

(No Model.)

J. E. EMERSON.
FILE FOR BAND SAWS.

No. 358,026.

Patented Feb. 22, 1887.

Fig. 1.

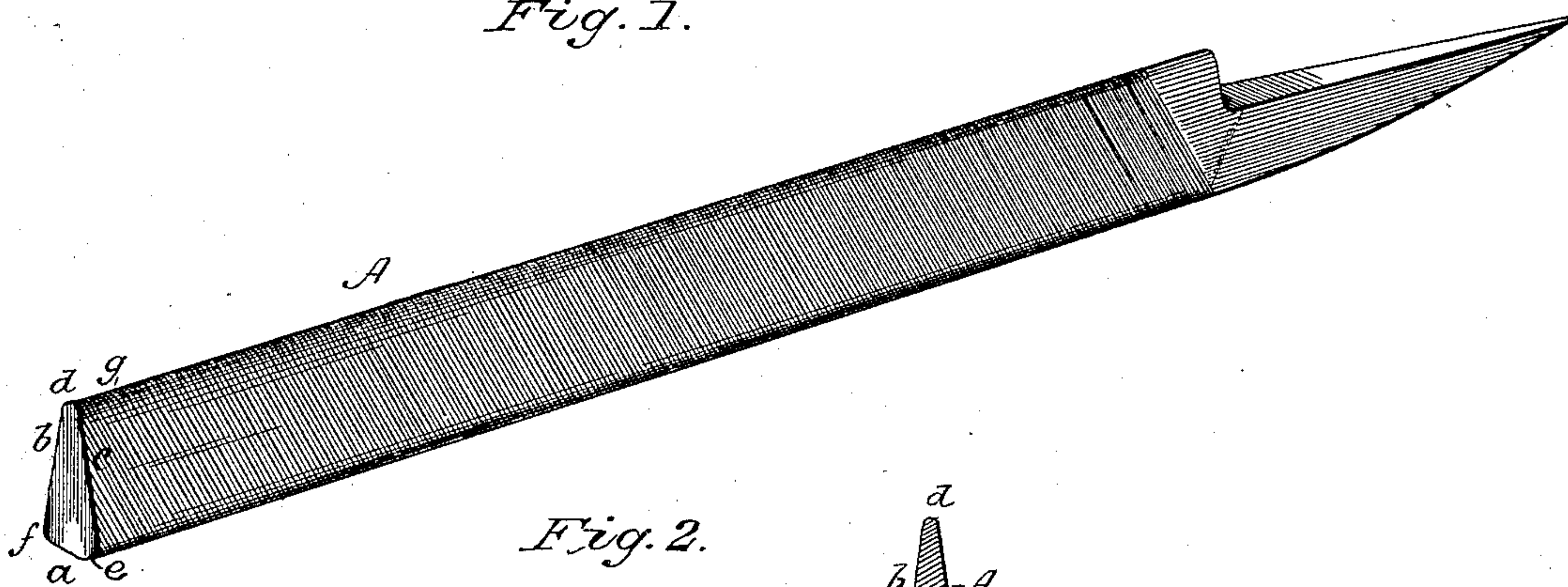


Fig. 2.

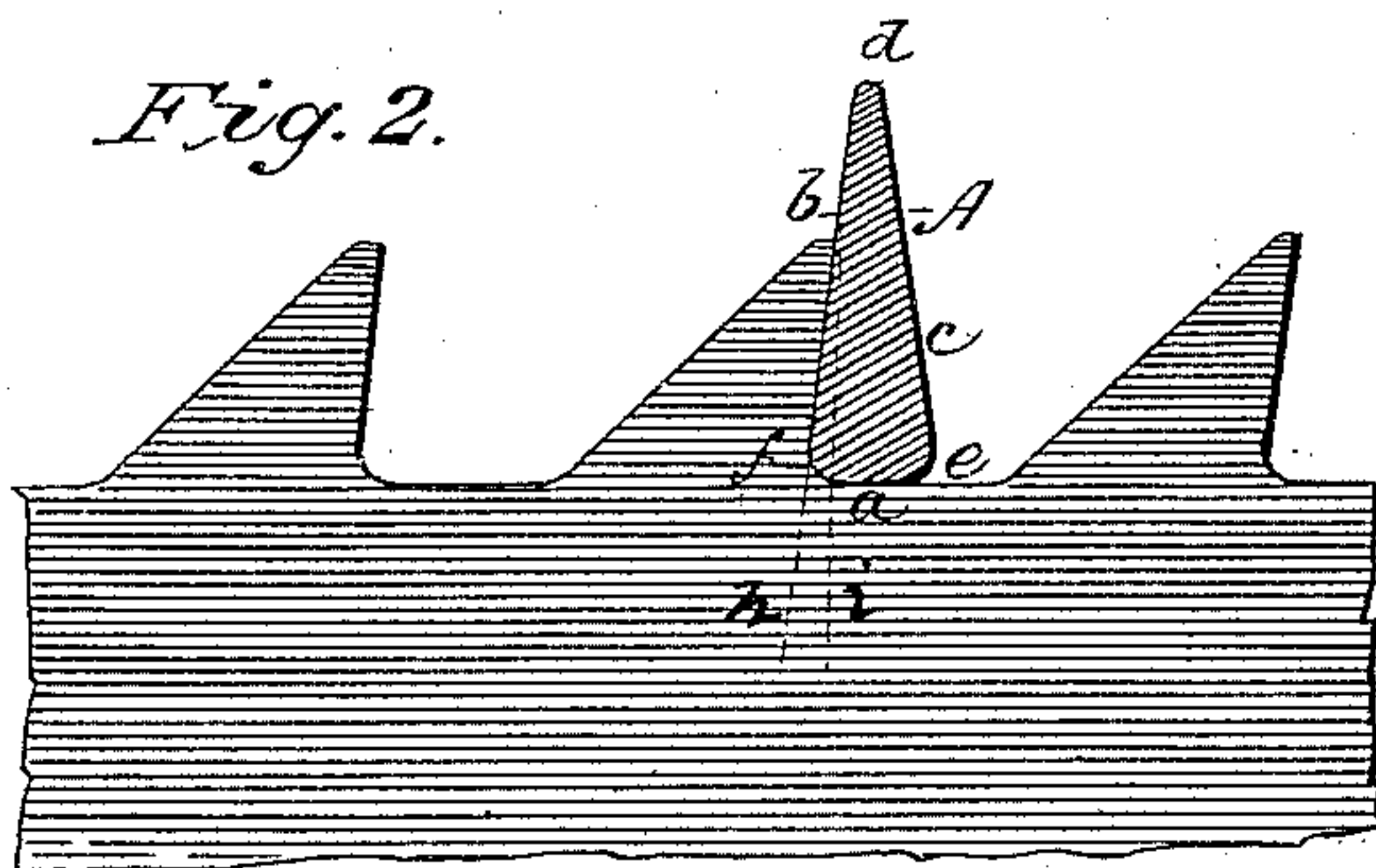
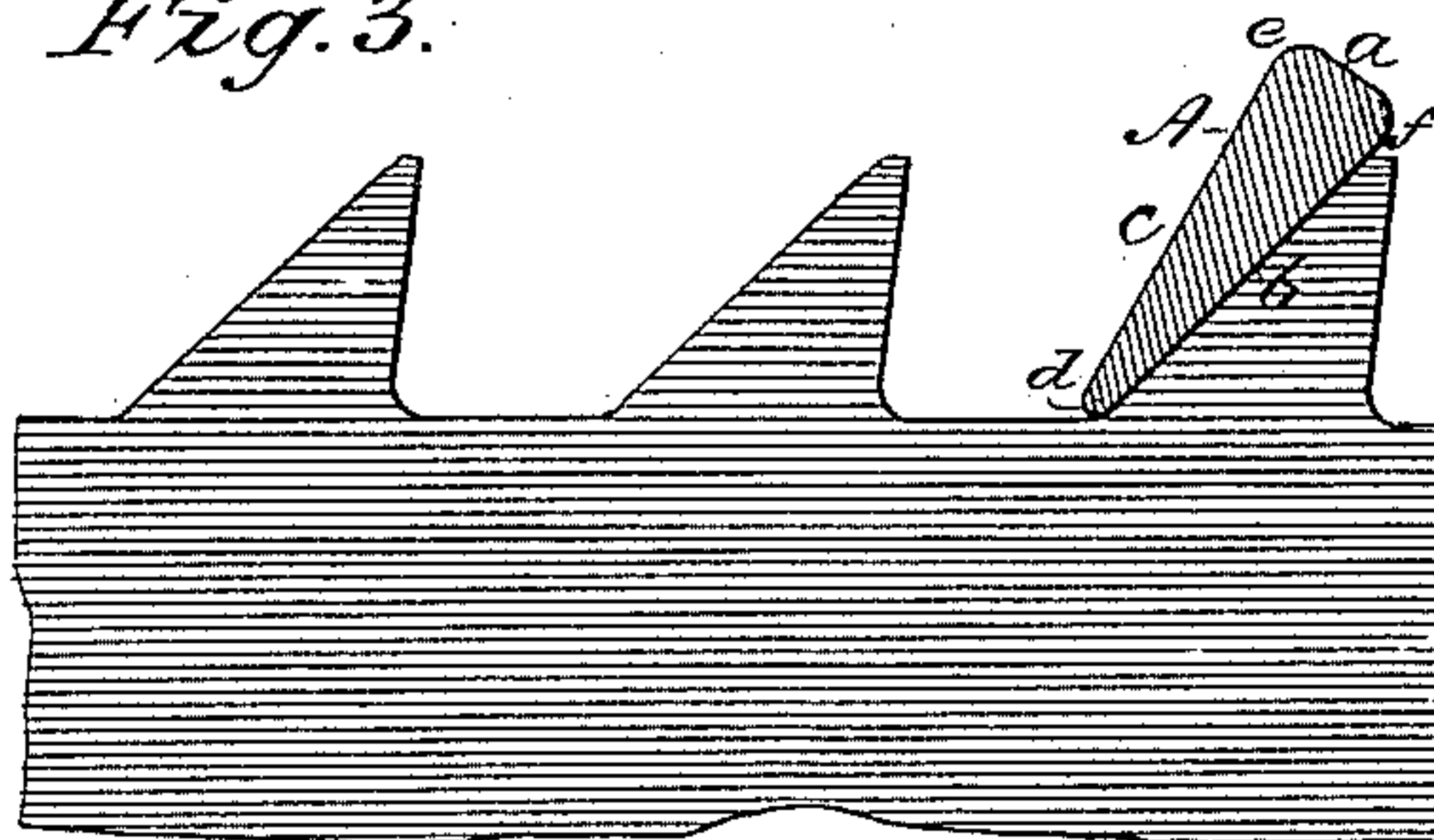


Fig. 3.



Witnesses

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FILE FOR BAND-SAWS.

SPECIFICATION forming part of Letters Patent No. 358,026, dated February 22, 1887.

Application filed December 14, 1886. Serial No. 221,543. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. EMERSON, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Files for Band-Saws; 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.

My invention relates to the construction of files, and has for its object the construction of files especially adapted for filing band-saws in which the teeth are provided with concavities at their roots or bases on their front and rear edges.

Practical experience in the use of band-saws has demonstrated that teeth having right or acute angles to their roots or bases are liable to crack at that point, and the crack frequently extends far down into the blade, thus weakening it, and often renders it unfit for further use. To overcome this difficulty, a standard tooth for band-saws has been almost universally adopted, and this tooth, instead of having right or acute angles formed at its root, is provided with a fillet or concavity in front and rear of the tooth. This change in the form of the tooth has necessitated the construction of a file to sharpen the saws, as ordinarily it would require two files, one flat and the other round, or the use of an emery-wheel to sharpen it.

My invention, therefore, consists in the construction of a file, which will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective of a file. Fig. 2 shows a section of a band-saw and a vertical cross-section of the file applied to the front edge of one of the teeth. Fig. 3 shows a similar view with the file applied to the rear edge of one of the teeth.

Reference being had to the drawings and the letters marked thereon, A represents a file, a vertical cross-section of which describes substantially a triangle or a triangular isosceles pyramid, in which a represents the base, b and c the sides, and d the apex. It will be observed

that the sides b and c are more than double the height or width of the base a , and that no angular projections appear on the surface of the file, the corners e and f being rounded at the base, and the thin edge g also being a semicircle. The angle of the sides b and c of the file is made to conform to the pitch given to the front or cutting edge of the teeth of the saw, and, by reference to Figs. 2 and 3, it will be observed that the pitch of the tooth is about an eighth of an inch to one inch in the height of the tooth, as indicated by the lines h and i , and that the width of the side b and c of the file is more than equal to the height of the tooth and about equal to the angular or rear side of the tooth. By this construction of a file all of the teeth in a band-saw can be kept at the same pitch and the shape of the teeth preserved without the use of an emery-wheel, as is the usual practice of sharpening such saws.

I am aware that files have been made which in cross-section represent three equal sides of a triangle with flat and rounded corners at each angle, and that angular files with a rounded base have been shown, and do not therefore claim such a construction; but,

Having fully described my invention, what I claim is—

1. A file the cross-section of which represents substantially an isosceles triangle, the sides of which are in height more than double the width of the base, and whose corners are curved, substantially as described, and as shown in the drawings.

2. A file the sides of which are more than double the width of its widest edge and the corners at the base, and the narrow edge of the file being rounded, substantially as described, and as shown in the drawings.

3. A file the cross section of which is substantially an isosceles triangle, the sides of which are formed at an angle of about an eighth of an inch to one inch and the corners of which and the upper edge are rounded, substantially as described, and as shown in the drawings.

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

JAMES E. EMERSON.

Witnesses:

CHAS. W. HANDY,
D. C. REINOLD.