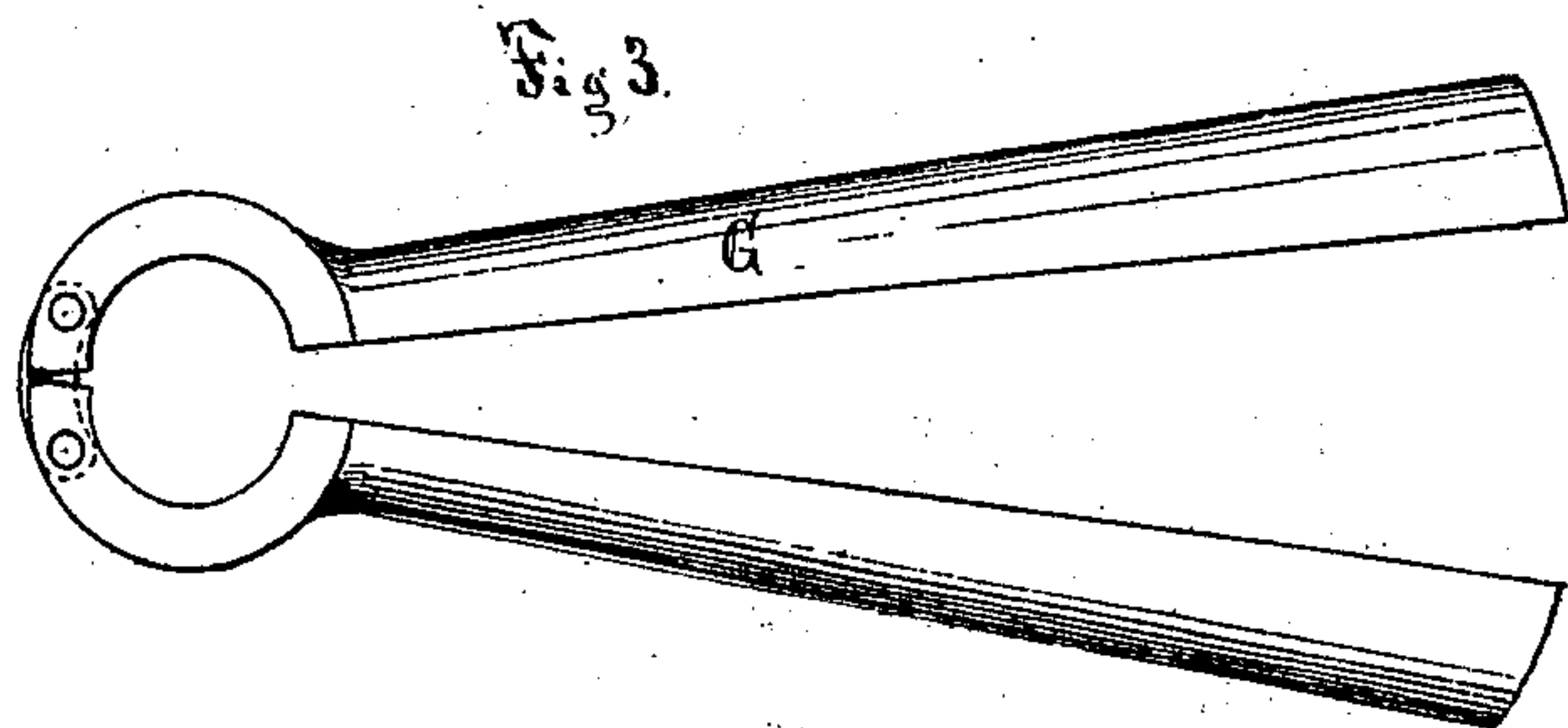
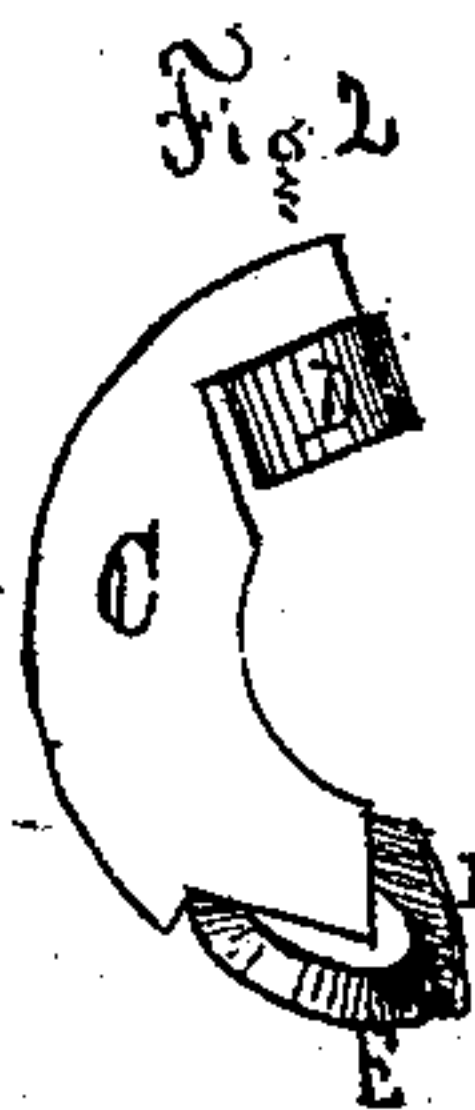
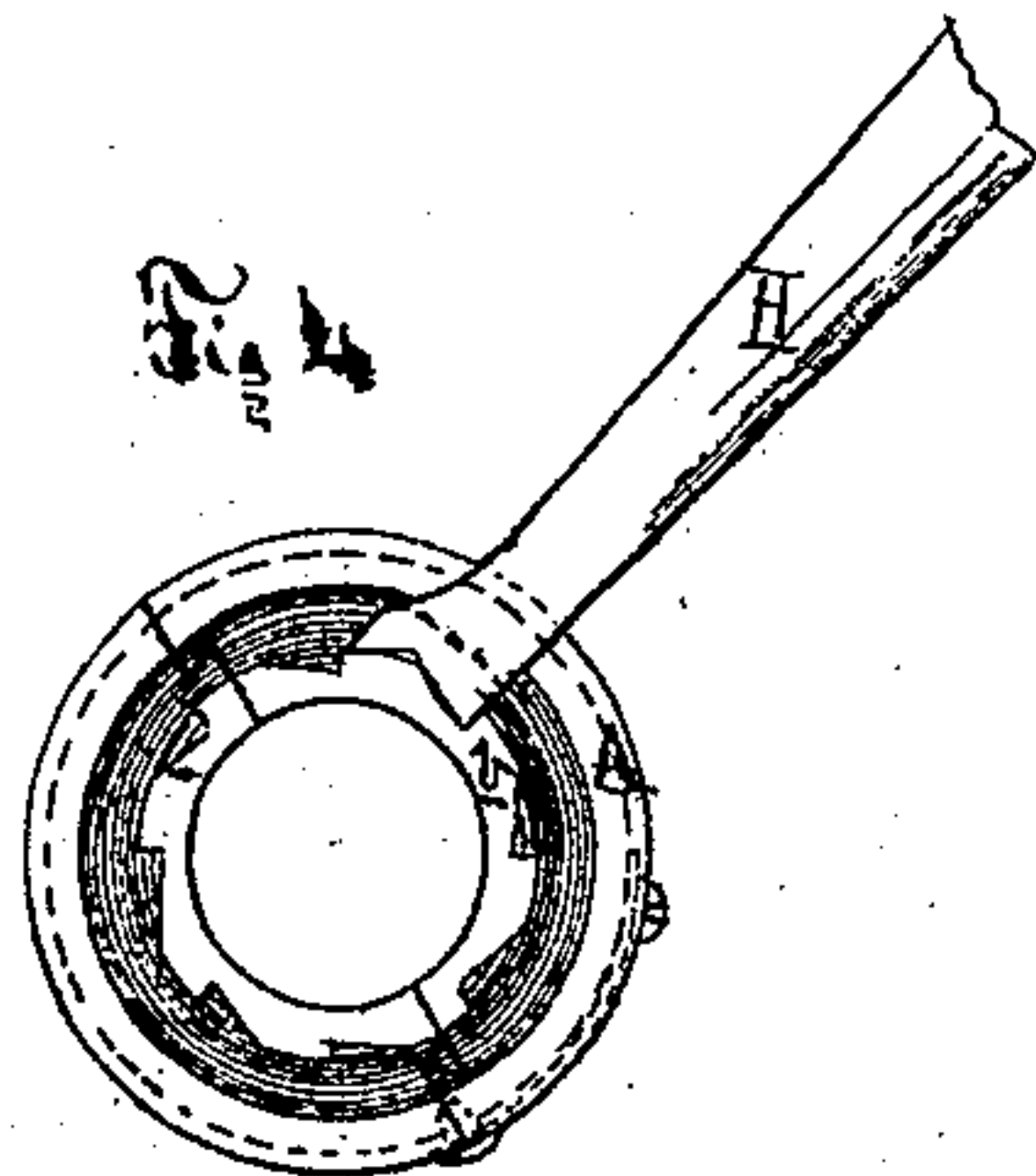
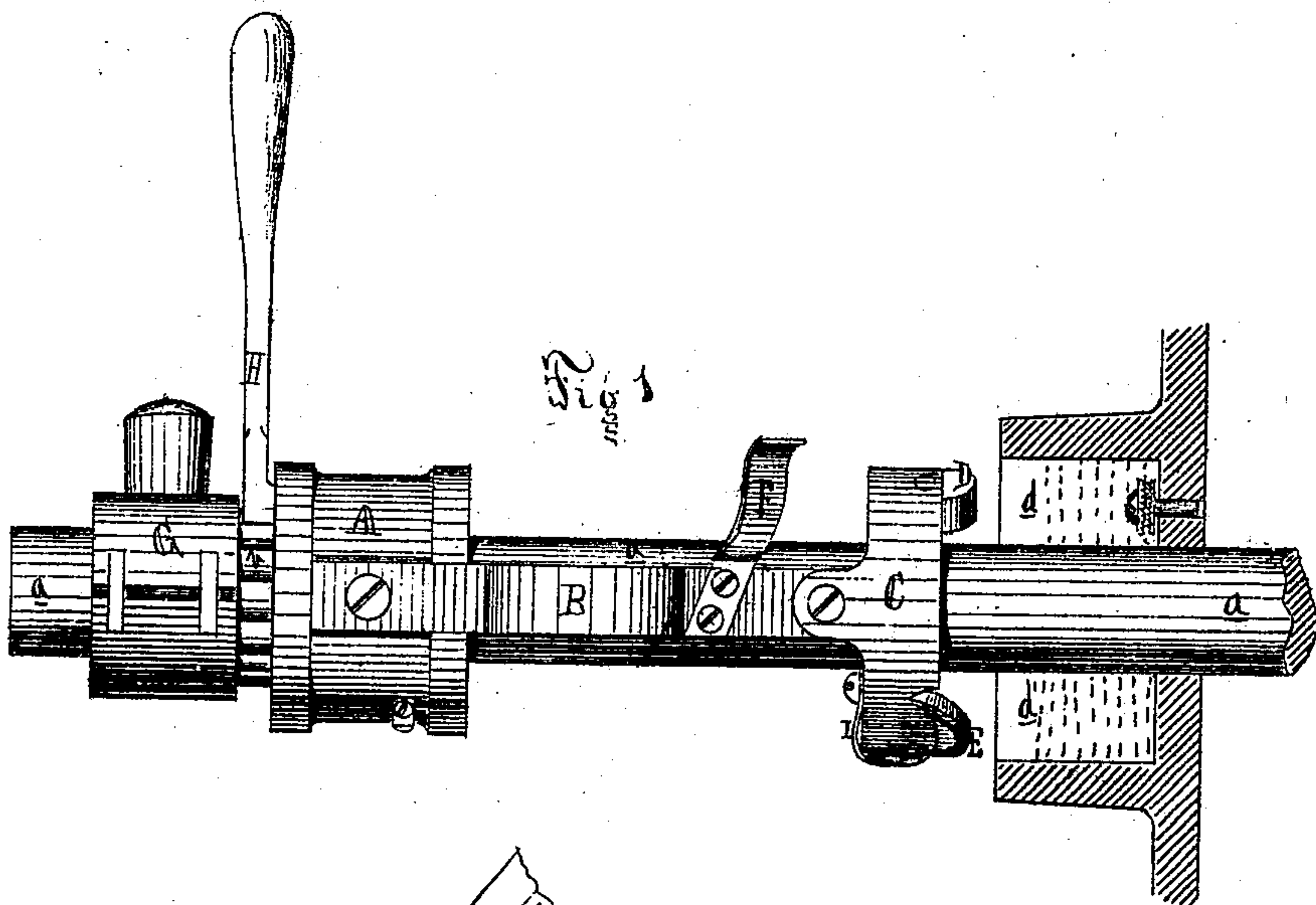


D. L. Smith,

Piston Packing.

No. 98,310.

Patented Dec. 28. 1869



Witnesses
W. C. Sprague
James I. Day

Inventor:
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United States Patent Office.

DAVID L. SMITH, OF MONTANA, IOWA.

Letters Patent No. 98,310, dated December 28, 1869.

APPARATUS FOR PACKING STUFFING-BOXES.

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

To whom it may concern:

Be it known that I, DAVID L. SMITH, of Montana, in the county of Boone, and State of Iowa, have invented a new and useful Improvement in Apparatus to Pack Pumps and all kinds of Stuffing-Boxes; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

Figure 1 is a representation of my apparatus, showing its application to packing a stuffing-box.

Figure 2 is an end view of the head, or traversing follower.

Figure 3 is the feed-clamp.

Figure 4 shows the sleeve, with ratchet and pawl. Like letters indicate like parts in each figure.

The object of this invention is to construct an apparatus, by means of which stuffing-boxes, engines, pumps, and other similar devices, may be uniformly packed, much more compactly than by the ordinary methods.

The invention consists in a sleeve, to traverse on the piston-rod, one end of this sleeve being provided with a ratchet, and is rotated by means of pawl-lever.

It further consists in securing to this sleeve a curved arm, terminating in a head or traversing follower, the outer face of which is provided with friction-rollers; the arm is also furnished with a guide, which guides the packing; the apparatus is also provided with a feed-clamp; the arrangement and operation of the whole being more fully hereinafter described.

In the drawings—

A represents a sleeve, which, for convenience, is made in two parts, and held together, when in position, by any suitable spring or catch.

This sleeve is intended to surround the piston-rod *a* when in use, and is made in two halves, the more easily to be placed in position.

The sleeve is provided with a rack, *b*, and, by means of the pawl-lever H, receives a rotary motion.

B is an arm, curved as shown in the drawing, and, at one end, rigidly secured to the sleeve A, while to its opposite end is pivoted the head or traversing follower C, which is provided with a small wheel, D, which rotates upon a bearing or shaft, at right angles with the side of the head; it is also provided with another wheel, E, which is bevelled upon its periphery, and rotates diagonally to the side of the head.

F is a curved guide, rigidly secured to the arm, as shown, which serves to guide the packing into the annular space around the piston-rod *a* in the stuffing-box *d*.

G is a hand-clamp, which, when in use, clasps the piston-rod *a*, and rests upon the outer end of the sleeve, for the purpose hereinafter described.

The operation of this device is as follows:

The packing is wound around the piston, the end being secured, in any convenient way, in the bottom of the stuffing-box.

The head or traversing follower is then placed in the stuffing-box, and the sleeve A placed around the piston-rod, the curve in the arm covering the packing wound around the piston; and the pawl-lever is then inserted in the channel or groove in the end of the sleeve, so that said pawl will engage with the ratchet-teeth.

Then clasp the clamp G around the piston-rod *a*, and resting against the end of the sleeve. With one hand the operator tightly holds the clamp in place, while with the other he gives a rotary motion to the sleeve, by means of the pawl lever.

This rotary motion lays the packing around the piston-rod *a* within the stuffing-box *d*, the packing being compelled to lay in front of the wheel E, by means of the curved guide, which packs it closely against the piston-rod *a*, by reason of its bevel or wedge-shape and diagonal rotation. The wheel D follows, and packs the whole firmly into the stuffing-box, when the apparatus may be removed.

By means of the hand-clamp, the operator governs the feed and pressure of the packing, according to the power exerted upon the clamp by his hand; that is, a heavy pressure upon the clamp produces a heavy pressure upon the packing, while a lighter pressure obtains a corresponding pressure upon said packing.

A spring, I, which is secured to the end of the head C, immediately in front of the wheel E, keeps the packing smooth, and prevents it clogging said wheel, while the pivoting of the head to the arm enables the former to conform to any variableness in the thickness of the packing.

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

The construction of an apparatus for the purpose described, wherein the sleeve A, arm B, head or traversing follower C, wheels D and E, guide F, and spring I, are arranged substantially as described, and operated by the pawl-lever H and hand-clamp G, substantially as set forth.

DAVID L. SMITH.

Witnesses:

H. S. SPRAGUE,
L. S. CURRIER.