

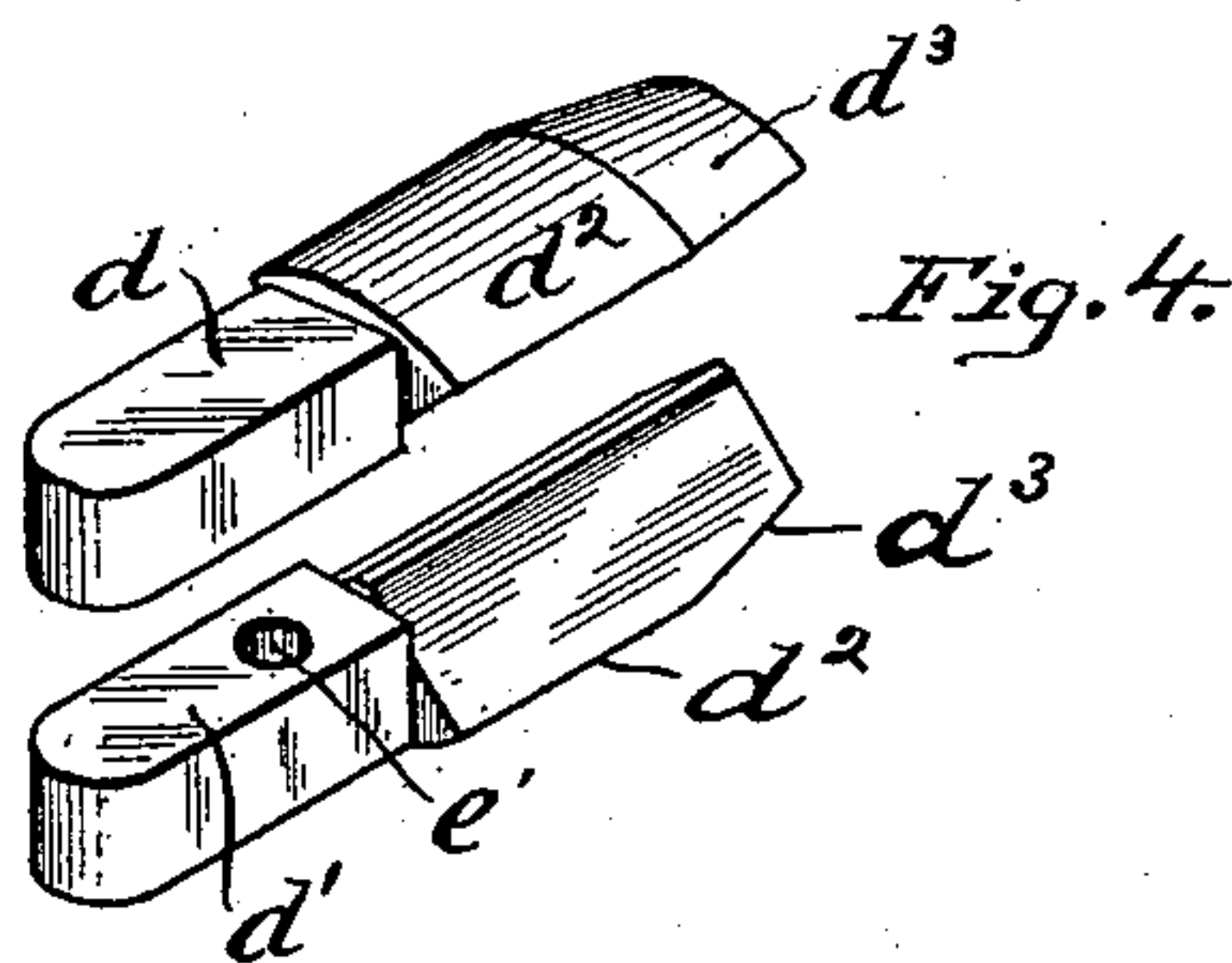
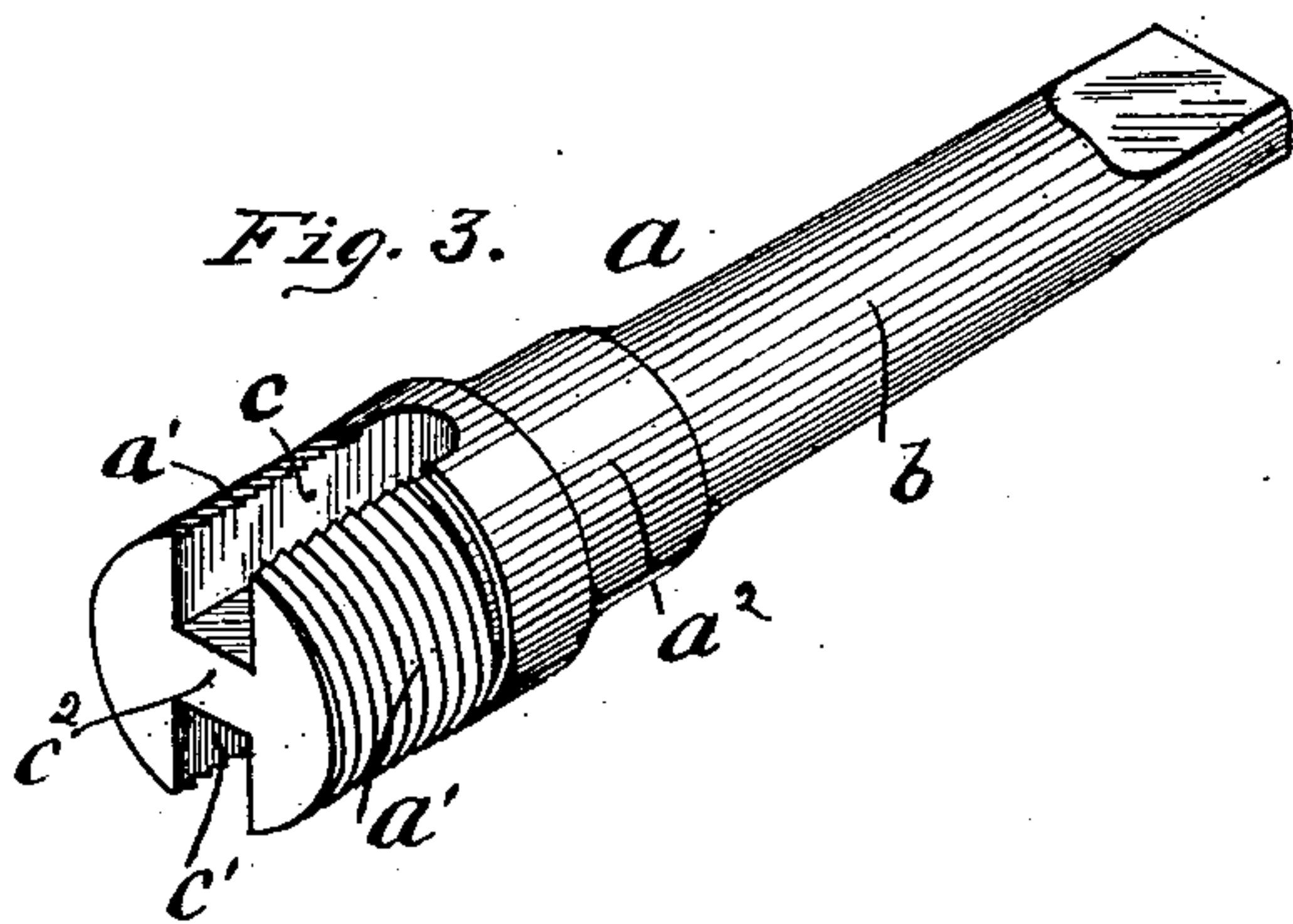
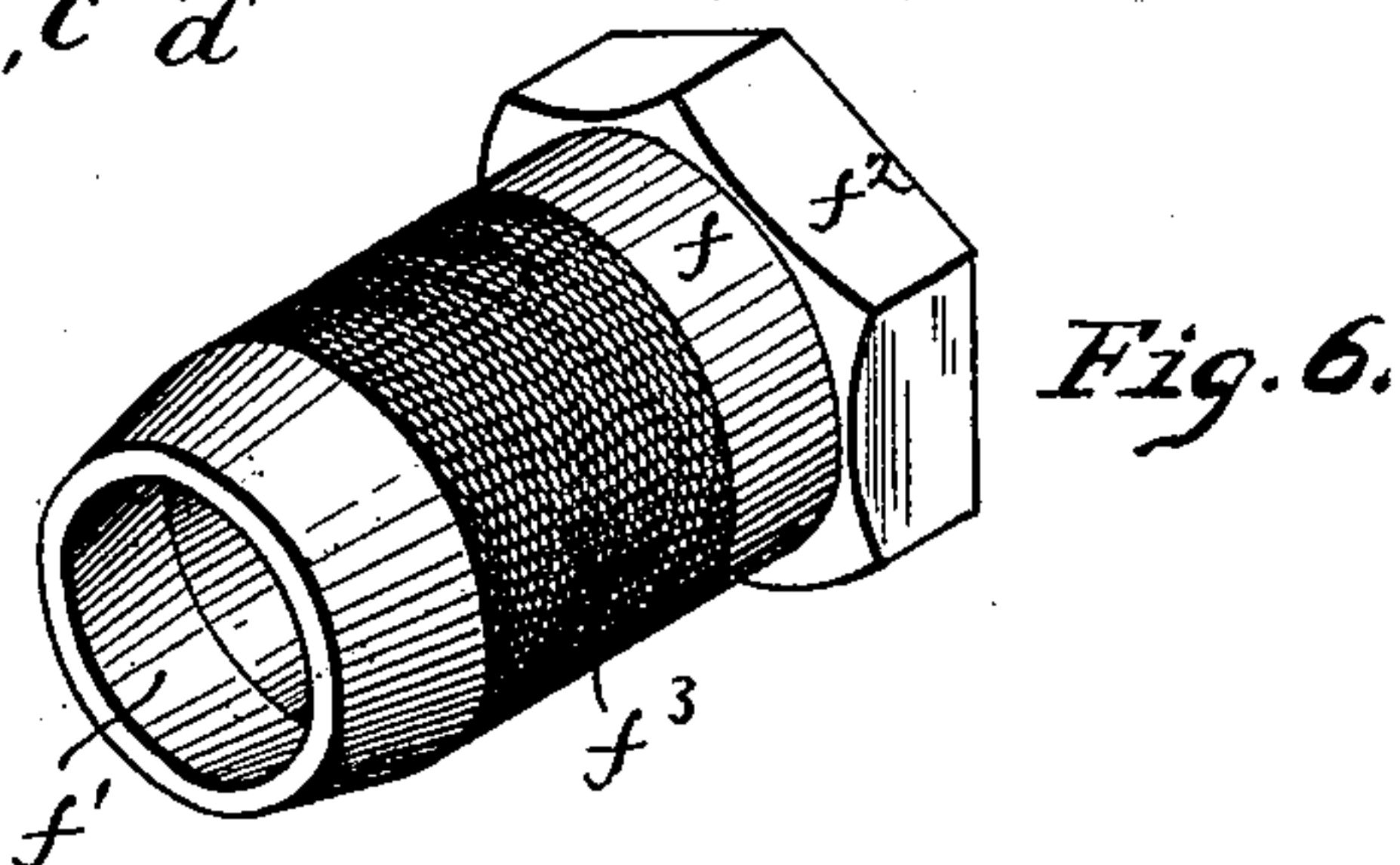
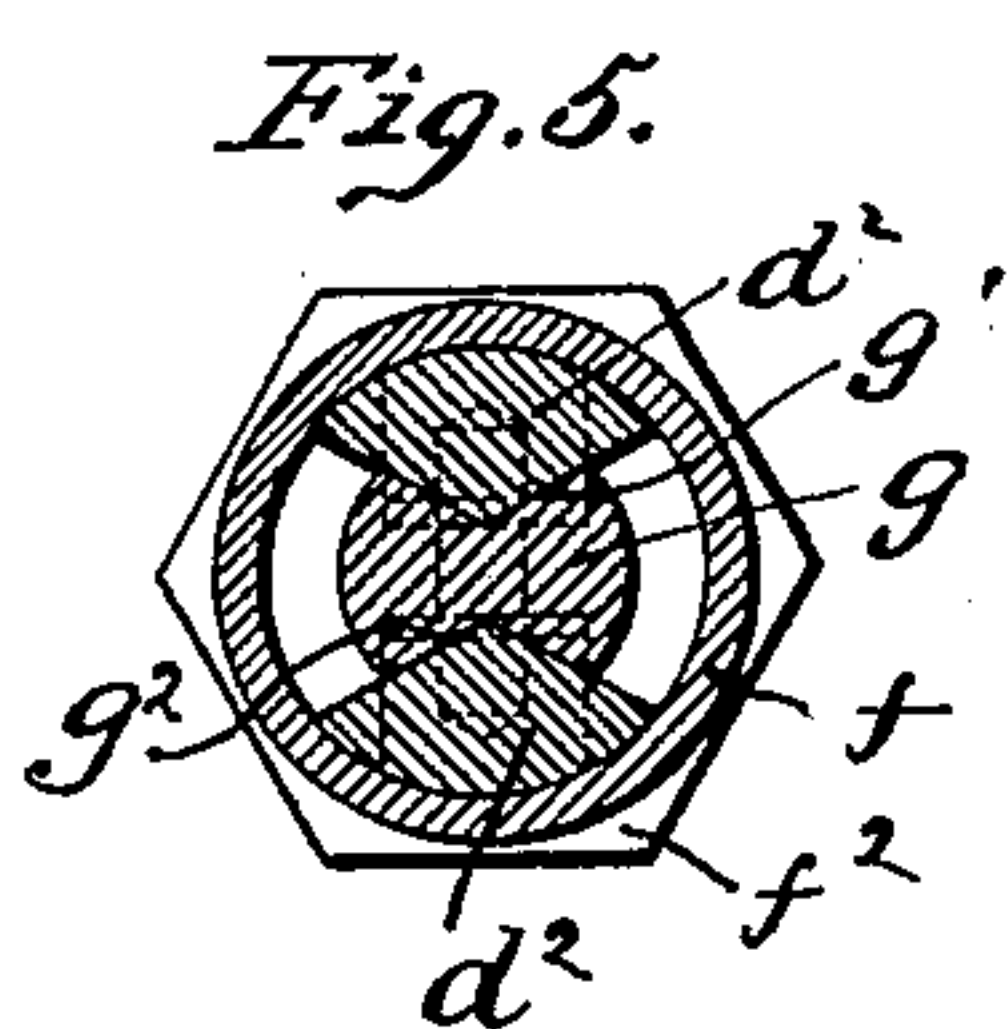
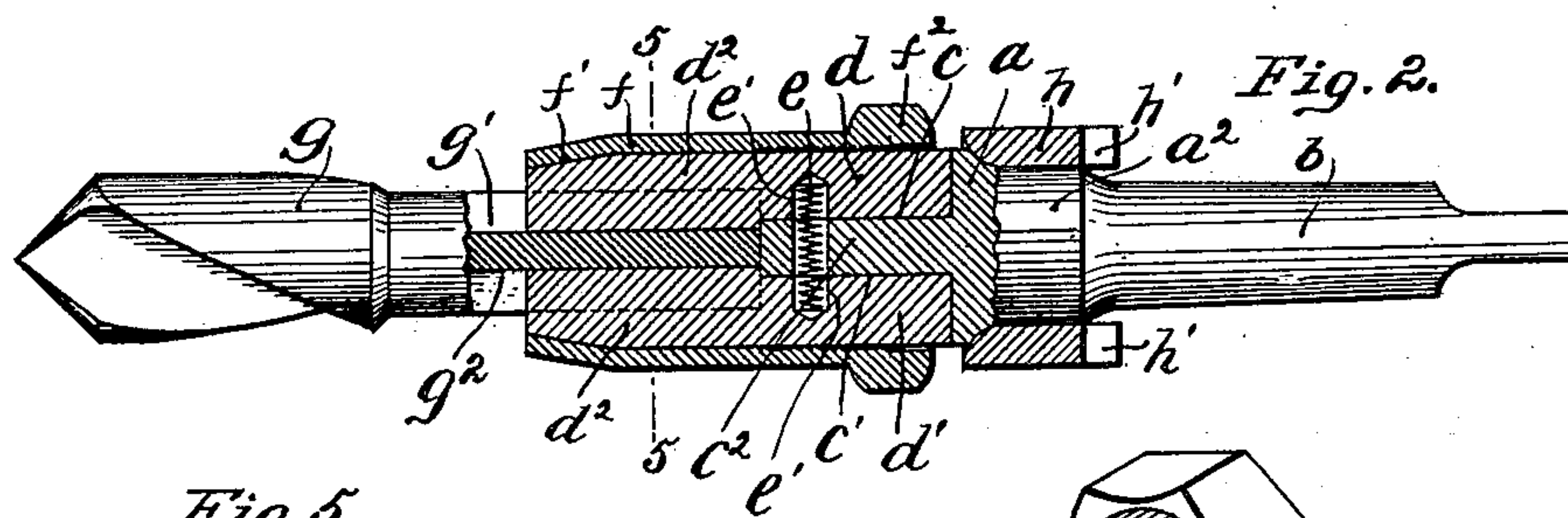
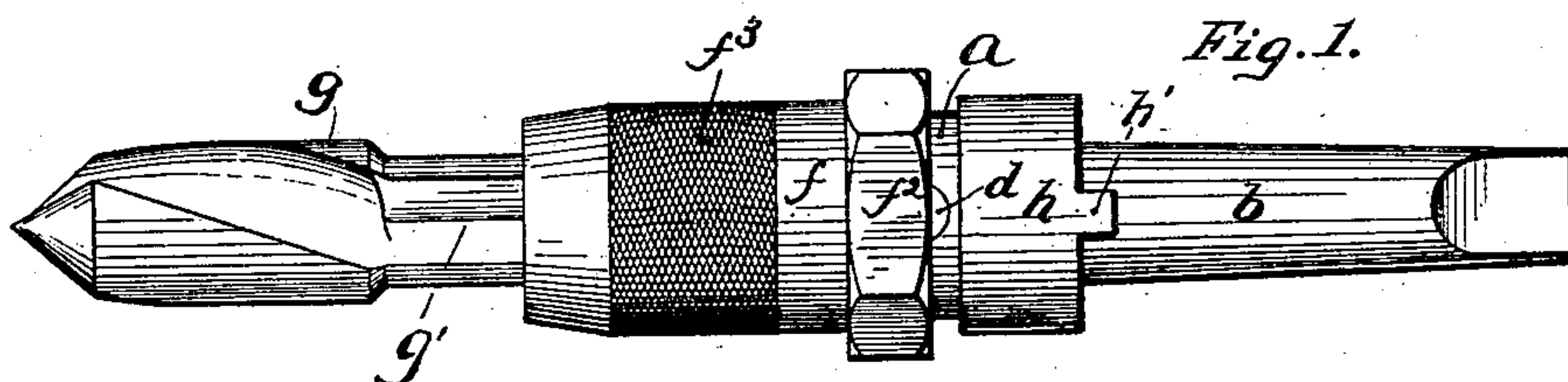
No. 626,841.

Patented June 13, 1899.

C. O. MUEHLBERG.  
DRILL CHUCK FOR V-SHANK DRILLS.

(Application filed Jan. 25, 1899.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CARL OSWALD MUEHLBERG, OF EAST PITTSBURG, PENNSYLVANIA.

## DRILL-CHUCK FOR V-SHANK DRILLS.

SPECIFICATION forming part of Letters Patent No. 626,841, dated June 13, 1899.

Application filed January 25, 1899. Serial No. 703,370. (No model.)

To all whom it may concern:

Be it known that I, CARL OSWALD MUEHLBERG, a resident of East Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Drill-Chucks for V-Shank Drills; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to drill-chucks, and more particularly to that style of chucks which are adapted to receive and hold drill-shanks with V-shaped grooves therein.

The object of my invention is to provide a form of drill-chuck which will be simple and durable and which will act to bind the drill-shank securely therein.

To these ends my invention comprises the novel features hereinafter set forth in the claim.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a view of my improved drill-chuck with the drill secured therein. Fig. 2 is a like view, the sleeves and clamps being shown in section. Fig. 3 is a perspective view of the body portion of the chuck. Fig. 4 is a perspective view of the clamping-jaws. Fig. 5 is a sectional view of the drill-shank and clamping-jaws on line 5 5, Fig. 2. Fig. 6 is a perspective view of the sleeve.

Like letters of reference indicate like parts in each of the views.

In the drawings the letter *a* represents the body of the chuck, with the tailpiece *b*, projecting out therefrom, adapted to enter the ordinary socket in the spindle of the drilling-machine lathe or other device. The body portion *a* has the seats *c c'* formed therein, with the web *c<sup>2</sup>* separating said seats. The clamping-jaws *d d'* are adapted to fit within the seats *c c'*, respectively, the outer portions *d<sup>2</sup>* of said clamping-jaws being V-shaped in cross-section and having the tapering faces *d<sup>3</sup>*.

As stated, the clamping-jaws *d d'* fit within the seats *c c'* in the body portion *a*, while a spring *e*, passing through an opening in the web *c<sup>2</sup>*, enters the seats *e'* in the clamping-jaws *d d'*. The action of this spring tends to force the clamping-jaws apart.

Inclosing the clamping-jaws *d d'* is the sleeve *f*, said sleeve being internally threaded at one end thereof and engaging the threaded portion *a'* of the body *a*. The opposite end of the sleeve *f* has the conical inner face *f'*, which when the sleeve is drawn up tight engages the tapering portions *d<sup>3</sup>* of the clamping-jaws *d d'*.

The sleeve *f* is provided with the polygonal face *f<sup>2</sup>*, by means of which the sleeve can be grasped by a wrench or other tool. The sleeve *f* is further provided with the roughened portion *f<sup>3</sup>*, by means of which the sleeve is turned to clamp the drill within the socket.

The drill *g* is of the ordinary construction, and its shank is provided with the V-shaped grooves *g' g<sup>2</sup>*, into which the V-shaped portions *d<sup>2</sup>* of the clamping-jaws *d d'* enter, as shown in Fig. 5.

The body portion *a* has the bearing *a<sup>2</sup>*, encircled by the collar *h*. This collar *h* has the lugs *h'* thereon, adapted to enter seats in the socket of the drilling-machine, with which the tail portion *b* engages. This collar *h*, engaging said seats in this manner, acts to relieve the twisting strain on the tail portion *b* when the drill is in operation.

When my improved drill-chuck is in use, the shank of the drill is inserted into the space between the clamping-jaws so that the jaws enter the V-shaped grooves in said drill, whereupon the sleeve *f* is turned, and as said sleeve is turned the conical inner face *f'* of said sleeve, together with the entire inner face of said sleeve, engages the clamping-jaws for their full length and acts to force the said jaws for their entire length toward each other, so that the V-shaped portions *d<sup>2</sup>* of said clamping-jaws are forced by a substantially parallel movement into the V-shaped grooves of the drill and act to bind the same securely in place. By this construction drills with different-sized shanks may be inserted within the chuck, and by turning the sleeve the said jaws will be forced toward each other and act to clamp the drill. Said clamping-jaws are free to move inwardly for their entire length by a substantially parallel movement, and as the spring is contracted said jaws move inward at all points. The clamping-jaws do not bind on the drill simply at one point, but for the full length of the V-

shaped portion, which fits within the V-shaped grooves of the drill, whereby a much firmer hold is obtained upon the drill.

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

In a drill-chuck, a body portion having oppositely-located seats therein and a web separating said seats, clamping-jaws adapted to enter said seats, said clamping-jaws having V-  
10 shaped portions adapted to enter correspondingly-V-shaped grooves in the drill, a spring passing through an opening in said web and acting upon both clamping-jaws to force them

apart, said clamping-jaws having tapering faces at one end thereof, and a rotatable 15 sleeve adapted to engage said body portion, said sleeve having conical inner faces adapted to engage the tapering faces of said clamping-jaws, substantially as set forth.

In testimony whereof I, the said CARL OS- 20 WALD MUEHLBERG, have hereunto set my hand.

CARL OSWALD MUEHLBERG.

Witnesses:

ROBT. D. TOTTEN,  
ROBERT C. TOTTEN.