A. BETTELEY.

TANK FOR PREPARING PEAT.

No. 51,913. Patented Jan. 9, 1866.

Fig. 1.

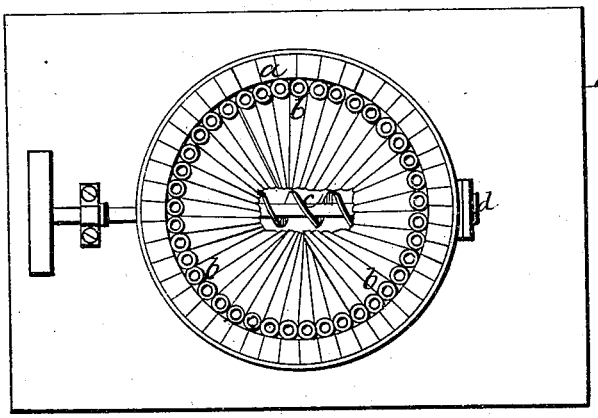
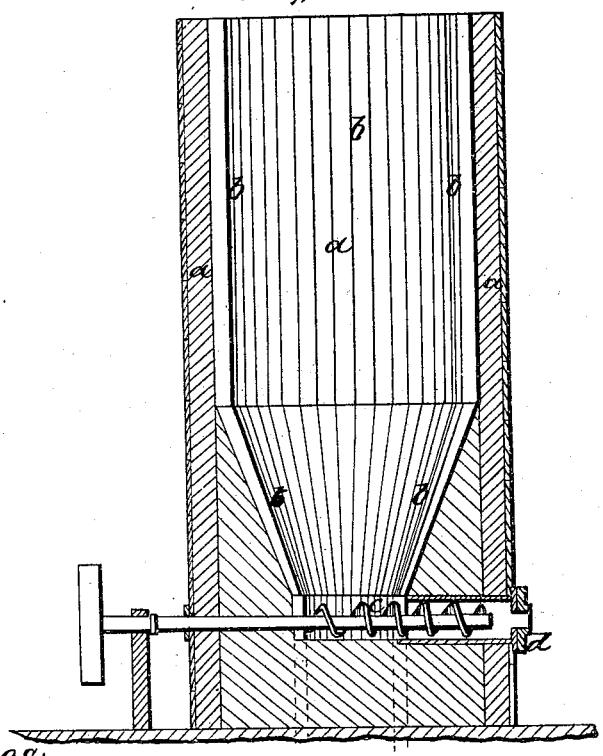


Fig. 2.



Witnesses;

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UNITED STATES PATENT OFFICE.

ALBERT BETTELEY, OF BOSTON, MASSACHUSETTS.

IMPROVED TANK FOR PREPARING PEAT.

Specification forming part of Letters Patent No. **51,913**, dated January 9, 1866.

To all whom it may concern:

Be it known that I, ALBERT BETTELEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Tank for Preparing Peat; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practice it.

In preparing peat for fuel the great difficulty hitherto encountered has been to get rid of the water therewith combined. To evaporate the water by artificial heat, though practicable, is not practical on account of the expense involved. Where it has been attempted to separate the solids from the fluids found in peat by straining processes experience has shown a great loss of valuable solid matter from its passing off with the fluid, part of the solid matter being so finely divided that it escapes easily through the finest wire-gauze or sieve-cloth.

On the 8th day of August, 1865, a patent was granted to me for the employment of a tank which was to be filled up with semi-fluid peat as in its condition as taken from the bog, the peat being left undisturbed, to allow the solid matter to separate from the water by the difference in their specific gravities, the superincumbent water being subsequently drawn off by any suitable means.

In my present invention I employ a tank of this description, and place around the inner surface thereof a series of drain-tiles or other suitable water-conducting and porous pipes, extending vertically from the top to and through the bottom of the tank, or through its sides, or to a main water-conductor at or near said bottom. These pipes may also be erected in the interior of the tank; but I consider it most practicable to only place them against the sides of the vessel, in which position they will be best supported by such sides.

It will be obvious that the water percolating through the joints between the sections and through the porous material of the pipes will freely run off through the channels made by the pipes, and the operation of drying the peat will be thereby greatly facilitated. It is in this construction of the tank, with drain-pipes arranged within the same, that my present invention consists; also, in the combination therewith of a screw for drawing the material from the tank. Such a tank is represented in the drawings.

Figure 1 denotes a top view, and Fig. 2 a central and vertical section, of the same.

a denotes the vat, built in any proper manner, and of suitable material to resist the pressure of the semi-fluid peat.

b b represent the drain or water pipes, which may consist of drain-tile or other similar material through which water will percolate. These pipes are fastened to and supported against the sides of the tank, and extend from the top to the bottom of the same, or part of them may extend through the sides.

In the preparation of the peat and the use of the tank I proceed as follows: As the crude peat is dug from the bog it has all large matters, such as roots, &c., removed therefrom, and then, by a raking or straining process, the decomposed matter is separated from the fibrous or undecomposed matter; or these two portions of the peat may be intermingled and the fibrous portion reduced by the action of a suitable grinding-mill. At this stage the matter treated will be semi-fluid, no provision having been made or treatment adopted for getting rid of the water, and it can be elevated by a centrifugal pump or by an endless chain of buckets to the tops of the high tanks, in which I propose to separate the larger part of the fluid from the solid matter.

There should be several tanks, in size and number to correspond with the magnitude of the operations to be undertaken. The proposed use and operation of each tank is as follows: The tank, being open at the top and closed water-tight elsewhere, is filled with the semi-fluid mass before mentioned, and then is left long enough, without disturbance, to allow the solid matter to separate from the fluid by the difference of their specific gravities and the percolating of the water into the drain-pipes, and its passage off through them. By this action the peat will be freed from a large percentage of the water combined with it.

When in proper condition for removal from

the tank, a screw, *c*, at the bottom is rotated, such rotation driving out the peat through an opening, *d*, as will be readily understood.

I claim—

1. The construction of the tank with the provision for separating of water from the peat, substantially as set forth.

2. Combining with a tank so made the screw *c* for discharging the prepared peat, substantially as set forth.

In witness whereof I have hereunto set my hand this 1st day of December, A. D. 1865.

ALBERT BETTELEY.

Witnesses:

F. GOULD,

W. B. GLEASON.