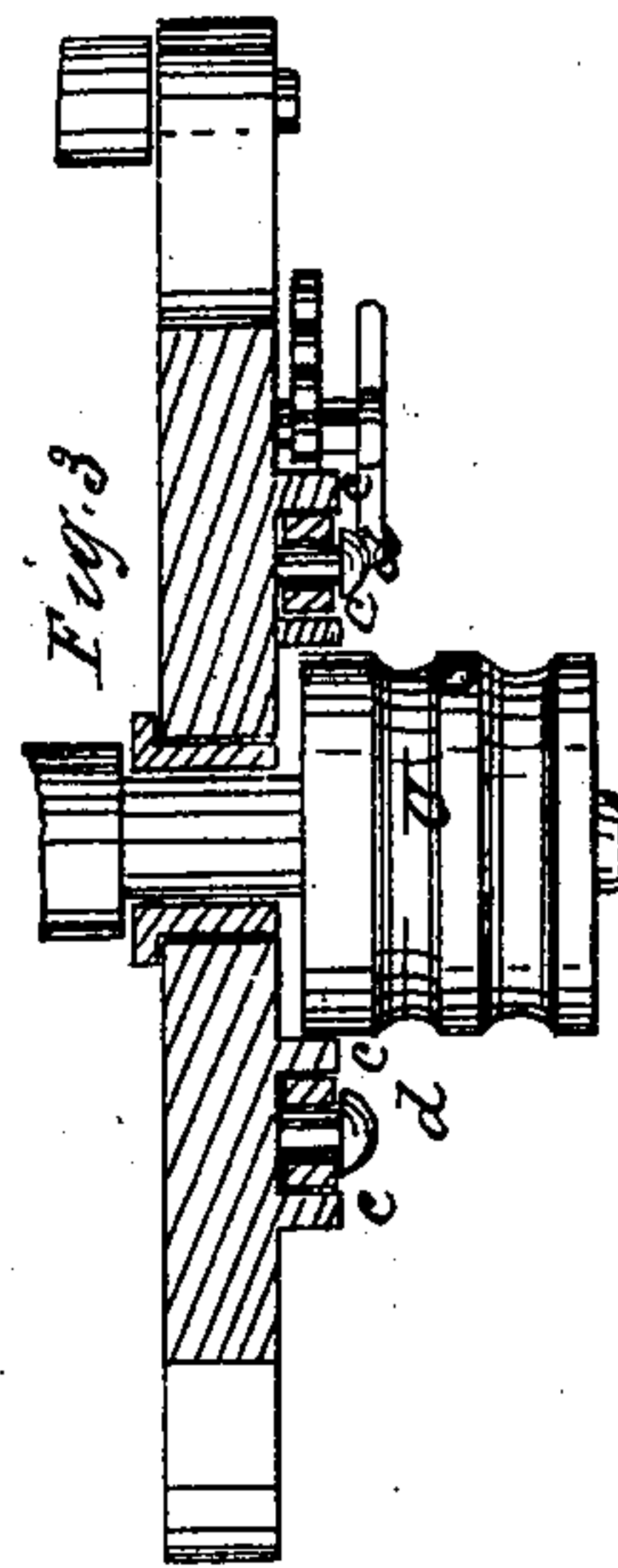
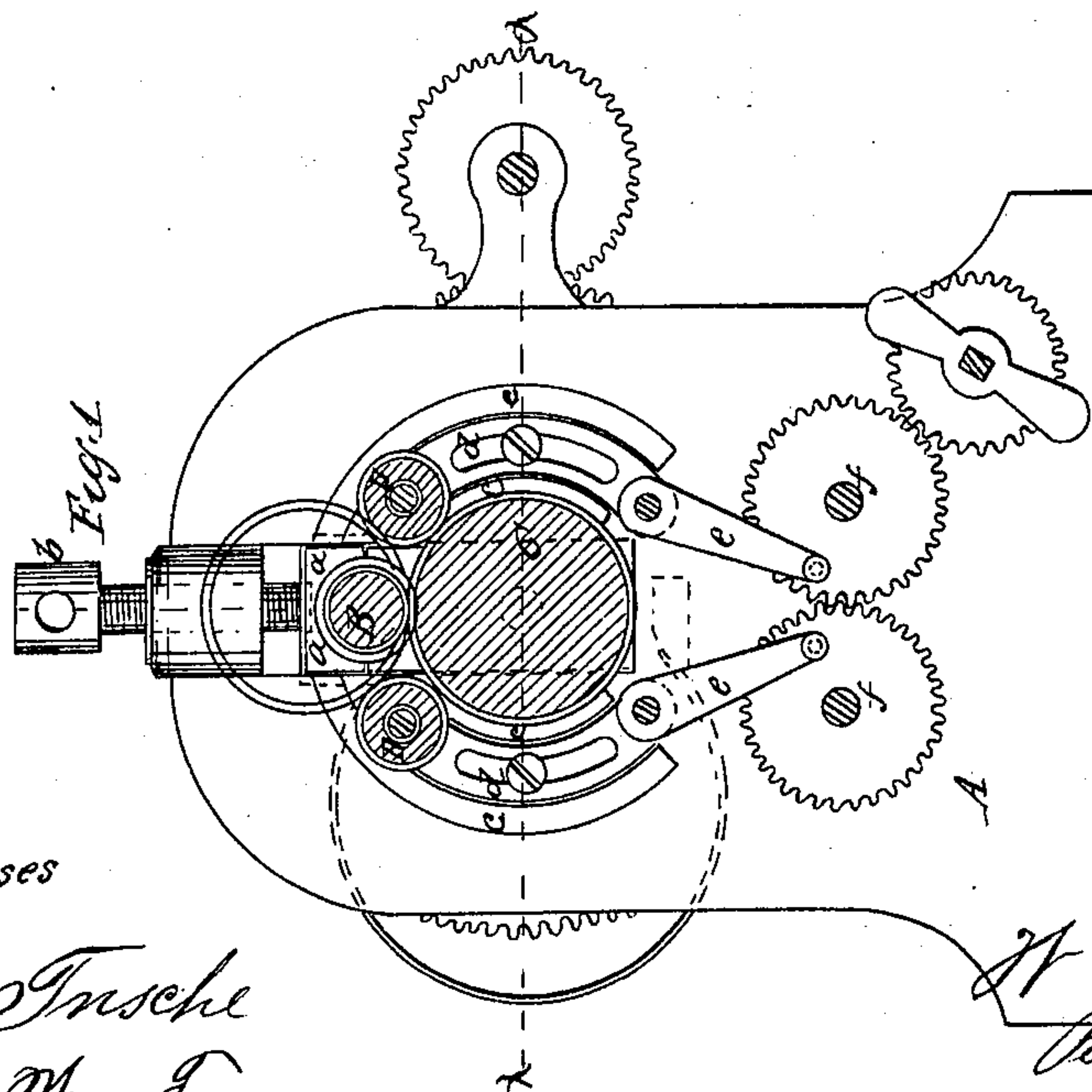
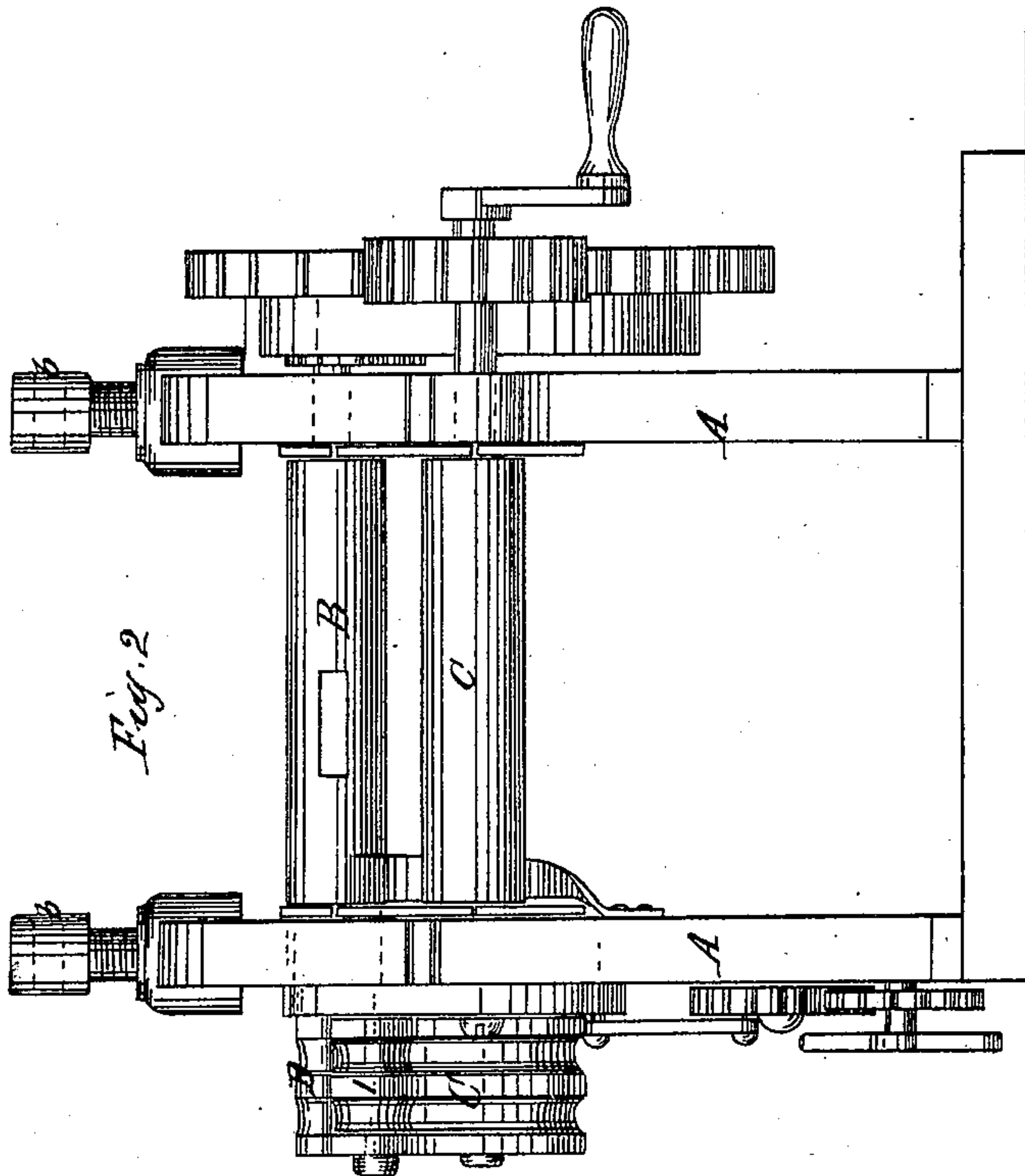


W. H. PECKHAM.
MACHINE FOR BENDING RINGS.

No. 77,312.

Patented Apr. 28, 1868.



Witnesses
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United States Patent Office.

WILLIAM H. PECKHAM, OF NEW YORK, N. Y.

Letters Patent No. 77,312, dated April 28, 1868.

IMPROVEMENT IN MACHINES FOR BENDING 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, WILLIAM H. PECKHAM, of the city, county, and State of New York, have invented a new and improved Machine for Bending Rings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification in which—

Figure 1 represents an end elevation of my improved ring-bending machine.

Figure 2 is a side elevation of the same.

Figure 3 is a detail horizontal section of the same, the plane of section being indicated by the line $x x$, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for bending metal bars into perfect and correct rings, of any suitable diameter.

The invention is particularly intended for jewellers' use, to form finger-rings, bracelets, and other suitable articles, but may, if desired, be used with equal advantage for shrinking tires and other large and heavy rings.

The invention consists in the use of two rollers, between which the bar to be bent is held, and in the use of two adjustable friction-rollers, which, as they are held nearer to or further from the point at which the ring is held, form rests for the bar to be bent, by which the same is transformed into a smaller or larger ring, as may be desired.

The adjustable friction-rollers are fastened to curved slides, which move in curved guides, and which are connected by means of pivoted rods to cranks projecting from the faces of two gear-wheels, meshing into each other. Thus, as one of the gear-wheels is turned by suitable mechanism, its crank is brought higher or lower, as may be desired, and its slide is thereby moved up or down at will, the other gear-wheel moving its slide in exactly the same manner.

The ends of the bar to be bent will, when the parts are correctly adjusted for the length of the bar, be brought exactly against each other, so that they can be easily connected by soldering or otherwise.

The annoying and inconvenient hammering and adjusting by means of which rings were heretofore formed is altogether done away with by my invention.

A represents the frame of the machine. B C are two horizontal axles, having their bearings in the frame, and geared together, so as to revolve in opposite directions.

The ends of the shafts B C project beyond one end of the frame, as shown, so that a bar can be placed between them. One of the axles rests in up-and-down adjustable bearings, $a a$, which can be raised and lowered by means of screws $b b$, or their equivalents. The object of the improvement is to allow the insertion, between the shafts, of bars of different thicknesses.

Upon that face of the frame from which the ends of the axles B C project, are arranged curved guides $c c$, concentric around the lower axle C, as is clearly shown in fig. 1. These guides may either be formed by projecting rails, by sunk grooves, or otherwise, as may be desired.

Upon or within these guides $c c$ are placed curved slides $d d$, one on each side of the axle C, each slide carrying a projecting friction-roller, D D, near its upper end. The lower parts of the slides are, by means of rods $e e$, connected with two gear-wheels $f f$, which mesh into each other, and which can be turned by means of suitable mechanism.

The operation is as follows: The bar to be bent, which is previously cut to the required length, is placed between the rollers B and C, and then the wheels f are turned so as to bring the rollers D D at such a distance from the point at which the bar is held, that the curve described by the bar, when it is bent to rest upon the rollers D, will be part of the circle into which it is desired to bend the bar. The axles B and C revolving in opposite directions, carry the bar forward, and every portion of the same is thereby bent into the required curve, so that the desired ring is obtained.

It will be seen that by moving the slides further up or down, the diameter of the ring will be diminished

or enlarged, and that when the rollers D are brought close to the roller B, the inner diameter of the ring will be equal to the outer diameter of the roller B.

The projecting ends of the rollers B and C, or of either of them, may be made removable, so that they can be replaced by such which have grooves to receive bars of suitable cross-section. The device may receive its motion from suitable mechanism.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the revolving axles B C, adjustable friction-rollers D D, upon the concentric bearing-plates *d*, concentric guides *c*, connecting-rods *e*, and gear-wheels *f f*, as herein described for the purpose specified.

2. The device herein shown and described of operating the friction-rollers D D, consisting of the guides *c c*, slides *d d*, rods *e e*, and wheels *f f*, all made and operating substantially as herein shown and described.

3. Adjusting the friction-rollers D D around the larger roller C, and with relation to the upper adjustable roller B, by means of the curved plates *d*, operated in concentric guides around the roller C, by the connecting-rod *e* and gear-wheels *f f*, as herein described.

WILLIAM H. PECKHAM.

Witnesses:

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