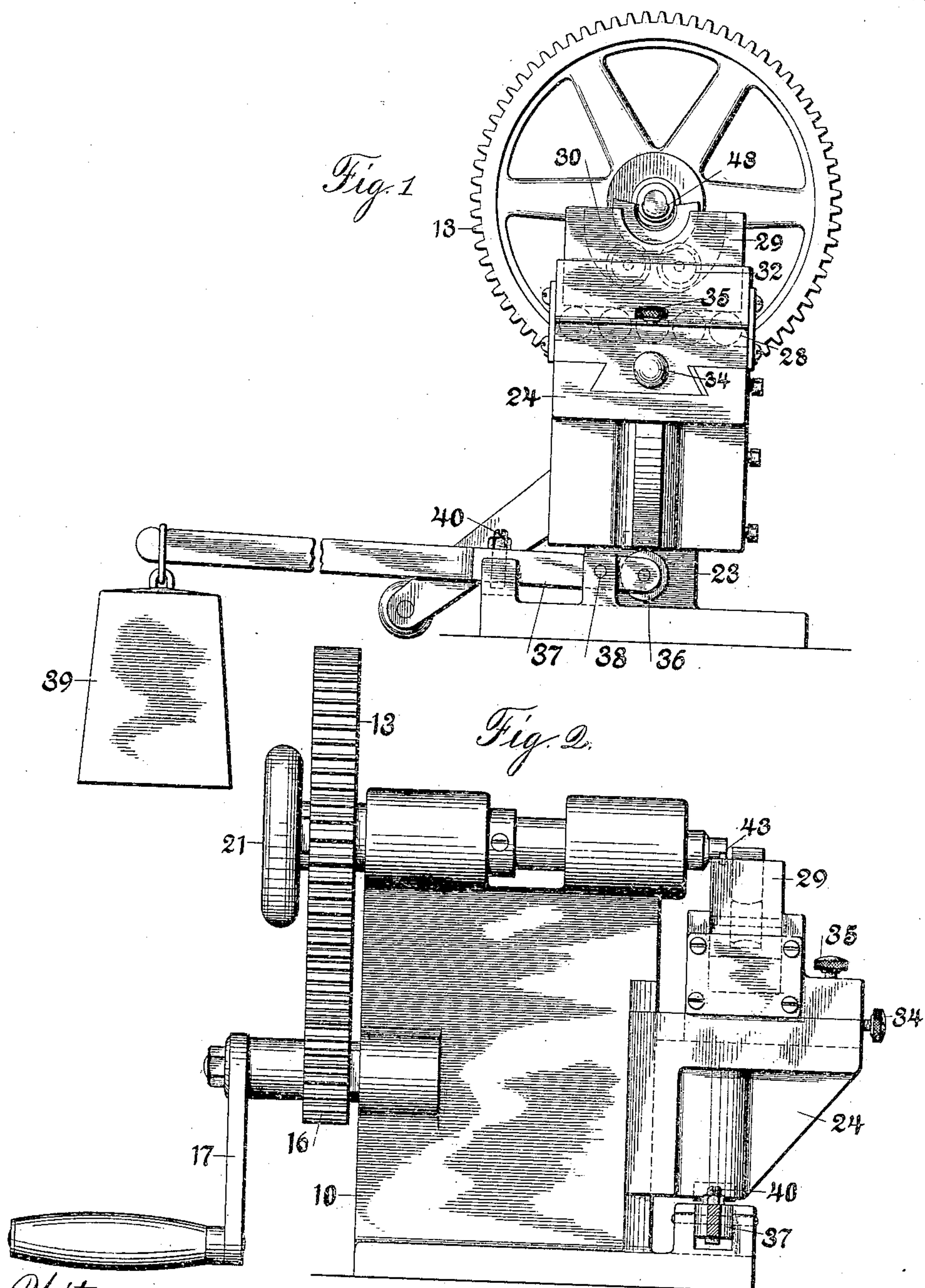


H. HENRICH.
MACHINE FOR MARKING FINGER RINGS.
APPLICATION FILED MAR. 12, 1910.

979,297.

Patented Dec. 20, 1910.

2 SHEETS—SHEET 1.



Witnesses:
F. P. Prindle.
A. Newcomb

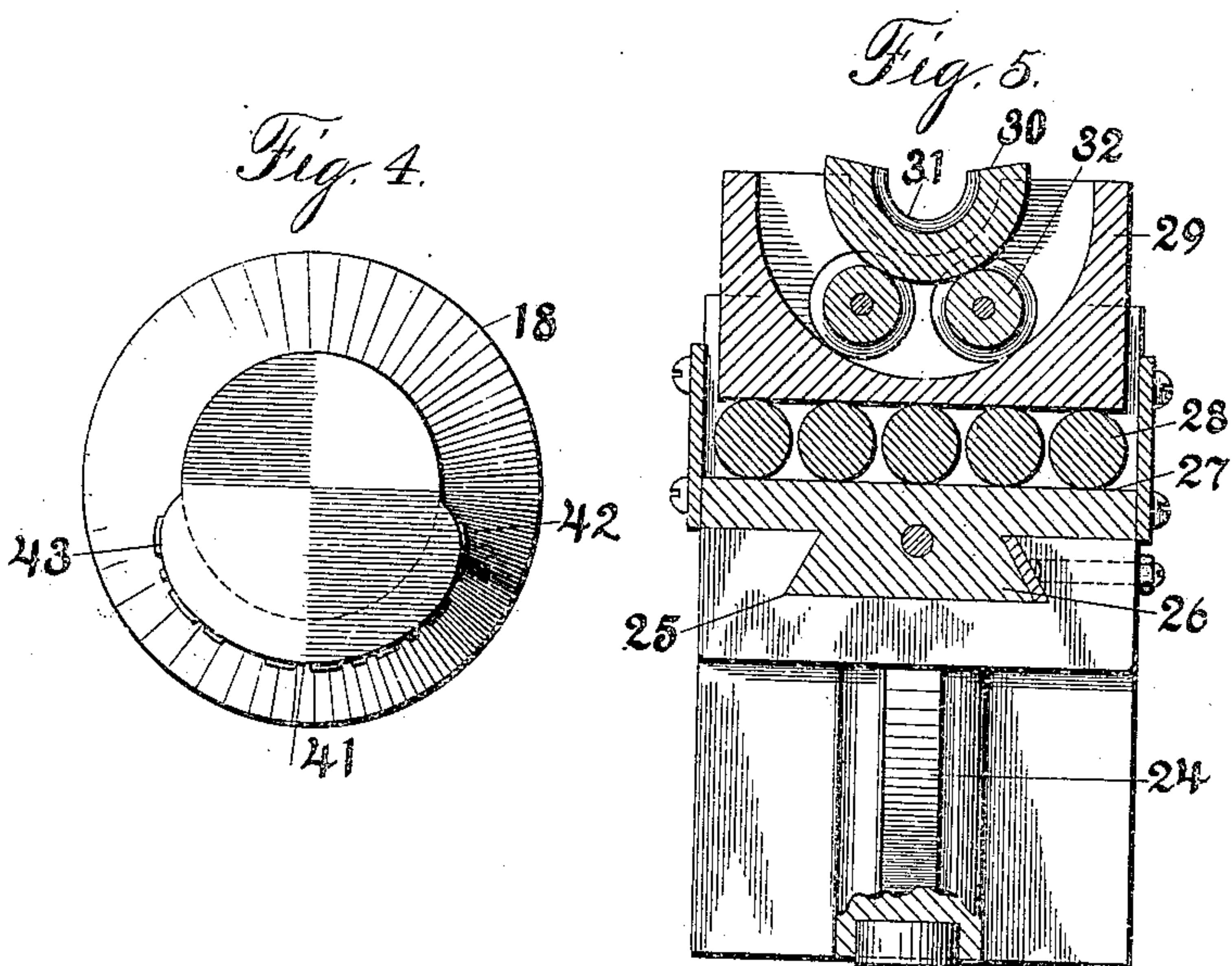
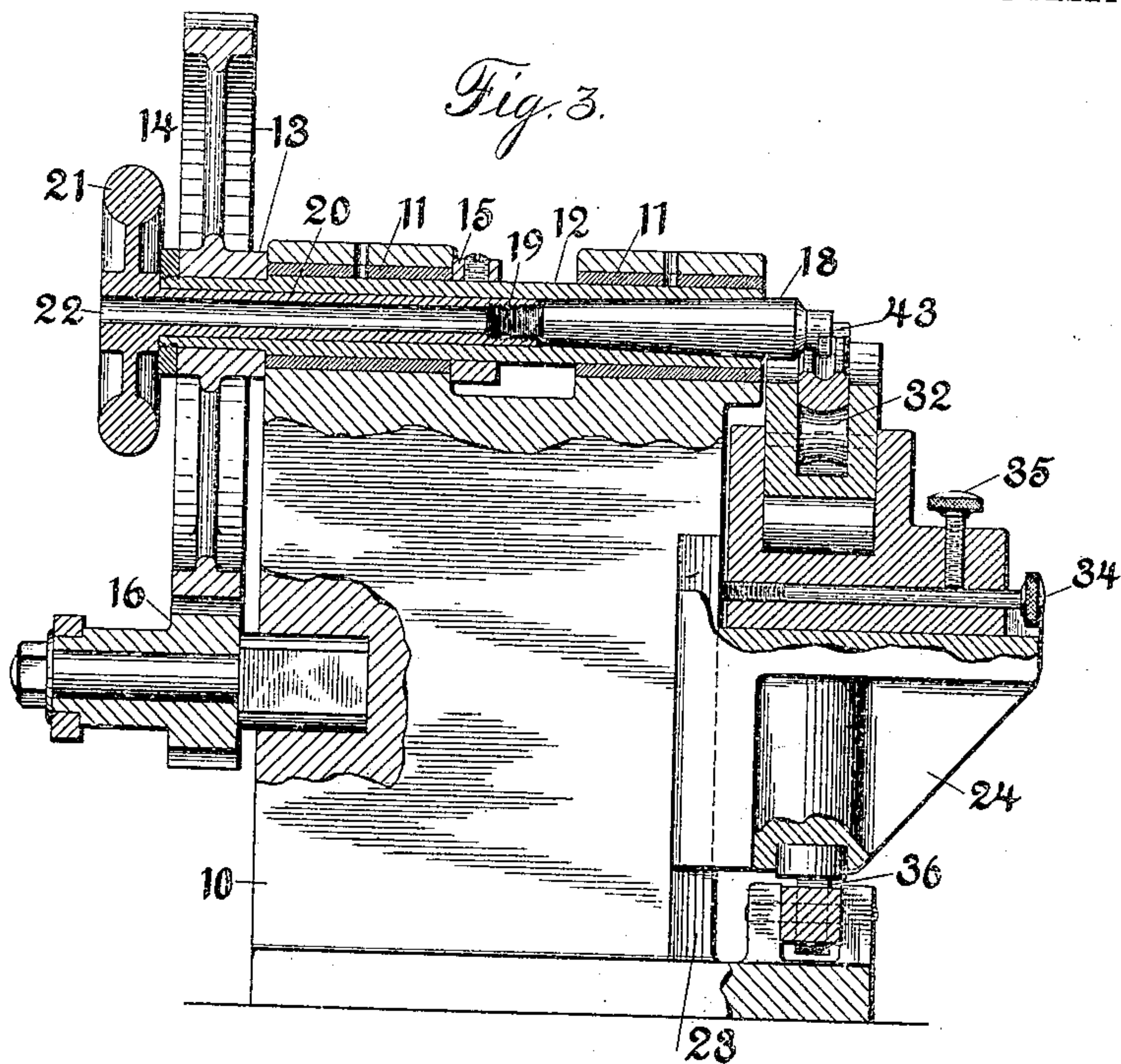
Inventor:
Henry Henrich,
by Prindle and Wright.
Attorneys.

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UNITED STATES PATENT OFFICE.

HENRY HENRICH, OF NEW YORK, N. Y.

MACHINE FOR MARKING FINGER-RINGS.

979,297.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed March 12, 1910. Serial No. 548,819.

To all whom it may concern:

Be it known that I, HENRY HENRICH, of New York, in the county of New York and in the State of New York, have invented a certain new and useful Improvement in Machines for Marking Finger-Rings, and do hereby declare that the following is a full, clear, and exact description thereof.

The object of my invention has been to provide a machine for marking finger rings, in which the tendency to distort the finger ring shall be reduced to a minimum; and to such ends my invention consists in the machine for marking finger rings hereinafter specified.

In the accompanying drawings Figures 1 and 2 are respectively a front and side elevation of a machine embodying my invention; Fig. 3 is a view principally in section in the plane of the spindle of the machine; Fig. 4 is an enlarged end view of the ring-marking tool; and Fig. 5 is an enlarged sectional view of the ring-supporting parts.

My invention is capable of embodiment in many different forms, and the illustrated embodiment is to be taken only as typical of one of many possible embodiments.

In such embodiment, the frame 10 is provided with alining bearings 11, in which is mounted a hollow spindle 12. A gear 13 is secured to the rear end of said spindle, as by a nut 14, and such gear, bearing against the rear end of the rear bearing, prevents forward motion of the spindle, while rearward motion of the spindle is prevented by a collar 15 secured upon the spindle, as by a set screw. The gear 13 is driven by a pinion 16 mounted upon a stud secured in the frame, the said pinion being driven by a crank 17.

The spindle is provided with a tapered socket in its forward end, in which is mounted a tapered tool 18. For convenience in securing such tool in place and expelling it, the said tool may be provided with a threaded end 19, which may be engaged by a threaded socket in a sleeve 20 mounted in the spindle, the said sleeve having a hand wheel 21 at its rear end, by which it may be turned. The sleeve may be provided with a hole 22 through which a rod may be inserted to drive the tool out of its tapered socket.

A vertical guide-way 23 is formed on the front of the frame, and a slide 24 is mounted on such guide-way. The slide 24 is pro-

vided with a horizontal slide-way 25 (preferably dove-tailed, and a slide 26 is mounted in such slide-way. The slide 26 is provided with a transverse runway 27 having a series of rollers 28, the said runway being preferably a horizontal plane. The rollers 28 support a block 29 having a plain under surface, adapted to bear upon the said rollers. A ring-holder 30 is supported by rollers 32 carried by the block 29, the said ring-holder having an annular socket 31 in its upper surface of the curvature of the exterior of the ring to be operated upon. The rollers 32 I prefer to make in the form of two rollers journaled in a slot formed in the block 29. They could, however, be in the form of a series of rollers in the annular runway, similar to the series 28. The rollers 32 are preferably slightly concave, and the ring-holding block 30 slightly convex, so as to tend to keep the said block from longitudinal movement without depending upon the walls of the slot. A screw 34 is mounted horizontally in the slide 29, and is provided with a locking screw 35, the screw 34 serving as an adjustable stop to position the slide 27, and consequently the ring-holder 30, longitudinally under the tool 18. The slide 24 rests upon and is supported by a roller 36 that is carried on the forked end of a lever 37, the latter being preferably fulcrumed at 38 in the base of the machine. On the free end of the lever is hung an adjustable weight 39. The lever is provided with an adjustable screw 40, which, by contact with the base of the machine, serves as a stop to limit the downward movement of the lever, and consequently the upward movement of the roller 36, and thus to limit the upward movement of the ring relative to the marking die.

As shown in Fig. 4, the tool 18 is provided with a marking die 41, the main portion of which is co-axial with the tapering shank, and consequently with the spindle; but the outer portions 42 and 43 of the said die are eccentric and curved toward the axis of the spindle.

In the operation of my ring-marking machine, the slide 26 is drawn forward so that the ring socket in the holder 32 is out from under the ring-marking die, and the ring is placed in the said socket. The lever is then raised, and the slide 24 is lowered, and the slide 26 is moved rearward until the stop screw 34 strikes the frame, when (such screw

being properly adjusted) the ring will be centrally under the die 41. The lever is then released, and its weight causes the slide 24 to rise until the stop screw 40 in the lever strikes the base of the frame. During these preliminary operations, the spindle is turned so that the die 41 will be on the upper side of its circle of movement. The crank is now turned, causing the tool 18 to revolve, and with it the die, and this causes one of the eccentric portions of the die 42 or 43 to first press into the metal of the ring. Such action has a tendency to force the ring sidewise, and the provision of the series of rollers 28 permits the block 29 to move sidewise, and thus to avoid a lateral pressure of the ring which would distort it. When the concentric portion of the die 41 is being pressed into the ring, the lateral movement above mentioned ceases, and when the eccentric portion 42 of the die is being pressed into the ring, a lateral movement in the opposite direction occurs.

Actual tests of the above-illustrated embodiment of my invention show that the combined effect of the permitted lateral movement of the ring-carrier and the eccentric portions of the die is to prevent substantial distortion of the ring.

I claim:

1. In a ring-marking machine, the combination of a rotatable ring-marking die, a revoluble ring holder, rollers for receiving the same, means for holding the die and the holder from movement directly away from each other, and means permitting movement of said holder laterally, relative to the line of pressure.

2. In a ring-marking machine, the combination of a partially cylindrical die, a rotatable ring-holder, rollers for receiving the same, means for holding the die and the holder from escape from each other in the line of pressure, and means permitting relative lateral movement of said parts transverse to the line of pressure.

3. In a machine for marking rings, the combination of a ring-marking die having a marking portion comprising a partially cylindrical portion and an eccentric portion at one end of said cylindrical portion, and a rotatable ring-holder adapted to hold the ring against movement away from the axis of said die.

4. In a machine for marking rings, the combination of a ring-marking die having

a marking portion comprising a partially cylindrical portion and an eccentric portion at one end of said cylindrical portion, a rotatable ring-holder adapted to hold the ring against movement away from the axis of said die, and means permitting the movement of said ring-holder laterally relative to the line of pressure.

5. In a ring-marking machine, the combination of a rotatable die, a slide movable under and away from said die along the axis of said die, a slide movable transversely to the axis of said die, one of said slides being supported upon the other of said slides, and a ring-holder rotatably supported upon one of said slides.

6. In a ring-marking machine, the combination of a rotatable spindle, a partially cylindrical die formed on said spindle, said die having an eccentric portion at one end of said cylindrical portion, a slide movable toward and from the axis of said die, a series of rollers carried by said slide, a block mounted upon said series of rollers, rollers mounted in said block, and a cylindrical ring-holder mounted on said last-mentioned rollers.

7. In a ring-marking machine, the combination of a rotatable spindle, a partially cylindrical die formed on said spindle, said die having an eccentric portion at one end of said cylindrical portion, a slide movable toward and from the axis of said die, a series of rollers carried by said slide, a block mounted upon said series of rollers, rollers mounted in said block, a cylindrical ring-holder mounted on said last-mentioned rollers, a weighted lever pivoted upon the frame, and a roller mounted in the end of said lever and bearing on said first-mentioned lever.

8. In a ring-marking machine, the combination of a rotatable ring-marking die, a revoluble ring holder, means for holding the latter at several different points on its circumference, means for holding the die and the holder from movement directly away from each other and means for permitting movement of said holder laterally relative to the line of pressure.

In testimony that I claim the foregoing I have hereunto set my hand.

HENRY HENRICH.

Witnesses:

A. NEWCOMB,
M. MEIKLE.