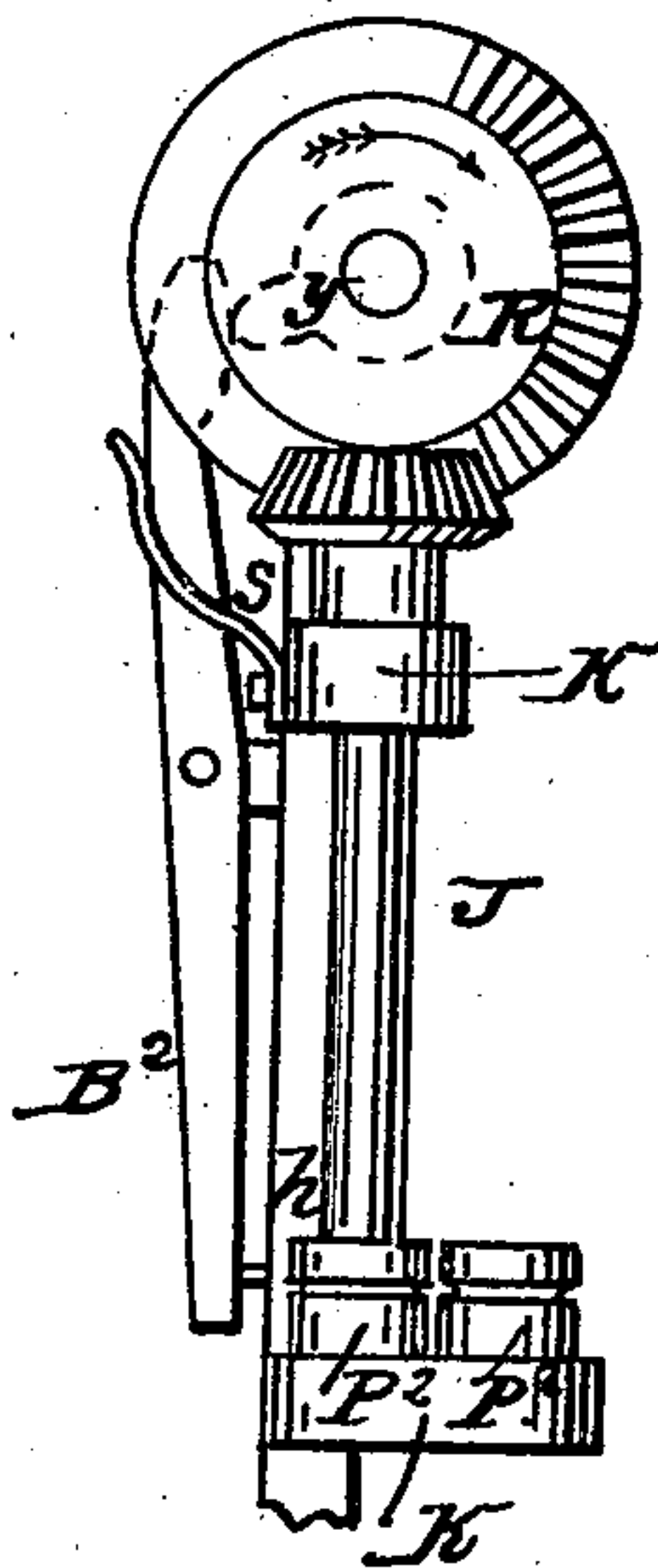
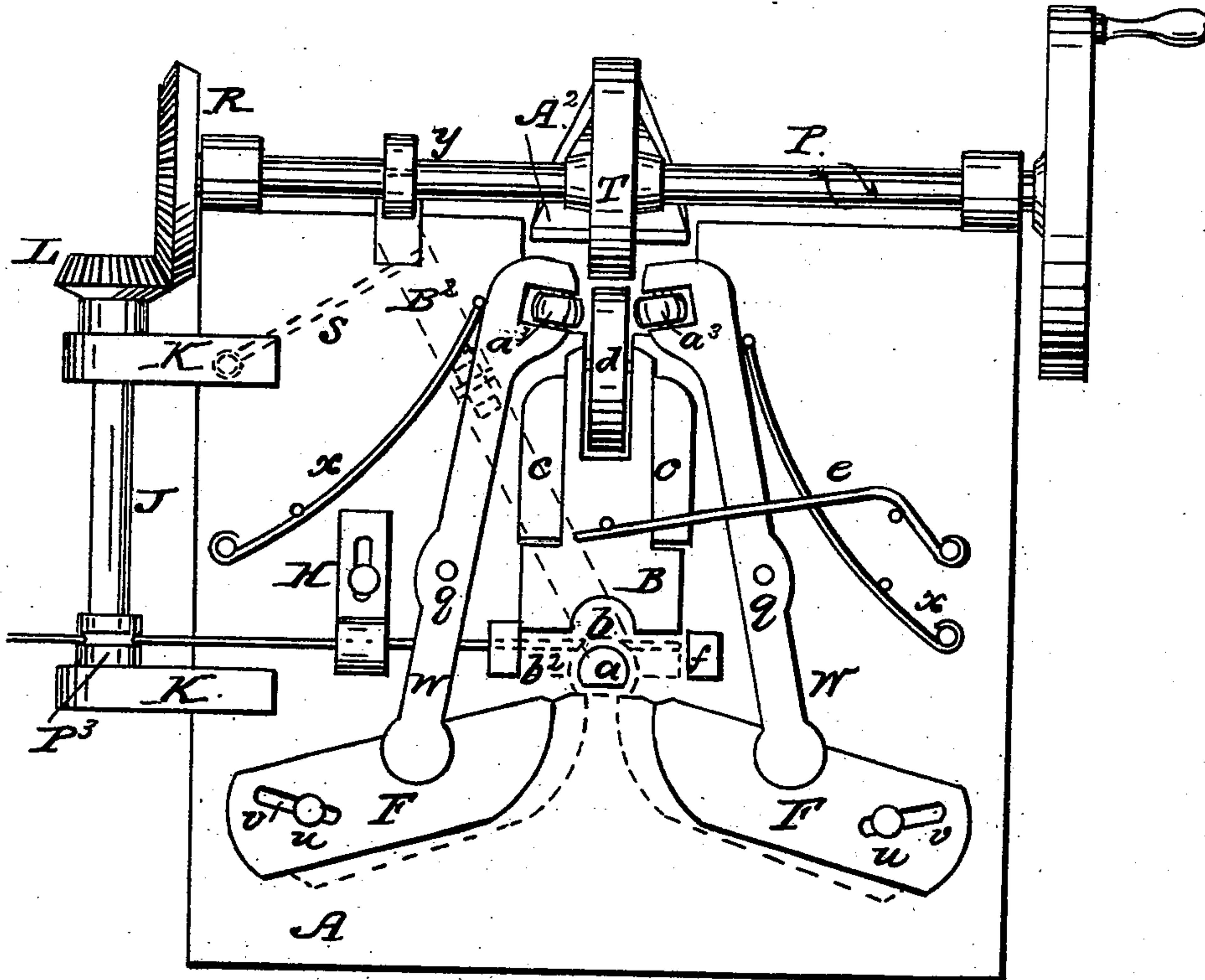


## Making Metal Rings.

**No. 85,336.**

**Patented Dec. 29, 1868.**



*Witnesses*

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# United States Patent Office.

JOHN SIDDONS, OF ROCHESTER, NEW YORK.

Letters Patent No. 85,336, dated December 29, 1868; antedated December 17, 1868.

## IMPROVED MACHINE FOR MAKING RINGS.

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 SIDDONS, of the city of Rochester, in the State of New York, have invented a new and useful Ring-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a front elevation.

Figure 2 is an end view.

Like letters of reference indicate corresponding parts.

The nature of this invention will be better understood from the drawings and specifications.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

On a suitable plate, A, (or, if preferred, a frame can be substituted,) I fasten a shaping-iron, *a*, made in the form that the wire is required to be bent.

Above the shaping-iron *a*, I place a slide, B, which works vertically between the guides *c*.

In a slot on top of the slide B, a roller, *d*, may be placed, and in the bottom a cavity, *b*, is formed, having the same shape as the top of the shaping-iron *a*.

I attach to the slide B one end of a spring, *e*. The other is fastened to the plate A.

On one side of the bottom of the slide B, I place a guide, *f*, and on the other side a steel die, *b*<sup>2</sup>, which has a hole through it, shown by dotted lines, fig. 1.

On each side of slide B, I pivot a lever, W, by bolts *q*.

On the bottom of each I suspend, by a socket-joint, or any suitable means, a slide, F, in their joint action forming a pair of pincers, and are held fast to the plate A by a bolt, *u*, working in a slot, *v*.

Against the top of the lever W, I place a spring, *x*, and I also have, in their upper ends, rollers *a*<sup>3</sup>.

Above the lever W, I place a shaft, P, on one end of which I key a half-blank bevel-spur wheel, R, and on the other end a pulley, by which it receives motion.

On this shaft I put an eccentric-wheel, T, which has on its rim a short transverse V-cam, A<sup>2</sup>, spreading each way, and, when in motion, passes between the levers W.

I also key on the shaft P a cam, Y, for the purpose of operating a pivoted lever, B<sup>2</sup>, shown in fig. 1 in dotted lines, and in fig. 2 in full lines.

This lever extends up to the cam Y on the shaft P, and down to the top of the shaping-iron *a*, and a pin, *h*, is attached to it, extending through the plate A, and above the shaping-iron *a*.

A spring, S, is attached to the plate A, to operate the lever B<sup>2</sup>, shown in dotted lines, fig. 1, and full lines, fig. 2.

On the edge of plate A, I place an upright shaft, J, sustained by two journal-boxes, K, bolted to the plate.

On the top I key a bevel-pinion, L, which gears into the half-blank bevel-wheel R.

On the bottom I fasten a friction feed-pulley, P<sup>2</sup>, fig. 2, and by the side of it I pivot another friction feed-pulley, P<sup>3</sup>, figs. 1 and 2, which may be made adjustable.

Between the lever W and the feed-roller P<sup>2</sup>, I put an adjustable guide, H, through the bottom of which there is a hole, shown by dotted lines in fig. 1.

The object of this machine is to cut and form rings, and bend the metal into any desired shape.

The operation of this machine is as follows:

The wire is placed between the feed-rollers P<sup>2</sup> and P<sup>3</sup>, and passed through the guide H, then under the lever W, and through the hole in the die *b*<sup>2</sup>.

The shaft P being set in motion, and during the time that the pinion L is in gear with the spur-wheel R, the wire is carried through to the guide *f*; then the pinion L is thrown out of gear by the blank portion of the spur-wheel R coming opposite to it, and stops the feed-pulleys P<sup>2</sup> and P<sup>3</sup>.

The eccentric portion of the wheel T passes over the pulley *d*, and forces down the slide B, and cuts off the wire, and bends the ends in a horizontal line with the plate A, shown in dotted lines, fig. 1, and at the same time gives the metal the shape of the cavity *b* and the top of the shaping-iron *a*.

The V-shaped cam A<sup>2</sup> then passes between the upper ends of the lever W, (the slide B being at its extreme downward position, shown by red lines S in fig. 1,) and forces the tops apart, and draws the points of the forming slides F against the ends of the wire, and joins them together in the form of the bottom of the shaping-iron *a*.

After the cams and eccentric-wheel have performed their several functions, the springs *x* and *e* throw the levers W, and slides B and F, into the position to receive and form another ring, and the cam Y, operating on the lever B<sup>2</sup>, forces out the top, thereby driving the pin *h* through the plate behind the ring, pushing it off the shaping-iron.

The cavity *b* and shaping-iron *a* may be made any desired form into which it is required to mould the metal.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The forming-dies F, and the forming and cutting-die B, and the fixed cutting-die *b*<sup>2</sup>, in combination with the shaping-iron *a*, all acting conjointly, for the purposes herein shown and described.

2. The eccentric-cam wheel T, in combination with the die B, levers W, and forming-dies F, as and for the purpose set forth.

3. The spring-lever B<sup>2</sup>, with its pin *h* and cam Y, in combination with the shaping-iron *a* and reciprocating cutting-die B, as and for the purposes herein shown and described.

4. The half-blank wheel R, pinion L, and shaft J, in combination with the feed-rollers P<sup>2</sup> and P<sup>3</sup>, all arranged in relation to the cam T, lever W, and cutting-die B, as described.

JNO. SIDDONS.

Witnesses:

JAS. LORENZO GAGE,

WM. S. LOUGHBOROUGH.