

No. 756,130.

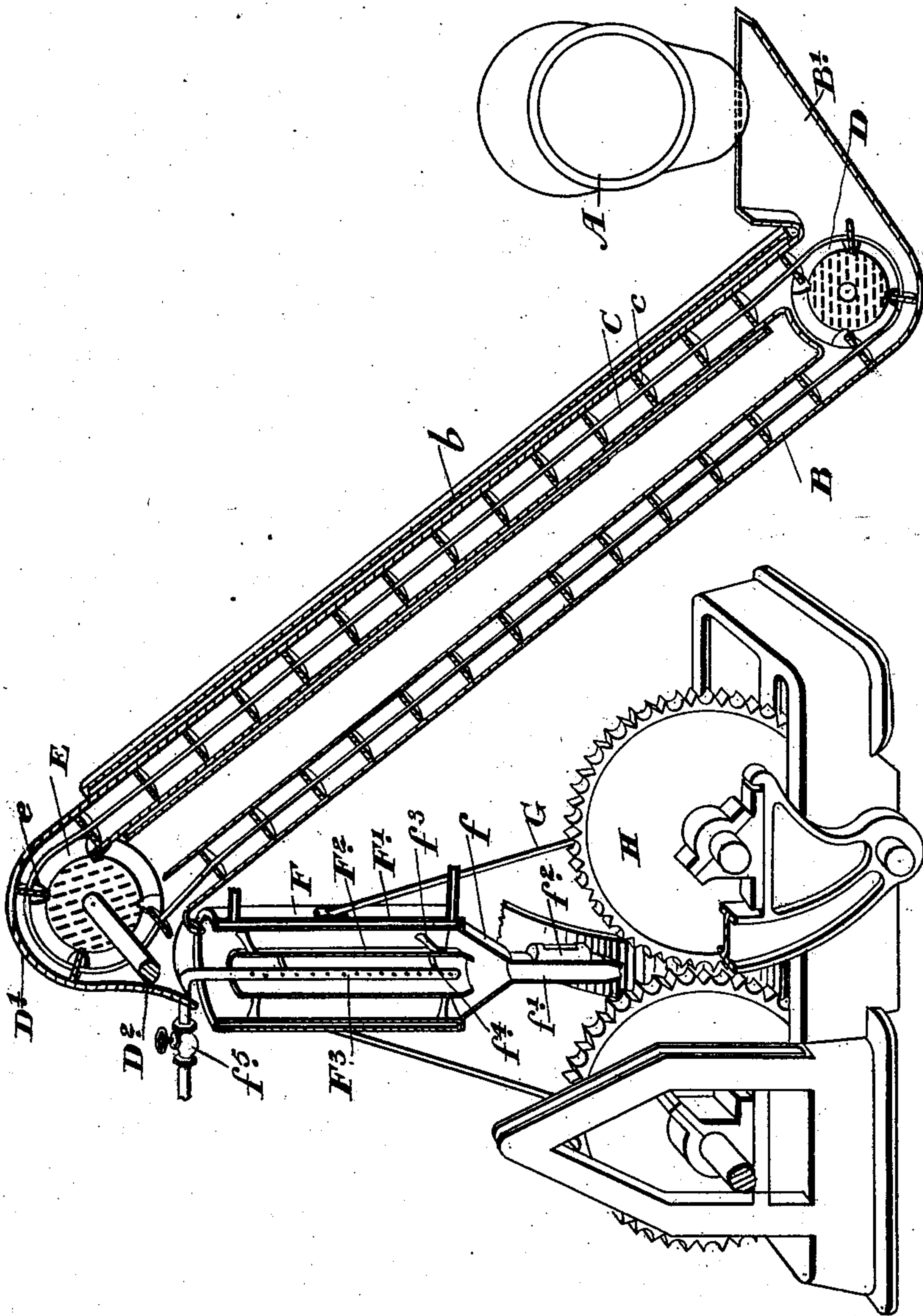
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W. A. MILNE.

TEMPERATURE AND MOISTURE REGULATING APPARATUS.

APPLICATION FILED MAY 19, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

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TEMPERATURE AND MOISTURE REGULATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 756,130, dated March 29, 1904.

Application filed May 19, 1903. Serial No. 157,827. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ATKINSON MILNE, manufacturer, of the village of Brown's Corners, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Temperature and Moisture Regulating Apparatus, of which the following is the specification.

My invention relates to improvements in temperature and moisture regulating apparatus applicable to peat prior to compressing; and the object of the invention is to devise such an apparatus as will preserve the peat in a heated state and impart moisture thereto, if necessary, as it is passing from the drier to the compressor, thereby insuring the peat being compressed more easily, retaining its form when compressed without any liability of cracking or fracturing and also serving to render the peat of a maximum density or hardness; and it consists, essentially, of an apparatus provided with an endless belt conveyer extending from the drier upwardly to a point above the compressor, such conveyer being provided with steam-heating means, a hopper located beneath the upper end of the conveyer and provided with a steam-jacket and steam-conveying pipe leading into the interior thereof, the parts being otherwise arranged and constructed in detail, as hereinafter more particularly explained.

The drawing represents a perspective view, mostly in section, showing my approved apparatus.

A is the main drier for the pulverized peat, and B' the hopper located underneath the same and forming part of the conveyer-casing B, which is supported on an incline by any suitable support. The conveyer B is a double tubular conveyer through which extends the endless belt C, to which the disk-carriers *c* are attached. The conveyer is in the form of a rope and is supported at each end by the grooved wheels D and E, such grooved wheels being provided with notches *e*, into which the disks fit and by which the conveyer is given its motion. The upper tubular portion of the conveyer B is provided with a steam-jacket *b*, and the top of the conveyer is provided with a head D', having a discharge-spout D².

F is a hopper, preferably cylindrical in form and having a tapered lower end *f* and discharge-spouts *f'*, into the side of which is fitted a thermometer *f*², whereby the temperature of the peat passing through may be determined. The hopper F is provided with a steam-jacket F' and a central tube F², tapered at the bottom and supported within the hopper by suitable stays *f*³.

F³ is a perforated steam-pipe which extends down through the center of the tube F², being centrally held therein by stays *f*⁴. The perforated tube F³ extends outwardly through the top of the hopper and is provided with a suitable valve *f*⁵, as indicated.

The hopper F is supported by suitable standards or rods G above the compressor H, which is in the form of toothed wheels arranged as shown in my United States Patent No. 708,574, dated the 9th day of September, 1902. Of course any suitable form of press or compressor may be used.

Having now described the principal parts involved in my invention, I shall briefly describe its operation and utility.

The pulverized peat from the drier passes into the hopper B', where it drops into the bottom and is carried up by the carriers *c* into the head D' and is precipitated into the hopper F. In its passage up the pulverized peat is still kept heated on account of passing through the steam-jacket *b*, and when it passes into the hopper it is also kept heated. In the hopper, however, it will be noticed that the pulverized peat is divided into two streams, a central stream and a concentric stream surrounding the same. The steam is preferably introduced into the central stream, so as to make it slightly more moist than the concentric outside stream, and the two streams, one inside of the other, pass down through the spout *f'* to the compressor. The central stream really forms the core of the block and the concentric outside stream the shell—that is to say, a core preferably more moist than the shell and made in accordance with my United States application, Serial No. 86,309, filed December 17, 1901.

Of course I may dispense with the central tube F², as well as the perforated steam-pipe,

which is designed to render the peat in the central tube more moist, or I may dispense with one of them as may be desired; but the construction used is the preferable construction.

It is essential in my apparatus that the peat is kept heated until it gets right into the compressor and not allowed to cool as in other machines. For this reason I find that I am enabled to compress the pulverized peat more easily and that it will retain its form without any liability of cracking and can be compressed to a maximum density.

What I claim as my invention is—

1. In a temperature and moisture regulating apparatus for peat prior to compressing, the combination with the drier and compressor, of a conveyer extending from drier to compressor, and heating means inclosing the conveyer throughout its length for keeping the heat in the peat until it reaches the compressor as and for the purpose specified.

2. In a temperature and moisture regulating apparatus for peat prior to compressing, the combination with the drier and compressor, of an endless conveyer extending from drier to compressor, and heating means inclosing the conveyer throughout its length for keeping the heat in the peat until it reaches the compressor as and for the purpose specified.

3. In a temperature and moisture regulating apparatus for peat prior to compressing, the combination with the drier and compressor, of a double tubular conveyer provided with a hopper at the bottom, an endless conveyer extending down to the bottom of the hopper and up to the top of the conveyer, and a heating-jacket surrounding the portion of the endless conveyer by which the peat is carried as and for the purpose specified.

4. The combination with the drier and com-

pressor, and a hopper extending underneath the drier, a conveyer extending upwardly from the hopper and inclosed by a suitable jacket and having a discharge-orifice at the upper end, of a hopper extending downwardly from the discharge-orifice to the compressing-point of the compressor and provided with a suitable heating-jacket as and for the purpose specified.

5. The combination with the conveyer and compressor, of a hopper provided with a suitable heating-jacket and a tapered lower end and spout extending into proximity with the point of compressing as and for the purpose specified.

6. The combination with the conveyer and compressor, of a hopper provided with a suitable heating-jacket and a tapered lower end and spout extending into proximity with the point of compressing, a central tube located in the hopper and supports for the same as and for the purpose specified.

7. The combination with the conveyer and compressor, of a hopper provided with a suitable heating-jacket and a tapered lower end and spout extending into proximity with the point of compressing, a central tube located in the hopper and supports for the same, and a perforated steam-pipe extending down centrally in the central tube as and for the purpose specified.

8. The combination with the conveyer and compressor, of a hopper provided with a suitable heating-jacket and a tapered lower end and spout extending into proximity with the point of compressing, and a perforated steam-pipe extending down into the center of the hopper as and for the purpose specified.

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Witnesses:

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