

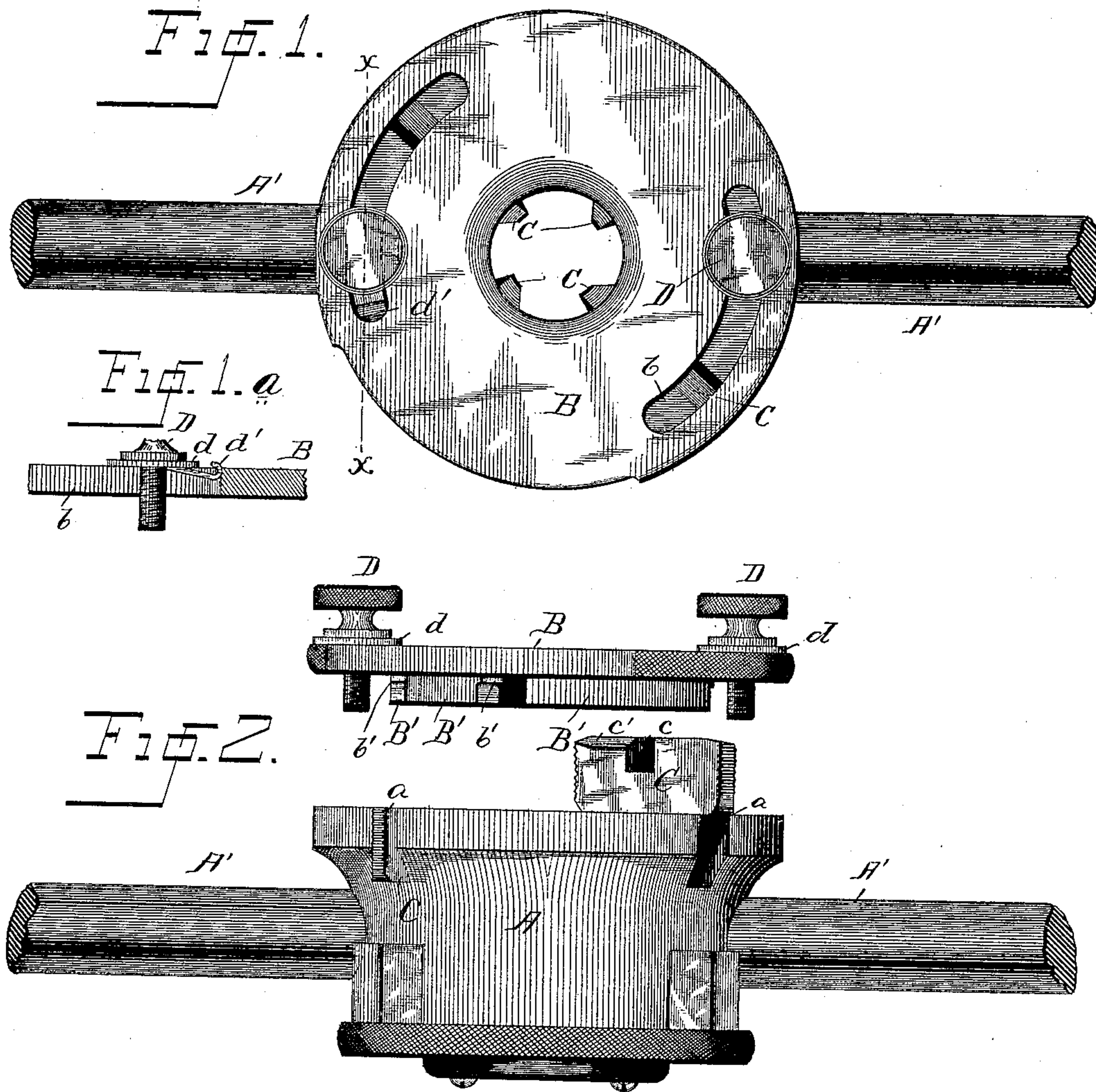
(No Model.)

2 Sheets—Sheet 1.

J. C. WILLIAMS.
SCREW CUTTING TOOL.

No. 372,504.

Patented Nov. 1, 1887.



Witnesses
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G. C. Blickensderfer

Inventor
James C. Williams
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Att'y's

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Fig. 3.

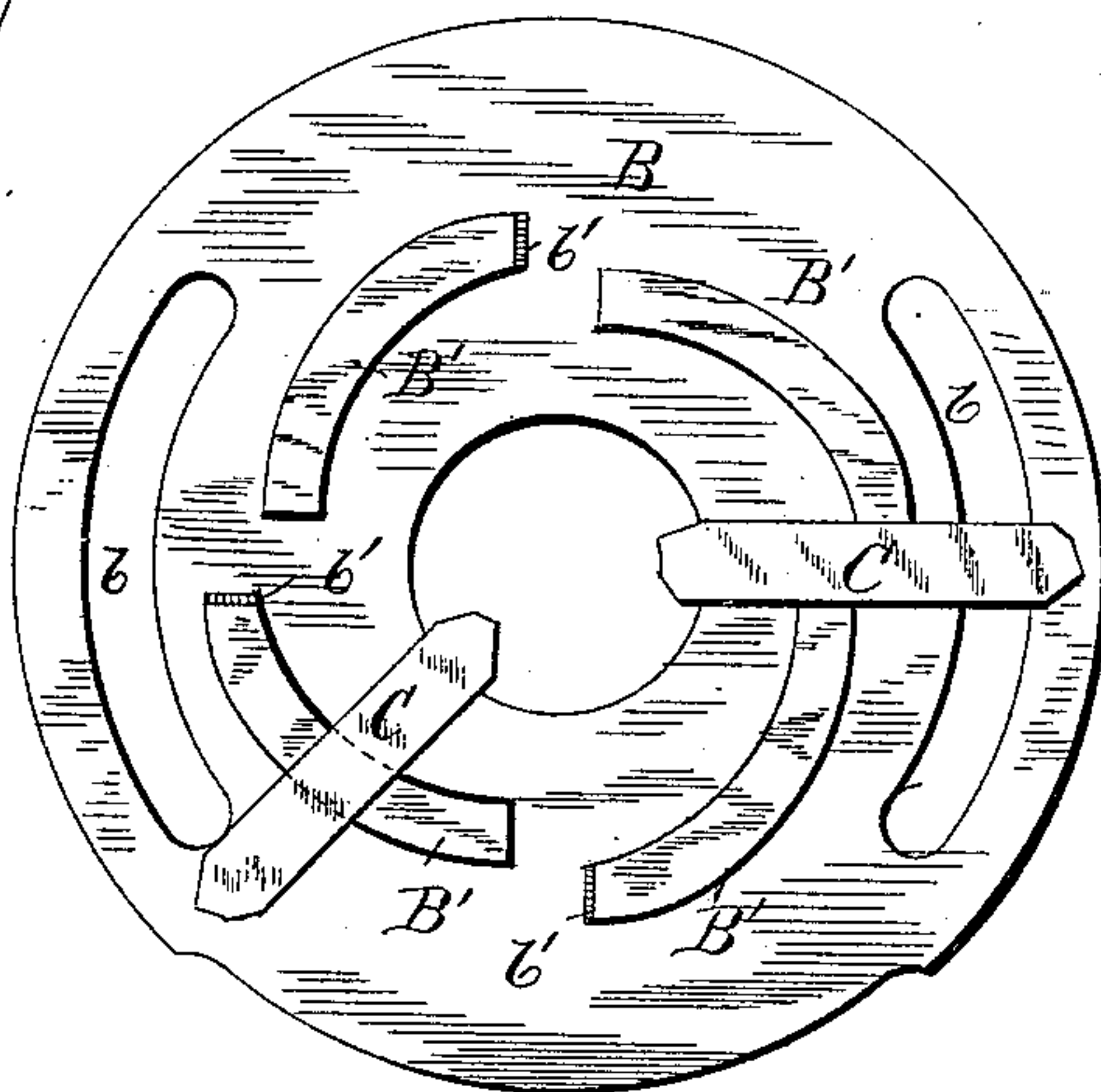
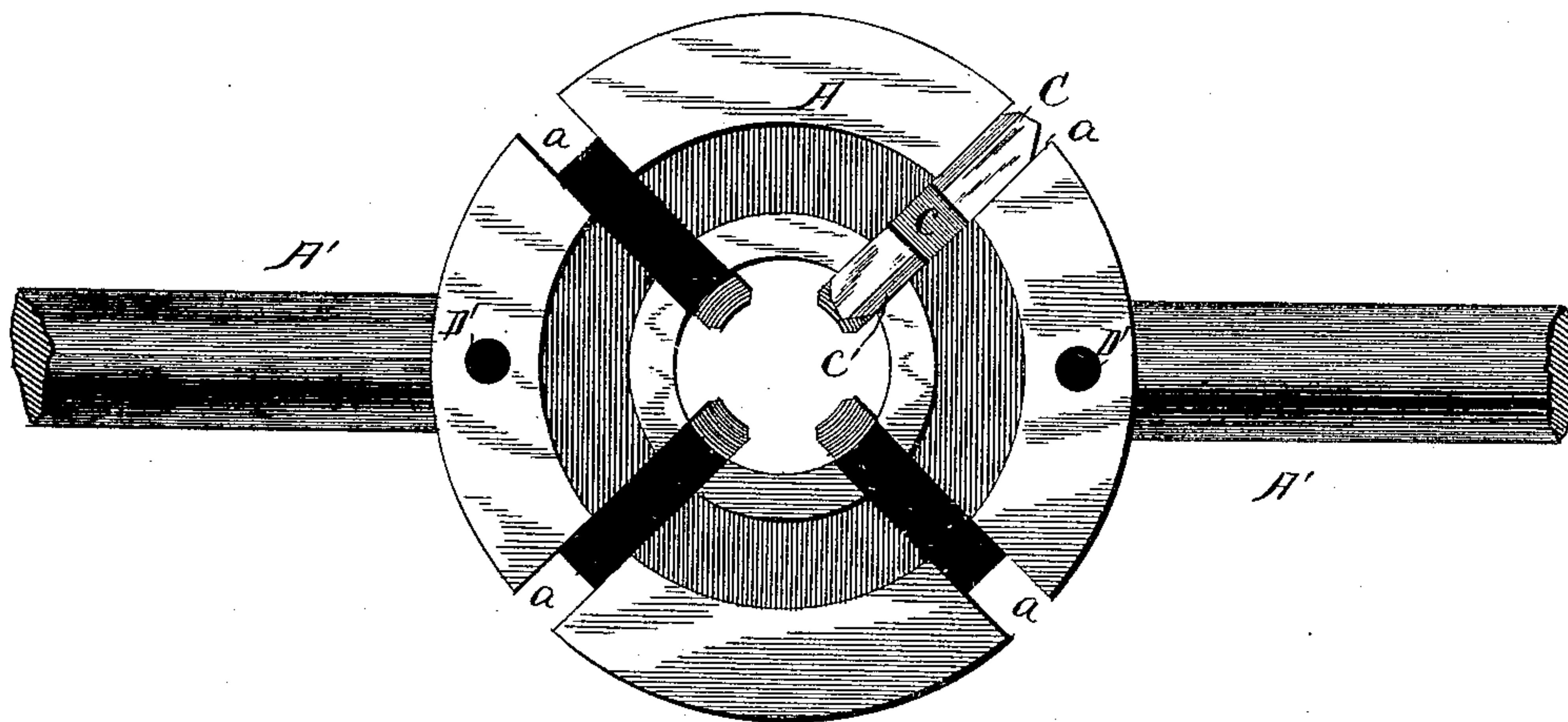


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES C. WILLIAMS, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE JARECKI MANUFACTURING COMPANY, (LIMITED,) OF SAME PLACE.

SCREW-CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 372,504, dated November 1, 1887.

Application filed May 3, 1887. Serial No. 236,939. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. WILLIAMS, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Screw-Cutting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to screw-cutting devices; and it consists in certain improvements in the construction thereof, as will be hereinafter fully set forth, and pointed out in the claims.

The device is illustrated in the accompanying drawings, as follows:

Figure 1 is a top or plan view of the device. Fig. 1^a is a vertical section of the cam-plate on the line *x x*, Fig. 1. Fig. 2 is a side elevation showing the cam-plate and one of the dies raised up so as to show the construction. Fig. 3 is a plan view of the under side of the cam-plate and two of the dies. Fig. 4 is a plan view of the shell A with the cam-plate removed.

Parts are indicated by letters of reference as follows: A marks the shell or body of the device; A' A', the handles; B, the cam-plate; B', the cams; *b*, slots through the cam-plate for the binding-screws; *b'*, a stop projection at the outer ends of the cams; C, the dies; *c*, the cam-notches in the dies; *c'*, a bevel on one of the upper corners of the dies; D, the binding-screws; D', the holes in the shell into which the binding-screws enter; *d*, washers between the binding-screws and the cam-plates; *d'*, an arm or lug on one of the washers, which lies in the slot *b*.

The objects of my invention are, first, to construct a screw-cutting device, commonly called a "screw-plate," with fewer parts and of simpler construction, and hence cheaper than those now in use; second, to provide means whereby the dies, when shoved into the die-slots, will be stopped in position to allow the cams to enter the cam-notches, and, third, to provide means for stopping the cam-plate so that it cannot be moved around far enough to allow the dies to drop out without disengaging said stop.

As screw-plates are now made, there is a shell or body with die-slots about like the shell A and die-slots *a*, here shown. Then there is a thin flat ring of metal with a quadrant and slot extending from it at one side, which is fastened to the top of the shell over the die-openings by screws or bolts which screw into holes in the face of the shell. Then there is a central washer or ring which screws into the hub of the shell, which washer has a lip or rabbet which overlaps the cam-plate and keeps it in place, and the cam-plate has an extension on one side which carries the binding-screw, which passes through the slot in the quadrant on the thin flat ring of metal above named.

In the construction I have shown, the thin flat ring and the central washer are dispensed with, and all the work of drilling and tapping the bolt-holes, and making the bolts which hold down the flat ring onto the shell, and the cutting of the screw on the hub of the shell and the central washer, is avoided.

In the construction I here show there are two binding-screws and two quadrant-slots in the cam-plate, and the binding-screws screw into holes D' in the face of the shell A. In this way the binding-screws serve not only to bind the cam-plate, but also to hold it down on the shell. In constructing the dies I am careful to have them of such a height that they stand flush with the face of the shell, or even slightly higher, so that when the cam-plate is set down by the binding-screws the dies will have a firm seat their whole length on the under side of the cam-plate. This holds the dies firmly while at work against any vertical play, while in the old form of plate there were no means for clamping and holding the dies firmly while at work, as they set under the thin flat ring, which is firmly bolted onto the face of the shell above them. This is a decided advantage resulting from my present construction.

The second feature of my invention is as follows: At the outer end of each of the cams B', next to the plate B, there is a projection or shoulder, *b'*, and on each of the dies the corner is beveled off, as at *c'*, from the notch *a*, which receives the cam to the end. This bevel allows the die to pass the projection *b'* on the cam until the notch *c* is in line with the cam, when

it is stopped by the unbeveled corner on the opposite side of the notch striking against the projection *b'*. The operator does not need to exercise any care at all to bring the notches in the dies in line with the cam, as is the case in all screw-cutting machines of this class. All he has to do is to insert the dies in the die-openings *a* as far as he can push them in, and they will all be in line.

10 The third feature of my invention consists in providing one of the washers *d* on the screw D with an arm or lug, *d'*, which will set down into the slot *b* in the cam-plate, as seen in Figs. 1 and 1^a. This lug or arm will prevent the plate B being turned far enough to let the cams pass entirely out of the notches *c* in the dies, and hence the dies will not be dropping out. When it is wanted to remove the dies, the screw, having thereon the washer with an arm, 20 *d'*, is unscrewed far enough to allow the washer to be raised up, so as to bring the arm *d'* out of the slot, when the plate B can be turned far enough to take the cams out of the notches *c* in the dies.

25 What I claim is—

1. In a screw-cutting device, the combination, substantially as shown, of a shell, A, hav-

ing die-slots *a* sunk into its upper face, a cam-plate, B, having quadrant-slots *b*, which sits directly onto the upper face of the shell A, and 30 binding-screws D, which pass through the slots *b* and screw into holes D' in the shell and bind the cam-plate upon the upper face of the shell.

2. In a screw-cutting device of the type shown, the combination, with the dies C and 35 cams B' for moving said dies, of a projection on the end of the cam and a corresponding place cut from the die from its end to the cam-notch to receive said projection on the cam, substantially as and for the purpose set forth. 40

3. In a screw-cutting device of the type shown, the combination, with the dies C, cams B', cam plate B, and binding-screws D, working through slots *b* in said cam-plate, of a washer, *d*, on said screw, having a lug or arm 45 extending therefrom into the slot *b*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

J. C. WILLIAMS.

Witnesses:

JNO. K. HALLOCK,
F. B. WHIPPLE.