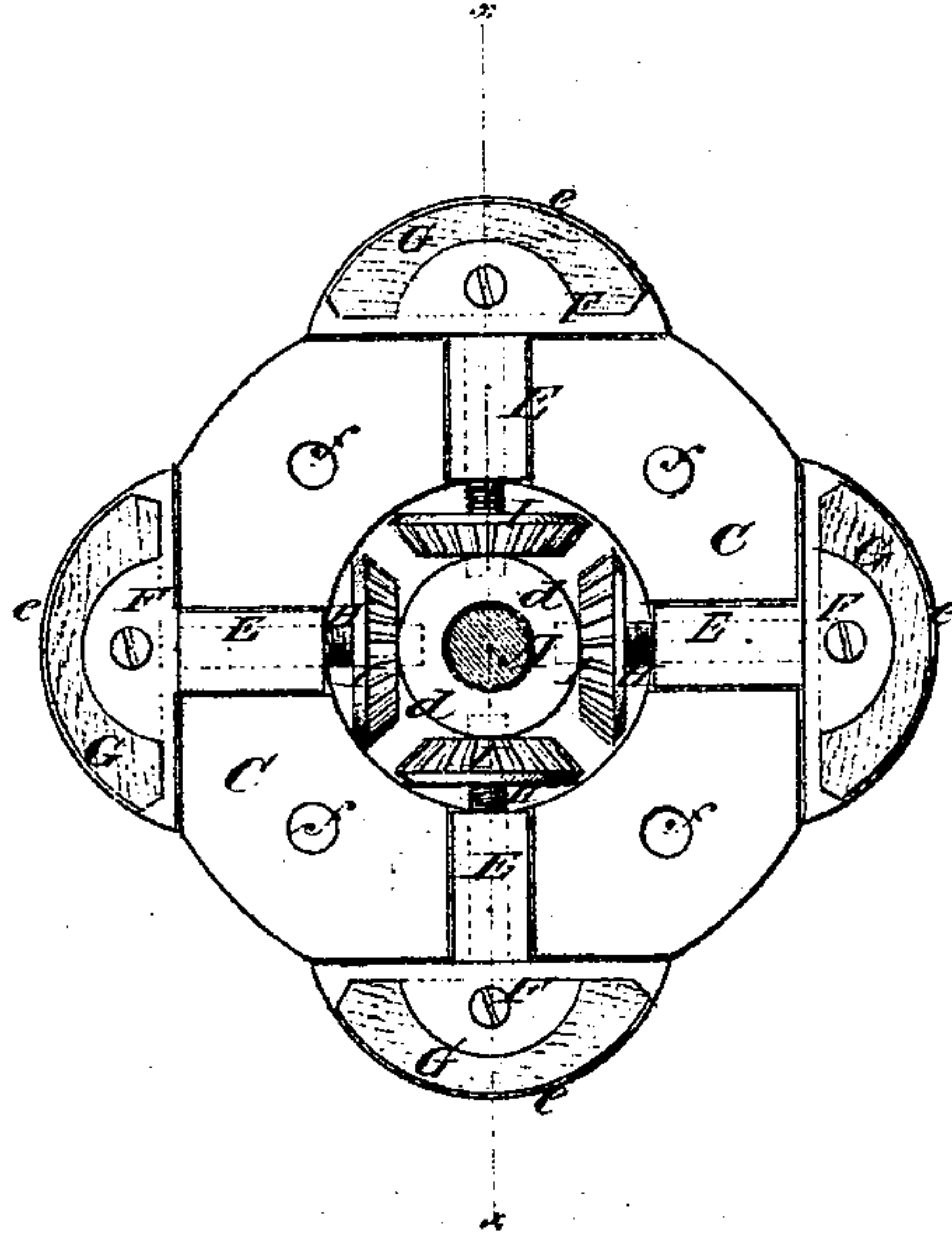


*J. Gooden,  
Polishing Machine*

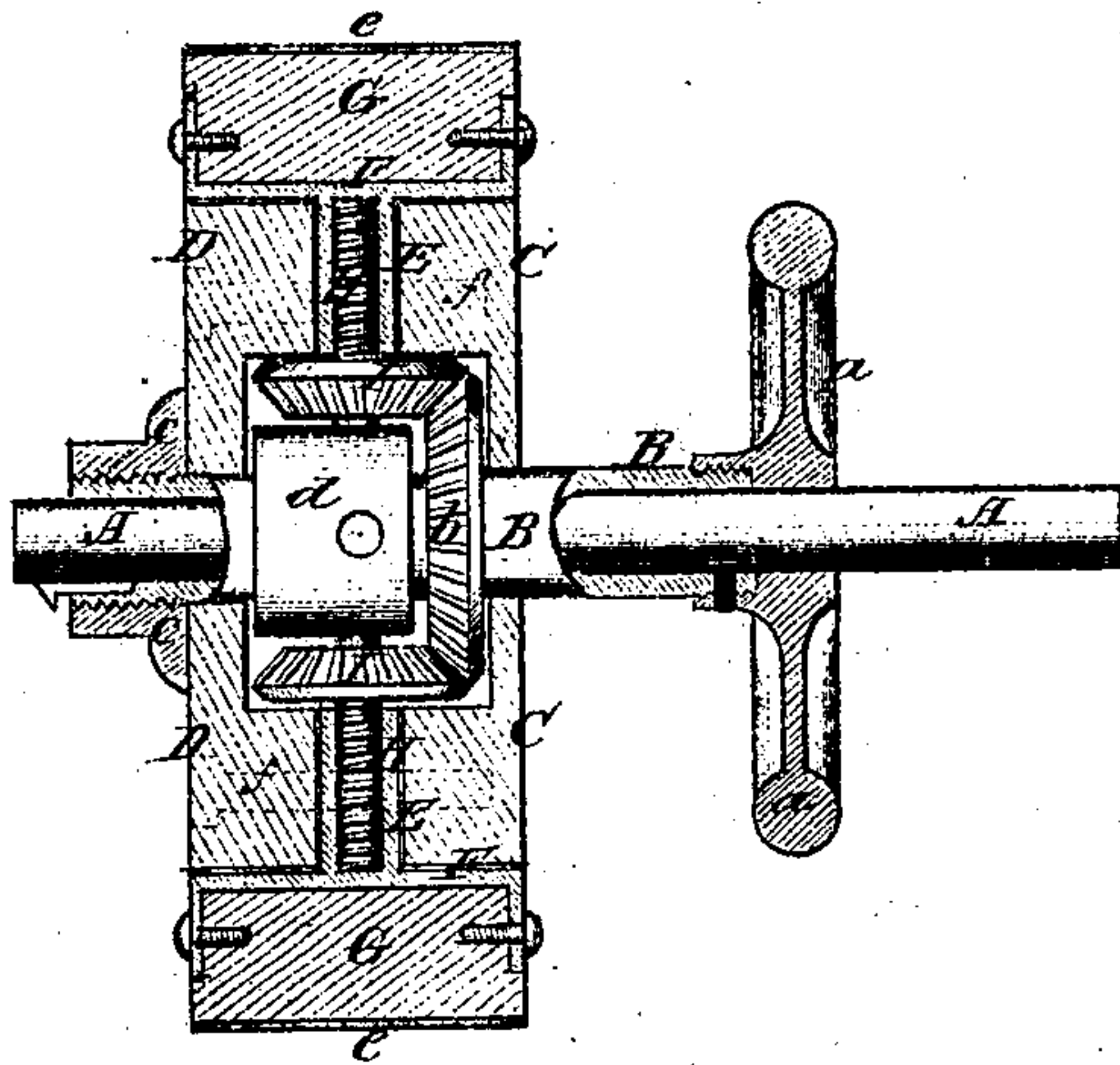
*No. 102610.*

*Patented Nov. 29. 1870.*

*Fig. 1.*



*Fig. 2.*



**Witnesses:**  
*Gustave Dutench*  
*Alex F. Roberts*

**Inventor:**  
*J. Gooden*  
**PER** *Munn & Co*  
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# United States Patent Office.

JOHN GOODEN, OF LOCKPORT, NEW YORK.

Letters Patent No. 109,610, dated November 29, 1870; antedated November 26, 1870.

## IMPROVEMENT IN POLISHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, JOHN GOODEN, of Lockport, in the county of Niagara and State of New York, have invented a new and improved Expansion Polishing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a face view, partly in section, of my improved polishing-machine.

Figure 2 is a vertical central section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for polishing the inner surfaces of metallic and other cylinders of different sizes, and has for its object to allow of an equal expansion and contraction of the polishing blocks for the purpose of accommodating the same to cylinders of different diameters.

The invention consists chiefly in the application of a sleeve fitted upon the shaft on which the device is hung, said sleeve operating the contracting and expanding devices independent of the action of the shaft.

The invention also consists in the general combination of the expanding blocks with their hollow shanks, adjusting screws, and bevel pinions, and with the adjusting sleeve, all arranged and operating as herein-after described.

A in the drawing represents the shaft for supporting my improved polishing-machine.

Upon it is fitted a loose sleeve, B, which carries a hand-wheel, *a*, at one end, and a bevel gear-wheel, *b*, at the other end.

C and D are two plates, made of cast-iron or other suitable material, and fitted around the shaft and sleeve as shown.

The plate C fits loose around the sleeve B, and is recessed to receive the wheel *b*.

The plate D is fitted around the shaft in front of the plate C.

The front end of the shaft has a screw-thread to

receive a nut, *c*, which clamps the plate D against a shoulder, *d*, of the shaft, said shoulder being sunk into the inner side of D and partly into C, as shown.

In the contiguous faces of the plates C D are formed recesses to receive polygonal nuts E E, that can slide therein, and that carry at their outer ends, outside of the plates C D, flanged plates F.

The plates F hold the polishing-blocks G, which have the polishing surfaces formed on them, either directly, being vulcanite emory blocks, or by sand-paper sheets, *e*.

The nuts E receive screws, H H, that have their ends fitted loosely into the shoulder *d*, and that carry bevel pinions I, which mesh into the wheel *b*.

When the plates C D are, by means of screws, *f*, firmly secured together, the device is ready for operation.

The sleeve when turned will by its gear-connection turn the screws H, and thereby move the nuts, with their appendages, further in or out, as may be desired.

The polishing surfaces are thereby adjusted to larger or smaller cylinders.

In place of the gear-connection herein described, the sleeve may screw directly into a conical block, which, as it is adjusted longitudinally on the shaft, will draw the polishing-blocks in or push them out at will.

Having thus described my invention,

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

1. The sleeve B, fitted loose upon the shaft A, and arranged to adjust the polishing-blocks G, for larger or smaller cylinders, substantially as herein shown and described.

2. The combination of the expansion-blocks G, with the sliding nuts E, screws H, wheels I *b*, sleeve B, and shaft, all arranged and operating substantially as herein shown and described.

JOHN GOODEN.

Witnesses:

J. B. SULLIVAN,  
JAMES LASHER.