

No. 669,733.

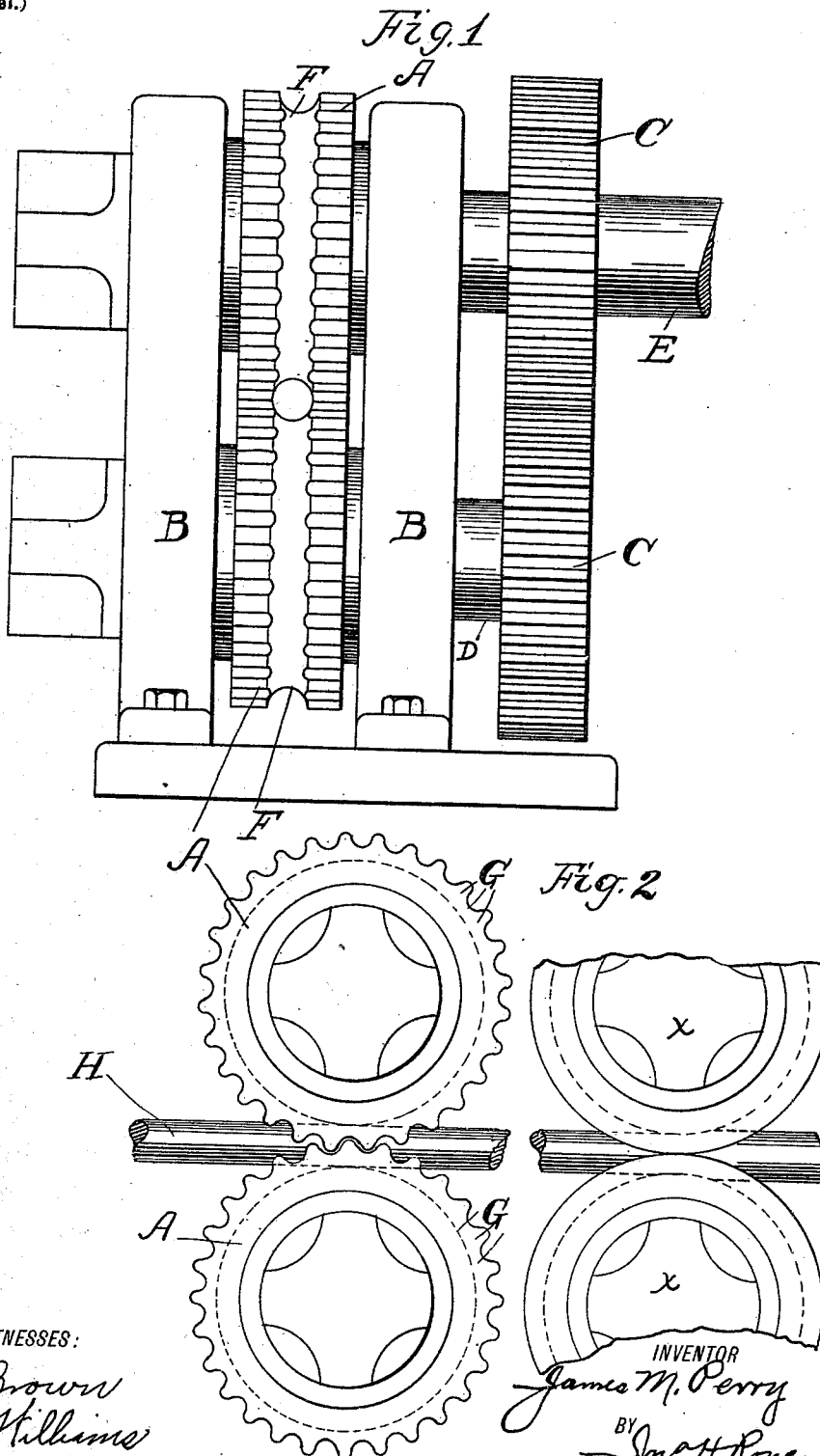
Patented Mar. 12, 1901.

J. M. PERRY.

APPARATUS FOR ROLLING AND DRAWING CYLINDRICAL RODS, SHAFTS, &c.

(Application filed May 3, 1898.)

(No Model.)



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JAMES MITCHELL PERRY, OF PITTSBURG, PENNSYLVANIA.

APPARATUS FOR ROLLING AND DRAWING CYLINDRICAL RODS, SHAFTS, &c.

SPECIFICATION forming part of Letters Patent No. 669,733, dated March 12, 1901.

Application filed May 3, 1898. Serial No. 679,576. (No model.)

To all whom it may concern:

Be it known that I, JAMES MITCHELL PERRY, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Rolling and Drawing Cylindrical Rods, Shafts, &c.; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 indicates an end elevation of my improved mill for rolling cylindrical rods, shafts, &c. Fig. 2 is a side elevation of the same and a portion of the ordinary finishing-mill arranged in front of my improved mill.

My invention relates to apparatus for rolling and drawing cylindrical rods, shafts, &c., by the use of which perfectly true cylindrical rods, shafts, &c., may be rolled and finished.

Heretofore, so far as I am aware, it has been impossible to avoid the formation of a fin along the edge or side of a rod or bar from the fact that a space is of necessity permitted between the faces of the rolls, at which point the metal presses out and forms said fin. To obviate the formation of the fin, it is usual to slightly enlarge the semicircular grooves in the rolls at the adjacent edges of the rolls to take up the metal which would otherwise form the fin. By this practice the fin is obviated; but the sides of the rod or bar are formed with a slight protuberance, which renders the same untrue, and when perfectly true cylindrical rods or bars are required said rods or bars have to be subjected to another operation for such purpose.

It is the object of my invention, as heretofore stated, by the use of my apparatus to take the product from the present finishing-mill while still in a heated condition and therefrom manufacture or produce perfectly true cylindrical rods, shafts, &c., the surfaces of which will likewise be of considerable polish, and to accomplish this I arrange my apparatus tandem or in line with the present finishing-mill.

I will now describe my invention, reference being had to the accompanying drawings, which form a part of this specification, in which like reference characters indicate like

parts wherever they occur throughout both views thereof.

Referring now to said drawings, A A are rolls mounted in suitable housings B B and driven by power from the power-shaft E by means of the pinion C, mounted thereon, which meshes with pinion C' on the shaft B, whereby said rolls are driven in opposite direction and at the same rate of speed. The said rolls are provided with the usual grooves F F, which, however, are perfectly true and in cross-section the required diameter of the rod. Around the rims or edges of the grooves in said rolls annular corrugations G G are formed, which may be integral with the rolls or formed on a separate collar in any wise suitably secured on the rolls. The said corrugations do not contact or mesh, but are arranged to overlap the rod or bar H on either side of the same on a horizontal plane slightly below the axes thereof, practically forming a die inclosing every portion of the piece in its passage therethrough and subjecting the same to action, partially rolling and partially drawing, whereby the metal which would otherwise press or squash between the space between the rolls is tucked or pressed inward and fed forward, the bar or rod being slightly drawn or elongated by the operation, the surfaces of the same receiving a finished or polished appearance.

In the practice of my invention the speed of the rolls is slightly greater than the travel of the piece through the ordinary finishing-rolls $x x$, arranged in front of and tandem with my improved mill. In other words, the speed of my improved mill is slightly greater than the finishing-mill used in conjunction therewith, which enables the corrugated overlapping rim or edge of the rolls to tuck or press the metal which has a tendency to squash between the rolls, thus preventing the formation of a fin, the bar or rod being elongated sufficiently to take up the metal which the corrugated rims of the rolls keeps constantly fed within the pass or groove.

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

1. In a mill for rolling cylindrical rods, bars, &c., the combination of two vertically-disposed rolls each of which is provided with a

semicircular groove opposed to each other, and having their edges corrugated and adapted to overlap the sides of the rod or bar on a horizontal plane slightly below the axes thereof, in combination with means to drive said rolls.

2. In a mill for rolling cylindrical rods, bars, &c., the combination of two vertically-disposed rolls each of which is provided with a semicircular groove in opposition to each other and having their edges corrugated and adapted to overlap the sides of the rod or bar on a horizontal plane slightly below the axes there-

of, in combination with a finishing-mill arranged tandem to and to the rear of said first-mentioned mill, and means to drive the first-mentioned mill at slightly-greater speed than the finishing-mill, substantially as shown and described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JAMES MITCHELL PERRY.

Witnesses:

JNO. H. RONEY,
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