

No. 688,355

Patented Dec. 10, 1901.

J. SOWLE.

GRINDING OR POLISHING MACHINE.

(Application filed Jan. 2, 1901.)

(No Model.)

Fig. 1.

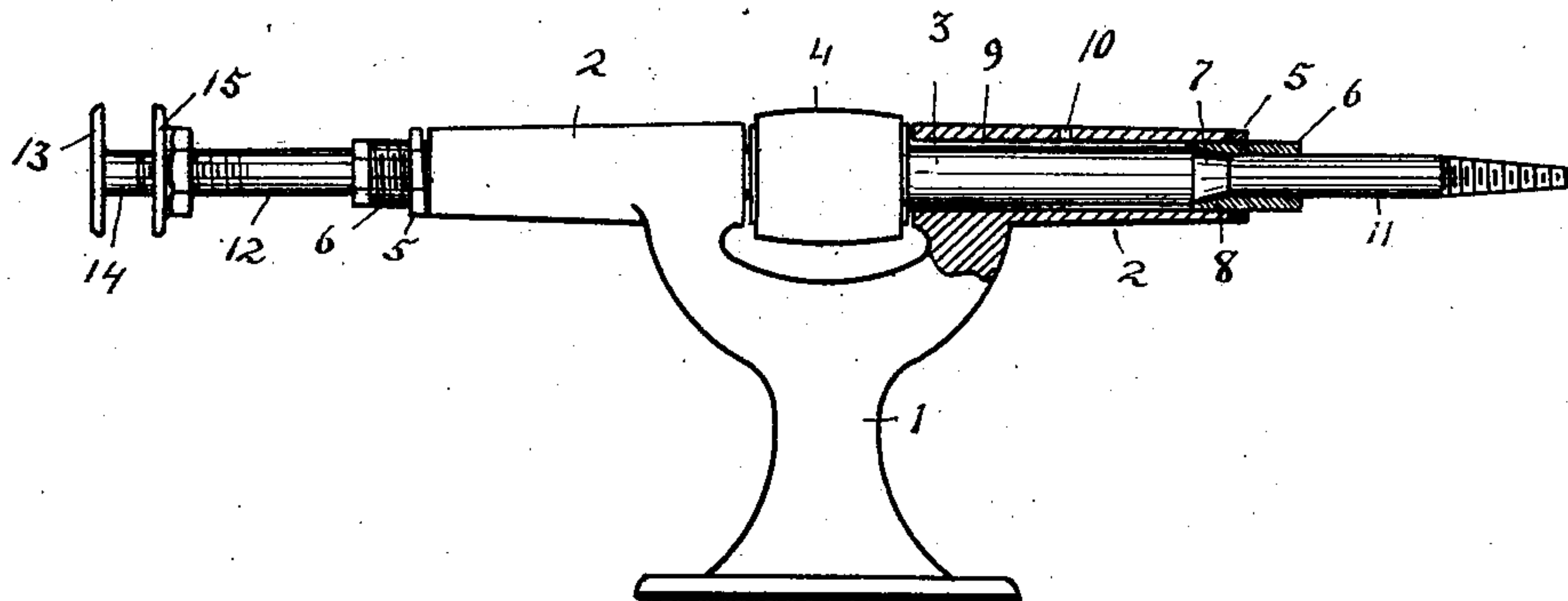


Fig. 2.

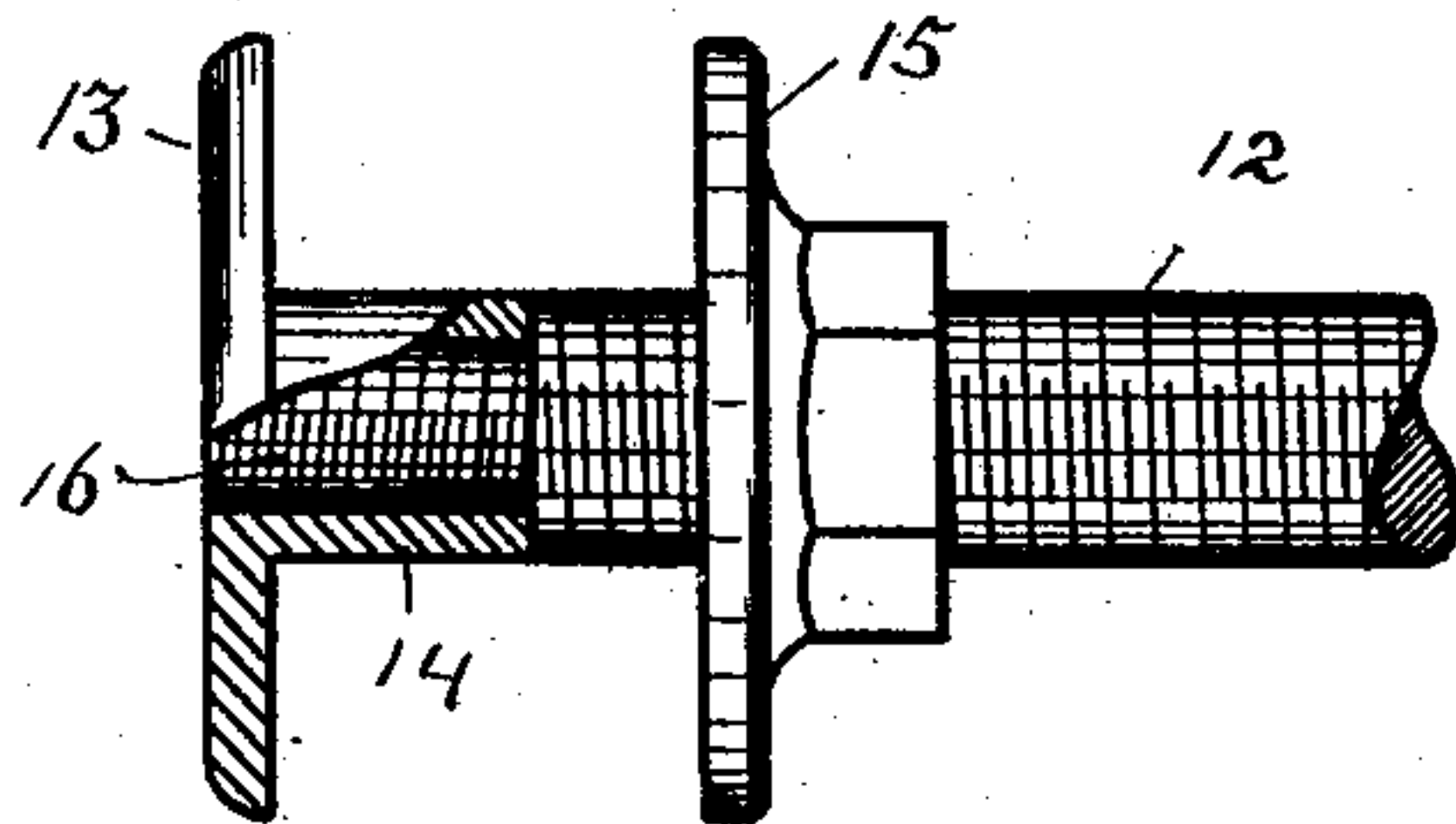
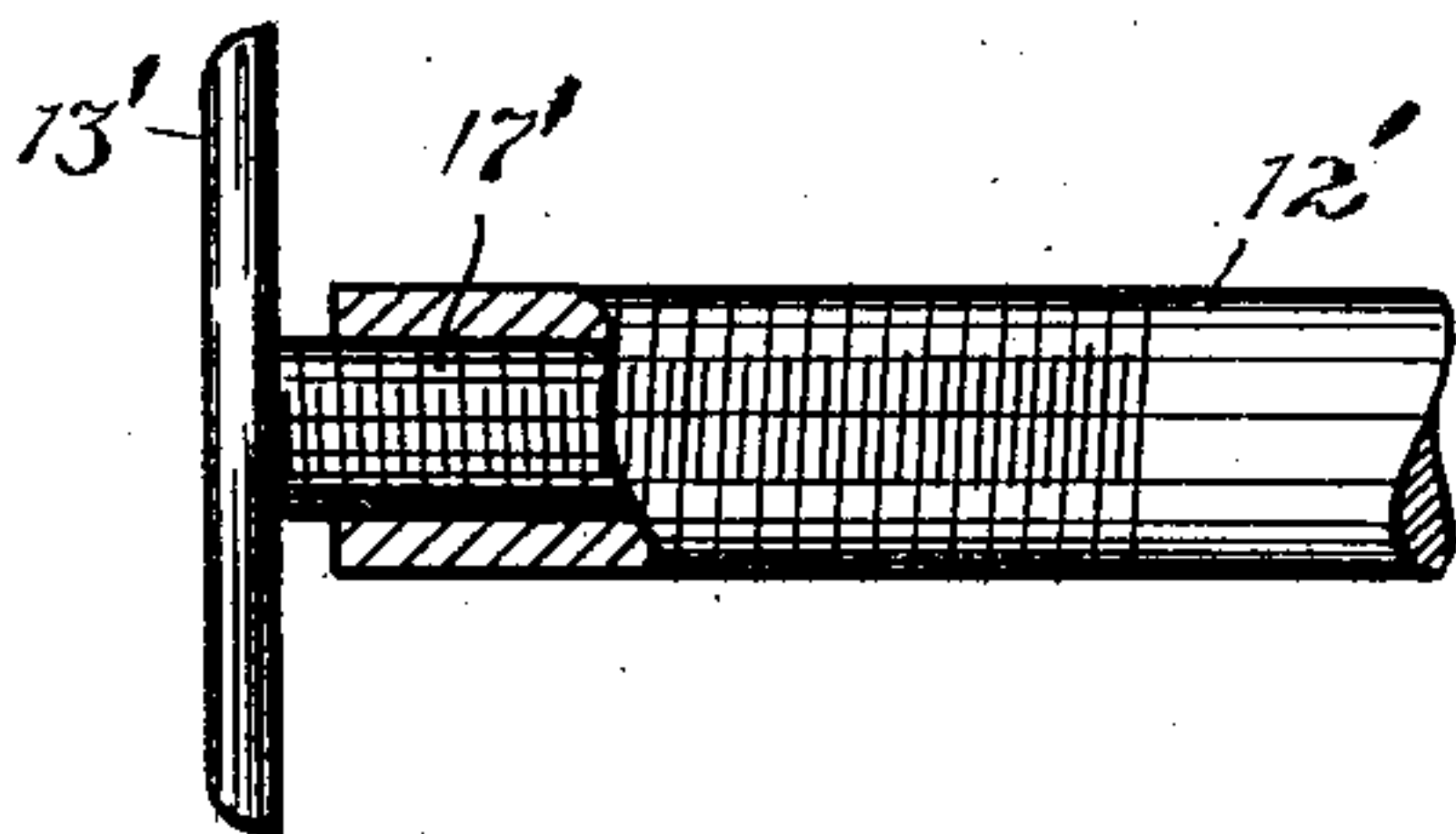


Fig. 3.



WITNESSES:

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GRINDING OR POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,355, dated December 10, 1901.

Application filed January 2, 1901. Serial No. 41,904. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH SOWLE, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Grinding or Polishing Machines; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in polishing or grinding lathes wherein an arbor is rotatively mounted in adjustable bearings; and the object of my improvement is to afford means to hold the arbor steady while in operation and to facilitate lubrication of its bearings.

Another object of my improvement is to provide means for securing polishing wheels or stones at the extreme end of the arbor.

I accomplish my objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my lathe, partly cut away to show the interior construction. Fig. 2 is a detail view showing the securing device for the polishing wheels or stones, and Fig. 3 is a modified form of Fig. 2.

Similar numerals of reference indicate corresponding parts throughout the several views.

The standard 1 has laterally-extending hollow arms 2. An arbor 3 extends through said arms and has tapering shoulders 7, which rest in cone-shaped bearings 8, which are made in the ends of the sleeves 6 6, respectively. The shanks 11 and 12 of the arbor extend through the sleeves 6, which sleeves are continuations of the bearings 8. The bore of the arms 2 is sufficiently greater than the diameter of the arbor 3 to allow an annular air-space 9 between said arms and arbor. A pulley 4 is arranged upon the arbor 3 between the inner ends of the arms 2 and is sufficiently narrow, so as not to close the air-space 9 in either arm. The sleeves 6 are externally screw-threaded and are driven into

the outer ends of the arms 2, which are correspondingly screw-threaded to receive said sleeves. The said sleeves are locked in their adjusted positions by jam-nuts 5, which are ground diagonally upon their inner faces, so that one point only comes in contact with the ends of the arms 2, thus binding the same in place. Oil-holes 10 are made in the arms 2 about midway between the ends of the sleeves and the inner ends of the arms. While the arbor is in motion oil may be fed into the oil-holes, and in consequence of the motion of the arbor and the air-spaces 9 being open at one end and closed at the other the oil drifts toward the closed ends, and thus the bearings are lubricated. The shank 12 has an extension 16, which is of less diameter and is threaded oppositely to the threads upon the shank. A nut 15 is screw-threaded upon the shank 12, and a disk 13, having a sleeve 14, is screw-threaded upon the extension 16. In placing a polishing wheel or stone upon the arbor the disk is removed, and the stone is placed upon the shank 12. The disk is then replaced and the nut 15 is driven against the stone, which is held from displacement by the disk 13.

I have shown in Fig. 3 a modified form of my method of securing polishing wheels or stones to the end of the arbor. In this instance the disk has a central projecting stud 17', and the shank 12' is bored and threaded to receive the stud. The thread upon the outer side of the shank leads in the opposite direction to that of the thread upon the stud. In operation this form is effectually the same as in the former instance.

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

1. In a polishing or grinding lathe, the hollow arms; the arbor having tapering shoulders and ranging through said arms; and the sleeves adjustably mounted in the outer ends of said arms and affording bearings for said shoulders; the inner ends of said arms being open and their outer ends being closed by said bearings.

2. In a polishing or grinding lathe, a base having lateral hollow arms; an arbor extending through said arms; and bearings arranged

at the outer ends of said arms, supporting said arbor and closing the outer ends of said arms.

3. In a polishing or grinding lathe, an arbor having external screw-threads at its end; an
5 extension projecting from the end of said arbor; screw-threads on said extension leading oppositely to the former threads; and the nut and disk mounted respectively upon said ar-

bor and extension for engaging polishing-wheels. 10

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

JEREMIAH SOWLE.

Witnesses:

WALTER J. BURNS,
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