(No Model.) 2 Sheets—Sheet 1.

# F. MOSSBERG.

## MACHINE FOR MAKING RINGS.

No. 525,961. Patented Sept. 11, 1894.

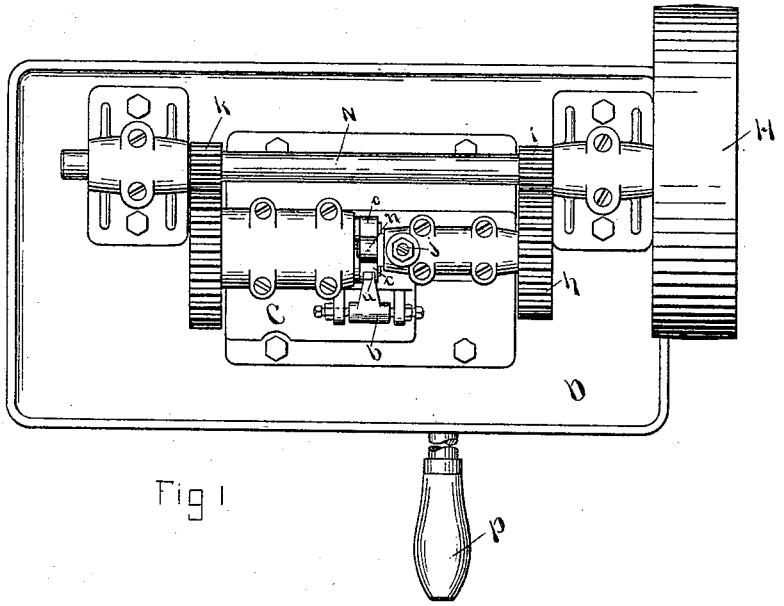


Fig 1

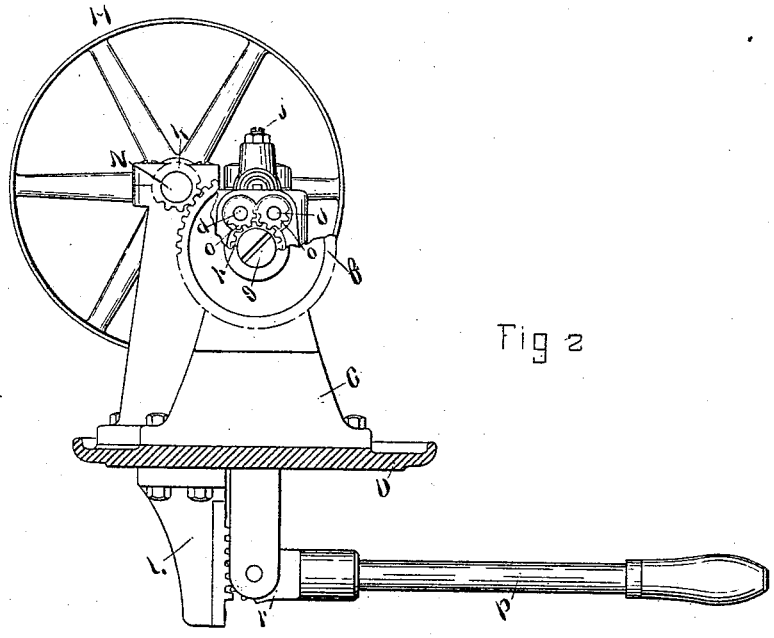


Fig 2

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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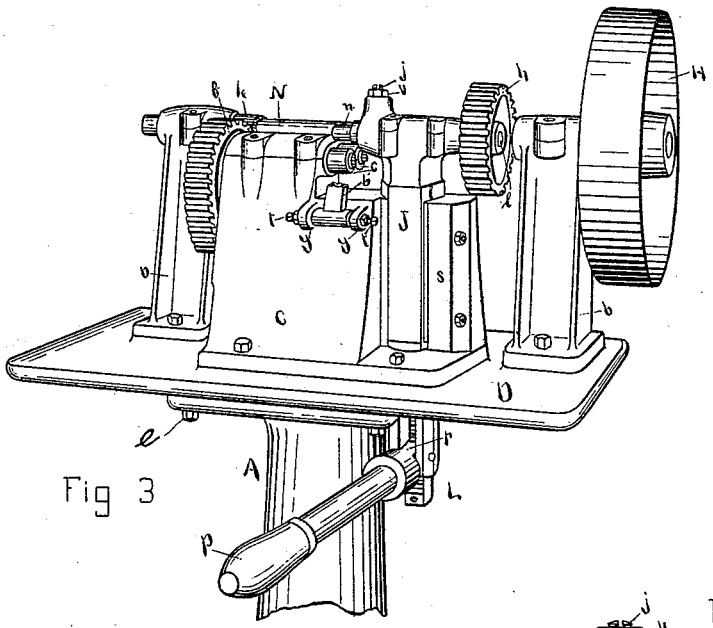



Fig 3

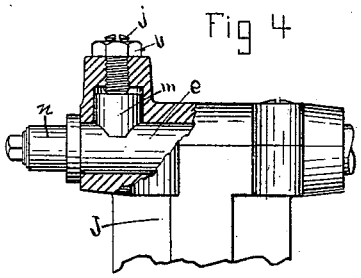
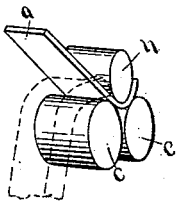



Fig 4

Fig 5



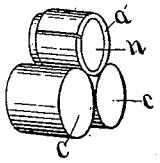




Fig 6


Fig 7

WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANK MOSSBERG, OF ATTLEBOROUGH, MASSACHUSETTS.

## MACHINE FOR MAKING RINGS.

SPECIFICATION forming part of Letters Patent No. 525,961, dated September 11, 1894.

Application filed June 19, 1893. Serial No. 478,069. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK MOSSBERG, of Attleborough, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Machines for Making Rings; 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, which form a part of this specification.

This invention relates to that class of metal rolling machines designed for rolling finger rings and like articles. It is fully illustrated in the accompanying drawings.

Figure 1, is a top view of the machine. Fig. 2, shows an end view of the same. Fig. 3, presents a front elevation of the main portion of the machine. Fig. 4, is a sectional view of a part of the upper roll bearing. Fig. 5, is a diagram representing the rolls starting on a ring. Fig. 6, represents the rolls finishing the same. Fig. 7, is a separate view of the ring when rolled.

The machine consists of a suitable standard A, the upper part of which, only, is shown, and a table or plate D, which is secured on the top of the standard by means of bolts *e*, *e*. The operating part of the mechanism is held on three stands secured on the top of the table D. The central stand C, that carries the rolls and their gearing, and two end stands *b*, *b*, that hold the driving shaft N, in bearings on their upper ends. There are three rolls used, two of which, *c*, *c*, are held on the inner ends of two short horizontal shafts *d*, *d*, held near to each other in parallel position in bearings to the left on the top of central stand A. The third roll *n*, is held over the center of space between the two rolls *c*, *c*, on the inner end of a short horizontal shaft *l*, which has a bearing in the upper end of a sliding block J, held in ways *s*, to the right of the central stand C. These ways are provided with the usual gibs and set screws to hold the block firm to the stand. The two rolls *c*, *c*, are made plain or otherwise on their peripheral faces, according to the surface designed for the ring to have; but the upper roll *n*, is made plain for the inside of the ring. The shaft *l*, of the roll *n*, receives motion from a pinion *i*, fast on driving shaft N, that engages in a gear wheel *h*, secured to roll shaft *l*.

The sliding block J, extends down through an opening in the table D, and is made forked in its lower end to receive the end of a hand lever P, which is held on a pivot in the fork, and has a segment of gear teeth *r*, made on its inner end, that engage in the teeth of a stationary rack L, bolted to the under side of the table D. By working this lever P, with the hand on the outer end, the block J, with roll *n*, can be pressed downward between the rolls *c*, *c*, to roll the stock *a*, or raised to remove the ring *a'*, when finished.

For the purpose of adjusting the roll *n*, that its axis when operating, shall be parallel to the axis of each of the two rolls *c*, *c*, to roll the ring straight and have the ends meet square, a screw *j*, is fitted to screw down in the top of the bearing of the shaft *l*, on to a saddle *m*, resting on that shaft, and a check-nut *v*, is put on the screw, to keep it from changing by the pressure of the work that holds the shaft up against the saddle.

The lower rolls *c*, *c*, are operated through a gear wheel *f*, that is pivoted on a stand *g*, fast in the side of the central stand. This gear *f*, engages with a pinion *k*, on the driving shaft N, and has a pinion *p*, on its inner hub that engages in pinions *o*, *o*, fast on the two roll shafts *d*, *d*. A guide *b'*, having a flange *u*, raised on one edge, is held between two adjusting screws *t*, *t*, that screw through the ears *y*, *y*, on the front of the central stand C. This guide *b'*, can be adjusted in position sidewise, by means of the screws *t*, to hold the pieces of metal to be rolled, in proper position for the rolls, and can be turned over forward out of the way, when necessary. The rolls are all changeable on their shafts or arbors; the two lower ones *c*, *c*, when a change in style is wanted, and the upper one *n*, when a change in the size is desired, as this latter roll is made just the size of the inside of the ring. In operation, the shaft *n*, is put in motion by means of a belt from the main shaft to the pulley H, and the three rolls *c*, *c*, and *n*, are turned by their respective gears, as described. The stock is first cut in pieces *a*, of the exact length necessary to make the rings *a'*. Then one end of a piece is bent up, as in Fig. 5, to

start the curve, and is put on the guide $b'$, over the rolls $c$, $c$, with one side against the flange $u$, of the guide. The roll $n$, is then brought down on the piece $a$, as in Fig. 5, by pressing down on the lever P, with sufficient force to cause the rolls to draw in and bend the piece around the roll $n$, as in Fig. 6. The gears that drive the rolls $c$, $c$, and $n$, are so proportioned as to give the rolls $c$, $c$, a little more surface speed than the roll $n$, so as to planish the outside of the ring, and cause the ends to meet close and prevent their springing apart, as they are otherwise liable to do.

Having thus described my improvements, I claim as my invention—

1. In a machine for rolling rings, the combination of a roll having a shaft held in bearings on one side only of the roll, two rolls having their shafts held in bearings on the opposite side of the roll only, a counter shaft to connect the outer ends of the roll shafts by means of gear wheels, and said gear wheels, substantially as described.

2. In a machine for rolling rings, the combination of a roll having a shaft or arbor held in bearings on one side of it only, two rolls having their shafts or arbors held in bearings on the opposite side only, with an adjustable guide swinging on pivots for holding the stock to be rolled, and having a guiding flange on one side, substantially as described.

FRANK MOSSBERG.

Witnesses:
BENJ. ARNOLD,
CHARLES HANNIGAN.