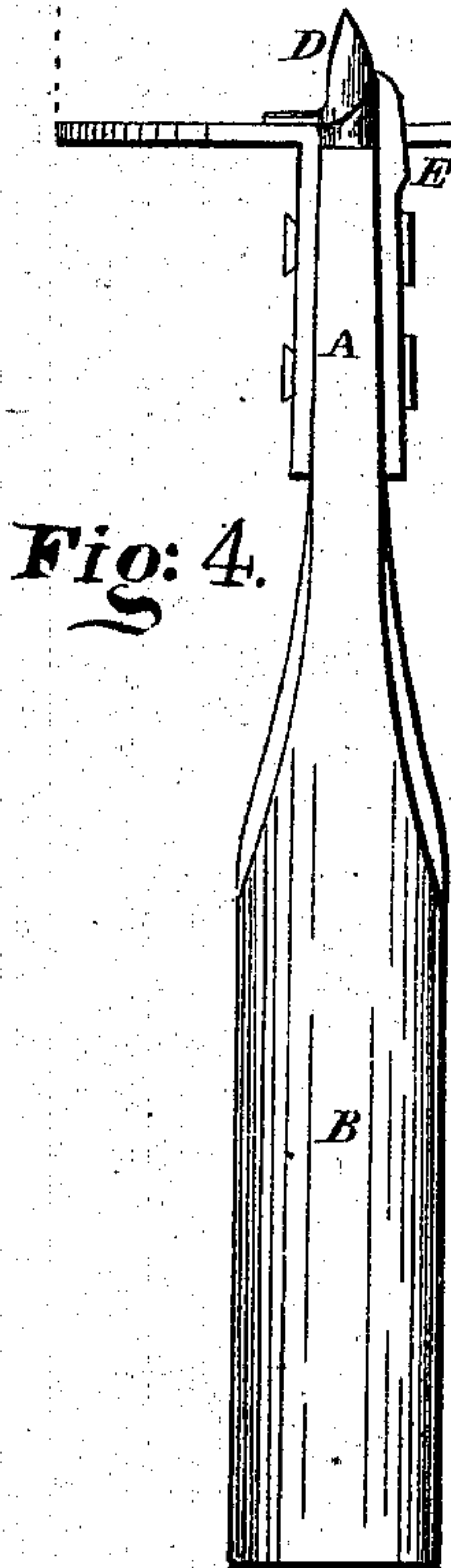
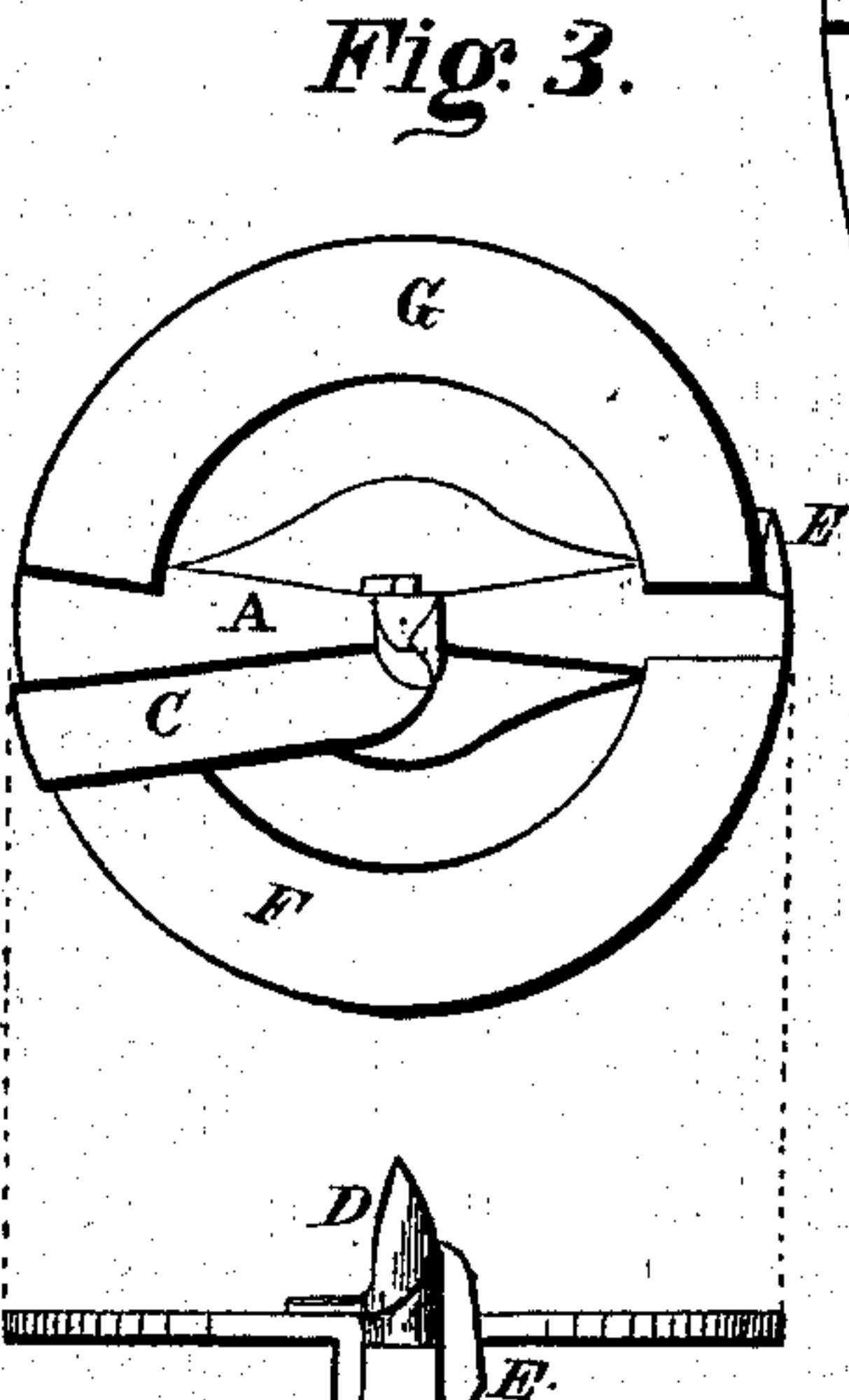
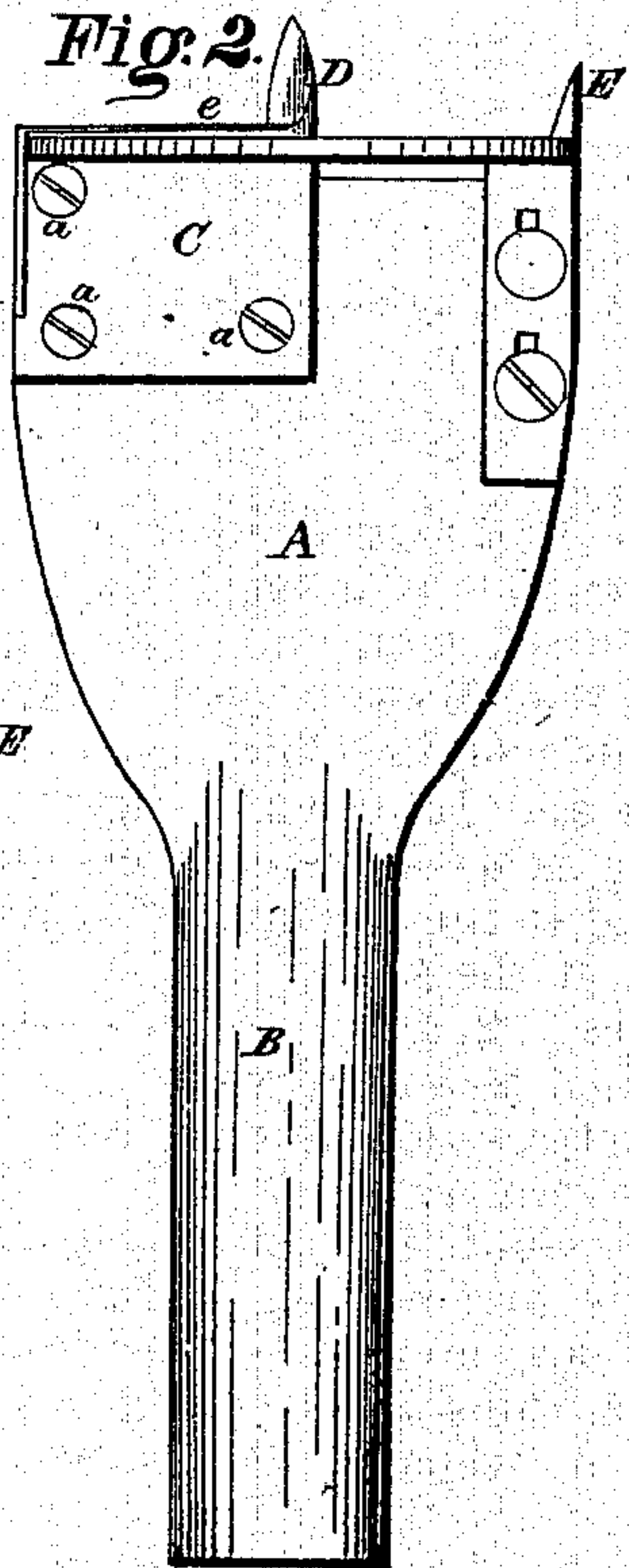
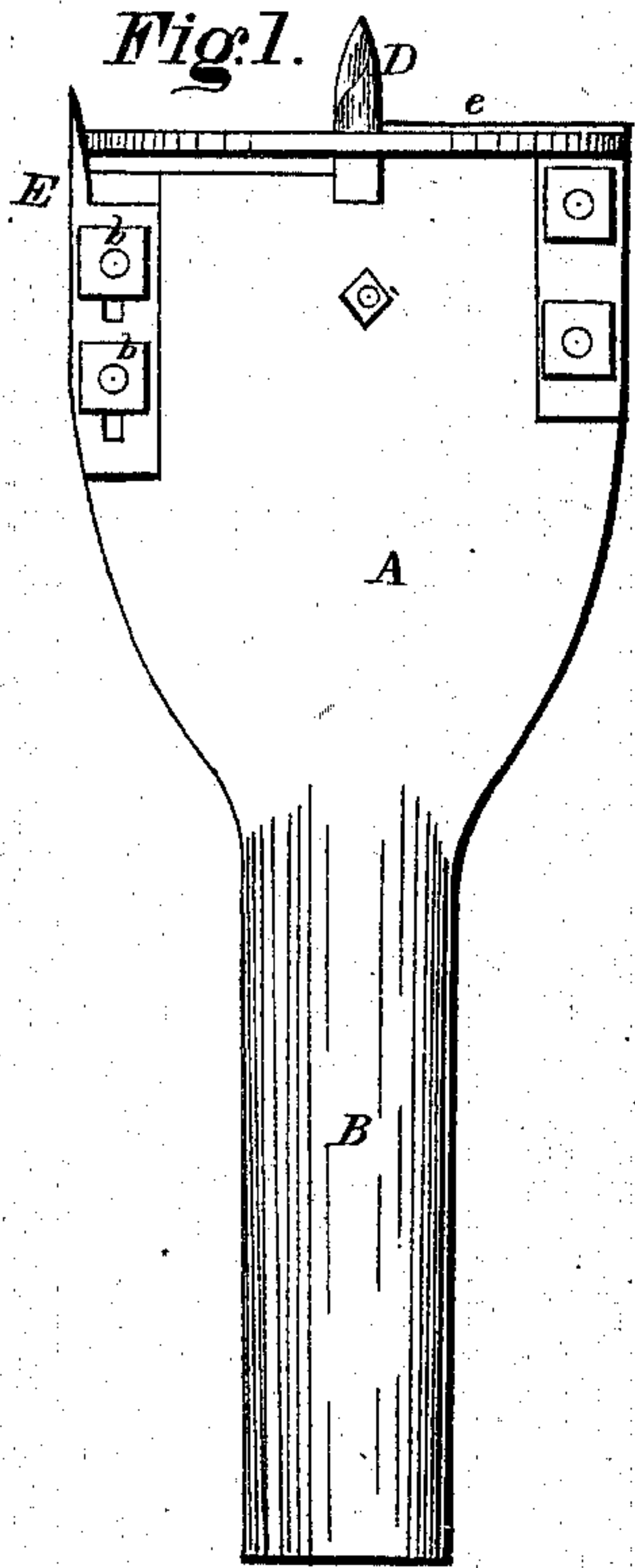


H. R. LADD & M. GROVER.  
Augers.

No. 146,344.

Patented Jan. 13, 1874.



*Witnesses.*

A. T. Cornett,  
G. H. Brown

*Inventor.*

H. R. Ladd & M. Grover.  
Per Burridge & Co.  
Atlys.



# UNITED STATES PATENT OFFICE.

HENRY R. LADD, OF ORWELL, AND MARCUS GROVER, OF WINDSOR, OHIO.

## IMPROVEMENT IN AUGERS.

Specification forming part of Letters Patent No. **146,344**, dated January 13, 1874; application filed November 5, 1873.

*To all whom it may concern:*

Be it known that we, HENRY R. LADD, of Orwell, in the county of Ashtabula and State of Ohio, and MARCUS GROVER, of Windsor, Ashtabula county, Ohio, have invented a certain new and Improved Auger, of which the following is a complete description, reference being had to the accompanying drawings making part of the same.

Figures 1, 2, and 4 are side views of the auger. Fig. 3 is an end view.

Like letters of reference refer to like parts in the several views.

This invention is an auger, and the object thereof is to construct said auger so that the cutting-parts and the gage thereof are detachable from the stock or head, for being sharpened or for repairs or for other needful purposes.

The special use of the auger is for boring holes in ties or yokes used in the construction of certain kinds of farm-fences.

The construction and operation of the implement are substantially as follows:

A is the head, and B the shank, of the auger, which is or may be of cast-iron. C is the cutter or lip, which is made of steel, and which is fitted to and secured to the head by screws *a*. The center D is also a part of the lip, the cutter and center being of one piece. The point E is also made of steel, and is secured to the head by the screws or bolts *b* fitted in slots, so that the point can be adjusted in its relation to the gage F. Said gage F and the guard G are each bolted to the head. The gage F is adjustable for the purpose of regulating the bite of the cutter.

As abovesaid, this auger is intended for boring the stake-holes in binders or yokes used in the construction of farm-fences, and to this

end the binder is held in a frame and the auger fed thereto for boring by the application of a lever to the end of the shank. The center D, having no screw thereon, serves only as a pivotal point for the auger.

The ordinary auger on boring large holes does not cut entirely through. The cutting-edge will go through, but there is left a portion of the wood at the bottom of the hole uncut, which is sometimes of considerable thickness, and therefore has to be cut away with a chisel.

To avoid this extra labor, and have the auger cut all the wood, is the purpose of the guard G or gage F, which are so adjusted in reference to the cutting-edge *e* that it can cut only so fast, and when the point D is through the stuff the cutting-edge cannot force or cut itself through, but is held back by the guard until all the wood is cut away.

In making the cutter and the point E detachable, they can be removed from the head for sharpening, or when broken be replaced by new ones, thereby saving the expense of a new head. So, also, in the event of the breaking of the guard or the gage they can be replaced by new ones.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the head A, detachable cutter C, furnished with point D, point E, gage F, guard G, all constructed in the manner shown and described, and for the purpose specified.

HENRY R. LADD.  
MARCUS GROVER.

Witnesses:

J. H. BURRIDGE,  
A. F. CORNELL.