

## UNITED STATES PATENT OFFICE.

CYRUS B. AYER, OF BELOIT, WISCONSIN, ASSIGNOR TO ISRAEL WILLIAMS,  
OF SAME PLACE.

## IMPROVEMENT IN PREPARING PAPER FOR BUILDINGS, &amp;c.

Specification forming part of Letters Patent No. 124,314, dated March 5, 1872.

## SPECIFICATION.

Specification describing an Improved Process for Making Building-Paper (or paper used for building purposes) Water-Proof, invented by CYRUS B. AYER, of the city of Beloit, in the county of Rock and State of Wisconsin.

Pass the plain building-paper, or paper used for building purposes, after its manufacture or while in the process of being manufactured, first through a solution of alum and water, either strong or weak, and then through a sizing composed of soft soap (made of fat, potassa, and water) and a solution of glue, the glue solution to be four parts water and one part glue. When these solutions are mixed before being used, to be composed of a greater or less quantity of the one and the other solutions, according to the quality of the paper being made by the improved process.

By this process there is formed upon the surface of the paper, by mutual decomposition, an

insoluble compound of alumina and the fatty acids employed in making the soap-sizing, thus rendering the paper water and damp proof.

I am aware that alum has before been used in the manufacture of aluminous paper or aluminous building-board; but in all previous processes, as far as I am aware, the alum has been used alone, in a solution of alum and water, and not in conjunction with the sizing above described.

I claim as my invention—

The improved process of rendering plain building-paper, or paper used for building purposes, water and damp proof by passing the same, at the time of being manufactured or after the plain paper is manufactured, first through a solution of alum and then through the sizing, substantially as above described.

CYRUS B. AYER.

Witnesses:

W. C. MCPHERSON,  
C. F. RAU, Jr.