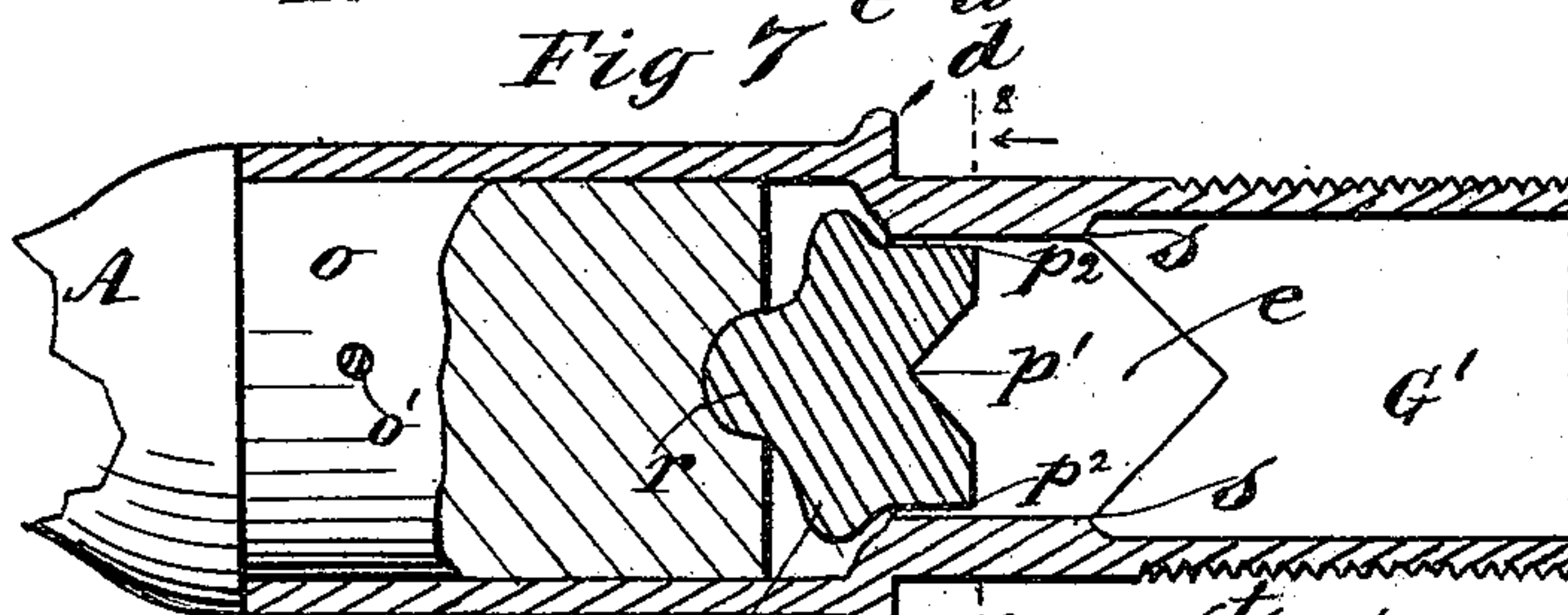
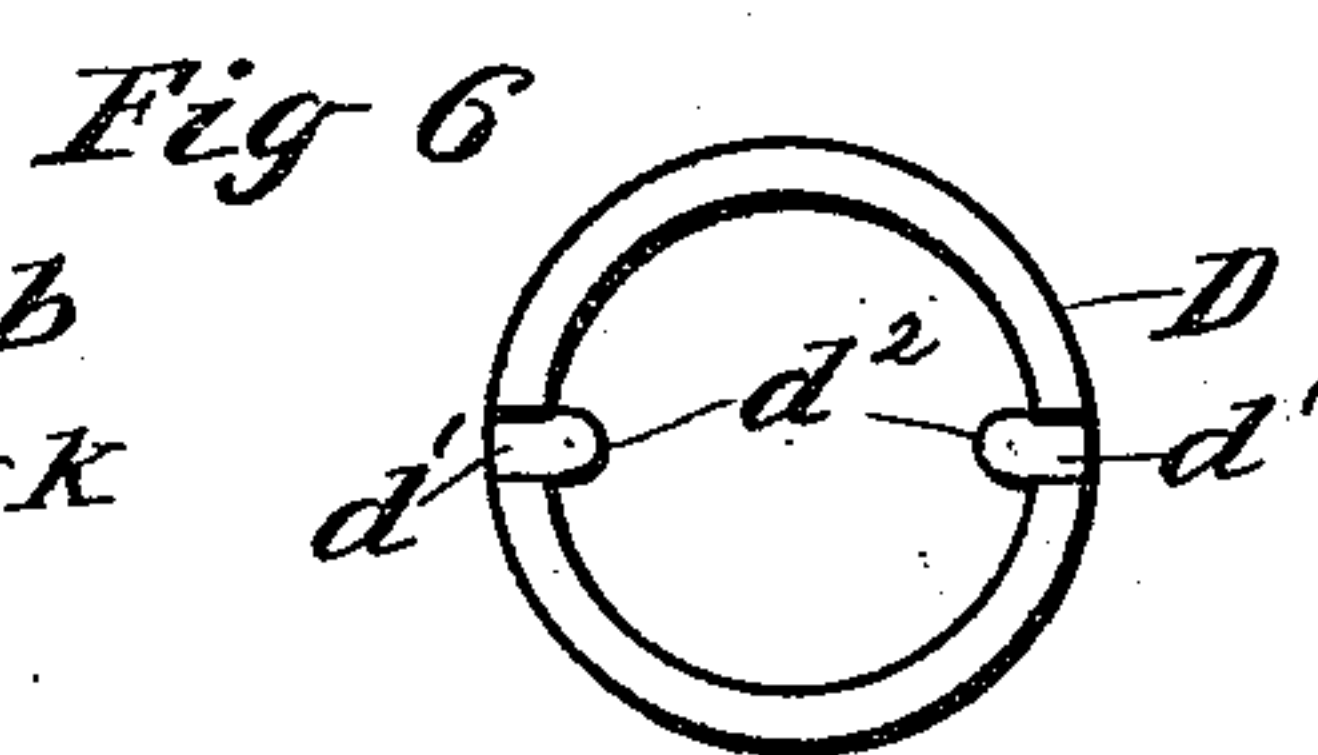
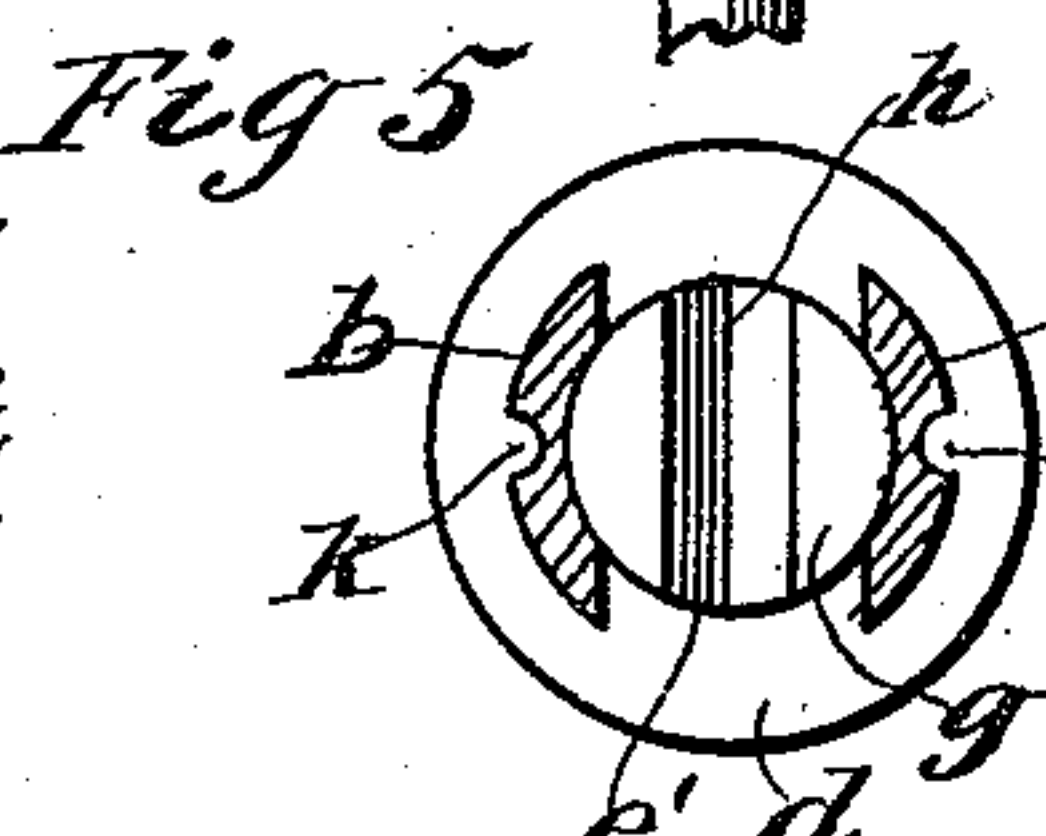
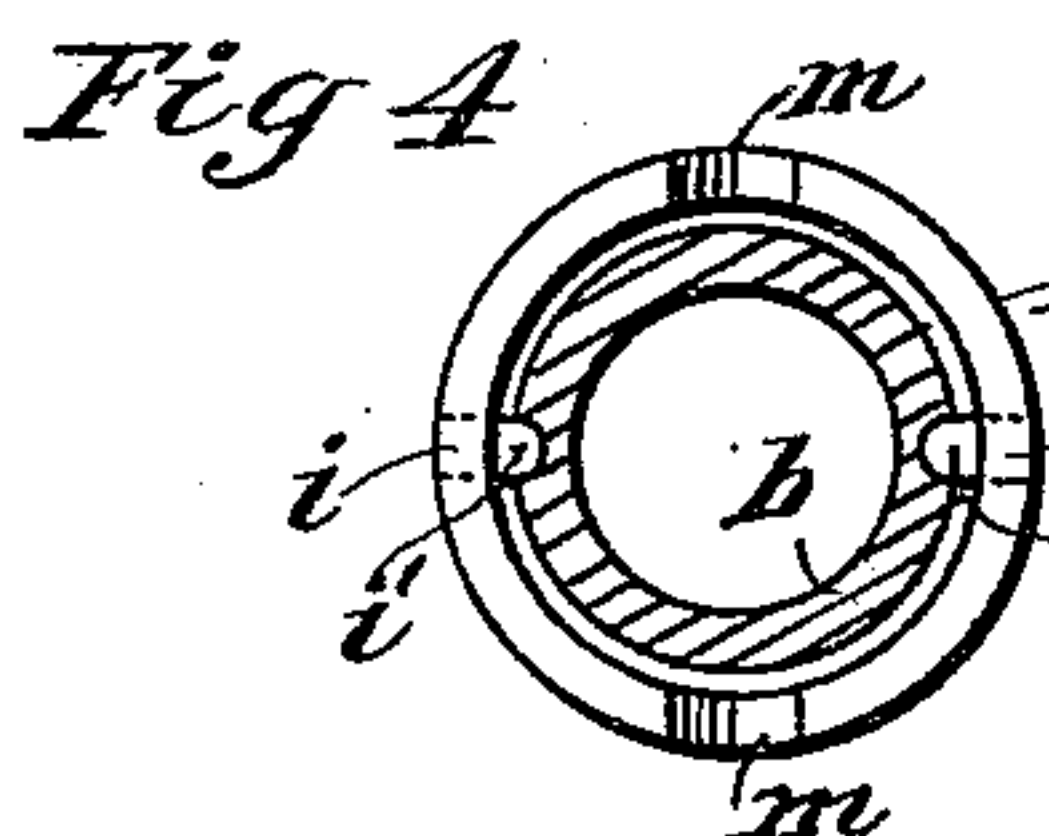
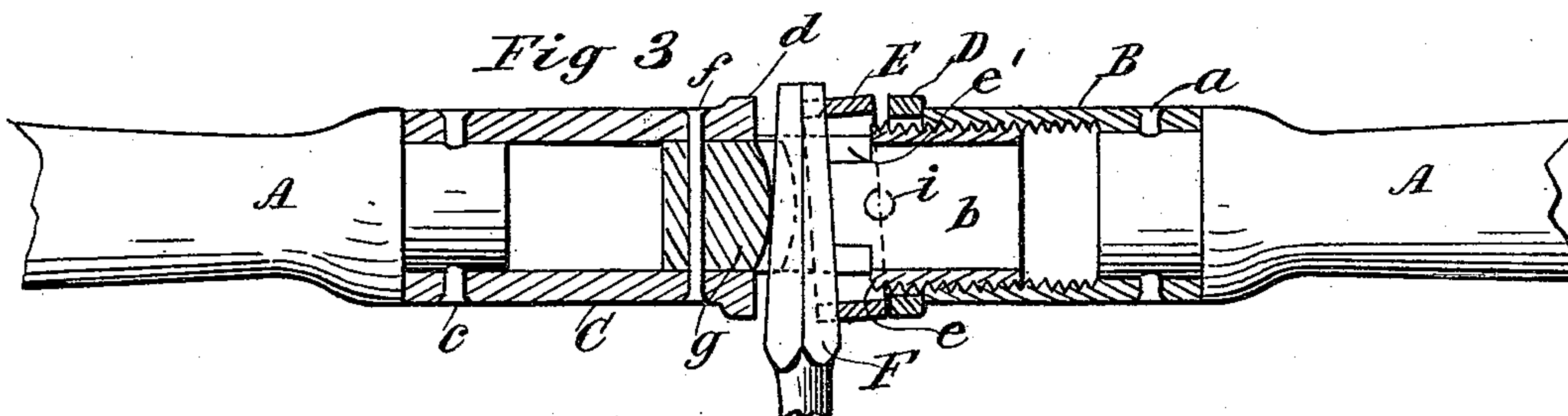
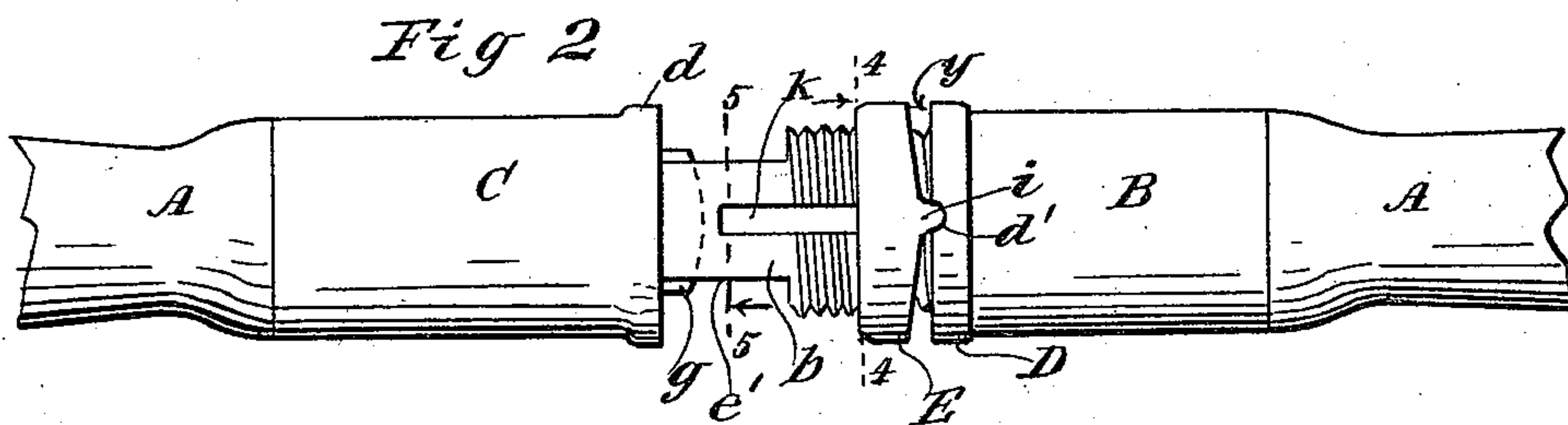
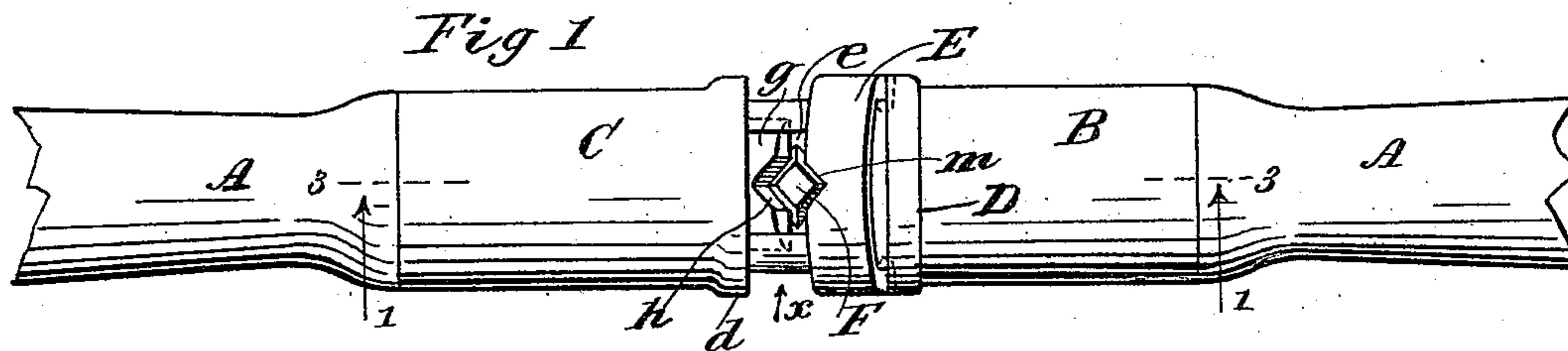


(No Model.)

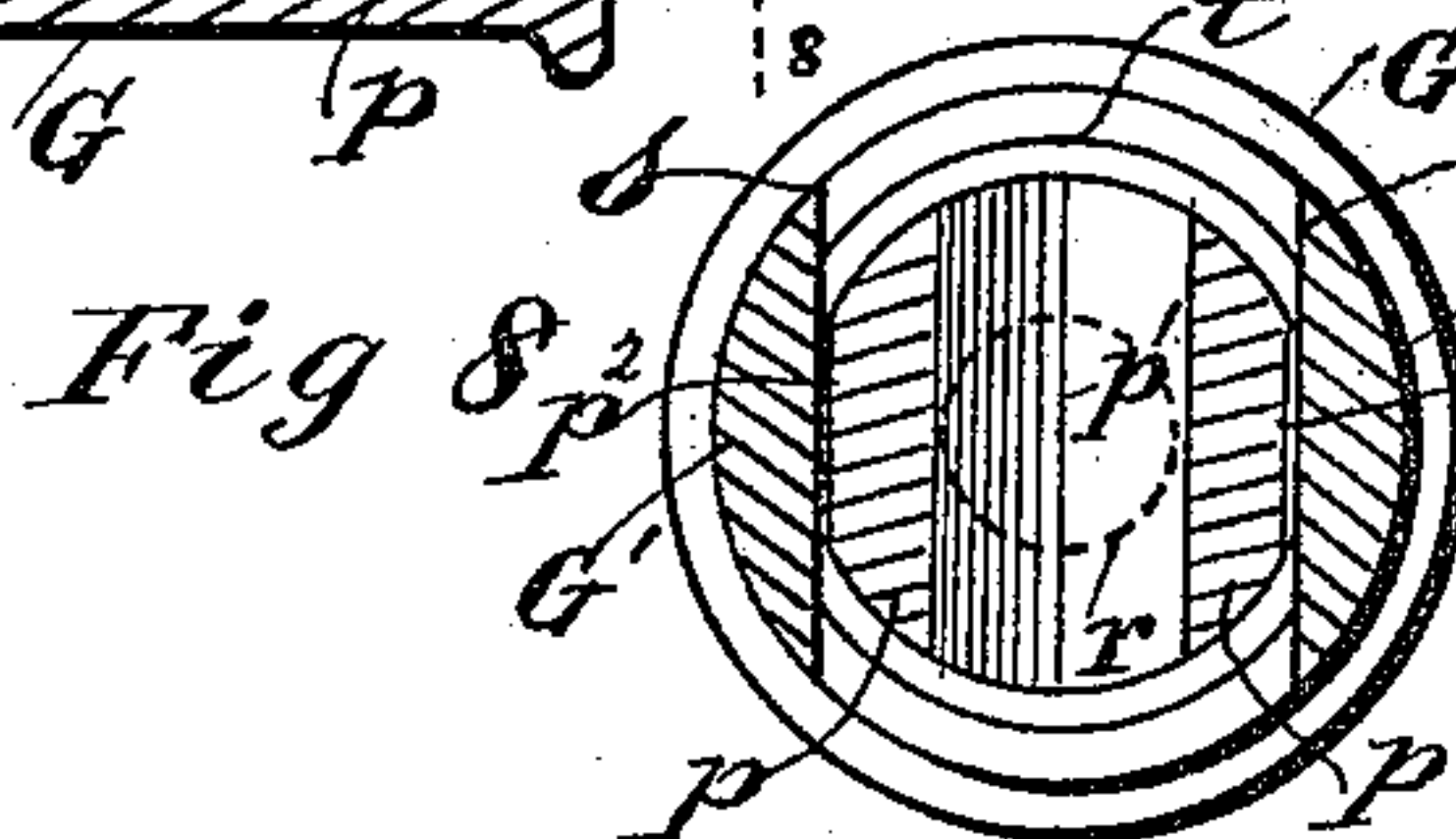
H. NAYLOR.  
AUGER HANDLE.

No. 451,293.

Patented Apr. 28, 1891.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

HARRY NAYLOR, OF OIL CITY, PENNSYLVANIA.

## AUGER-HANDLE.

SPECIFICATION forming part of Letters Patent No. 451,293, dated April 28, 1891.

Application filed July 24, 1890. Serial No. 359,789. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY NAYLOR, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Auger-Handles, of which the following is a full, clear, and exact description.

This invention relates to an improvement in auger-handles of a type that is adjustable to clamp and hold the shanks of different auger-bits, the object being to provide a device of the character named which will be strong, reliable, and convenient, affording means for the speedy interchange of auger-bits that have tapered or straight shanks of differing sizes.

To these ends my invention consists in certain features of construction and combinations of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a view of the handle, the end portions being broken away, and the parts represented as clamping the squared end of a bit-shank. Fig. 2 represents the parts of the handle shown in Fig. 1 as viewed in the direction of the arrow *x* in said figure. Fig. 3 is a longitudinal section of the device represented in the position shown in Fig. 1, the section-line being indicated in said figure between the points 3 3, viewed in the direction of the arrows 1 1. Fig. 4 represents a transverse section of the parts of the handle on the line 4 4 and in the direction of the adjacent arrow shown in Fig. 2. Fig. 5 is a cross-section on the line 5 5 in Fig. 2. Fig. 6 is a detached end view of a ring shown in Fig. 2 and indicated by the arrow *y*. Fig. 7 is a broken longitudinal axial section of a portion of the auger-handle, showing a modification; and Fig. 8 is a transverse section taken on the line 8 8 in Fig. 7.

The main portions of the auger-handle consist of two similarly-shaped pieces A, that are formed, as is usual, to afford convenient and comfortable hand-holds for the operator.

On the inner end of one of the grip-pieces

A of the auger-handle a metallic cylindrical sleeve B is secured, as shown in Fig. 3, by a cross-rivet *a*, the sleeve being first forced upon a reduced end portion of the grip-piece. The sleeve B is threaded internally for a proper distance to receive the outwardly-threaded cylindrical projection *b* of a ferrule C, that is secured to the other grip-piece A by a cross-rivet *c*, that is inserted through a reduced portion of the grip-piece which has been forced into the ferrule. The main portion of the ferrule C, that receives the grip-piece A, is of equal exterior diameter with the sleeve B. Consequently the threaded extension *b* is reduced in diameter as compared to the portion of the ferrule it is projected from, which reduction forms a shoulder on the ferrule at *d*. The threaded portion of the cylindrical extension *b* terminates at *e*, and between this point *e* and the shoulder *d* an elongated aperture *e'* is formed through the walls of the portion *b*, said aperture having its sides preferably made parallel and the slot extended longitudinally from the shoulder named to the point *e*. A cylindrical block *g* is provided, which is of suitable length for its use, and is of such a relative diameter that it may be inserted and fit closely within the ferrule C. The block *g* is curved on the face that is projected toward the threaded portion of the extension *b* on the ferrule, and a V-shaped groove *h* is formed across the axis of the block of proper depth. The block *g* is forced into the ferrule C, with its grooved face projecting into the aperture *e'*, said groove *h* having a central position between the sides of the aperture and substantially parallel with said sides, as shown in Fig. 5. The block is held in place by a transverse rivet *f* or other means and forms a fixed abutment for one side of the bit-shank.

Upon the threaded extension *b* a loose ring D is placed, which is adapted to abut with one edge against the adjacent end of the sleeve B, the opposite edge having aligning grooves *d'* cut transversely, said grooves being preferably made circular on their bottoms to form seats for another ring to rock upon. The ring is also formed with interior lugs *d''*, aligning the grooves *d'*, for a purpose hereinafter set forth. The clamping-ring E is of the



same exterior and interior diameter as that of the ring D, so that it may also slide freely upon the threaded portion of the cylindrical extension *b*, and is located on said portion of the ferrule C between the blocks *g* and ring D.

On the edge of the clamping-ring E which is nearest to the grooved face of the ring D the projecting ribs *i* are formed, which ribs are rounded on their outer edges to fit the bottoms of the grooves in the ring D, into which the ribs are designed to seat when the parts are assembled. From the ribs *i* the edge portion of the ring E is sloped or cut on inclines of proper pitch, so as to permit the ring E to rock on its ribs, the ring having sufficient looseness to allow such an oscillation.

As it is essential that the clamping-rings D and E be prevented from rotation on the ferrule-extension *b*, two diametrically-opposite grooves *k* are longitudinally formed in the portion *b* for the sliding engagement therewith of the lugs *d*<sup>2</sup> on the ring D and of two tongues *i*<sup>1</sup>, that are longitudinal extensions of the ribs *i* on the ring E and are formed on the interior of the ring, as shown in Fig. 6, the grooves *k* and ribs *i* being located at a right angle to the aperture *e*<sup>1</sup> and V-shaped groove *h* in the block *g*. In the edge portion of the clamping-ring E, that is contiguous to the grooved face of the block *g*, V-shaped notches *m* are cut oppositely and therefore in alignment with the axis of the ring, said notches having a location at a right angle to the ribs *i*, and grooves *k* are in the same plane with the V-shaped groove *h*.

It will be seen from the foregoing description of parts, when all are assembled as shown in Figs. 1, 2, and 3, that a revolution of the grip-piece, on which the sleeve B is secured, will cause the clamping-ring E to move toward or from the block *g*, as may be desired, and if the sleeve is revolved to partly unscrew it a free opening is produced through the handle near its longitudinal center for the introduction of a bit-shank F, which may be cylindrical or squared and tapered, as shown in Fig. 3. When the bit-shank is inserted, a rotation of the grip-pieces A, or one of them, to screw the sleeve B onto the extension *b* will force the clamping-ring E toward the block *g*, and as the opposite corners of the bit-shank are received in the groove *h* and notches *m* the compression of the clamping-ring will firmly secure the bit-shank to the handle.

The peculiar construction of the clamping-ring E and its rocking engagement with the seat-ring D permit the clamping-ring to automatically adjust itself to bear upon the tapered edge portion of a squared and tapered bit-shank, the curvature of the grooved face of the block *g* aiding the clamping operation, as it insures a contact of the block on the bit-shank at a point intermediate of the notches *m*, whereby the clamping of the bit-shank at right angles to the handle is assured.

In Figs. 7 and 8 a modification of form is shown with regard to the ferrule C and block

*g* to permit the latter to rock slightly, and thus adapt it to assume a proper inclination and bearing upon a tapering auger-bit shank. In this construction the ferrule is lettered G, and, as shown in Fig. 7, has an integral extension-piece G'. The wooden grip-piece A of the handle is reduced, as at *o*, and is driven tightly into the ferrule G, a cross-pin *o*<sup>1</sup> securing the parts together.

At *d* the ferrule G is shouldered to afford the extension-piece G' a reduced diameter, which piece is exteriorly threaded to receive the sleeve B, that is the same in form as previously described.

At *s* the elongated aperture *e* in the extension-piece G' is provided with opposite parallel walls that extend longitudinally, these walls defining the transverse width of the bit-aperture *e*.

The block *p*, which takes the place of the fixed block *g* in Fig. 3, is furnished with a reduced axial projection *r*, that is spherically rounded on its end, and is seated in a corresponding socket-indentation formed in the adjacent end portion *o* of the grip-piece A.

The block G is oppositely flattened at *p*<sup>2</sup>, where it loosely engages the walls *s* of the extension-piece G', so that said block is adapted to rock between these walls, and as it is of reduced diameter it may move until it strikes upon the inner edge *t* of the ferrule G. (See Fig. 8.)

At *p*<sup>1</sup> a V-shaped groove is formed across the end of the block *p*, which groove is central and has its edges parallel with the walls *p*<sup>2</sup>, so that an auger-shank, if tapered and inserted between the rocking block *p* and ring E, previously described, may be clamped at right angles to the longitudinal plane of the auger-handle if the sleeve B is rotated, the block and ring automatically adjusting to suit the degree of taper in the bit-shank F.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An auger-handle comprised of two sections which are longitudinally adjustable and provided with a grooved abutment and a loose rocking clamping-ring, which ring is adapted to clamp a bit-shank against the abutment when the handle-sections are forced toward each other, substantially as set forth.

2. A sectional longitudinally-adjustable auger-handle having a curved grooved abutment in one section and a notched rocking and sliding clamping-ring that is adapted to hold a bit-shank at right angles to the auger-handle when it is forced toward the abutment by an adjustment together of the handle-sections, substantially as set forth.

3. An auger-handle comprised of two separable sections which are made longitudinally adjustable by a screw-threaded connection, one section having in it an abutment that is grooved across its end and a reduced integral threaded extension on it that is transversely apertured in alignment with the groove in the



abutment, a seat-ring, and a clamping-ring, both loosely mounted on the threaded extension, the clamping-ring being adapted to rock on the seat-ring, and both rings held free to  
5 slide toward the abutment when the threaded handle-sections are screwed together, substantially as set forth.

4. In an adjustable handle, the combination, with a grip-piece and a cylindrical internally-threaded sleeve secured to this grip-  
10 piece, of a similar grip-piece, a ferrule on one end of this grip-piece having a reduced threaded extension formed integrally and transversely apertured, a block held in the

ferrule and having a V-shaped curved groove 15 on the end which projects toward the transverse aperture, a loose seat-ring grooved on one edge, and a loose clamping-ring which is ribbed to seat in the grooves of the seat-ring and rock thereon, said clamping-ring being 20 notched to align these notches with the groove in the block and hold a bit-shank between them, substantially as set forth.

HARRY NAYLOR.

Witnesses:

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HARLEY W. FISHER.