W. W. BEAUMONT.

MACHINE FOR STRAINING PAPER PULP.

APPLICATION FILED JULY 23, 1914.

1,166,882.

Patented Jan. 4, 1916.

Fig. 1.

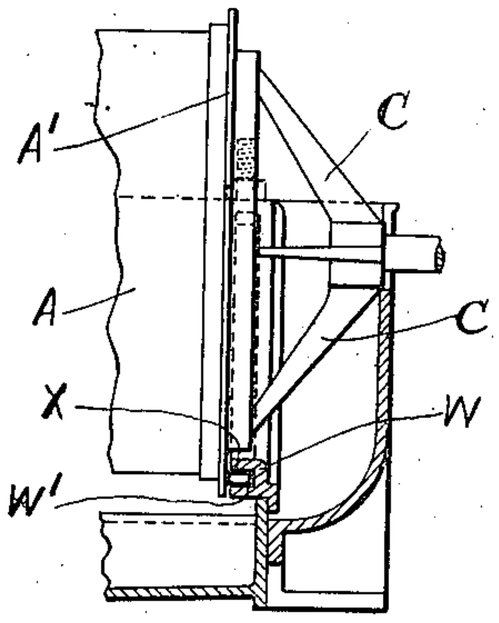


Fig. 2.

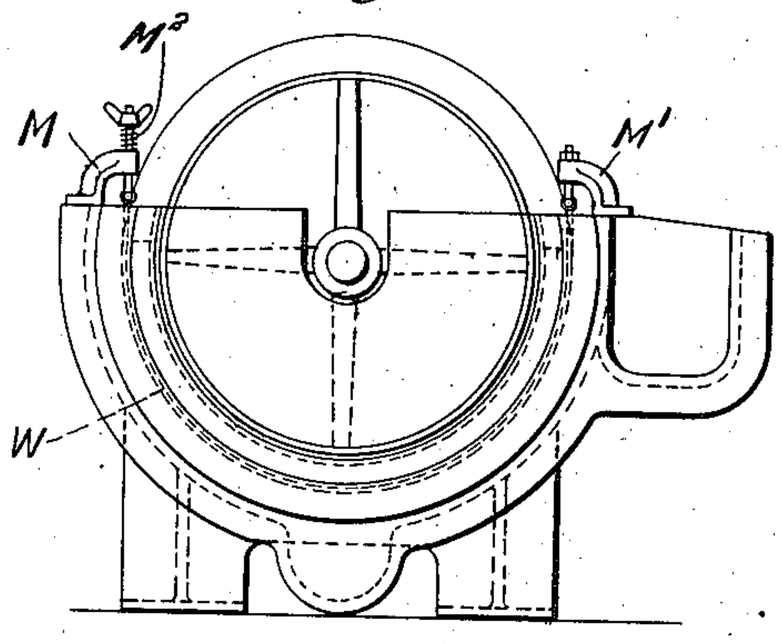


Fig. 3.

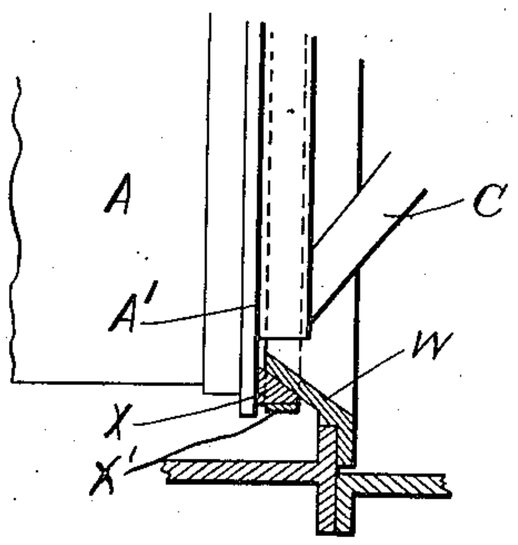


Fig. 4.

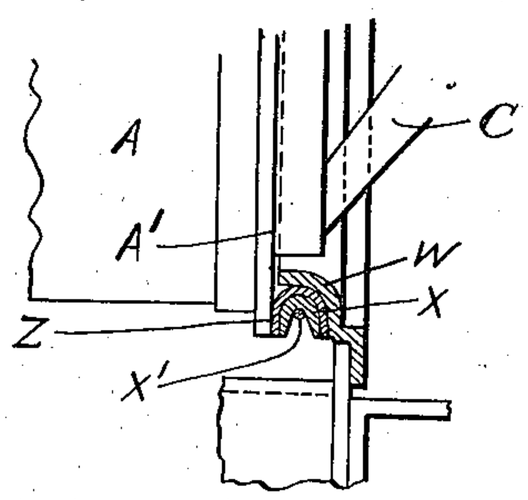


Fig. 5.

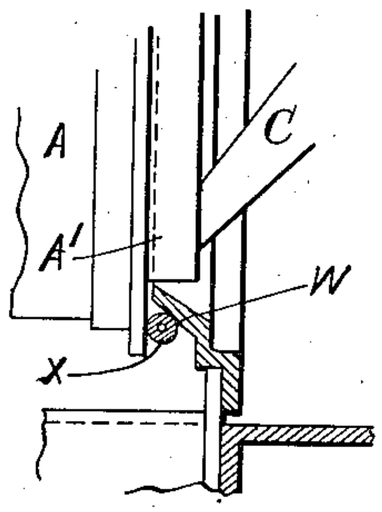


Fig. 6.

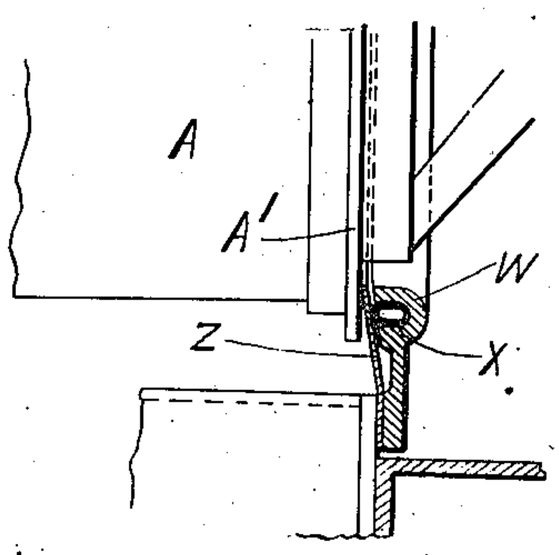
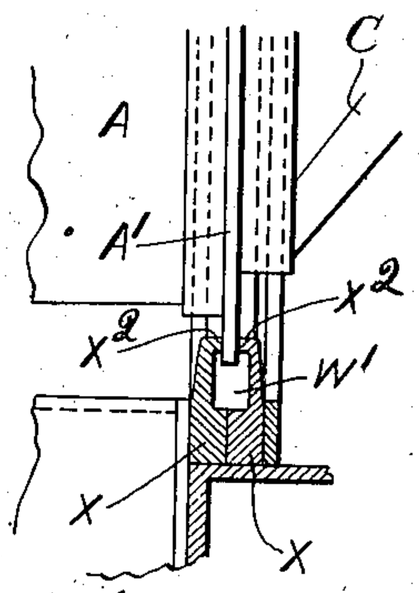


Fig. 7.



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MACHINE FOR STRAINING PAPER-PULP.

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Application filed July 23, 1914. Serial No. 852,696.

To all whom it may concern:

Be it known that I, WILLIAM WORBY BEAUMONT, a subject of the King of Great Britain and Ireland, residing at the Outer Temple, 222, Strand, in the city of Westminster, London, England, have invented new and useful Improvements in Machines for Straining Paper-Pulp, of which the following is a specification.

This invention relates to paper pulp straining machines of the type wherein the rotating drum partakes of vibratory movements transverse to its longitudinal axis and is partially immersed in the pulp contained in the pulp-vat; the pulp flowing inwardly through the drum straining surface and escaping by way of the drum extremities.

According to my present invention, the joints between the strainer-drum trunk-ends and the pulp-vat are of such character as to admit of the drum partaking of movements of the kind above referred to without permitting of leakage of water or pulp from the vat to the strained pulp delivery outlets.

In the accompanying drawings, Figures 1, 2, 3, 4, 5, 6 and 7 are detail views illustrating several methods of constructing or arranging the joints above referred to.

The ends of the drum A are provided with Flanges A′ having turned faces against which abut packing devices intervening between the said faces and the plates of parts W. In the form of joint illustrated in Fig. 1, the edges of the openings in the vat, through which the spider-arms C pass, are furnished with a semi-annular plate W formed with a channel W′ wherein is housed a resilient inflated or fluid-charged tube X whereof the inner face, which bears against and slides upon the flanges A′, is preferably composed of hardened india-rubber or is provided with a metallic facing. The extremities of the tube X are suspended from brackets M, M′, (as shown in Fig. 2), the tube being maintained taut by means of the spring M^2.

In the construction illustrated in Figs. 2 and 3, the stationary outlet is formed with conical projection W against which is arranged a packing piece X composed of wood, lignum vitæ, hard rubber, vulcanized fiber or other suitable material and of wedge-shaped section; same being suspended by means of a metal or other strap X′ supported at one extremity by means of a spring whereof the effort is adjustable. The strip X corresponds as to its inner face with the contour of the conical plate W and is free to slide toward the base thereof to a slight extent in an axial direction as longitudinal movements of the drum A may require. Its return movement is effected partly by its natural buoyancy and partly by the effort of the spring-suspended strap X′ in conjunction with the conical surface of the part W.

In Fig. 4 is illustrated a modification wherein the packing piece X consists in a semi-annular strip of india-rubber or the like of channel section and held in place by means of a wire strap X′ suspended from the brackets M, M′ in manner above referred to; a metal facing piece Z being interposed between the piece X and the flange A′ of the drum. Or, again, the packing piece may, as shown in Fig. 5, consist of a strap or rope X composed of india-rubber or other suitable material suspended directly from the brackets M, M′.

In the further modification illustrated in Fig. 6, the construction is similar to that described with reference to Fig. 1, but a semi-annular facing strip Z is inserted between the distensible tube X and the flange A′.

In the construction illustrated in Fig. 7, two semi-annular packing pieces X, X, composed of india-rubber, woodite, fiber or other suitable material are arranged, one on either side of the flange A′, and are formed with lips X^2, X^2, which by their natural resilience tend to close upon the flange A′; their grip being strengthened, when necessary, by suitably dressing down the contiguous faces of the strips X, or by inserting packing between them. A small internal channel W′ is formed between the strips X from which any infiltration water may easily be removed.

I claim:

1. In a paper pulp straining machine wherein a rotating and laterally vibrating drum is partly immersed in the pulp contained in the pulp-vat, a substantially watertight face-joint formed between the terminal face of the straining drum and the face of the stationary outlet therefrom; substantially as set forth.

2. In a paper pulp straining machine wherein a rotating and laterally vibrating drum is partially immersed in the pulp contained in the pulp-vat, a face-joint com-

prising a yielding and self-adjusting packing adapted to form a substantially watertight closure between the terminal face of the straining drum and the face of the stationary outlet therefrom while permitting the free vibration and rotation of the said drum, substantially as set forth.

3. In a paper pulp straining machine wherein a rotating and laterally vibrating drum is partly immersed in the pulp contained in the pulp-vat, a spring-suspended flexible packing of wedge-shaped section bearing on its outer side against a conical surface formed on the stationary outlet and on its inner side against a radial surface presented by the extremity of the vibrating and rotating drum, substantially as set forth.

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