

(No Model.)

G. NUTTING.

PINION HOLDER FOR PINION POLISHING MACHINES.

No. 410,558.

Patented Sept. 3, 1889.

Fig. 1

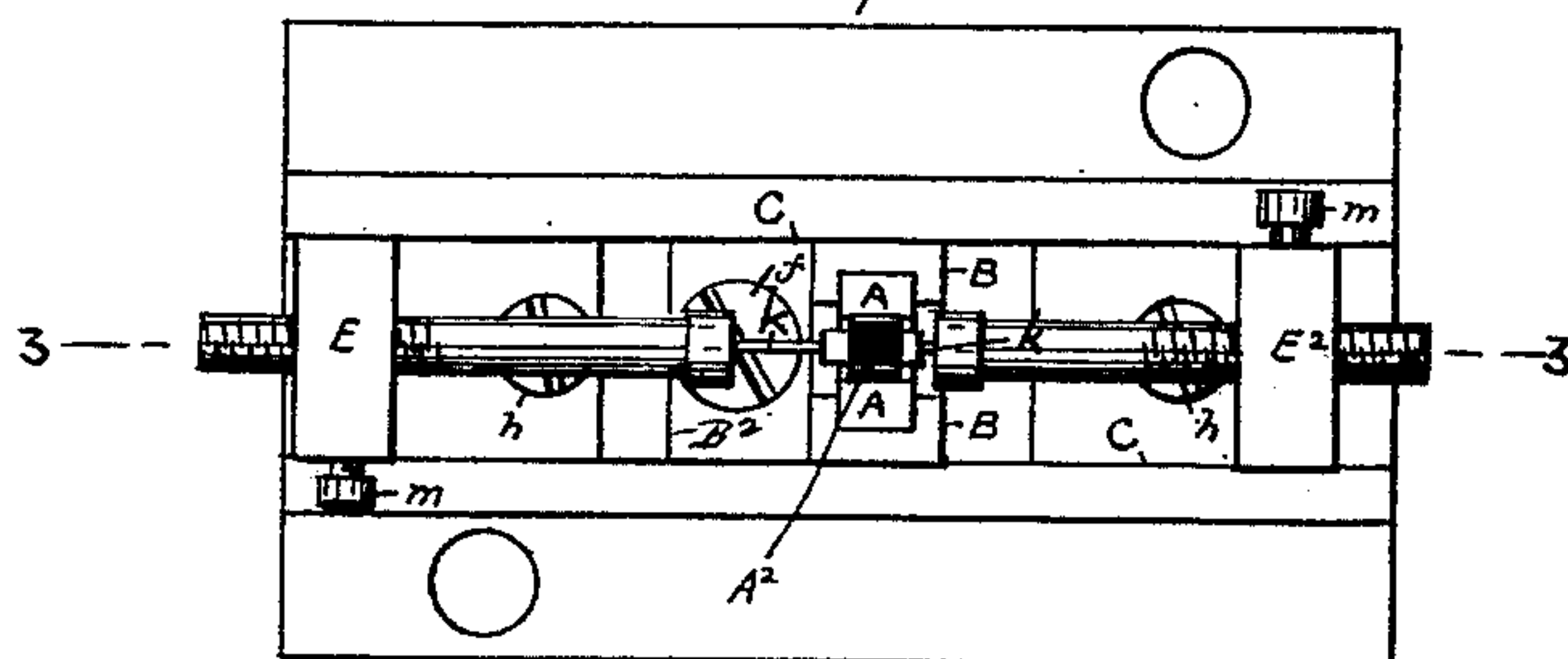


Fig. 2

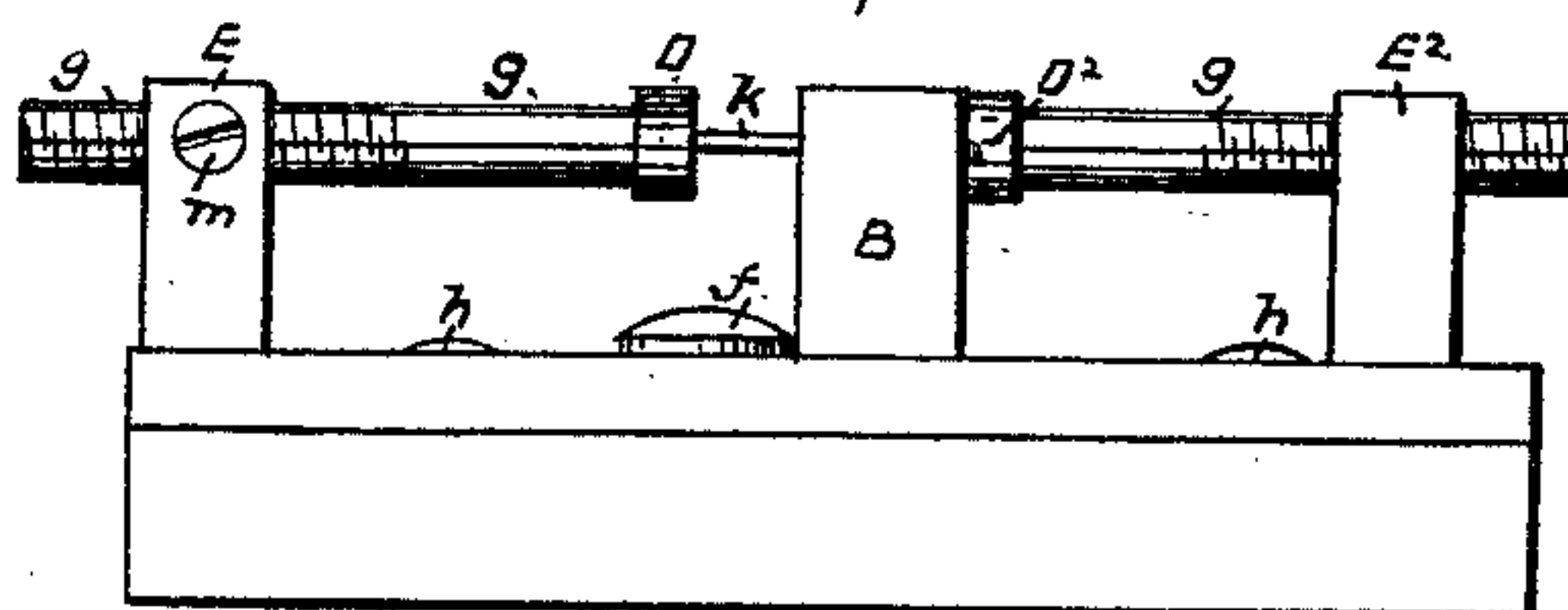


Fig. 3

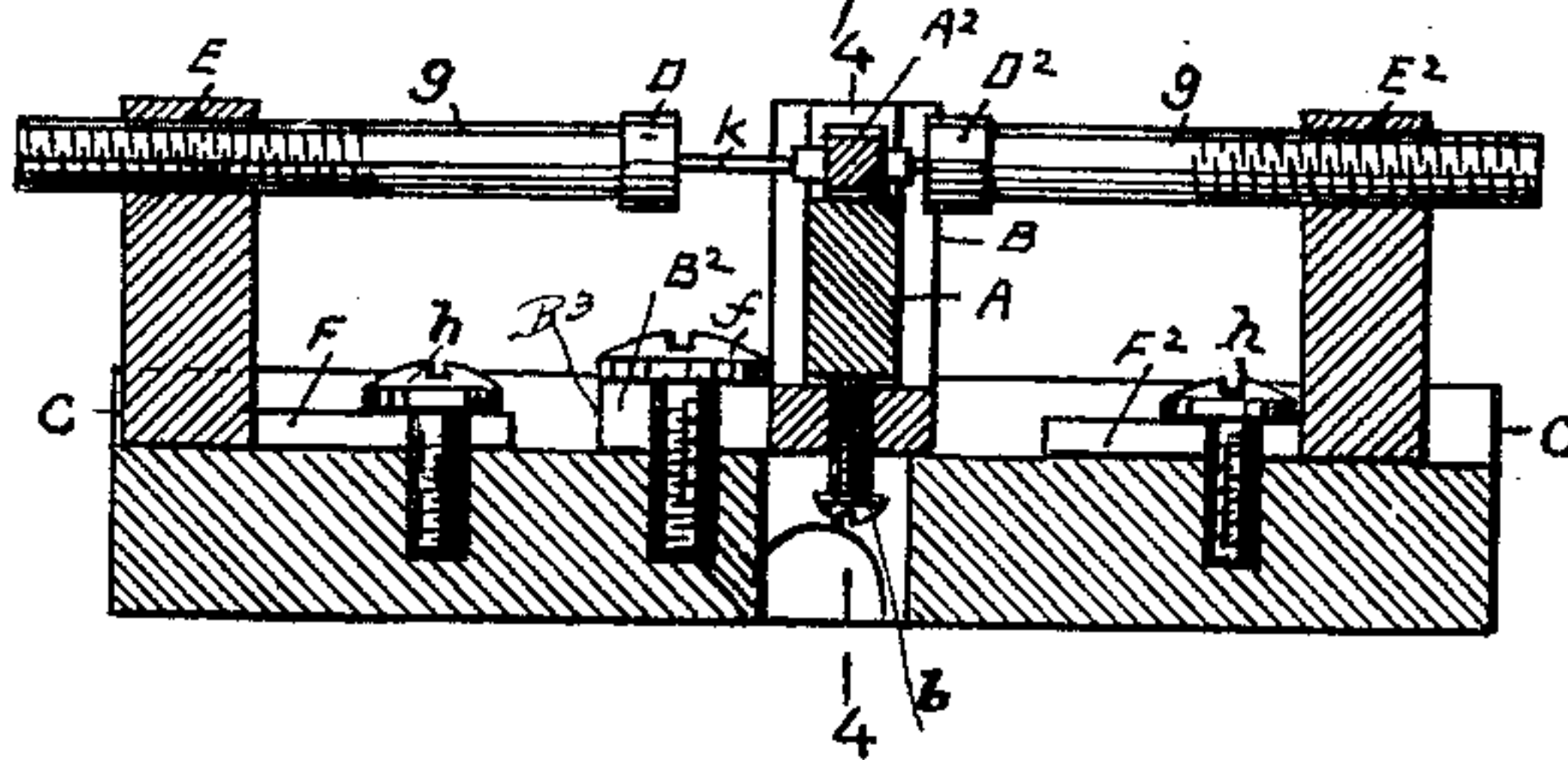
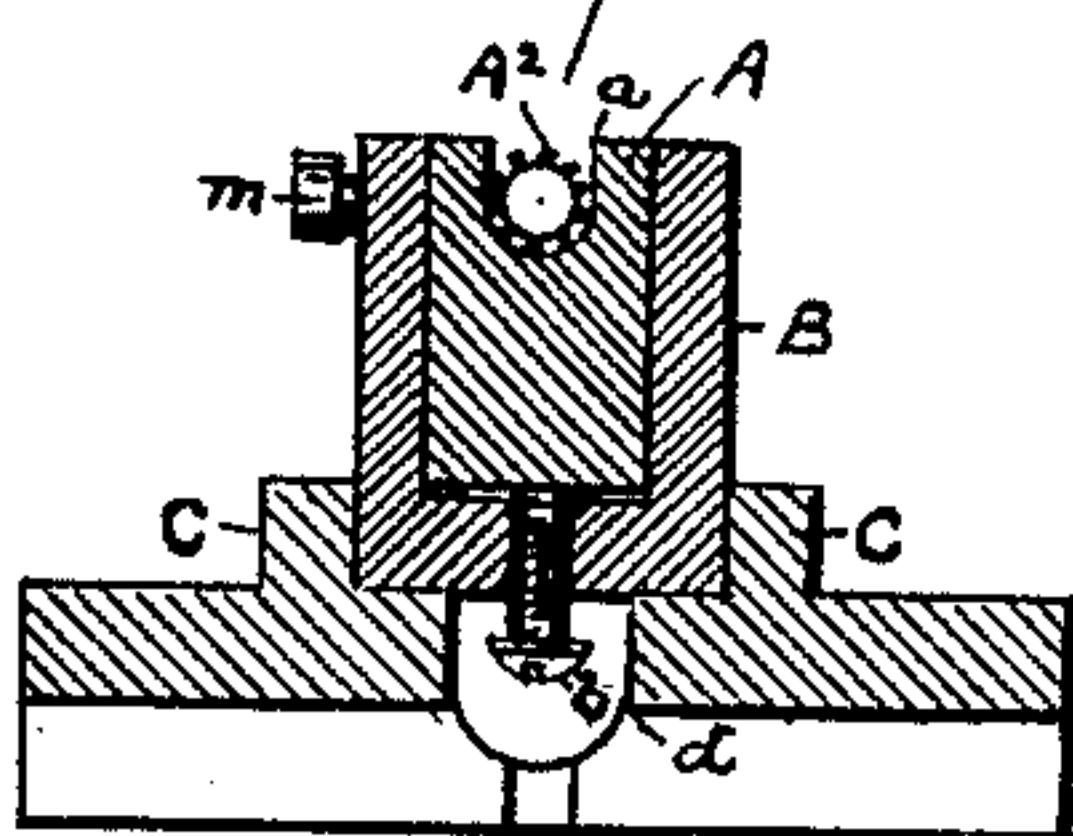


Fig. 4



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

GRANVILLE NUTTING, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO THE  
UNITED STATES WATCH COMPANY, OF SAME PLACE.

## PINION-HOLDER FOR PINION-POLISHING MACHINES.

SPECIFICATION forming part of Letters Patent No. 410,558, dated September 3, 1889.

Application filed April 29, 1889. Serial No. 309,091. (No model.)

*To all whom it may concern:*

Be it known that I, GRANVILLE NUTTING, of the city of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pinion-Holders for Pinion-Polishing Machines, of which the following is a full, clear, and exact description.

This invention relates to a holder for holding and supporting pinions—such as pinions of watch-movements—for the leaves to be polished. This improved pinion-holder is composed of a block shaped to partially surround the edge or perimeter, and thus to support the pinion with the upper portion of its perimeter exposed for the polishing device to act on its leaves, a carrier for said pinion-holding block and on which the block is vertically adjustable, a guideway to receive said carrier and along which it is adjustable, and two heads at opposite end portions of said guideway and on opposite sides of the pinion-holding block and adjustable lengthwise of said guideway to serve as end bearings for the opposite end pivots of the pinion, substantially as hereinafter described.

In the drawings forming part of this specification, Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is a central longitudinal vertical section, line 3 3, Fig. 1. Fig. 4 is a transverse vertical section, line 4 4, Fig. 3.

In the drawings, A is the block to support and hold the pinion. B is the carrier for block A. C is the guideway, and D D<sup>2</sup> are two heads at opposite end portions of the guideway, together making the pinion-holder of this invention, and severally specially constructed and relatively arranged as now to be described.

The pinion-holding block A has a recess *a* shaped to partially surround the edge or perimeter, with a portion (the upper) of the edge of the pinion A<sup>2</sup> exposed for its leaves to be polished by the polishing device, and all otherwise to hold and support the pinion at its edge or perimeter against the thrust and work of the polishing device downward on the pinion.

The block A is contained in the carrier B, on which it is vertically adjustable by means

of a set-screw *b*, which works on the under end of the block and screws through the bottom of the carrier, with its head presented at an opening *d* of the guideway.

The carrier B is held on a base-plate B<sup>2</sup>, Figs. 1 and 3, which fits the way of the guideway C. Again, the base-plate B<sup>2</sup> has a slot B<sup>3</sup> running in the direction of the guideway C, Fig. 3.

*f* is a headed screw, which is entered through the slot B<sup>3</sup> of base-plate B<sup>2</sup>, and is screwed into the guideway C and its head brought to a bearing against the upper side of the base-plate, thus fastening the carrier B on the guideway C. By loosening the set-screw *f* the carrier can be then adjusted lengthwise of the guideway C, and by then tightening the said screw made secure against movement.

Each head D D<sup>2</sup> is at the end of a horizontal screw-threaded rod *g*, screwing through vertical blocks E E<sup>2</sup>, having slotted base-plates F F<sup>2</sup>, receiving headed screws *h h*, screwing into the base-plate of the guideway C, and thus each head D D<sup>2</sup> is adjustable lengthwise of the guideway and independently of each other, not only directly on the guideway, but also on the block carrying it. *m m* are headed set-screws to fasten rods *g* after adjustment.

The heads D D<sup>2</sup> are on opposite sides of the pinion-holding block A and at opposite end portions of the guideway C, and in position to make a bearing for the pivots *k k* at opposite sides of the pinion A, and all so as to resist the thrust and work of the polishing device on and lengthwise of the pinion-leaves.

The pinion-holder herein described, obviously, is to be used in a pinion-polishing machine of suitable construction.

Preferably, as has been explained, the pinion-holding block A and the blocks E E<sup>2</sup>, carrying the heads D D<sup>2</sup>, are independently adjustable lengthwise of the slotted guideway C common to them.

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

1. A holder for pinions, for leaves of pinions to be polished, composed of a block A to hold and support the pinion at and with a portion of its perimeter exposed, and heads



D D<sup>2</sup> on opposite sides of the pinion-holding block A, in combination with a guideway C, having the block and heads D D<sup>2</sup> held thereon, substantially as described, for the purpose specified.

2. A holder for pinions for leaves of pinions to be polished, composed of a block A to hold and support the pinion at and with a portion of its perimeter exposed, a carrier B for said block A, and the block adjustable vertically thereon, and heads D D<sup>2</sup> on opposite sides of the pinion-holding block A, in combination with a guideway C, having the block and heads D D<sup>2</sup> held thereon, substantially as described, for the purpose specified.

3. A holder for pinions for leaves of pin-

ions to be polished, composed of a block A to hold and support the pinion at and with a portion of its perimeter exposed, and heads D D<sup>2</sup> on opposite sides of the pinion-holding block A, and each carried by and adjustable on separate blocks E E<sup>2</sup>, in combination with a guideway C, having the several blocks A E E<sup>2</sup> held thereon, substantially as described, for the purpose specified.

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

GRANVILLE NUTTING.

Witnesses:

ALBERT W. BROWN,  
FRANCES M. BROWN.