(No Model.) 2 Sheets—Sheet 1.

G. H. BÉRAUD.

APPARATUS FOR CLASSIFYING AND FINISHING PEAT FIBER.

No. 444,199. Patented Jan. 6, 1891.

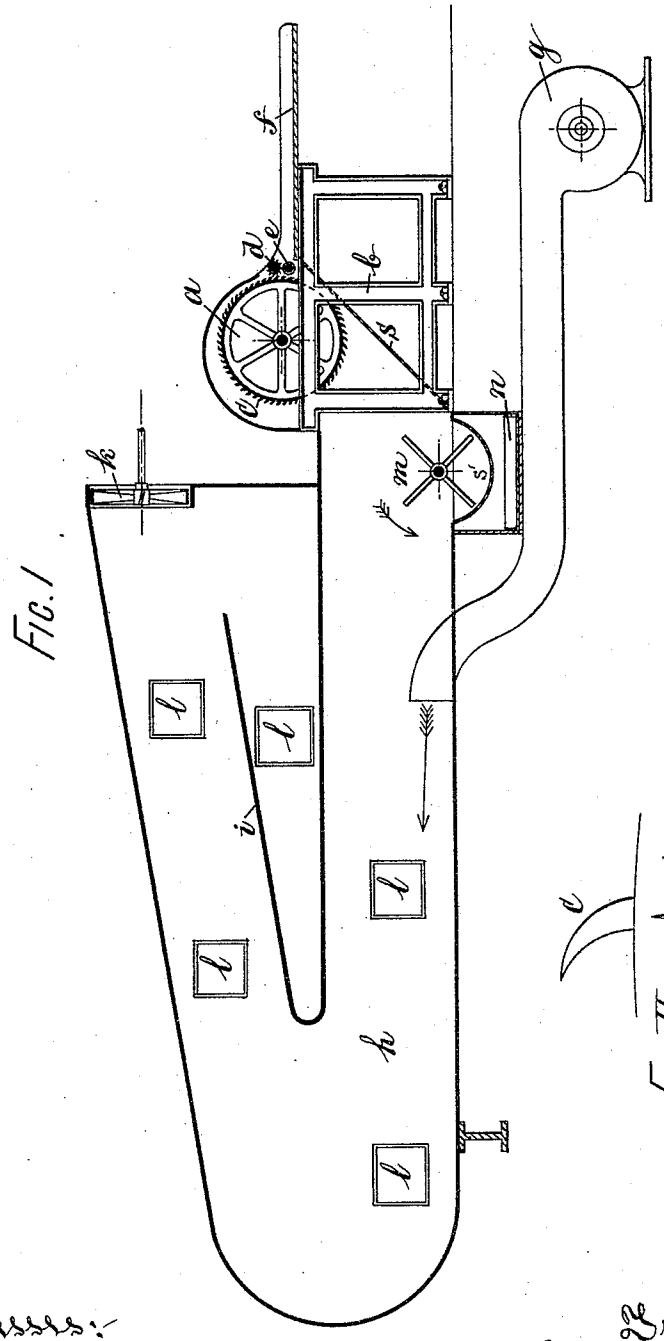


FIG. I

FIG II

Witnesses:-
Wm. H. Muzzy
E. H. Underwood.

Inventor:-
George H. Béraud
By Wm. H. Babcock
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

G. H. BÉRAUD.

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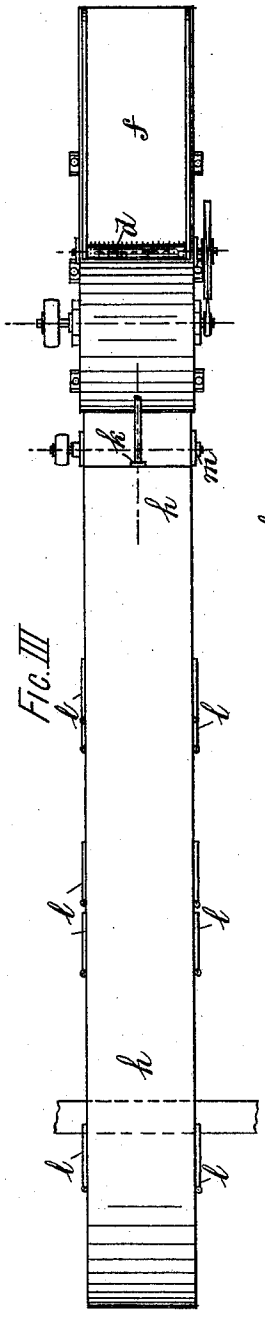


FIG. III

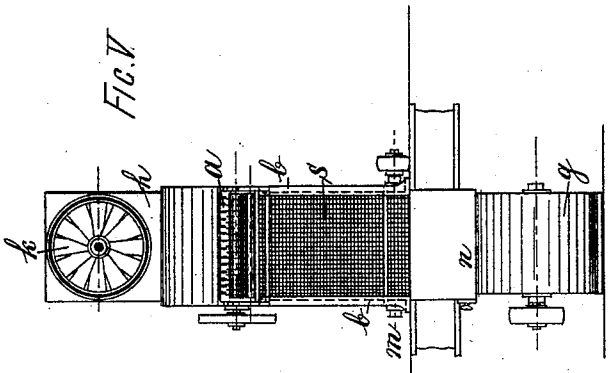


FIG. V

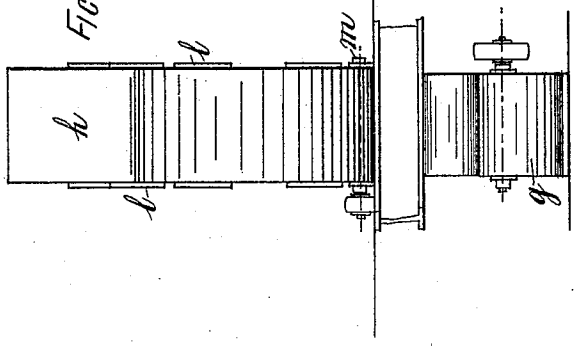


FIG. IV

Witnesses:-
W. H. Muzzy.
E. H. Underwood.

Inventor:-
George H. Béraud
By H. W. Babcock
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGES HENRY BÉRAUD, OF MAESTRICHT, HOLLAND.

APPARATUS FOR CLASSIFYING AND FINISHING PEAT FIBER.

SPECIFICATION forming part of Letters Patent No. 444,199, dated January 6, 1891.

Application filed May 13, 1890. Serial No. 351,614. (No model.) Patented in England June 14, 1888, No. 8,742; in Belgium March 26, 1889, No. 85,554; in France March 27, 1889, No. 197,006; in Germany April 13, 1889, No. 50,304; in Norway June 11, 1889, No. 1,541; in Italy June 12, 1889, No. 25,640, and in Canada November 19, 1889, No. 32,867.

To all whom it may concern:

Be it known that GEORGES HENRY BÉRAUD, manufacturer, a subject of the King of the Belgians, residing at Maestricht, in the Kingdom of Holland, have invented a new and useful Improvement in Apparatus for Classifying and Finishing Peat Fiber, (for which I have obtained patents in the following countries: Great Britain, No. 8,742, bearing date June 14, 1888; France, No. 197,006, bearing date March 27, 1889; Belgium, No. 85,554, bearing date March 26, 1889; Germany, No. 50,304, bearing date April 13, 1899; Italy, No. 25,640, bearing date June 12, 1889; Norway, No. 1,541, bearing date June 11, 1889, and Canada, No. 32,867, bearing date November 19, 1889,) of which the following is a specification.

This invention relates to the fibrous peat which is found in many parts of the world; and it has for its object an improvement in apparatus for finishing and classifying the fibers of such peat, so that it can be spun into threads alone or in combination with wool, cotton, or other fibrous material and converted into textile or other fabrics which can be used for an infinite variety of purposes.

I am aware that it has already heretofore been proposed to utilize the fiber of peat in the manner described; but all attempts to so utilize it have failed on account of the impossibility of successfully finishing and classifying the peat fiber into different degrees of length and fineness by means of the machinery and apparatus ordinarily heretofore used.

By my improved apparatus herein described I have succeeded in treating the peat fiber by cleaning and separating it into different qualities, so that it can be used for spinning into threads for weaving and for other purposes. The fibrous peat is first cleaned in a beating-engine having arms revolving at from one thousand to two thousand revolutions per minute, the dust passing through a wire-gauze screen and being carried away by an exhausting-fan. The partial cleaning of the fiber having been effected in the manner described, it is then treated by a revolving toothed drum, to which it is fed over a plate or knife edge, against which the fibers are torn down by the revolving teeth of the drum. The fiber is now reduced to a tow-like condition, and in order to further purify it and reduce it to a still finer state resembling cotton it is passed into the machine which forms the subject of my present invention, of which the accompanying drawings are an illustration.

Figure 1 is a longitudinal elevation, partly in section. Fig. 2 represents detail views of the different styles of teeth I use on drum *a*. Fig. 3 is a plan, and Figs. 4 and 5 end views of a machine embodying my invention.

Similar letters of reference indicate the same parts in the different figures.

a is a revolving cylinder or drum not more than forty inches in diameter and having a length of about twenty-four inches. The axle of this cylinder revolves in bearings in the frame *b* of the machine, and the cylinder is provided upon its surface with rounded teeth *c*, resembling those of a saw, as illustrated in the upper detail view in Fig. 2, the teeth being inclined forward at an angle of about forty-five degrees, their length being about one inch and their distance apart about three-quarters of an inch; or the teeth may be radial, as illustrated in the lower detail view of Fig. 2. These teeth are riveted on the cylinder *a*, which is preferably of iron. The speed of the cylinder should be at least two thousand revolutions to two thousand five hundred revolutions per minute, and the fiber to be treated is supplied to it between feeding-rollers *d* and *e* from the feeding-table *f*.

The machine is fixed upon a suitable foundation, and under the cylinder *a* between the two side frames of the machine is fixed a perforated dividing-plate *s* in such a position that any dust or refuse from the fiber falls through and behind this plate and the clean fiber itself in front of it.

g is a blowing-fan, the current of air from which is delivered with such force as to carry with it the cleaned fibers to a sufficient distance from the machine into a space forming a chamber *h* about thirty feet long, which is divided at about half its height by a plate or plates *i*, extending nearly to the end, so as to give a course of about sixty feet to the cur-

rent of air which carries the fibers with it, the operation being assisted by an exhausting-fan or equivalent device *k*.

l l are openings or man-holes by which access can be had to the space in the chamber in order to clean it and remove the fiber deposited in it.

m is a revolving beater or set of arms by which the fiber delivered from the machine is thrown forward into the chamber *h*. The beater is shown with a movable grating or wire-gauze *s'* under it, through which dust drops into a drawer or receptacle *n* beneath. The interior of the chamber, which is of wood or any other suitable material, is preferably lined with polished metal. As the fibers carried by the current of air deposit themselves in the different parts of the chamber *h*, they become classified according to their relative degrees of fineness, those at the greatest distance from the revolving arms resembling fine down, those at the middle cotton, and those nearest to the machine being the coarsest, but fit for spinning thread of two thousand yards to the pound without mixture.

By means of the novel apparatus described the fiber becomes fit to be used for all the purposes for which other animal or vegetable fibers are ordinarily used, and it can be worked in the ordinary spinning and other machinery used for wool, cotton, flax, jute, or hemp. It should be pointed out that the peat fiber, being absorbent in a very high degree, when used in place of such ordinary fibers for spinning, should only be submitted to the action of steam instead of to greasing by oleine, as is ordinarily done, but which would render it too heavy and unmanageable and liable to injury. If, however, oleine or other grease is used, its weight should not exceed fifteen per cent. of that of the fiber, which should be prepared with it twenty-four hours in advance.

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

In a machine for finishing and classifying peat fiber, the combination, with the revolving toothed drum or cylinder *a* and rollers *d e* for feeding in the fiber, of the dividing-plate *s*, the fan *g*, the revolving beaters or plates *m*, the chamber *h*, divided by plates *i* and having openings *l*, and the exhausting-fan *k*, all arranged and operating substantially as set forth and shown.

In witness whereof I hereunto set my hand in the presence of two subscribing witnesses.

GEORGES HENRY BÉRAUD.

Witnesses:
J. L. RATHBONE,
R. J. PRESTON.