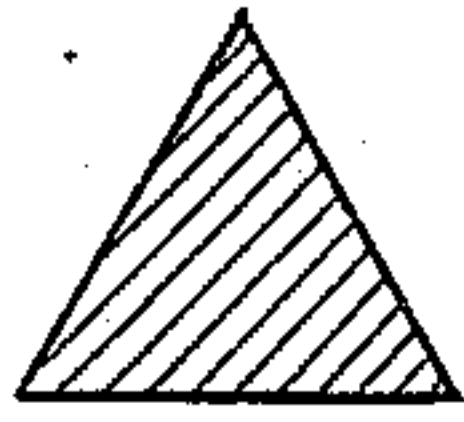


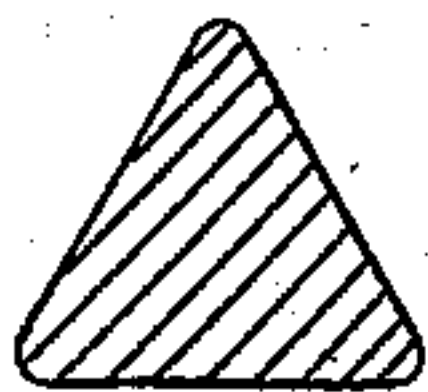
**J. B. JOHNSON.**  
**Files.**

No. 138,256.

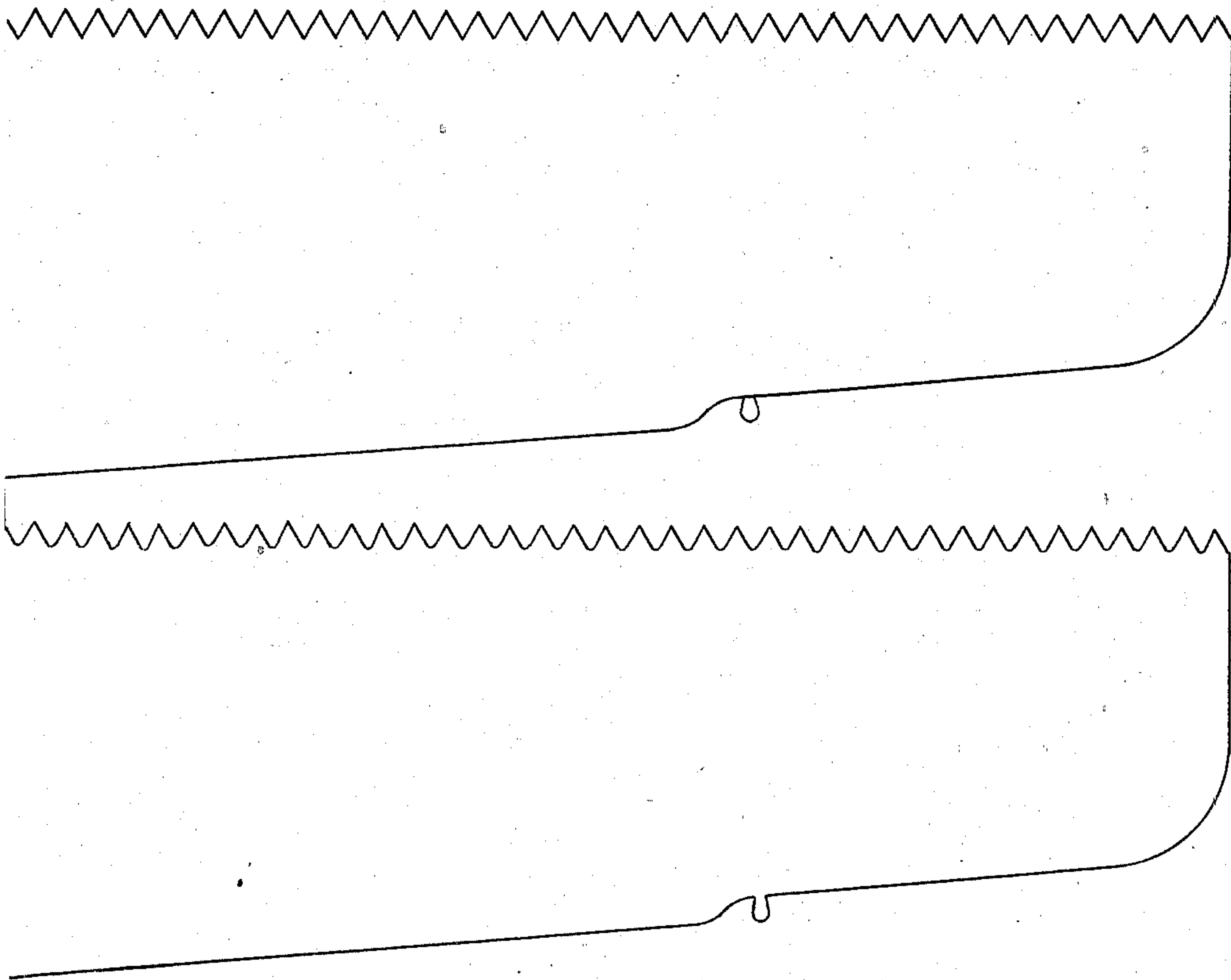
Patented April 29, 1873.



*Fig. 1.*



*Fig. 2.*



**Witnesses**

*J. L. Boone*  
*C. M. Richardson*

**Inventor**

*James B. Johnson*  
*per Dewey & Co*  
*Attys*

# UNITED STATES PATENT OFFICE.

JAMES B. JOHNSON, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN FILES.

Specification forming part of Letters Patent No. **138,256**, dated April 29, 1873; application filed October 4, 1872.

*To all whom it may concern:*

Be it known that I, JAMES B. JOHNSON, of the city and county of San Francisco, State of California, have invented an Improvement in the Manufacture of Three-Cornered Files; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to an improvement in the art of making three-cornered files, such as are used for filing saw-teeth, and for other like work. The improvement which I have made consists in rounding the corners of three-cornered files, instead of making them with sharp corners or angles, in the usual way. This manner of forming the corners of three-cornered files is especially useful in filing saws, as the sharp corner or angle of the ordinary files always leaves a good beginning for a crack.

The sharp edges or corners of the ordinary file being very slender, and also being subjected to more frequent use than the flat sides, soon become worn out, while the sides are still in a fair condition to be used; but for most purposes the file is no longer of value, especially for filing saw-teeth, as the bottom of the notches between the teeth are not correspondingly cut, thus allowing the file to rock in the notch and prevent a proper sharpening of the saw; but by rounding the corners, and providing them with cutting teeth or points similar to the ordinary file-teeth, a much larger surface is provided at the corners, which allows the file to be used much longer. In fact, the corners will last until the sides of the file are worn out; and in filing saw-teeth the notch will be formed with a circular bottom, which will prevent the frequent cracking and splitting of the saw-plate, mentioned above.

Band, jig, and other like saws, which are subjected to constant and severe longitudinal

strain and transverse bending, frequently break, and this breakage is greatly hastened by the sharp angular bottom of the notches, caused by the use of the common file. I have also discovered that saws filed with the round-cornered file work much easier than those filed with the sharp-cornered files, and for this reason the saw-blade will not be required to withstand so much strain. This fact I attribute to the free clearing of the sawdust from the notches of the saw when the bottoms of the notches are rounded.

The amount of bluntness or curve to be given to the corners of the files will vary according to the nature of the work they are required to do. In some instances this curve will be very slight, but always sufficient to avoid the sharpness of the angle of the two meeting sides.

By this means I provide a file which will be particularly adapted for sharpening and filing saws, by which the liability of cracking or breaking the saw plate or blade is greatly diminished in all cases and practically removed in others.

In the accompanying drawing, Figure 1 shows the common file in transverse section. Fig. 2 shows a transverse section of a three-cornered file with rounded corners. Fig. 3 shows a saw-blade filed with the ordinary sharp-cornered file. Fig. 4 shows a saw filed with the round-cornered file.

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

The improvement in the art of making three-cornered files, the same consisting in rounding the corners of the files, substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

JAMES B. JOHNSON. [L. S.]

Witnesses:

JNO. L. BOONE,

C. M. RICHARDSON.