

J. GIRLOT.
MACHINE FOR FORGING CIRCULAR PIECES.
APPLICATION FILED JAN. 30, 1911.

1,040,979.

Patented Oct. 8, 1912.

2 SHEETS-SHEET 1.

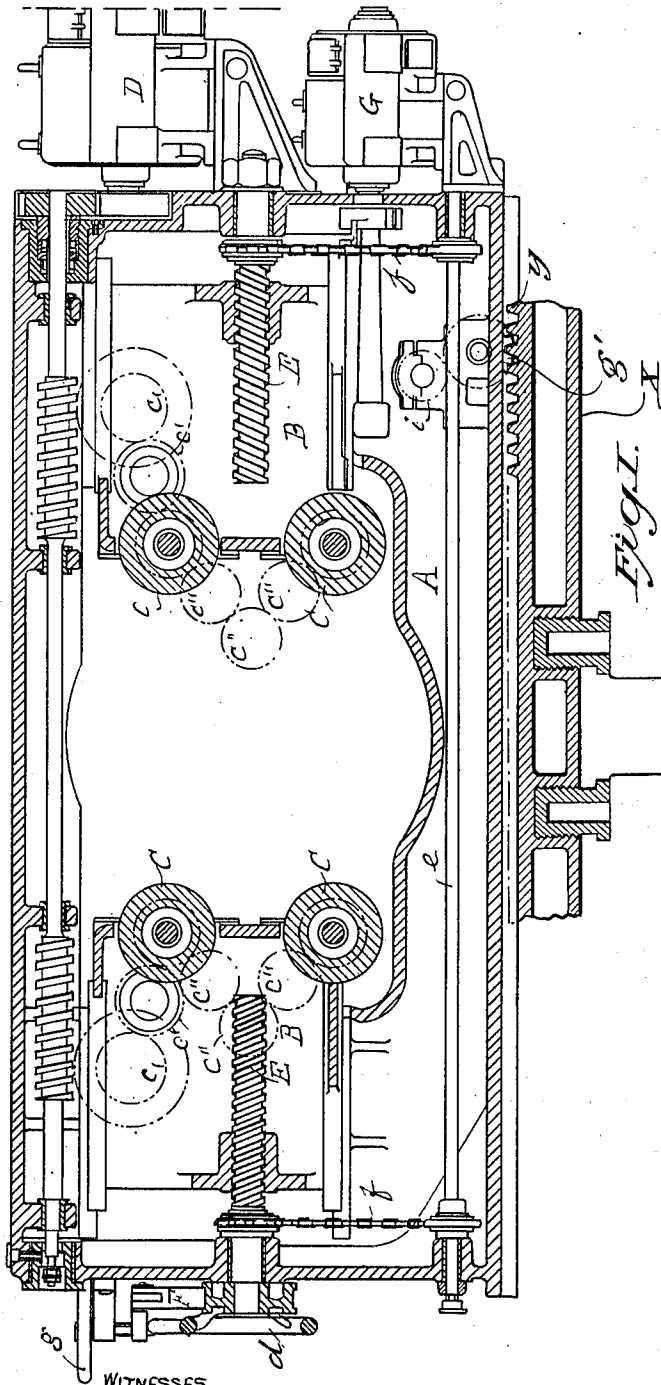


Fig. I.

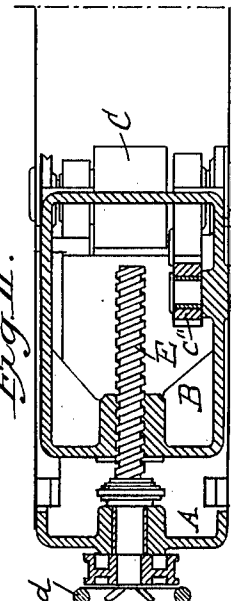


Fig. II.

WITNESSES
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Fig. V.

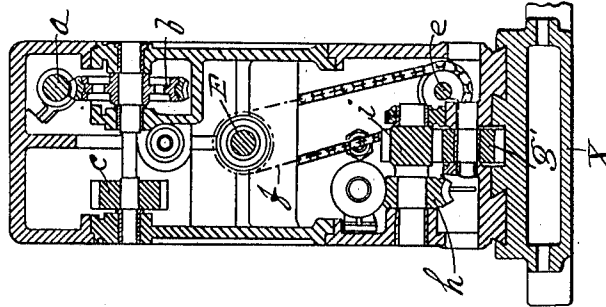


Fig. II

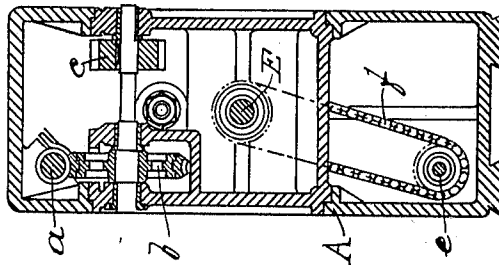
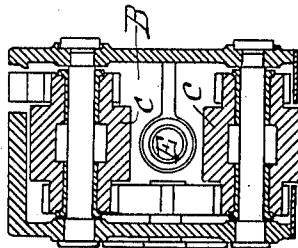


Fig. III



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UNITED STATES PATENT OFFICE.

JOSEPH GIRLOT, OF LAEKEN, BRUSSELS, BELGIUM.

MACHINE FOR FORGING CIRCULAR PIECES.

1,040,979.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed January 30, 1911. Serial No. 605,593.

To all whom it may concern:

Be it known that I, JOSEPH GIRLOT, a subject of the King of Belgium, and resident of Laeken, Brussels, Belgium, manufacturer, have invented a new and useful Machine for Forging Circular Pieces, of which the following is a specification.

The subject of this invention is a mechanical device to be principally applied in forging circular pieces of work, whatever be the mode of forging: hammering, pressing or rolling.

It has for its object to hold the work during the operation, simultaneously imparting to it a rotatory motion and allowing an enlargement of same, to act upon the periphery by rolling and, eventually, profiling the same, and moreover to impart to it, if need be, a displacing motion intended to allow the tools—such for instance as hammers acting upon its lateral surfaces—to exert their compressory action on the latter at the desired point.

The mechanical device which forms the subject of this invention is shown in the accompanying drawing in which—

Figure 1 is a sectional elevation, Fig. 2 a plan view and Figs. 3, 4 and 5 transverse sections.

It is composed of two slides B B mounted on a carriage and which may be drawn close together or separated at will. Each of these slides bears two rolls C C receiving a rotatory motion from an electric motor D through worm gear *a b* and spur gearwheels *c c' c''*. It is by these rolls that the work to be operated upon is held and simultaneously rotated. By means of handwheel *d*, acting on screws E, the slides B are drawn close together; said screws are made dependent one on the other through the medium of shaft *e* and linked chains *f*.

During the forging operation the pressure exerted against the rolls by the radial expansion of the piece of work tends to force the slides automatically backward; to permit this the screws E are freely rotatable in opposite directions. This motion is regulated by means of a brake band F manipulated by means of handwheel *g*.

The whole of the carriage A may be shifted on a bench *x* which has a toothed rack *y* in gear with a cogwheel *g'* driven by electric motor G through the medium of worm wheel *h* and spur gearwheel *i*. It is to be understood that the rolls C C C C may

have either a smooth or a profiled surface according to their being intended either to simply hold the work and to rotate it during the forging operation, or to contribute to profiling its periphery, together with the rest of the forging implements.

It is clear that by this device, suitably disposed hammers on both sides of the work and delivering blows together, as for instance in my U. S. Patent No. 775,815 of Nov. 22, 1904, may hammer the work in hand at any point whatever in succession, from the center to the periphery. So for instance, a circular ingot may be converted into a wheel blank having a solid body, by a set of plane-faced hammers hitting blows in rapid succession, but leaving untouched the center and the periphery of said ingot as far as the conditions of dimensions desired are concerned, and acting exclusively upon the other portions. As the hammers are hitting, the displacement of the work in hand is effected alternately to the left and to the right, until the moment the hammered portion shall have been hammered down to the thickness desired; such displacement may be effected either by the slide-bearing carriage A being moved from the left to the right, or from the right to the left, or by displacing the hammers, the supports being fixed.

The constructive details of the device may vary and the latter may be placed in any desired direction according to the mode of forging adopted.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. A blank carriage of the character described comprising a supporting frame, slide blocks mounted thereon and means for moving the same toward or away from each other, bearing rolls carried by said blocks and projecting beyond the opposed faces thereof to engage the blank, means for imparting a positive drive to said rolls to rotate the blank, in combination with means to displace said carriage and blank as a whole transversely of the axis of the blank.

2. A blank carriage of the character described, comprising a supporting frame, slide blocks mounted thereon and a motor on the carriage for moving the same synchronously toward or away from each other, bearing rolls carried by said blocks and pro-

jecting beyond the opposed faces thereof to engage the blank, means for imparting a positive drive to said rolls to rotate the blank, in combination with means to dis-
5 place said carriage and blank as a whole transversely of the axis of the blank.

3. A blank carriage of the character described, comprising a supporting frame, slide blocks mounted thereon and means for
10 moving the same toward or away from each other, bearing rolls carried by said blocks and projecting beyond the opposed faces thereof to engage the blank, a motor on the carriage independent of the slide operating
15 means for imparting a positive drive to said rolls to rotate the blank, in combination with means to displace said carriage and blank as a whole transversely of the axis of the blank.

20 4. A blank carriage of the character described, comprising a supporting frame,

slide blocks mounted thereon and means for moving the same toward or away from each other, bearing rolls carried by said blocks
25 and projecting beyond the opposed faces thereof to engage the blank, means for imparting a positive drive to said rolls to rotate the blank, in combination with gearing mounted in said carriage adapted to co-
30 operate with suitable external gearing and means on the carriage for operating said gearing to travel the carriage and blank as a whole transversely of the axis of the blank.

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

JOSEPH GIRLOT.

Witnesses:

GUSTAVE TIERRY,
EMILE NUYTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
Washington, D. C."