

(No Model.)

H. ARMBRUSTER.  
TUG LOOP.

No. 480,003.

Patented Aug. 2, 1892.

Fig. 1

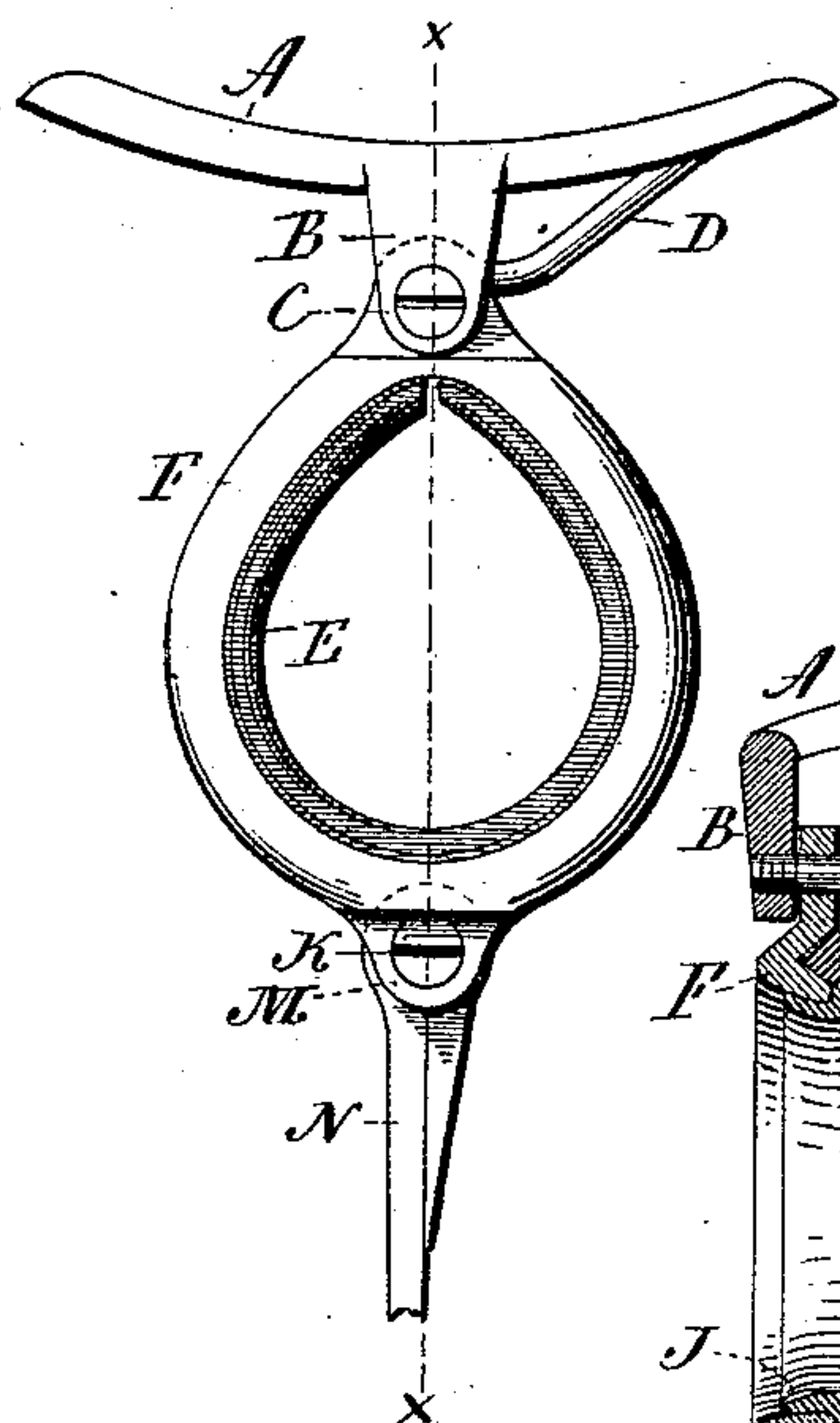


Fig. 2

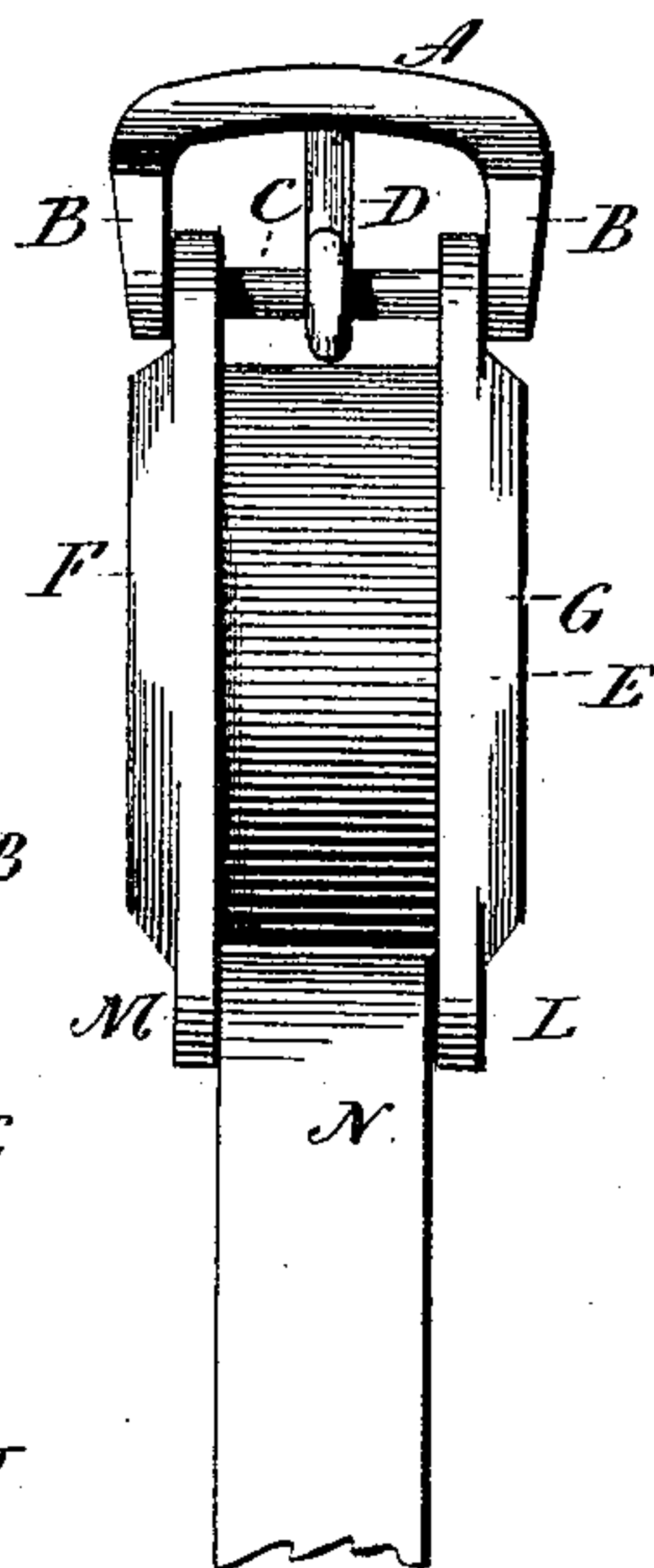


Fig. 3

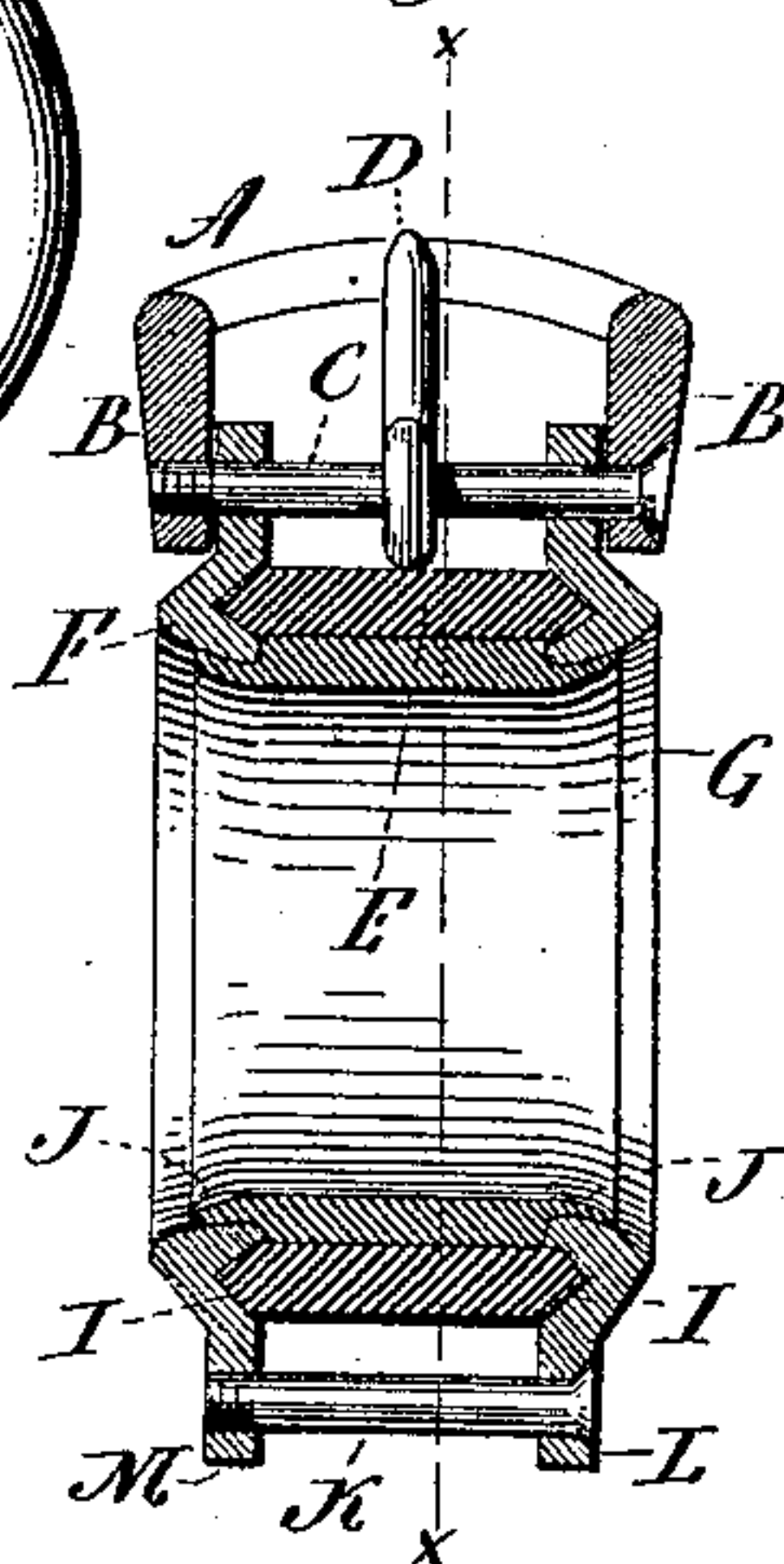


Fig. 4

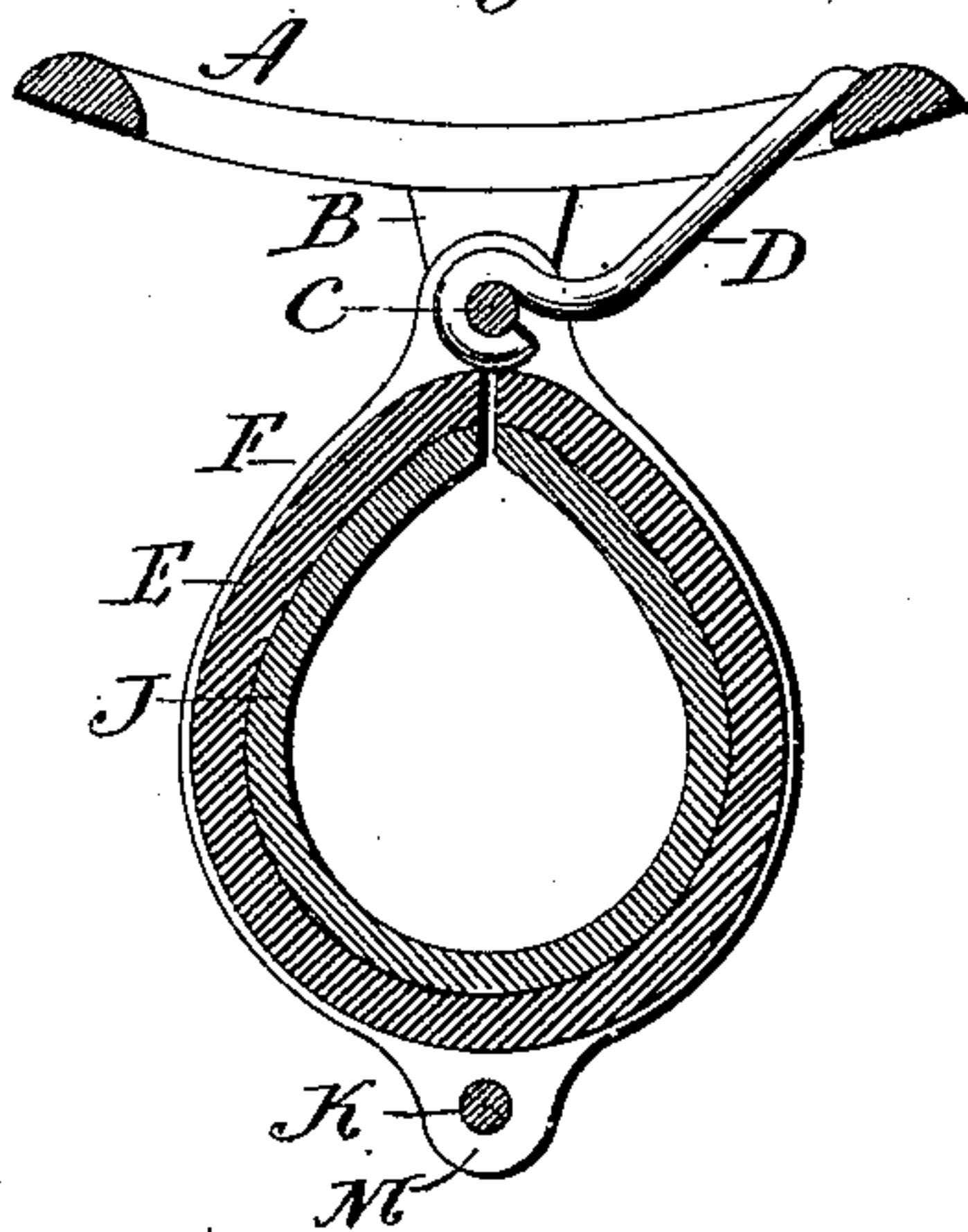


Fig. 5

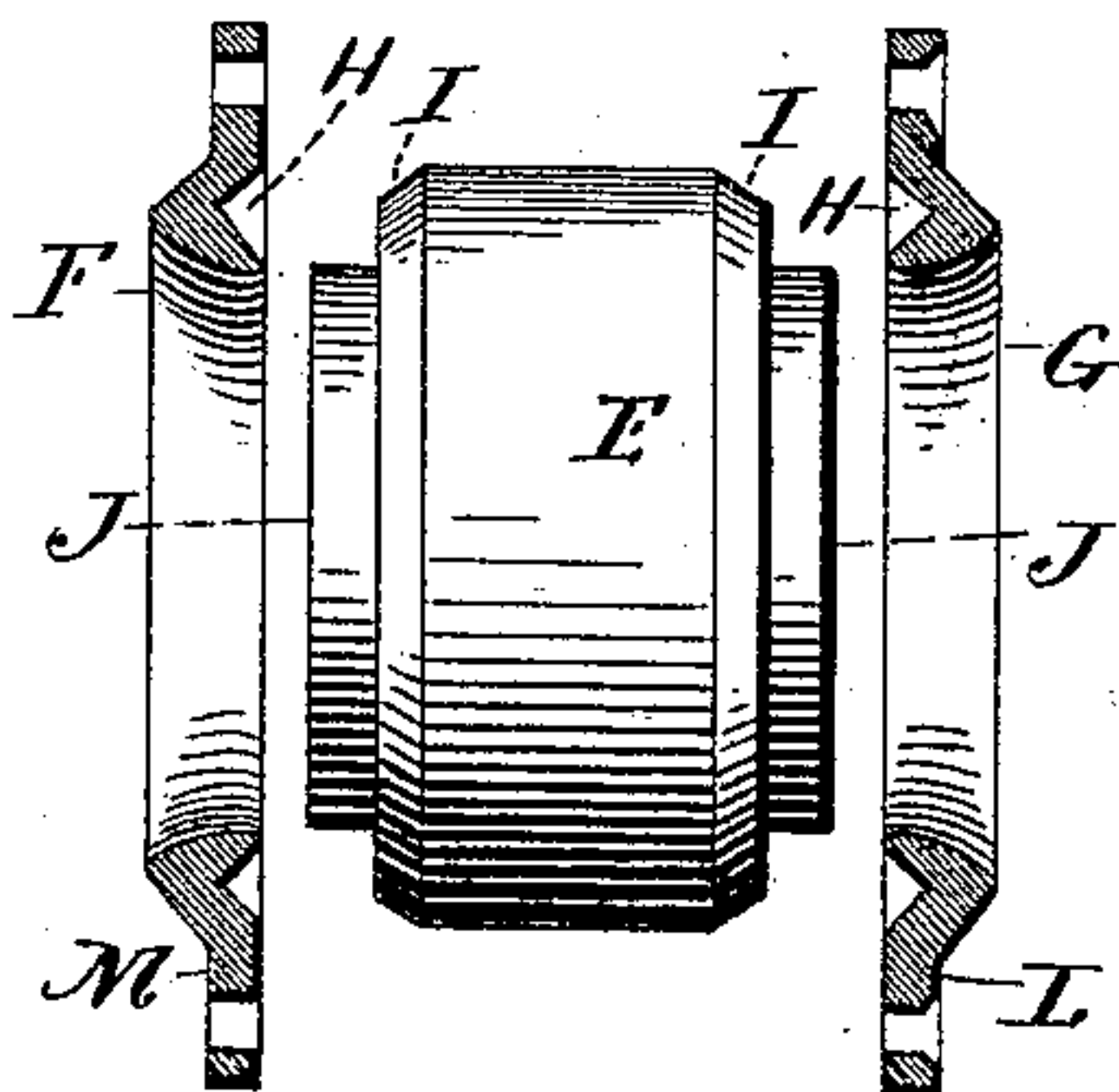


Fig. 6



Witnesses  
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# UNITED STATES PATENT OFFICE.

HERMANN ARMBRUSTER, OF NEW HAVEN, CONNECTICUT.

## TUG-LOOP.

**SPECIFICATION** forming part of Letters Patent No. 480,003, dated August 2, 1892.

Application filed May 2, 1892. Serial No. 431,540. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN ARMBRUSTER, of New Haven, in the county of New Haven and State of Connecticut, have invented a new  
5 Improvement in Tug-Loops; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and  
10 which said drawings constitute part of this specification, and represent, in—

Figure 1, an end view of the loop and buckle complete; Fig. 2, a front or face view of the same; Fig. 3, a vertical section cutting on line  
15 *x x* of Fig. 1; Fig. 4, a vertical section cutting on line *x x* of Fig. 3; looking to the left; Fig. 5, a vertical section of the two reinforces and face view of the loop detached; Fig. 6, a modification.

20 This invention relates to an improvement in the construction of the loop attached to harnesses for the engagement of the thills of the carriage commonly called "tug-loop," the object being to construct a loop which shall have  
25 the rigid support of metal and yet present the soft or yielding surface, like leather, of the common leather loops. Tug-loops have been made having a metal body with a leather or soft-material lining, but as the lining becomes  
30 worn its replacement is somewhat difficult, and the making of the body of the loop from metal produces a heavy structure.

By my invention a solid leather loop similar to the usual leather loop, so far as the loop  
35 is concerned, is employed, and is reinforced by metal bands at the ends of the loops, the invention consisting in the construction as hereinafter described, and particularly recited in the claims.

40 A represents the buckle-frame by which the loop is connected to the harness. This is constructed with outwardly-projecting ears B B, the ears carrying a transverse bar C, upon which the tongue D of the buckle is hung.

45 E represents the tug-loop proper, which is made from leather or other suitable flexible material and of the usual circular or elliptical shape to adapt it for the reception of the thill.

50 F G represent metal reinforces for the leather loop. The reinforces F G correspond in outline to the shape of the loop E, and each of

the reinforces is hung to the transverse bar C of the buckle, so as to swing freely thereon.

As here represented, the cross-bar C is in  
55 the form of a bolt passing through one ear of the buckle-frame on one side, and thence through the projections on the reinforces and screwed into the other ear of the buckle-frame, as clearly seen in Fig. 3. The reinforces are  
60 each constructed with an internal groove H, (see Fig. 5,) which correspond to the edges of the flexible loop E. The edges of the loop E are constructed with corresponding projections forming ribs I on the edges, so as to set  
65 into the grooves in the reinforce. The loop E is constructed of two thicknesses, the projections or ribs I being formed in the outer thickness, while the inner thickness is of a width to form laterally-projecting flaps J from  
70 the inside of the loop.

The parts are assembled as seen in Fig. 3, the two reinforces being applied to the respective ends of the loop, so that the edges I of the loop set into the grooves H of the reinforce, while the flaps J overlap the inner surface of the reinforces, and the reinforces are applied to the buckle, as shown, and then below a bolt K extends through a downwardly-projecting ear L on one reinforce and screwed  
80 into the corresponding ear M on the other reinforce, as clearly seen in Fig. 3. The bolt below and the screw C above serves to bind the two reinforces together and to so embrace the leather loop as to securely hold it in place.  
85 It is not essential that the loop E shall be made by two thicknesses of leather, as it may be made in a single thickness, the edge of the loop grooved to form the projecting ribs on the edges, as seen in Fig. 6. The overlapping  
90 of the flexible material onto the metal protects the thill from contact with the metal, so that there is no more liability to wear upon the shaft than in the use of the common leather loop. The construction permits the ready  
95 removal of the flexible loop and introduction of a new loop in its place whenever occasion requires. By the metal reinforces the shape of the loop is preserved, and the reinforces give to it a highly-ornamental appearance.  
100 The bolt K serves as a bar to which the strap N may be applied.

I claim—

1. The flexible material loop E, constructed

with a groove around its two edges, forming ribs I I and flaps J J, combined with metal reinforces F G, grooved upon their insides, corresponding to the ribs I I of the loop and  
5 adapted to receive the same, while the flaps J will overlap the metal of the reinforces upon their inner surface, and the two reinforces secured together, substantially as described.

2. A flexible metal loop E, combined with  
10 the metal reinforces F G, constructed to inclose the edges of the said loop, and the reinforces constructed with a projection from their lower side, with a bolt K through the said projections, and a buckle-frame con-  
15 structed with outwardly-projecting ears B,

the reinforces constructed with correspond- ing ears and a transverse bar C through said ears and through corresponding projections on the reinforce, whereby the loop is hinged to the buckle-frame with the tongue B hung 20 upon the said bar C, substantially as de- scribed.

In testimony whereof I have signed this specification in the presence of two subscrib- ing witnesses.

HERMANN ARMBRUSTER.

Witnesses:

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