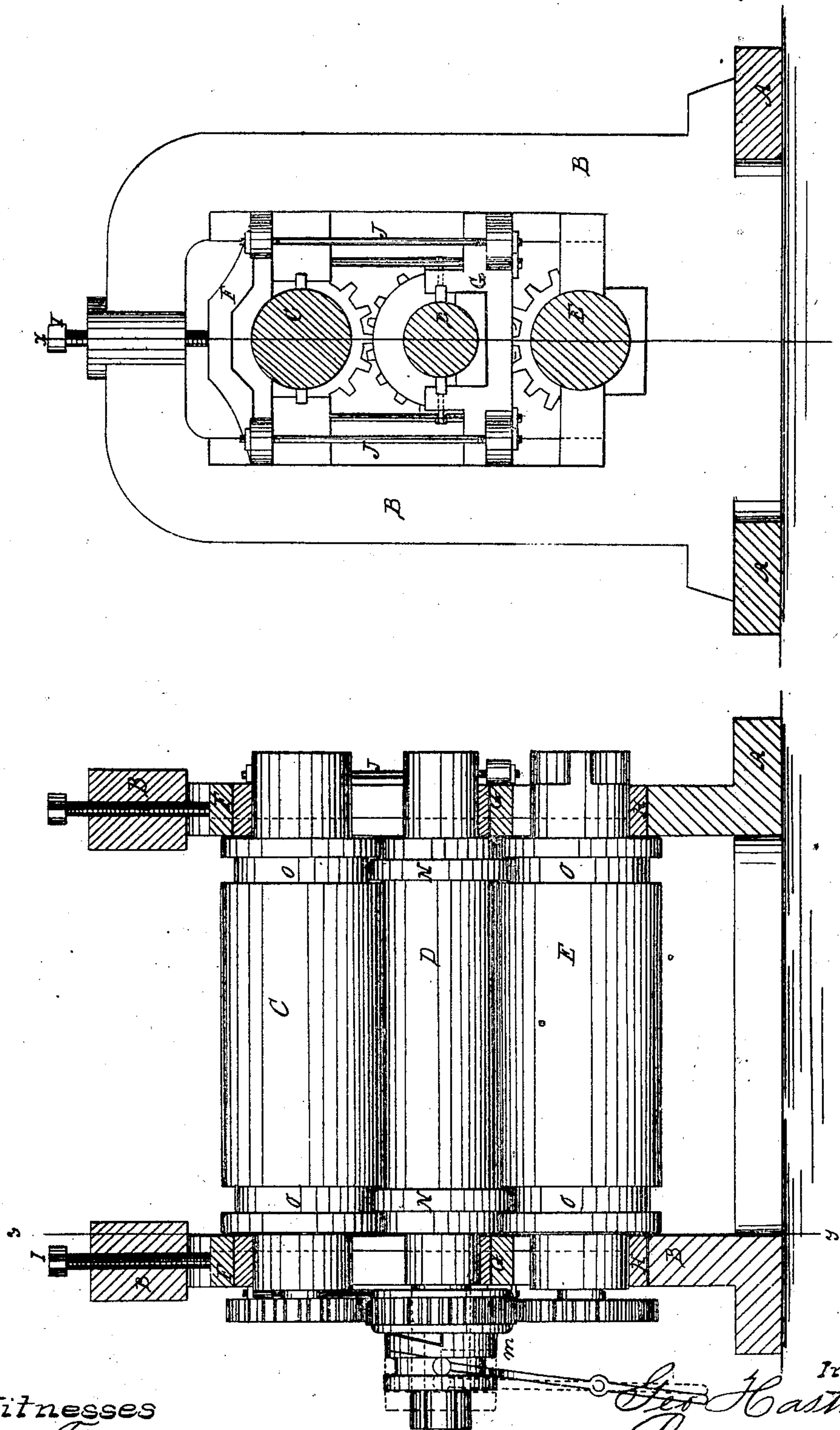


G. Hastings Jr.
Rolling-Machine.

Nº 73598

Patented Jan. 21, 1868.



Witnesses
Thos. Lusche
Wm. Trueman

Inventor
G. Hastings Jr.
Per Munnell
Attorneys

United States Patent Office.

GEORGE HASTINGS, JR., OF WHEELING, WEST VIRGINIA.

Letters Patent No. 73,598, dated January 21, 1868.

IMPROVED ROLLING-MACHINE.

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, GEORGE HASTINGS, Jr., of Wheeling, in the county of Ohio, and State of West Virginia, have invented a new and improved Rolling-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved method of constructing machines for rolling iron and steel into sheets or plates, and for scouring the same for making nails, and for other purposes; and the invention consists in the construction and arrangement of parts, as hereinafter described.

Figure 1 represents a sectional side elevation of the machine through the line *x x* of fig. 2.

Figure 2 is a sectional end elevation through the line *y y* of fig. 1.

Similar letters of reference indicate corresponding parts.

This machine consists mainly of three parallel rollers or cylinders, placed one above the other, and secured in a suitable frame to a bed-plate. The centre roll is less in diameter than the other two, and its ends are confined in boxes or carriages, which are attached to the riders on the journals of the upper roll, as seen in the drawing, by supporting-rods.

A represents the bed-plate, and B the frame or head blocks, which support the rollers. C is the top roll, D the middle roll, and E the lower roll. F represents the riders on the journals of the upper roll; G, the movable boxes or carriages, which support the journals of the middle roll, and H represents the boxes for the lower roll. The carriages G of the middle roll are connected with the riders of the upper roll by the rods J J, and the two rolls are held in position or prevented from rising by the screw-bolts I I, in the top of the frame. On one end of each of the rolls there is a gear-wheel, which wheels are fast on the upper and lower rolls, but on the middle roll the wheel is allowed to turn independently of the roll, when desired. As seen in the drawing, the journal of this roll extends through the frame, upon which there is a clutch-coupling, *m*, which slides on the journal and engages with the gear-wheel, when required. This coupling is operated by a lever (seen in red in the drawing) in the usual manner. N N represent collars on the middle roll, which enter grooves, *o o*, in the upper and lower rolls for the purpose of preventing lateral motion.

By this method of constructing and operating the rollers, many if not all the difficulties which have hitherto been experienced in rolling-mills are overcome.

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

1. The rollers C, D, and E, and the riders, carriages, and boxes F, G, and H, with the supporting-rods J J, combined and arranged substantially as shown and described, for the purposes set forth.
2. The collars N, grooves O, and clutch-coupling M, in combination with the rollers C D E, sides and carriages and boxes F G H, and supporting-rods J, as herein described, for the purpose specified.
3. In three high rolls, connecting the middle and the upper rolls, so that they shall move up and down together, substantially as shown and described.

GEO. HASTINGS, JR.

Witnesses:

G. F. SAWTELL,
CHAS. BULGER.