

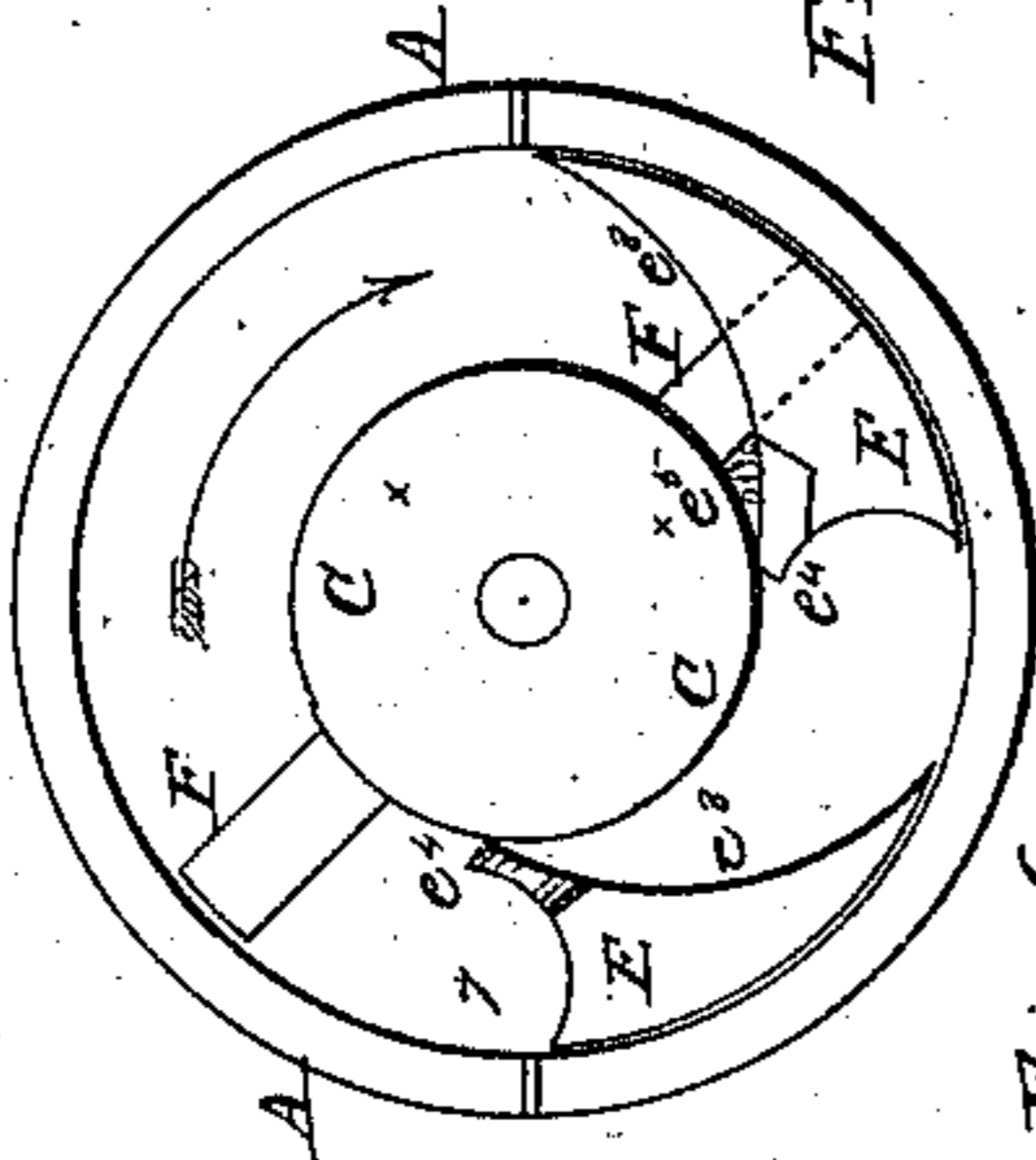
*N. Aubin,*

*Peat Machine,*

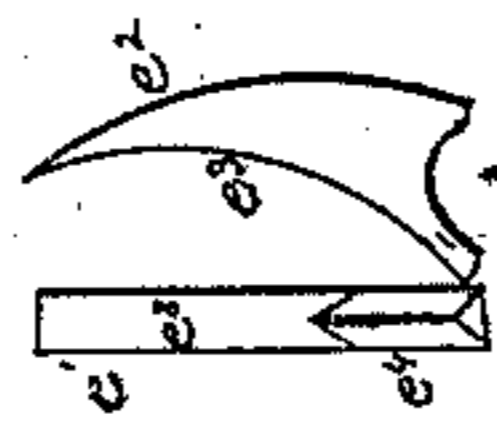
*No. 83,441,*

*Patented Oct. 27. 1868.*

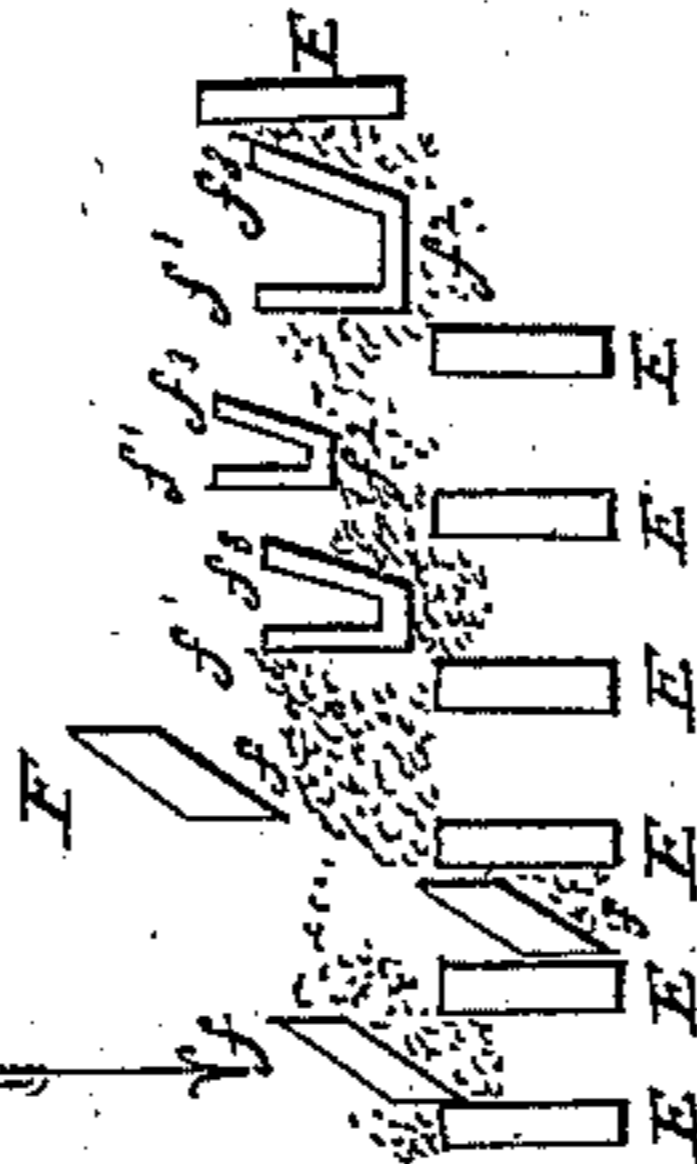
*Fig. 3.*



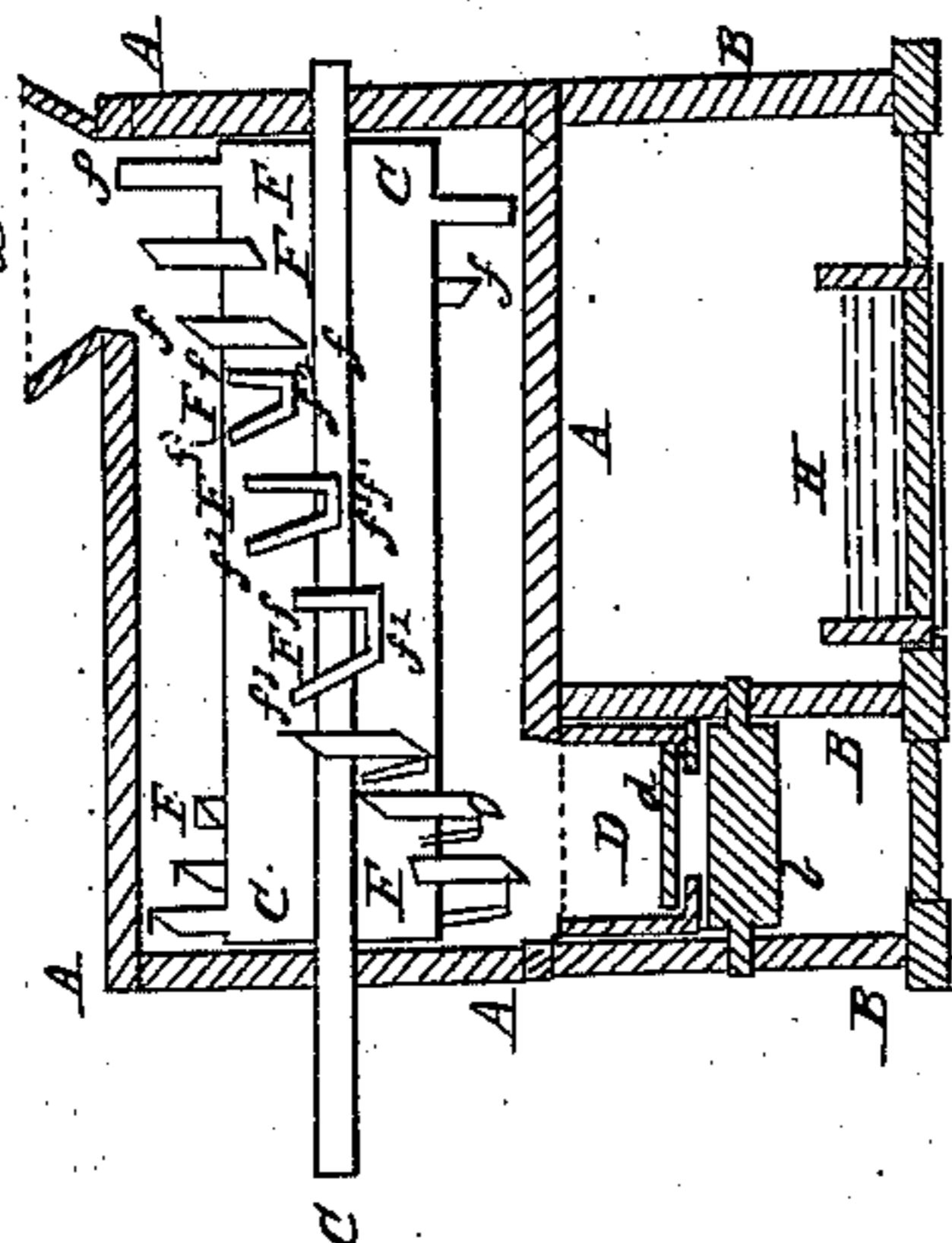
*Fig. 7.*



*Fig. 6.*



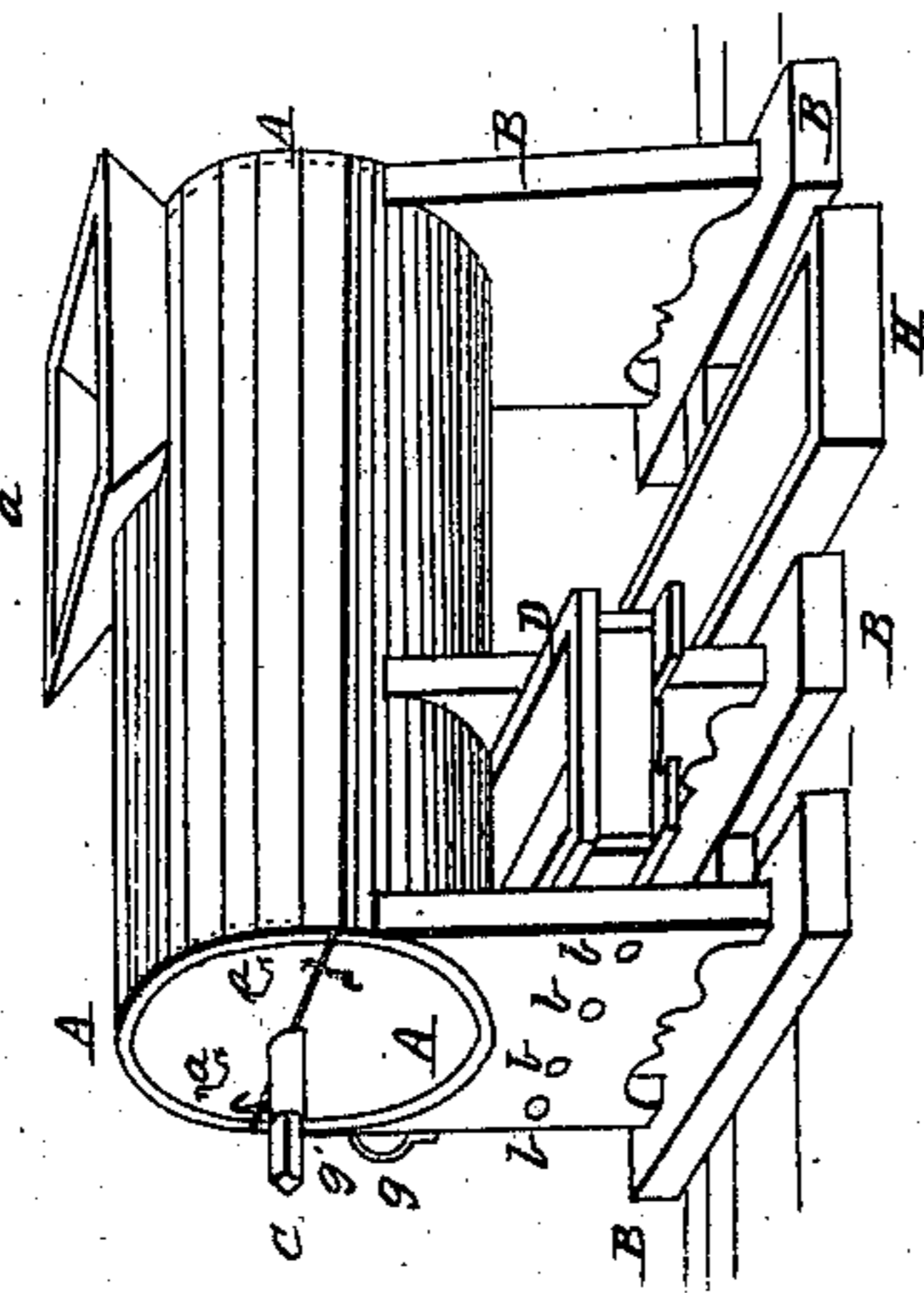
*Fig. 2.*



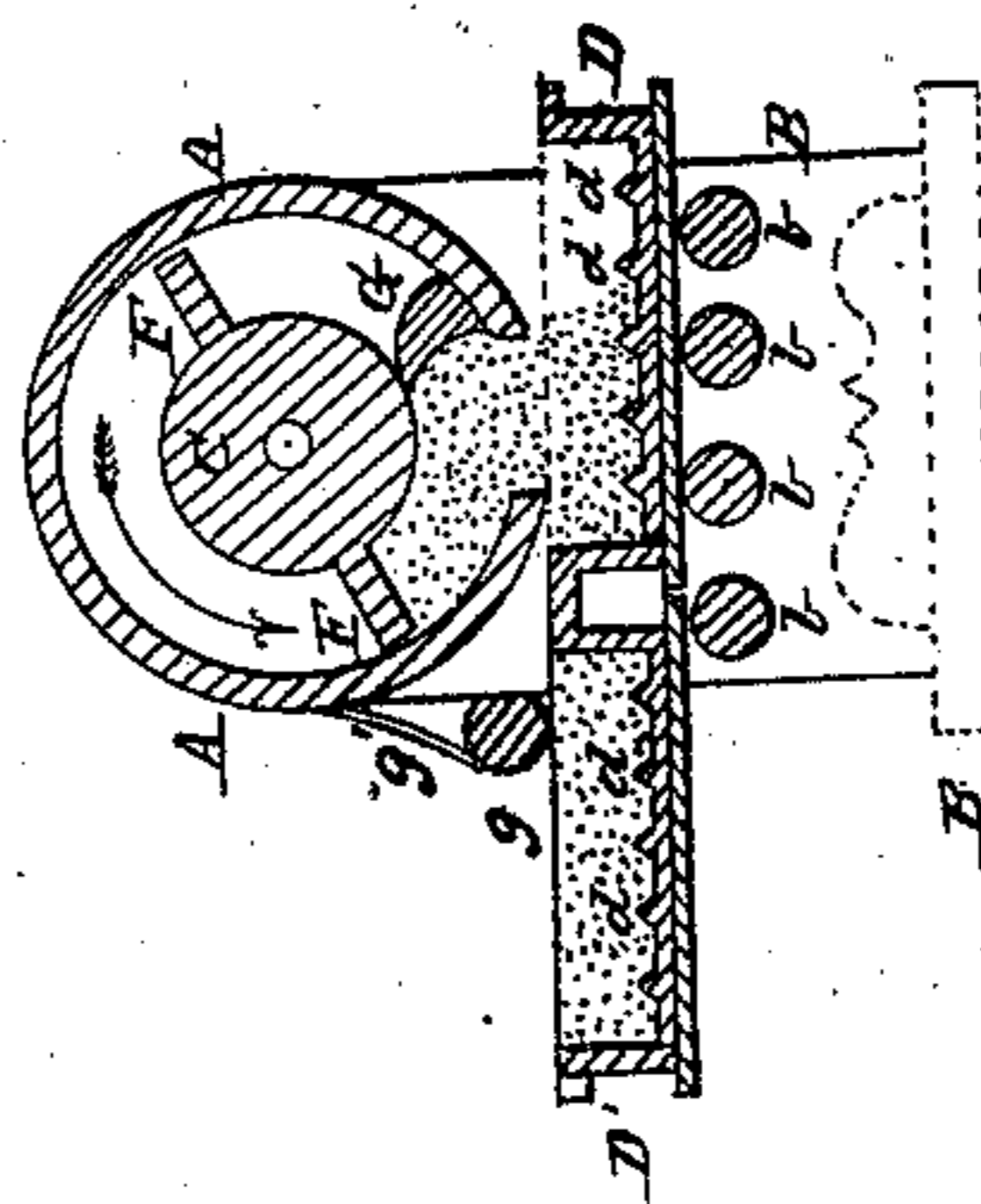
*Fig. 5.*



*Fig. 1.*



*Fig. 4.*



*Witnesses.*

*Geo. Barker*

*A. Aubin*

*Inventor:*

*N. Aubin*

# United States Patent Office.

N. AUBIN, OF PLATTSBURG, NEW YORK.

Letters Patent No. 83,441, dated October 27, 1868.

## IMPROVED PEAT-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

*To all it may concern:*

Be it known that I, AIMÉ NICHOLAS NAPOLEÓN AUBIN, formerly of Albany, State of New York, now temporarily in Plattsburg, county of Clinton, State of New York, have invented a new and improved Mode of Cutting, Grinding, Moulding, and Condensing Peat; and I do hereby declare that the following is a full and exact description of the same.

The nature of my invention consists in a combination of devices, the construction and operation of which I now will describe, so as to enable others skilled in the art to make and use the same.

Peat, when merely cut and left to dry in its natural state, or when imperfectly disintegrated, is porous, light, and cannot fulfil the conditions required to make of it a good fuel, suitable to the many uses to which wood and coal are applied in the arts or household.

Many processes have been suggested and tried to condense peat, and assimilate it to more compact fuels, but either the machinery contrived to produce the effect has been too costly, or deficient, or it required too frequent handling to make it economical.

In the machine and operation I have invented, the peat is so promptly and thoroughly cut, puddled, disintegrated, and moulded, in a peculiarly simple manner, that it can be left alone to dry, covering less space than in the usual system; and as it has lost all its fibrous organization and arrangement in layers, when the water comes to the exterior surface, by capillary attraction, where it is absorbed by the air, the atmospheric pressure so compresses its particles as to make it nearly of the specific gravity and hardness of coal.

In the drawings accompanying this specification, the same letters are used to indicate identical parts in the different figures.

Figure 1 is a perspective view of the peat-machine, with the mould and water-trough.

Figure 2 is a perpendicular and longitudinal section of the hollow cylinder, mould, and trough, and shows the general arrangement of the revolving knives on the main shaft.

Figure 3 shows, upon a larger scale, the action of the revolving knives in combination with the fixed knives.

Figure 4 is a cross-section of part of the machine, to show the moulding-process.

Figure 5 shows the construction of the mould in cross and longitudinal sections.

Figure 6 is a development of the relative position and action of the fixed and revolving knives in section.

Figure 7 is a top and side view of the fixed knives.

A A A A is a hollow cylinder, made of wood or metal, and so constructed as to separate easily and quickly in two halves, in order to clean, examine, or repair it. The upper portion is independent, and only united to the lower part by hooks or otherwise, and is provided with four handles, *a a*, so that two men can easily remove or replace it.

Over one end of the upper half of the hollow cylinder is a funnel-shaped hopper, *a'*, through which the peat is introduced, either by shovelling or by suitable elevators.

The lower part of the hollow cylinder is supported by a frame-work, B B B B, to which are attached the rollers *b b b b*, upon which the mould is made to slide.

C C C C is a main shaft, to which are affixed the revolving knives. It is made of either wood or metal, and is of a diameter equal to half that of the hollow cylinder, though it may be a little smaller or larger.

It receives its motion either from a crank, pulley, or universal joint, connected to a horse-power, steam, or other engine.

D D, mould. It can be made of any suitable dimension which can be easily handled. It has a movable bottom, *d d*, upon which are fixed angular projections *d' d' d' d' d'*, which make corresponding indentations in the moulded peat-cake. These indentations form two inclined surfaces, which dry faster than the interior of the mass, and, in shrinking, the cake is caused to separate and break these in as many brick-formed pieces, without handling or further attention.

This arrangement advantageously replaces the internal partitions of moulds to which the peat, when in a very soft state, would agglutinate, and allows four, six, or more pieces to be moulded at one time, and to be as easily and quickly emptied as if it were only one piece.

E E E E, fixed knives. They are of cast or wrought-iron, steel, or other metal. They are attached to the interior of the hollow cylinder, in two rows, as indicated at fig. 3. Their form is as seen at fig. 7, where *e'* is a front view, and *e''* a side view. At *e'* the knife has a square edge, and acts as one branch of scissors, in connection with the revolving knives. The angular and sharp part, *e'*, is calculated to cut hard roots or branches which may resist at first the action of the revolving knife, which, in its rotation, brings them to the main shaft, where they are cut or crushed. This will be understood by an examination of fig. 3, at *e'*.

F F F F are the revolving knives, which are placed upon the main shaft, following two opposite helicoid lines. They are separated by sufficient space to admit the fixed knives, and are differently shaped, according to the effect they are intended to produce. Thus, the first three or four placed under the hopper have a sharp inclined edge, *f f f*. They cut and propel the larger pieces of turf thrown into the machine. The others are formed as seen endwise in fig. 6. They have an upright wing, *f<sup>1</sup> f<sup>1</sup> f<sup>1</sup>*, which cuts, a flat part, *f<sup>2</sup> f<sup>2</sup> f<sup>2</sup>*, which mixes and puddles the peat, and an inclined wing, *f<sup>3</sup> f<sup>3</sup> f<sup>3</sup>*, which, in its revolutions, acts as the painter's knife on the stone slab, and grinds the peat against the side of the fixed knives. This inclined wing also helps to propel the ground peat towards the lower aperture, where it is driven, and from which it is expelled by the

combined action of the revolving knives with the arresters G.

H is a trough, partly filled with water. It is placed under the machine, and serves to wet and float the empty moulds towards the attendant, who feeds them to the machine.

*g* is a roller, placed over the mould, to smooth the peat.

*g'* is a scraper, to keep roller *g* clean.

My machine and its accompanying devices being constructed substantially as described, their operation is simple, easily understood, and can be carried on by any common laborer. It is easily moved from place to place as the peat is being dug up, and the drying-ground around occupied. It can be operated by two or three men, to dig up and feed the peat, and by two boys, to feed and empty the moulds.

The peat, being thrown into the mill, is first cut by the knives *fff*; then it passes to the next, at *f<sup>1</sup> f<sup>2</sup> f<sup>3</sup>*, which continue to cut, puddle, grind, and propel it, as best seen at fig. 6. When a mould is filled, as seen at D', the attendant pushes another in upon the rollers, and so on. The attendant on the other side empties it; the movable bottom falls out with the peat; he

replaces it in the mould, and pushes it into the water-trough, where the mould is kept wet, thus facilitating the expulsion of the peat, which, when thus ground, is very adhesive. At the same time the mould floats to the feeder.

One of the peculiar advantages of my machine is, that it can be used for peat which has been drained, and which is nearly dry, or for peat thoroughly impregnated with water, as it is found in many peat-swamps.

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

The cylinder A, provided with the stationary shear-bladed cutters E, shaft C, with trough-shaped revolving knives F, and mould D, with its removable bottom *d*, having angular projections *d'*, all arranged together, and operating substantially as and for the purposes herein set forth.

Plattsburg, New York, 7th July, 1868.

N. AUBIN.

Witnesses:

GEORGE A. BARKER,  
A. AUBIN.