W. S. TISDALE Peat Machine

No. 119,801. Patented Oct. 10, 1871.

Fig. 1

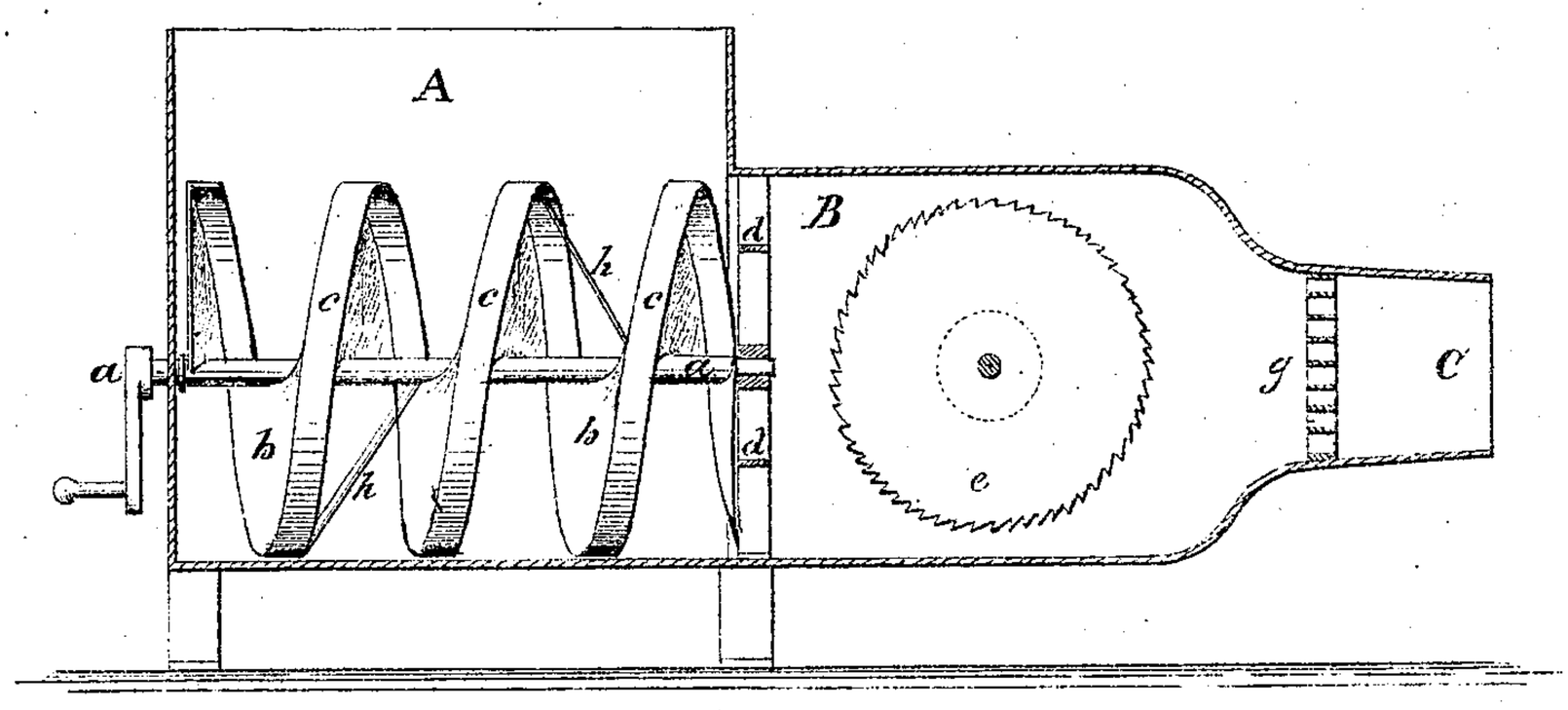


Fig. 2

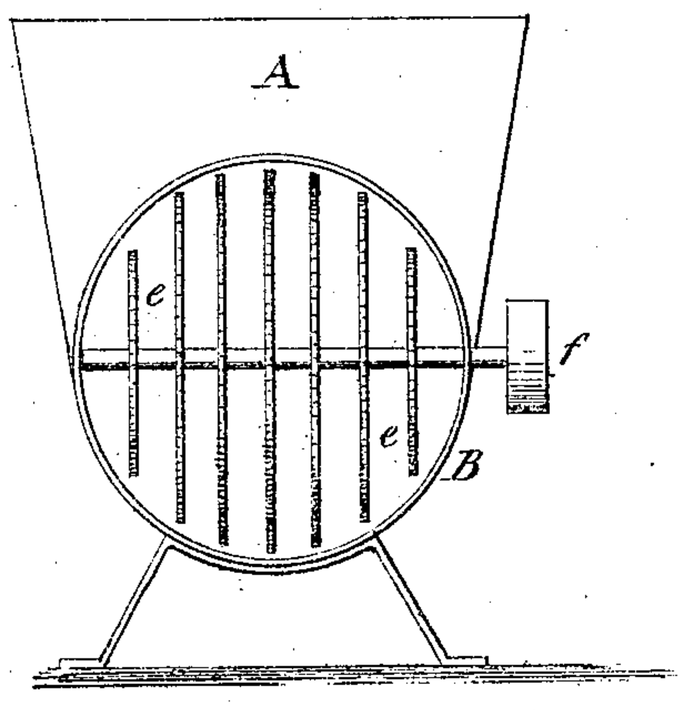


Fig. 3

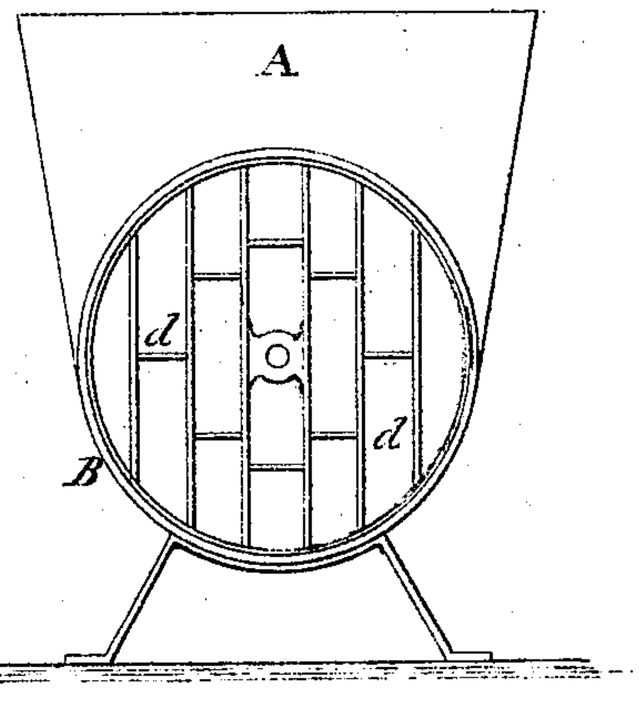
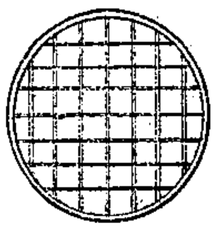


Fig. 4



Witnesses

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WILLIAM S. TISDALE, OF NEW YORK, N. Y.

IMPROVEMENT IN PEAT-MACHINES.

Specification forming part of Letters Patent No. 119,801, dated October 10, 1871.

To all whom it may concern:

Be it known that I, WILLIAM S. TISDALE, of New York, in the county and State of New York, have invented a new and Improved Machine for Cutting and Compressing Peat to prepare it for use as fuel; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being made to the accompanying drawing.

The nature of my invention consist in improvements in the construction of cutting and compressing machinery to prepare peat for use as fuel. For this purpose I employ an endless screw having a broad flange on the front edge of the blade in combination with one or more gangs of circular-saws working transversely within a cylindrical passage through which the crude peat is forced by the propelling action of the flanged endless screw. The fibers of the peat are cut and finely divided in its passage through the machine, and it is rendered compact and solid to serve as fuel after being dried. As an auxiliary means of cutting the fibers of the crude peat I employ one or more sets of stationary knives or cutting-bars, through which the peat is forced by the propelling endless screw.

In order that others may fully understand and apply my invention, I will now proceed to describe it in detail, reference being made to the accompanying drawing, in which—

Figure 1 represents a vertical and longitudinal sectional view of the peat-cutting and compressing-machine. Fig. 2 represents a cross-section, showing the position of circular-saws. Fig. 3 represents a cross-section, showing first set of stationary cutters. Fig. 4 represents a detached front view of nozzle-cutters.

A strong hopper, A, is made of wood or iron for receiving the crude peat. A cylinder, B, is connected with the hopper and extends horizontally as long as may be desired, tapering toward the open end C, for the discharge of the peat in a compact condition. Within the hopper A is hung an iron endless or propeller-screw, *a*, cast in sections and placed horizontally, and extending at one end more or less into the cylinder B. On the edge of the screw-blade *b* is a broad flat flange, *c*, projecting toward the cylinder B, by which flange the peat, when placed in the hopper A, is thrown toward the center and held in a compact body, while the propelling-screw, when in operation, forces it forward into the cylinder B where it passes first through a set of steel cutting-knives or bars, *d d*, placed across the cylinder. These knives have sharp edges, which divide and break up the crude peat, while at the same time they act as a screen or sieve to catch sticks or stones and other extraneous substances contained in the peat to prevent their coming in contact with a gang of circular saws, *e e*, which are placed within the cylinder B transversely, so that their cutting-edges strike the body of the peat as it comes from the hopper, and by their rapid revolution cut and divide the fibers into fine particles. The saws are adapted in size to fit the inside of the cylinder with their edges near the sides. They are placed upon the arbor the necessary distance apart to cut the peat fine or coarse, as desired; and by means of horse or other power connected with a pulley, *f*, the saws will be run at a high velocity for effectually reducing the crude peat to a finely-comminuted mass, which continues to move forward in the cylinder B toward the taper outlet end C, where it is discharged in a compact body and may be cut off or broken in lumps of suitable shape and size to serve as fuel, when dried. Within the taper end of the cylinder B may also be placed transversely a set of steel cutting-knives, *g g*, for further subdivision of the peat. Several knives or cross-bars, *h h*, are also attached to the endless screw, which are fastened at one end to the edge of the blade *b*, and at the other end to the arbor or stem of the screw *a*. These bars or cutters act as braces to strengthen the blade of the screw, while they also break the crude peat before it is forced into the cylinder B to be cut up by the circular saws *e e* into fine particles for compression, by its passage through the taper end of the cylinder, into a compact form suitable for fuel. Several gangs of circular saws or equivalent sets of knives may be placed within the cylinder to reduce the peat to as finely comminuted a mass of fibers as may be desired.

Having described by invention, what I claim, and desire to secure by Letters Patent, is—

1. The propeller-screw *a* provided with the

flange *c* on the blade *b*, in combination with the hopper A and cylinder B, substantially as and for the purpose described.

2. In combination with the propeller-screw *a*, constructed as described, the saw knives *e* and the stationary knives *g*, substantially as and for the purpose described.

3. In combination with the propeller-screw *a*, constructed as described, the revolving saw-knives *e* and the knife-screen *d*, substantially as and for the purpose set forth.

W. S. TISDALE.

Witnesses:
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