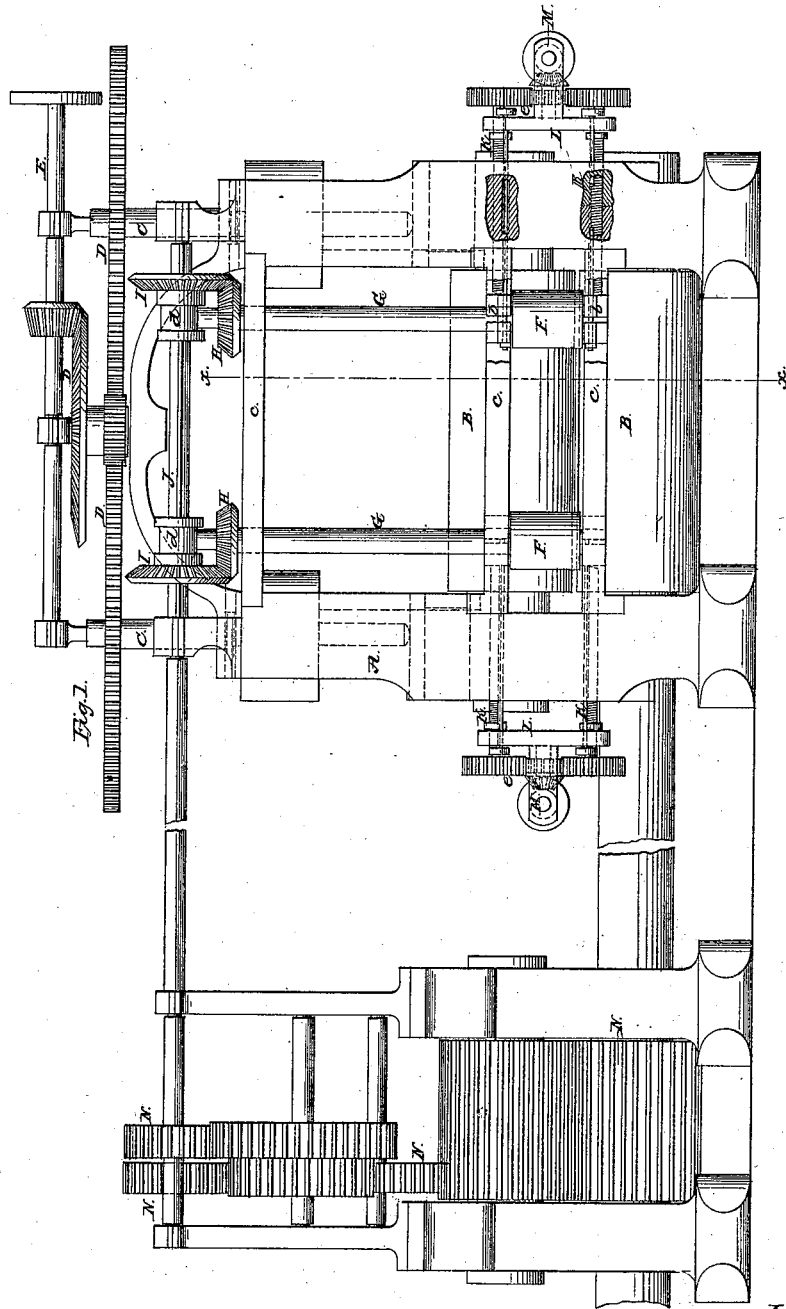


J. F. Lauth,
Rolling Metal Plates, Bars, &c,
N^o 53,012.
Patented Mar. 6, 1866.



Witnesses:
W. Greun
Geo. Fusch

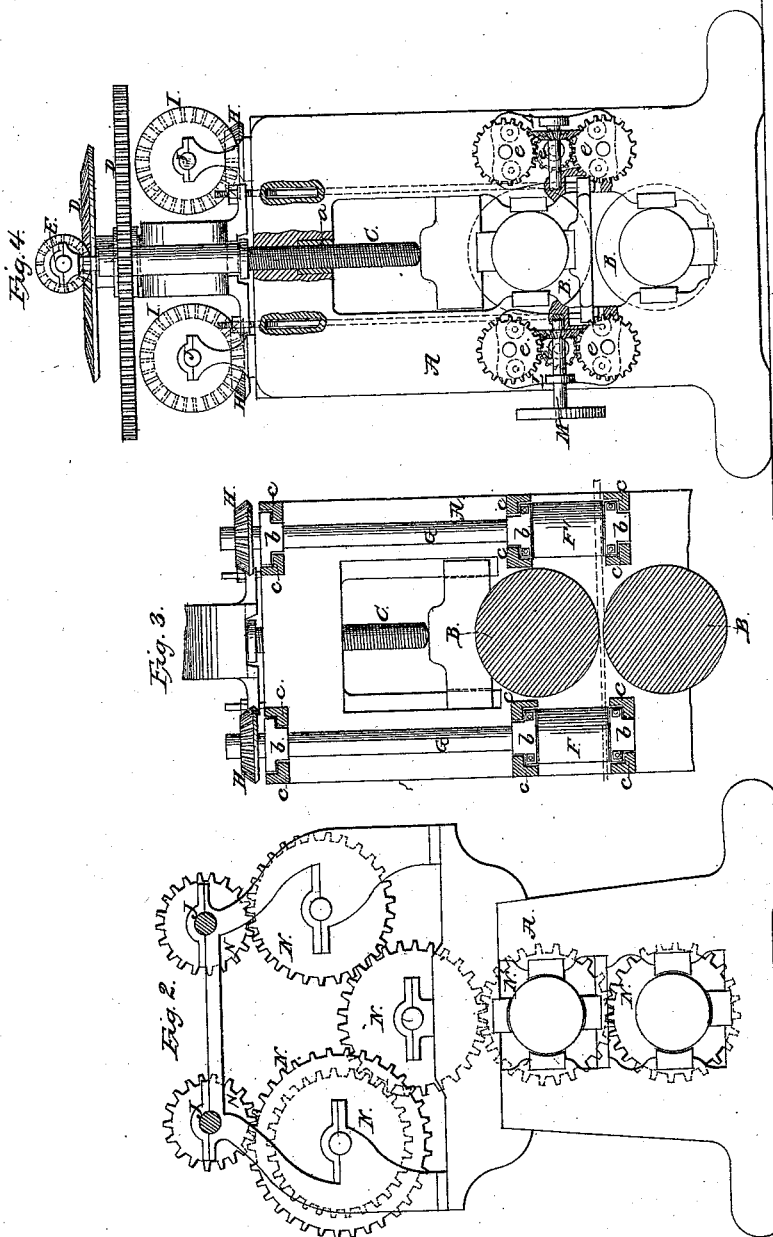
Inventor:
J. F. Lauth
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN F. LAUTH, OF READING, PENNSYLVANIA,

IMPROVEMENT IN MACHINERY FOR ROLLING IRON.

Specification forming part of Letters Patent No. 53,012, dated March 6, 1866.

To all whom it may concern:

Be it known that I, JOHN F. LAUTH, of Reading, in the county of Berks and State of Pennsylvania, have invented a new and useful Improvement in Machinery for Rolling Iron; 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, in which—

Figure 1, Sheet No. 1, is a front elevation of my invention; Fig. 2, Sheet No. 2, an end view of the same; Fig. 3, a transverse vertical section of the same, taken in the line *x x*, Fig. 1; Fig. 4, an end view of the same, the end opposite to that shown in Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and useful improvement in machinery for rolling iron; and it consists in the application of side rollers to the ordinary rolling-machines, whereby the edges of the metal, both previous to its passage between the rollers and after leaving the same, are subjected to pressure, causing the metal to be rolled of a uniform width throughout and with smooth edges.

The invention also consists in a novel means employed for operating and adjusting the side rollers, as hereinafter fully shown and described, whereby said rollers may be placed at a greater or less distance apart to suit the width of the metal being rolled, and the rollers at the discharge side of the pressure-rollers made to rotate with a greater speed than those at the feed side.

A represents a framing, which may be constructed in any proper manner to support the working parts; and B B are two horizontal pressure-rollers placed in said framing, one over the other in the same axial plane.

The pressure of these rollers upon the iron passing between them may be regulated as desired by means of screws C C, which pass or work through nuts *a* in the framing, and have motion communicated to them through the medium of gears D from a shaft, E, as shown clearly in Fig. 1.

F F F' F' represent side rollers, which are placed on vertical shafts G in the framing A. The bearings *b* of these shafts G are fitted between guides *c c* in the framing A, as shown

clearly in Fig. 3, and the upper ends of the shafts G have bevel-wheels H upon them, which gear into corresponding wheels I on horizontal shafts J on the upper part of the framing A.

The wheels I are allowed to slide freely on the shafts J, and said wheels have grooves *d* made circumferentially in their hubs to receive the upper ends of the shafts G.

By this arrangement it will be seen that the side rollers, F F F' F', may be adjusted nearer together or farther apart without at all interfering with their driving mechanism as the wheels I are carried along on their shafts J, in consequence of the upper ends of the roller-shafts G fitting in the grooves *d* of the wheels I, said wheels being fitted on the shafts J by means of a feather and groove to admit of the former sliding on the latter and still be turned by them.

The rollers F F F' F' are placed one pair, F F, at the feed side of the rollers B B, and the other pair at the discharge side thereof, and they are adjusted by means of screws K, which pass horizontally through the framing A into the bearings *b*, said screws having their outer bearings in plates L at the sides of the framing and connected, by gears *e*, with shafts M. By this means the lateral adjustment of the side rollers, F F F' F', may be readily effected to suit the width of the iron being rolled.

The rollers F F at the feed side of the pressure-rollers B B are nearer together than those F' F' at the discharge side, and the latter rollers have a quicker motion than the former ones. This is necessary, as the iron as it is rolled and reduced in thickness has a quicker motion at the discharge side. This difference in the motion of the two pairs of side rollers, F F F' F', is effected through the medium of the gears N, (shown clearly in Fig. 2,) the difference in the size of these gears causing the shaft J which rotates the rollers F', working faster than the other shaft J, which rotates the rollers F.

The whole arrangement is extremely simple and efficient, and is a great acquisition to the ordinary pressure-roller devices for rolling iron.

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

1. The combination of the main rolls B B and two pairs of side rollers, F F F' F', con-

structed and arranged substantially as and for the purposes set forth.

2. The adjusting of said rollers through the medium of the screws K and gears e, substantially as shown and described.

3. In combination with the subject-matter of the first claim, giving the side rollers, F', at the discharge side of the rollers B B a quicker

motion than the rollers F at the feed side of the same, substantially as and for the purpose set forth.

JOHN F. LAUTH.

Witnesses:

PETER CLEAVER,
DANIEL MILLER.