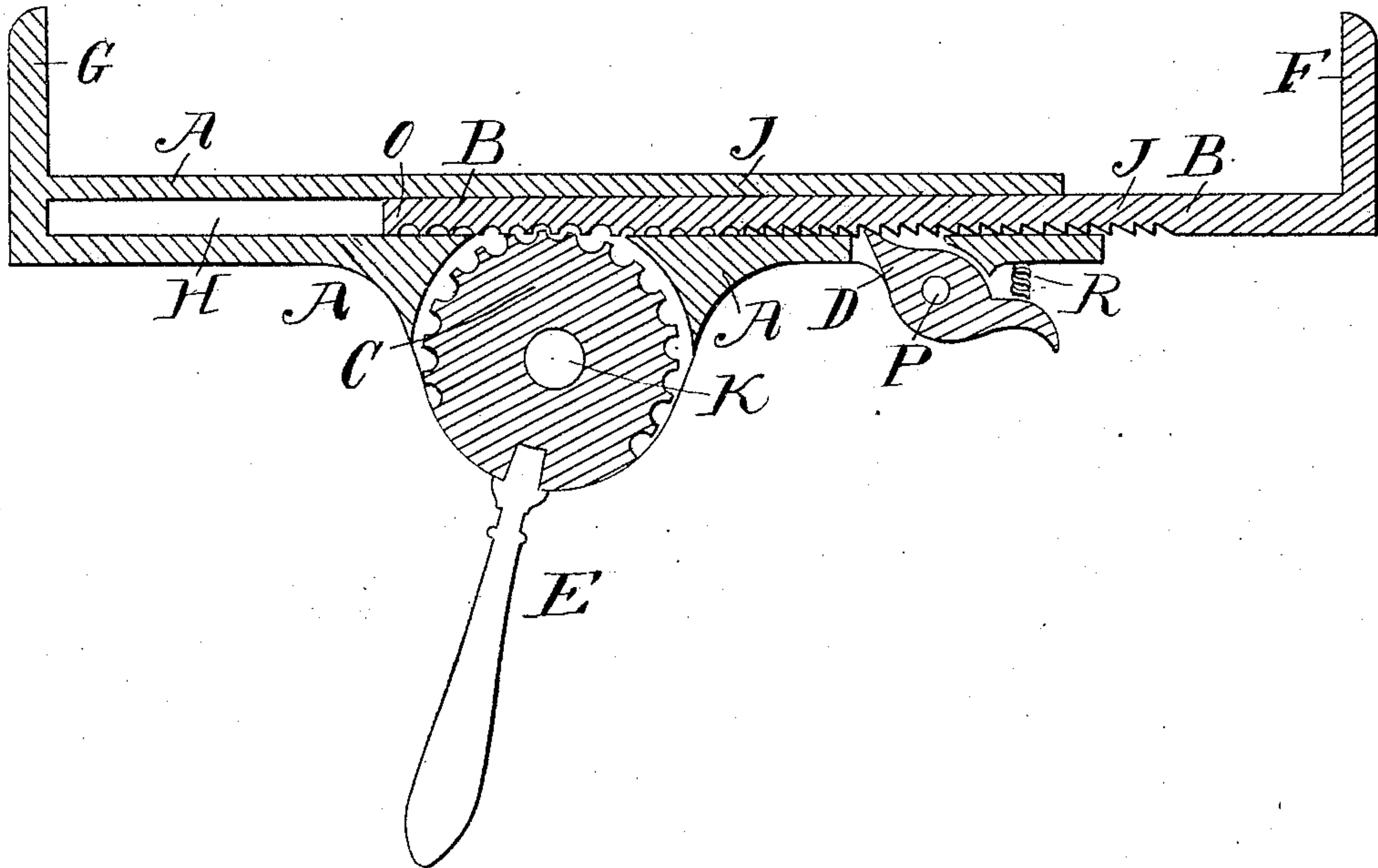


E. Card,

Clamp for Furnace Molds.
N^o 63,468. Patented Apr. 2, 1867.

Fig: 1.



Witnesses;
George Morlock
Livingston

Inventor;
Edward Card

United States Patent Office.

EDWARD CARD, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 63,468, dated April 2, 1867.

IMPROVED CLAMP FOR FURNACE MOULDS.

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, EDWARD CARD, of the city and county of Providence, in the State of Rhode Island, have invented a new and useful "Clamp," to be used upon furnace moulding boxes, in the construction of furniture, and for other purposes for which clamps are used, *i. e.*, for holding in place two or more articles or materials for the purpose of facilitating and for the better accomplishment of the work to be done to which they are adapted, and to which they may be applied.

The nature of my invention consists in the application of mechanical power to enlarge and contract the distance between the ends of a clamp aforesaid, and to give the same a firm and tenacious hold, and which ends are so constructed as to grasp firmly the articles or materials to be held, by drawing said ends more and more closely together, and which are formed with a view to such use and purpose; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

I construct my clamps of iron or wood, and of as great a variety of sizes as may be necessary to adapt them to heavy or light work. For many purposes I make them of cast or malleable iron, with two arms, A A A and B B, one a hollow arm, A A A, fig. 1, with a hook, G, fig. 1, of that or any other shape, upon one end, and open at the other end; and the other, a ratchet-arm, B B, fig. 1, with a hook upon one end F, fig. 1; and ratchet-teeth J to J, fig. 1, and cog-teeth O to J, fig. 1, on one side, as hereafter described. This ratchet-arm is made to play back and forth within the hollow arm, and is operated by a cog-wheel, C, fig. 1, upon the hollow arm near the centre between the two ends, said wheel being enclosed in a cog-box with a bolt, K, fig. 1, through the centre of said box upon which said cog-wheel revolves. The cogs or teeth of said cog-wheel are upon its outer circumference and play into the ratchet beneath, within said arm, through a space open for that purpose, the inner end of said ratchet-arm being adapted in form to the play of said cog-wheel. Between said cog-wheel upon said hollow arm, but nearer the end of said arm where the ratchet-arm enters, is a lever-pawl within a smaller box, and which lever-pawl moves upon a pinion, P, fig. 1, and through an open space in said hollow arm operates upon said ratchet, where said ratchet is adapted in form (J to J, fig. 1,) to the play or use of said lever-pawl, which is a check upon said ratchet-arm from sliding outward, but permits it to slide or be drawn inward by the cog-wheel aforesaid, thereby bringing said clamp hooks nearer together into action, as designed and explained above. The teeth of said cog-wheel surround the same as aforesaid, except for a space sufficient for a lever-socket in which to insert a lever, E, fig. 1, with which to operate said clamp by means of said cog-wheel. Said lever-pawl is made to act upon said ratchet-arm by a spring, R, fig. 1, under its upper end.

By constructing a clamp in this manner it is made applicable to work that other clamps are not adapted to, and this clamp may be used for many purposes to advantage where other clamps are now used. It is a desirable form of clamp to be used upon foundry moulding boxes, which, when clamped in this manner, may be moved or turned over with much less risk to the mould within.

Claim.

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

The hollow arm, with a ratchet-arm movable back and forth within by a cog-wheel, in combination with a lever-pawl to operate upon said ratchet, together forming a clamp for the uses and purposes for which clamps are used, and to which this may be adapted, shaped and constructed as herein described and set forth.

Providence, December 8, 1866.

EDWARD CARD.

Witnesses:

GEORGE MORLOCK,
LIVINGSTON SUOTT.