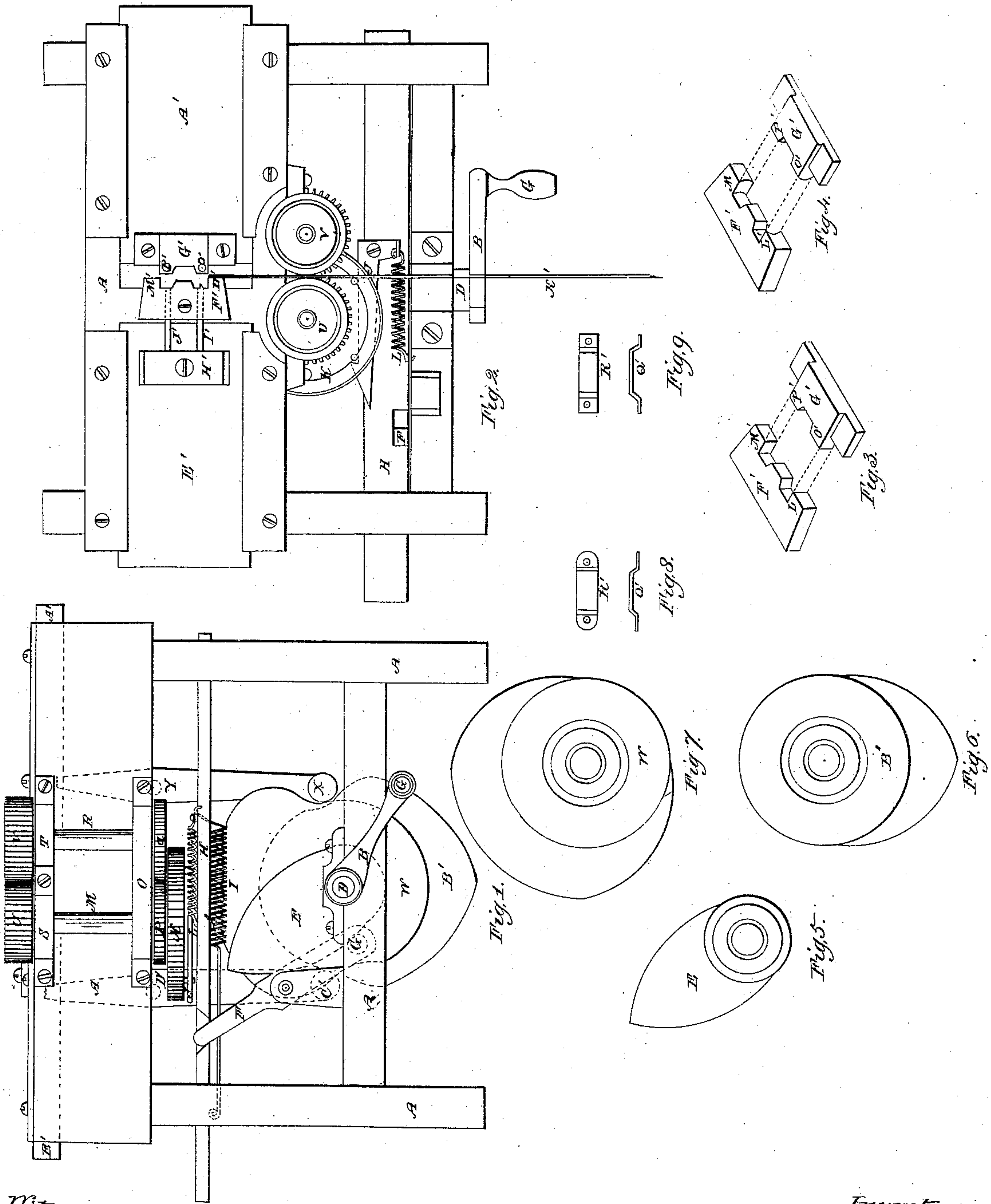


*A. Babbett,*

*Making Metal Loops,*

*N<sup>o</sup> 41,470.*

*Patented Feb. 9. 1864.*



*Witnesses.*

*A. Babbett,  
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*Avery Babbett.*



# UNITED STATES PATENT OFFICE.

AVERY BABBETT, OF AUBURN, NEW YORK.

## IMPROVED MACHINE FOR MAKING LOOPS.

Specification forming part of Letters Patent No. 41,470, dated February 9, 1864.

*To all whom it may concern:*

Be it known that I, AVERY BABBETT, of the city of Auburn, in Cayuga county and State of New York, have invented a new and useful Machine for the Manufacture of Loops, chiefly used in the manufacture of skates for securing the leather straps to the woods; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in so arranging and operating certain mechanical devices in one machine so that it shall produce in consecutive order from a rod of metal of suitable width and thickness the loops complete.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a side elevation of the machine, say the crank side. Fig. 2 is a plan of the top of the same. Figs. 3 and 4 are different kinds of dies for forming the loops and cutting the metal of suitable length and form. Figs. 5, 6, and 7 are profiles of the three cams placed on the shaft D. Figs. 8 and 9 are representations of the loops when made.

The same letters refer to the same parts in all the figures.

In Fig. 1, A A is the frame-work of the machine. B is the crank. C is the crank-handle. D is the cam-shaft to which the arm B of the crank is secured. On the cam-shaft D is placed first the cam E, Fig. 5. The periphery of the cam E operates the lever F, acting against a pin, G. The pin and a part of said lever are shown in dotted lines at G. The lever F extends up through the edge of the slide H, and the said slide is kept in contact with the lever F, and the lever F in contact with the cam by means of the spiral spring I.

Fastened to the slide H is a hook, J, shown partly in dotted lines, and operating freely on the screw shown at J, Fig. 2, and held against the pins in the pin-wheel K by means of a spiral spring, L.

The pin-wheel K is keyed to the shaft M. Above the said pin-wheel, and between it and the box O, is a spur-wheel, P, keyed to the shaft M. The wheel P engages another wheel, Q, of equal size, keyed to the shaft R.

The shafts M and R extend up through the boxes S and T, Fig. 1, and onto the upper ends of each is keyed the feed-rolls U and V.

The cam W, Figs. 7 and 1, operates the pin X in the lever Y. This lever is jointed to the frame-work A at Y, and extends up and is inserted into the slide A' at the top end, as shown in dotted lines, Fig. 1. The lever Y communicates motion from the cam W to the slide A'.

The cam B' operates the pin C', inserted into the lever D'. The lower end, as well as the upper, is shown in dotted lines. The lever D' is jointed to the frame-work A at D' and extends up and is inserted into the slide E' and communicates motion thereto.

The female die F' is firmly secured to the frame-work A and is stationary. The male die G' is operated by the slide A', to which it is firmly secured.

Onto the slide E is firmly secured a piece, H', and the punches I' and J' are secured thereto. Said punches extend forward from the said piece H' and operate through the female die F'. Now, if we turn the crank-handle G upward and once round from the position indicated in the drawings, the strip of metal K' will be moved forward and between the dies F' and G' by the turning of the rolls U and V by means of the connection with the cam E, as before stated. When this is done, the slide A' moves forward, carrying with it the male die. Immediately after it starts it cuts both ends of the piece of metal of which the loop is to be formed between the cutters L' and M' on the female die, and the cutters O' and P' on the male die. As it continues on in its course it forms the piece of metal so cut from the rod K' around the dies, and the piece itself assumes the form indicated at Q', Figs. 8 and 9. Before the dies part, and while the loop is between them, the cam B operates the slide E', which carries with it the punches I' and J', and by this means the two holes represented by circles near the ends of the loops at R' in Figs. 8 and 9 are made. The punches are withdrawn simultaneously with the opening of the dies and the machine assumes the position which it had when the operation commenced. In Fig. 3 the cutters L' M' O' P are straight lines. In Fig. 4 the cutters are curves.

The loops formed by the cutters in Fig. 4 are shown at Fig. 8. In Fig. 3 the cutters,

being right lines, the loops formed thereby are represented in Fig. 9.

Having above described the construction and operation of my invention, what I claim as new, and wish to secure by Letters Patent, is—

The dies F' and G' and the punches I' and J', in combination with the slides E' and A',

levers Y' and D', and cams W' and B', or their equivalent, when used in the manner and for the purpose above specified.

AVERY BABBETT.

Witnesses:

A. E. BABBETT,  
JNO. RISING.