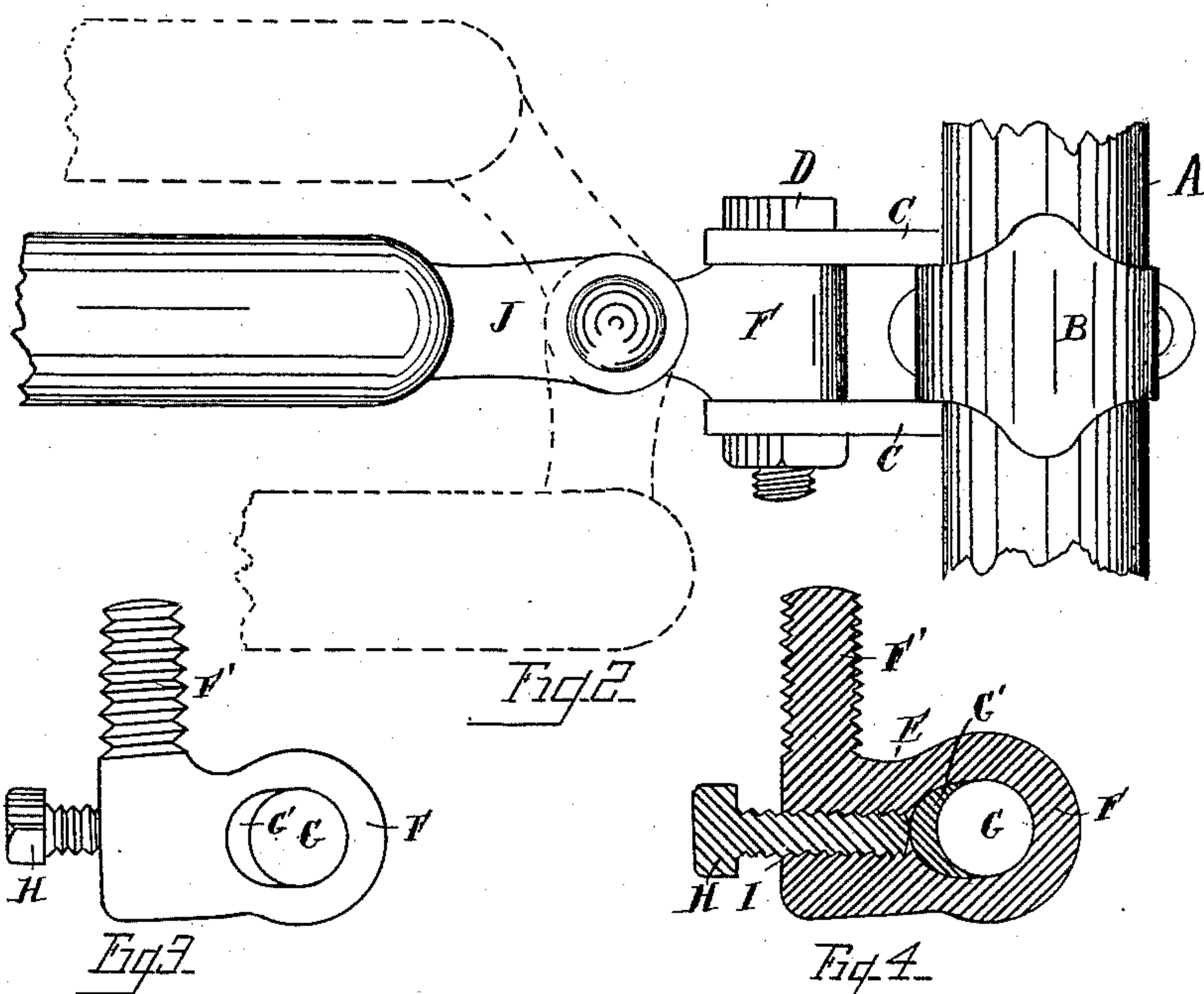
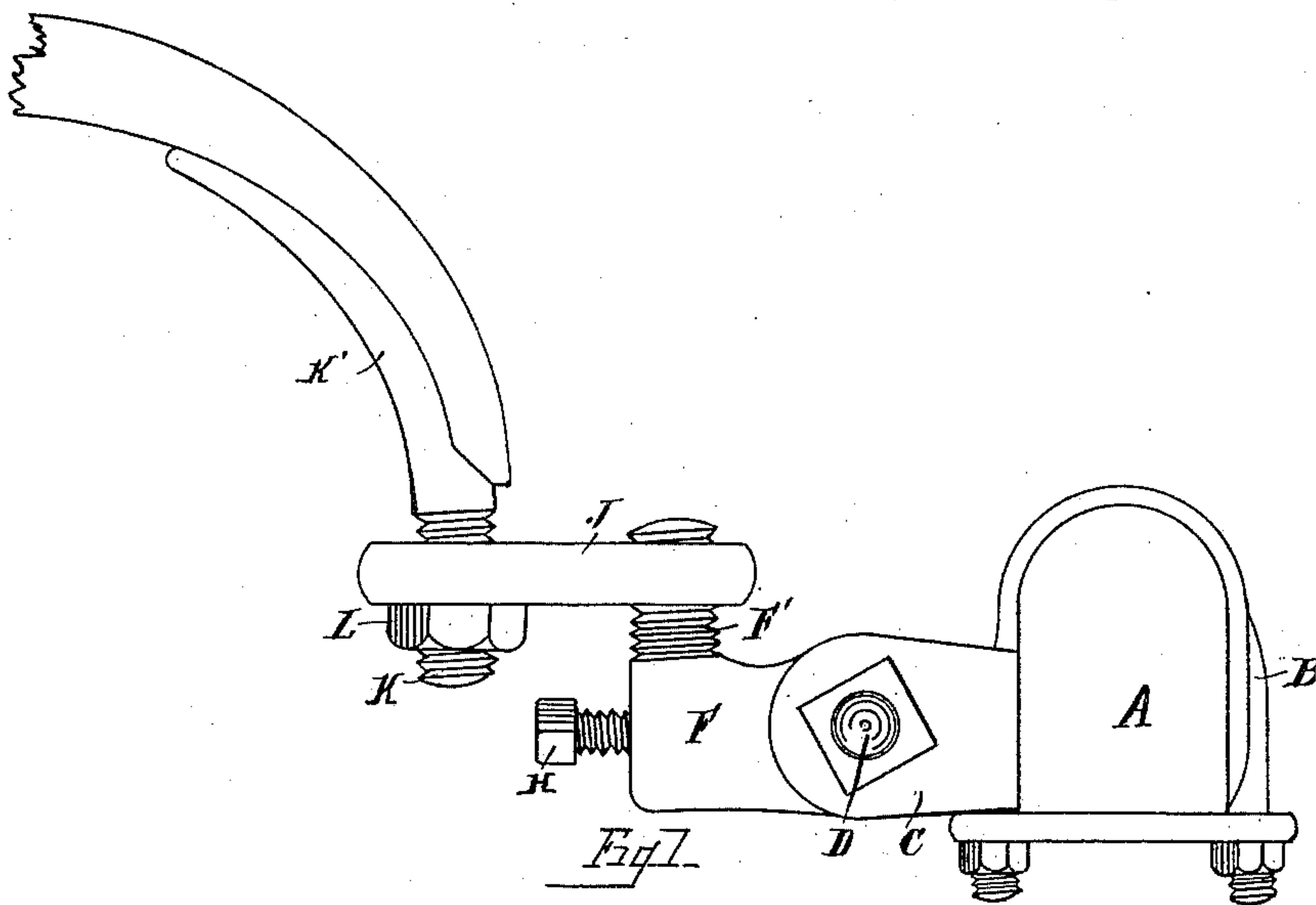


(No Model.)

R. G. W. FOSTER.
THILL COUPLING.

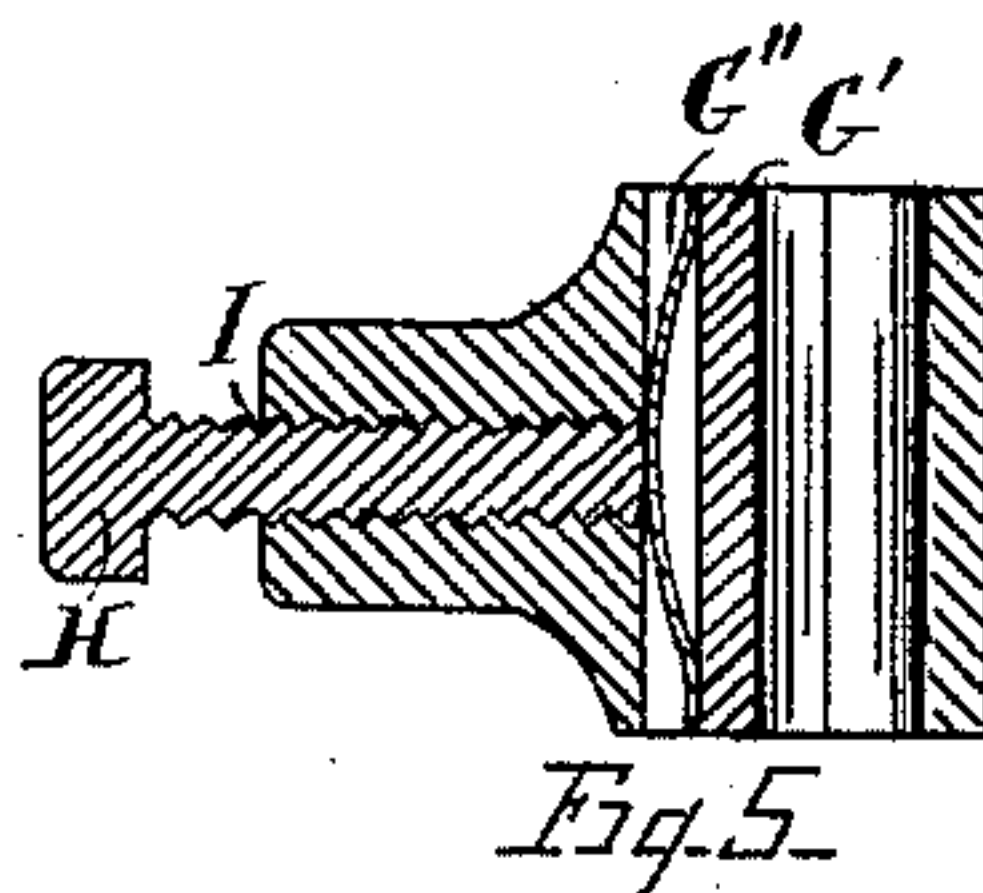
No. 409,741.

Patented Aug. 27, 1889.



WITNESSES

Carroll J. Webster.
Anna J. Lehaney



INVENTOR
Robert G. W. Foster
By William Webster
Atty

UNITED STATES PATENT OFFICE.

ROBERT G. W. FOSTER, OF TOLEDO, OHIO.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 409,741, dated August 27, 1889.

Application filed April 22, 1889. Serial No. 308,189. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. W. FOSTER, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 thill-couplings, and has for its object to provide a coupling whereby thills or poles of different widths may be secured to a vehicle without necessitating an adjustment of the clips upon the axle.

A further object is to provide means for preventing rattle of the parts.

A further object is to provide a coupling that shall be attachable to the draw-irons of ordinary construction.

The invention consists in the parts and combination of parts hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a complete coupling. Fig. 2 is a plan view of the same, showing in dotted lines the lateral adjustment of the coupling to accommodate thills of different widths. Fig. 3 is a detail view of one of the coupling-irons. Fig. 4 is a longitudinal sectional view of the same, and Fig. 5 is a transverse section of the swivel portion of the same, showing a modified construction thereof.

A designates the axle, to which the clip B is secured, the clip being formed with integral ears C, forming a shackle.

In the ordinary construction the thills are secured to the shackle by means of bolt D, and prevented from rattling by a rubber placed between the thill-iron and clip. The objection to this arrangement is, first, there is no provision for attaching thills or poles of different widths, and, second, the adjustment of the rubber requires either the assistance of lever-power or great effort upon the part of the operator to compress the rubber sufficiently to pass the bolt through the shackle and thill-iron. These objections are over-

come in the arrangement herein shown and described by reason of a laterally-movable bar to which the thills are secured, which obviates the necessity of moving the clips, and by reason of an anti-rattler capable of being adjusted to prevent all loose movement of the parts.

E designates the shackle-coupling sections formed with a body portion F, of a width to closely fit between the ears of the shackle and be held in place by bolt D passed through an elongated perforation G formed transversely of the same, and is held from rattling by means of a bushing G', held to any desired adjustment against the bolt by means of a set-screw H tapped into a screw-threaded perforation G.

Extending vertically from the body portion F is a screw-threaded projection F', onto which is screwed a coupling-link J. Link J is formed with screw-threaded perforations at each end thereof, the projection F' being run into one, as described, and the screw-threaded end K of a thill-iron K' is run into the perforation at the opposite end, and a nut L screwed onto the end of the thill-iron below the link.

From the above description it will be seen that coupling-section E is secured to the shackle firmly, and that all looseness of the parts whereby they would be liable to rattle is taken up by means of the set-screw H.

The coupling-link can turn upon the projection upon the coupling-section and thill-iron when it is desired to adjust the coupling to thills of different widths, and, further, there is no danger of the parts detaching by the loss of a bolt or nut.

In Fig. 5 is shown a spring-bushing G'', against which the set-screw bears with the same effect of the bushing heretofore described.

What I claim is—

1. In a thill-coupling, the combination, with a shackle, of a coupling-section pivotally secured thereto, said section having an upwardly-extended externally-threaded projection, a link-arm having threaded apertures at either end, and a thill-iron threaded at one end adapted to engage one of said threaded apertures, the other working upon the threaded projection, whereby connection is made

between the thill and coupling-section, substantially as shown and described.

2. In a thill-coupling, the combination, with a coupling-section having an upwardly-extending externally-threaded projection at its forward part, of a link-arm having threaded apertures at either end thereof, one of said apertures working over the threaded projection and the other adapted to receive the threaded end of the thill-iron, substantially as shown and described.

3. In a thill-coupling, the combination, with the shackle C, of the coupling-section E, formed with the threaded projection F' and bore G, the bolt D passing through the same,

the bushing G' within the bore and adapted to bear upon the bolt, the binding-screw H, adapted to regulate the pressure of the bushing, the link-arm J, threaded at either end, and the thill-iron K', threaded at K, all arranged and adapted to operate substantially as shown and described.

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

ROBERT G. W. FOSTER.

Witnesses:

WILLIAM WEBSTER,
CARROLL J. WEBSTER.