A. E. SMITH.

MILLSTONE-DRESSING MACHINES.

No. 195,666. Patented Sept. 25, 1877.

Fig. 1.

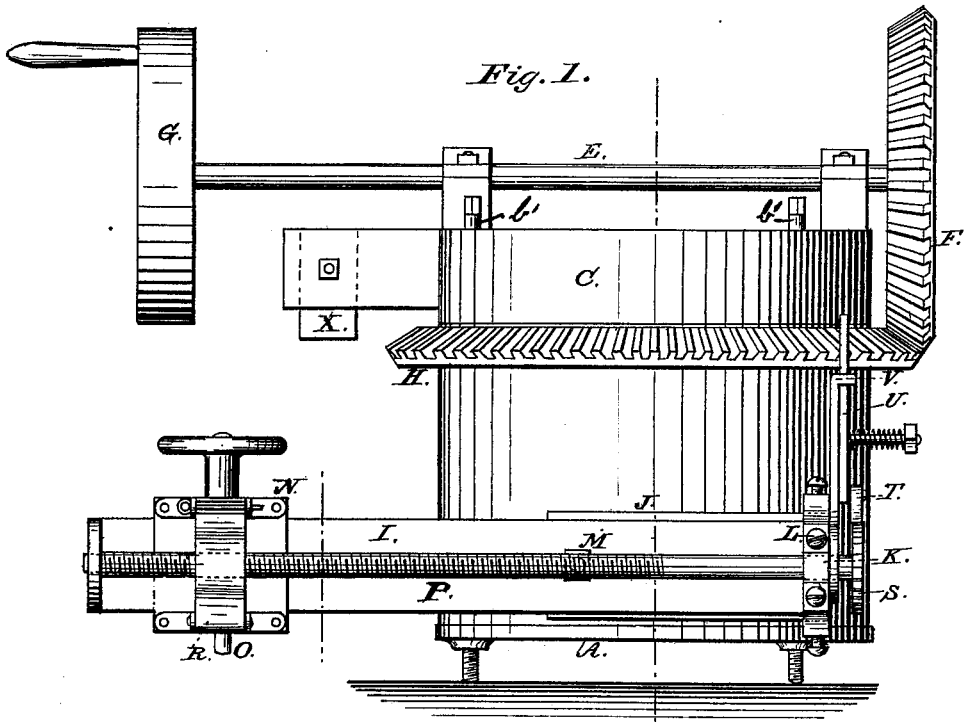


Fig. 2.

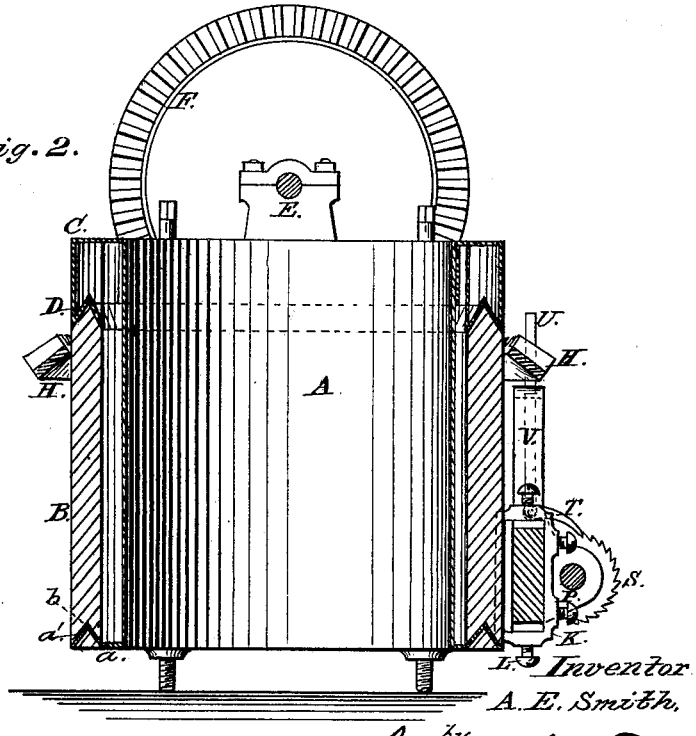
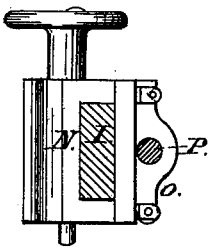


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

AVREY E. SMITH, OF LA PORTE, INDIANA.

IMPROVEMENT IN MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **195,666**, dated September 25, 1877; application filed August 18, 1877.

To all whom it may concern:

Be it known that I, AVREY E. SMITH, of La Porte, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Machines for Dressing Millstones, of which the following is a specification:

This invention relates to an improved apparatus for dressing or facing millstones; and it consists in a tubular shell or standard adapted to be attached to the eye of a millstone, to the top of which is journaled a horizontal shaft carrying a beveled pinion, which gears in a beveled gear-wheel secured to the upper edge of a rotating shell mounted on tubular shell or standard, said rotating shell being provided with an arm extending tangentially from the same, and carrying a traveling carriage, to which a slight longitudinal movement on the arm is given at each revolution of the rotating shell, said carriage carrying a diamond-pointed tool, which bears upon the face of the millstone, and is, by the combined motion of the arm and carriage, caused to traverse the entire surface of the millstone, as more fully hereinafter set forth.

In the drawings, Figure 1 represents a perspective view of my improved apparatus; Fig 2, a vertical section of the same; and Fig. 3 a detached view of the tangential arm at tached to the cylindrical rotating shell upon which the traveling carriage is supported.

The letter A represents a tubular standard, the lower end of which is provided with a flange, *a*, having a V-shaped annular way, *a'*, formed thereon, upon which a cylindrical shell, B, which is provided with a V-shaped annular groove, *b*, at its lower edge, sets and is adapted to rotate.

The letter C represents an annular section, forming the upper part of the tubular standard A when the apparatus is completed, said section being provided with a depending annular rim, D, in which is an annular V-shaped groove, which sets over the upper edge of the cylindrical shell B, which is made V-shaped to correspond with the groove, and serves to hold the shell B upon the annular way *a'*, and permits it to freely rotate thereon.

The upper and lower sections of the tubular standard are secured together by means of the rods *b'* extending up between the standard and outer shell, and provided with screw-nuts at the ends.

Upon the top of the section C is journaled a horizontal shaft, E, carrying a beveled pinion, F, at one end, and a driving-pulley, G, at the other. The pinion F gears in a beveled wheel, H, at the upper edge of the tubular shell B, and serves to rotate the same around the tubular standard A.

The letter I represents an arm, secured tangentially to the rotating shell B in any convenient manner, but preferably to a seat, J, formed on the shell, by means of a yoke, K, secured to the seat, and the set-screws L L, passing through the yoke, and the set-screw M secured to the seat, by means of which the arm and its attachments may be adjusted vertically upon the seat.

The letter N represents a traveling carriage mounted upon the arm I, and adapted to move longitudinally thereon; and O is an adjustable diamond-pointed tool mounted in said carriage.

P represents a leading-screw journaled in bearings at each end of the arm I, and passing under a hinged-screw socket, R, attached to the traveling carriage N. To one end of the leading-screw is attached a ratchet-wheel, S, which is operated at each revolution of the shell B by means of a pawl, T, secured to the lower end of a lever, U, pivoted to a standard, V, attached to one end of the arm I, said lever being operated by means of a lug or projection, X, on the section C of the tubular standard.

The operation of my improved apparatus is as follows: The tubular standard being secured to the eye of the millstone in any convenient manner, the traveling carriage is moved outwardly on the arm to the skirt of the stone by letting down the hinged socket and moving the carriage along the arm by hand. The tool being properly adjusted upon the face of the stone, the shell B is put in motion by turning the horizontal shaft, carrying the tool in a circle around the face of the stone, and making a circular cut on the same as it advances. When the circle is completed the projection on the arm of the tubular standard engages the upper end of the pawl-lever

causing the same to rotate the ratchet-wheel and leading-screw, and advance the carriage slightly along the arm toward the eye of the stone, so as to take a fresh cut at the next revolution of the shell B, and so on until the entire face of the stone has been traversed by the tool and dressed.

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

1. In a machine for dressing millstones, the combination of a dressing-tool and mechanism, such substantially as set forth, for continuously moving said tool in a uniformly-curved line on the face of the stone, for the purpose described.

2. In combination with the horizontal shaft journaled on the tubular standard, the rotating shell and its beveled gear-wheel, the tangential arm attached to said shell and its traveling carriage, the leading-screw and its ratchet-wheel, and the pawl and lever and projection on the tubular standard for operating the same, all constructed and arranged to operate substantially as set forth.

3. In combination with the seat on the tubular shell, the yoke attached thereto, provided with set-screws, and the tangential arm adjustably secured to said seat by means of the yoke and set-screws, substantially as set forth.

4. In combination with the traveling carriage and the leading-screw, the hinged-screw socket, adapted to be disengaged from the screw for the purpose of setting the carriage and the cutting-tool, substantially as herein set forth.

5. In combination with the upper and lower sections of the tubular standard, the rods extending upward between the outer wall of the standard and inner walls of the shell, for securing the sections of the standard together, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

AVREY E. SMITH.

Witnesses:
VALENTINE F. SMITH,
CASS G. BARNS.