

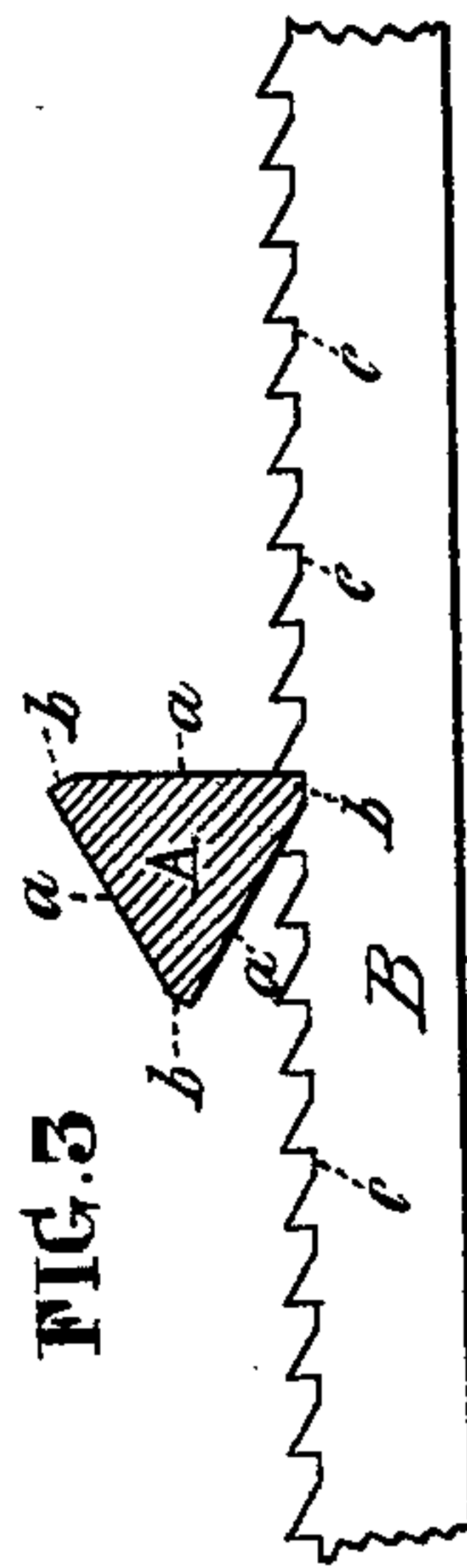
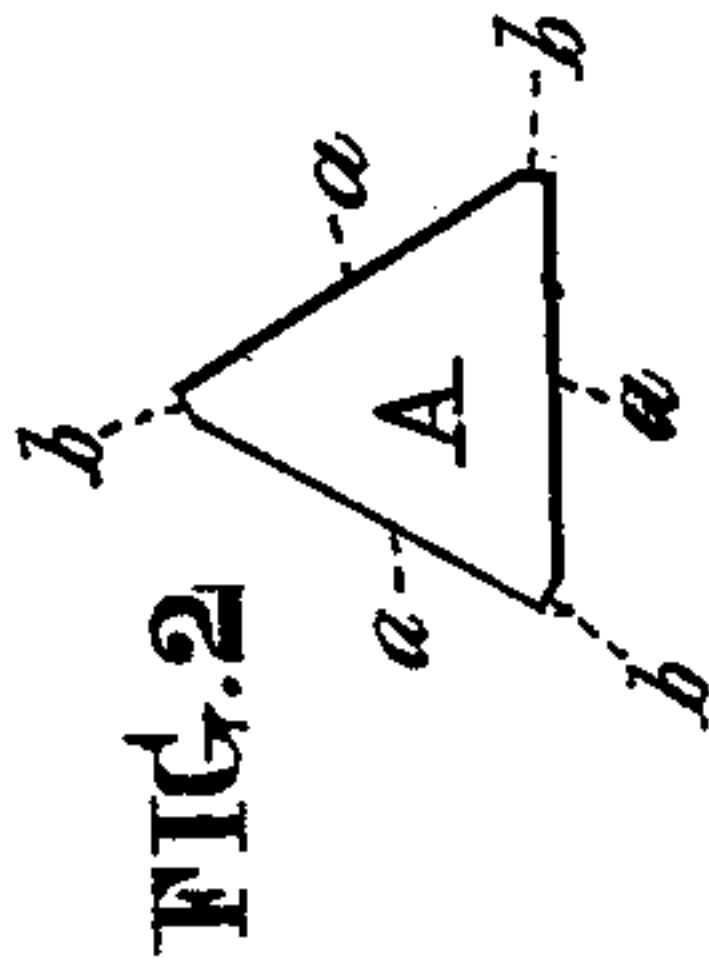
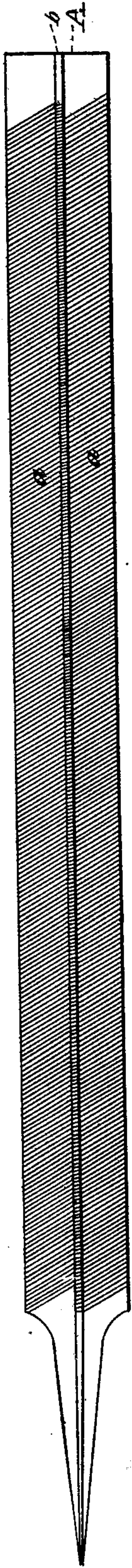
(No Model.)

H. A. KIMBALL.
Saw File.

No. 229,616.

Patented July 6, 1880.

FIG. 1



Witnesses
Thomas J. Dewey.
Ben. H. Wigley.

Inventor
Hiram A. Kimball.
per Stephen Ustick attorney

UNITED STATES PATENT OFFICE.

HIRAM A. KIMBALL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF OF HIS RIGHT TO ARTHUR MILLER, OF SAME PLACE.

SAW-FILE.

SPECIFICATION forming part of Letters Patent No. 229,616, dated July 6, 1880.

Application filed March 13, 1880. (No model.)

To all whom it may concern:

Be it known that I, HIRAM A. KIMBALL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Saw-Files, of which the following is a specification.

The object of my invention is such a construction of saw-files as will secure to saws filed with them a uniform strength, the files being of such form as to prevent any weak places being made in the filing, and thus to preserve the tensile strength of the saw as much as possible; and the nature of the invention consists in the construction of equilateral triangular files with flat corners, each of the corners being square with one of the sides, so that as the edge of either side having said flat corner is used in filing the front of the teeth the square edge will form straight surfaces between the teeth parallel with the back of the saw, while the contiguous side of said edge files the back edge of the teeth, as hereinafter fully described.

In the accompanying drawings, Figure 1 is a face view of a file having my improvement. Fig. 2 is an end view of the file. Fig. 3 is a side view of a portion of a saw with the improved file in position, the file being in cross-section.

Like letters of reference in all the figures indicate the same parts.

A represents an equilateral triangular file having a flat corner, *b*, square with one edge

of each side *a*, so that as this edge of either side is used in filing the fronts of the teeth the square edge *b* shall make short flat edges *c* at the roots of the teeth (seen in Fig. 3) parallel with the back of the saw-blade B, whereby the whole of each sunken surface is of equal strength, and the liability of the saw-blade being broken by sudden jars or strain is much less than when weak places are made at the roots of the teeth by the use of ordinary files.

I am aware that saws having the same construction have been produced by the use of two files. I do not therefore lay claim to such form of the saw, but merely to the improved file, whereby I accomplish the same work with one file instead of two and in one-half the time.

I claim as my invention—

The file A, the cross-section of which exhibits three sides, *a a a*, of equal angles, and a flat corner, *b*, at one edge of each side, so that said corner shall make straight-edge surfaces *c* upon the edge of the saw-blade, while the side *a*, square therewith, is used to file the front of the teeth, the said surfaces *c* being parallel with the back edge of the saw, thereby avoiding the making of weak places, and thus preserving the maximum tensile strength of the saw, substantially as set forth.

HIRAM A. KIMBALL.

Witnesses:

STEPHEN USTICK,
WILLIAM CONNELLY.