C. D. JENKINS.

MACHINE FOR EXTRACTING LIQUIDS FROM VARIOUS MATERIALS.

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1,265,206. Patented May 7, 1918.

Fig. 1.

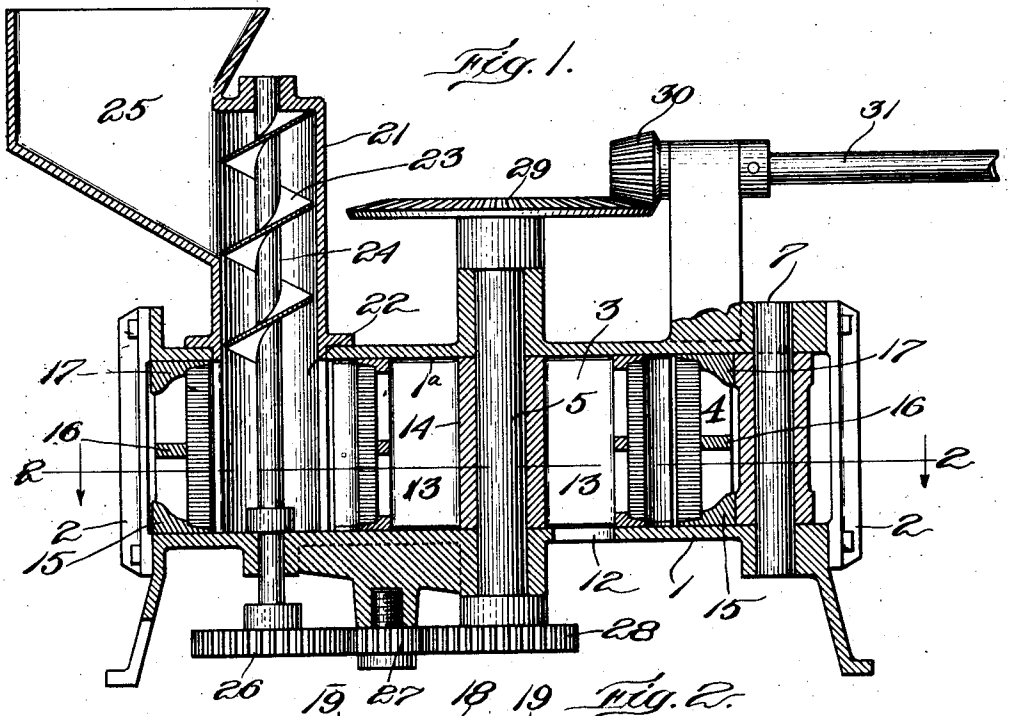
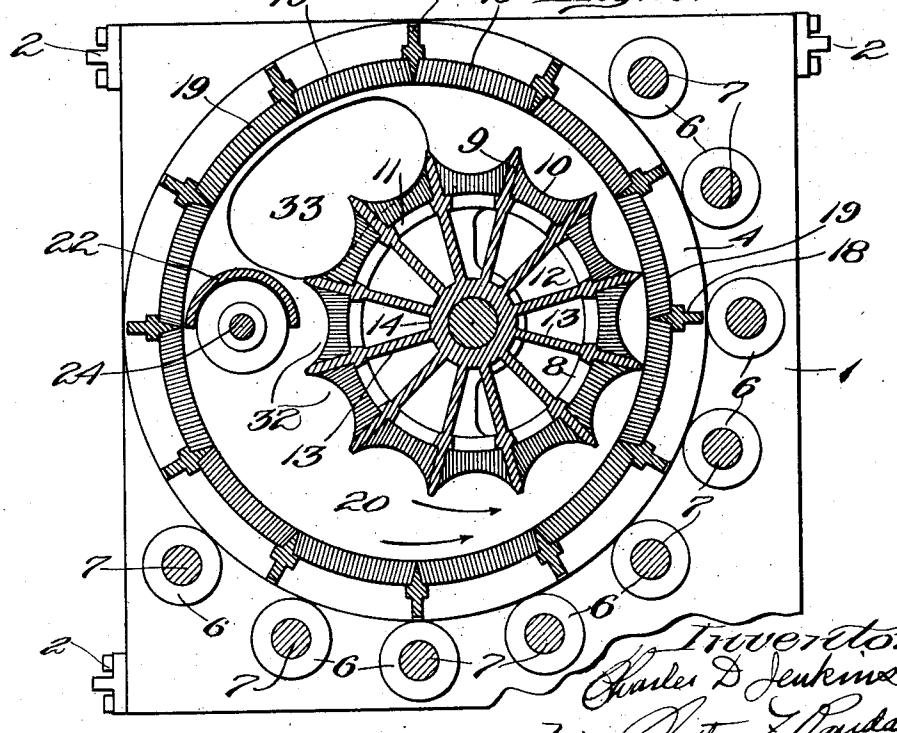


Fig. 2.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR EXTRACTING LIQUIDS FROM VARIOUS MATERIALS.

1,265,206. Specification of Letters Patent. Patented May 7, 1918.

Application filed May 1, 1915. Serial No. 25,134.

To all whom it may concern:

Be it known that I, CHARLES D. JENKINS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Extracting Liquids from Various Materials, of which the following is a specification.

My invention relates to improvements in machines for extracting or removing liquids from semi-solid materials, and more especially to a machine for removing water from peat. The object of my invention is to provide an improved machine of the character indicated, and it consists of a machine of this kind embodying the peculiar features of construction and mode of operation set forth in the following description and particularly pointed out and defined in the claim at the close thereof.

In the accompanying drawings:

Figure 1 is a central vertical sectional view of a machine for removing water from peat and the like, embodying my invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

Having reference to the drawing 1 is a base-plate from which uprights 2 project upwardly to support a top-plate 1^a between which and the base-plate 1 two material compressing members 3 and 4 are located, the member 3 being herein shown as a wheel fixed to a shaft 5 journaled in bearings on base-plate 1 and top-plate 1^a while the member 4 is shown as a ring encircling the wheel 3, and held eccentrically with relation thereto by rollers 6 mounted upon shafts 7, journaled at their ends in bearings on base-plate 1 and top-plate 1^a.

The wheel 3 consists of a rim 8 made with pockets 9 within which are arranged blocks of wood 10, whose grain is disposed radially. The inner ends of the pockets 9 have openings 11 communicating with the space inclosed by the rim 8 and this space registers with an opening 12 formed in the base-plate 1.

The rim 8 is connected with the hub 14 of wheel 1 by a plurality of spokes 13.

The ring 4 comprises three annular flanges 15, 16 and 17, connected by cross-bars 18, and the inner portion of the spaces between the bars 18 constitute pockets within which are seated blocks of wood 19 which also have their grain arranged radially. The ring 4 is loose between base-plate 1 and top-plate 1^a, and is free to rotate around wheel 1.

The eccentricity of the ring 4 provides a crescent-shaped chamber 20, and a feed pipe 21 fastened to the top-plate 1^a, communicates at its lower end with this crescent-shaped chamber near the middle thereof, said pipe having a segmental extension 22, extending downward into chamber 20 to the top of base-plate 1, which serves as a partition to divide chamber 20 into two separate parts. Within the feed pipe 21 is arranged a screw 23 fixed to or formed on a shaft 24 journaled at its upper end in a bearing on pipe 21 and at its lower end in a bearing on base-plate 1. The upper end of feed pipe 21 communicates with a hopper 25 into which the wet peat that is to be operated upon, is dumped, and this peat is fed downward by screw 23 continuously, the screw shaft 24 being provided at its lower end with a gear 26, driven through an idler 27, by a gear 28, fixed to the lower end of shaft 5.

The upper end of shaft 5 has a bevel gear 29 fixed to it that is continuously driven by bevel pinion 30 fast on the main drive shaft 31 of the machine.

The wheel 1 is driven in the direction of the arrow, Fig. 2, and the material fed into chamber 20, by the screw 23, is propelled by said wheel toward the point of coincidence of the periphery of wheel 1 with the inner periphery of ring 4, the engagement of the material with said ring causing the latter to rotate on its axis or center with the wheel 1 and the material. Thus the material is very gradually compressed as it approaches the point of coincidence or closest approach between wheel 1 and ring 4, and the material thus compressed is carried past said point, lodged in the curved recesses 32, provided upon the outer sides of the blocks of wood 10. After the material has been compressed it passes into the other side of chamber 20 and falls by gravity through an outlet 33, provided in base plate 1.

The wood from which the blocks 10 and 19 are made should be as porous or open-grained as is available, in order to secure the best results, and as stated, these blocks are cut and arranged so that their grain is disposed radially with relation to the axis of the member of which they form a part. During the passage of the material toward

and past the point of coincidence or nearest approach between wheel 1 and ring 4 the water contained therein is forced radially through the pores or grain of the wood blocks 10 and 19, the water passing through the blocks 10 discharging through the outlet 12 in base plate 1, while the water forced through the wood blocks 19 flows down upon the outside of the machine. I have found that blocks made from chestnut, ash or birch wood give excellent results.

The machine above described is very simple in construction, direct acting and efficient in operation, but I do not desire to limit the features of my invention to a machine of the type herein shown.

What I claim is:—

A machine of the character described comprising a member having a solid material engaging wall composed of wood arranged with its grain perpendicular to the material engaging face of said wall, and means for pressing the material against said wall so as to force the liquid through the grain of the wood.

In testimony whereof I have affixed my signature.

CHARLES D. JENKINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."