

J. L. OTIS.  
GRINDING-MACHINE.

No. 182,284.

Patented Sept. 19, 1876.

Fig. 1.

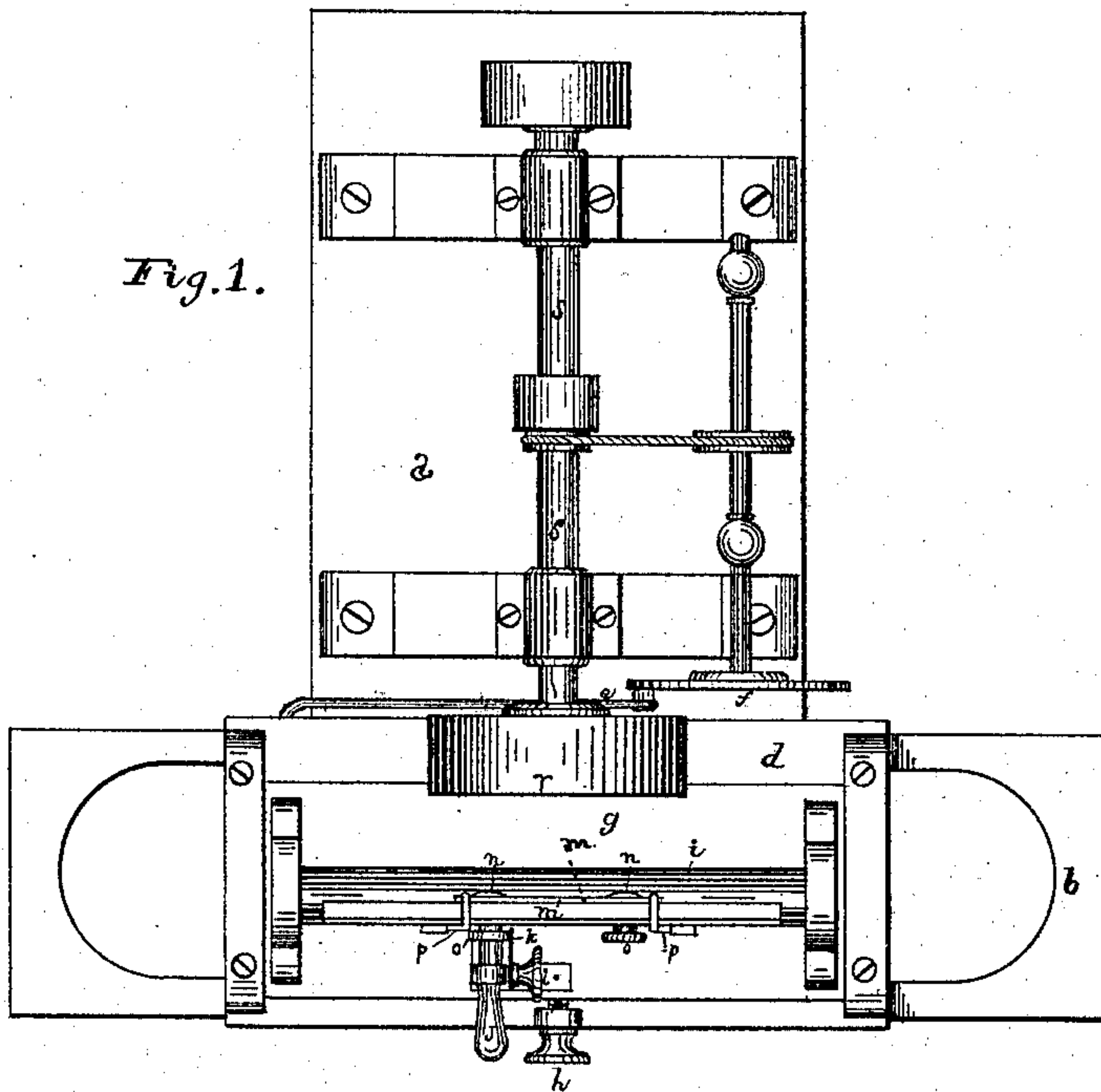


Fig. 3.

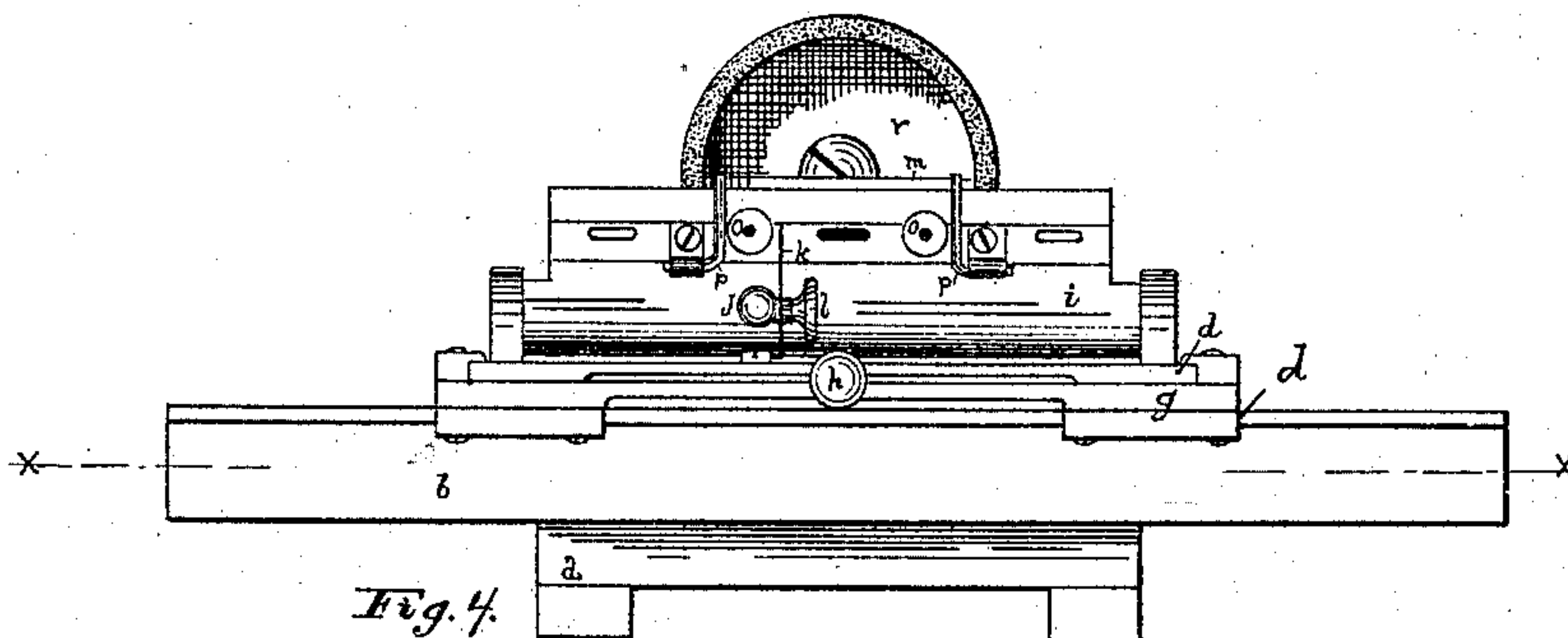
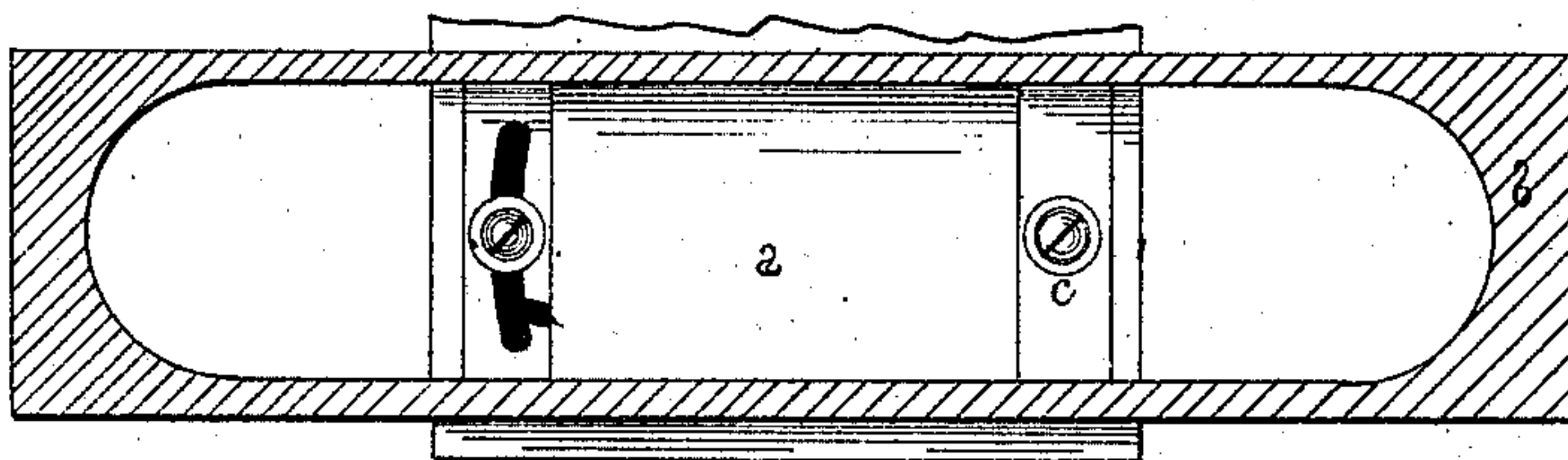


Fig. 4.



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2 Sheets—Sheet 2.

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Fig. 2.

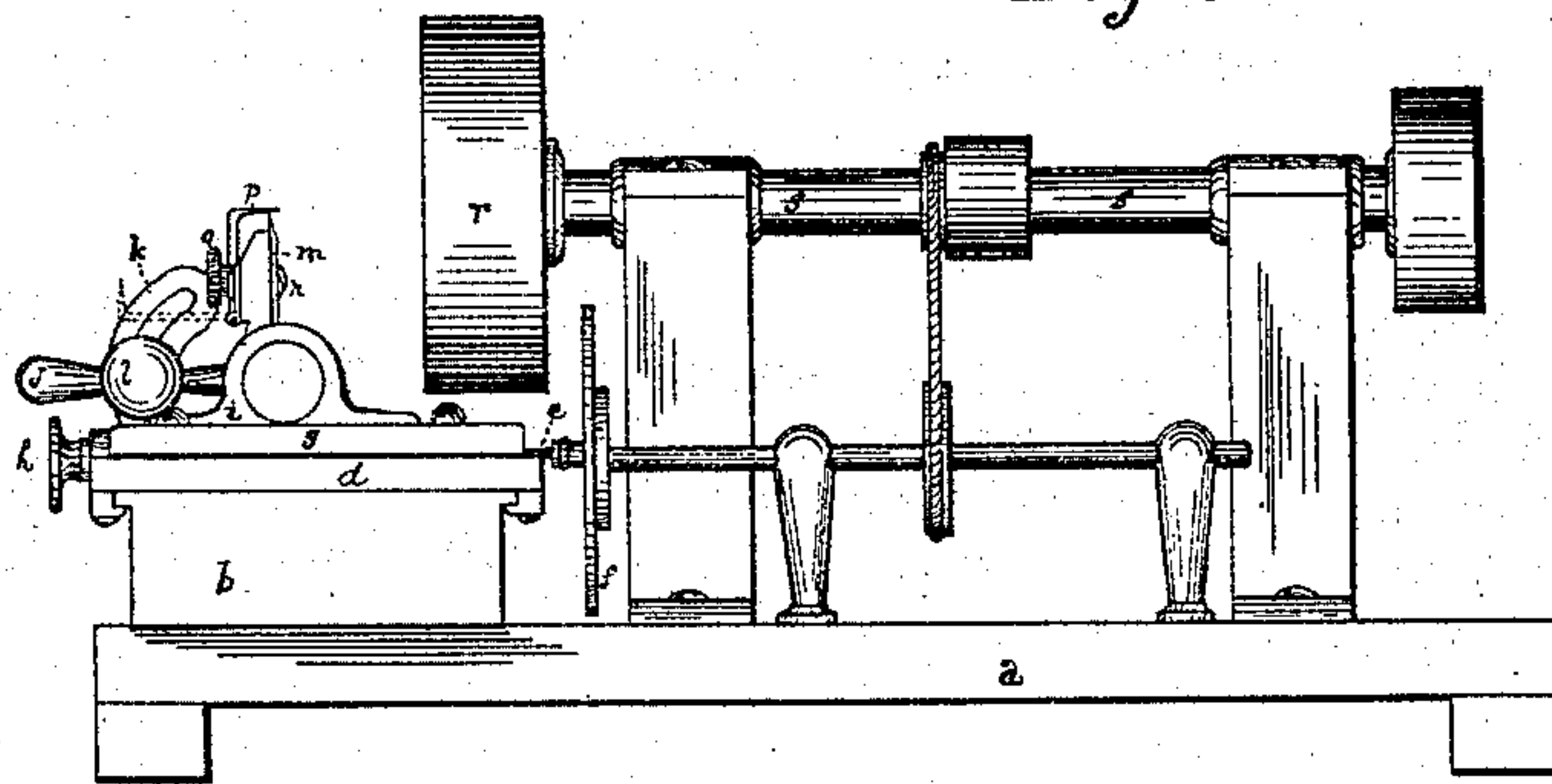
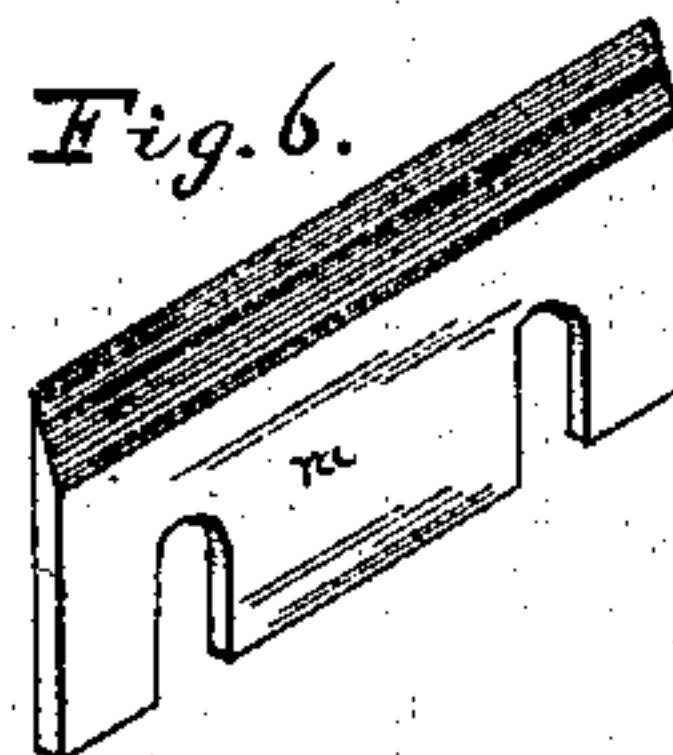


Fig. 5.



Fig. 6.



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# UNITED STATES PATENT OFFICE.

JOHN L. OTIS, OF LEEDS, MASSACHUSETTS.

## IMPROVEMENT IN GRINDING-MACHINES.

Specification forming part of Letters Patent No. **182,284**, dated September 19, 1876; application filed July 10, 1876.

*To all whom it may concern:*

Be it known that I, JOHN L. OTIS, of Leeds, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements pertaining to a Grinding-Machine, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a top view. Fig. 2 is a side view. Fig. 3 is an end view. Fig. 4 is a partial section on plane *x x*. Fig. 5 is a section of the grinding-wheel. Fig. 6 is a view of a planer-knife such as the machine grinds.

I will first describe the machine, and then specify the features of invention in the claims.

The letter *a* denotes the table; *b*, a ways-block pivoted thereon by means of pin or screw *c*. *d* denotes a slide, reciprocating lengthwise of the ways-block, its reciprocations given by the pitman *e* pivoted to the rotating disk *f*. *g* denotes a rest-block, moved toward and from the grinding-wheel by the screw *h*. *i* denotes a rest pivoted to the rest-block, partially rotatory, its angle of adjustment to the grinding-wheel governed by the arm *j* moving on the rack *k*, which is slotted and pierced by the set-screw *l*. *m* denotes a planer-knife under process of being ground to an edge, being fastened meanwhile to the rest by headed screws *n n* piercing the mortises in the planer-knife and in the rest, and bearing the thumb-nuts *o o*. The letters *p p* denote a gage pivoted to the rest and capable of swinging up, as shown in Fig. 2, to regulate the setting of

the planer-knife by its edge. The letter *r* denotes a grinding-wheel on a rotary shaft, *s*, bearing a lateral circumferential flange, the side edge of which does the grinding. This grinder may well, and preferably, be an emery-wheel.

One feature of the invention is the combination of a laterally-flanged grinding-wheel with a grinding-rest reciprocating across the face (not the circumference) thereof, and made pivotally adjustable, so that the angle of the stock, relatively to the grinder, can be adjusted at pleasure, thus determining at pleasure the concavity of the bevel which forms one side of the edge.

Another feature of the invention consists in the wheel and gages combined with the rest, and operating to allow the user to set the knife to position for grinding by its edge.

I claim as my invention—

1. In combination, a flanged grinding-wheel, *r*, a rest, *i*, traveling across the grinding-face thereof, and a ways-block, *b*, pivotally adjustable with reference to such grinding-face, all substantially as described, and for the purpose set forth.

2. In combination, the grinding-wheel *r*, the rest *i*, and the pivoted gage *p*, moving on and off the edge of the blade to be sharpened, all substantially as described.

JOHN L. OTIS.

Witnesses:

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L. B. FIELD.