S. T. WELLMAN.

Rolls for Rolling Plate Metal.

No. 201,211. Patented March 12, 1878.

Fig. 1.

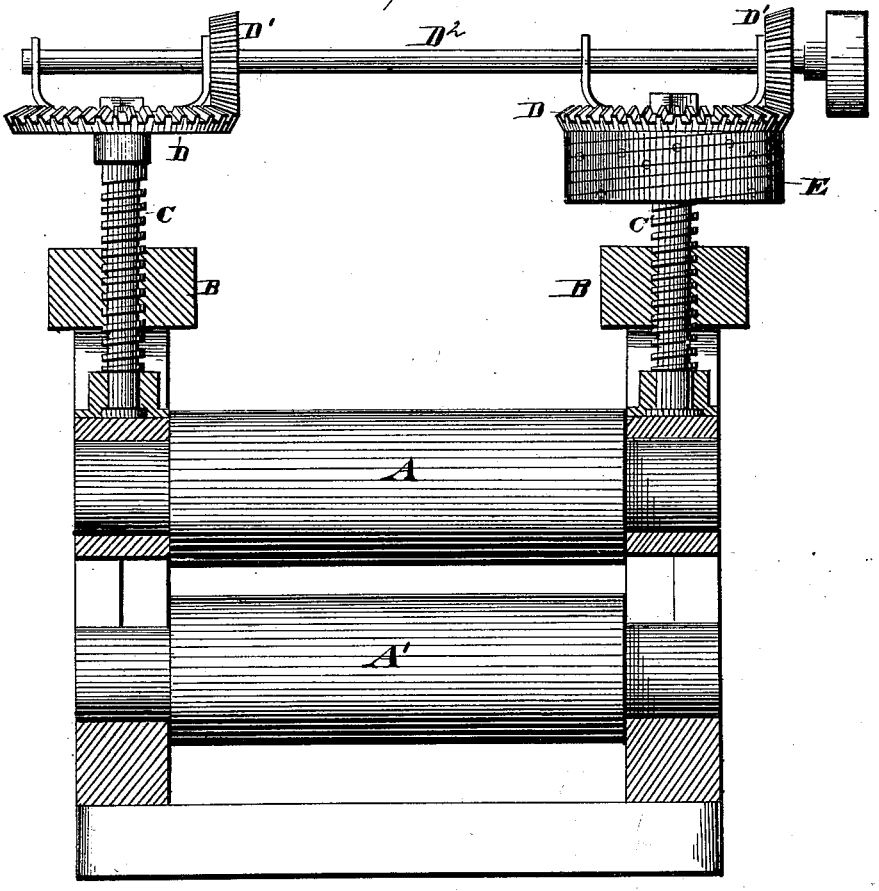
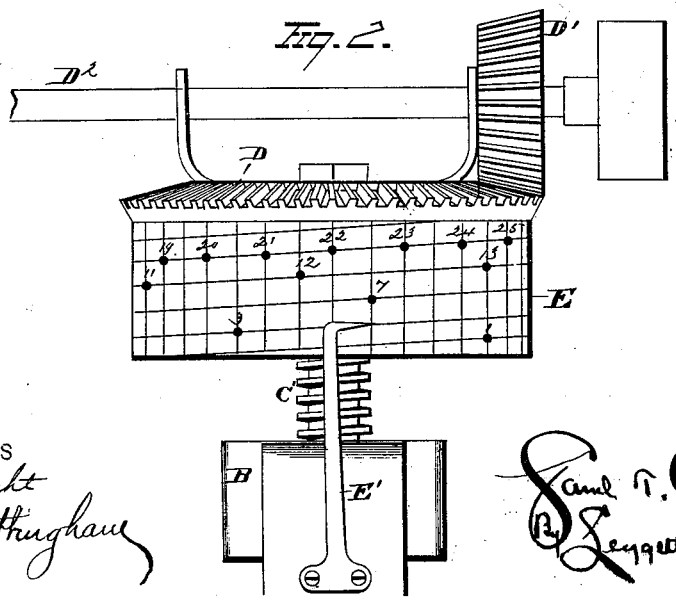


Fig. 2.



WITNESSES

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SAMUEL T. WELLMAN, OF CLEVELAND, OHIO.

IMPROVEMENT IN ROLLS FOR ROLLING PLATE METAL.

Specification forming part of Letters Patent No. **201,211**, dated March 12, 1878; application filed December 26, 1877.

To all whom it may concern:

Be it known that I, SAMUEL T. WELLMAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rolls for Rolling Plate-Metal; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to improvements in rolls provided with means whereby any gage or thickness of plate may be readily and accurately set in rolling plate metal; and the invention consists in the combination, with a vertically-movable roll in a set or train of rolls, of an indicating-cylinder secured to one of the adjusting-screws of said roll, which cylinder is provided with spirally-arranged figures, indicating different gages by means of a stationary pointer.

In the drawing, Figure 1 is a view, part in section and part in side elevation, of my device. Fig. 2 is a separate view, in side elevation, of my gage.

A A′ are two plain rolls, the lower one, A′, stationary, the upper one, A, movable vertically. These rollers are suitably journaled in the frame B, which may be of any appropriate construction or material.

I prefer to provide the roller A with an independent sliding journal, grooved or otherwise fixed into the frame B. These journals are hung upon screws C C′, which pass up through the frame B, and, by rotating in said frame, raise or lower the roller A. To the top of the screws C C′ are attached miter-gears D, engaging pinions D^1 upon a common shaft, D^2.

It will be apparent that the revolution of the shaft D^2 will operate the screws C C′ equally and simultaneously, thereby giving a true up-and-down movement to the roller A.

Attached to one of the miter-gears D, and, preferably, made a part thereof, is my gage E. This is a cylinder, substantially such as shown in the drawing, upon the face of which is marked a spiral groove, corresponding to the thread upon the screws C C′. A stationary indicator or pointer, E′, is attached to the frame B, and presents itself to the aforesaid spiral line or groove upon the cylinder in such a way that it may serve as an indicator, in the manner herein specified.

Upon the cylinder E are placed at suitable points figures ranging from 1 upward as far as may be desired. When the indicator E′ points to figure 1 upon the cylinder E the rolls A A′ should be their maximum distance apart, and this distance should be suited to the billet from which the plate is to be rolled. The rolls are driven by an extraneous power, in the usual or any suitable manner, this forming no part of my invention.

As the billet aforesaid is passed through the rolls for the first time, it is rolled to the gage or thickness indicated by figure 1 on the cylinder E, and these figures may be so arranged upon the said cylinder that this gage shall correspond to the standard measurement of the trade.

Before the second pass is made, the shaft D^2, with its pinions D^1, are operated until the indicator E′ points to the figure 2 upon the cylinder E. When the second pass of the plate through the rolls is made a gage, No. 2, is produced.

Thus, through successive passes, until the plate is rolled to the desired gage indicated by the figure upon the cylinder E, it will be seen that any gage or thickness of plate may be readily produced by an unskilled mechanic, all that is necessary being to pass the plates between the rolls until the desired gage or thickness be obtained, as indicated upon the cylinder E.

For practical purposes I prefer that the shaft D^2 should be operated by steam-power, although it is manifest that it may be manually operated, if necessary.

What I claim is—

1. The combination, with the vertically-movable roller of a set or train of rolls, of an indicating-cylinder, secured to one of the screws employed for adjusting the roller, said cylinder provided with spirally-arranged figures, indicating different gages, substantially as set forth.

2. The combination, with the vertically-adjustable roll in a train or set of rolls, and one of its adjusting-screws, of the indicating-cyl-

inder, adapted to rotate with said screw, and the fixed pointer, which is secured to the frame of the rolls, substantially as set forth.

3. The combination, with the upper roll, the vertically-adjusting screws at either end thereof, and the horizontal shaft, which connects with said screws by independent gearing at their respective upper extremities, of the indicating-cylinder, formed with or secured to one of the adjusting-screw gears and provided with a pointer, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL T. WELLMAN.

Witnesses:
F. TOUMEY,
W. E. DONNELLY.