

UNITED STATES PATENT OFFICE.

NORMAN H. BROKAW, OF KAUKAUNA, WISCONSIN.

PROCESS OF MAKING PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 474,944, dated May 17, 1892.

Application filed April 11, 1891. Serial No. 388,589. (No specimens.)

To all whom it may concern:

Be it known that I, NORMAN H. BROKAW, a citizen of the United States, residing at Kaukauna, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Processes of Making Paper-Pulp, of which the following is a specification.

The object of my invention is to manufacture paper-pulp from pine and other resinous wood by a process involving the use of bisulphite of lime or similar sulphite.

In carrying out my improvements I take pine or other resinous wood, cut it into sticks of convenient size for handling—say four feet, or thereabout—and place the sticks in a steam box or vessel, where, by steaming or steeping it, I dissolve the resin, pitch, and tarry matter and separate it from the fiber. The sticks of wood thus freed from resin, &c., are removed from the steam-box, cooled, and dried, and then cut into disks or chips of suitable size for treatment in a digester of ordinary construction, where the wood is converted into pulp or cellulose under the influence of bisulphite of lime or similar sulphite in the usual way.

By my process I can produce cellulose from resinous woods of as good a commercial quality as that produced from spruce or other woods heretofore used.

The steam-box is provided with openings for the ingress and egress of steam, and the

temperature may vary from 80° to 280° Fahrenheit. It should not be above 280°, as it would then discolor the fiber. When a temperature approximating 280° is used, only three or four hours are required to remove the resinous matter. If a temperature as low as 80° be employed, several days are required. After the wood is steamed it is removed from the steam box or boiler and allowed to cool. In cooling it dries quickly, as the heat is given off. When cut up into disks or chips, the wood is treated in a digester in the usual way.

I claim as my invention—

1. The herein-described process of making paper-pulp from resinous woods, which consists in steaming or steeping sticks of wood to remove the resin therefrom, cutting the sticks into disks or chips, and subjecting them to the action of a sulphite liquor in a digester.

2. The herein-described process of making paper-pulp from resinous woods, which consists in steaming or steeping sticks of wood to remove the resin therefrom, then cooling and drying the sticks, then cutting them into disks or chips, and then charging them into a digester and treating them with a sulphite solution.

In testimony whereof I have hereunto subscribed my name.

NORMAN H. BROKAW.

Witnesses:

GEORGE W. FARGO, Jr.,
F. A. TOWSLEY.