

H. Z. MAST.  
Thill Coupling.

No. 104,045.

Patented June 7, 1870.

Fig. 1.

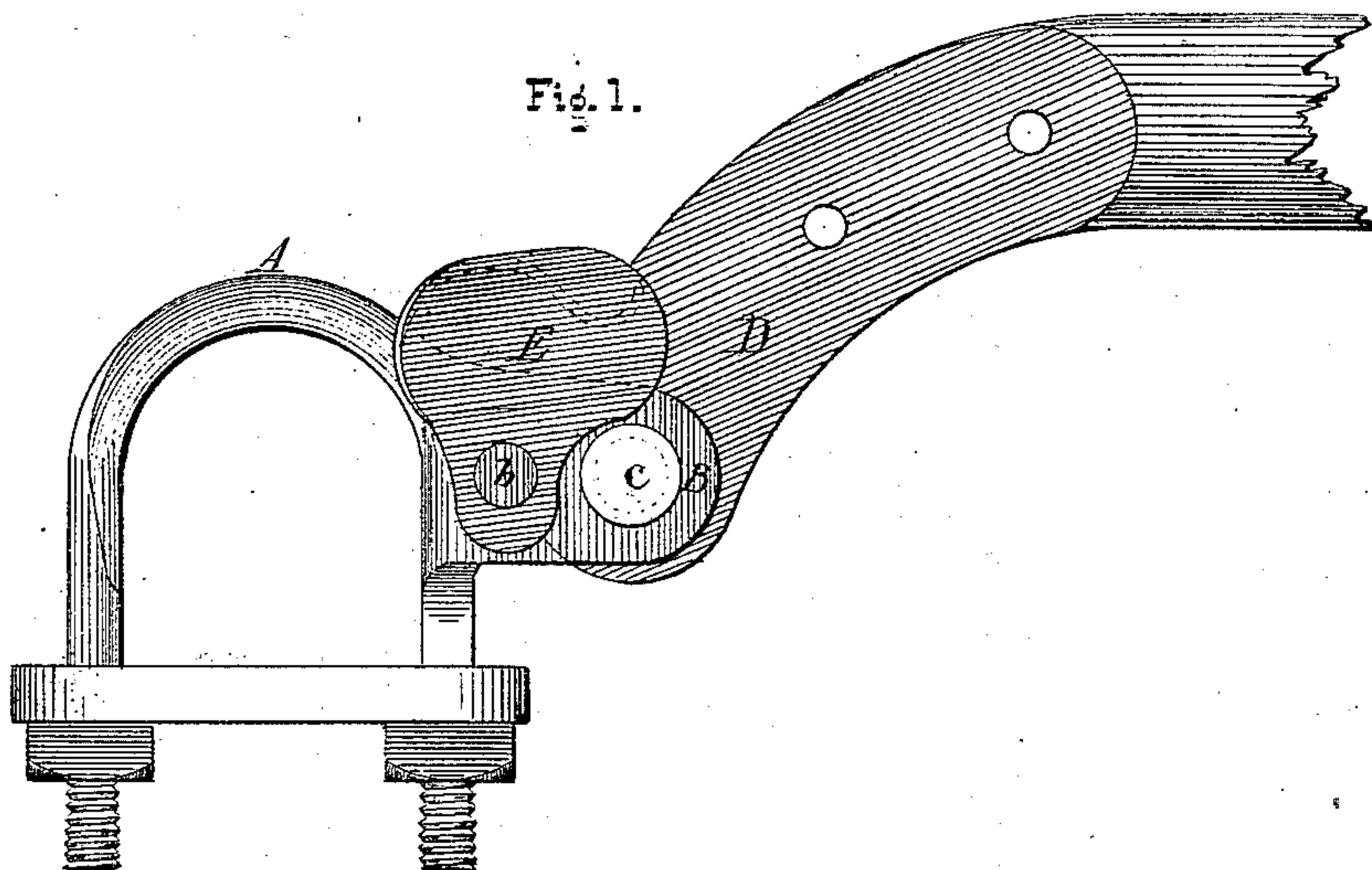


Fig. 3.

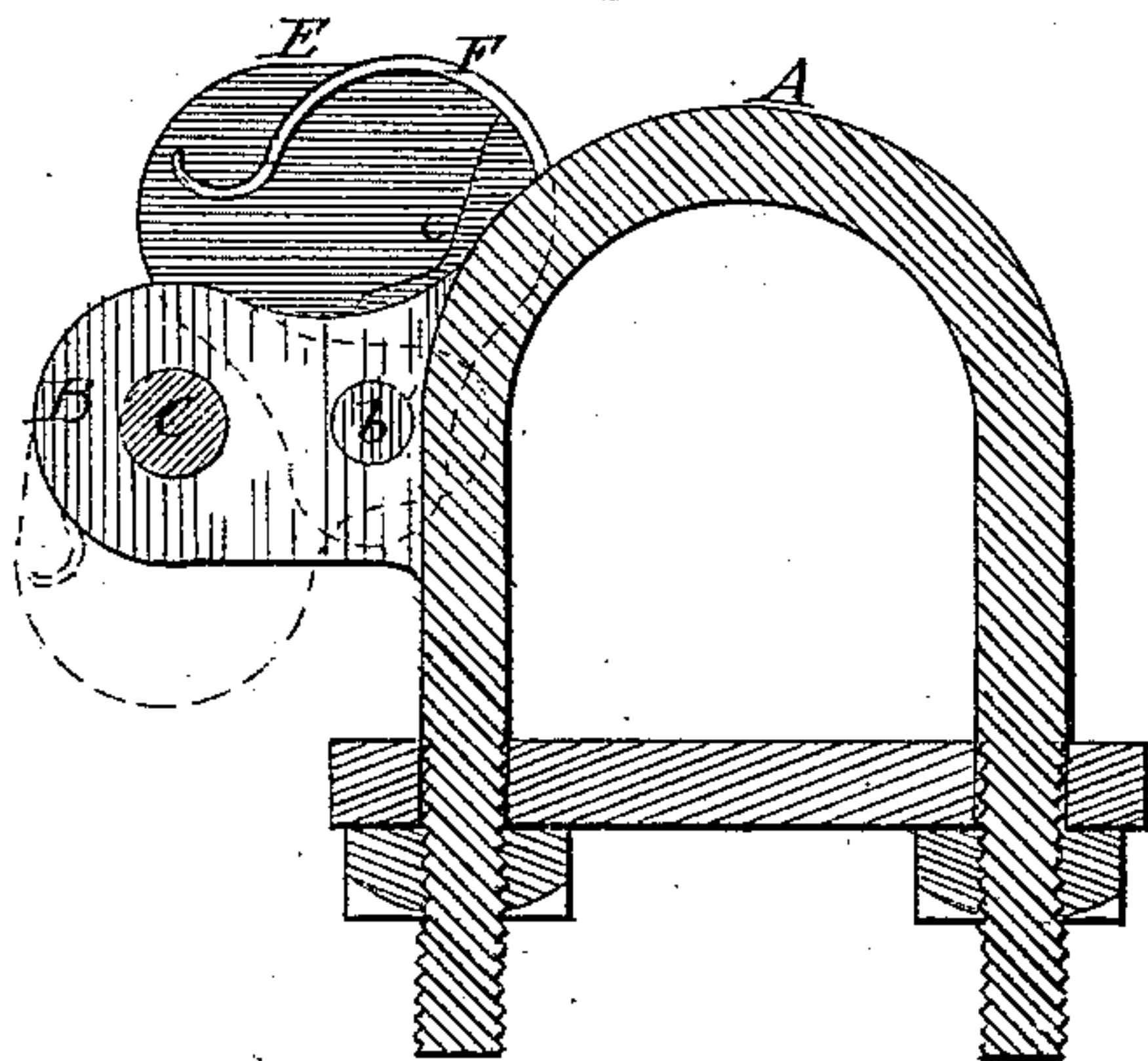
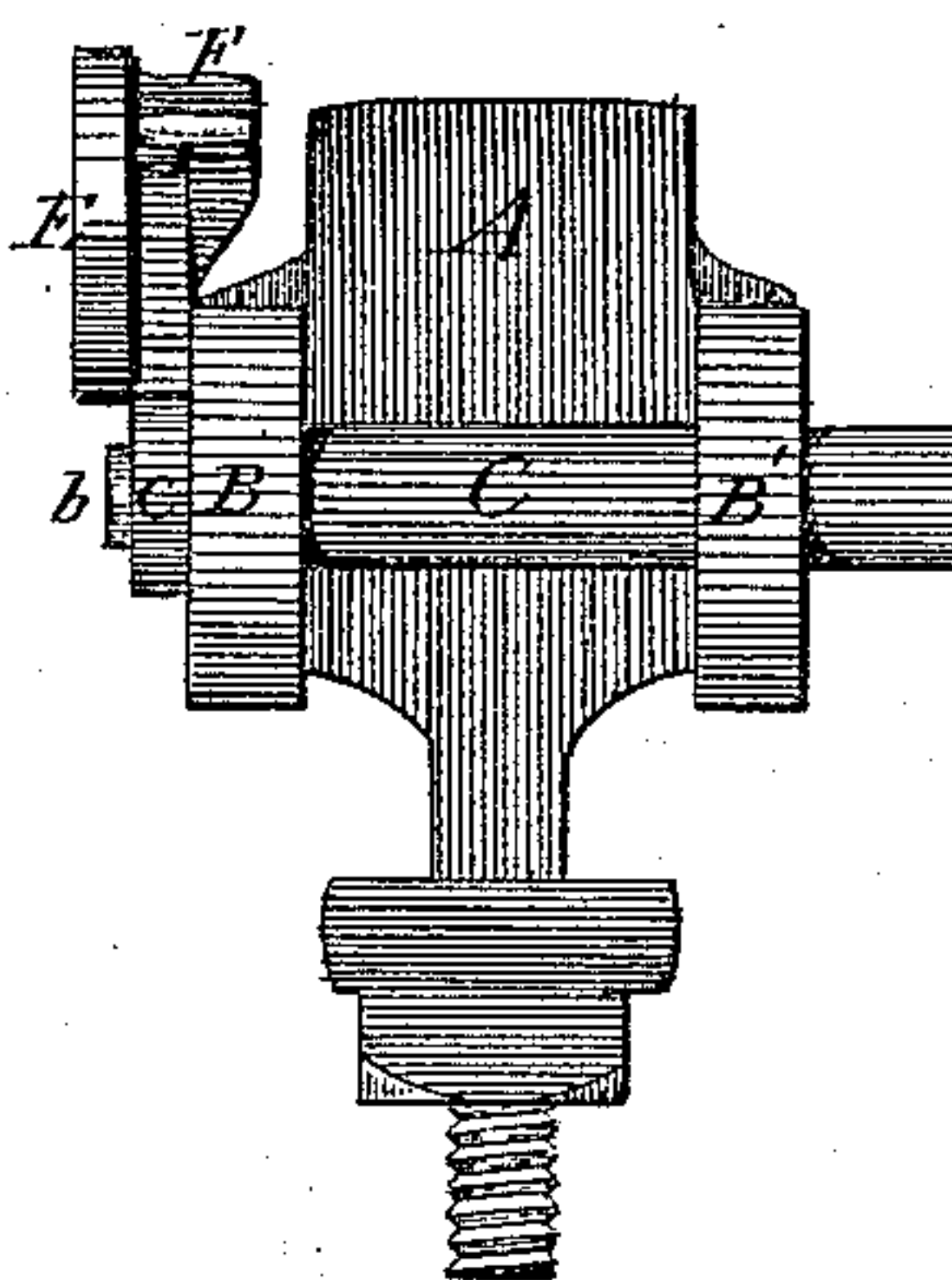


Fig. 2.



Witnesses.

*Chas. H. Poole*  
*Saml. J. Mast*

Inventor.

*Henry Z. Mast*  
*by Crindle and Byer*  
Attys.



# United States Patent Office.

HENRY Z. MAST, OF FORK MEETING HOUSE, MARYLAND.

Letters Patent No. 104,045, dated June 7, 1870.

## IMPROVEMENT IN THILL-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, HENRY Z. MAST, of Fork Meeting House, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Thill-Couplings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my improved device;

Figure 2 is a front elevation of the same; and

Figure 3 is a vertical central section on the line  $x$  of fig. 2.

Letters of like name and kind refer to like parts in each of the figures.

My invention has for its object the locking in place of the bolt connecting the pole-eye and shackle or coupling; and

It consists in the employment of a metal disk so pivoted to or upon the outer side of one of the ears of the coupling as to enable it to be shut down when desired, over and against the head of the bolt, substantially as hereinafter set forth.

It also consists in the employment of a spring, secured to the locking-disk and embracing the outside of the ear when said disk is shut down, so as to secure the latter in place, substantially as hereinafter shown.

In the annexed drawing is shown a shackle or coupling of usual construction, consisting of a clip, A, having secured to and projecting forward from one of its sides two ears, B and B', which furnish a bearing for a bolt, C, passing horizontally through the same, between which ears and upon said bolt is pivoted the pole or shackle-eye D.

As ordinarily constructed, the bolt C has upon one end a head,  $c$ , while its opposite end projects through the coupling, and is either provided with a screw-thread and nut or with a transverse slot, through which a split key, leather strap, or other equivalent device is passed, for the purpose of securing said bolt in position and preventing its accidental displacement.

It has been found, however, that none of the above-described fastenings are reliable, and serious accidents are continually occurring from the uncoupling of the thills while the carriage is in motion.

To remove these objections, and insure the safety of the connection between the pole-eye and shackle, I employ a metal disk, E, having the form shown in fig. 1, which is pivoted at  $b$ , to or upon the side of

one of the ears B, so as to permit it to be rotated until the outside of the head  $c$  of the bolt C is covered, as shown by the dotted lines in fig. 3, and effectually secured in place.

If, as shown in the drawing, the head  $c$  projects entirely beyond the ear B, it will be necessary for the disk E to be provided with a recess,  $e$ , within its inner face, but if a suitable countersink, corresponding in size and shape with said head  $c$ , be provided within said ear, so as to contain said head, the locking-disk may have a plane inner face and be constructed of thinner metal than would otherwise be necessary.

In order that the disk E may be locked in place when closed over or against the head  $c$ , a flat spring, F, is secured at one end upon the edge of said disk near the pivot  $b$ , and from thence extends forward and downward in a curve, the diameter of which is somewhat less than the circle of the ear B, so that, when the disk is closed down, the end of said spring shall pass over and firmly clasp said ear, as shown by the dotted lines in fig. 3.

To release and raise the disk it is only necessary that the outer end of the spring be bent outward until it will clear the ear.

The advantages afforded by this device are, perfect security from accident occasioned by the displacement of the bolt, and ease and rapidity of operation in changing or removing the thills.

An additional advantage will be found in the ease and trifling expense with which the device may be attached to thill-couplings of ordinary construction.

Having thus fully set forth the nature and merits of my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The disk E provided with the spring F and pivoted to the ear B, when constructed and arranged substantially as described and shown, and for the purpose set forth.

2. In thill-couplings, the combination of the disk E, the ears B and B', and an ordinary bolt, C, upon which the shackle-eye D is pivoted, when the several parts are constructed substantially as described and shown, and arranged to operate as and for the purpose set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 10th day of May, 1870.

HENRY Z. MAST.

Witnesses:

GEO. S. PRINDLE,  
SAML. S. MARR.