

(No Model.)

H. B. THAYER & T. G. WRIGHT.

FILE.

No. 283,832.

Patented Aug. 28, 1883.

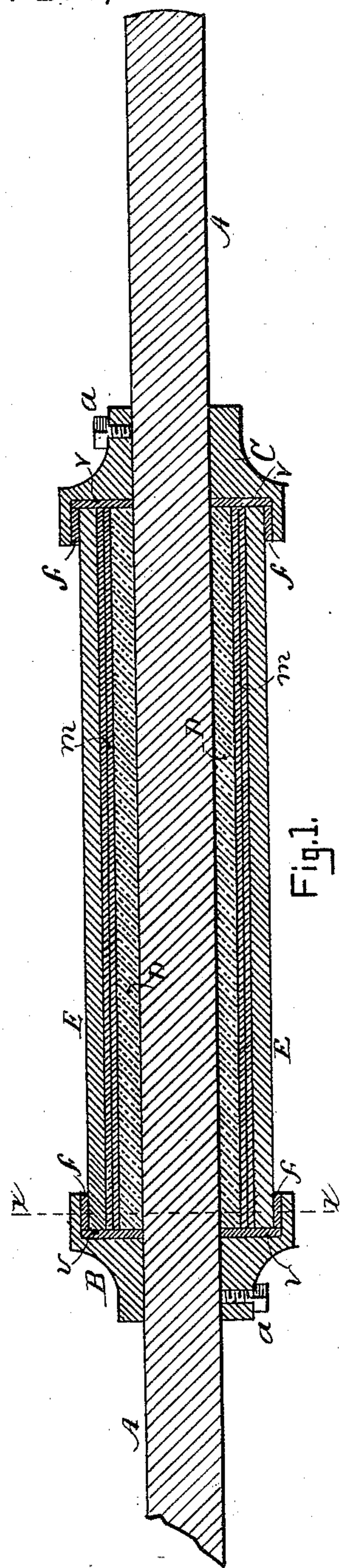


Fig. 1.

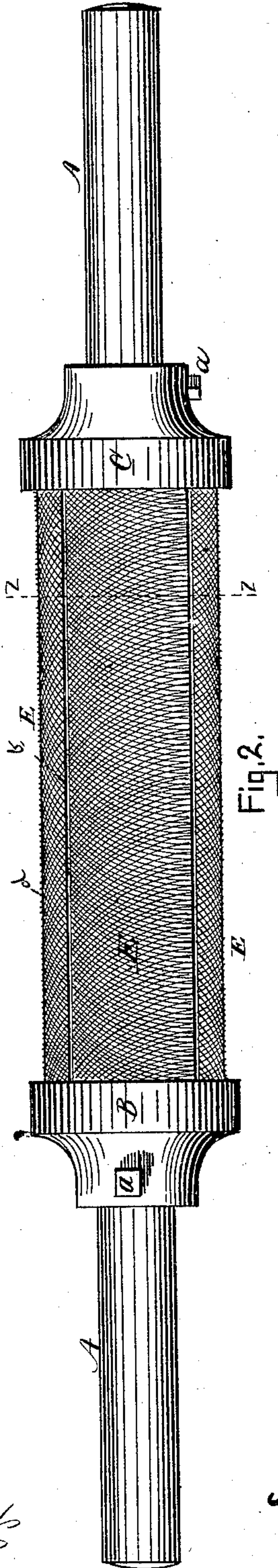


Fig. 2.

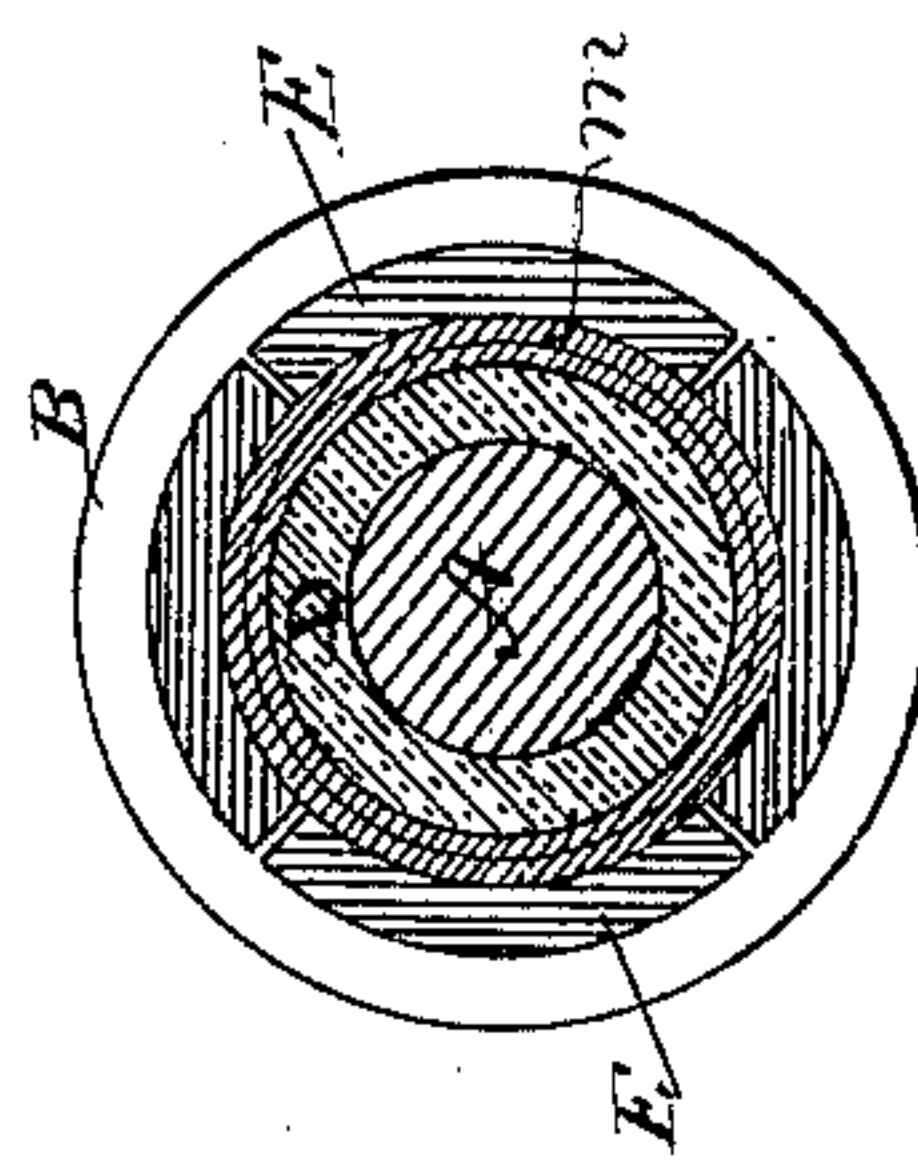


Fig. 3.

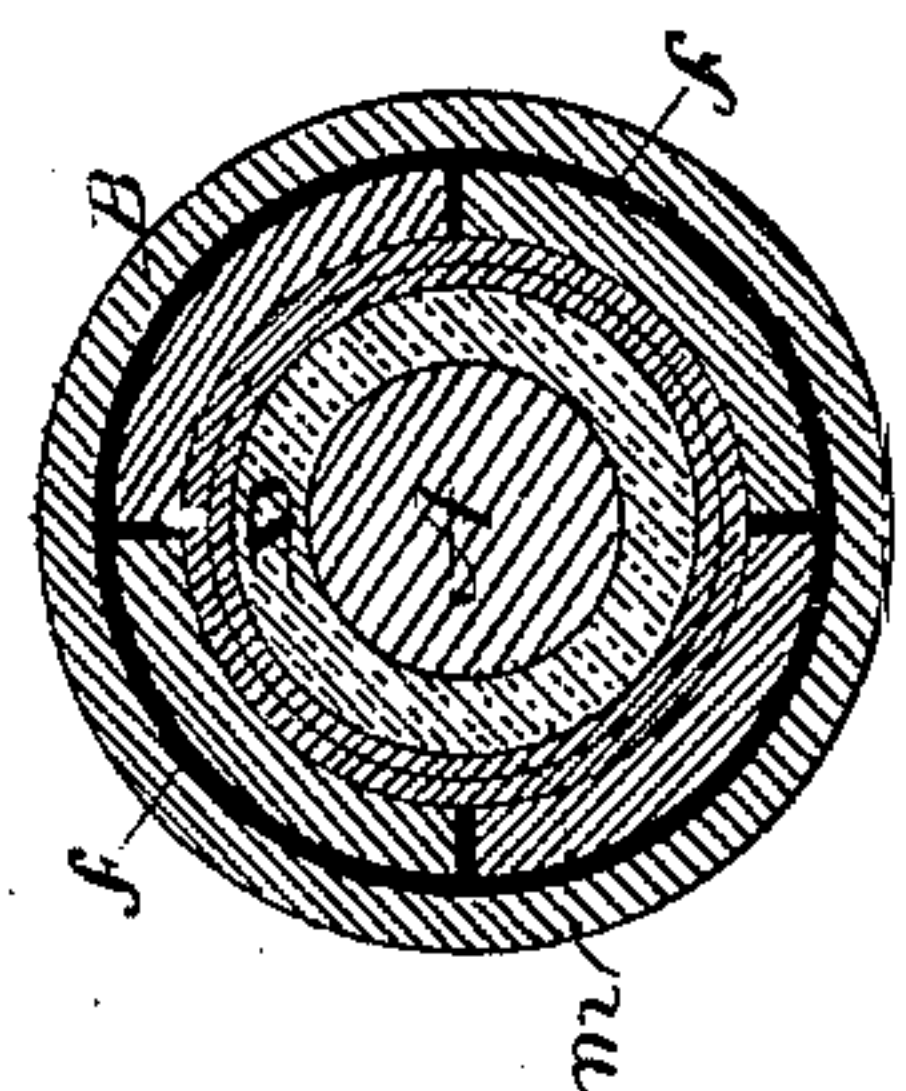


Fig. 4.

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UNITED STATES PATENT OFFICE.

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FILE.

SPECIFICATION forming part of Letters Patent No. 283,832, dated August 28, 1883.

Application filed November 2, 1882. (No model.)

To all whom it may concern:

Be it known that we, HORATIO B. THAYER and TIMOTHY G. WRIGHT, both of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Files, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section; Fig. 2, a side elevation; Fig. 3, a vertical transverse section taken on line *x x*, Fig. 1, and Fig. 4 a vertical transverse section taken on line *z z*, Fig. 2.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates to that class of cylindrical files which are designed to be operated by power; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a new and more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the shaft or mandrel, which is designed to be journaled in proper boxes or bearings, and provided with a pulley and belt or other convenient means for driving the same. Mounted on the shaft are two head-stocks or collets, B C, provided with screw-bolts *a a* for securing them in position thereon. A shell or hollow cylinder, D, preferably composed of wood, surrounds the shaft A between the collets, the shell being incased with a covering, *m*, composed of rubber or felt.

The file proper is arranged around the shell D, resting on the felt or rubber covering *m*, and consists of a series of elongated curved steel segments, E, provided with teeth or serrations *d* on their outer surfaces, the segments being held securely in position by the collets, which are provided on their inner faces with

annular chambers for receiving the ends of the segments and shell D. In the chamber of each collet there is a rubber washer or packing-ring, *v*, surrounding the shaft A, and also a rubber band or ring, *f*, surrounding the ends of the segments E, the object of these rings being to prevent the segments from coming in contact with the collets and afford elastic bearings for the same at this point. Each of these segments comprises the arc of a circle corresponding with the circumference of the file, and may be of any length desired; but in width it is preferable to have them quite narrow, or, for instance, in a file three inches in diameter, that as many as five or six should be employed. The segments are slightly separated, or so arranged on the shell D as not to come into contact with each other, the spaces *b*, packing-rings *f v*, and covering *m* permitting them to yield when in use both vertically and longitudinally, in a manner which will be readily understood without a more explicit description.

It will be obvious that the segments may be cut or provided with either file or rasp teeth of any style or degree of fineness required, and also that when the same are worn out or become accidentally broken or injured they may be readily removed to be recut or repaired.

Our improved file is designed for cutting, abrading, or smoothing either wood, leather, iron, or any similar substances, but is more especially adapted for leather-work, being used in the manufacture of boots and shoes for forming and finishing the shanks, soles, and heels. It also takes the place of the sand-paper roll and elastic emery-wheel for all the ordinary purposes for which they are adapted.

The rings *f* serve not only as a packing for the segments E, but are of such a size as to act contractively in holding the segments in position on the shell D.

Having thus explained our invention, what we claim is—

1. The improved cylindrical file described, the same consisting of the shaft A, collets B C, segments E, shell D, covering *m*, and rings *f v*, constructed and arranged to operate substantially as specified.

2. In a cylindrical file substantially such as

described, the curved segments E, serrated on their outer surfaces, in combination with the collets B C, elastic rings *f v*, and shell D, provided with the yielding or elastic covering *m*,
5 substantially as set forth.

3. In a cylindrical file substantially such as described, the ring *f*, in combination with the segments E, for holding the same in position on the shell D, and also preventing them from
10 coming into contact with the collets, substantially as described.

4. In a cylindrical file substantially such as

described, the chambered collets B C, provided with the yielding or elastic rings *v*, against which the ends of the segments E abut, where- 15
by the segments are permitted to move longitudinally, or in line with the axis of the file when in use, substantially as described.

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