

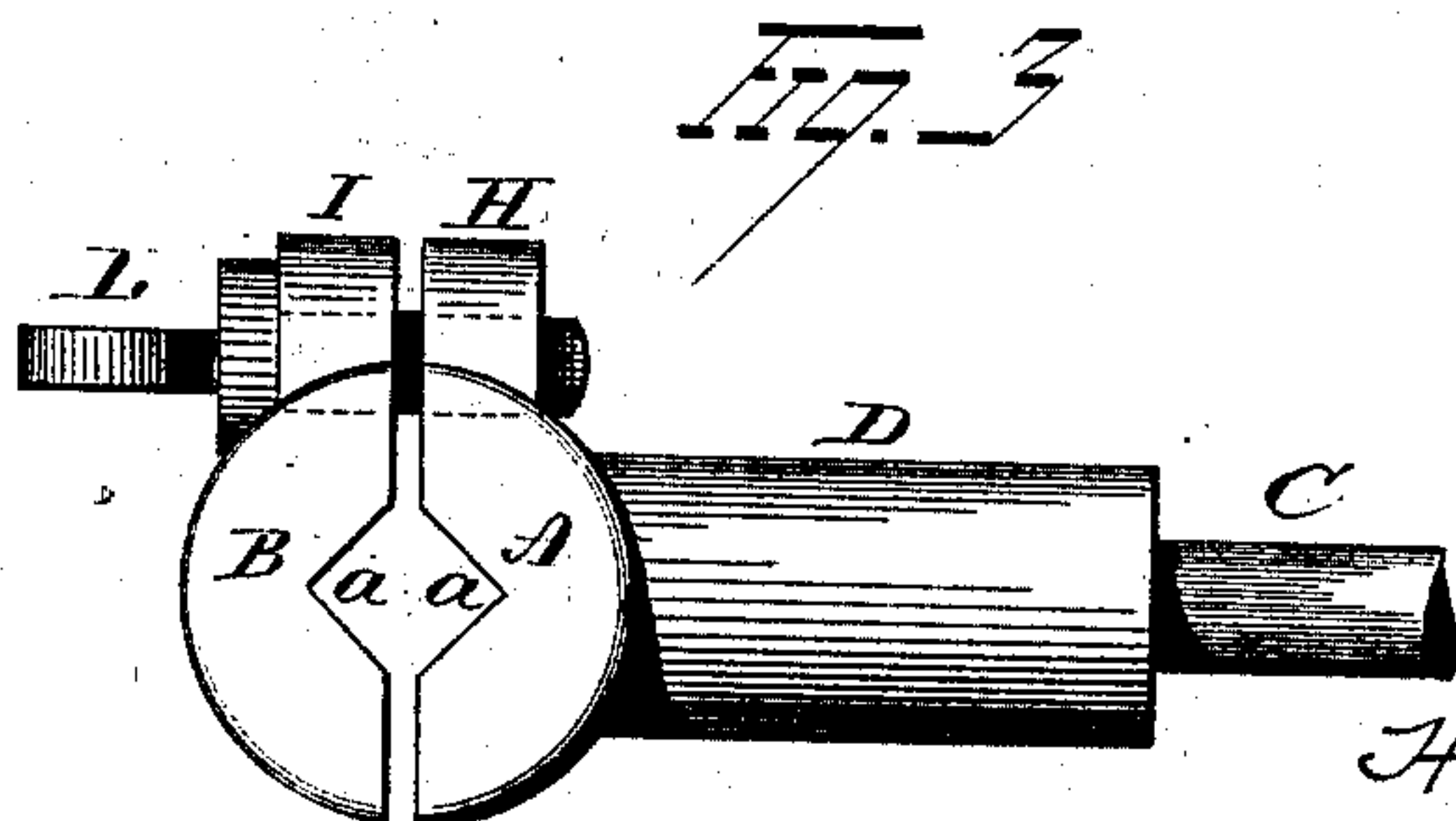
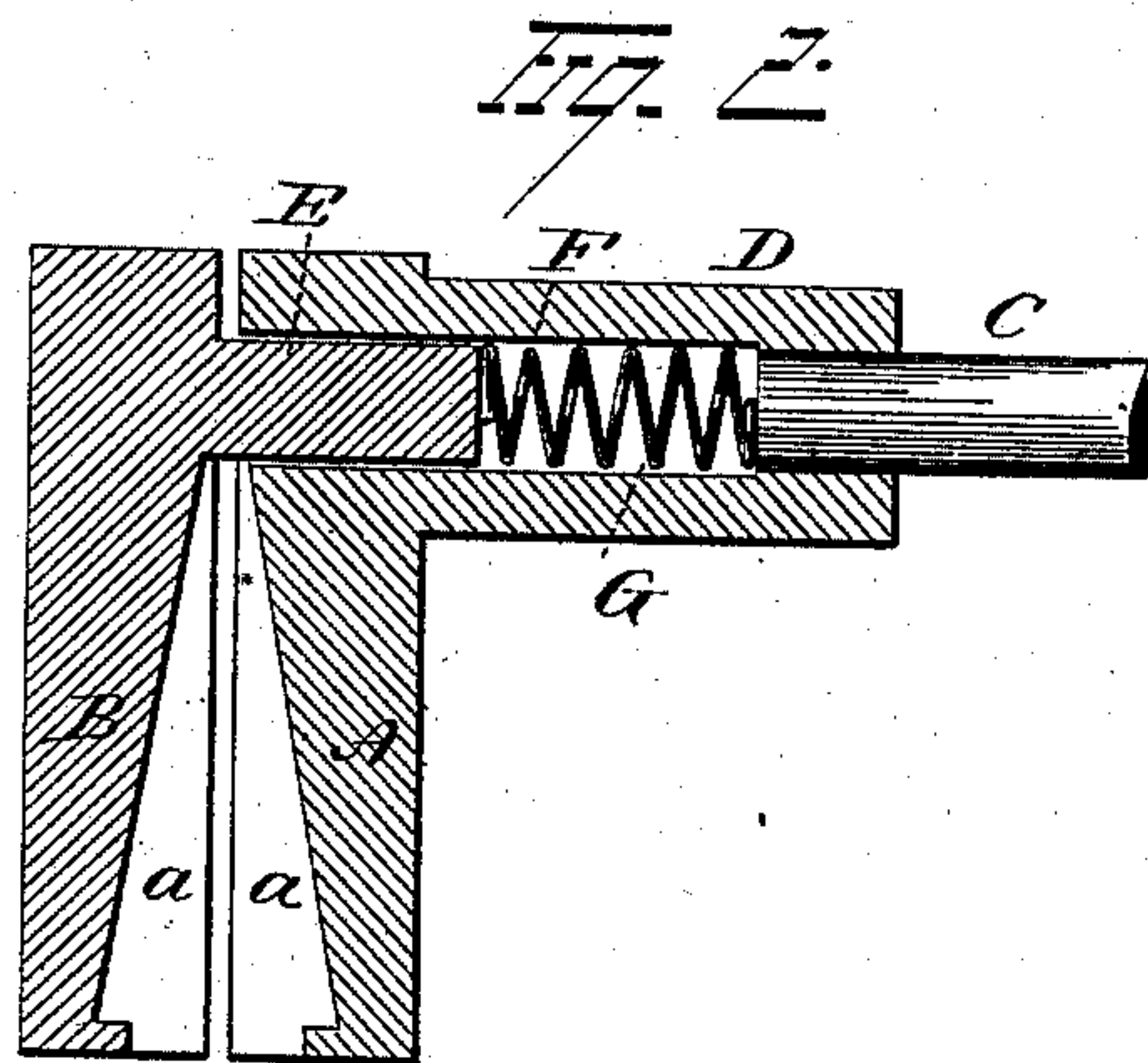
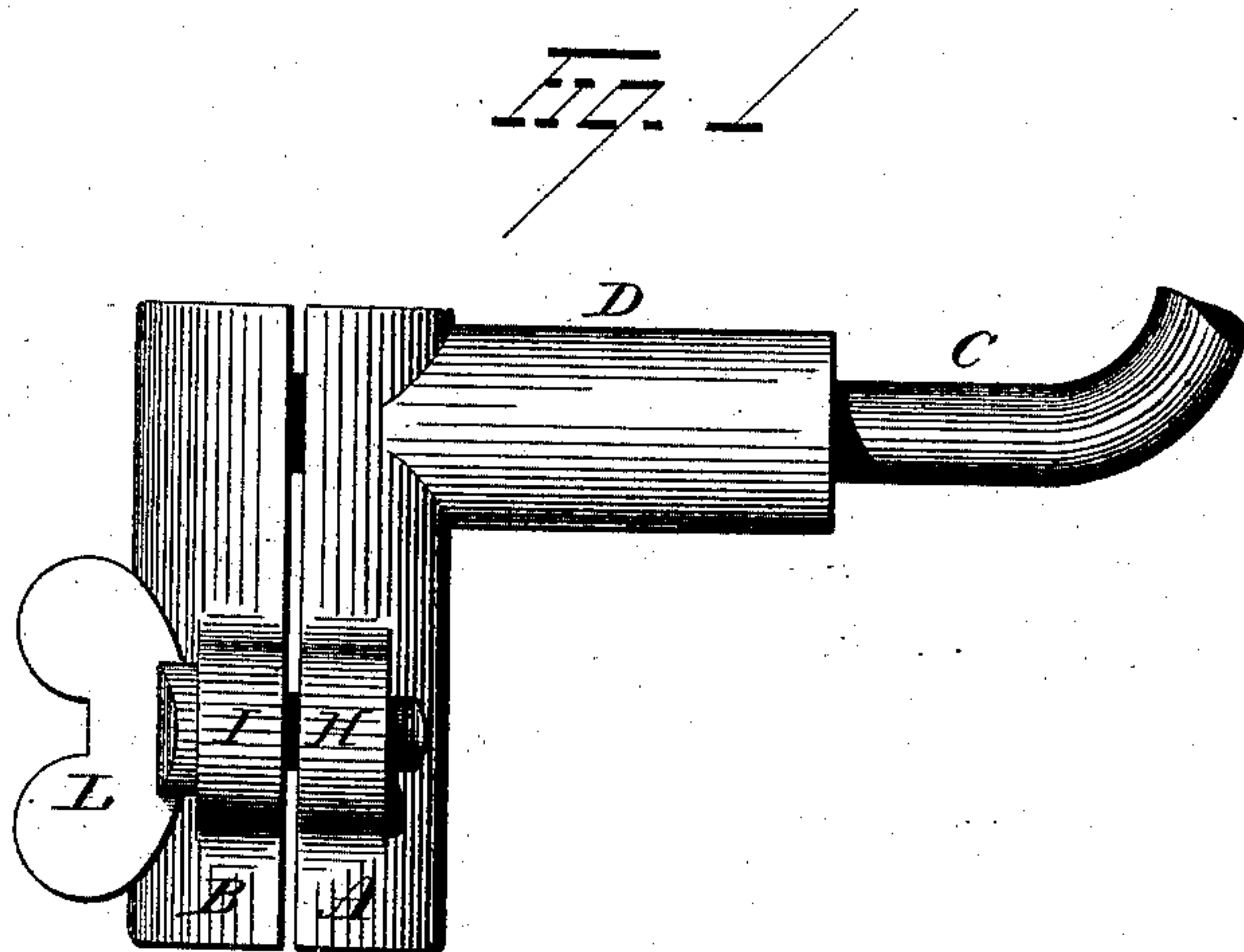
(No Model.)

H. V. SMITH.

BIT STOCK.

No. 274,040.

Patented Mar. 13, 1883.



Witnesses.

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John D. Earle

Henry V. Smith
Inventor

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By atty.

UNITED STATES PATENT OFFICE.

HENRY V. SMITH, OF PLANTSVILLE, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO GEORGE E. CRUTTENDEN, OF SAME PLACE.

BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 274,040, dated March 13, 1883.

Application filed November 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY V. SMITH, of Plantsville, in the county of Hartford and State of Connecticut, have invented a new Improvement in Bit-Braces; 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, a side view; Fig. 2, a vertical central section; Fig. 3, an end view of the socket.

This invention relates to an improvement in that class of bit-braces in which the socket is divided or split, the two parts drawn together by a clamping-screw at substantially right angles to the split, this class of braces being well known as the "Spofford Brace." In the Spofford brace the socket is split in a plane parallel with the handle or crank of the brace, and so that the split extends into the arm to give a certain amount of elasticity to the two parts of the socket. This is an expensive construction, and the jaws work toward and from each other, as if swinging or hinged at their upper end—that is, they open at the mouth end faster than at the upper end, or where they are connected. Hence there is a constant varying taper to the recesses in the two parts of the socket.

The object of my invention is to simplify the construction and cause the two parts of the jaws to work parallel to each other; and it consists in dividing the socket vertically and separating the one part from the other—one part attached to the arm of the brace, the other provided with a guide to enter a corresponding seat in the other part, and at right angles to their meeting surfaces, combined with a clamping device by which the jaws may be forced together or permitted to separate, as more fully hereinafter described.

A B represent the two parts or jaws of the socket. The one part, A, is fixed to the arm C of the brace, and is preferably made with a projection, D, at right angles to it, and to which the arm C is attached. The part B is made separate and independent of the part

A, and is constructed with a guiding-stud, E, which enters a corresponding recess, F, in the face of the part A, and which recess extends into the projection D. This recess F is deeper than the guiding-stud E, and in the recess, before the stud is introduced, a spring, G, is placed, so as to bear against the end of the stud, and tending to force the part B from the part A. The part A is provided with a fixed nut, H, and the other part with a fixed collar, I; or the position of the collar and nut may be reversed.

L is a clamping-screw introduced through the collar I, and so as to bear thereon, the threaded portion extending into the nut H. Hence by turning the screw in one direction the two parts will approach each other, and turning it in the opposite direction will permit the separation of the two parts, they being caused so to do by the spring G.

The adjacent faces of the two parts A are each constructed with a recess, a, in the usual manner of recessing the jaws of bit-braces, and so that the tang may be introduced through the opening in the end of the socket, and when in proper position the two parts clamped together upon the tang of the bit by simply turning the clamping-screw L. The stud E serves as a guide to support the two parts of the brace parallel to each other, and from which they cannot depart any farther than the slight play which the fitting of the stud in the recess permits. They separate from and approach each other, always maintaining their own respective planes parallel the one to the other. By this construction I am enabled to cast the two parts A B from malleable iron. They require but very little mechanical labor in fitting, and a brace is produced not only cheaper, but stronger and more durable than the common and well-known split socket.

Instead of the screw as the means of clamping the two parts together, any known clamping device used for this purpose may be employed.

I claim—

A bit-brace having the socket formed in two parts, A B, the one part attached to the arm of the brace, the other separate and inde-

pendent, the one part constructed with a guiding-stud on its inner face, the other with a corresponding recess, in which the said stud will work, the meeting faces of the two parts recessed to receive the tang of the bit, with a
5 clamp to force the two parts together, and a spring in the recess in one part to bear against

the stud on the other part, and in opposition to the clamping device, substantially as described.

HENRY V. SMITH.

Witnesses:

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