

# UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT.

## ART OF RECUTTING FILES.

SPECIFICATION forming part of Letters Patent No. 318,957, dated June 2, 1885.

Application filed March 11, 1885. (No specimens.)

*To all whom it may concern:*

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented a certain  
5 new and useful Improvement Applicable to the Recutting of Files, of which the following is a description.

This is an improvement applicable to the recutting of the steel files used by machinists  
10 and other mechanics after they have been once used as long as it is generally profitable to use them. It is not intended by the practice of this improvement to wholly create new teeth upon such files, but to so treat the teeth  
15 of files that are worn and blunted by use that they shall be resharpened and fit for further use.

When files are discarded in machine and other shops, they are generally covered to a  
20 greater or less degree with oil, and loaded to a greater or less degree with fine metallic particles. The first step in treating them is to clean the teeth of the files with a wire brush, so as to remove, substantially, all of said fine  
25 metallic particles. The next step is to place the files in a solution of hot water and sal-soda for a few minutes, in order to remove the oil, after the fashion that is common in removing  
30 oil from metallic articles. The next step in the treatment of the files is to dry them in sawdust, and afterward remove what sawdust remains clinging to them with a brush of bristles or the like. The next step in treating the files is to immerse them in a saturated solution of  
35 blue vitriol (sulphate of copper) and copperas

(proto-sulphate of iron) in water until the files present to the eye the general appearance of a copper surface. The files are then taken from this bath and placed in another bath composed of sulphuric acid and water, of substantially the strength used for pickling cast-  
40 ings—say one-fifth acid to four-fifths water—and there allowed to remain in this acid bath until the surface of the files looks black to the eye. The working of this bath may be hast-  
45 ened by warming the bath.

On taking the files from the acid bath they may well be dipped in weak lime-water to neutralize any acid remaining upon them, after which they are dried in sawdust. In taking  
50 them from the sawdust it is well to brush off any sawdust which remains clinging to them with a brush of bristles or the like, after which they should be oiled, which may well be done by dipping them into warm lard-oil,  
55 and allowing so much of the oil as will to drain away from them. The files are now ready for use.

The essential steps in this process are the coating of the file with copper and the subse-  
60 quent submission to the acid bath; and

I claim as my improvement—

The art of recutting files which consists in coating the file with copper, and then submit-  
65 ting it to the action of an acid bath, substantially as herein described.

LUKE CHAPMAN.

Witnesses:

A. C. TANNER,  
H. R. WILLIAMS.