(No Model.)

J. C. POWELL.

ROTATING STEEL FILE.

No. 426,320. Patented Apr. 22, 1890.

Fig 1.

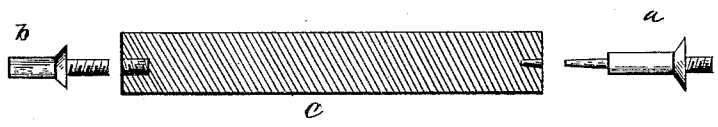


Fig 2.

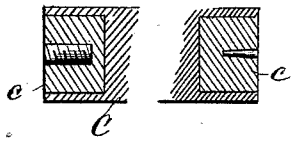


Fig 3.

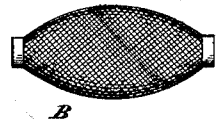


Fig 4.



Fig 5.



Fig 6.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES C. POWELL, OF MACON, GEORGIA.

ROTATING STEEL FILE.

SPECIFICATION forming part of Letters Patent No. 426,320, dated April 22, 1890.

Application filed September 9, 1889. Serial No. 323,353. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. POWELL, a citizen of the United States of America, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Rotating Steel Files, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in filing-machines, having for its object to provide for doing work by machinery heretofore done by hand; and it consists of a lathe or mandrel adapted to carry a file or files of peculiar construction, as will more fully appear from the following description and accompanying illustrations, in which—

Figure 1 is a sectional view of my file and the screw-threaded shaft and center for securing it in a lathe for rotation. Fig. 2 is an enlarged detail sectional view of the ends thereof. Fig. 3 is a side elevation of a spindle-file, showing the manner in which the teeth are cut on round surfaces. Figs. 4, 5, and 6 are detail sectional views showing my invention as adapted to files of different shapes.

In carrying out my invention I employ a lathe A, in its general outline of usual construction and provided with a center *a* and a screw mandrel or shaft *b* for the support and rotation of a file.

B is a round file provided with a cutting-surface formed by grooving and cross-grooving the same, and is adapted for filing or cutting by rotation and for mounting upon the center *a* and shaft *b*.

C is a cylindric form of file, into the ends of which are inserted plugs *c*, one having a screw-threaded socket or aperture to receive the screw-threaded end of the shaft or mandrel *b*.

In the outer surface of the other plug *c* is a plain socket or recess to receive the tapered inner end of the center *a* for mounting the file axially in position in the lathe. The plugs *c* may be solid with the body of the file when of small size, as shown in the bottom detail views.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In rotating files, the combination of the round body having the file-cutting surface or face, having the screw-threaded recess at one end and the center or bearing at its other end, substantially as shown and described.

2. In a rotating file, the disk or wheel having file-cutting faces, in combination with the screw-threaded shaft and the center, one at each end, substantially as shown and described.

3. In a rotating file, the wheel or round body having a curved or circular file-cutting surface, the center, and the shaft for its support and rotation, substantially as shown and described.

4. In a rotating file, the combination of the file having in one end the screw-threaded aperture adapted to receive the shaft and the center at its other end for its support and rotation, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. POWELL.

Witnesses:
ISAAC LOWENTHAL,
L. P. HILLYER.