

UNITED STATES PATENT OFFICE.

WILLIAM SELLERS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BORING-MILLS.

Specification forming part of Letters Patent No. **17,641**, dated June 23, 1857.

To all whom it may concern:

Be it known that I, WILLIAM SELLERS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Boring or Turning Mills for Operating in Metals or Stone; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view. Fig. 2 is a transverse section through the center of the spindle. Fig. 3 is a longitudinal section through the center of the spindle, and Fig. 4 is a plan.

On these several figures similar letters refer to similar parts.

The object of my improvement is to obtain greater solidity to the revolving plate, upon which the work to be operated upon is bolted, and to so arrange the machine as to make it complete in itself, and not be dependent upon stone or brick foundations for support to the spindle of the revolving plate, as heretofore necessary in all large machines. To this end I make the bed-piece A of sufficient depth to give support to the uprights B B, which carry the slide-rest C C and tool-slide D, and having on its under surface a plate, which rests on any suitable support for the machine. In the center of the machine, and attached to the bottom plate E, I provide a barrel, F, which is supported laterally by the braces g g, and having at its lower end openings on opposite sides to receive the cross-bar H, which is supported at its extremities by the set-screws I I, resting on the bottom plate E. These set-screws are of sufficient length to give a small vertical adjustment to the cross-bar H, which supports the step k. The vertical adjustment to the step k may be obtained by the use of one set-screw beneath it, or by the use of a wedge in place of the cross-bar H, should it be found more convenient to do so. The step k rests upon the cross-bar H in such a manner as to prevent its turning, and the place of support is rounded, so that, should one of the set-screws be raised more than the other, it may not prevent the upper surface from fitting

accurately to the bottom of the spindle L, which is attached to the under surface of the face-plate M. The step k and spindle L are accurately fitted in the barrel F, which serves as a short bearing for the spindle and a lateral support for the step. Motion is communicated from the driving-pulleys N to the face-plate M by means of the bevel-pinion O and wheel P. Inside the wheel P, as close to it as possible, and attached to the face-plate M, I provide an annular piece of metal, Q, of such form as may best sustain the revolving plate in every direction. I prefer the form usually adopted on planing-machines, as I can thereby retain the oil in contact with the revolving plate. This annular piece Q rests in a corresponding and reversed piece, R, attached to the bed-piece A.

To put the machine in working order, the bar H is adjusted vertically by means of the set-screws I I, so that nearly all the weight of the face-plate M may rest upon the step k, the remainder being supported in the annular groove R on the bed-piece A.

By this arrangement the vertical and horizontal strain upon the face-plate M, which is due to the cut of the tool, will be mainly taken upon the groove R, and the greater the distance of the tool from the center of the plate the more service will the outer support be to the operation of the machine.

It is evident the form of the groove may be very much varied, or one side be taken away altogether, so that I do not restrict my invention to any particular form of support.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Revolving the face-plate of boring or turning mills in a support, as near as convenient to the periphery thereof, substantially as described.

2. The adjustable step or center bearing, when this is combined with an outer support, substantially as described.

WILLIAM SELLERS.

Witnesses:

WM. BANCROFT,
WM. S. LEVERING.