

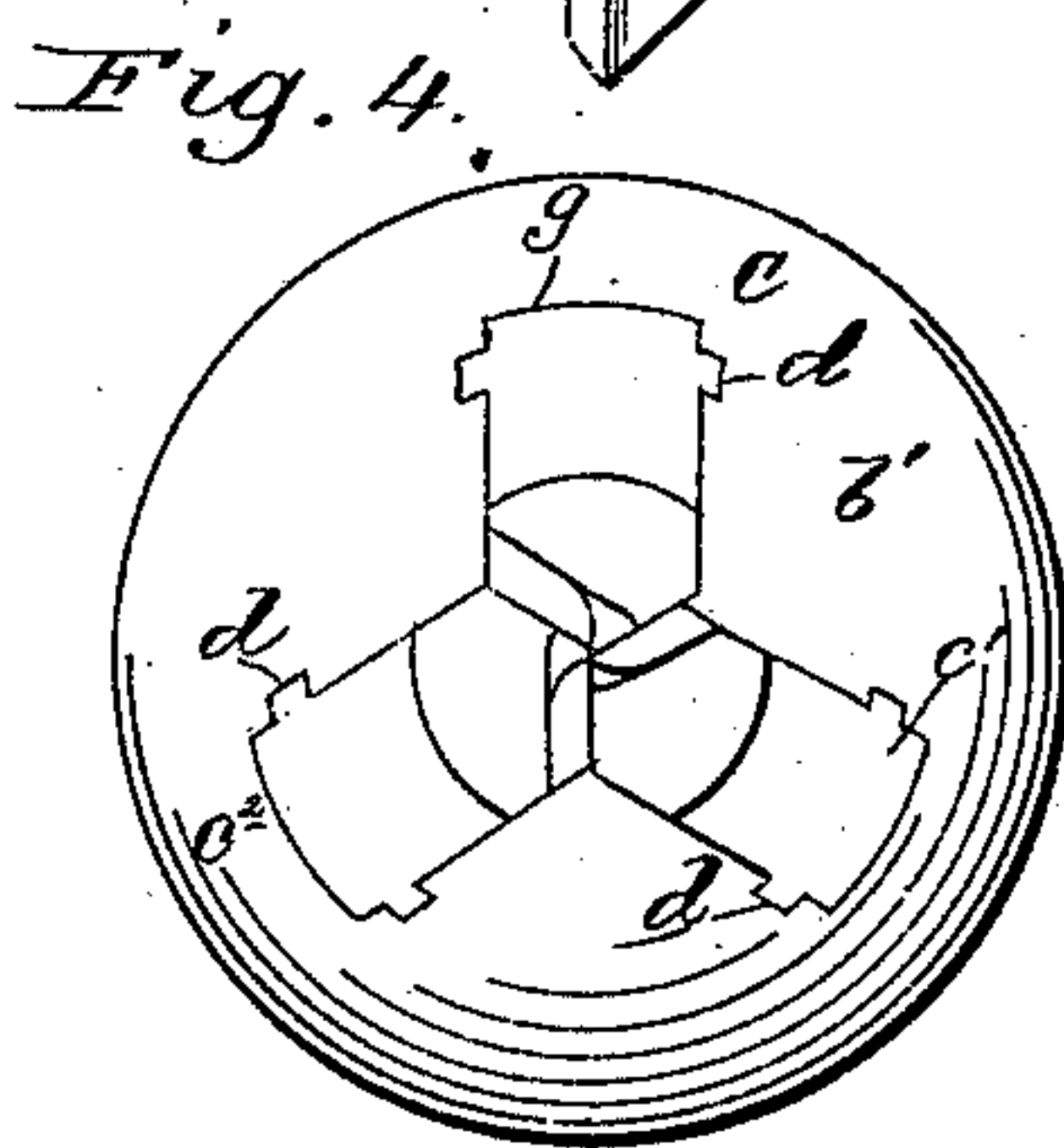
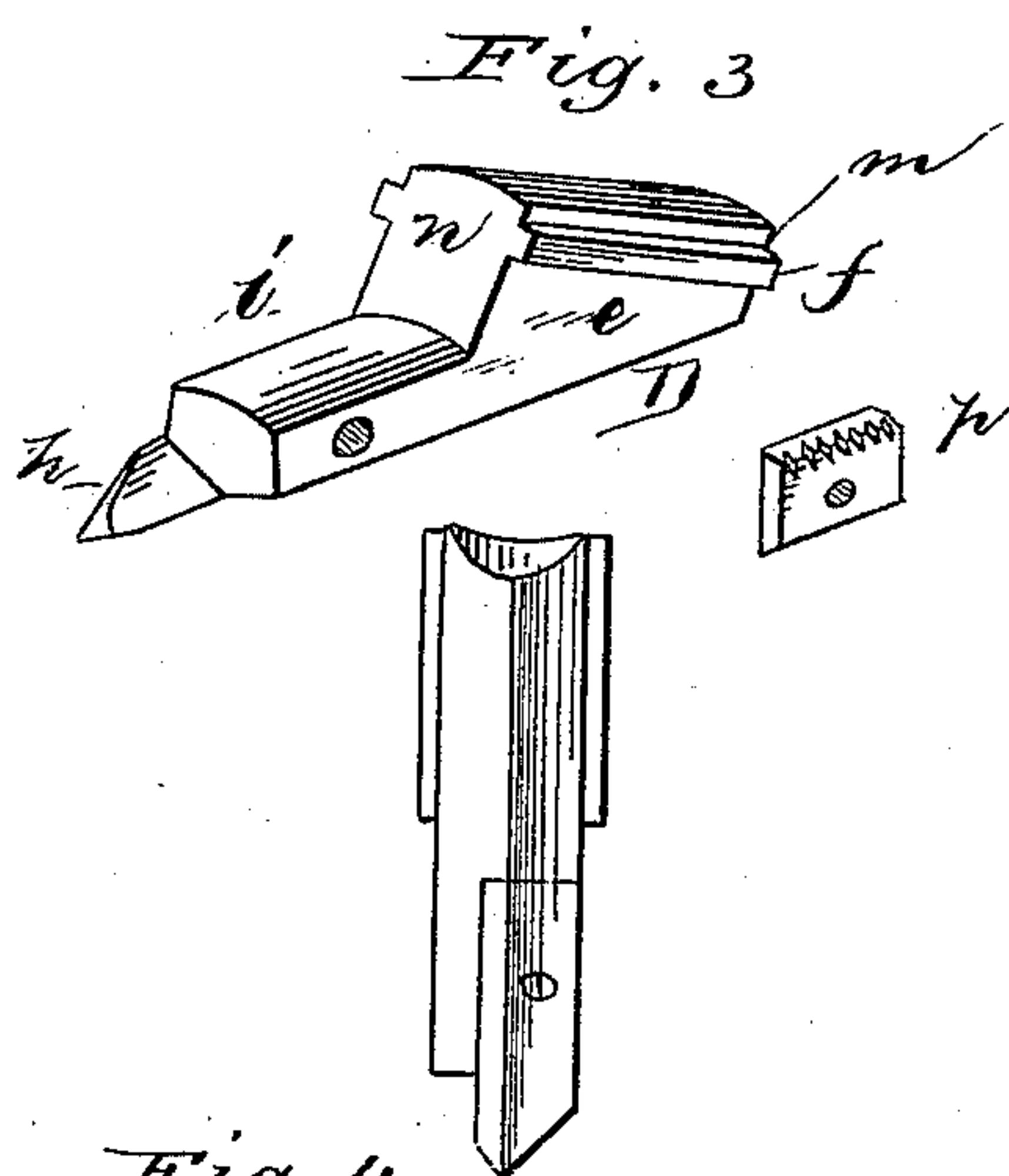
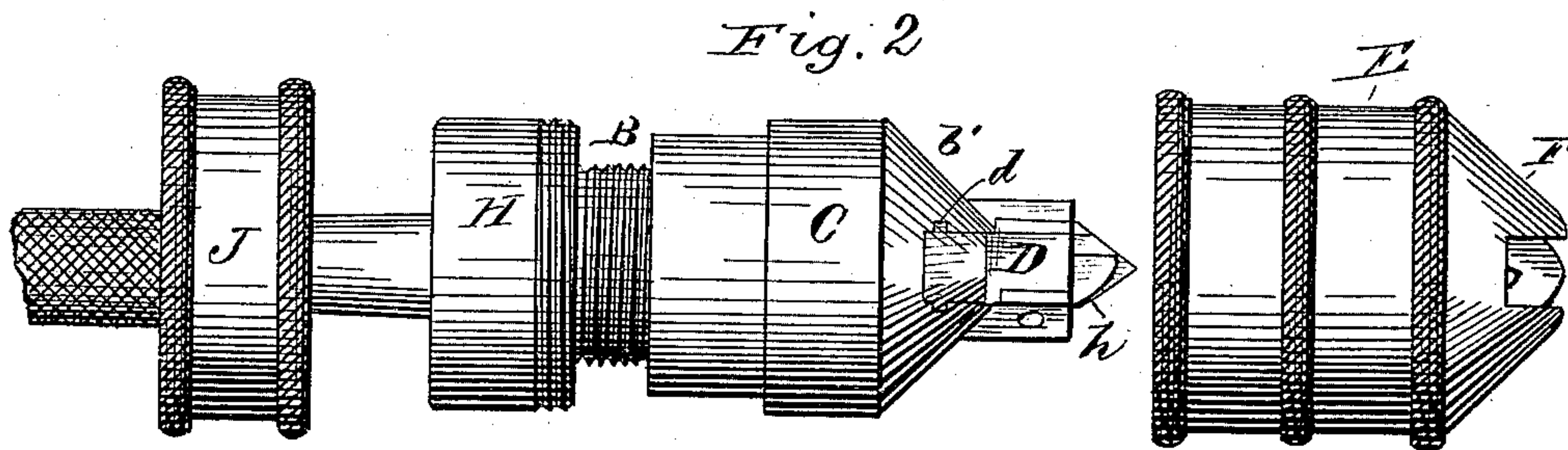
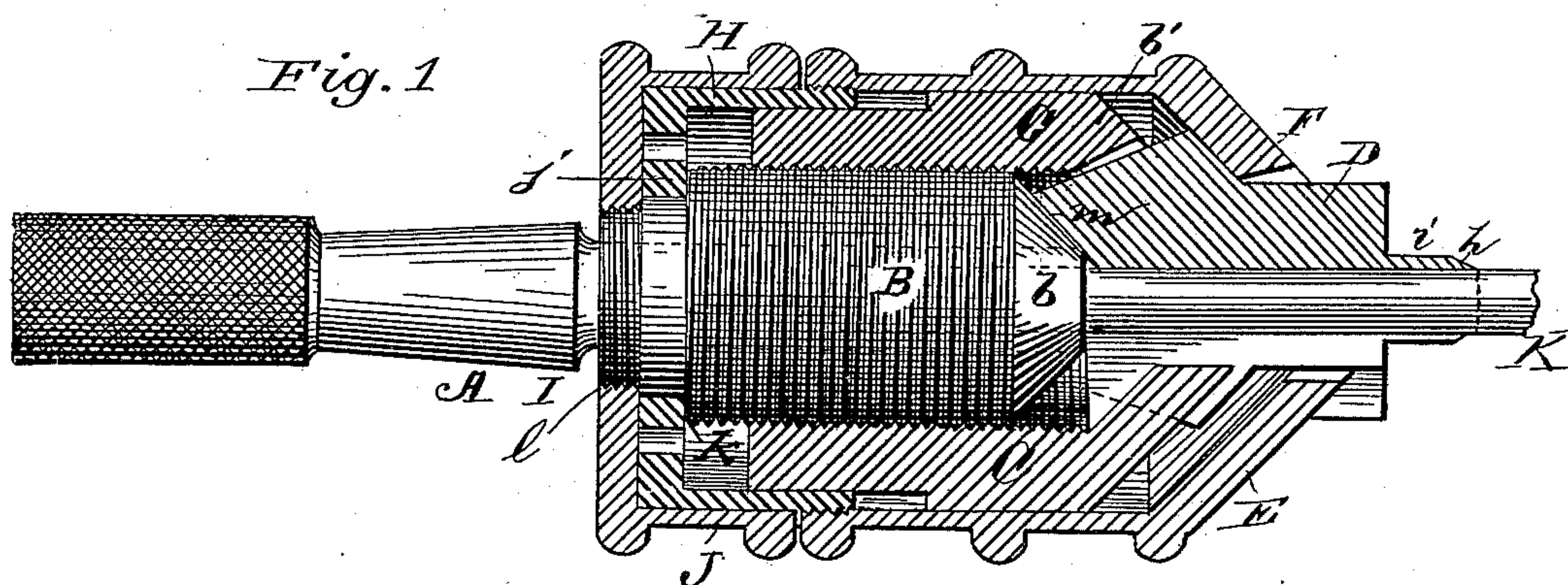
(Model.)

G. W. DAVIS.

LATHE CHUCK.

No. 297,070.

Patented Apr. 15, 1884.



Witnesses:
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L. C. Hills

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UNITED STATES PATENT OFFICE.

GEORGE W. DAVIS, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO EZEKIEL H. NOBLE, OF SAME PLACE.

LATHE-CHUCK.

SPECIFICATION forming part of Letters Patent No. 297,070, dated April 15, 1884.

Application filed December 13, 1882. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. DAVIS, of New Bedford, county of Bristol, and State of Massachusetts, have made useful Improvements in Chucks with Thread-Cutting and Countersinking Attachments, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to chucks for lathes; and it consists in the improved construction hereinafter fully described, whereby the chuck can be readily manipulated to form countersunk recesses, both plain and screw-threaded, the countersinking devices combined with a drill, and the chuck at the same time is capable of being adjusted to perform the functions of an ordinary chuck.

In the accompanying drawings, Figure 1 is a central longitudinal section of a lathe stock and chuck on an enlarged scale, illustrating my invention. Fig. 2 is a side view, showing the parts in a different position. Fig. 3 illustrates the parts in detail; and Fig. 4 is a front view of the chuck, the outer shell being removed.

A is the lathe-stock, having a cylindrical head, B, tapered at its front end, *b*, and screw-threaded along the body of said head. The case C is internally threaded to engage the lathe-stock head B. The front portion, *b'*, of the case C is tapered, and is provided with three openings, C C' C'', which converge toward each other at the center of the front portion, *b'*, of the case C. Each of said openings C C' C'' have the side walls grooved at *d*. A series of dogs, D, having the body portions *e* provided with ribs *f* on each side of said body portion, are adapted to be placed one in each of the openings C C' C'', so that the ribs *f f* of said dogs lie in the grooves of said openings C C' C'' and prevent the vertical play of said dogs in said openings. The openings C C' C'' are inclined from the front *b'* of the case C toward the beveled front portion, *b*, of the stock-head B, the outer face of the body portion *e* of each dog being correspondingly inclined, the ribs *f* thereon and the grooves *d* in the case being likewise inclined to admit the ready insertion and withdrawal of the dogs.

From the foregoing it will be apparent that

as the dogs are moved into the case, cutters *h*, secured to extensions *i* of the dogs, will be caused to approach each other, while the outward movement of the dogs from the case will cause the several cutters to recede from each other. A shell, E, having a conical front portion, F, and cylindrical body portion, is adapted to inclose the case C and the dogs D, so that a portion of the extensions of the dogs and their cutters will project from the front of the conical portion F of the shell, the said shell being interiorly threaded at its rear to engage the externally-threaded case H, a portion of the head *j* of which bears against the shoulder K, formed by the rear projecting edge of the threaded body portion of the head B of the stock. The neck I of the stock, near its junction with the head B thereof, is also threaded to engage an interiorly-threaded aperture, *l*, in the head of a cap, J.

When it is desired to clamp a bit or other boring implement, the parts of my improved lathe-chuck are organized as shown in Fig. 1 of the accompanying drawings, the jaws being tightened upon the bit by holding the neck I stationary and turning the case E, which will cause its portion F to bear upon the face *n* of the dogs, so as to force them upon the bevel portion *b* of the stock-head of the lathe and upon the bit. The same end may be accomplished by turning the case J and the screw-threaded portion B, which will travel within the case C and produce the same results—to wit, force the dogs upon the shank of the bit. The dogs, being provided with cutters *h*, as shown, will form a countersink, if the article in which the perforation is made is brought in contact therewith.

In operating the chuck to open or close the jaws, the parts B and J move as one piece, while the other parts move in a similar manner.

It will be readily seen that when it is desired to remove the bit it may be accomplished by turning the portions B and J in an opposite direction from which they are turned to tighten the jaws.

The cap H is held against lateral movement upon the stock by means of the shoulder K upon the stock between the screw-threaded

portions B and l. As the stock is turned in the proper direction and the case E held stationary, it will cause the portion C to recede and the dogs to slide rearwardly, so as to allow the bit to be withdrawn. If the case or portion C is advanced sufficiently in the head, the cutters will abut against each other and conjointly form a single tool, which may be employed as a centerer.

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

1. The combination, in a lathe-chuck, of the stock having a threaded head provided with a front tapering portion, against which bears a series of cutting-dogs, a case traveling on the said head and adapted to exert a downward pressure on the dogs, and a shell concentric with the cap and clamping the dogs against the conical front portion of the head, and rigidly secured by engaging a threaded cap, against which bears the head, and which is re-enforced by a second cap secured on the stock, substantially as set forth.

2. The combination, in a lathe-chuck, of a case traveling on a threaded head and having a front conical portion, a series of openings near the center and radiating therefrom, and provided with grooves *d*, adapted to receive ribs on the body portions of the cutting-dogs

which rest snugly in the said radiating openings, and a shell concentric with the said case and adapted to clamp the dogs against the said head and screw-threaded at its rear for engagement with a threaded cap, substantially as set forth.

3. The combination, in a lathe-chuck, of an interiorly-threaded case traveling on the threaded body of the head of the stock, and having a front conical portion provided with inclined grooved openings adapted to receive inclined body portions of a series of dogs ribbed as described, and a shell, substantially as set forth.

4. The combination, in a lathe-chuck, of a stock having a threaded head, B, a threaded case, C, traveling thereon, and having a conical portion provided with grooved openings inclined to receive inclined ribbed dogs, a shell E, concentric with said case C, and screw-threaded at its rear to engage a threaded cap, H, against the head of which bears the shoulder *j* of the head, and a cap, J, secured to the neck, and re-enforcing the cap H, substantially as set forth.

GEORGE W. DAVIS.

Witnesses:

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