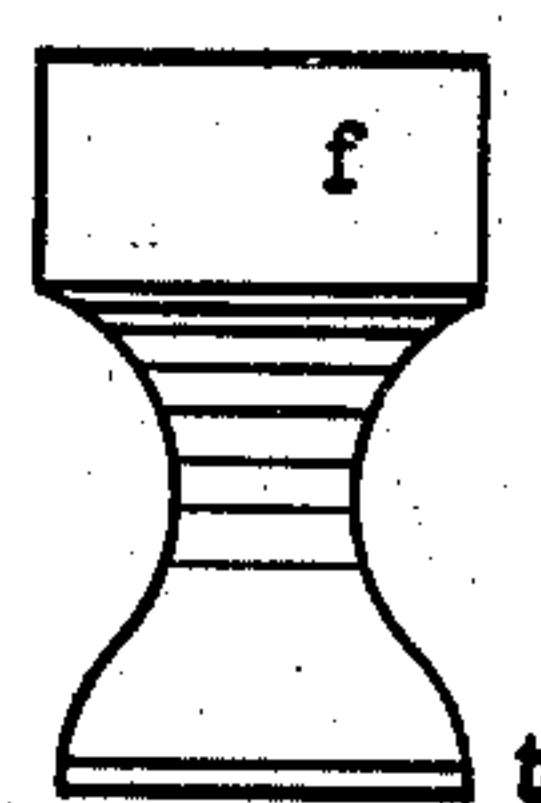
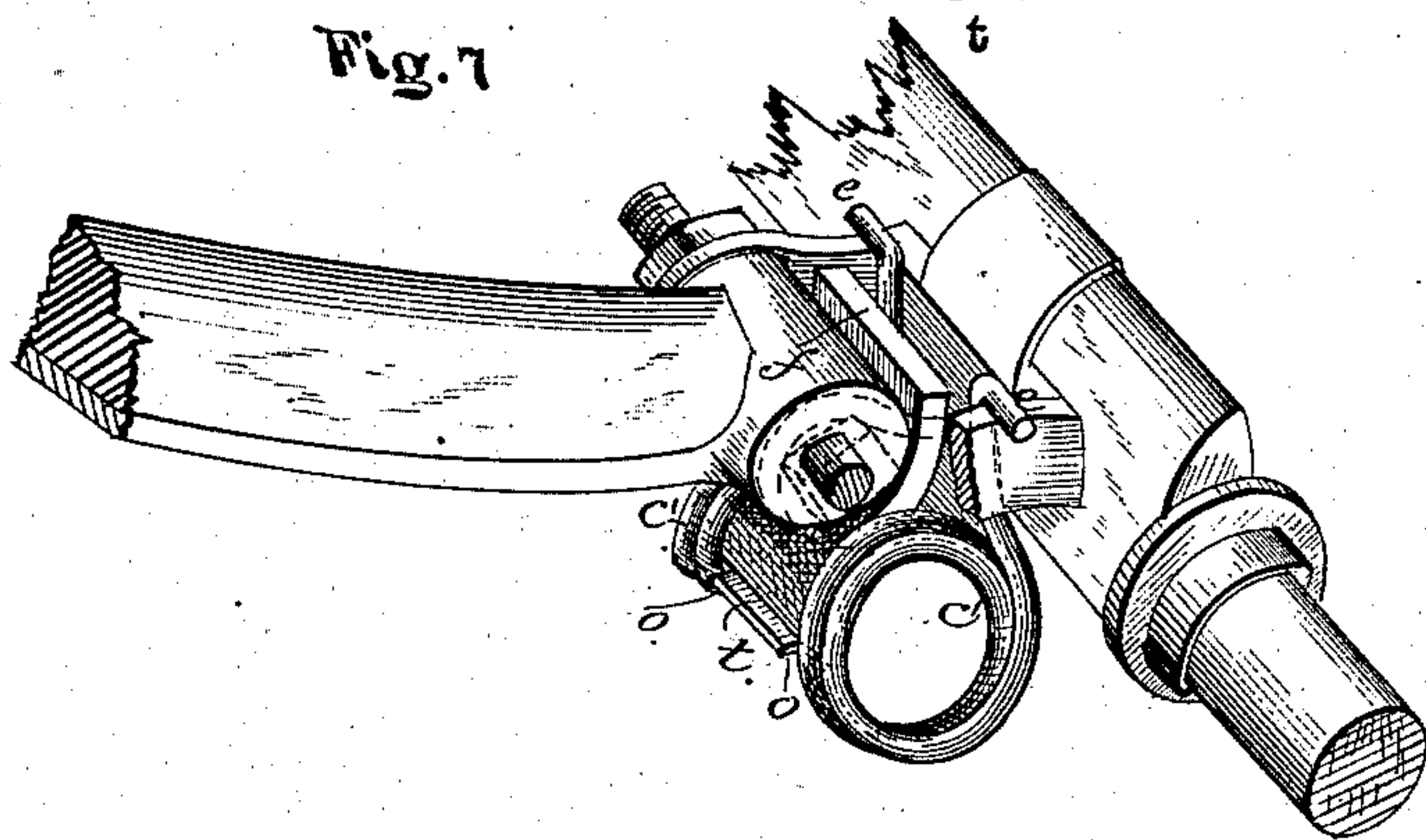


Fig. 7



Witnesses;

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UNITED STATES PATENT OFFICE.

JACOB R. SANBORN AND EDWIN A. FERRY, OF SPRINGFIELD, MASS.

ANTI-RATTLER FOR THILL-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 240,851, dated May 3, 1881.

Application filed October 16, 1880. (No model.)

To all whom it may concern:

Be it known that we, JACOB R. SANBORN and EDWIN A. FERRY, both of Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Anti-Rattlers for Thill-Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being made to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This application is specially made to cover or protect, in the broad or generic sense, the improvements shown and described in our application filed April 26, 1880, and patented December 21, 1880, for improvement in thill-couplings.

The invention relates to anti-rattling devices for thill-couplings, which are constructed separate and apart from the coupling.

Heretofore many devices to prevent rattling in the ordinary thill-coupling have been used, but they have been found objectionable in that they are easily gotten out of repair, difficult to adjust, and do not last. Those occupying a position in the coupling similar to ours have but a small bearing-surface against the coupling-eye. The bearing part soon becomes worn, thus destroying the whole device, and the coupling-eye is disfigured with ruts, which are worn at the point of contact, and the whole device often cants to one side, thus greatly interfering with its successful operation.

The object of our invention is to provide a simple, cheap, durable, tasty, easily-adjustable, and efficient device which shall have all the advantages of a coiled-wire spring, and the lasting advantages, which can only be had with a broad bearing against the coupling-eye.

Our invention consists in the combination of a broad bearing-plate and a wire spring, and in the construction and adaptation of the parts whereby the beneficial objects of our invention are attained.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a front view of the device. Fig. 2 is a side view of the same. Figs. 3 and 4 are

front and side views of the plate. Fig. 5 is a side view of a modification of the plate. Fig. 6 is an end view of the lower part of the plate, and Fig. 7 is a perspective of the device in place.

The construction of our device will readily be understood on referring to the drawings.

For the spring we use spring-wire of about one-eighth of an inch diameter, it being bent in the shape shown and having one or more coils *c'*. We use a broad plate, of metal, to bear against the coupling-eye. With this combination a device is made which has the requisite strength, flexibility, and lasting qualities, while occupying but a very small space. We deem the arrangement and construction shown the best, though it will readily be seen that very many modifications may be made. The best form of construction, in our opinion, and the one illustrated in detail, is as follows: The wire, being bent at *e e* to catch over the ears, is carried downward and coiled at *c' c'*, ending in the central loop or part, *c*; or it may be carried upward, as shown in dotted lines in Fig. 1. The plate may be either straight or similar to the shape shown in Figs. 3 and 4. The sides are narrower, to allow it to pass between the coils. The upper part or piece, which bears against the coupling-eye, should be of a width to fill the space between the ears. The lower portion projects at each side sufficiently to catch within the coil, and is provided with a projection, *t*.

It will be seen, as heretofore stated, many modifications may be made. For instance, the direction of the coil may be reversed, the plate may be provided with a hook, as shown in Fig. 5, over which the central loop may pass; or the plate may be attached to the central portion in any way and accomplish a similar result. The projection *t* is not a necessity, but we deem the device better with it.

One very objectionable feature of the device heretofore made is that, if constructed to accomplish the desired result, they occupy too much space and are unsightly and complicated. Great difficulty has heretofore been experienced in placing a device of this kind in position. To obviate this difficulty, we fasten the top of the plate and the free ends of the wire closely together, as shown in dotted lines, Fig. 2, thus holding the parts in such a way that it may be

easily inserted behind the coupling-eye. The binding-wire being then separated, the spring forces the plate forward against the coupling-eye.

5 In some instances we cut the notches *o o* in the projection *t* in which the wire rests. This will prevent any tendency to bear upon one side more than upon the other.

10 The bearing portion of the plate may be made to fit the coupling-eye, as shown in Fig. 4 in dotted lines.

Having, therefore, described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. An anti-rattler for thill-couplings, consisting of a wire spring of the construction substantially as shown, and a plate with its lower bearing within the coil of the spring, substantially as shown.

20 2. An anti-rattler for thill-couplings, consisting of a wire spring having coils *c' c'* and loop or part *c*, and a broad bearing-plate, whereby the plate is forced against the coupling-eye by the central loop or part *c*, substantially in the
25 manner as described.

3. In combination with a thill-coupling of the ordinary class having a coil wire spring,

of a plate having its upper bearing against the eye, its lower bearing against the spring, and forced outward by the action of the spring 30 upon the plate at an intermediate point, substantially as shown.

4. A plate or piece having the curvature substantially as shown in Fig. 4, in combination with a spring, substantially as shown. 35

5. In combination with a spring, substantially as shown, a plate having a projection, *t*, substantially as and for the purposes stated.

6. A plate having a projection, *t*, with the recesses *o o*, in combination with a spring, substantially as illustrated in the drawings. 40

7. A plate having its sides narrowed, whereby it may be inserted between or within the bend or coil of the spring, in combination with the wire spring, substantially as shown. 45

In testimony that we claim the foregoing we hereto subscribe our names, in the presence of two witnesses, this 12th day of October, A. D. 1880.

JACOB R. SANBORN.
EDWIN A. FERRY.

Witnesses:

FRED W. ADAMS,
ALLEN WEBSTER.