

# UNITED STATES PATENT OFFICE.

JAMES WOODRUFF AND FREDERICK BOYD, OF QUINCY, ILLINOIS.

## IMPROVEMENT IN THE PREPARATION OF FIBROUS MATERIAL.

Specification forming part of Letters Patent No. 103,115, dated May 17, 1870.

*To all whom it may concern:*

Be it known that we, JAMES WOODRUFF and FREDERICK BOYD, of Quincy, Adams county, in the State of Illinois, have invented or discovered a new Manufacture of a Fibrous Material suitable for use in the manufacture of paper, cordage, textile fabrics, and in upholstering, of which the following is a specification:

This fibrous material is produced by separating the fibrous from the other portion of the *Spartina cynosuroides*, which is a native grass of North America, and is especially abundant on the low prairie lands bordering on the Mississippi river, particularly in the States of Illinois and Missouri, where it is commonly called "cord-grass" or "marsh-grass." It is well known to botanists by its true name, *Spartina cynosuroides*, and grows from a strong and branching root. Each stalk commences its growth annually from a sharp-pointed protuberance on the root. When full grown it varies from two to seven feet in height. It has no pith or ligneous stem, and each stalk is formed by the circular overlapping and compression of the leaf, thus forming a succession of cylinders, one within another. The stalks and leaves contain a great quantity of excellent fiber.

Heretofore this grass has been deemed worthless, except when cut young, when it formed a very inferior grade of hay. We have discovered that its fiber is very valuable and capable of being easily separated from the other matter composing the plant.

The best method known to us of obtaining the fibrous material is as follows: At that time in the summer or fall when the plant has ob-

tained its full growth it should be cut and placed in a tank or boiler containing water mixed with quicklime, and boiled in that mixture from five to seven hours. We use about five bushels of lime to every ten of the grass. This boiling with quicklime causes the fibers to separate, and thus makes a mass of fibers, which, when washed, is ready without further preparation for use, either as paper-stock or to be submitted to any of the well-known processes for forming crude fibers into threads or yarn for cordage or textile fabrics, or to be prepared for the upholsterer. This fibrous material is especially useful as paper-stock, and is easily made into either white or colored paper by suitable processes now well known to paper-makers. This fiber is strong and tenacious, can be obtained at a very small expense, and it is admirably adapted to a great variety of uses, as we have satisfied ourselves at a great outlay both of time and money.

We do not claim the process above described for reducing this plant to a fibrous mass, as we are aware that that process is not new; nor do we claim any new process for separating the fibrous and other portions of plants.

What we claim as new, and desire to secure by Letters Patent, is—

A prepared fibrous material formed of the stalk or fiber of the *Spartina cynosuroides*, (or cord-grass,) substantially as and for the purposes herein described.

JAMES WOODRUFF.  
FREDK. BOYD.

Witnesses:

E. A. DUDLEY,  
JOSEPH ARTUS.