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Patented Oct. 29, 1901.

W. J. R. SIMS & A. L. DAVIS.

MEANS FOR EXTRACTING ROOTS AND FOREIGN MATTER FROM PEAT.

(Application filed Dec. 1, 1900.)

(No Model.)

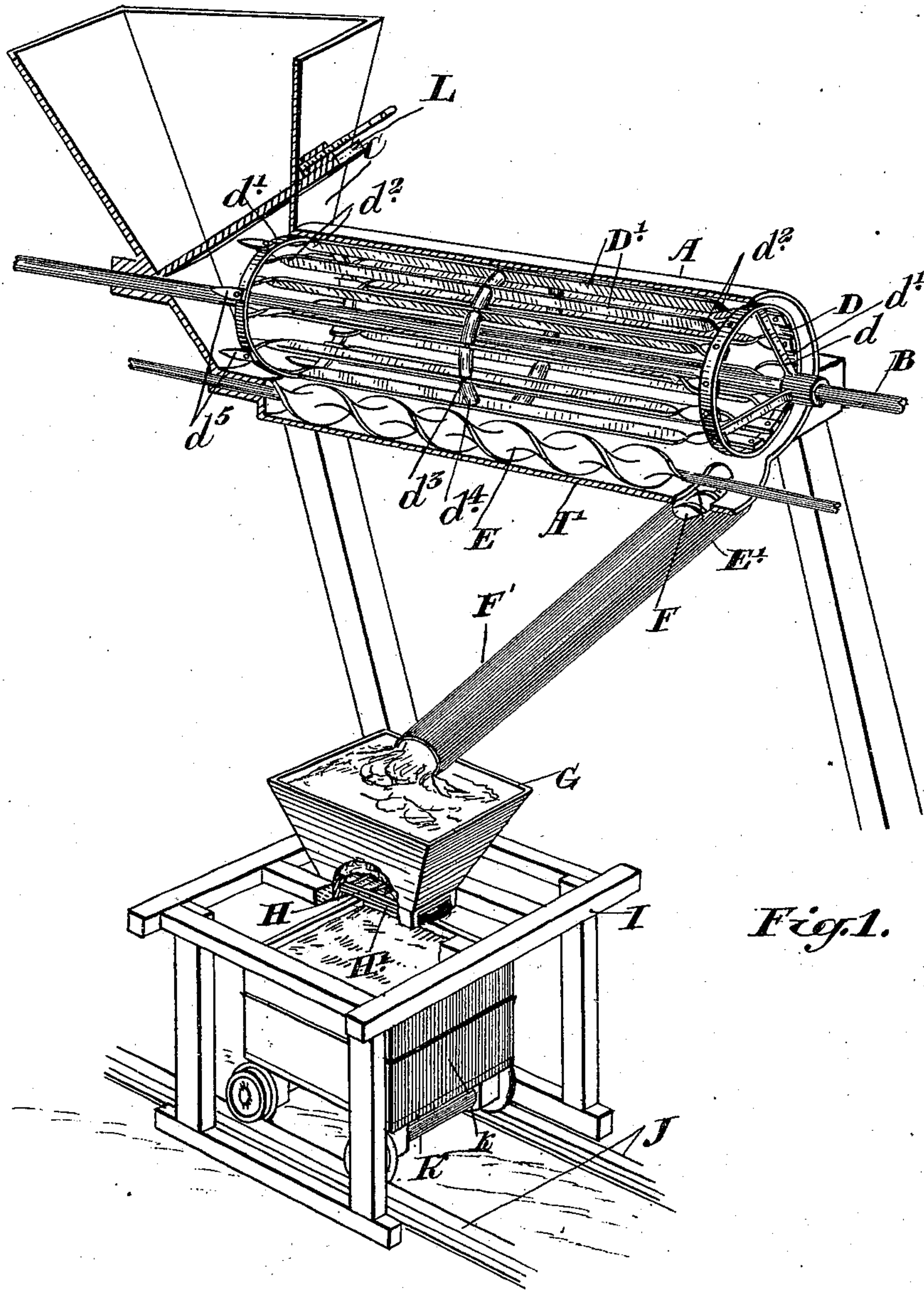


Fig. 1.

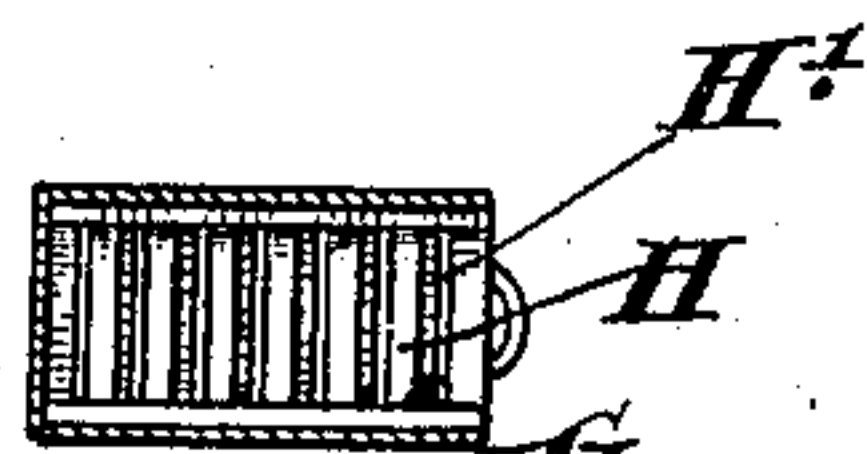


Fig. 2.

Witnesses.  
A. L. Davis  
H. L. Trumble

Inventors.  
W. J. R. Sims  
A. L. Davis  
By J. H. Stoutenburgh  
att'y.



# UNITED STATES PATENT OFFICE.

WILLIAM JAMES R. SIMS, OF KIRKFIELD, AND ALFRED LAWRENCE DAVIS,  
OF PETERBOROUGH, CANADA.

MEANS FOR EXTRACTING ROOTS AND FOREIGN MATTER FROM PEAT.

SPECIFICATION forming part of Letters Patent No. 685,651, dated October 29, 1901.

Application filed December 1, 1900. Serial No. 38,369. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM JAMES REGINALD SIMS, contractor, of the village of Kirkfield, in the county of Victoria, and ALFRED LAWRENCE DAVIS, insurance agent, of the town of Peterborough, in the county of Peterborough, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Means for Extracting Roots and Foreign Matter from Peat, of which the following is the specification.

Our invention relates to improvements in means for extracting roots and foreign matter from peat and for spreading the residue of the disintegrated and separated peat; and the object of the invention is to devise a simple apparatus whereby the roots and foreign matter may be ejected from the machine and the peat disintegrated and spread evenly in boxes for the purpose of compressing to discharge the moisture; and it consists, essentially, of a peculiarly-formed slatted cylinder inclosed in a casing and provided with a hopper at one end and conveyers at the bottom thereof and a hopper at the ends of the conveyers provided with a suitable spreading device for the disintegrated peat, the parts being otherwise arranged and constructed in detail as hereinafter more particularly explained.

Figure 1 is a perspective view showing our improved apparatus with portion of the spreading-hopper broken away. Fig. 2 is a detail of the spreading device.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is a casing, preferably cylindrical, through which extends and is journaled in suitable bearings a shaft B.

C is a hopper located at one end of the casing and designed to receive the crude peat.

D is a cylinder secured on the shaft B by means of suitable arms  $d$ , extending to the end rings  $d'$ . The major portion of the cylinder is comprised of the longitudinal slats  $D'$ , which are turned so that the side is substantially radial—that is to say, the edge is innermost. The ends are turned at  $d^2$  and suitably riveted or bolted to the end rings  $d'$ .

The slats are held apart in the center by an

encompassing ring  $d^3$ , provided with short sleeves or pieces of pipe  $d^4$  between the slats, and thereby the strength of the cylinder is materially increased.

$d^5$  represents spicular projections extending into the hopper D for the purpose as will hereinafter appear.

A' is a channel formed in the casing underneath the cylinder, and E is a screw conveyer which extends through such channel and is suitably driven. At the end of the channel is an opening E', which extends over the end of another screw conveyer F, inclosed in a suitable casing F'. The casing F' is suitably supported and extends to a hopper G, at the bottom of which is a stationary slatted grate H and a movable slatted grate H', to which is imparted an oscillating or reciprocating movement under the stationary grate. This movement may be imparted by any suitable form of mechanism, which it is not necessary here to describe.

The hopper G is supported on a suitable frame I above a track J, and trucks K are provided with suitable boxes  $k$ , as indicated.

The operation of our device is as follows: The crude peat is fed into the hopper C, and the spicular projections  $d^5$  serve to keep it stirred up, so that it passes down into the inclined cylinder D. The roots, sod, moss, and foreign matter necessarily pass right through the end of the cylinder, which is of course suitably driven, and the peat is disintegrated by coming in contact with the slats and falls through into the conveyer E, whence it is carried to the opening E' and by the conveyer F to the hopper G. At the bottom of the hopper is the spreading device, which consists of the slats H and H', hereinbefore described, and the disintegrated peat as it falls to the bottom of the hopper is spread evenly over a surface, preferably into the box. We are thus enabled to entirely remove the roots, sod, and foreign matter by the cylinder and then spread the disintegrated peat prior to compressing, which it is necessary to do in order to reduce the moisture.

By our machine we find in practice the dense lumps of peat are reduced, and thereby the mass of peat is practically rendered in a



better condition for more effectually compressing and reducing the moisture, and the pressure on the mass is thereby equalized.

In order to regulate the feed of the crude material, we preferably provide a gate L.

What we claim as our invention is—

1. The combination with the casing and hopper at the one end thereof, of a slatted cylinder open at both ends and provided with spicular projections at the hopper end for stirring up and keeping the material fed and means for driving such cylinder as and for the purpose specified.

2. The combination with the casing and hopper at one end thereof and the inclined slatted cylinder with the slats arranged edge-wise radially suitably driven and open at both ends and communicating at one end with the hopper, and a channel located at the bottom of the casing and a suitable conveying means in such channel whereby the disintegrated peat is carried away separately from the roots and foreign matter as and for the purpose specified.

3. The combination with the casing and hopper at one end thereof and the inclined slatted cylinder suitably driven and open at both ends and communicating at one end with the hopper, and spicular projections extending into the hopper, and channel located at the bottom of the casing and a suitable conveying means in such channel whereby the disintegrated peat is carried away separately from the roots and foreign matter as and for the purpose specified.

4. The combination with the casing having the hopper at one end, of a slatted cylinder comprising the end rings and arms secured to the shaft, such end rings being set with their sides radial and the central encompassing ring extending through recesses in the slats and provided with the separating sleeves or pipes extending between the slats as and for the purpose specified.

5. The combination with the casing and hopper and slatted cylinder located in the casing and open at both ends and the channel underneath the cylinder provided at one end with an opening and the conveyer located in such channel, the tube leading from such opening a second conveyer located therein and the hopper designed to receive the peat from the tube and a suitable spreader at the bottom of the hopper as and for the purpose specified.

6. In a device of the class described, the combination with the disintegrating and feeding device, and hopper designed to receive the contents of such devices, of a slatted bottom provided with openings between the slats and a corresponding bottom designed to reciprocate under such bottom, so as to sift and feed the material through and spread the same as and for the purpose specified.

WILLIAM JAMES R. SIMS.  
ALFRED LAWRENCE DAVIS.

Witnesses:

B. BOYD,  
L. BLACKMORE.