

UNITED STATES PATENT OFFICE.

JOHN F. REVALK, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
CRESCENT FILE COMPANY, OF CALIFORNIA.

COMPOUND FOR RESHARPENING FILES.

SPECIFICATION forming part of Letters Patent No. 633,489, dated September 19, 1899.

Application filed March 7, 1899. Serial No. 708,155. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN F. REVALK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Compounds for Resharpener Files, &c., of which the following is a specification.

My invention is an improved composition for resharpening files, rasps, and like tools and implements having serrated surfaces.

The object of my invention is to furnish a composition that will act effectively to sharpen such tools when used with a blast, steam-jet, or other forcing or impelling means. Many attempts have been made to resharpen tools of this character by the use of a sand-blast; but the gritty character of sand, no matter how fine, has made such attempts, so far as I am aware, unsuccessful, for the reason that sand destroys the serrated surface by breaking the teeth instead of sharpening them.

My new composition is composed of elements which when dry constitute a nearly impalpable powder without any gritty quality, but which, nevertheless, is exceedingly effective as a resharpening agent. Moreover, as the basis or principal ingredient in my compound I utilize a particular waste product especially adapted to my purpose, and thereby make it of some commercial value. This product is a residuum left after the separation of the precious metals from their ores by the wet process of washing and concentration. The ores (quartz or porphyry or a combination of both) are pounded in stamp-mills to a powder, the free gold amalgamated, and the wet pulp fed to concentrator-tables or shaking-belts, where a further concentration takes place. The heavier particles are retained on the tables or belts, while the lighter material is run off either to waste or into settling-tanks. In such tanks a further separation takes place by gravity, the sand and heavier particles sinking, while the lighter "slimes," as they are termed, remain nearer the top. These concentrator-slimes are composed of finely-comminuted quartz or porphyry and water and are of a smooth greasy

character, the mineral matter being practically impalpable. This mineral matter, however, is of the hard abrasive nature suitable for my purpose, without being gritty, and hence destructive. In one hundred (100) parts of my compound I use about eighty-five (85) parts of this concentrator-slime, about five (5) parts of calcium carbonate, about five (5) parts of powdered corundum, and about five (5) parts of caustic potash. These elements, being mixed together, are treated with a sufficient quantity of water in a suitable vessel, being washed and stirred therein for a sufficient time, as in lixiviation, and then drawn off from the upper part of the vessel.

It is not necessary in all cases to use lime in the preparation of the compound, but as most slimes contain graphite to some extent in such cases I prefer to use lime to neutralize its greasy nature.

Powdered corundum is added in a small quantity on account of its exceptional abrasive quality and caustic potash because of its effect as a cleansing agent when brought in contact with the oil and dirt on the surfaces of the files to be sharpened.

The compound in use is mixed with water and ejected through a suitable nozzle against the surface of the file, the latter being held at an angle, so that the impact is against the inclined rear surfaces of the teeth. These surfaces are thereby worn down, so that the blunt edges are effectively restored to their original sharp condition. Any kind of an impelling force may be used; but I prefer a jet of steam, which also assists in cleansing the surface of the file.

I do not wish to confine myself to the exact proportions stated, as they may be varied to some extent to conform to the specific nature of the slime which forms the principal ingredient. I have given ingredients and proportions which form a practical and effective composition for the purpose and which I have successfully used; but such proportions are susceptible of reasonable variation, according to the observation and experience of those skilled in the art.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

5 A compound for resharpening files and like implements composed of concentrator-slime, corundum, calcium carbonate, and caustic potash combined in substantially the proportions specified.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 20th day of February, 1899.

JOHN F. REVALK.

Witnesses:

L. W. SEELY,
H. J. LANG.