

Dressing Millstones.

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H. Horton.

United States Patent Office.

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IMPROVEMENT IN APPARATUS FOR DRESSING AND FURROWING MILLSTONES.

The Schedule referred to in these Letters Patent and making part of the same.

To all to whom it may concern:

Be it known that I, JAMES LEE NORTON, of Belle Sauvage Yard, Ludgate Hill, in the city of London, England, a subject of the Queen of Great Britain, have invented or discovered new and useful Improvements in "Apparatus for Dressing and Furrowing Millstones;" and I, the said JAMES LEE NORTON, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say,

This invention has for its object improvements in apparatus for dressing and furrowing millstones.

For this purpose I employ a curved base surfaced on the under side. This base is to rest upon the skirt of the stone and follow its curve.

Upon this base a slide is mounted, so as to be capable of moving along from end to end in a curved course.

The slide carries a vertical axis with an arm upon it, and at the end of the arm is a tool-carrier and tool. The tool is a cutting-diamond, gem, or other cutter.

The arm with the tool-carrier and tool are moved to and fro by the workman, and so curved lines are cut upon the face of the stone.

The spaces between the lines are given by the movement of the slide upon the base, to effect which rack-teeth are provided upon the base, and a worm, mounted on the slide, engages with them.

The worm takes its motion from a ratchet-wheel, which, by a lever and pawl, is turned one or more teeth for each stroke of the cutter.

If it be desired, in place of dressing the stone to a true plane all over, to make the surface incline from the skirt to the eye, I employ a template to govern the tool-holders.

The template is fixed upon the slide, and the tool-holder bears upon it and follows its contour as it is moved to and fro.

Figure 1 is a plan;

Figure 2 is a side view; and

Figure 3, an end view of a machine thus constructed, as it appears when set upon the stone for work.

a is the stone, and

b, the circular bed resting thereon.

It may be connected by a radius arm, *b'*, with the spindle or axis at the center of the stone.

c is a slide, capable of traversing in a curved course along the bed *b*.

d is a vertical axis, carried in bearings by the slide, and having upon it an arm, *e*, to which is jointed the lever *f* carrying an adjustable tool-holder and tool.

In the operation of dressing the stone the arm *e* has a to-and-fro motion given to it around its axis by means of its handle *e'*.

During these motions the lever *f* is controlled by the guide *g* fixed to the slide, the lever being made to clip the guide, as is shown, so that the vertical movement of the cutter, as it traverses over the face of the stone, is dependent entirely on the form given to the guide.

The guide is so formed as to cause the tool to cut more deeply as it approaches the eye than when it is operating on the skirt of the stone.

In order that the slide *c* may be traversed the requisite short distance on the slide between the successive passages of the tool over the face of the stone, rack-teeth are formed on the bed at *b''*, and with these teeth the worm *c''*, which is carried in bearings on the slide-gears.

A ratchet-wheel is fixed on the axis of the worm, and it is driven by a lever and a pawl, *h*.

At each stroke of the arm *e* a projection upon it strikes the lever and imparts to it the requisite motion, a weight causes the return of the lever; the pawl is capable of being turned from one side to the other to produce a rotation in the opposite direction.

Having thus described the nature of my invention and the manner of performing the same, I would have it understood that

What I claim is—

1. The combination of the curved staff or base, the slide *c* to traverse upon it in a circular course, the vertical axis *d*, and the arm *e* supporting the cutting-point, substantially as described, and shown by the drawing.

2. The combination of the template *g* to govern the course of the tool, with the lever *f*, arm *e*, axis *d*, and slide *c*, substantially as described, and shown by the drawing.

J. L. NORTON.

Witnesses:

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