(No Model.)

J. & R. WOOD.

ROTATING PULP STRAINER.

No. 262,877. Patented Aug. 15, 1882.

FIG. 2.

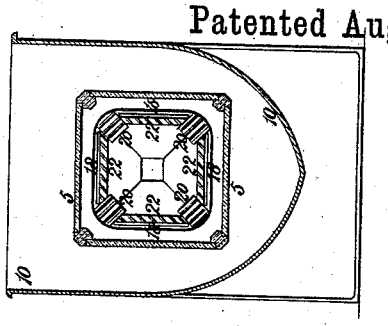
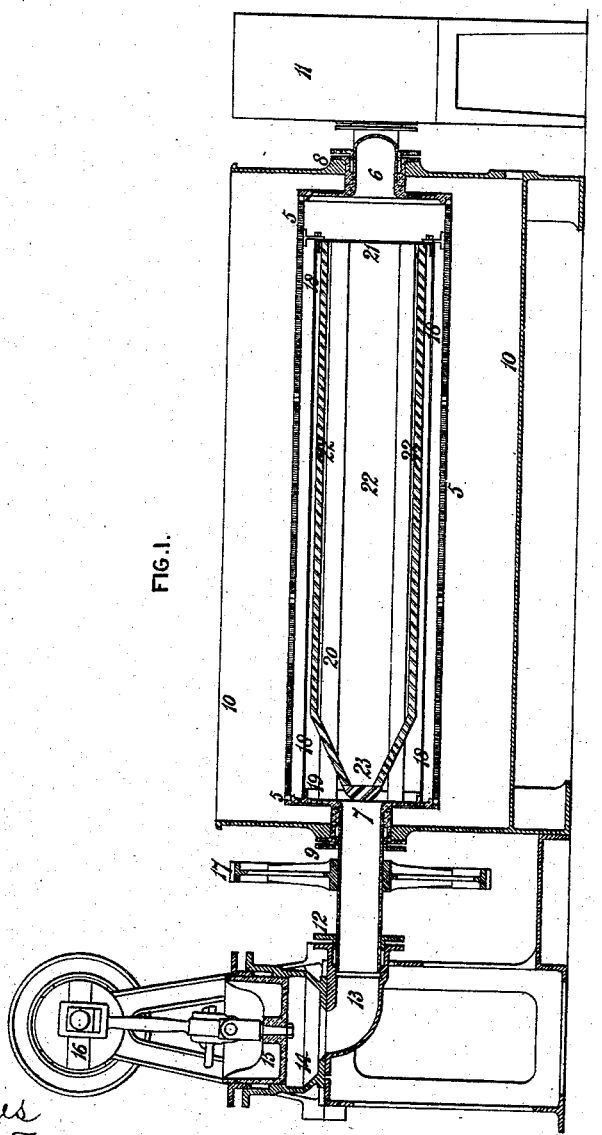


FIG. 1.



Witnesses
James F. Tobin.
Harry Smith

Inventors
John Wood
and
Robert Wood
by their Attys
Howson & Sons

UNITED STATES PATENT OFFICE.

JOHN WOOD AND ROBERT WOOD, OF LEITH, COUNTY OF MID-LOTHIAN, SCOTLAND.

ROTATING PULP-STRAINER.

SPECIFICATION forming part of Letters Patent No. 262,877, dated August 15, 1882.

Application filed June 2, 1882. (No model.) Patented in England August 27, 1879, No. 3,448.

To all whom it may concern:

Be it known that we, JOHN WOOD and ROBERT WOOD, subjects of the Queen of Great Britain, and residing at Leith, in the county of Mid-Lothian, Scotland, have invented an Improvement in Rotating Pulp-Strainers, (for which we obtained British Letters Patent dated 27th August, 1879, No. 3,448, and still in force,) of which the following is a specification.

Our invention has for its object to improve the action of rotating pulp-strainers; and it consists in using a pump which is external to the vessel containing the strainer and communicates therewith through a hollow trunnion, in combination with a bag, envelope, or cover of a suitable flexible but impermeable material, which separates the fluid directly acted on by the pump, while communicating in an efficient and advantageous manner to the pulp the pulsating action caused by the pump.

In the accompanying drawings, Figure 1 is a longitudinal vertical section, and Fig. 2 is a transverse vertical action.

The strainer-casing 5, which is of the usual square form, is made with hollow trunnions 6 7, as formerly, which trunnions pass through stuffing-boxes 8 9 in the ends of the vat 10, the one 6 at one end serving for the exit of the strained pulp into the service-box 11, while that 7 at the other end passes through a stuffing-box, 12, at the end of a short bent pipe, 13, communicating with the interior of the pump 14. The pump is by preference of a kind having a plunger, 15, working through a stuffing-box, and moved by a rotating crank-shaft, 16, driven in any convenient way. Instead of the plunger-pump, a diaphragm-pump may be employed, the diaphragm consisting of a strong flexible material, such as vulcanized rubber combined with a woven fabric. The trunnion 7 has fixed on it the usual spur-wheel, 17, by means of which the strainer-casing 5 is made to rotate. The trunnion 7, connected with the pump 14, communicates inside the strainer-casing 5 with the interior of a bag or cover, 18, made of an impermeable material—such as vulcanized rubber combined with a woven fabric—this bag or cover being held by and distended over a suitable framing, 19 20, fixed inside of the strainer-casing 5, which framing may be of wood or metal, or of metal and wood combined. The end farthest from the trunnion 7 is closed by a plate, 21; but the bag 18 might be extended over this end, if found desirable. The framing and bag 18 present a square form with rounded corners, as seen in cross-section. Inside of the bag 18 there is by preference fixed a closed shell or box, 22, of wood or other suitable material, for the purpose of occupying the central part and diminishing the quantity of fluid acted on by the pump, the end 23 of this box nearest the pump being tapered and rounded. It is conveniently formed by fixing boards 22 between the longitudinal corner-pieces 20 of the frame carrying the bag 18. The spaces between the boards or sides 22 of the box and the bag may be varied; but we believe that good results will be obtained when the spaces taper from about three-fourths of an inch near the pump end to five-eighths of an inch at the other end.

The action of our machine is similar to that of the ordinary rotating pulp-strainer, except that the pulp is sucked through the strainer-casing 5, without the water of the pump coming into contact with the pulp. The pulsating action imparted to the bag 18 draws the fine fibrous pulp from the vat 10 through the rotating strainer 5, and discharges it through the outlet 6 into the service-box 11, while the knots and other impurities remain in the vat 10.

What we claim as our invention—

The combination of a pulp-vat and external pump with a rotary strainer-casing provided with an internal flexible bag or cover of impermeable material, serving to prevent the pump fluid from coming into contact with the pulp, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN WOOD.
ROBERT WOOD.

Witnesses:
EDMUND HUNT,
DAVID FERGUSON.