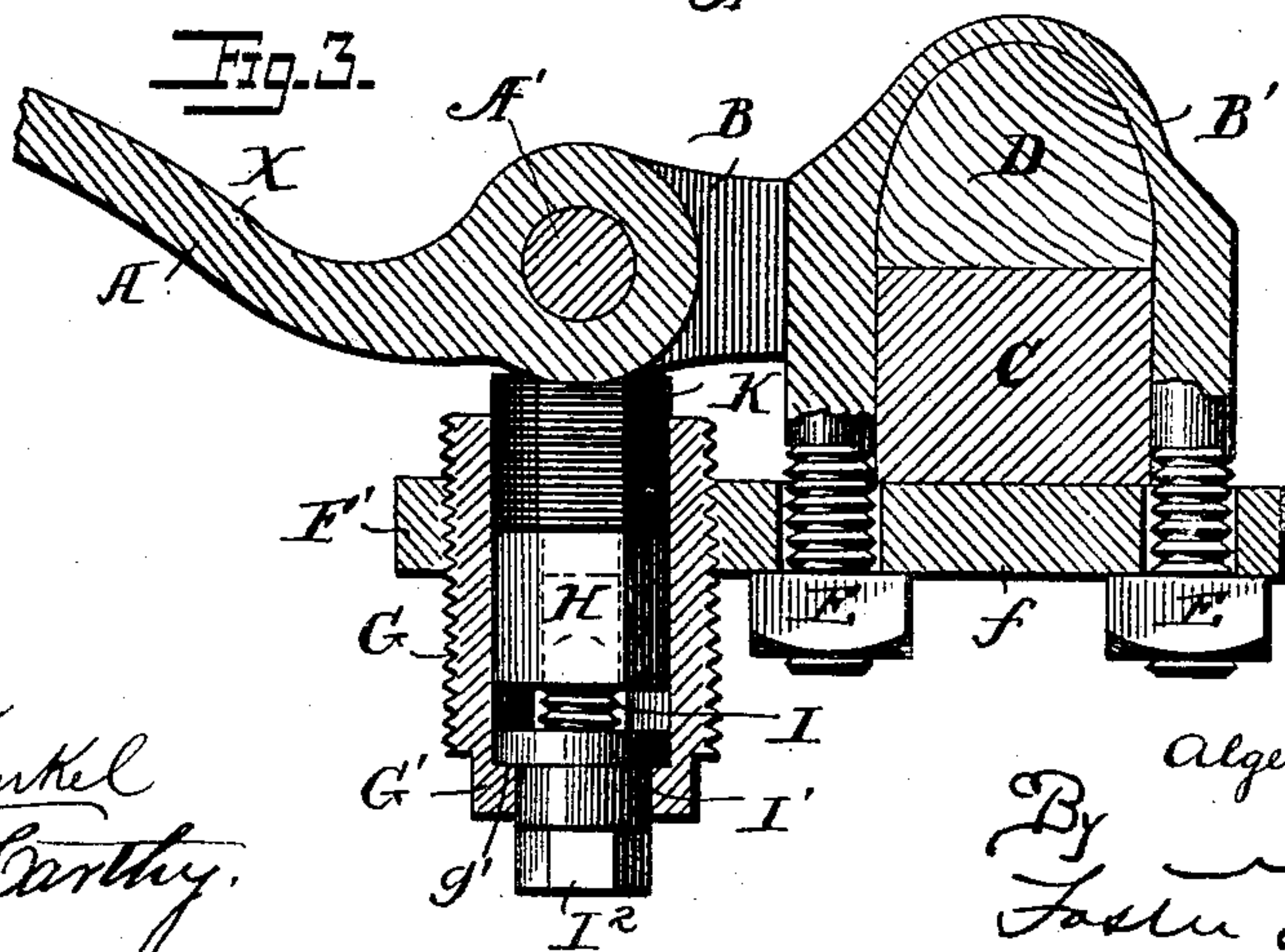
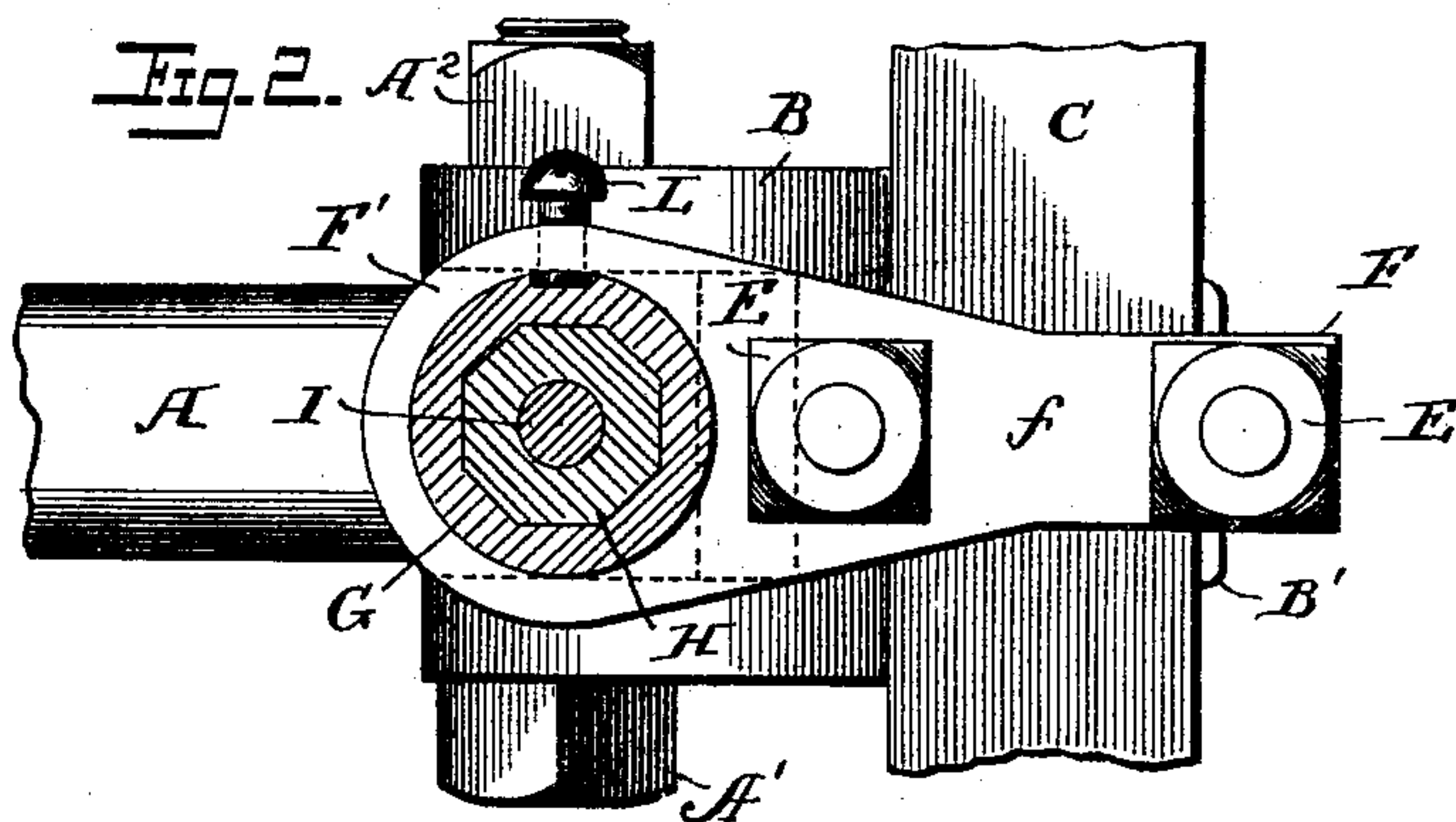
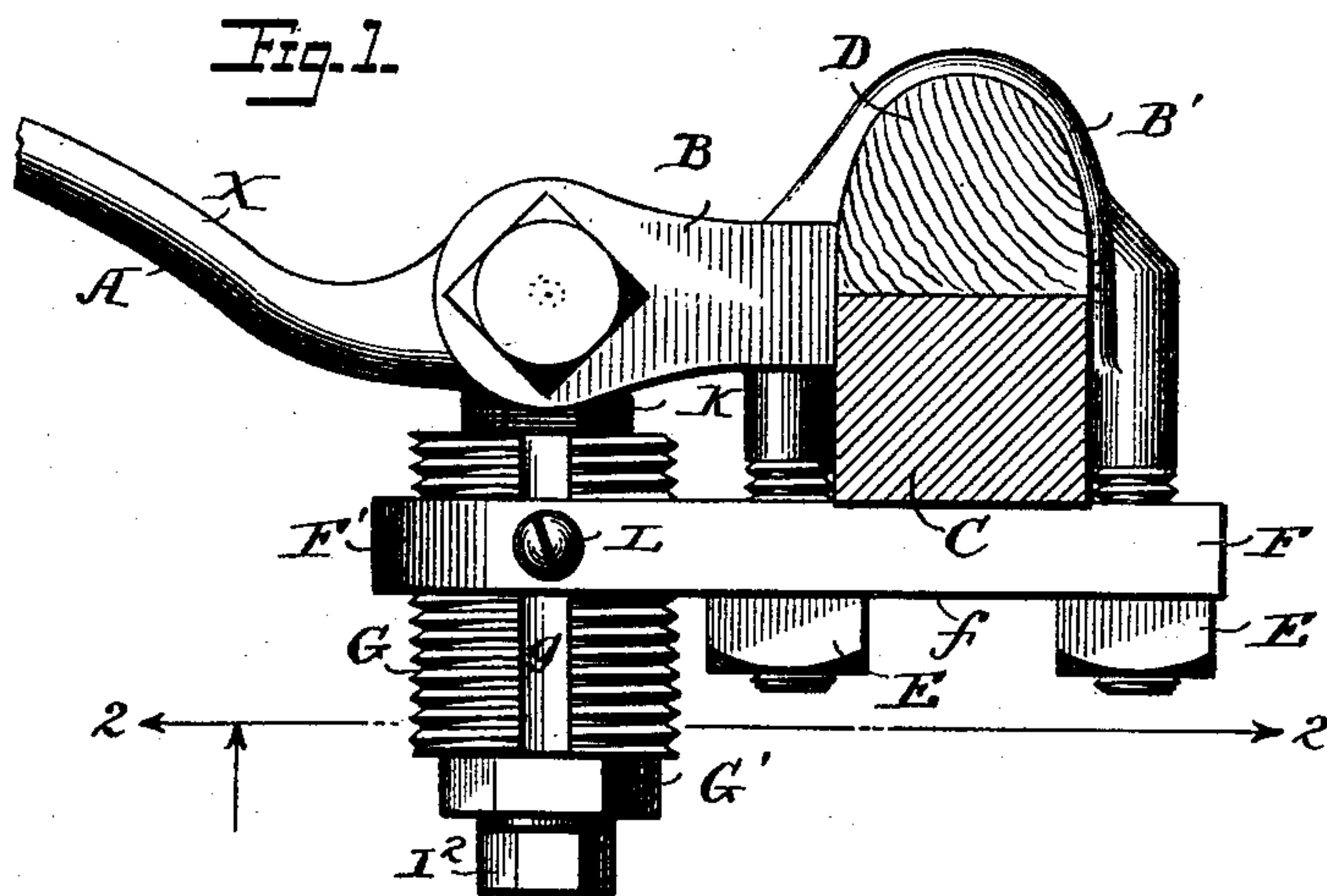


(No Model.)

A. L. STRAW.  
THILL COUPLING.

No. 481,436.

Patented Aug. 23, 1892.



Witnesses  
Jno. G. Hinkel  
J. J. McCarthy.

Inventor  
Algernon L. Straw  
By  
Foster Furman  
Attorneys



# UNITED STATES PATENT OFFICE.

ALGERNON L. STRAW, OF MARLBOROUGH, MASSACHUSETTS.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 481,436, dated August 23, 1892.

Application filed April 13, 1892. Serial No. 429,031. (No model.)

*To all whom it may concern:*

Be it known that I, ALGERNON L. STRAW, a citizen of the United States, and a resident of Marlborough, Middlesex county, Massachusetts, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification.

My invention relates to thill-couplings, and has for its object to provide a simple, cheap, and effective thill-coupling which will effectually prevent rattling or jarring and overcome the objections to the noise and wear resulting from such rattling, and at the same time to furnish a device which shall be adjustable and capable of ready attachment to the ordinary forms of thill-couplings and adapted for use with shafts or poles.

To these ends my invention consists in a thill-coupling embodying the various features of construction, arrangement, and mode of operation, substantially as hereinafter more fully set forth.

Referring to the accompanying drawings, forming part of this application, Figure 1 is a side view of a thill-coupling embodying my invention. Fig. 2 is a bottom plan view, partly in section; and Fig. 3 is a longitudinal vertical section.

One of the objects of my invention is to provide an anti-rattler device which can be readily adapted and applied to the thill-couplings in common use, so as to render it unnecessary to change the construction and usual arrangement of these parts, and in order to carry out this feature of my invention I have shown my anti-rattler device applied to an ordinary and common form of coupling.

In the drawings, A shows the thill portion, which is usually of iron, having a shaft or pole of wood attached thereto, which is not shown in the present instance, and this thill is pivotally mounted in a coupling B, consisting, substantially, of two ears projecting horizontally and supporting the thill between them, it being held by a suitable bolt A' and nut A<sup>2</sup>, passing through the ears and the thill. This coupling is shown as being formed with and as a part of the clip B', which embraces the axle, which is of the usual shape and shown in the present instance as consisting of the portion D, which is usually of wood, and the

portion C, which is generally of iron. This clip is ordinarily secured on the axle by means of a tie F, having holes through which the ends of the clip project and to which it is secured by the nuts E.

So far the device represents the ordinary and usual construction of thill-coupling.

In order to apply my invention to such a coupling, I provide an extended or elongated tie F in place of the usual short tie, and thus I have shown the tie F as having an extended portion F' projecting out beneath the thill-coupling. This extended portion is formed with a suitable opening for the reception of the anti-rattling device.

Another object of my invention is to provide an anti-rattling device which may be readily adjusted to the thill-coupling and which can be also adjusted to compensate for wear. To do this, I provide a screw G, which may be made of brass or equivalent material and is provided with threads and adapted to fit in the opening in the elongated portion of the tie F'. In order that this screw may be readily adjusted, its head G' is squared or made hexagonal or octagonal to receive a wrench or other tool for turning it when necessary. Further, in order to lock the screw in position it is provided on one side with a groove g, in which may be fitted the set-screw L, which passes through the side of the elongated tie into this groove and securely holds the screw G in position. This screw is made with a long thread, so that it can be adjusted to suit different couplings in which the distance between the thill and the tie may vary. This screw G is made hollow, and fitting in the recess therein is a nut or block H, having a configuration conforming to the interior of the screw. This I have shown as hexagonal, as I find by that construction I can secure the greatest strength of the screw and nut with the least material; but of course, if desired, it can be made of other configuration. This nut or block is also provided with an internal screw-threaded opening, and fitting in said opening is a screw I, and this is provided with a cylindrical collar I', arranged to rest on the shoulders g' of the screw G, and the head I<sup>2</sup> is squared or formed to conveniently receive a wrench



or tool for operating it. The screw-threads on the screw I are preferably arranged in the direction opposite to the screw-threads on the outside of the hollow screw G, so that in order to elevate the block or the screw they are turned in opposite directions, although of course the same results, practically, may be accomplished by having the screw-threads in the same direction.

Mounted in the hollow screw G and resting on the block H is a block K of elastic material, preferably vulcanized rubber, made so as to be comparatively rigid, but still to have a certain amount of elasticity to allow it to be forced up tightly on the outside of the thill A and to form a solid but elastic bearing for the thill and hold it closely in its bearing, so as to prevent rattling or jarring or consequent noise and wearing of the parts.

Such being the preferred construction of my invention, its operation will be readily understood. The elongated tie being applied and the coupling secured to the axle and the thill being held in place, the set-screw L is loosened and the hollow screw G is turned so as to bring the elastic block K in contact with the thill. The block K preferably extends but a slight distance above the level of the hollow screw G, in order that the elastic material may have a firm bearing on all sides and project but a slight distance above the screw. Further, by this arrangement the elastic block can be adjusted to a greater extent to compensate for wear. After the hollow screw G is adjusted and secured by the said screw L the block H is adjusted by turning the screw I, and this puts the elastic block K under the proper pressure for use. As the block K becomes worn, the block H is raised by the screw I to compensate therefor, and this may be done until the elastic block is substantially used up, when another block can be substituted in its place. It will be seen that the whole anti-rattling device can be readily adjusted for couplings of different sizes, and when it is desired to remove the thill for any purpose—as, for instance, substituting a pole—it is only necessary to reverse the screw I, and the elastic block will

yield sufficient to allow the removal of the thill and the replacing of the pole.

It will be observed that the whole construction is simple in its character, easily made, and at the same time it is compact and strong and not liable to get out of order, while it may always be adjusted to compensate for wear under the varying conditions in which it is used.

While I have described and illustrated the preferred construction and arrangement of my device, it will be evident that the details may be varied to suit the exigencies of any particular use, and I do not, therefore, limit myself to the precise construction and arrangement shown.

What I claim is—

1. In a thill-coupling, the combination, with the thill and coupling-pieces, of the elongated tie-piece, a hollow screw mounted therein, and an elastic block fitting the hollow screw and bearing against the thill, substantially as described.

2. In a thill-coupling, the combination, with the thill and lugs supporting the thill, of the elongated tie, a hollow screw mounted in the tie, an elastic block mounted in the hollow screw, and an adjusting-block also mounted in the hollow screw and arranged to regulate the pressure of the block on the thill, substantially as described.

3. In a thill-coupling, the combination, with the thill and lugs supporting the thill, of an elongated tie, a hollow screw having a slot in its outer surface and a set-screw for fitting the same, an elastic block mounted in the upper portion of said hollow screw, a block sliding in said hollow screw beneath the elastic block, and a screw for adjusting said block, the threads of which are in the opposite direction from the threads of the hollow screw, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALGERNON L. STRAW.

Witnesses:

MICHAEL J. BUCKLEY,  
HARRY G. DAVIS.