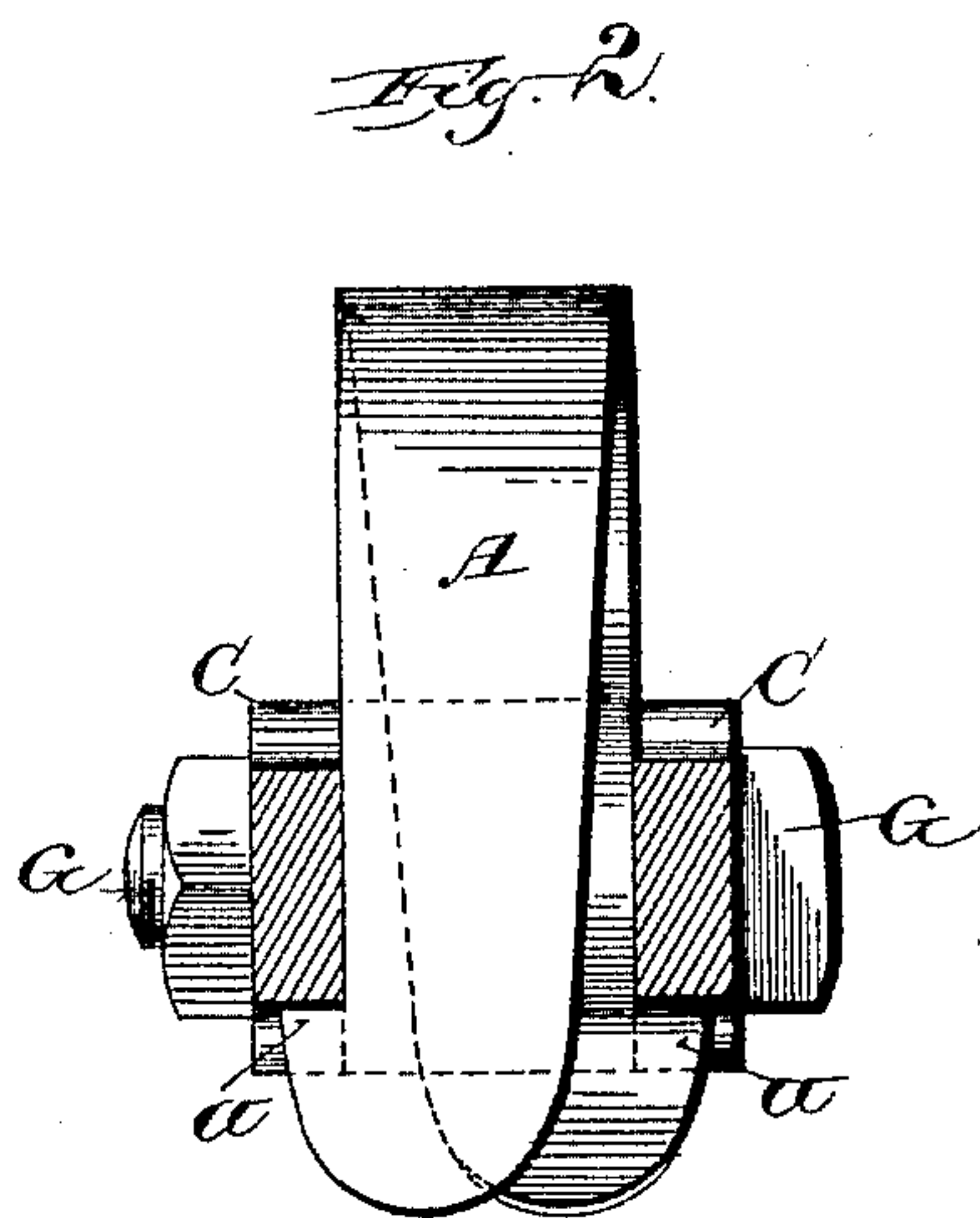
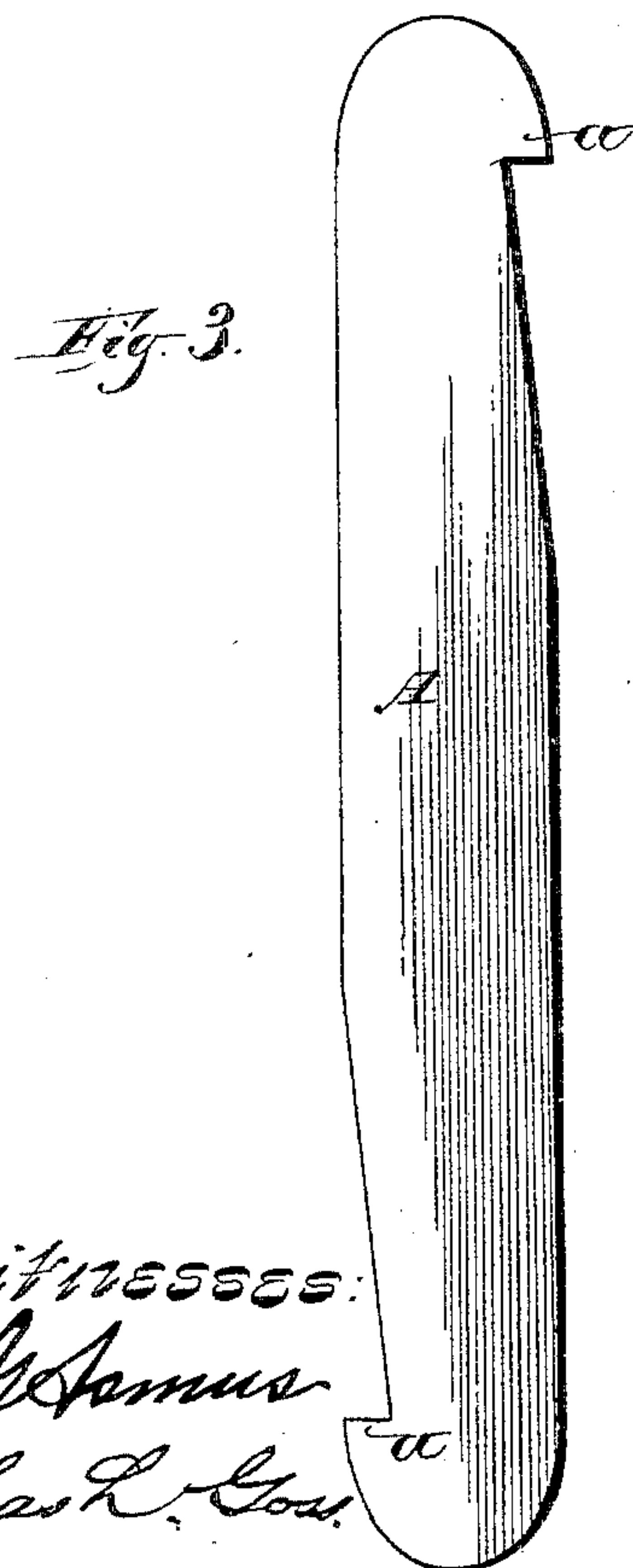
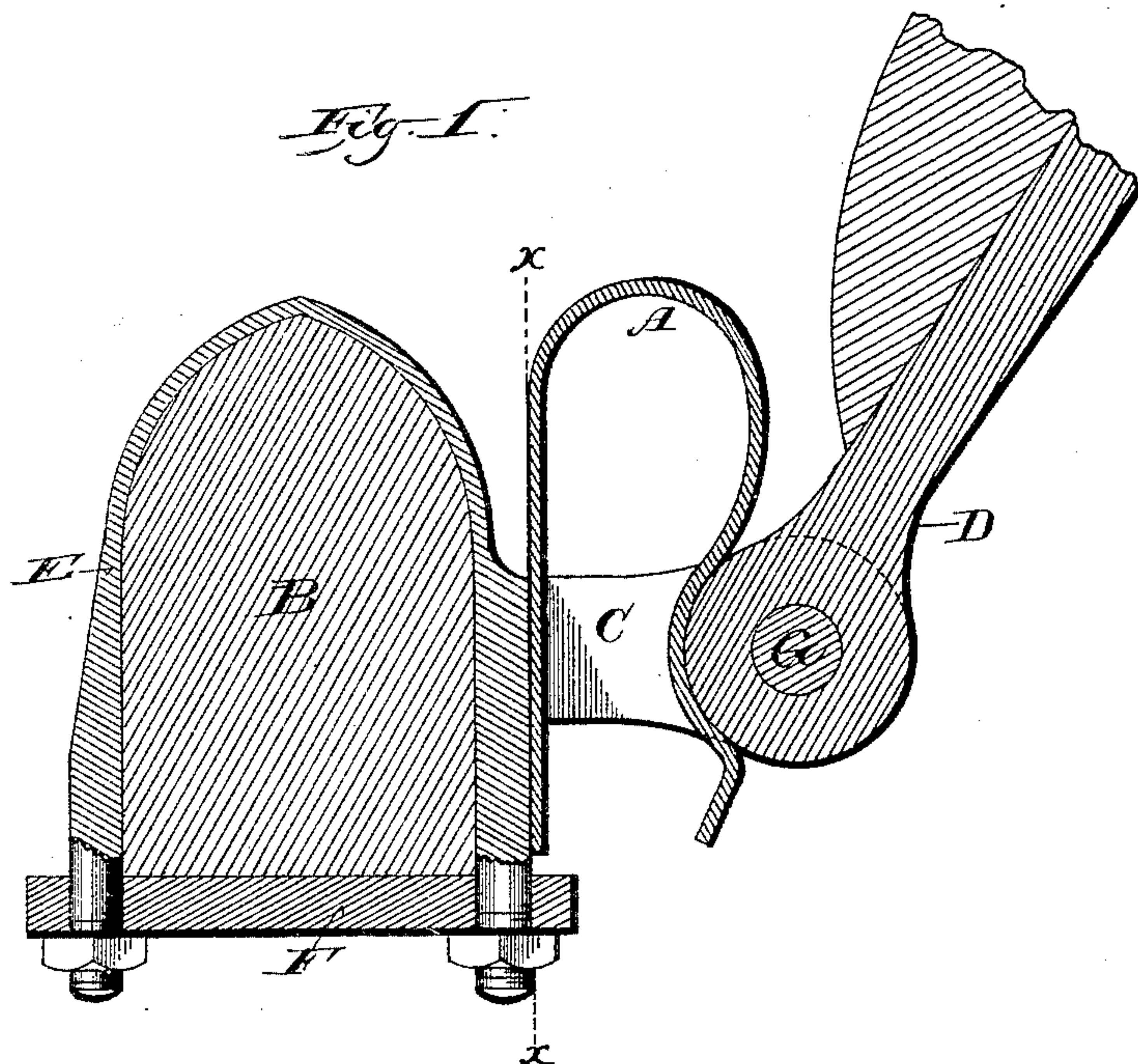


(No Model.)

J. A. CHAPMAN.  
ANTI-RATTLER FOR THILL COUPLINGS.

No. 437,677.

Patented Oct. 7, 1890.



Witnesses:  
E. J. Ames  
Chas. R. Gow.

Inventor:  
John A. Chapman,  
By *[Signature]*  
Attorney.



# UNITED STATES PATENT OFFICE.

JOHN A. CHAPMAN, OF MILWAUKEE, WISCONSIN.

## ANTI-RATTLER FOR THILL-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 437,677, dated October 7, 1890.

Application filed April 7, 1887. Serial No. 233,962. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. CHAPMAN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Anti-Rattlers for Shaft-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 pertains 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.

The object of my invention is to take up lost motion and prevent wear and rattling in shaft-couplings.

It consists, essentially, of a spring-loop formed at each end and on opposite sides with a projection or hook by which it is retained in place.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a vertical section of a shaft-coupling with my improved spring-loop, taken transversely to the axle. Fig. 2 is a transverse vertical section of the coupling-ears, showing a rear elevation of the spring-loop and the method of retaining it in place in the coupling; and Fig. 3 is a detail view of the blank spring-loop before the same is bent.

B is the axle of a vehicle.

E is an ordinary clip formed in the usual way with a pair of coupling-ears C C, and secured to the axle by the clip-yoke F.

D is a shaft or pole iron formed with an eye to receive the coupling-bolt G, by which the pole or shafts are secured between the ears C C.

A is a steel spring formed at the ends and on opposite sides with hooks or projections *a a* and bent, as shown in Fig. 1, approximately to an inverted-U shape. The rear limb of said loop is preferably made straight and rests when in place snugly against the front face of the clip E, while the front limb of said loop is bent inwardly to fit the cylindrical shaft or pole iron D.

The spring-loop A is tapered toward the ends to permit of its being sprung laterally and inserted between the ears C C. As the hooks or projections *a a* pass below the lower

edges of the ears C C they are forced outwardly by the elasticity of the said loop, which is thus prevented from being withdrawn from the coupling, while the depression in the front limb of said loop, fitting the shaft or pole eye D, retains said loop in its proper position vertically. The loop may be readily removed by forcing the ends together laterally till the hooks or projections *a a* will clear the lower edges of the ears C C and pass up between them.

When forced in place, the spring-loop A, bearing against the rear end of the pole or shaft iron D, retains it in close contact with the bolt G, thus preventing its rattling and the consequent wear.

Among other advantages my improved device can be employed with shaft-couplings of the ordinary well-known kinds without change therein. It can be readily applied thereto, is durable, cannot detach itself when once in place, is cheap, and easily made.

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

1. The combination, with the eye and ears of a pole or shaft coupling, of a sheet-metal spring-loop formed at its ends and on opposite sides with lateral projections adapted to be sprung into place by twisting said loop and to engage one with one ear and the other with the other ear of said coupling and thereby retain said spring-loop in place, one end of said loop being adapted to be seated between the said ears and the other end to bear against the back of said eye, substantially as and for the purposes set forth.

2. The combination, in a shaft-coupling, of the shaft-iron, coupling-ears, and a U-shaped spring-loop curved to fit the end of said shaft-iron and formed at each end on opposite sides with a hook which projects underneath the adjacent ear of said coupling, substantially as and for the purposes set forth.

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

JOHN A. CHAPMAN.

Witnesses:

CHAS. L. GOSS,  
ELLA P. CHAPMAN.