

(No Model.)

W. HUGER.

FILE.

No. 274,775.

Patented Mar. 27, 1883.

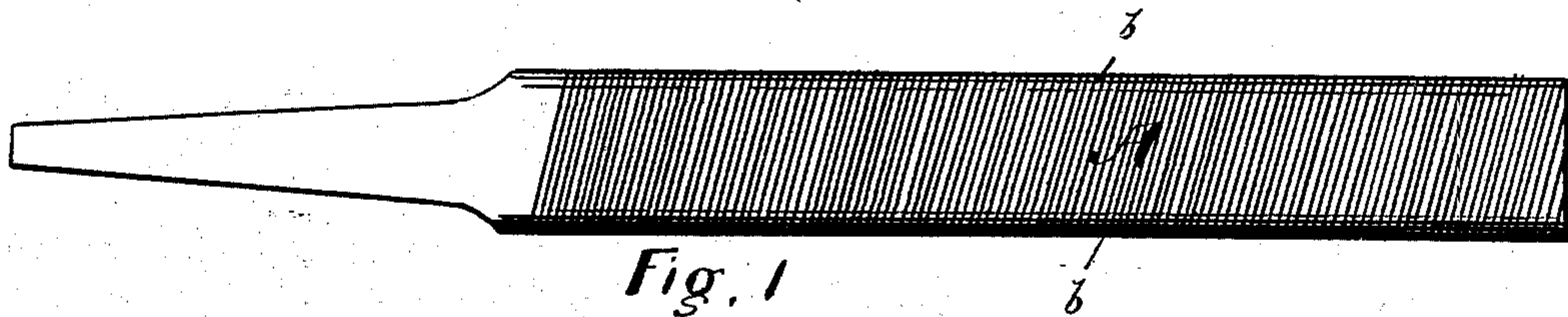


Fig. 1

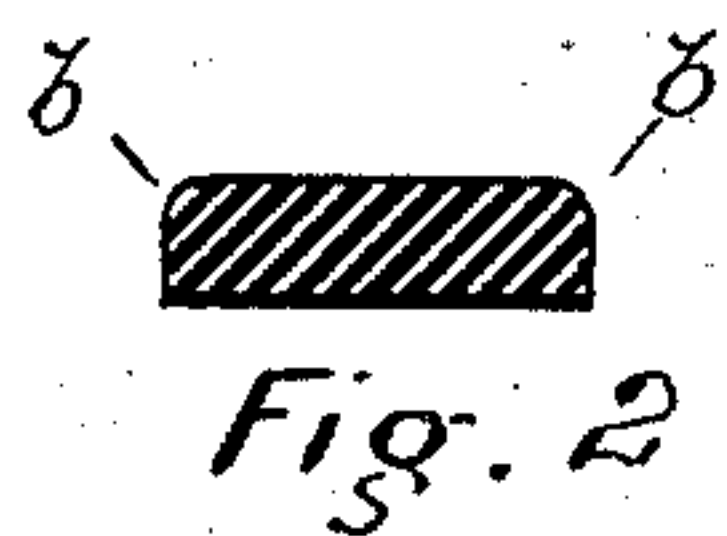


Fig. 2

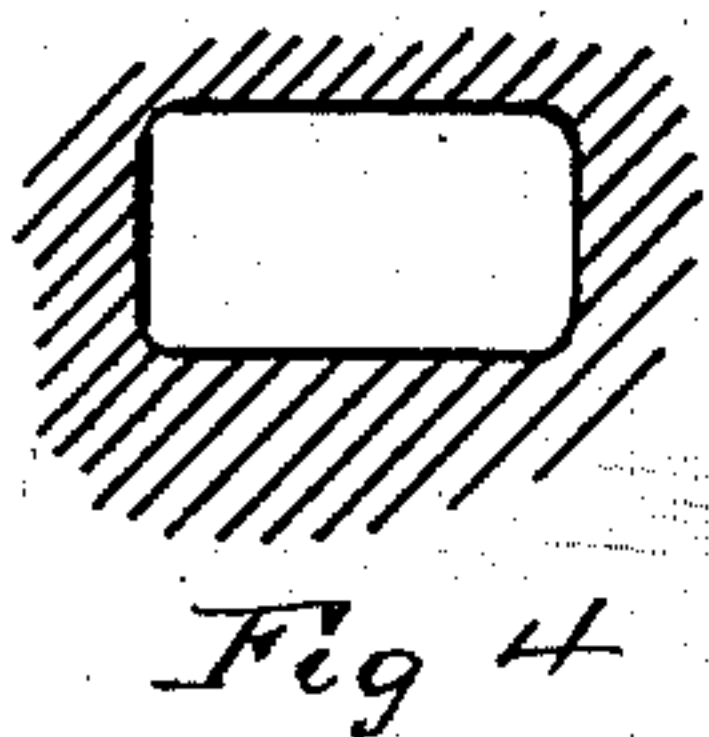


Fig. 4

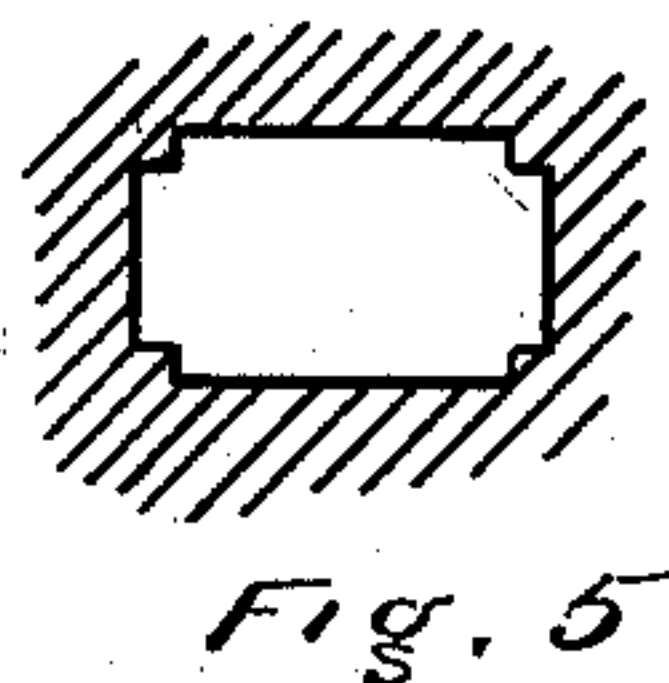


Fig. 5

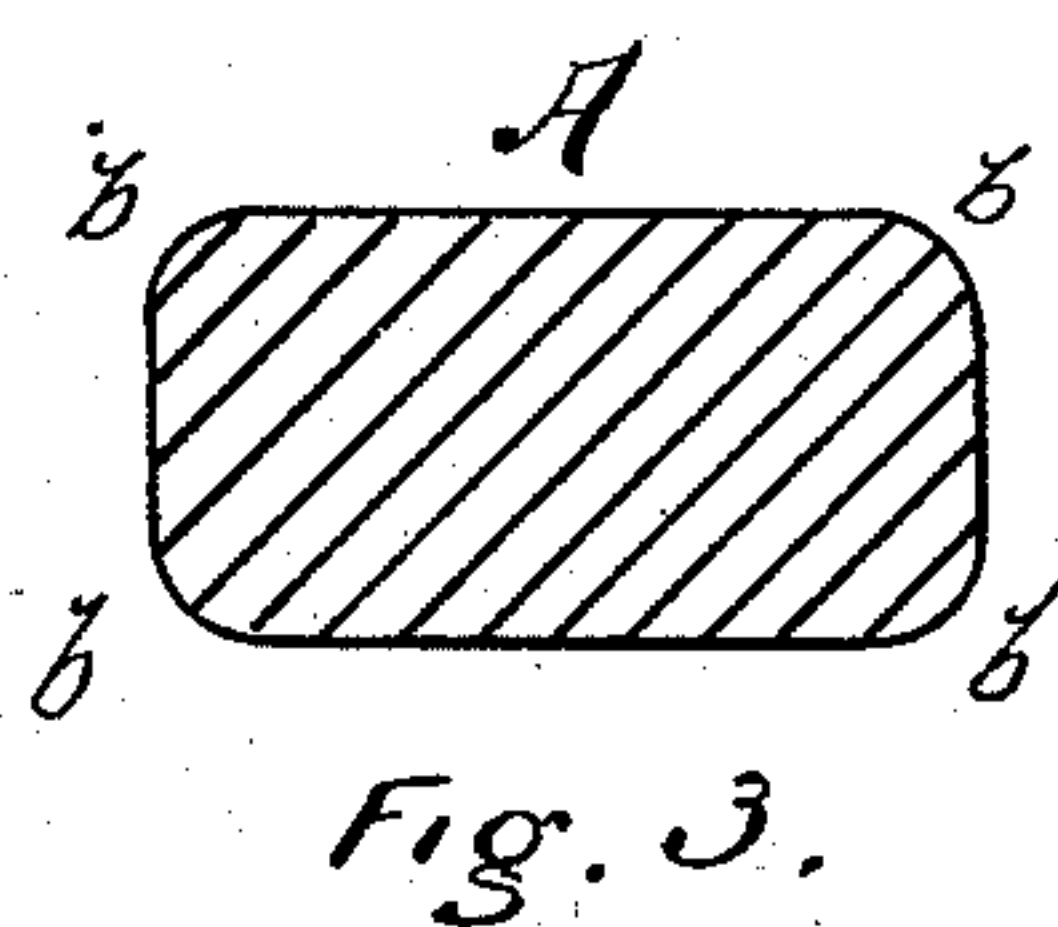


Fig. 3.

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# UNITED STATES PATENT OFFICE.

WILLIAM HUGER, OF NEWARK, NEW JERSEY.

## FILE.

SPECIFICATION forming part of Letters Patent No. 274,775, dated March 27, 1883.

Application filed May 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HUGER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Files; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to facilitate certain mechanical operations, and to perform the same with more accuracy than heretofore; and it consists in the new article of manufacture herein set forth and shown.

In the drawings, in which similar letters of reference indicate corresponding parts in each of the figures, Figure 1 is a plan of my new file; Fig. 2, a sectional view, and Fig. 3 a modified form of the same. Figs. 4 and 5 illustrate more clearly the methods of working now in vogue.

In said drawings, A represents a flat file, having the usual linearly-roughened surfaces, the opposite sides of said file being parallel with one another, forming an approximately-rectangular figure in section. The longitudinal corners *b* are formed of a continuous curvature of ninety degrees, or quarter of a circle, the regularity of which curvature is then broken or interrupted in this case by flat sides.

I am well aware that small flat files having the two sides connected by continuously-curved edges are common, and I do not wish to be understood as claiming them.

By means of the device thus described, when it is desired to file out a piece of metal and form a rectangular aperture with rounded corners, as shown, for example, in Fig. 4, a person with but a limited knowledge of filing can do it accurately within a very short time. Heretofore it was necessary in doing the same work to first take a flat file and file out an aperture like Fig. 5, after which it was necessary to use a small round or needle file to finish the corners, the same being very tedious and laborious work, and work in which there is constant liability of filing the corners too deep and spoiling the work.

The above illustrates but one of a number of operations to which my improved device is especially adapted.

The modified form shown in Fig. 3 is merely the first form doubled, or having four rounded corners instead of two, all the sides being roughened.

In the form shown in Fig. 2 the lower side may or may not be roughened, it not forming a material feature of the invention.

Having thus described my invention, what I claim is—

A file having four flat sides, those adjacent lying at right angles and having the rounded portions *b*, forming an arc of ninety degrees, as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of April, 1882.

WILLIAM HUGER.

Witnesses:

CHARLES H. PELL,  
C. T. WINTERS.