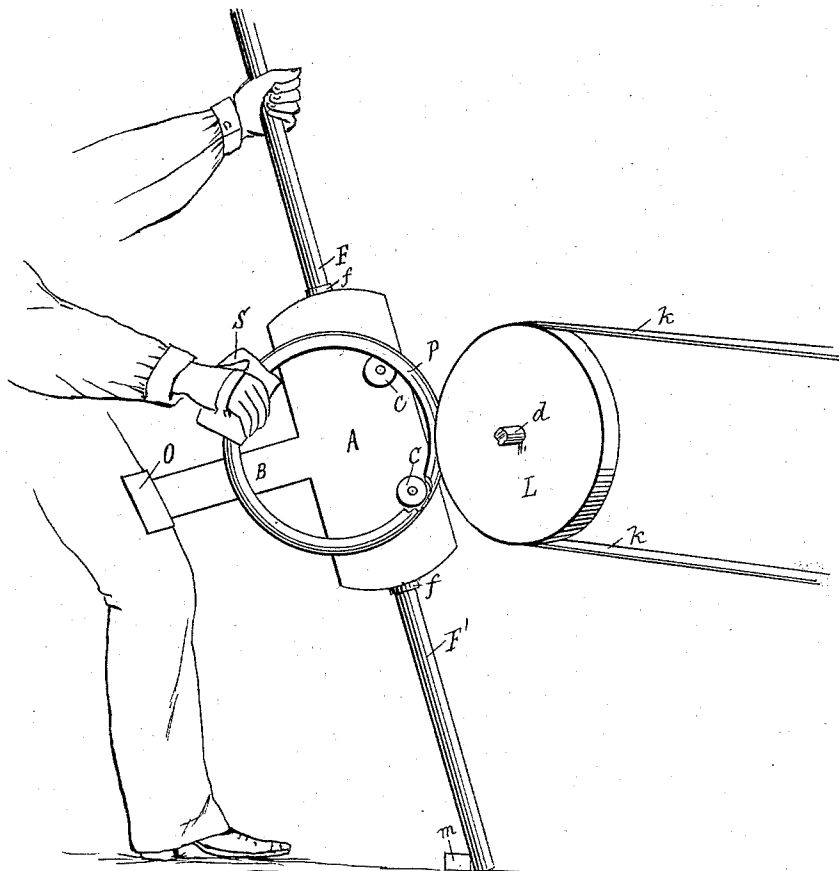


(No Model.)

E. J. CASE.
POLISHER FOR METAL CASTINGS.

No. 476,248.

Patented June 7, 1892.



Witnesses:

Chas. E. Raabe
R. N. McCormick

Inventor:

Eusley J. Case
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UNITED STATES PATENT OFFICE.

ENSLEY J. CASE, OF PEORIA, ILLINOIS.

POLISHER FOR METAL CASTINGS.

SPECIFICATION forming part of Letters Patent No. 476,248, dated June 7, 1892.

Application filed November 19, 1891. Serial No. 412,354. (No model.)

To all whom it may concern:

Be it known that I, ENSLEY J. CASE, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Polishers for Metal Castings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in polishers for metal castings of circular form, by means of which a simple, convenient, and effective process is provided.

More particularly my invention relates to a means whereby the faces of circular castings used for stoves and other purposes may be polished by a frictional contact with an emery-wheel or emery-belt, buff or felt wheel, or any other kind of belt or wheel suitable for the purpose of polishing or grinding.

The essential features of my improved process of polishing consist in the matter of contact, whereby a rotary motion is imparted to the metal circle, which enables the circumference of the circle or the face thereof to be polished in such rotation, the belt or emery-wheel rotating more rapidly than the circle, producing sufficient friction to perform the polishing process.

The mechanical features of the invention consist of a metal plate provided with two rollers, whereon the metal circles are designed to bear and to be guided by the said rollers.

That my invention may be more fully understood, reference is had to the accompanying drawing, in which the figure shows the mechanical structure used in carrying out the process and shows the relative position in which the process is performed.

In the figure, L is a wheel borne upon the shaft *d*, and *k* is a belt bearing upon the said wheel. A is a metal plate, with which are connected the tubing F F', as at *f f*, the said plate being provided with the anti-friction rollers C C. B is an extension from the plate A. P is a metal circle.

In grinding and polishing metal surfaces various wheels or belts are used, and the wheels or belts used in this connection and

for the purpose herein named may be of any of the characters or kinds that are generally used, and I do not wish to be limited to the means herein shown, and the frame structure provided with the anti-friction rollers, upon the face of which the metal circles are turned, may be in any form suitable for the purpose and adapted to the different circles, the surfaces of which are designed to be polished—as, for instance, circles provided with metal extensions, as legs, &c.—must be turned upon a plate especially provided for the purpose, the only essential and indispensable part of the structure being the anti-friction rollers herein named.

The operation of the device whereby the process is performed is very simple and apparent. A rapidly-rotating wheel provided with the proper surface, or a belt bearing upon the wheel provided with the proper surface, to perform the process of either grinding or polishing is the first essential feature in the operation. The metal circle P bears upon the face of the plate A and extension B, with the rollers C C bearing against the inner edge or surface of the metal circle. The rotation of the wheel L or similar wheel being brought in contact with the metal circle or face thereof by friction, grinds or polishes the surface and turns the circle P upon the rollers C C, thus bringing the entire circumference of the circle in contact with the wheel, and by playing from side to side or back and forth by means of the frame-work upon the surface presented the same is ground or polished according to the character of wheel with which the same is brought in contact.

The particular advantage possessed by my improvement consists in the rapidity with which circles may be ground or polished and of the completeness of the operation and the perfection of the polish. The methods heretofore employed have been to grind the surfaces by movement back and forth over a given space of the circumference and moving to another space, and so continuing until the same is fully ground, and the grinding process is performed lengthwise or crosswise with the circumference or across it, thus making the grain after the surface has been ground very irregular; but by the use of my process the grain is continuous with the circumference

and always regular, and the polish being made with the grain instead of across it renders the polishing process very simple and effective.

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

1. As a means for polishing metal circles, the plate A, upon which the metal circle bears, provided with the extensions B, F, and F', and the anti-friction rollers C C upon the plate A, against which the metal circle bears, all substantially as described and set forth.

2. As a means for rotating metal circles for purpose of polishing, the combination, with

the plate A, of the rollers C C, against which the inner edge of the circle P bears, the plate A, carried in a suitable frame-work, and the contact of the metal circle P, adjusted upon the plate A and with the edge thereof against the rollers C C, with the polishing-belt, all substantially as described and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ENSLEY J. CASE.

Witnesses:

W. V. TEFFT,
BOB MCCORMICK.