

United States Patent Office.

ASAHEL K. EATON, OF PIERMONT, NEW YORK.

Letters Patent No. 105,320, dated July 12, 1870.

IMPROVEMENT IN THE MANUFACTURE OF TOOLS FOR CUTTING, GRINDING, AND POLISHING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that J. ASAHEL K. EATON, of Piermont, in the county of Rockland and State of New York, have invented a certain new and useful Improvement in the Manufacture of Tools, Wheels, and similar implements or articles for cutting, grinding, and polishing glass, steel, or other metal, and ivory or bone, and other hard substances; and I do hereby declare the following to be such a full, clear, and exact description of the same as will enable any one skilled in the arts to which my invention appertains to make and use the same.

My invention consists in manufacturing said tools, implements, or articles, for the purpose aforesaid, of paper pulp, combined either with alumina, sand, emery, peroxide of iron, or other granulated or pulverized material, suitable for cutting, grinding, or polishing, as aforesaid, either separately or in combination with any two or more of said substances.

The said paper pulp so united with said substances or either of them, to be afterward pressed or worked into the desired shape, and either baked or allowed to dry, thus forming a hard grinding, polishing, or cutting-tool or implement of the desired shape, with paper pulp as the vehicle or base, to unite and hold the cutting, grinding, or polishing material.

In the practice of my invention, I first prepare a mash of paper pulp and water of about the consistency desired, and then mix in the alumina, or other of the aforesaid substances, until the mass is as sharp or hard with the grinding, cutting, or polishing substances, as may be desired.

I then work or press the combined material in the desired shape, and either bake it or allow it to dry, after which it is ready for use.

In making the mash of paper pulp, it is often desirable to add glue, starch, or other kind of size, to give the articles or tools greater hardness or strength.

The proportion of the cutting, grinding, or polishing material mixed in the paper mash will, of course, depend upon the kind of tool to be made, and the duty it is to perform.

If the material to be treated is soft, and is to be polished or cut finely and slowly, but a small proportion of the grinding, cutting, or polishing material is necessary; but if the material is hard, and the cutting, grinding, or polishing is to be rapid, then the proportion of sand, alumina, emery, peroxide of iron, (rouge,) or other similar granular substances is to be increased.

Having now described the nature and extent of my invention,

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

Manufacturing tools, implements, or articles for cutting, grinding, or polishing metal, glass, ivory, bone, wood, or other hard or dense substance, of paper pulp, combined with alumina, sand, emery, peroxide of iron, or other suitable granulated substance, either separately or in combination, and worked and pressed in the desired shape, substantially as described.

A. K. EATON.

Witnesses:

AMOS BROADNAX,
GEORGE W. SCOLLAY.