

UNITED STATES PATENT OFFICE.

BERNARD GRANVILLE, OF NEW YORK, N. Y., ASSIGNOR TO NATIONAL FIBRE PRODUCTS COMPANY, A CORPORATION OF DELAWARE.

MANUFACTURE OF PAPER FROM PEAT.

1,038,565.

Specification of Letters Patent.

Patented Sept. 17, 1912.

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To all whom it may concern:

Be it known that I, BERNARD GRANVILLE, citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in the Manufacture of Paper from Peat, of which the following is a specification.

My invention relates to the treatment of bog peat, and has for its object the economical removal of the fiber contained in the peat, as it lies in the bog, and the separation of the same from the other elements of the bog.

Heretofore peat has been removed from the bog by mechanical devices, such as plows, rakes, spades, and dredges, and the main difficulty in the utilization of the valuable fiber of the peat, has been the cost of removal from the bog, and the separation of the fiber from the other constituents of the peat.

My purpose principally is to produce peat fiber as material for the manufacture of paper and articles of that class, and to secure economy of excavation and separation, with a minimum of breaking of the fiber. I use the hydraulic process, somewhat in the manner of hydraulic mining.

It is well known that peat is found in bogs saturated with water in which the peat has been formed. It consists of rootlets and the more or less disintegrated fibers of roots with living roots and shrubs at or near the surface.

In carrying my invention into practical effect, I direct a powerful stream upon the peat as it lies in the bog. This cuts the peat, and at the same time disintegrates it, washing the valuable fibers from the rootlets and lumps, and holding these fibers in suspension in the body of the water used in the cutting. Preferably I so direct the stream as to cut a channel leading from the point where is located the apparatus by which the water is lifted which carries in suspension the fiber of the peat. I may cut in this way always against a margin of the body of water which contains the fiber, adding constantly to this body the water of the stream, and the fiber cut and washed by the stream, and this body of water holding the fiber in suspension,

forms a reservoir of material from which I draw, by any suitable means, the material thus held in workable condition for further treatment. I may use a natural head of water for the force, if such exist conveniently near, or I may use the water of the bog, once or repeatedly. At a point convenient to this body of water and fiber, I locate my plant for the elevation of the water and fiber, if necessary and for separation of the fiber therefrom. Means for such elevation are well known. Pumps or a chain of buckets may be used, with ordinary screens, or other appliances equally well known in the art for separating from the water material held therein in suspension, or for grading or classifying the constituents of the peat. The water drained off may be passed by a suitable channel to the position of the pump for reuse, if desired. The valuable fibrous matter thus recovered I pass into open tanks or digesters where the surplus water is drained off and the product is then subjected to the action of a weak alkaline solution; washed with water; subjected to a weak acid solution and again washed, this action removing not only all dirt and mud, but most of the gelatinous matter. The acid treatment neutralizes the alkaline treatment, causing the fiber to shrink and solidify, materially adding to the strength of the fiber. The fiber is then utilized for half stuff; paper making, paper boards or artificial lumber in the usual manner, or may be used for other purposes, if desired.

I claim:

The hereindescribed method of excavating and separating peat fiber from the bog, the same consisting in applying to the peat, as it lies in the bog, a powerful stream of water, cutting thereby the peat, and forming a body of water carrying the fiber in suspension, taking the mixed water and fiber from said body and separating the fiber therefrom, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

BERNARD GRANVILLE.

Witnesses:

LORREN M. HART,

MAY BELLE TAIT.