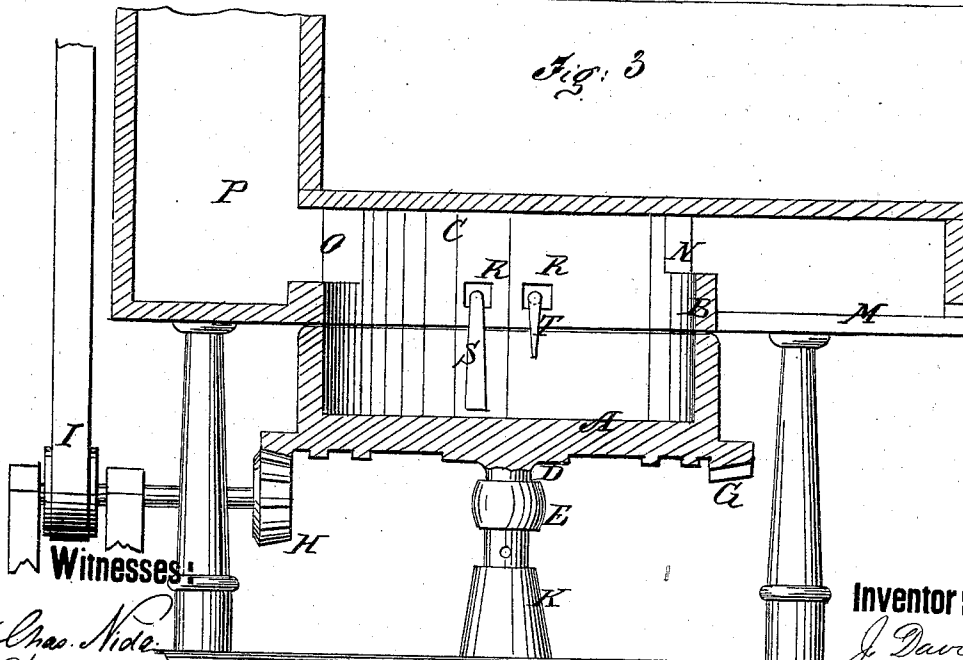
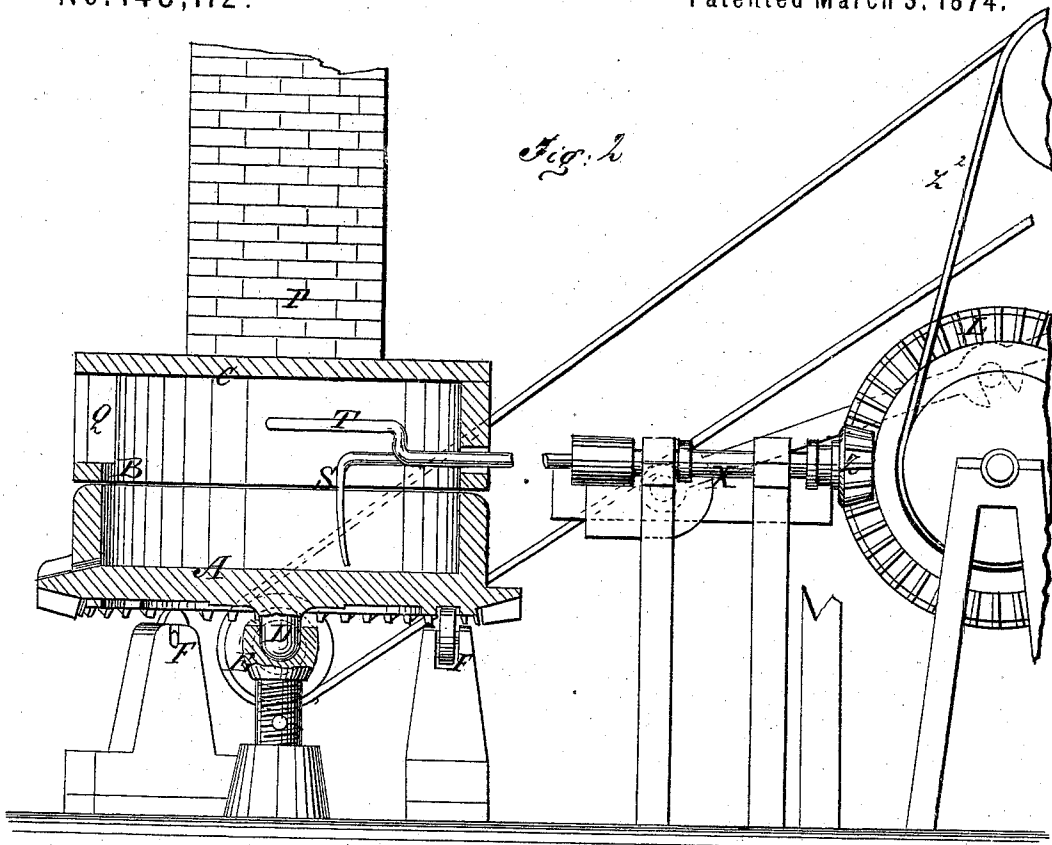


J. DAVIES.
Apparatus for Puddling Iron.

No. 148,112.

Patented March 3, 1874.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH DAVIES, OF KNOXVILLE, TENNESSEE.

IMPROVEMENT IN APPARATUS FOR PUDDLING IRON.

Specification forming part of Letters Patent No. 148,112, dated March 3, 1874; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, JOSEPH DAVIES, of Knoxville, in the county of Knox and State of Tennessee, have invented a new and Improved Puddling-Furnace, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claim.

Figure 1 is partly a plan view and partly a horizontal section of my improved puddling-furnace. Fig. 2 is a sectional elevation taken on the line *xx* of Fig. 1; and Fig. 3 is a sectional elevation taken on the line *yy*.

Similar letters of reference indicate corresponding parts.

A represents the puddling-hearth, which is made in the form of a circular cup or tub, and arranged with its top fitted closely against the short cylindrical part B of the top C of the puddling-furnace. This hearth is fitted on a pivot, D, at the center of its bottom, in a vertically-adjustable step, E, and near the outer edge it rests on rollers F in stationary supports, so as to be revolved horizontally, for which it is provided with a toothed rim, G, with which a bevel-pinion, H, gears, said pinion being driven by a belt, I, from the driving-shaft J. The step E screws up and down in the pedestal K, to regulate the pressure of the hearth-top at its joint with the bottom B of the furnace-top. M is the fire-place; N, the opening leading from it to the hearth; O, the escape-passage; and P, the chimney. The passages O and P are made through the sides of the stationary part of the furnace. This por-

tion has also a large opening, Q, for putting in and taking out the iron, and smaller holes R for the puddling-tools S and T, which are worked by power apparatus to manipulate the iron as it is brought to them by the revolving hearth. The tool S is attached to a slide, U, and has a reciprocating motion imparted to it by the cranked wheel V and connecting-rod W. The tool T has a rotary motion, which is imparted to it by the shaft X, to which it is attached, and said shaft is turned by a bevel-pinion, Z, which gears with the cranked wheel V. Said pinion is arranged to shift out and in gear, and is provided with a shifting-lever, Z¹, to shift it as required, for it is sometimes only needed to work the reciprocating puddling-tool. The cranked wheel V is driven from the main driving-shaft J by a belt, Z², and pulleys. By the rotation of the hearth in this way the puddling-tools can be worked by power in a simple way, because the iron is brought to them by the hearth; and by using power-driven tools the puddler's labor is very much lessened.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with a revolving furnace, of two puddling-tools, S I, the one revolving and the other reciprocating therein, as and for the purpose described.

JOSEPH DAVIES.

Witnesses:

T. D. THOMAS,
THOS. R. PRICE.