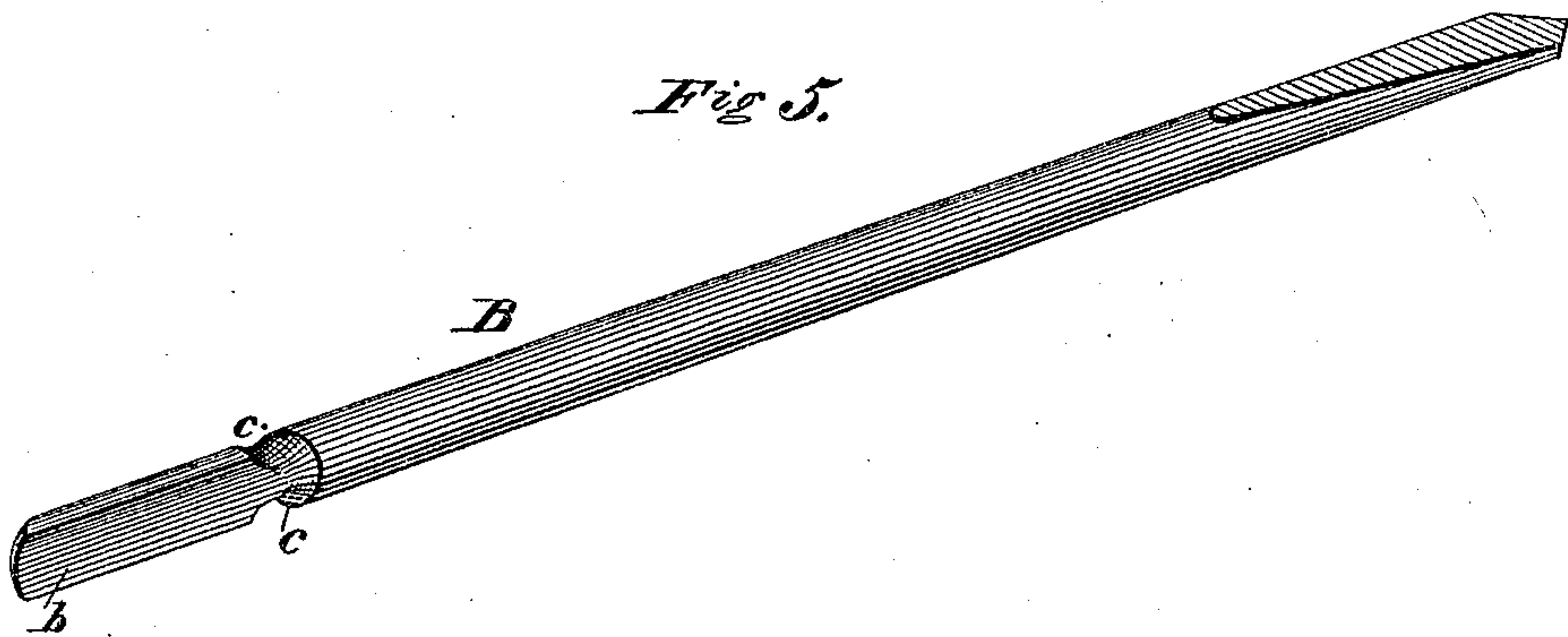
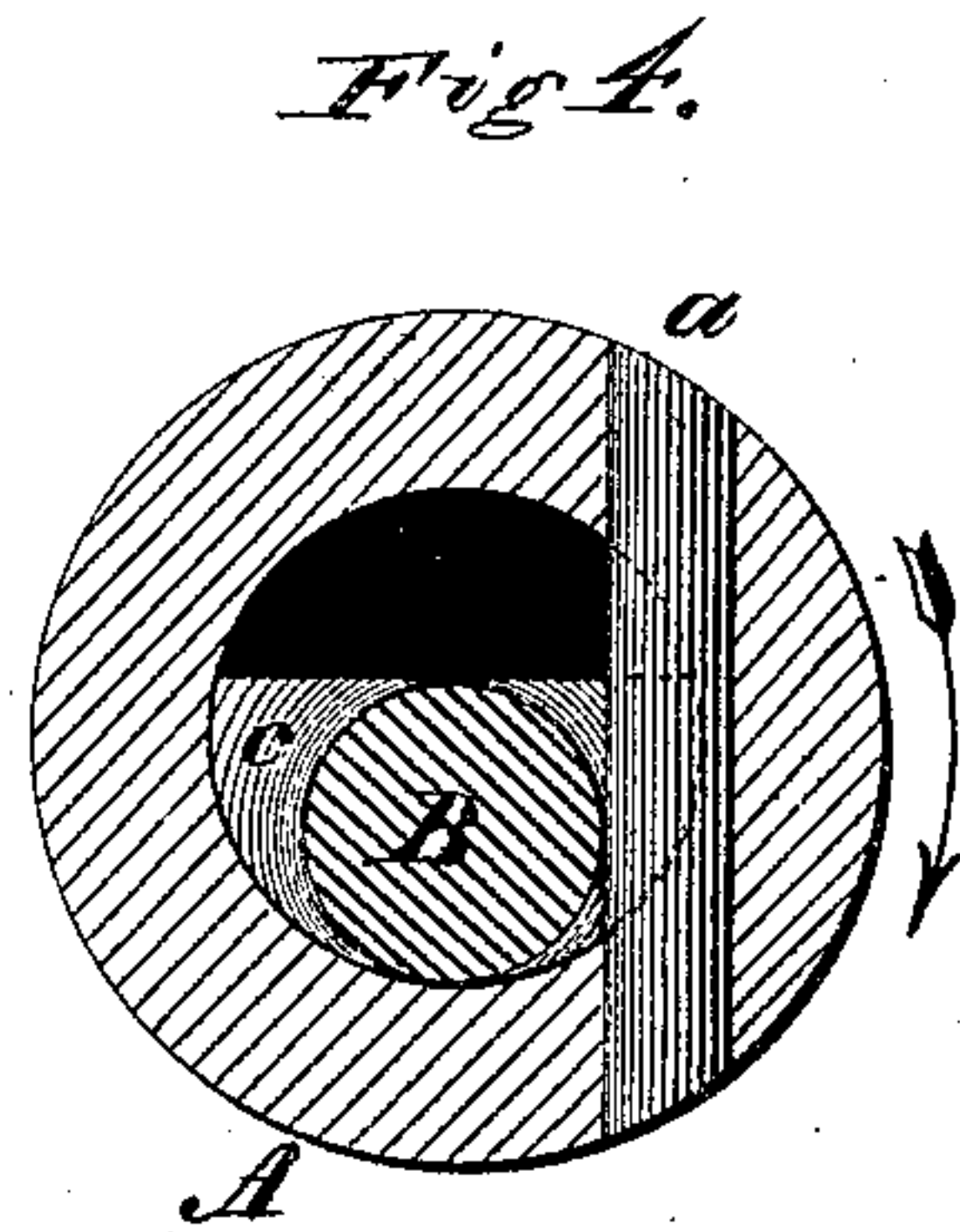
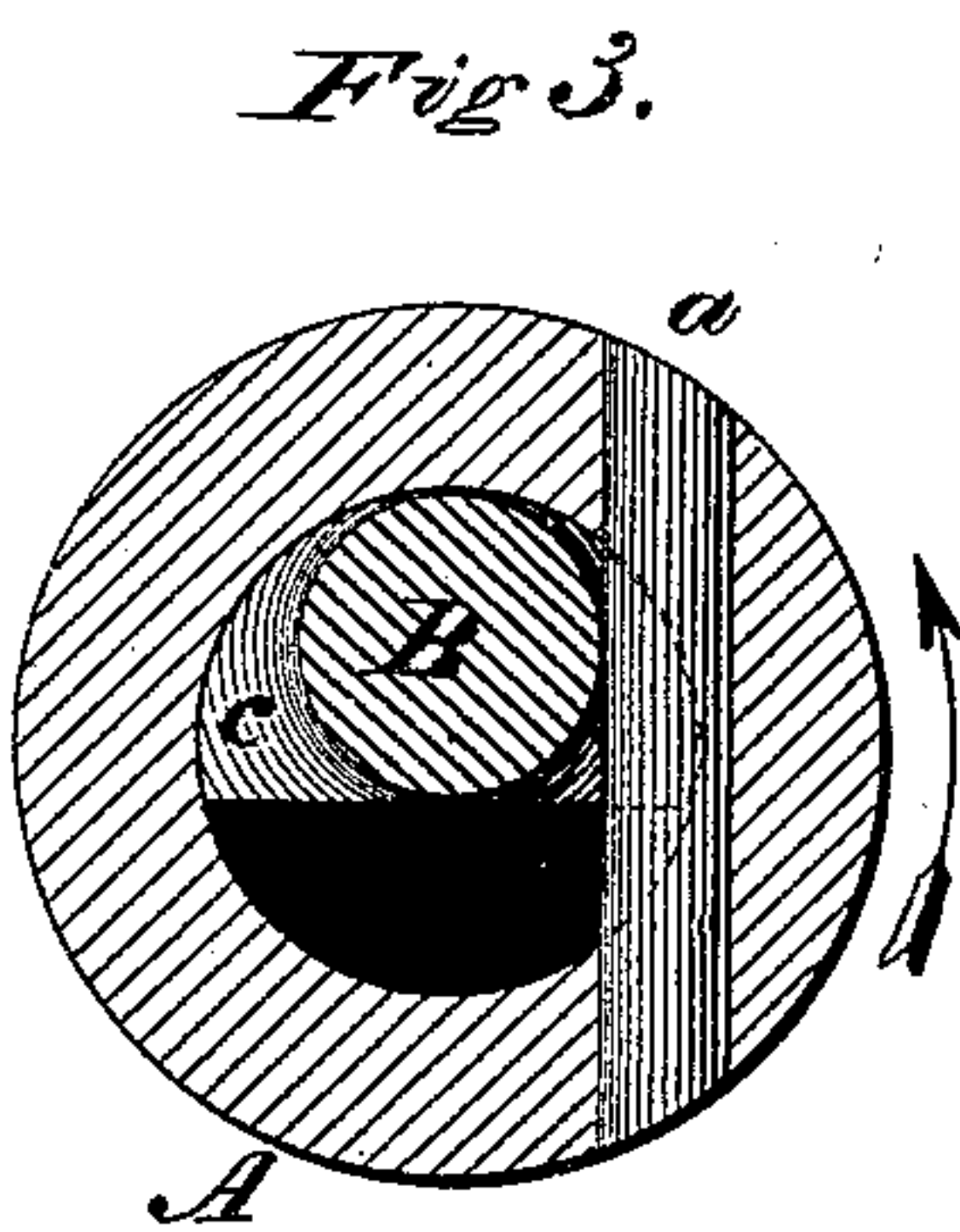
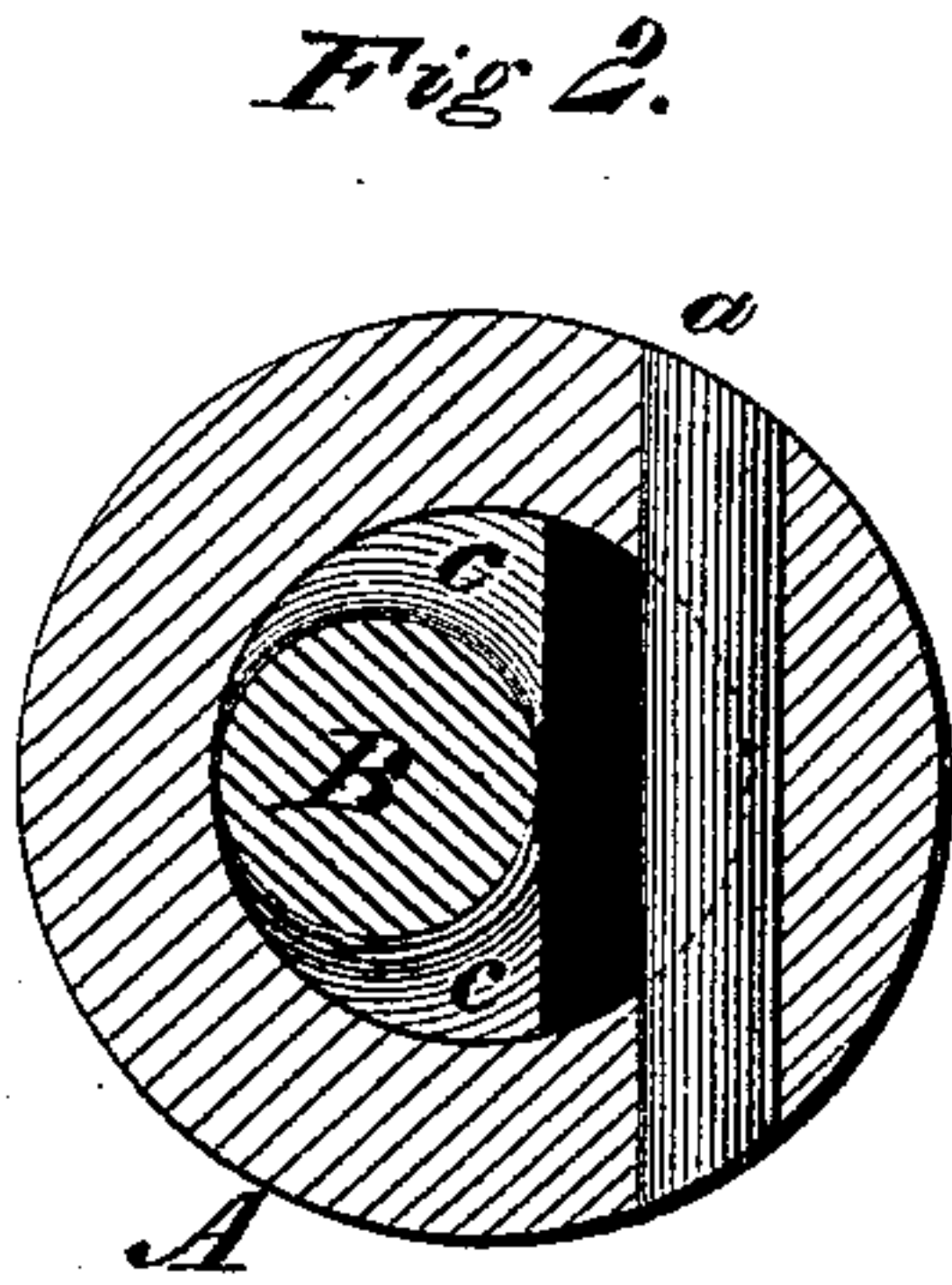
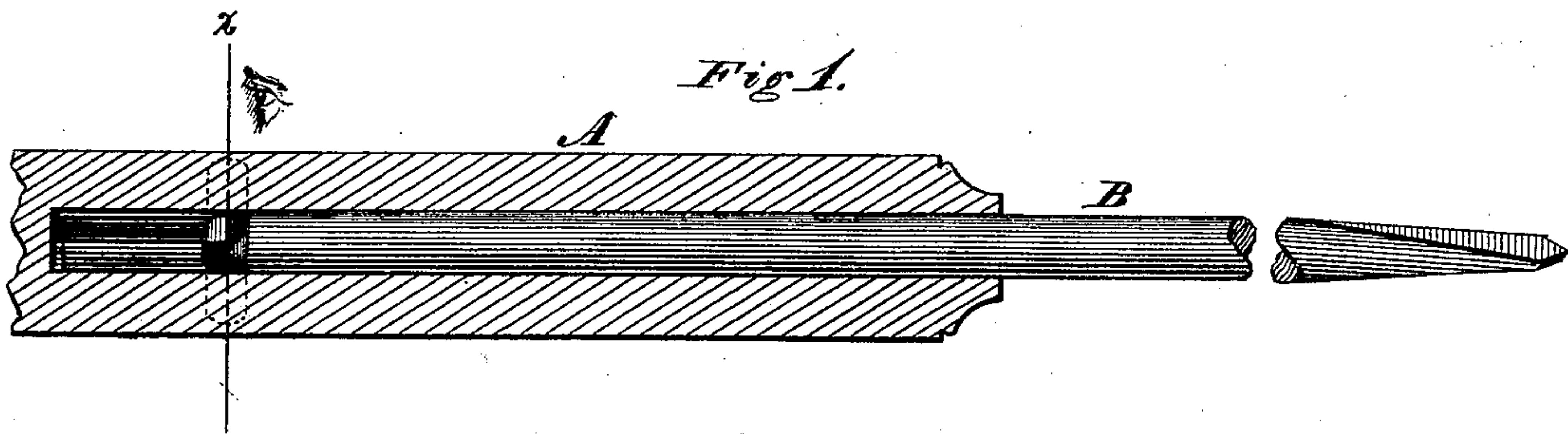


W. R. NUTZ.
Dental-Drills.

No. 151,614.

Patented June 2, 1874.



WITNESSES

Harry King
Ed. Davidson

By

W. R. Nutz

INVENTOR,

Wm. L. Baldwin, his Attorney

UNITED STATES PATENT OFFICE

WILLIAM R. NÜTZ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
SAMUEL S. WHITE, OF SAME PLACE.

IMPROVEMENT IN DENTAL DRILLS.

Specification forming part of Letters Patent No. **151,614**, dated June 2, 1874; application filed
May 18, 1874.

To all whom it may concern:

Be it known that I, WILLIAM R. NÜTZ, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Dental Drills, of which the following is a specification:

My invention more especially relates to that class of dental drills driven by power, in which the drill is inserted in a tool holder or socket rotating in bearings in a hand-piece; its object is to enable the drills or burrs readily to be removed or replaced, and to hold them securely when revolved in either direction.

The subject-matter claimed is hereinafter designated.

In the accompanying drawings, Figure 1 represents a longitudinal axial section through so much of one of my improved instruments as is necessary to illustrate the invention claimed. Figs. 2, 3, and 4 respectively represent transverse sections through the same, on the line *x x* of Fig. 1, looking in the direction of the eye shown therein. Fig. 2 shows the tool in the act of being inserted in its socket, and Figs. 3 and 4 show the manner in which it is locked therein. The arrows indicate the direction in which the tool-holder is supposed to be turning. Fig. 5 represents a view in perspective of the shank of the tool.

To carry out my invention, I insert a pin, *a*, tangentially in the bore of a tool-holder, *A*, which is mounted in bearings in the ordinary hand-piece of a dental drill. The shank of the tool *B* has one of its sides flattened or made wedge-shaped, as at *b*, Fig. 5. This inclined part terminates in an annular groove, *c*, eccentric to the axis of the shank, at such a distance from its end that when the tool is

inserted to the bottom of the socket the groove comes opposite the pin *a*, (see Figs. 1 and 2,) so that, when turned either way, the walls of the groove embrace the pin and lock it securely in place.

In order to secure the tool in the holder it is only necessary to insert the tool, turn it until its inclined face comes next to the pin, and push it into the socket. When the drill is started the rotation of the holder will cause the pin to interlock with the groove, no matter which way it revolves.

I am aware that a pin inserted radially in a socket has been used in combination with a central longitudinal groove and locking-lugs on the tool, but regard my own plan as superior, as it is much simpler, cheaper, and equally effective.

I claim as my invention—

1. A dental tool constructed substantially as set forth, with a flattened end and an annular groove eccentric to the axis of the tool, for the purposes set forth.

2. The combination of a tool-holder, a pin inserted tangentially in the bore thereof, a dental tool having one side of its shank flattened, and an annular locking-groove on the tool eccentric to its axis, which groove interlocks with the pin in whichever direction the tool may be rotated, these members being constructed and operating in combination substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

WM. R. NÜTZ.

Witnesses:

JAMES W. WHITE,
S. T. JONES.