

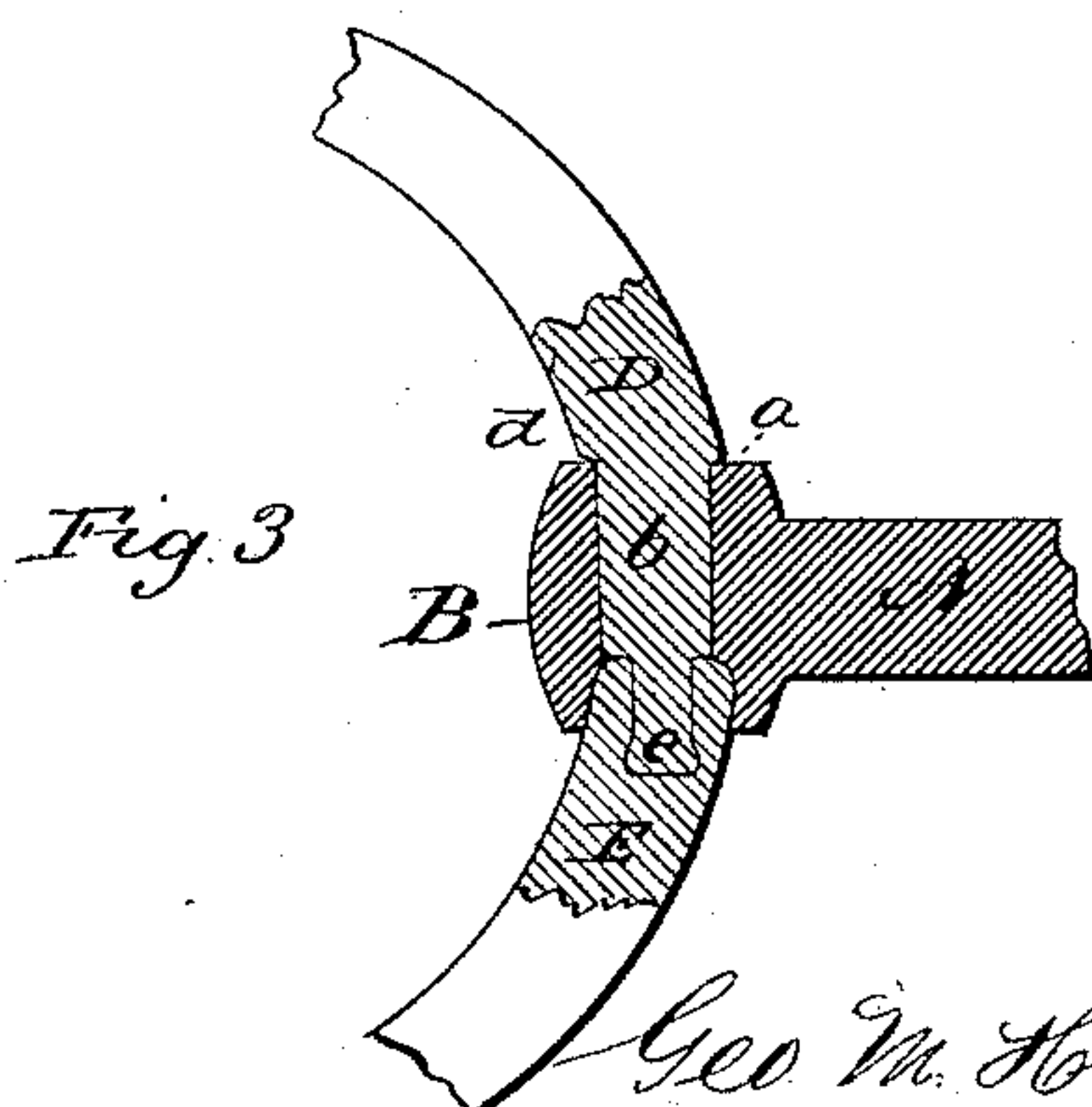
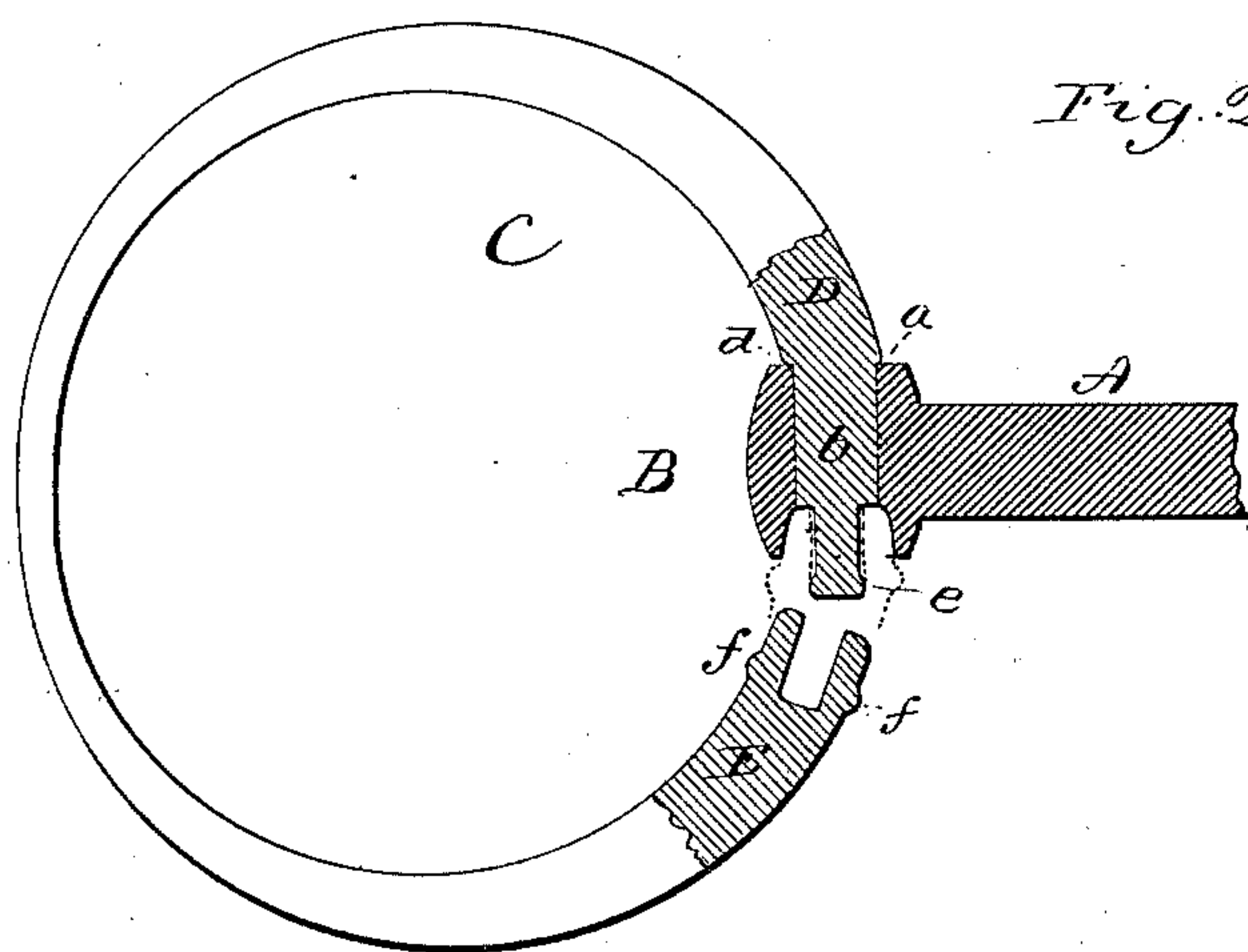
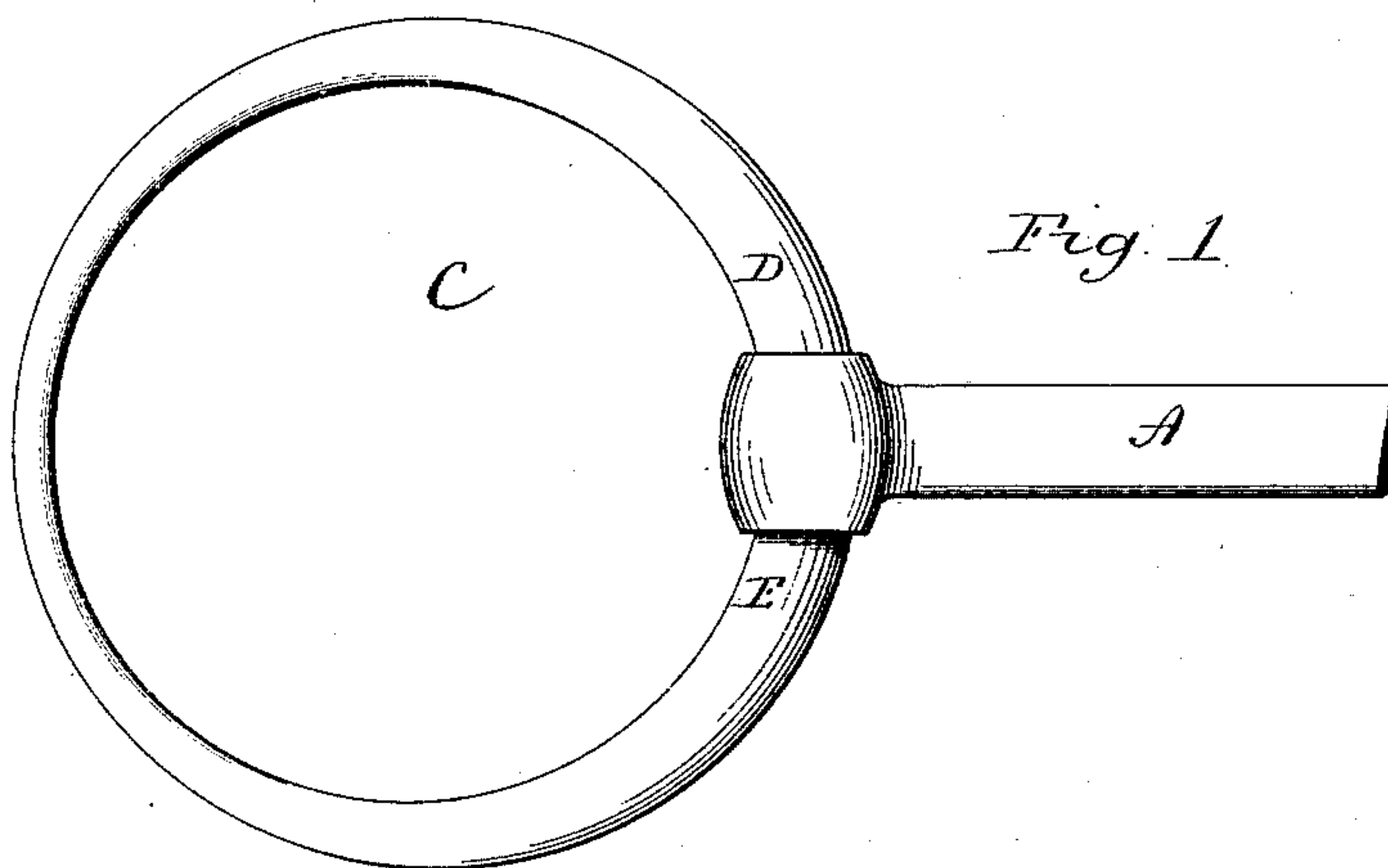
(No Model.)

G. M. HUBBARD.

BRIDLE BIT.

No. 354,475.

Patented Dec. 14, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE M. HUBBARD, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO W. & E. T. FITCH, OF SAME PLACE.

BRIDLE-BIT.

SPECIFICATION forming part of Letters Patent No. 354,475, dated December 14, 1886.

Application filed September 20, 1886. Serial No. 213,992. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. HUBBARD, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Bridle-Bits; 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 which said drawings constitute part of this specification, and represent, in—

Figure 1, one half the bit-bar with the loop attached; Fig. 2, a vertical central-section through the head, showing the loop as introduced and preparatory to closing; Fig. 3, the same view as Fig. 2, showing the recessed end of loop closed upon the tenon.

This invention relates to an improvement in bridle-bits, in which a ring-shaped loop is hinged in the ends of the bit, to which the reins are attached, and particularly to the construction of the loop, whereby its ends are connected through the ends of the bit bar without riveting or soldering.

A represents the bit-bar, which is constructed with a head, B, at each end, through which is an opening, *a*, at right angles to the axis of the bar.

C is a loop of any desired form, preferably of ring shape, and made of malleable metal, and is divided, the diameter of the metal at the ends being greater than the diameter of the opening *a*. One end, D, is constructed with a stud, *b*, corresponding in diameter to the opening *a* in the end of the bit-bar, so that a shoulder, *d*, is formed around the stud, which will take a bearing on the head B at one end of the opening *a*, as seen in Fig. 2. The end of the stud *b* is reduced to form a tenon, *e*, enlarged at its outer end. The other end, E, of the loop is constructed with a recess corresponding in length and diameter to the length and greatest diameter of the tenon *e*. The end E is cast with one or more projections, *f*, on its outside, distant from the extreme end less than the length of the tenon *e*.

To attach the loop to the bit-bar, pass the stud *f* on the loop through the opening *a* in the head of the bit-bar and close the loop, the tenon *e* entering the recess in the end E of the loop, as in broken lines, Fig. 2. Then strike or press the projections *f* on the loop inward, which will force the metal on the inside of the recess into the smaller part of the tenon, as seen in Fig. 3.

I prefer to form the projection *f* on the outer surface of the end E of the loop, as it facilitates the closing of the end of the loop on the tenon. The projection, however, may be omitted and the metal closed upon the tenon by compression. This construction makes a firm pivot-connection between the two ends of the loop through the head, and avoids the use of rivets, screws, solder, or other device than that which the metal of the loop itself affords.

It will be understood that a like loop is applied to each end of the bit-bar.

This invention is an improvement upon the bridle-bit for which Letters Patent No. 332,200, were granted me; and,

What I claim as an improvement, described in said patent, is as follows:

The combination of the bit-bar A, constructed with an opening at each end at right angles to its axis, with a loop at each end, the said loop divided, one of its ends constructed with a stud to extend through the opening in the end of the bar, and the said stud having a tenon projecting axially from its end, said tenon enlarged at its outer end, the other end of the loop constructed with a recess in axial line with the stud, the said recess being of a diameter to receive the enlarged end of the stud, and said recessed end closed upon the tenon, substantially as described.

GEORGE M. HUBBARD.

Witnesses:

JOHN E. EARLE,
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