

United States Patent Office.

JESSE RUSSELL, OF BATH, MAINE.

Letters Patent No. 61,363, dated January 22, 1867.

IMPROVEMENT IN ABRASIVE POWDER.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JESSE RUSSELL, of Bath, in the county of Sagadahock, in the State of Maine, have invented an improved Abrasive Powder; and I do hereby declare that the following is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to a new manufacture of abrasive powder for reducing and polishing metal, glass, and other surfaces, made up principally of a combination of manganese, garnets, and metallic iron, with more or less quartz, black mica, and actinolite, the iron and garnets, however, forming the principal or essential parts. A material having these component parts I find existing in a state of ore or rock, and my invention consists in crushing and pulverizing the same, and preparing, from the result of the comminution, powders of even grades, by screening, bolting, and other separating processes, thereby obtaining powders of such different degrees of fineness as may be necessary for the various abrasive processes used in the arts. The great value of the substance thus reduced and prepared rests partly on the hardness of the powder, but particularly on the fracture of the garnets, which, however finely reduced, always give cutting edges or angular particles. A harder substance might fracture differently, and be of no value from having no cutting power; but, from the fracture of the garnets, their cutting angles are always present, no matter how fine the powder may be. This powder has been tested in steel grinding, finishing, cutting and engraving glass, and upon emery-wheels, paper and cloth, and is found in all cases a valuable abrasive agent.

I claim as a new article of manufacture—

Abrasive powders made by reducing and grading the material above described.

JESSE RUSSELL.

Witnesses:

F. GOULD,

S. B. KIDDER.