E. H. ASHCROFT.

Peat Machine.

No. 54,839. Patented May 22, 1866.

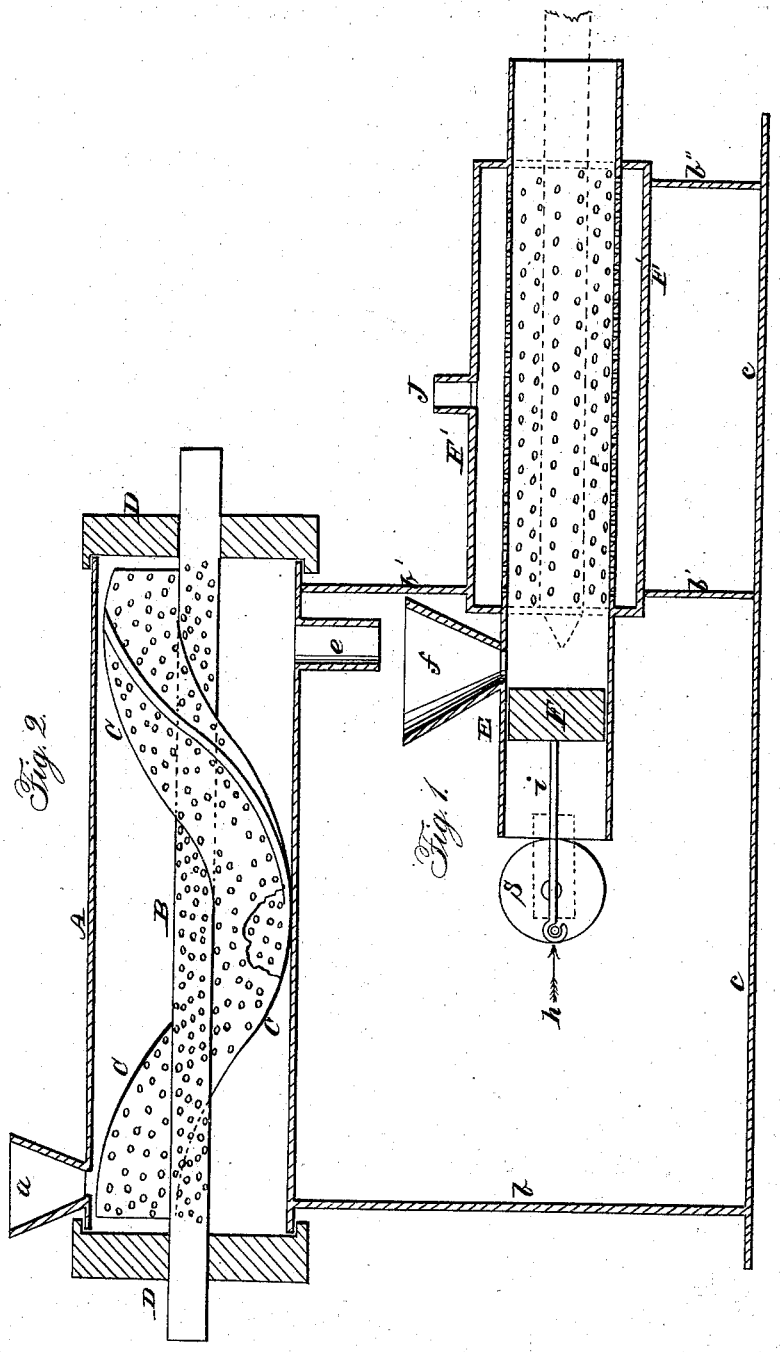

Fig. 2.

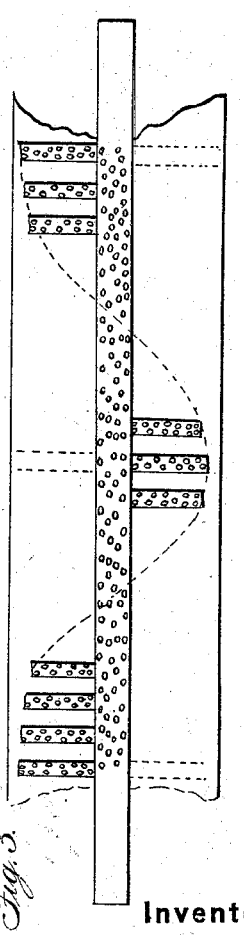

Fig. 3.

Witnesses:

Jno Johnston
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Inventor:

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by his attorney
S. S. Fahnestock

UNITED STATES PATENT OFFICE.

EDWD. H. ASHCROFT, OF LYNN, MASSACHUSETTS.

IMPROVED APPARATUS FOR PREPARING PEAT.

Specification forming part of Letters Patent No. **54,839**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, EDWARD H. ASHCROFT, of the city of Lynn, county of Essex, in the State of Massachusetts, have invented a new and Improved Machine for Drying Peat; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in bringing steam in contact with peat in a certain way, hereinafter to be described, so that it will have a drying effect, this through suitable machinery and while the peat is on its passage through the machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a vertical section through my machine. Fig. 2 is an elevation of the perforated shaft and screw attached. Fig. 3 is a partial elevation of the perforated shaft with hollow perforated arms.

Like letters represent like parts in the several figures.

In the drawings, A represents an upper cylinder, having a hopper, *a*, on the top and at one end. Inside of this cylinder there is a hollow perforated shaft, B, having secured to it a hollow perforated screw, C. This shaft can be supported in any suitable way at both ends, as also steam be conducted into it, and motion given to it. The ends of the cylinder are to be secured. These ends D may be pulleys secured to hollow shaft, through which to give motion to it and its screw. *b* is an upright or standard supporting one end of cylinder A. *b'* and *b''* are other supports resting on a bed or platform, *c*.

The peat, after having undergone previous operations—such as drainage in cisterns or vessels and passing through my machine patented April 24, 1866—is conveyed into hopper *a*, and the screw in the cylinder (to which this hopper is attached) moves it along to the other or farther end. In its passage it is subjected to the drying action of steam through the perforations in shaft B and screw C.

Instead of this shaft and screw, I can use, as an equivalent, a shaft and hollow perforated arms, as shown in Fig. 3, these latter to be so arranged as to work the peat forward to the farther end, where it drops through a hole or pipe, *e*, into another hopper, *f*, below and attached to another cylinder, E. At one end of this cylinder is attached a crank-wheel, *g*, properly supported, and to which motion can be given in any convenient way. The arm *h* on this wheel has attached to it the end of a piston-rod, *i*, and it has a head, F, working in cylinder E, giving said head a reciprocating motion, the object of which is to push the peat forward through the cylinder as it falls through hopper when the piston-head is at its backward position.

It will be seen part of this cylinder E is perforated, and where perforated it is surrounded by another cylinder or jacket, F', having an opening, *j*, through its top, where steam can be introduced. This cylinder E, I call the steam-forming and pressure chamber. In the passage of the peat through E it is exposed to the effects of the steam in the chamber between E and F' through the many small perforations in the former. In addition to this I may place a fire-flue inside of E, as shown in outline, (red ink,) in which case before the exit of the peat from farther end of E it would pass between, as it were, fire and steam.

The peat, after passing through this machine, is ready for a molding and compacting and still farther drying process, to prepare it for use as fuel.

Steam, I believe, has been attempted to be used in the preparation of peat—injected into, or rather against, a solid mass—in which case it must lose most of its vitality and become more or less condensed.

In my process, while my peat is kept in motion, continually stirred, it is exposed to the action of steam in such a peculiar way that no bad effects result and much time is saved or gained.

Instead of the perforated steam-screw revolving it can be stationary and the cylinder be made to revolve, effecting the same result, and superheated steam may be used, if desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The hollow perforated shaft B and the screw C, or their equivalents, in combination with the cylinder A, the whole being constructed and made to operate together substantially as described, and for the purpose set forth.

2. The combination of the steam jacket or cylinder F with the inner or forming cylinder, E, constructed and operating substantially as described, and for the purpose set forth.

E. H. ASHCROFT.

Witnesses:
GEO. BROWN,
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