

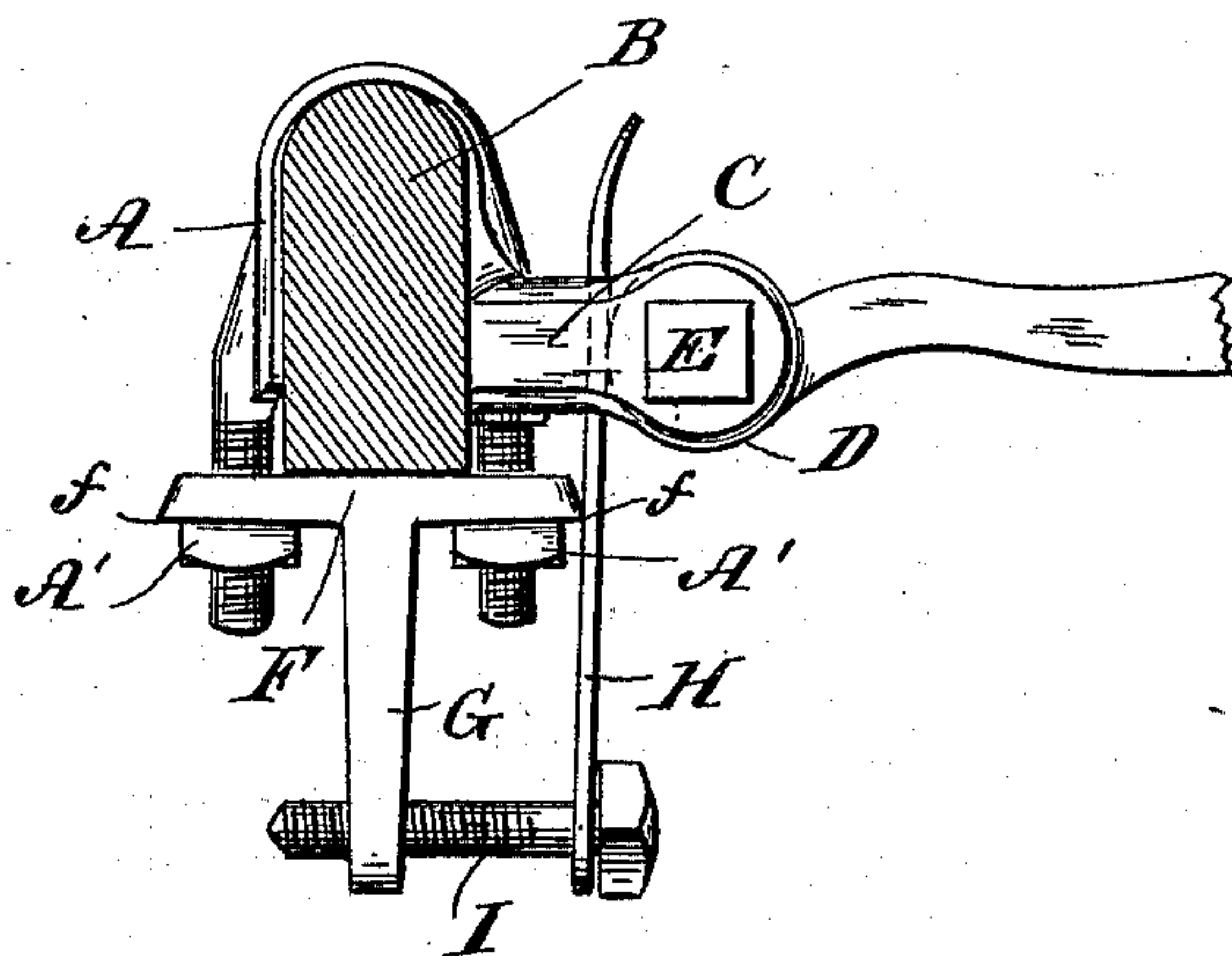
(No Model.)

H. R. SAUL.  
THILL COUPLING.

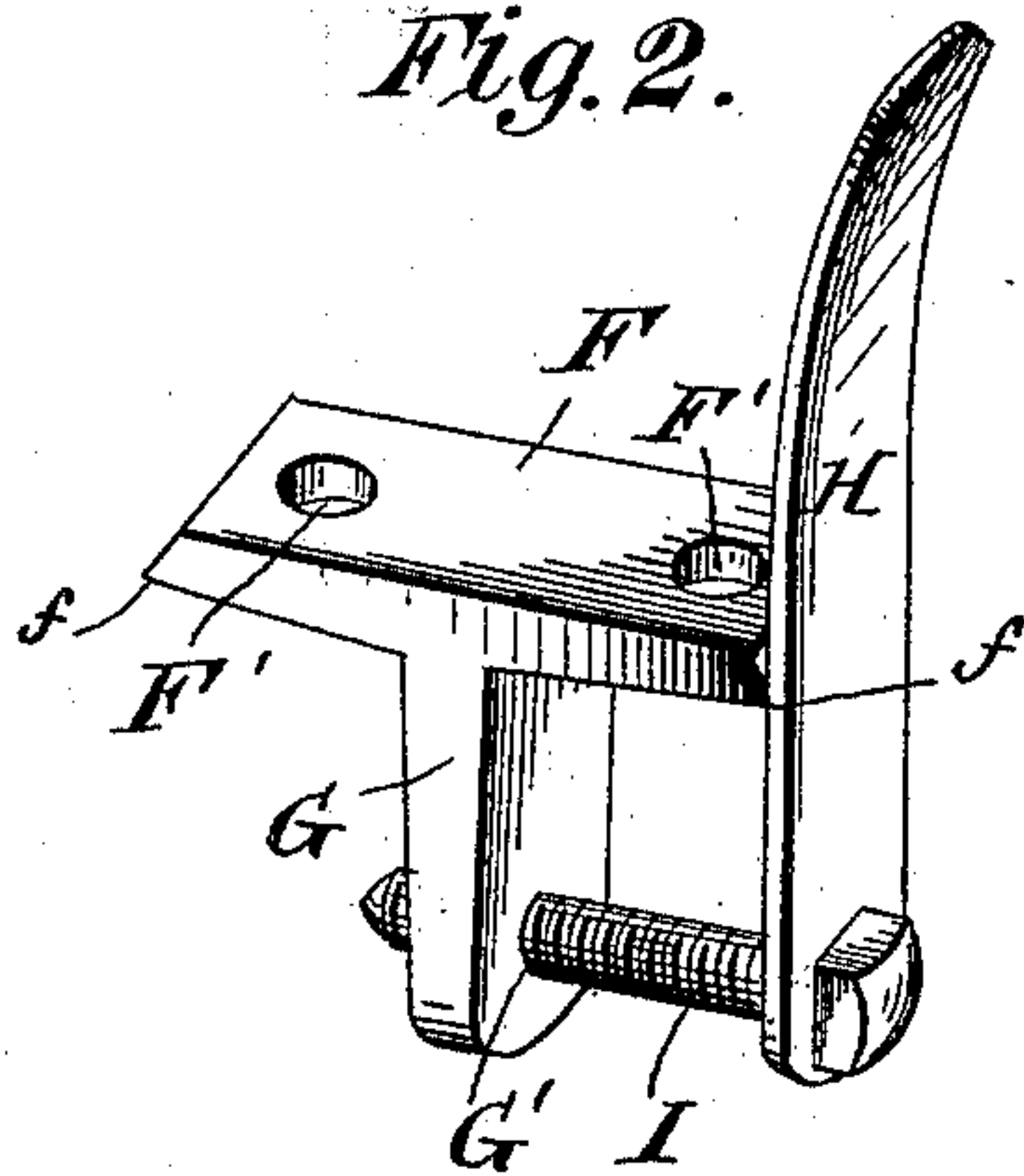
No. 330,051.

Patented Nov. 10, 1885.

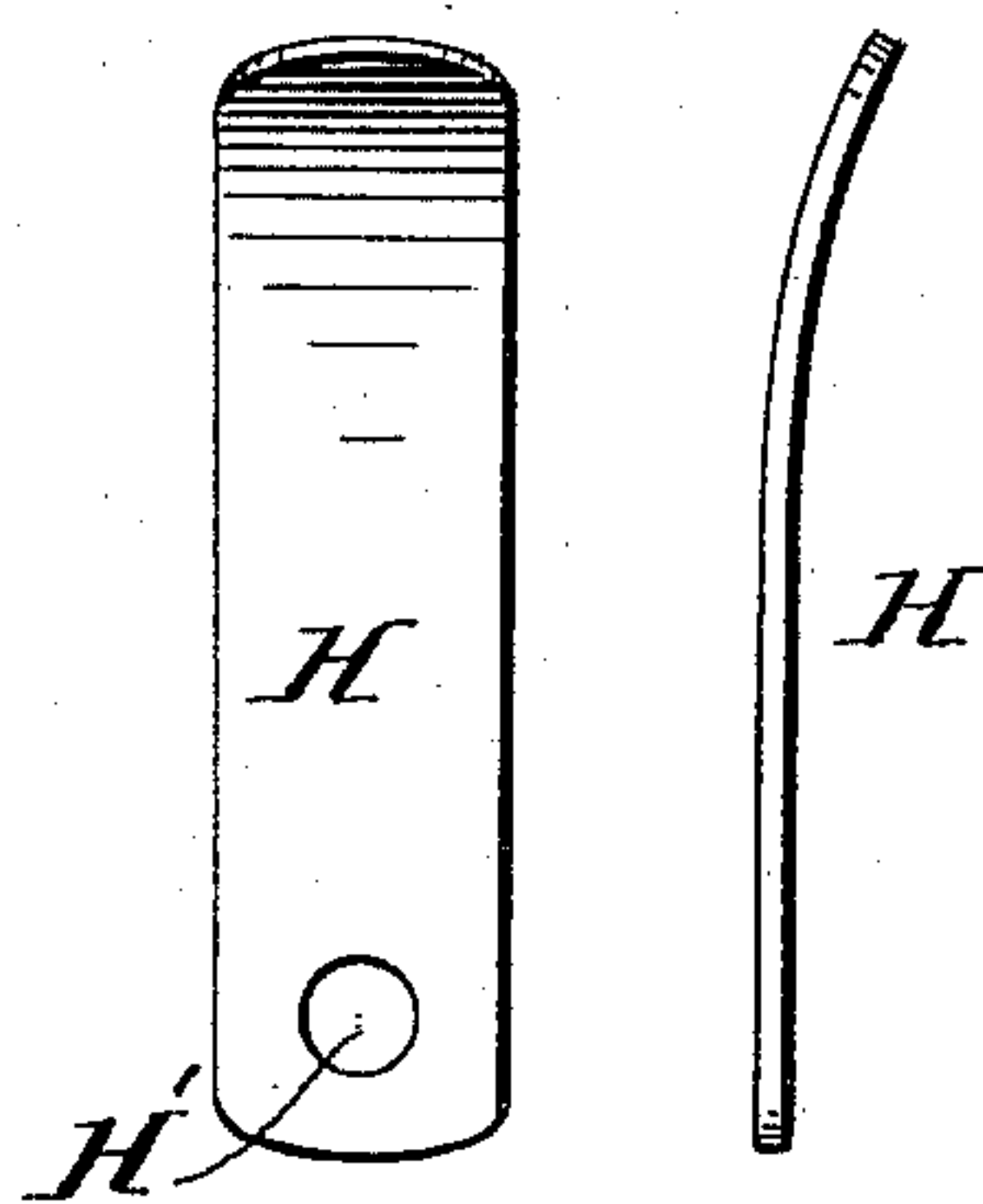
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.  
*Saml R. Turner*  
*P. B. Turpin.*

Inventor  
*Henry R. Saul*  
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# UNITED STATES PATENT OFFICE.

HENRY R. SAUL, OF MIDDLETOWN, PENNSYLVANIA.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 330,051, dated November 10, 1885.

Application filed January 30, 1885. Serial No. 154,435. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY R. SAUL, a citizen of the United States, residing at Middletown, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to thill-couplings, and has for its object to provide, in connection with an anti-rattling spring, a simple and convenient construction by which to support said spring, and also by the same device to adjust the tension of said springs, as may be desired.

The invention consists in the peculiar construction of the device for supporting and adjusting the tension of the spring, which will be first fully described, and then specifically pointed out in the claim.

Referring to the drawings, Figure 1 is a side view of my coupling, the axle being represented in section. Fig. 2 is a perspective view of the base-plate, depending lug, spring, and the adjusting and supporting bolts; and Fig. 3 represents the spring-bar in detail.

The clip A is looped around the axle B, and has the lugs or jaws C extended forward from its front arm. These jaws C have the thill-iron D pivoted between them on a transverse bolt, E, or in other suitable manner. The base-plate F is secured to the under side of the axle by the loop A, the arms of which pass down through openings F' in the base-plate, and are secured by nuts A' A', as shown. The opposite ends of the base-plate F are beveled at f to a sharp edge or point, for the reasons more fully described hereinafter.

A lug, G, depends from the base-plate F of the clip midway the ends of said plate. This lug is provided near its lower end with a perforation, G', which is threaded to receive the adjusting-bolt, presently described.

The bar H is made of spring metal, preferably steel, and fulcrums between its ends against the forward edge of the base-plate F.

The upper end of this bar extends between the jaws C, and bears against the thill-iron. Through the bar H, near its lower end, I form an opening, H', through which is passed the adjusting-bolt I, the head of which bears in front of the spring, and its point is threaded and turned into or through the threaded opening G' of the lug G. This bolt I, it will be seen, serves a double purpose. In the first place, it supports the spring H, and holds same in operative position. In the second place, it provides convenient means for adjusting the tension of the spring and increasing such tension from time to time, as may be desired. By threading the opening in the lug I dispense with the use of a nut on the bolt I, which is desirable, because of the liability of such nut to get loose and be lost. It also simplifies the device and renders it cheaper to manufacture.

By making the edges of the base-plate sharp I provide a thin fulcrum-bearing for the spring, so that the movement of such spring will not produce any creaking or other disagreeable noise likely to occur when the bearing is more extensive. By forming the opposite edges of the base-plate alike I am able, when one sharp edge is worn down, to remove and reverse the plate, bringing a fresh sharp edge into position to serve as a fulcrum. In addition to preventing the creaking noise on its fulcrum, this sharp bearing economizes the elasticity of the spring by taking up but an infinitesimal part of same for a bearing, leaving almost its full length free to operate as a spring.

It will be seen that my improvement as shown in Fig. 2 may be manufactured and sold to the trade or to carriage-users, and be conveniently applied to the common thill-coupling by removing the base-plate of such couplings and applying the part shown in Fig. 2 to the coupling in the manner shown in Fig. 1.

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

The base-plate F, having a depending lug, G, provided with a horizontal threaded bolt-opening, G', near its lower end, a single bolt, I, provided with an angular or nut-shaped head arranged approximately in line below the thill-eye, and having its threaded end turned into the opening G', the straight bar H, provided



in its lower end with an opening, H', slipped  
onto the bolt, and against the head thereof,  
and wholly supported in position thereby, and  
having its back or rear side rested against the  
5 end of base-bar plate F, and its upper end ex-  
tended between the jaws of the clip, and be-  
hind the thill-eye, substantially as shown and  
described.

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

HENRY R. SAUL.

Witnesses:

O. M. KRAMER,  
R. H. LACEY.