(No Model.)

A. A. BARTLETT.

REAMING OR CUTTING TOOL.

No. 592,979. Patented Nov. 2, 1897.

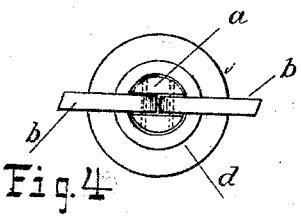

Fig. 4

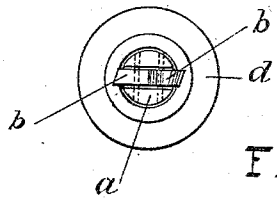

Fig. 5

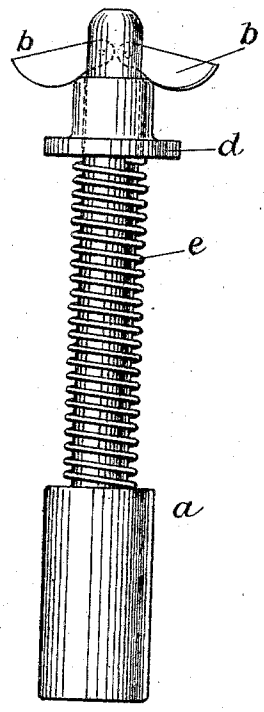

Fig. 1

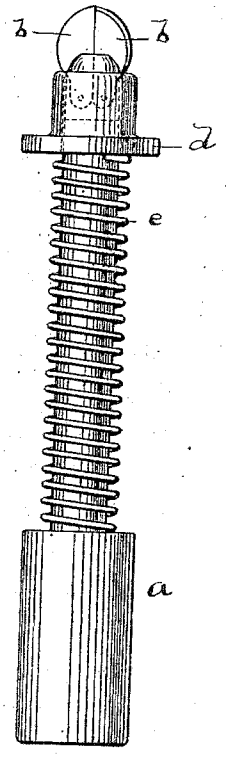

Fig. 2

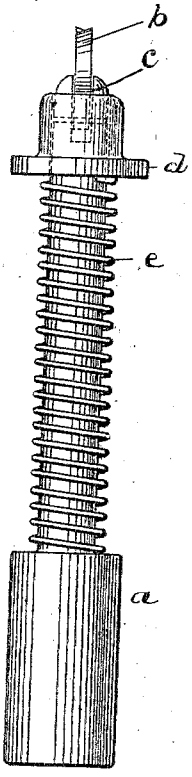

Fig. 3

Witnesses
Edward Thiecamin
G. Mackenzie

Inventor
Asa A. Bartlett
Attorneys
Seymour & Harmon

UNITED STATES PATENT OFFICE.

ARA A. BARTLETT, OF CINCINNATI, OHIO, ASSIGNOR TO THE CINCINNATI COFFIN COMPANY, OF SAME PLACE.

REAMING OR CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 592,979, dated November 2, 1897.

Application filed June 28, 1897. Serial No. 642,606. (No model.)

To all whom it may concern:

Be it known that I, ARA A. BARTLETT, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Reaming or Cutting Tool, of which the following is a specification.

Figure 1 is an elevation showing the blades open; Fig. 2, an elevation showing the blades closed; Fig. 3, an elevation viewing the blades edgewise. Figs. 4 and 5 are plan views showing the blades in open and closed positions, respectively.

On the stem or spindle *a* are mounted cutting-blades *b*. These may be of any desired number and shape. These blades are pivoted in a slot *c* in the stem in such a manner as to be freely movable in a direction radially thereof. The location of the blades in the stem varies according to the nature of the work to be operated on. In the present case they are shown as pivoted in the bifurcated end of the spindle. Sliding loosely on the spindle is a sleeve *d*, normally kept in the position shown in Fig. 2 by means of a spring *e*. The sleeve in this position incloses the pivotal ends of the blades and holds them in closed position. In the position shown in Fig. 1, the sleeve being pushed clear back, the blades are shown at the extreme limit of their outward motion. The extent of such motion is governed by the length of the slot, which may be varied to suit different kinds of work.

The particular form of cutting-tool shown is designed for cutting or reaming the surplus metal from the interior of soft-metal cast ornaments, such as are used for the ends of handles, poles, &c.

The operation is as follows: The spindle is fixed in any device capable of giving it a rotary motion, such as a drill-chuck. The casting is placed so as to surround the cutter-blades, the end of the casting resting against the sleeve. On pushing the work forward the sleeve is moved and the blades, thrown out by centrifugal action, engage with and trim the interior of the work. As the blades are free to move, they will always be in proper engagement with the surface to be trimmed, no matter how irregular it may be. The blades automatically assume the proper position. As this trimming has heretofore been done largely by hand, it will be seen what a saving in time and expense I am enabled to accomplish. The work is, moreover, better done than is possible by handwork or cutters heretofore in use. When the work is withdrawn, the sleeve slides along the stem and the blades are moved automatically to the closed or inoperative position.

Various changes may be made in this construction without departing from my invention. The spring may be omitted and the sleeve returned to position by the hand. The sleeve may be entirely omitted, in which case it would be necessary to stop the rotary motion on the completion of each operation. The sleeve may be splined to the stem and the sleeve itself be clamped in the drill-chuck, the stem being moved to allow the operation of the knives. These variations are so obvious as to require no particular description or illustration.

It will be obvious that my invention may be utilized in work on hollow ware of every description, the shape and size of the cutting-blades being varied to suit the particular work.

It will be noticed that the outward motion of the blades is limited in the first part of the operation by the sleeve itself, and it is obvious that by making the slot deep and the pivotal ends of the blades sufficiently long great variation of the movement of the blades is possible.

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

1. In a reaming or cutting tool, a stem or spindle, cutting-blades mounted on and freely movable radially thereof during the operation of the device, substantially as described.

2. In a reaming or cutting tool, a stem, cutting-blades mounted on and freely movable radially thereof during the operation of the device, and means for controlling such action, substantially as described.

3. In a reaming or cutting tool, a stem, cutting-blades mounted on and freely movable radially thereof during the operation of

the device, and means actuated by the feed of the work for controlling such motion substantially as described.

4. In a reaming or cutting tool, a stem, cutting-blades mounted on and freely movable radially thereof during the operation of the device, and automatic means for returning the blades to their normal position, substantially as described.

5. In a reaming or cutting tool, a slotted stem, cutting-blades freely pivoted in said slot, whereby as the stem is rotated the blades move radially thereof, substantially as described.

6. In a reaming or cutting tool, a slotted stem, cutting-blades freely pivoted in said slot, and a sleeve sliding on said stem, whereby the blades may be released from and also returned to normal position, substantially as described.

7. In a reaming or cutting tool, a slotted stem, cutting-blades freely pivoted in said slot, and a spring-actuated sleeve sliding on said stem, whereby the blades may be released from and also returned to normal position.

Signed at Cincinnati, in the county of Hamilton and State of Ohio, this 25th day of June, A. D. 1897.

ARA A. BARTLETT.

Witnesses:
A. R. BETTS,
WILL N. COMPTON.