

UNITED STATES PATENT OFFICE.

FRANKLIN COPELAND, OF BOSTON, MASSACHUSETTS.

EMERY-CLOTH.

SPECIFICATION forming part of Letters Patent No. 224,078, dated February 3, 1880.

Application filed October 28, 1879.

To all whom it may concern :

Be it known that I, FRANKLIN COPELAND, of Boston, Massachusetts, have invented new and useful Improvements in Emery-Cloth, of which the following is a clear, full, and exact description.

All emery-cloths now known to the trade are so made that the emery and the binding medium both lie substantially on the surface of the cloth, which leads to breaking or cracking off of the emery and mucilaginous binding material from the textile fabric when the emery-cloth is closely folded or roughly handled.

The object of my invention is to overcome this great difficulty in merchantable emery-cloth; and my invention consists in a new method of making emery-cloth, wherein a cold solution of a soluble silicate is spread over a textile fabric as a mucilage, the corundum or emery is sprinkled over the mucilaginous surface thus formed, and the sheet thus prepared is passed under pressure between two heated rollers, whereby the textile fabric, the emery, and the silicate are compressed into substantially a homogeneous mass, and the emery is "set" in the silicate, substantially as hereinafter described.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried it out.

In practicing my invention I take a textile fabric so woven as to be tough and pliable, and

on its surface I spread, in a cold state, a solution of silicate of soda or silicate of potash in a quantity sufficient to size the faces of the particles of emery, and also enter the interstices of the cloth; then the emery or emery and corundum are sprinkled over the surface of the adhesive silicate, and the sheet is immediately passed between heated rollers under pressure. The emery-cloth leaves the rollers in substantially a homogeneous condition, and it will be found that when the cloth is folded or roughly handled the abrading-surface will not flake off. The interstices of the cloth receive the binding material, and it spreads into the fibers, holding the particles of emery in the strongest manner, and yet in no wise impairing the pliability of the emery-cloth.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The improved method of making emery-cloth herein described, and consisting in spreading a cold solution of the silicate of soda or potash on the surface of a textile fabric, then in sprinkling emery over the exposed surface of the silicate, and, lastly, in passing the sheet thus prepared between heated rollers under heavy pressure, substantially as and for the purpose set forth.

FRANKLIN COPELAND.

Witnesses:

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