No. 841,577. PATENTED JAN. 15, 1907.

S. SCHNEIDER.

APPARATUS FOR PREPARING RINGS FOR BALL BEARINGS.

APPLICATION FILED JULY 10, 1905.

Fig. 1.

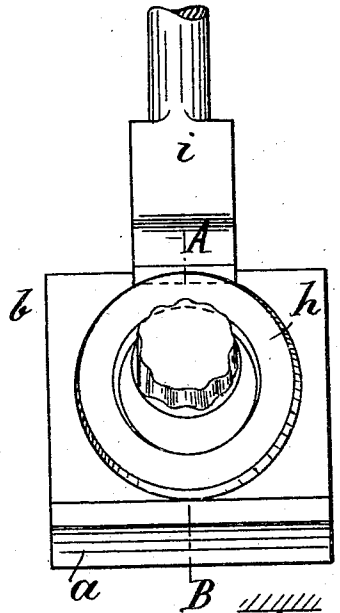


Fig. 3.

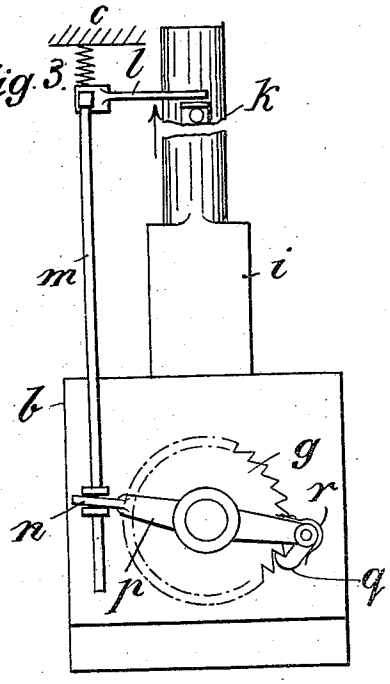
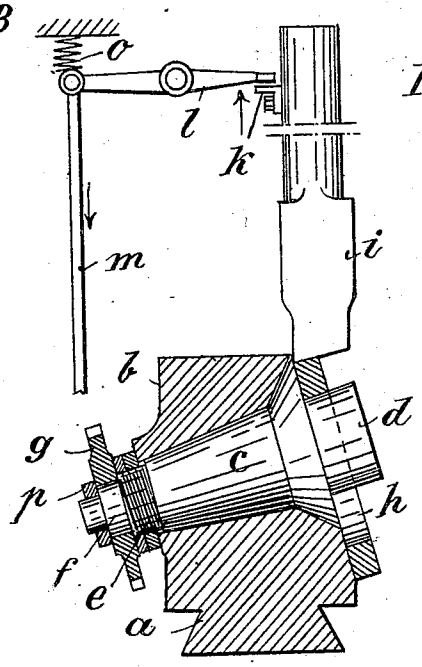


Fig. 2.



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UNITED STATES PATENT OFFICE.

STEFAN SCHNEIDER, OF CHARLOTTENBURG, GERMANY.

APPARATUS FOR PREPARING RINGS FOR BALL-BEARINGS.

No. 841,577. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed July 10, 1905. Serial No. 269,010.

To all whom it may concern:

Be it known that I, STEFAN SCHNEIDER, a subject of the Emperor of Germany, and a resident of Charlottenburg, Germany, have invented a certain new and useful Improvement in Apparatus for Preparing Rings for Ball-Bearings, of which the following is a specification.

This invention relates to improvements in apparatus for preparing rings for ball-bearings; and it consists more particularly in an improved hammering mechanism employed in carrying out the process described in the specification of my copending application for patent, Serial No. 269,011.

The said hammering mechanism is arranged to work radially on the ring while the latter is rotated, the hammer being connected, by means of a system of levers and ratchet mechanism, with the preferably inclined ring-supporting block, so that each time the hammer rises the ring is fed a suitable amount by intermittently-acting devices.

In the accompanying drawings, which illustrate the invention, Figure 1 is a front elevation of the improved hammering mechanism. Fig. 2 is an end elevation, partly in section, on the line A B of Fig. 1. Fig. 3 is a rear elevation of the parts shown in Fig. 1.

The hammer mechanism carries on a base of suitable form (not shown) a supporting-block *b*, dovetailed at *a* and having an inclined front face. This block serves to receive a conical pin *c*, which has a projection *d* at the front and terminates at the rear in a screw-threaded part *e*, with an end piece *f* closing the same. The latter serves to support a ratchet-wheel *g*, keyed to the pin *c*. The axis of the pin *c* is perpendicular to the inclined face of the block *b*, so that it is inclined somewhat to the horizontal. The object is that the ring 50 will during the operation rest entirely on the inclined face of the block and be carried securely without auxiliary means by the projecting end *d* and prevented from movement in axial direction. The projecting part *d* is preferably fluted, as shown.

The hammer can be operated in any suitable manner. The striking-face of the same is inclined in the direction of the axis of the pin *c*, so as to exert a uniform pressure on the ring. A longitudinally-adjustable lug *k* is connected to the hammer, which lug when the hammer is raised actuates one arm of a double lever *l*, swinging around a fixed pivot, and so depresses a rod *m*. Two collars *n* on the lower part of the rod produce vibration of a double lever *p*, pivoted to a rearwardly-projecting extension of the pin *c*. At the lower end of the lever *p* is pivoted a pawl *q*, actuated by a spring *r*. The lever *l* is also provided with a spring *o*, which brings the lever back to its position of rest as soon as the action of the lug *k* on the lever *l* ceases.

The operation of the hammer mechanism is as follows: The ring to be treated is set on the fluted projection *d*. When the hammer rises, the levers *l* and *p* are vibrated on their pivots, and by means of the pawl *q* the ratchet-wheel is turned through the distance of one or several teeth. The feeding movement of the ratchet can be regulated by vertical adjustment of the lug *k* or in any other suitable manner. Simultaneously with the movement of the ratchet-wheel *g* the conical pin *c* and its projection *d* are set in rotation, and the latter on account of its fluted formation carries the ring round by friction through a definite amount. At the next operation the striking-face of the hammer comes against an unworked part of the ring, and the operation is repeated.

The rings thus preliminarily treated are then subjected to a rolling operation, as described in the specification of my copending application for patent, Serial No. 269,011.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. Apparatus for preparing ball-bearing rings, comprising, in combination, a hammer, a carrier for the ring, ratchet mechanism for rotating the carrier intermittently, and lever connections between the hammer and the ratchet mechanism, as described.

2. Apparatus for preparing ball-bearing rings, comprising, in combination, a hammer, a supporting-block having a pin rotatably mounted in said block, said pin having a

fluted extremity for carrying the ring, pawl-and-ratchet mechanism operating at the other extremity of said pin, lever connections for actuating the pawl-and-ratchet mechanism and a projection on the hammer for communicating movement to said lever connections.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STEFAN SCHNEIDER.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.