

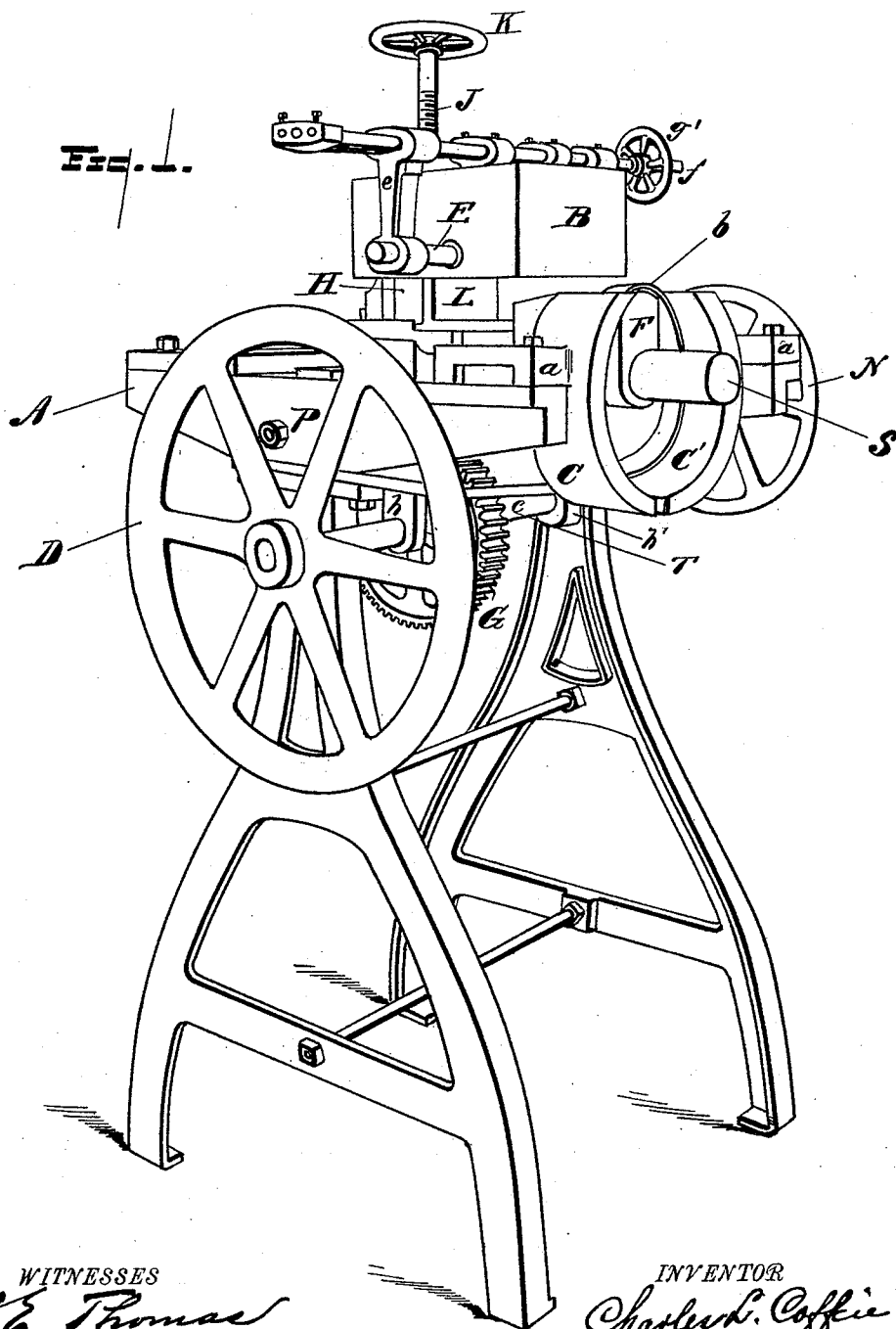
(No Model.)

2 Sheets—Sheet 1.

C. L. COFFIN.
APPARATUS FOR WELDING RINGS.

No. 530,020.

Patented Nov. 27, 1894.



WITNESSES
S. E. Thomas
Amelia J. Williams.

INVENTOR
Charles L. Coffin.

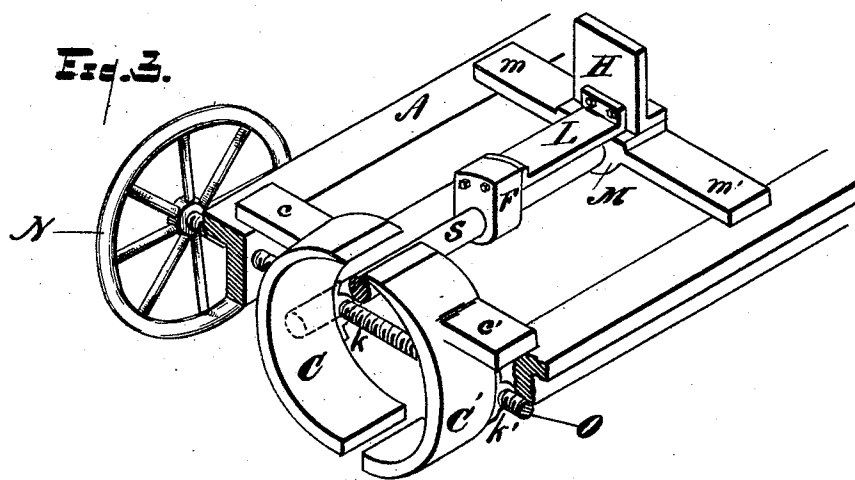
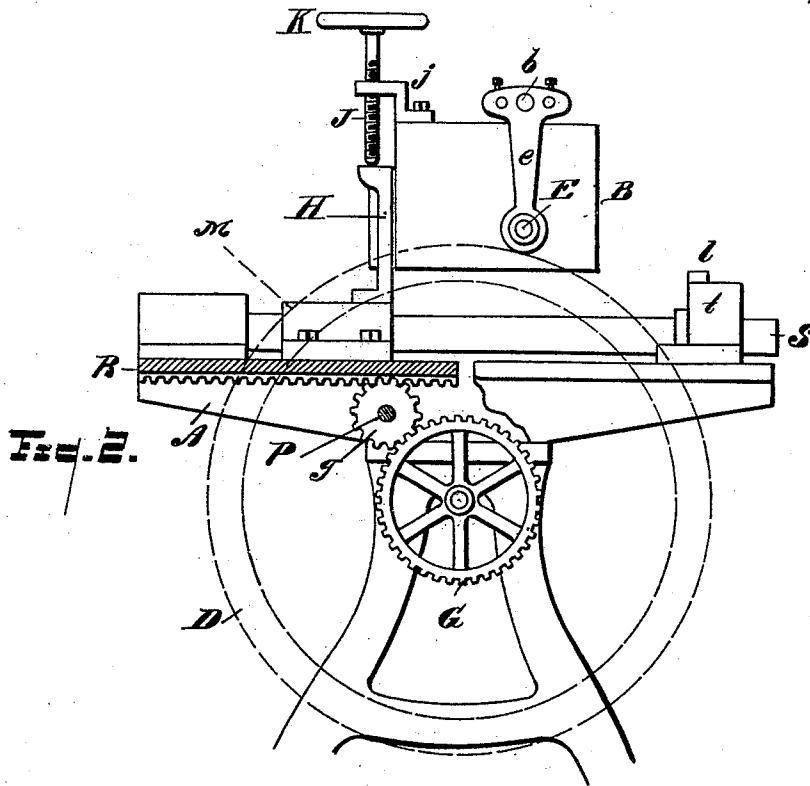
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WITNESSES
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UNITED STATES PATENT OFFICE.

CHARLES L. COFFIN, OF DETROIT, MICHIGAN.

APPARATUS FOR WELDING RINGS.

SPECIFICATION forming part of Letters Patent No. 530,020, dated November 27, 1894.

Application filed March 13, 1894. Serial No. 503,482. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. COFFIN, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Apparatus for Welding Metals Electrically, of which the following is a specification.

My invention consists in an improved apparatus for welding metals, electrically, devised with special reference to welding rings, such as rings, hub-bands and other forms of hoops, hereinafter fully described and claimed.

Figure 1 is a perspective of the complete machine. Fig. 2 is a side elevation partly in section, and Fig. 3 is a perspective of the clamp and movable anvil.

A represents a skeleton table, carried on suitable legs.

T represents a shaft journaled in brackets *h h'*, on the under side of the table A, and provided at one end with a hand wheel D.

G represents a wheel on shaft T, meshing with a pinion *g* on shaft P, and engaging with a rack R secured on the under side of a boss M, supported by wings *m m'* on table A, so as to slide freely thereon, when said rack R is moved.

S represents a shaft fastened on the back part of table A, by lug *t*, and bolts *l*, which extends through boss M to guide the same in its travel, and also extends through, and guides and supports an anvil F which is connected by a bar L with an upright plate H on boss M, and slides on shaft S.

C C' represent the two parts of a ring clamp which are partially supported by wings *c c'* on table A, and which each has a threaded lug *k k'*, right and left hand screw threaded respectively, to engage with a right and left hand screw threaded shaft O, journaled in table A, and provided with a hand wheel N, by which shaft O may be rotated to either draw the two parts of the clamp together or separate them.

In Fig. 3 the hand-wheel N is represented at the left of the screw-shaft O.

B represents a furnace, or box of refractory material, slidingly supported on plate H, into the interior of which project from opposite sides a pair of carbons E, carried in holder *e*, provided with a screw shaft *f* and hand wheel

g', by which said carbons may be brought together or retracted from each other, it being understood that said carbons are to be connected with the poles of a generator of electricity.

J represents a screw shaft threaded in a lug *j*, on furnace B, bearing on the support H, by which said furnace B may be raised or lowered, a hand wheel K being connected with said screw shaft J.

b represents a hub band in position in the machine.

The operation of my invention is as follows:—A piece of metal, bent into the form of a hoop, is inserted into clamps C C', the joint coming in the open space at the top of said clamps, and is then clamped so as to be securely held, by rotating shaft O. Shaft T is now rotated so as to first pass anvil F through the hoop *b* and to bring furnace B over the joint of said hoop, when, an arc being established between carbons E E, the metal at each side of the joint is rapidly brought to a welding heat and as soon as this is accomplished shaft T is rotated in the opposite direction, moving furnace B away from the hoop, and bringing anvil F under the joint, when the joint can be readily and rapidly finished by a hammer.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an apparatus for electrically heating metal, the combination of a separable clamp for holding the article to be welded, means for opening and closing the clamp, a movable furnace, a movable anvil, and connecting mechanism for moving the furnace toward the clamp, and moving the anvil in proper relation to the clamped article, substantially as described.

2. In an apparatus for electrically heating metal, the combination of a separable clamp approximately conforming to the article to be held, and composed of two independent parts, with guiding ways for the independent parts, and a right and left threaded shaft, engaging with lugs on the parts of the clamp for moving the said parts with a movable furnace, and an anvil, which is moved toward and from the clamp as the furnace moves, substantially as described.

3. In an apparatus for heating metals elec-

- trically, the combination of a support, a separable clamp approximately conforming to the article to be held, and composed of two independent parts, means for opening and closing the parts of the clamps, a furnace movable toward and from the clamp, and an anvil placed in proper relation to the clamp as the furnace moves away from said clamp, substantially as described.
- 5 4. In an apparatus for heating metals electrically, the combination of a support, a separable clamp approximately conforming to the article to be held, an anvil, and a movable furnace adapted to subject the clamped article to heat and place said article in proper relation to the anvil as the furnace moves away from the clamp, substantially as described. 15
- 10 CHARLES L. COFFIN.
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