(No Model.)

J. F. SEIBERLING.

PULP VAT FOR PAPER MAKING MACHINES.

No. 312,390. Patented Feb. 17, 1885.

Fig. 5.

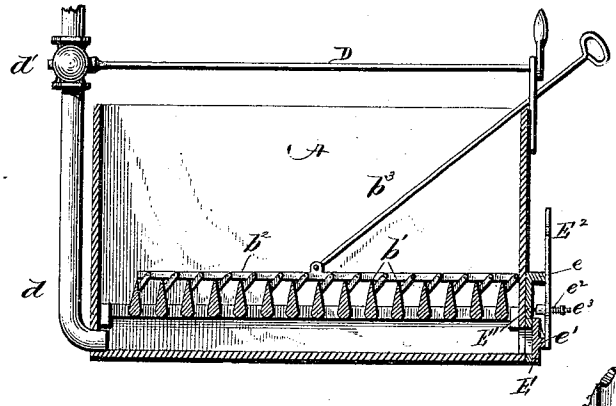


Fig. 4.

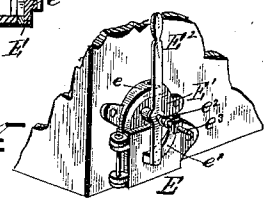


Fig. 1.

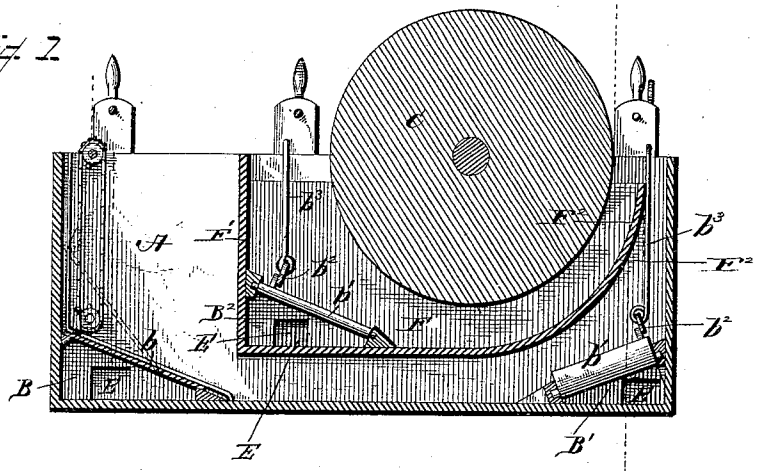
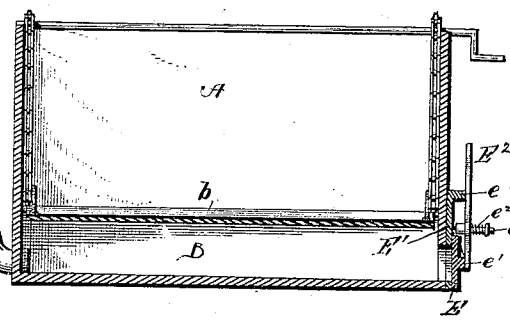


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PULP-VAT FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 312,390, dated February 17, 1885.

Application filed November 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. SEIBERLING, of Akron, county of Summit, and State of Ohio, have invented a new and useful Improvement in Pulp-Vats for Paper-Making Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in the vats or tanks from which the pulp is supplied or fed to the paper-making machinery, whereby I am enabled to remove accumulations of sediment, either of foreign matter or the knots or joints of the straw, where the pulp is made from the latter material, and which if allowed to accumulate and to be fed out with the pulp to the paper-making machinery would cause the paper to become rough and unfit for use. In the ordinary construction of these vats it has been found necessary, whenever the accumulation of the knots and other heavy particles became so considerable as to cause them to be carried out with the pulp to the paper-making machinery, to stop the operation of the machinery, and to empty, wash out, and refill the vat before the work could proceed, thereby causing not only the injury to the paper referred to and the annoyance resulting therefrom, but a serious loss of time and waste of material.

The object of my invention is to overcome this difficulty; and to this end it consists in providing the vat with one or more receptacles in its bottom or lower part, in which the knots and other heavy particles or substances may settle and accumulate, and with means for closing said receptacles, and also for flushing the same or washing them out without necessitating the stopping of the flow or feeding of the pulp to or the operation of the paper-making machinery, as hereinafter explained.

In the accompanying drawings, Figure 1 represents a vertical section through a pulp vat or tank and the feed roll or cylinder with my improvement applied. Fig. 2 represents, also, a vertical section taken at right angles to that shown in Fig. 1. Fig. 3 is also a vertical section through the opposite end, and looking in an opposite direction to Fig. 2; Fig. 4, a perspective view of one end of the vat, showing the outlet-gate and lever for operating same.

A represents a vat or tank into which the prepared pulp is fed, or in which it is placed, and from which it is supplied to the paper-making machinery in any usual or preferred manner. I have shown it in Fig. 1 provided with a feed roll or cylinder, C, such as is usually employed for that purpose.

In the bottom of the vat or tank A, and preferably at the end corners thereof, where the vat is rectangular in form and provided with a flat bottom or flooring, I form one or more shallow compartments or receptacles, (indicated at B and B',) open on top, to allow the sediment and knots referred to to settle and accumulate therein. These receptacles are provided with covers *b*, by means of which they may be closed whenever it is desired to remove the accumulations therein, and I prefer to make these covers of a series of overlapping pivoted slats, *b'*, similar to those of an ordinary pivoted slat-shutter, but adapted to overlap and close snugly one upon another. These are connected to a rod, b^2, crossing them transversely, and provided with a rod or handle, b^3, arranged in convenient position to be operated by the attendant for enabling him to close or open the receptacle, in a manner that will be readily understood from the drawings. I do not, however, wish to be restricted to this construction of cover, as it may be made in a variety of forms for the same purpose; and receptacle B is shown provided with a solid plate or cover, having an arrangement of sprocket-wheels and chains adapting it to be removed from the vat, except when it is desired to close the receptacle for the purpose of cleansing it.

Instead of the sprocket-wheel arrangement, a handle or lever may be used to operate the cover.

At one side of the vat, and preferably that at which the attendant stands, that he may readily see when the cleansing is effected, I provide the receptacle with a hinged door or pivoted gate, E, and upon the opposite side with a hose or supply-pipe, *d*, for forcing water into and flushing the receptacle when it is closed. The pipe is provided at *d'* with a cock,

from which a rod or shaft, D, is shown, extending across the vat and provided with a handle in convenient position to be operated by the attendant for turning the water on and off, as desired.

E′ represents a metal casting provided with suitable lugs or perforated ears, as shown, for attaching same to the vat, preferably upon the outside thereof. Said casting is provided with a curved inclined rib, *e*, and the gate E has a similar inclined rib, *e′*, upon its outer surface. A lever, E^2, is pivoted to the casting E′ intermediate of the two inclined ribs, as shown, and when rocked upon its pivot it rides up the inclined ribs and tends to force the gate against its seat upon the casting.

For keeping lever E^2 to its work and forcing it with considerable pressure against the inclined ribs for holding the gate E tightly closed, a spiral spring, e^2, is employed surrounding a bolt, e^3, extending outward from lever E^2, and held in place thereon by a nut at the outer end of the said bolt, whereby the tension of the spring e^2 is adjustable. By vibrating the lever E^2 into a horizontal position the gate is free to swing open or be forced open by the pressure of the water used for the purpose of flushing the receptacle.

In practice I prefer to arrange a second vat or tank, F, within the larger tank A, and of less depth, as shown in Fig. 1. The side walls of the tank or vat A answer also for vat F; but the end walls, F′ and F^2, are separate, and I prefer to have the latter curve upward, conforming to the adjacent side of the feed roll or cylinder, and terminating at its upper edge below the upper edge of the walls of tank A, as shown, in such manner that the pulp can flow over it into the vat F from the vat A. By this construction the knots and other sediment are prevented from lodging on said side, and are carried toward the vertical side wall, F′, at the foot of which I place another receptacle, B^2, provided with a removable or pivoted slat-cover, *b′*, similar to those at B or B′ in the tank A, and for a similar purpose. In practice, the movement of the lower surface of the feed-roll C will be toward the receptacle B^2, and this movement, by causing a current in that direction, will tend to assist in carrying any sediment or knots into said receptacle.

By the construction or double-vat arrangement shown the larger vat forms a passage-way through which the pulp is supplied to the inner vat, F, and serves to assist the latter in collecting the knots and other objectionable matter referred to.

The receptacle B^2 is provided with waste or exhaust and supply pipes *d*, similar to those of receptacles B, above described, and for the same purpose.

Having now described my invention, I claim as new—

1. The combination, with the pulp-vat or passage-way of a paper-making machine, of a receptacle for sediment provided with inlet and outlet openings at its ends or sides for the introduction and escape of water, for the purpose and substantially as described.

2. In a pulp-vat for paper-making machines, a sediment-receptacle provided with water supply and exhaust passages for flushing or cleansing the same, in combination with a cover composed of pivoted seats for opening and closing said receptacle, substantially as described.

3. The combination, with the pulp-vat, of the sediment-receptacle having water supply and discharge openings, the supply-pipe *d*, and the rod or shaft D, provided with a handle arranged in convenient position to be operated by the attendant, substantially as described.

4. The combination, in a pulp-vat for paper-making machines, of the outer tank, vat, or passage, A, the inner tank, F, a series of sediment-receptacles provided with water supply and exhaust passages, and covers for closing said receptacles, substantially as described.

5. The combination, in a pulp-vat, of the gate E, the inclined ribs *e e′*, and the lever E^2, substantially as and for the purpose described.

6. The combination, in a pulp-vat, of the gate E, the inclined ribs *e e′*, lever E^2, and spring e^2, substantially as described.

In testimony whereof I have hereunto set my hand this 19th day of November, A. D. 1884.

JNO. F. SEIBERLING.

Witnesses:
A. W. PEARSON,
W. S. SHEILL.