

# UNITED STATES PATENT OFFICE.

JOHN M. ALLEN, OF MARION, MASSACHUSETTS.

## IMPROVEMENT IN MANUFACTURE OF PAPER AND PAPER-PULP.

Specification forming part of Letters Patent No. 118,177, dated August 22, 1871.

*To all whom it may concern:*

Be it known that I, JOHN M. ALLEN, of Marion, in the county of Plymouth and State of Massachusetts, have invented a certain new and useful Improvement in the Manufacture of Pulp and Paper; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to practice my invention.

The said invention consists in a pulp or paper made of the bark of coniferous trees, from which the resinous substances therein contained have been wholly or almost wholly extracted. It also consists in the process of extracting the resinous substances from the said bark, as hereinafter described.

The mode of practicing the said invention is as follows: I take the bark of the coniferous tree and submit it to the action of a boiling solution of caustic alkali, say at a strength of from 6° to 10° Baumé, in a digester or in an open boiler. This process should be continued for about six to nine hours when a closed boiler is used, and longer if carried on in an open vessel. At the end of this time the resin and other intercellulose are entirely extracted from the fiber or nearly so.

Instead of caustic alkali, other alkalies or alkaloïds, such as carbonate of soda, carbonate of ammonia, carbonate of potash, &c., may be used;

but in this case the process must be continued for several hours longer.

The bark may also (especially when an open vessel is used for the alkaline treatment) be soaked and reduced to pulp by machinery in the first instance, so as to separate the fibers before subjecting them to the alkali.

The pulp can be washed and at once made into a strong serviceable paper without bleaching, or it may be bleached in any well-known way.

I am aware that paper has heretofore been made from the wood of the pine and fir. Such pulp or paper, therefore, I do not claim. Neither do I claim a pulp or paper made partly of the bark of coniferous trees in which the resin is retained, such as that made by the process patented to C. C. Hall, February 20, 1855; but

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. Pulp or paper made of the bark of coniferous trees from which the resin has been wholly or almost wholly extracted.

2. Extracting the resin from the bark of coniferous trees by the process above described.

JOHN M. ALLEN.

Witnesses:

CHAS. PARHAM,  
WM. W. HARDING.