Leopold Thomas. Iron Rolling Machine.

Plate 1

2 Sheets--Sheet 1.

Fig. 1

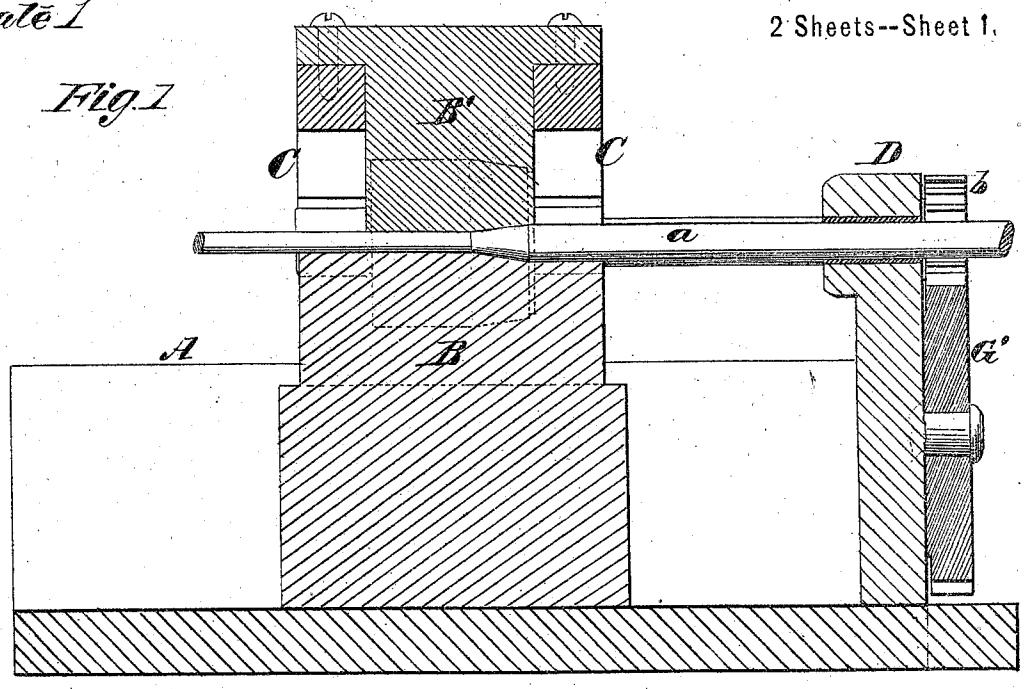


Fig. 2

No. 120,838.

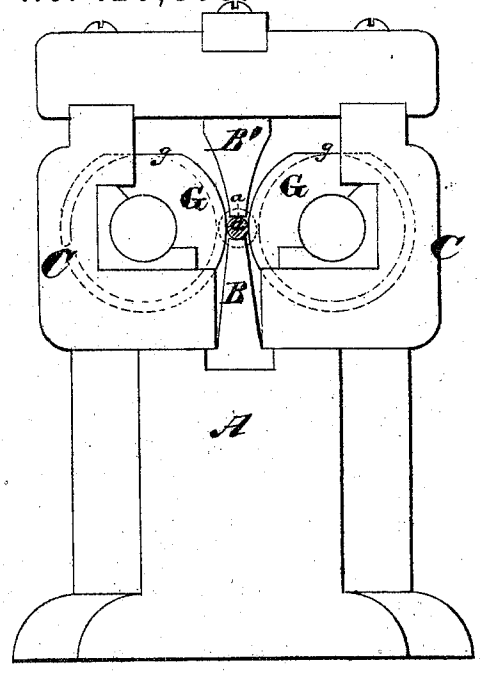


Fig. 3

Patented Nov. 14, 1871.

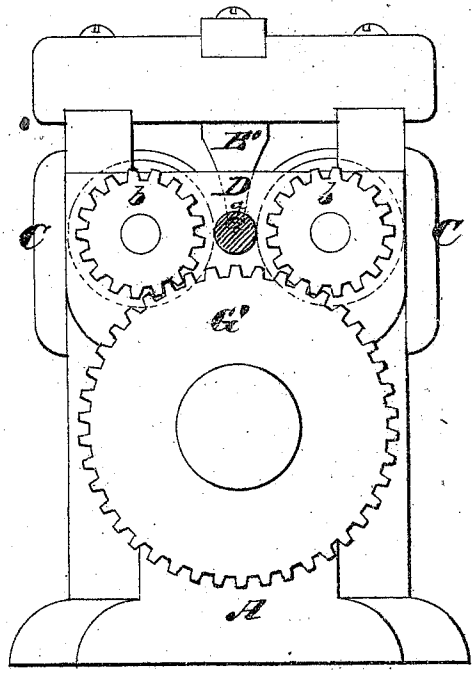
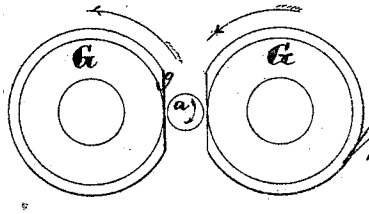


Fig 4



Witnesses.

T. Campbell.

J. N. Campbell.

Inventor

Leopold Thomas

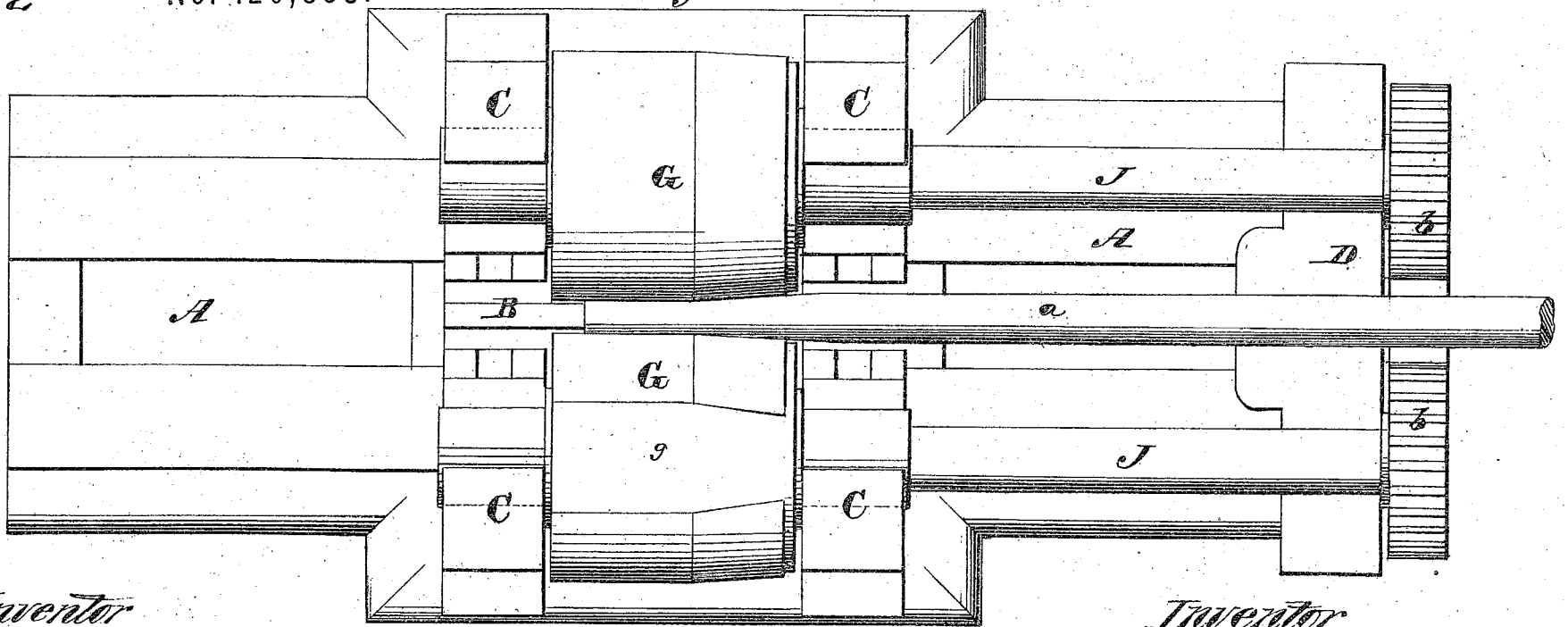
by

Munn, Fenwick & Lawrence

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

Leopold Thomas Iron Rolling Machine.

Plate 2 — No. 120,838. — Fig 5 — Patented Nov. 14, 1871. — 2 Sheets--Sheet 2.



Inventor
T. V. Campbell.
J. N. Campbell.

Inventor
Leopold Thomas
by
Munn, Fenwick & Sammon

A.M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

LEOPOLD THOMAS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR ROLLING METAL.

Specification forming part of Letters Patent No. 120,838, dated November 14, 1871.

To all whom it may concern:

Be it known that I, LEOPOLD THOMAS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Rolling Iron; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a section taken longitudinally and in a vertical plane through the center of the machine. Fig. 2, Plate 1, is an elevation of one end of the machine. Fig. 3, Plate 1, is an elevation of the opposite end of the machine. Fig. 4, Plate 1, is an end view of the two rollers. Fig. 5, Plate 2, is a top view of the machine with the upper guide removed.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to machinery for rolling iron, hot or cold. It consists in two plain surfaced rollers which have depressions in their peripheries, and which are applied on parallel shafts, both driven in the same direction, in combination with two guides, which are so arranged between said rollers as to support the iron being rolled and keep the same in a plane parallel to the axes of the rollers, as will be hereafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents the bed-frame of the machine, from which rise standards C C, that support two rollers, G G, and a guide, B′. The journals of the rollers G G are supported by unyielding boxes, which are seated into the standards C, as shown in Fig. 2. The said rollers are arranged in a horizontal plane on opposite sides of the center of the machine, and their axes are parallel to each other. These rollers are of an equal size, and have flat places or depressions *g* on their surfaces for the purpose of affording sufficient space between them for feeding in the metal to be rolled. The tapering of the rollers at their ends where the metal is fed between them will also greatly facilitate the feeding operation and the gradual reduction of the metal bars.

In the several figures of the drawing, *a* represents a bar or shaft which is being fed through the machine, and B B′ represent two guides, which are arranged one above and the other below the shaft *a* for supporting this shaft and holding it positively in its proper place, to wit, with its axis parallel to and in the horizontal plane of the axes of rollers G G, as shown in Fig. 2. From one end of each roller G extends a shaft, J, which is supported in journal-boxes on a standard, D, and which carries a pinion spur-wheel, *b*. The spur-wheels *b b* both engage with the teeth of a driving spur-wheel, G′; consequently the rollers G G will both be rotated in the same direction, as indicated by Fig. 4, and the shaft which is being reduced and polished will be continually rotated while passing through the machine. Between the two pinions *b b* a hole is made through the standard D, the axis of which hole should coincide with the horizontal plane of the axes of rollers G and with a vertical plane passing through the centers of the guides B B′.

The machine which I have above described is designed for finishing shafts and other metal objects by reducing them very slightly after they have been passed between ordinary rollers, and also for truing and polishing the shaft at one passage through the machine.

The iron rods are first heated and rolled in an ordinary rolling-machine until they are reduced to a diameter a little greater than is required when they are finished. The rods are then allowed to cool down to a dark cherry-red heat and introduced between the rollers G G of my machine.

The feeding of the rods between the rollers G G and entirely through the machine is effected by hand once during every revolution of these rollers, when the flat surfaces *g g* are in apposition, as indicated in Fig. 4, and when the rod is relieved from the pressure of the rollers.

Having described my invention, what I claim as new is—

The combination, substantially as described, of the two rollers, plain surfaced and cylindrical, except at the points *g*, where they are slightly flattened or depressed, and arranged with their axes parallel to one another, the guides B B, and mechanism to rotate said rollers in the same direction, for the purpose set forth.

Witnesses: LEOPOLD THOMAS.

PATRICK PARADIN,

DAVIS BAXTER.

(125)