No. 607,312. Patented July 12, 1898.

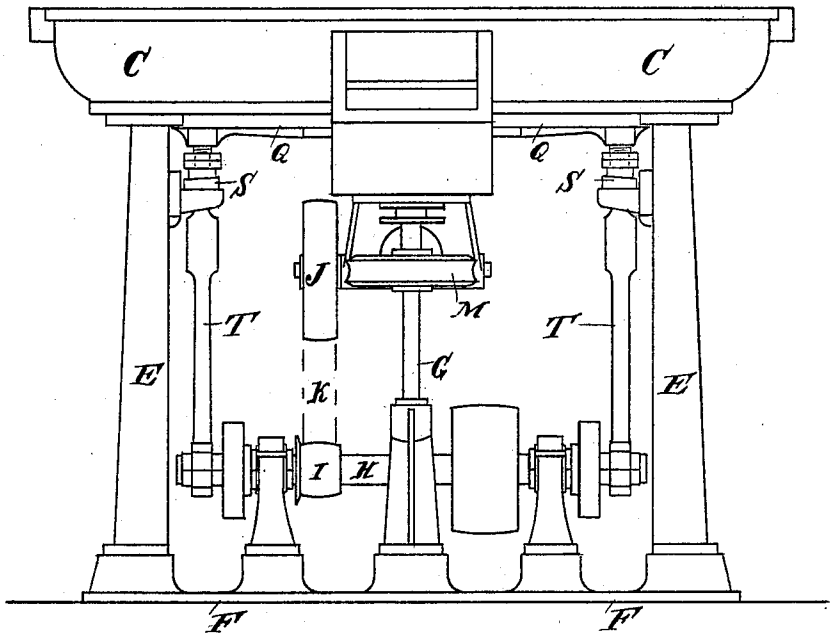
A. L. WESTWOOD.

PULP STRAINER FOR PAPER MAKING MACHINES.

(Application filed Feb. 9, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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Fig. 2.

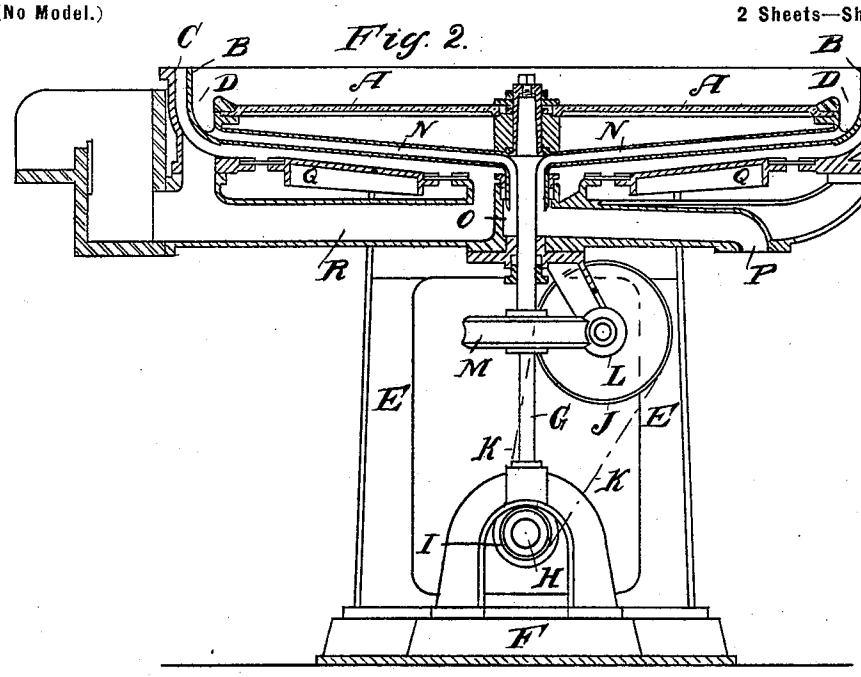
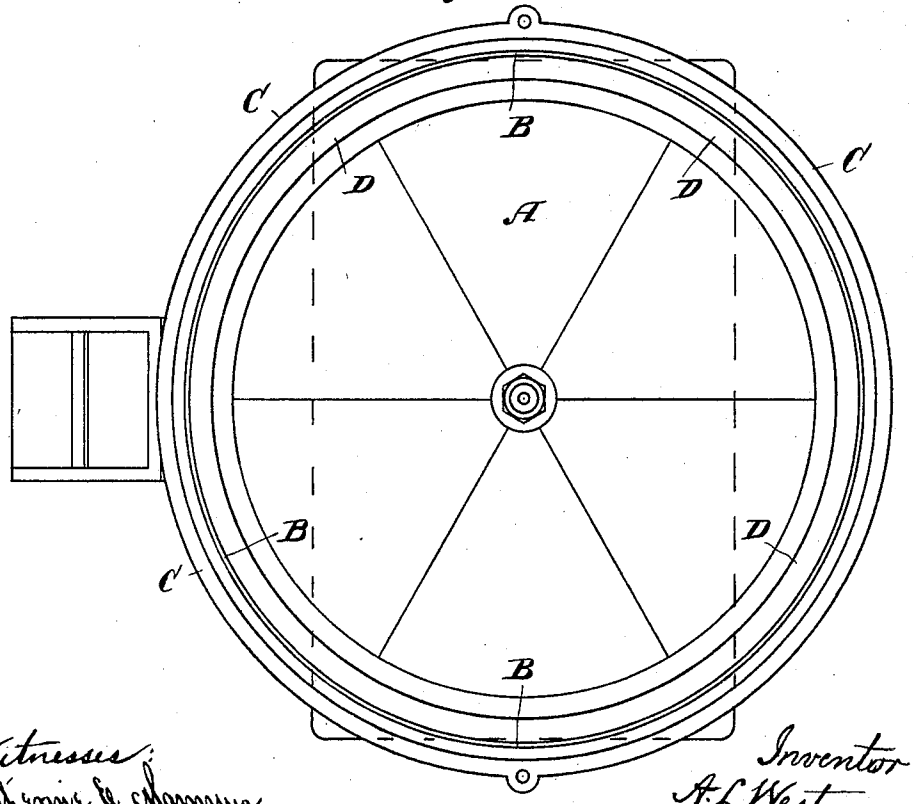


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALEXANDER LAWRENCE WESTWOOD, OF EDINBURGH, SCOTLAND.

PULP-STRAINER FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 607,312, dated July 12, 1898.

Application filed February 9, 1898. Serial No. 669,633. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER LAWRENCE WESTWOOD, consulting engineer, a subject of the Queen of the United Kingdom of Great Britain and Ireland, residing at 5 Easter road, Edinburgh, Scotland, have invented new Improvements in Pulp-Strainers for Paper-Making Machines and the Like, of which the following is a specification.

This invention relates to improvements in pulp-strainers for paper-making machines and the like; and it consists, essentially, in imparting a rotary motion to the strainer-plates of the class of strainers in which the plates are placed in a horizontal position, whereby the working surface of the plates is moved under the wash of the pulp flowing on to be strained, and thereby kept clear of refuse matter, which is discharged to the edges of the plates and into a channel; and in order that my said invention and the manner of performing the same may be properly understood I have hereunto appended a sheet of explanatory drawings, in which the same reference-letters are used to indicate like parts in the several figures where shown.

Figure 1 is a side elevation, and Fig. 2 a sectional elevation at right angles to Fig. 1, and Fig. 3 is a plan, of my invention.

In carrying out the invention the strainer is preferably circular, and the strainer-plates A are fixed in a frame B, which rotates about a vertical or slightly-inclined axis in a vat C and is formed with a refuse-channel D at the periphery of the plates, the vat C being supported by upright standards E from the sole-plate F. The said plate-carrying frame B is supported on the conical head of a vertical spindle G (which admits of its being raised out of the vat for cleaning) and is rotated by any convenient gearing from below, such as by the horizontal shaft H, which operates the pulsating diaphragm. The said shaft H has a small pulley I keyed upon it, which drives a larger pulley J immediately above it by means of a driving-belt K. The pulley J operates a worm L, which is engaged with a worm-wheel M, keyed upon the spindle G. The plate-frame B is fitted with pipes N, which drain the refuse from the channel D into the cup O at the center, from which it is discharged by the pipe P to the auxiliary strainer in the usual manner. The pulsating diaphragm Q is of cast-iron or other metal, and its inner periphery is connected to the cup-shaped portion of the strained-pulp-discharge pipes R through the medium of an india-rubber or other ring, the outer periphery being elastically connected to the inner periphery of the vat C in a similar manner. The diaphragm is supported by springs S and made to pulsate by means of rods T, fixed to it and jointed upon small throw-cranks on the rotating shaft H in the usual manner or by cams or eccentrics, as may be found most convenient in practice. The mouth of the onflowing pipe of the pulp to be strained (not shown) may be of such a width as to cause a wide flow of pulp onto the strainer-plates, or the said discharge-mouth may be divided into two, three, or more contracted mouths. As the pulp rushes from this pipe onto the plates between the center of their rotating axis and their periphery and against the direction of the rotation of the plates the refuse already on the plates is arrested by the flow and diverted to the periphery of the plates and into the discharge-channel and pipes to auxiliary strainer. The strained pulp is led away by the pipe R, which is attached to the port in the vat and is formed with the cup-shaped center O, fitted with stuffing-boxes and glands. A regulating-box is fixed to the pipe-outlet, as usual, to regulate the level of the pulp.

I claim—

In a rotary pulp-strainer, the combination of a fixed vat, a rotary frame carrying horizontal strainer-plates, a substantially vertical axis, on which said frame rotates, a circular channel on said frame on the outer side of the strainer-plates, a refuse-discharge pipe leading from the center of the frame, pipes leading from the aforesaid channel to the said discharge-pipes, a pulp-discharge pipe having a cup-shaped portion extending under the rotary strainer-plates, a pulsating diaphragm in said cup-shaped portion, means for pulsating said diaphragm and means for rotating the strainer-carrying frame.

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