

# UNITED STATES PATENT OFFICE.

MICHAEL J. MURPHY, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN THE ART OF RECUTTING FILES.

Specification forming part of Letters Patent No. **212,490**, dated February 18, 1879; application filed November 5, 1878.

*To all whom it may concern:*

Be it known that I, MICHAEL J. MURPHY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Process of Recutting Files, of which the following is a specification:

The object of this invention is to recut worn-out files in a simple, cheap, and expeditious manner.

It consists in subjecting the file to the action of nitric acid placed in the scores or depressed lines of the file, where it eats the sides of the burrs, thus sharpening their edges and deepening the scores or depressed lines between the same.

I proceed as follows in applying my process: I pour the nitric acid upon the file, and it fills in the scores or depressed lines, where it is allowed to stay, eating into the metal until its strength becomes exhausted. I then wash the file thoroughly in clean water, and apply more acid, the same as before, and continue to do so until the burrs reach the necessary sharpness of edge.

In this way it will be found that the worn-out files can be more quickly and efficiently

cut than by any hand method now employed. The steel retains its original quality, without any deterioration whatever—a condition that cannot be retained after the file has been recut by hand. Then, again, the process is quite inexpensive; and, lastly, the recutting can be done a number of times, depending upon the thickness of the files and other conditions.

I am aware that it is not new to immerse old files in diluted sulphuric, nitric, or other corrosive acid; but

What I claim is—

As an improvement in recutting files, the process hereinbefore described, consisting in pouring nitric acid on the file, so that it will fill the scores or depressed lines, and allowing it to remain there to eat away the sides of the burrs and deepen the lines until it is exhausted, then washing the file clean in water, and repeating the application of acid as before until the required sharpness of the burrs is obtained, substantially as described.

MICHAEL JOSEPH MURPHY.

Witnesses:

DAVID WATSON,  
CHRISTIAN JUNGLOEW.