

# UNITED STATES PATENT OFFICE.

WILLIAM ADAMSON, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN STOCK FOR PAPER-MAKERS' SIZING.

Specification forming part of Letters Patent No. **211,368**, dated January 14, 1879; application filed December 2, 1878.

*To all whom it may concern:*

Be it known that I, WILLIAM ADAMSON, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Stock for Paper-Makers' Sizing, of which the following is a specification:

The object of my invention is to furnish consumers of paper-makers' size with sizing-stock ready for conversion, by simple boiling, into transparent limpid and water-proof, or nearly water-proof, size; and this object I attain in the following manner:

I take ordinary glue-stock, such as the cuttings of rawhide, bones, &c., which has been treated with lime or alkali in the usual manner, and wash this glue-stock with water until as much of the lime as possible has been removed. I then impregnate the stock with alum by steeping it in a solution of alum and water for from four to ten hours, or as long as the thickness and quantity of lime remaining may demand, after which I drain off the solution, leaving the stock in a moist and swollen condition, in which state I pack it into barrels, boxes, or bags, ready for transportation to, and use by, the consumers.

The alum acts as a preservative, so that the stock can be kept for a considerable length of time without deterioration.

As the stock thus prepared reaches the consumer while it still retains its moisture, it will readily yield to the dissolving action of heat and water, and can be speedily converted into the desired size, thereby avoiding the long-continued boiling, which has a tendency to discolor the size.

The alum treatment has the further advantage of neutralizing the lime which has remained in the stock, and which would otherwise detract from the quality of the size.

A further important action of the alum is to make the size limpid and transparent, and to render paper and other material to which it is applied partially water-proof.

One of the main advantages of my invention is, that the size-stock can be prepared and packed and forwarded directly to the consumer, thereby obviating the usual preliminary drying, which is costly, and frequently injures the stock.

The proportion of alum to the water in the solution will in a great measure depend upon the character of the glue-stock, as will also the time during which the stock is steeped in the water; but I have found that the desired result may be attained by steeping ordinary rawhide clippings, bones, &c., for from four to ten hours in a bath in which the proportions are about three to five pounds of alum to one hundred pounds of wet unprepared glue-stock.

I claim as my invention—

1. The mode described of preparing stock for paper-makers' size—that is to say, steeping glue-stock in a solution of alum and water, and, after draining off the superfluous solution, packing it for transportation and for conversion into paper-makers' size, all substantially as set forth.

2. As a new article of manufacture, paper-makers' sizing-stock consisting of glue-stock impregnated with alum, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. ADAMSON.

Witnesses:

ALEX. PATTERSON,  
HARRY SMITH.