UNITED STATES PATENT OFFICE.

ROBERT GLOVER, OF LEOMINSTER, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JOSIAH Q. BULL, OF SAME PLACE.

IMPROVEMENT IN PROCESSES OF TREATING WORN-OUT SAND-PAPER OR EMERY-CLOTH TO UTILIZE THE SAME.

Specification forming part of Letters Patent No. **194,235**, dated August 14, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, ROBERT GLOVER, of Leominster, of the county of Worcester and State of Massachusetts, have invented a new and useful Process of Treating Abrasive Paper or Cloth, in order to separate the constituents thereof for being utilized in the arts; and do hereby declare the same to be described as follows:

In many factories or workshops much abrasive paper or cloth is used, which afterward has been deemed waste material, and generally been destroyed.

The object of my invention is to utilize such waste, or, in other words, to separate the sand, emery, or corundum from the paper or cloth in which it may be fixed, and to prepare such paper or cloth for being reconverted into paper pulp, and also to obtain the abrasive material in a state which will enable it to be again used or applied to paper or cloth.

In carrying out my invention I put a quantity of the waste abrasive paper or cloth into a close vessel or keir provided with a foraminous or finely-perforated bottom, and having directly beneath such bottom a space or chamber provided with one or more openings in its side or sides and upper part for discharge of water from it. This chamber or space should also be furnished with some opening, through which the abrasive material may be extracted from it, (the said space or chamber.) Having thus supplied the keir with the material to be treated, I next, by means of a pipe leading from a steam boiler or generator, discharge into the keir and upon the contents thereof steam, and continue to do this until the mass and particles of the glue or cement thereof be rendered sufficiently soft. This having been done, I next discharge water under pressure into and through the mass, or suffer it to flow into and through the keir, and while it is so flowing I stir or agitate the mass, so as to cause the emery or abrasive material and the glue to separate from the paper or cloth and pass down through the foraminous bottom into the space or chamber beneath the latter. Into the water in this space or chamber the abrasive matter will settle and be intercepted, the waste-water escaping by the side educt or educts.

After having thus treated the mass in the keir, the paper or cloth separated from the abrasive material and glue may be removed and dried, when it will be in a state for being ground up and converted into pulp for again being made into paper. The abrasive material, having also been washed or freed from the glue, may be removed and desiccated, when it will again be fit for use, as before.

I claim—

The process, substantially as described, of treating waste abrasive cloth or paper for the purpose of separating the abrasive material thereof from its cloth or paper support, and removing the glue or cement from both, and rendering them capable of again being utilized, such process consisting in subjecting the said waste abrasive paper or cloth to the action of steam, and subsequently washing with water, so as to remove from the paper or cloth the abrasive material and glue, and carry them into a receiver for intercepting the said abrasive material and discharging the glue and surplus water, and afterward removing the separated matters of the keir and chamber, and desiccating them or either of them, as may be required.

ROBERT GLOVER.

Witnesses:
R. H. EDDY,
J. R. SNOW.