

F. J. NOECHEL.  
Machine for Dressing Eyeglass-Frames.  
No. 214,786. Patented April 29, 1879.

Fig. 1.

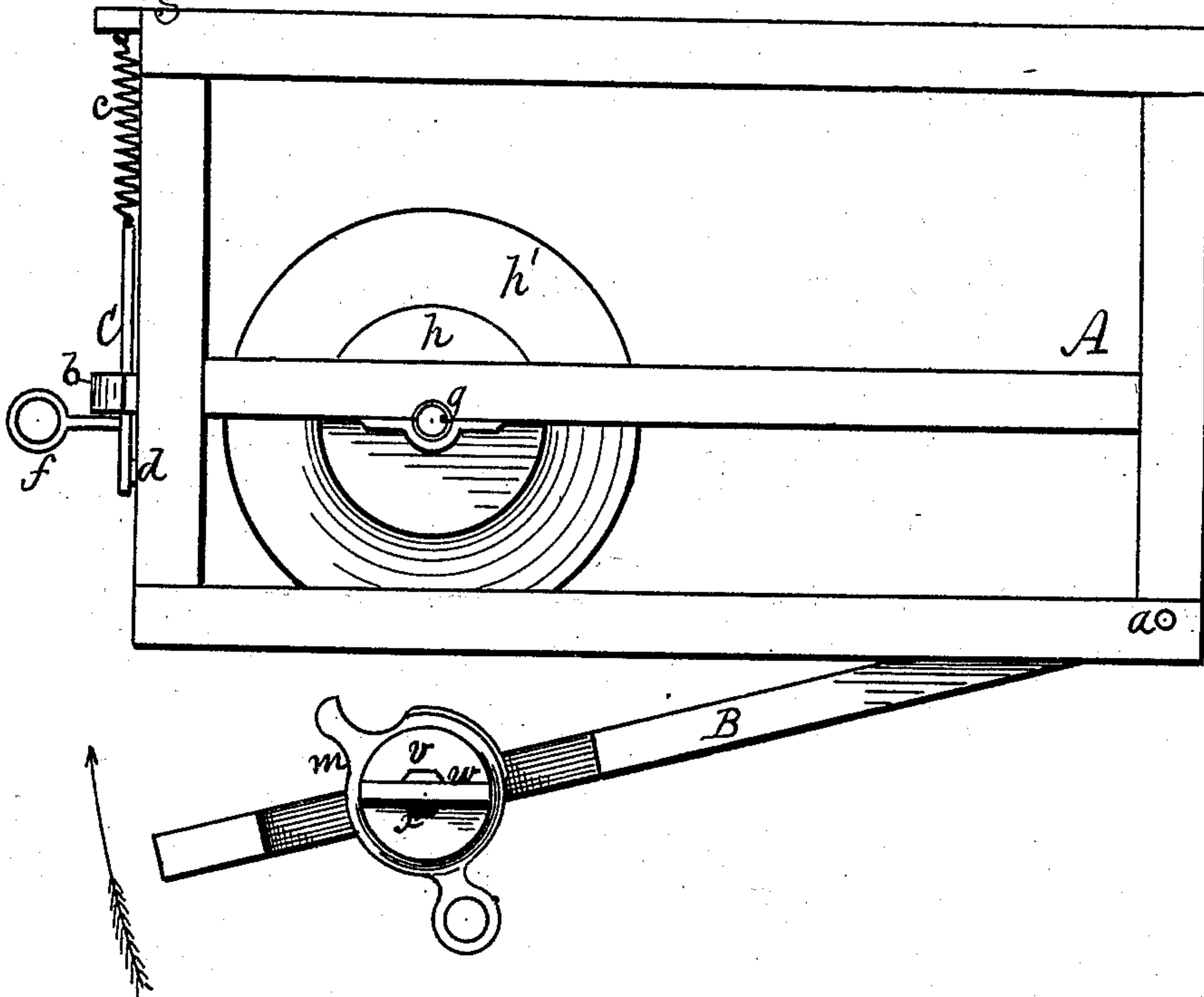
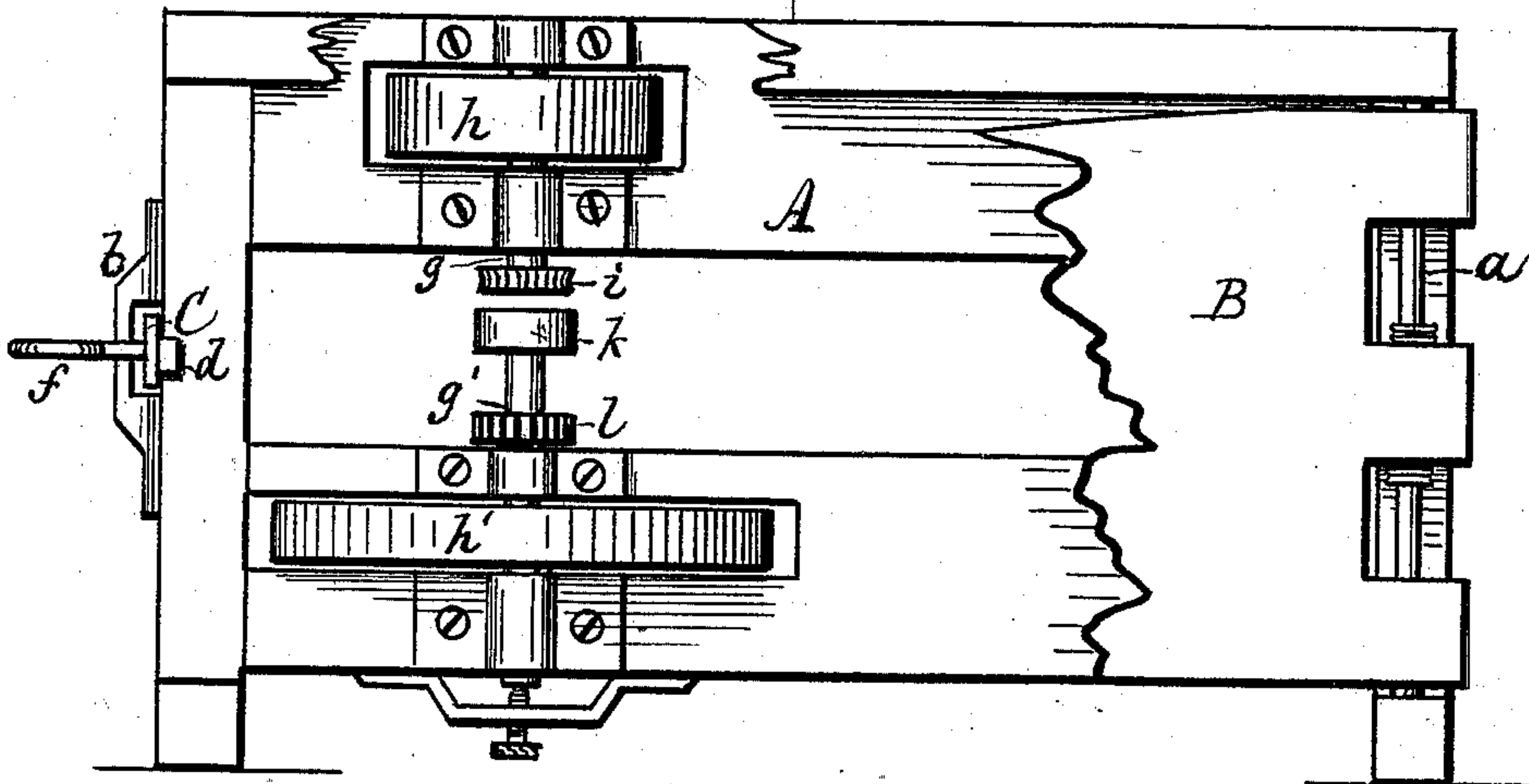


Fig. 2.



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Fig. 3.

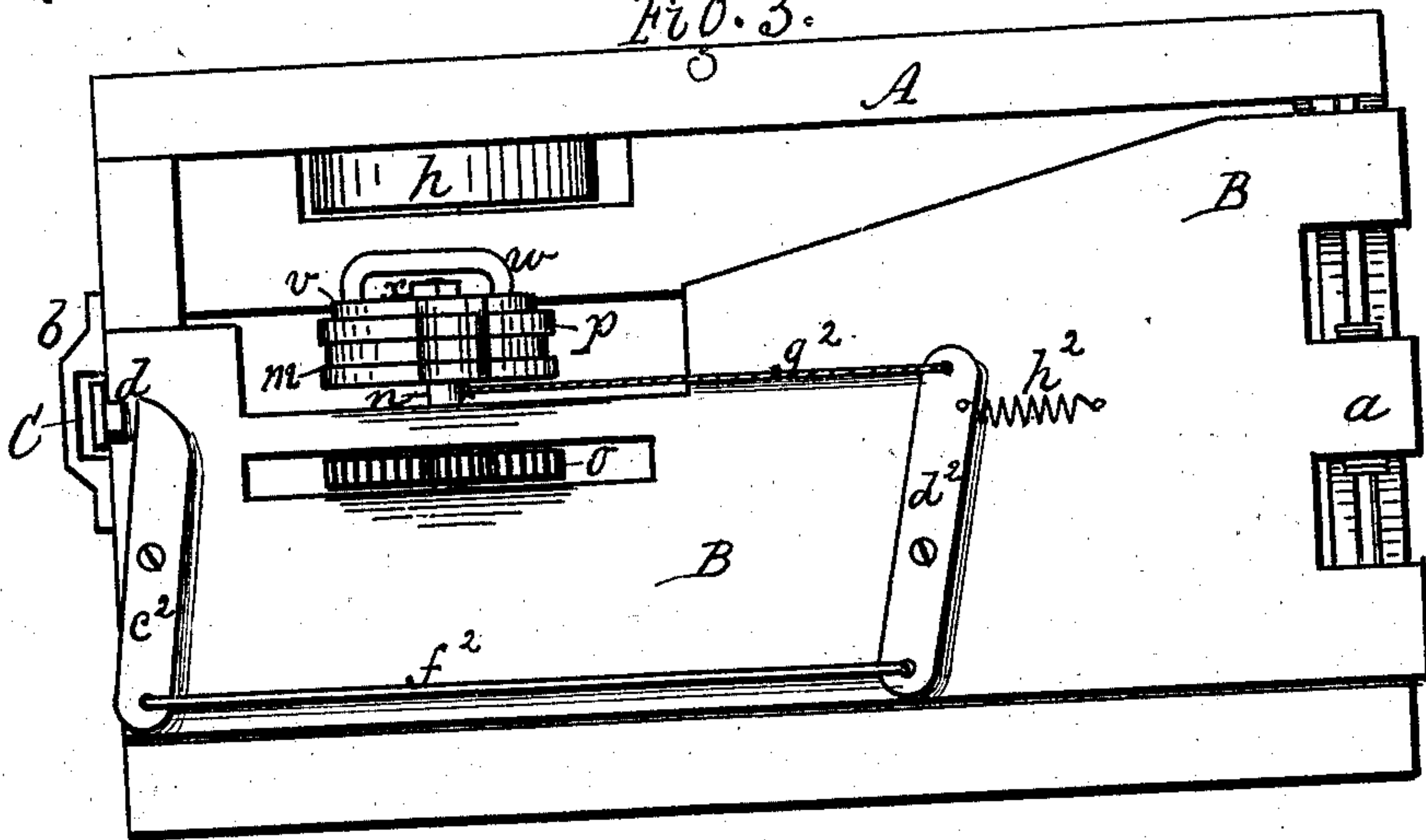


Fig. 4.

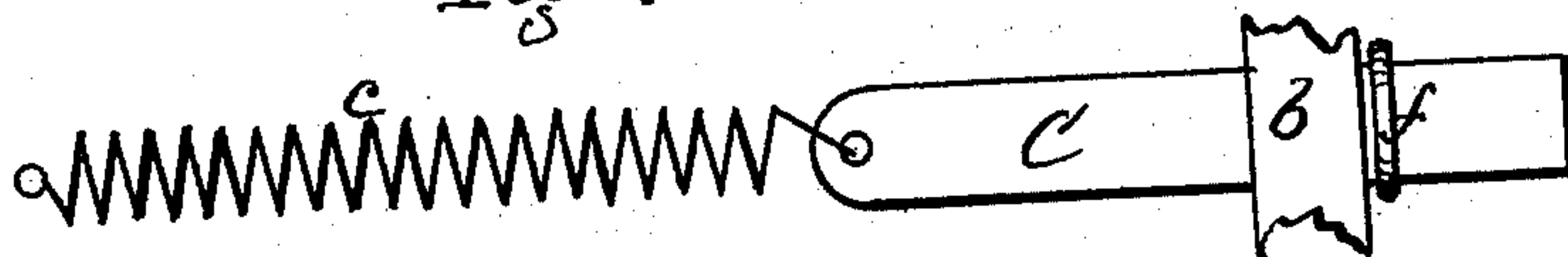


Fig. 5.

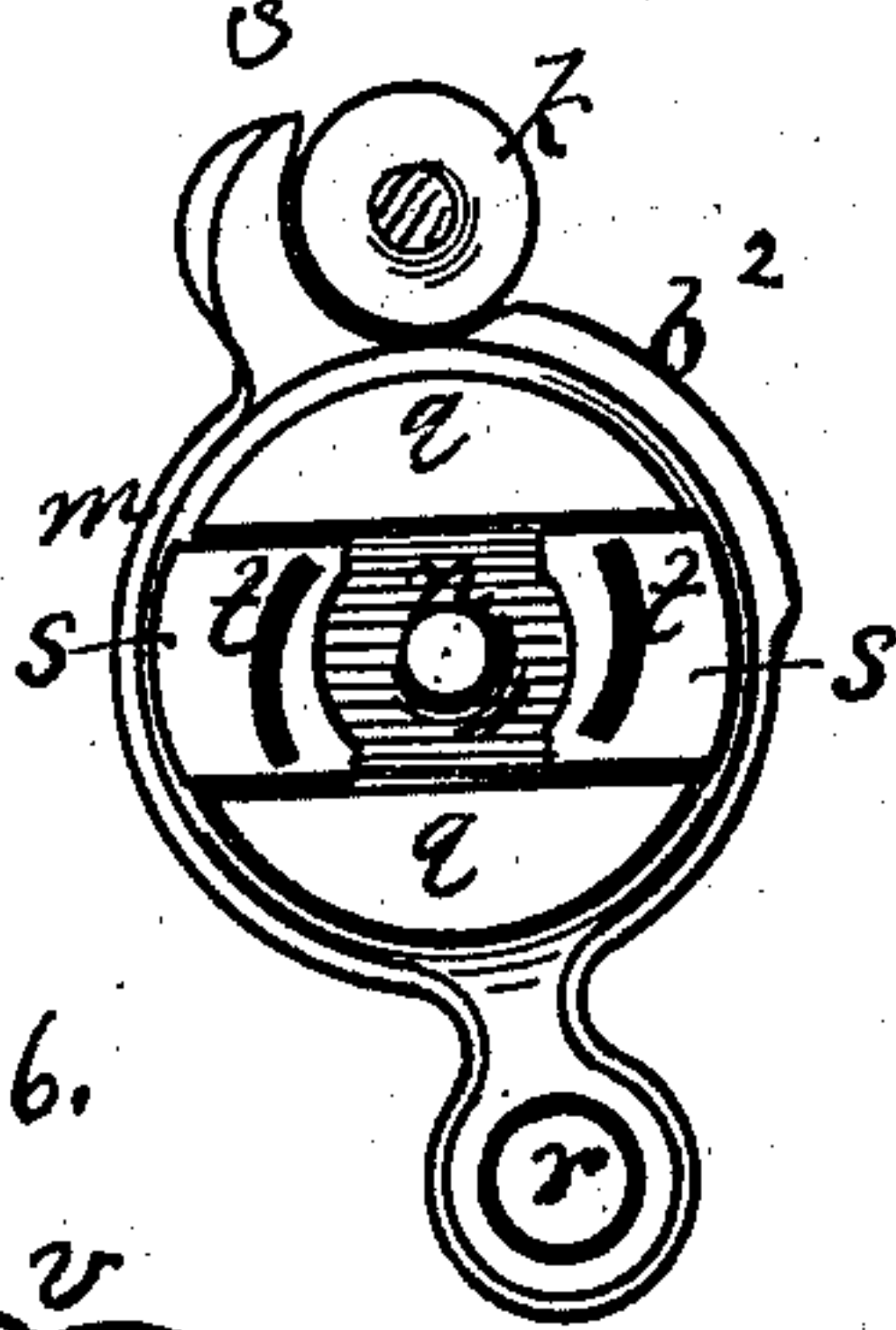


Fig. 6.

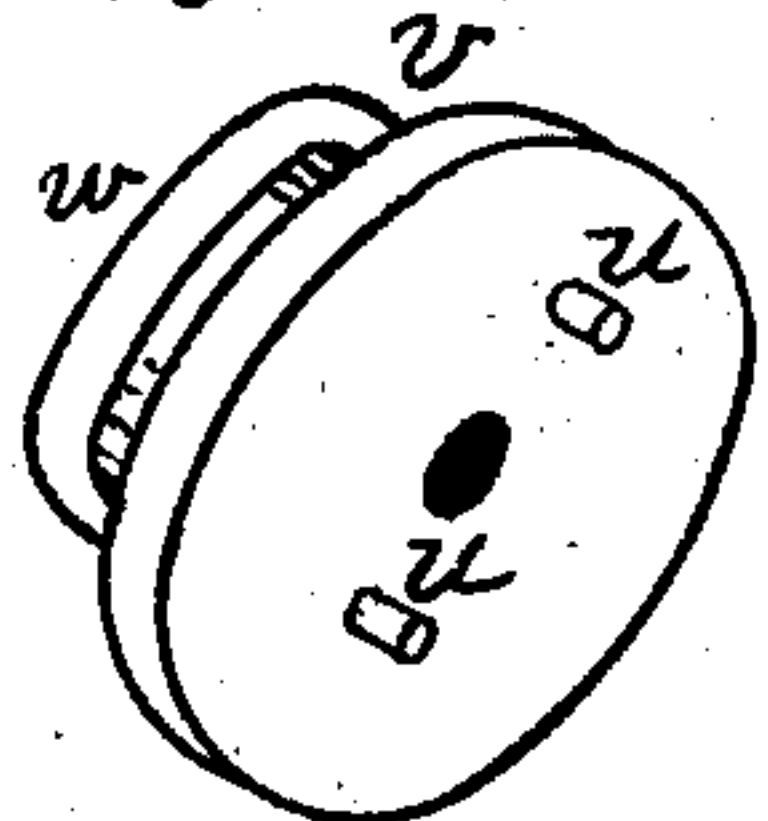


Fig. 9.

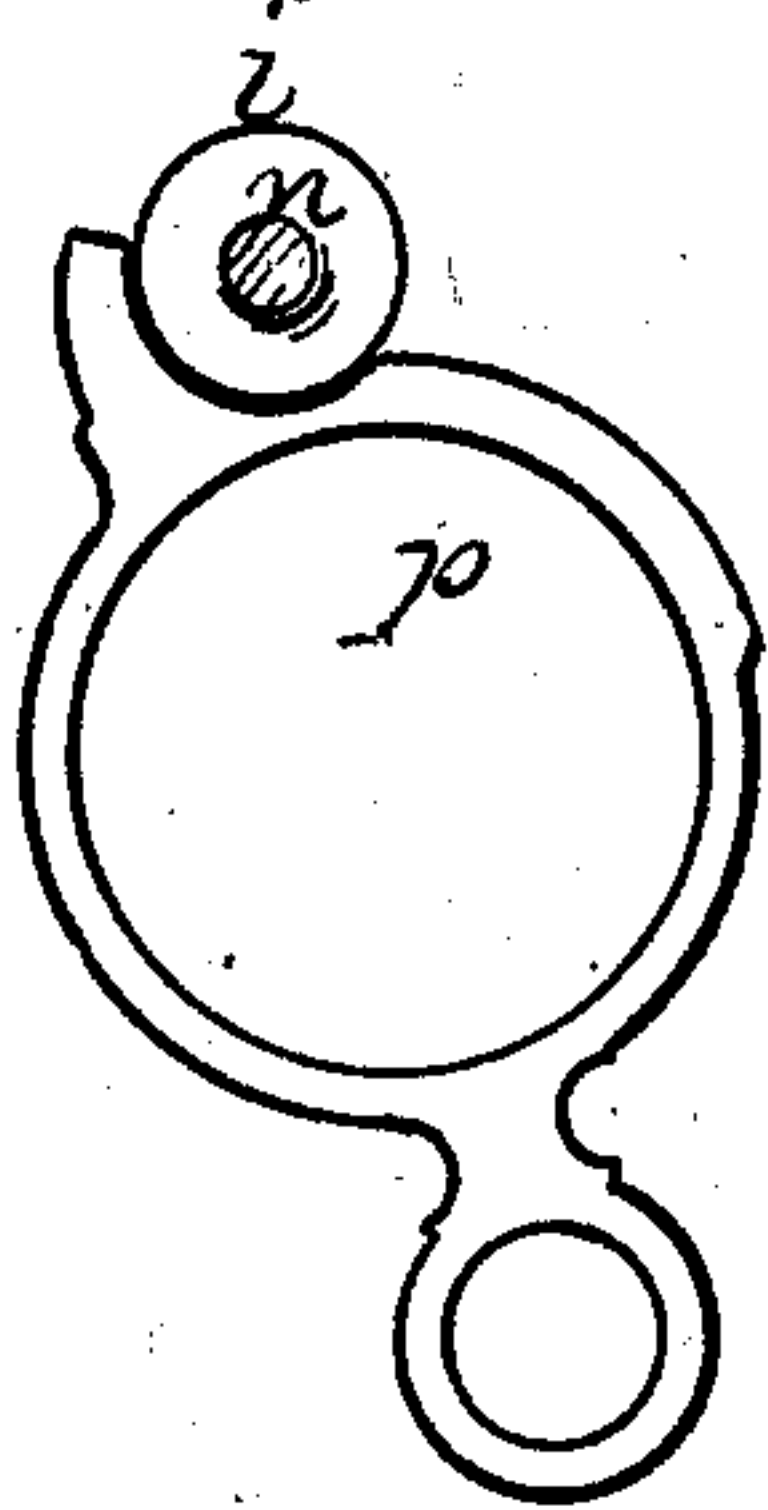


Fig. 7.

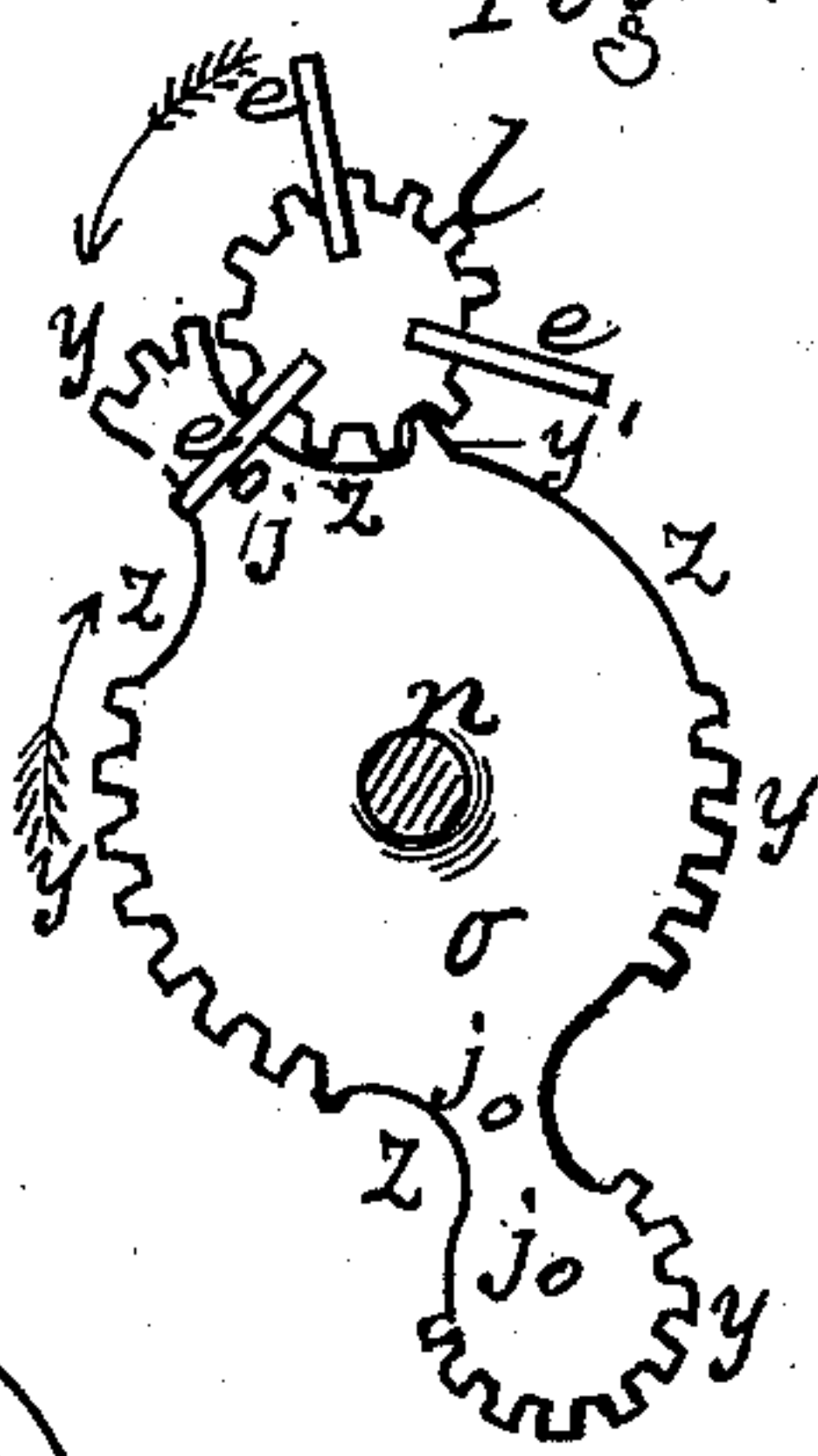
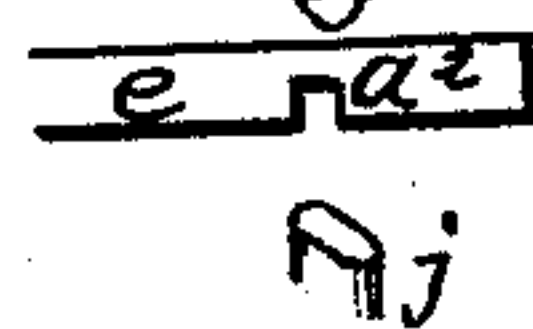


Fig. 8.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR DRESSING EYEGLASS-FRAMES.

Specification forming part of Letters Patent No. **214,786**, dated April 29, 1879; application filed March 12, 1877.

*To all whom it may concern:*

Be it known that I, FRANK J. NOECHEL, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Machines for Dressing Eyeglass-Frames; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan of my improved machine, showing the gate carrying the pattern swung partially open. Fig. 2 is a front elevation of the same with the gate broken away. Fig. 3 is a similar view, showing the gate in place. Figs. 4, 5, 6, 7, 8, and 9 are detail views.

My improvement relates to means for dressing or smoothing the frames of eyeglasses. Such work has usually been done by hand. It is my object to do the same by machinery in an expeditious and perfect manner.

The invention consists in the construction and arrangement of parts hereinafter more fully described and definitely claimed.

My machine works on the principle of the lathe for turning irregular forms, a pattern being used which, in revolving, guides the frame properly to the cutter.

A represents the frame, which may be of any convenient form. B is the swinging gate, which is pivoted at *a* to the frame, and has a spring or weight so combined with the hinge as to throw the gate open. C, Figs. 1 and 4, is a catch for holding the gate closed. It slides through a bearing, *b*, and is attached to a spring, *c*, which draws it back. At the front end it has a lug, *d*, which, when the catch is drawn out by the handle *f*, catches over the end of the gate and holds it closed.

The means for releasing the catch will be presently described.

*g g*<sup>1</sup> are two short shafts in the frame A, driven, respectively, by pulleys *h h*<sup>1</sup>. These shafts are in the same line, and the upper one is designed to run rapidly, while the lower one runs slowly.

*i* is the cutter on the upper shaft, *g*, which dresses the edge of the eyeglass-frame. *k* is a roller on the end of the lower shaft, against which runs the guiding-pattern, and *l* is a

small pinion on the same shaft, with which engages the gear of corresponding form to the pattern for imparting rotary motion to the eyeglass-frame. These parts are clearly shown in Figs. 1 and 2.

*m* is the form or pattern, which is attached to a short shaft, *n*, on the swinging gate. *o* is the corresponding irregular gear attached to the same shaft. These are of the same shape as the eyeglass-frame *p*, and engage, respectively, with the roller *k* and pinion *l*, as before described, while the eyeglass-frame, which is placed upon the pattern *m*, comes in line with the cutter *i*.

The frame fits upon a central circular collar, *q*, of the pattern, while the circular handle or finger-piece rests upon a round stud, *r*.

Inside the collar *q* are two sliding blocks, *s s*, Fig. 5, which are expanded out laterally to clamp or tighten the frame in place. These blocks have eccentric grooves *t t*, in which fit corresponding studs *u u* of a circular piece, *v*, Fig. 6, that rests on top of the pattern. This piece has a handle, *w*, by which it is turned, and the piece or cam is clamped in place on the pattern by a nut, *x*, resting on a thread cut on the upper end of the shaft *n*.

By turning the cam in one direction or the other, the blocks will be correspondingly moved out or in.

The upper portion of the pattern on which the frame rests is of a little less diameter than the lower portion, to enable the edges of the cutter to cut around the curved edges of the frame.

The irregular gear *o* is cut with teeth *y y* on the sides and ends, as shown in Fig. 7, leaving blanks *z z*, and it has on one side, next the smaller end, a single tooth, *y'*. This tooth is the point that first engages with the pinion *l* when the gate is closed. This imparts a rotary motion to the gear in the direction indicated by the arrow, and the pinion then falls into the curved space or blank *z*.

*e e e* are arms attached to the pinion *l*, and *j j j* are pins projecting up from the gear. When the pinion falls into the curved blank above named, one of the arms strikes the pin *j* at that end, as shown in Fig. 7, and pushes the gear bodily outward, so that the teeth at the small end of the gear will be brought



around in position to engage with the pinion. This is essential, since the teeth cannot be made to fill the blank. The under sides of the arms *e e* have notches *a*<sup>2</sup>, Fig. 8, and the pins *j j* are made elongated in cross-section. The arm first strikes the pin flatwise; but as the gear turns the pin is brought to bear edge-wise against the arm, and when the end of the gear is brought into engagement with the pinion, as just described, the pin passes through the notch, and is free, allowing the gear to move on.

The opposite end is arranged in the same manner, having two pins instead of one. Those portions of the eyeglass-frame which rest against the nose, and to which the spring is attached, are not dressed, and the arrangements of the teeth upon the gear are made relatively to this, and the pattern *m* has also an offset or ridge, *b*<sup>2</sup>, to prevent the edge of the frame striking the cutter at such point.

*c*<sup>2</sup> and *d*<sup>2</sup> are two pivoted rock-arms attached to the gate, as shown in Fig. 3. These two arms are connected by a stiff rod, *f*<sup>2</sup>, at the bottom. The upper end of rock-arm *d*<sup>2</sup> is connected with the shaft *n* by a cord, *g*<sup>2</sup>, which winds upon said shaft when it is turned. The upper end of arm *d*<sup>2</sup> is retracted by a spring, *h*<sup>2</sup>. The upper end of arm *c*<sup>2</sup> rests opposite to the lug *d*, and when thrown out presses said lug off from the gate and releases the latter, so that it can swing open. This occurs only when a full revolution of the gear has taken place, and the cord is then wound up. As soon as the gate is opened the reaction of the cord turns the pattern and gear around to receive a new frame, and also throws the rock-arm back, so that the catch can re-engage with the gate.

Various modifications might be made. A movable carriage might be employed in place of the gate. A gear might be employed in place of the arms *e* and pins *j*, and the machine might be used vertically instead of horizontally; or the pinion and cutter might be made to travel around the pattern and gear, thus reversing the motion, but producing a similar effect.

Having thus described my invention, what I claim herein as new is—

1. In a machine for dressing eyeglass-frames, the combination, with the cutter *i*, guide-roller *k*, and pinion *l*, resting on the separate shafts *g g*<sup>1</sup>, of the irregular gear *o* and pattern *m*, of the same form as the eyeglass-frame to be dressed, attached to a separate shaft, *n*, which moves up and back on a swinging gate or carriage, the pattern bearing on its top the eyeglass-frame *p*, the whole so arranged, as described, that the gear *o* engages with the pinion *l*, the pattern *m* with the roller *k*, and the eyeglass-frame *p* with the cutter *i*, as shown and described, and for the purpose specified.

2. The irregular gear *o*, corresponding in form to the pattern *m*, constructed with the teeth *y y y y* on the sides and ends, with intervening blank spaces, *z z z z*, and provided with the tooth *y'*, as shown and described, and for the purpose specified.

3. The combination, with the pinion *l* and irregular gear *m*, of the arms *e e* upon the pinion and the pins *j j* upon the gear, or equivalent, for the purpose of pushing the gear from the pinion, to produce re-engagement over the blank spaces of the gear, as and for the purpose specified.

4. The combination, with the pattern *m*, of the blocks *s s*, sliding in said pattern, provided with the eccentric grooves *t t*, and the cam *v*, provided with pins or studs *u u*, engaging with said grooves, as and for the purpose specified.

5. The combination, with the frame *A* and swinging gate *B*, of the slide *C*, with catch *d* and the spring *c*, as shown and described, and for the purpose specified.

6. The combination, with the catch *C*, provided with the lug *d*, of the rock-arms *c*<sup>2</sup> *d*<sup>2</sup>, connected by a stiff rod, *f*<sup>2</sup>, at the bottom, and a cord, *g*<sup>2</sup>, connecting with the pattern-shaft, so that the turning of said shaft will disengage the catch and release the gate automatically, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FRANK J. NOECHEL.

Witnesses:

R. F. OSGOOD,  
JACOB SPAHN.