

(No Model.)

W. F. NILES.
Cutter for Turning Lathes.

No. 237,310.

Patented Feb. 1, 1881.

Fig. 1.

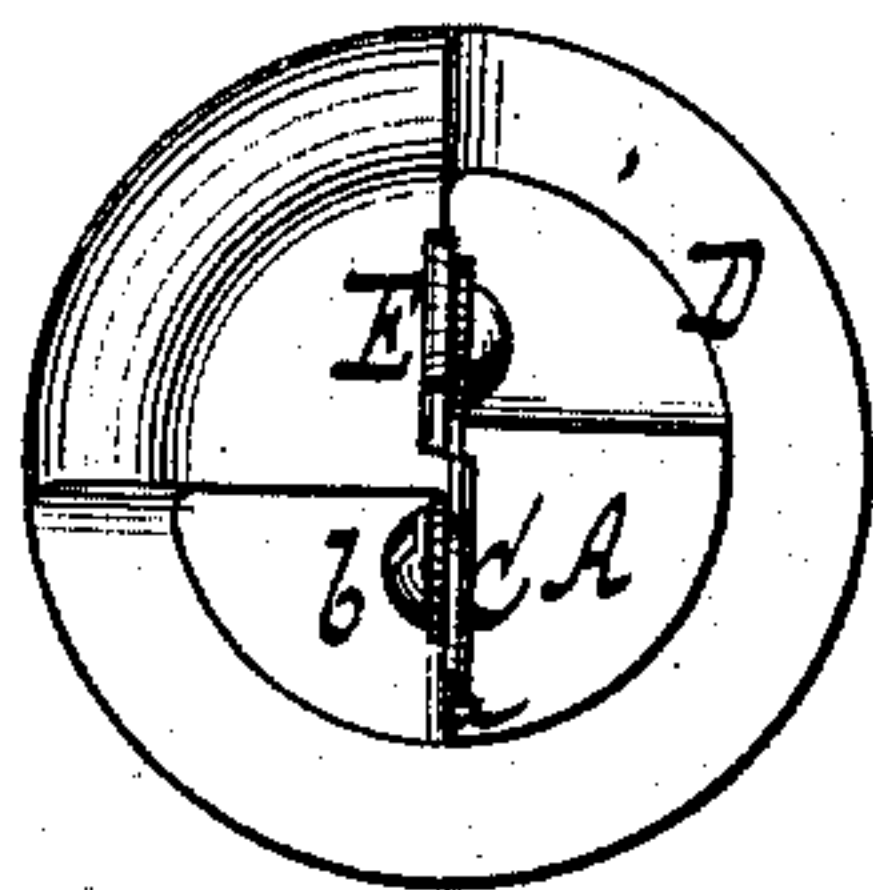


Fig. 2.

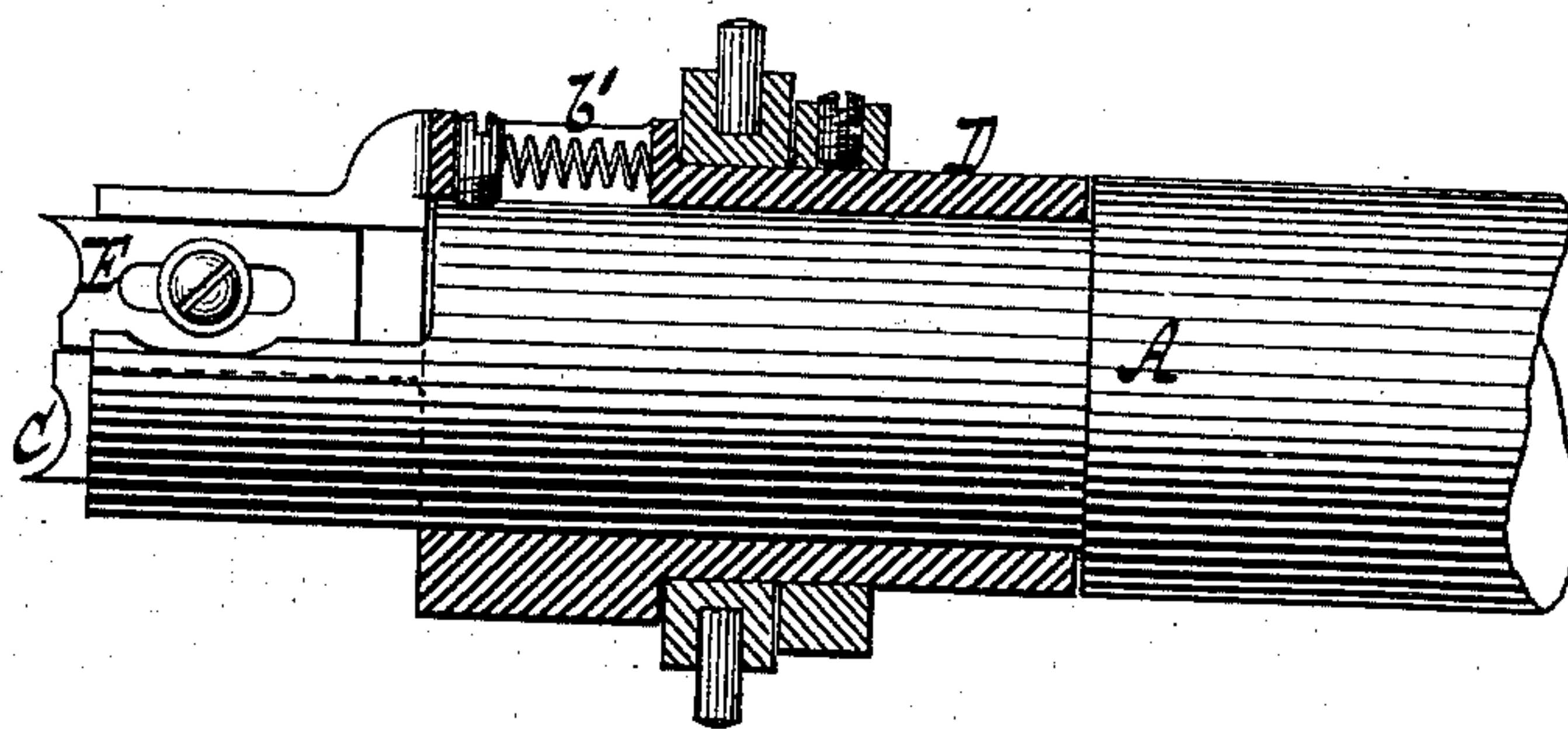
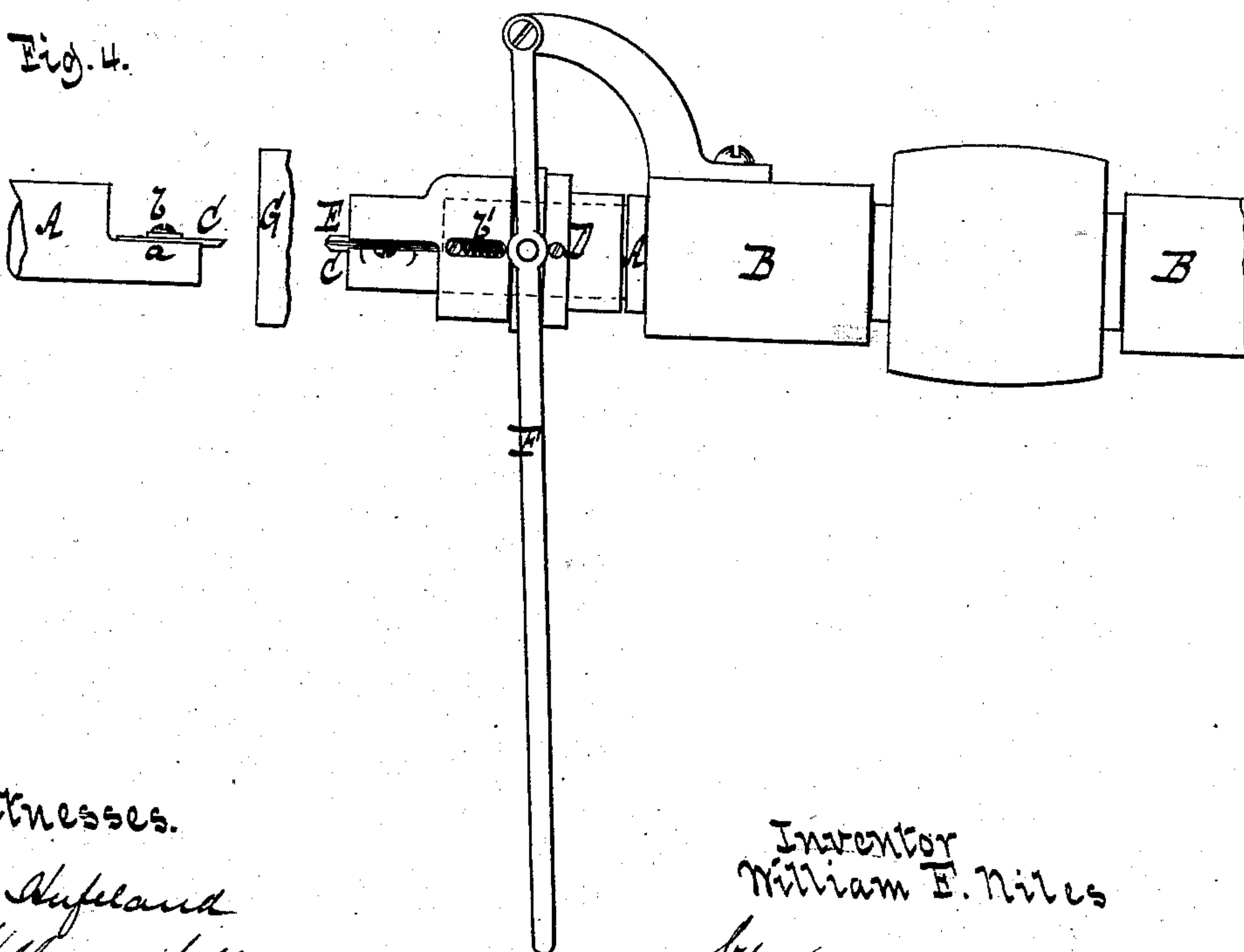


Fig. 3.

Fig. 4.



Witnesses.
Otto Aufeland
William Miller

Inventor
William F. Niles
by Van Gantvoord & Hauff

his attorneys

UNITED STATES PATENT OFFICE.

WILLIAM F. NILES, OF JERSEY CITY, N. J., ASSIGNOR OF ONE-HALF TO WILFORD L. PALMER, OF NEW YORK, N. Y.

CUTTER FOR TURNING-LATHES.

SPECIFICATION forming part of Letters Patent No. 237,310, dated February 1, 1881.

Application filed December 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. NILES, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Cutters for Turning-Lathes, of which the following is a specification.

This invention relates to turning-machines of that class in which the cutter is secured to the lathe-spindle, which has a rapid revolving motion in fixed bearings, while the material to be turned does not revolve, but is movable toward and from the cutter. In turning on such a machine wood or other materials the outer surface of which is hard or rough, either from its natural condition or from sand or other impurities which are liable to adhere thereto, the cutting-edge of the turning-tool or cutter is rendered dull by the first touch of the material, and it is exceedingly difficult to impart to the surface of the article to be turned the required smoothness. This difficulty I have sought to overcome by my present invention, which consists in the combination, with the tool-carrying spindle, of a sleeve, which is constructed to slide in the direction of the axis of the spindle, and which also carries a tool similar to that carried by the spindle, so that by throwing the sleeve forward the tool secured to it (which may be termed "roughing-tool") comes in contact with the material to be turned in advance of the tool secured to the spindle, (which may be termed "smoothing-tool,") and since the hard surface of the material is removed by the roughing-tool, the cutting-edge of the smoothing-tool is preserved, and a smooth surface can be imparted to the article to be turned.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a front view of the tool-carrying spindle. Fig. 2 is a sectional side elevation. Fig. 3 is a plan or top view on a smaller scale than the previous figures. Fig. 4 is a similar view of the end of the spindle without the movable sleeve.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a spindle, which revolves in fixed bearings B B, Fig. 3, and to which is firmly attached a cutting-tool, C, which in the following description

will be termed the "smoothing-tool." For the purpose of attaching this smoothing-tool the spindle is provided with an offset, leaving a flat surface, *a*, Fig. 4, to which the tool is fastened by one or more screws, *b*.

On the spindle A is fitted a sleeve, D, which carries a cutting-tool, E, (hereinafter called the "roughing-tool,") and which is exposed to the action of a spring, *b'*, that has a tendency to throw said sleeve back into the position shown in Figs. 2 and 3 of the drawings. When the sleeve is in this position the cutting-edge of the roughing-tool E is behind that of the smoothing-tool C, as seen in Fig. 2; but when the sleeve is thrown forward the cutting-edge of the roughing-tool is brought in advance of that of the smoothing-tool. The sleeve may be pushed forward against the action of the spring *b'* by a hand-lever, F, or by any other suitable means, such as a cam, which would be arranged to impart to the sleeve an automatic motion.

The material to be turned is represented at G, Fig. 3, and as the rough surface of this material is moved toward the spindle A the sleeve D is thrown forward, so as to bring the cutting-edge of the roughing-tool E into action; and when the rough surface of the material has been cut away the sleeve is permitted to fall back, and the surface to be turned is exposed to the action of the smoothing-tool C. By these means the cutting-edge of the smoothing-tool is preserved in the proper condition to produce a smooth surface without ridges or rings.

It is obvious that the same result is obtained if the spindle which carries the tools is made to slide in its bearings, so that it can be moved toward and from the material to be cut.

It must also be remarked that the tool E, instead of being connected to the sleeve D, can be attached to the spindle in different ways, so that it can be made to advance and recede.

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

1. The combination, with the rotating spindle carrying a smoothing-tool, of a longitudinally-sliding roughing-tool arranged upon the spindle adjacent and parallel to the smoothing-tool, substantially as described, whereby the

longitudinally-sliding tool may be brought in contact with the material to be turned in advance of the smoothing-tool, as and for the purpose set forth.

- 5 2. The combination, with the tool-carrying spindle, of a sleeve arranged upon the spindle and provided with a roughing-tool, and arranged to be moved longitudinally on the spindle for bringing the roughing-tool in contact
10 with the material to be turned in advance of

the smoothing-tool, all substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

WILLIAM F. NILES. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.