

Title (en)
Headbox

Title (de)
Stoffauflauf

Title (fr)
Caisse de tête

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Application
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Abstract (en)

[origin: EP0997578A1] The stock inlet for a papermaking machine has an outlet jet (56) across the machine width with at least one wall (4, 5) across the machine width across the pulp flow direction. A number of separate supports (14) are fitted to at least one of the walls (4), to vary the jet (56) opening dimensions in sections to alter the jet delivery forces. The resulting force line (K) of each support (14) is generally at right angles to the machine width and remains on the plane of the pulp flow direction. The adjustments are made on the pulp flow plane in the center section (1). Supports (14, 14') are fitted to two facing walls (4, 5). The center section (1) is divided into zones across the machine width, as a turbulence generator preferably with a number of pulp diffusers. The entry section (2) is divided into sections across the machine width. At least one jet wall (4, 5) swings on an axis (6) across the flow direction and/or slides in the pulp flow direction. The jet walls (4, 5) have a bending stiffness across the machine width, at the supports (14, 14'), of $5 \times 109 > \text{Nmm}^2 >$ to $7.5 \times 1010 > \text{Nmm}^2 >$ for each 100 mm of wall length in the flow direction. At least one wall (4, 5) is positioned in sections over several separate supports (14, 14'). The separate supports (14, 14') are linked to the center section (1) and the jet wall (4, 5). The supports (14, 14') have no lateral links between them which carry push, pull and/or bending forces. At least one support (14) at a swing wall (4) is in a static model structure with at least three rods, linked together at a point offset from the center section (1) and jet wall (4). At least one rod is near the entry section (2) and at least one further rod is near the wall swing axis (6), while the third rod is at the jet wall (4). The three rods of a support (14) are in or are symmetrical to a plane on the pulp flow line and at right angles to the machine width. The rod near the wall swing axis (6) grips the jet wall (4) directly or indirectly. At least one rod has a variable length, and their mounting points at the center section (1) and/or the jet swing wall (4) can be adjusted. A lifting mechanism (8) acts on all the supports (14) in the same manner, using a pneumatic or hydraulic cylinder and/or an air bellows, through the toggle joints at the rods and/or the effects of temperature. The rod lengths and/or their mounting points are variable in the same direction and amount for all the supports (14), to shift a jet wall (4, 5) in the same direction across the machine width. At least one rod has a variable length for a fine adjustment of the jet wall position, which is activated separately or together with other supports. The model is used to give a one-piece support (7, 10) on the center section (1) or the jet wall (4, 5) with a junction point for a rod. The jet walls (4, 15) are without stiffening ribs and profiles on the lateral direction. Grooves to compensate for tension are at the jet walls (4, 5) on the flow line from the outer flow side. A non-swing jet wall (5) is mounted to the stock inlet foundation by ribs or profiles. The supports (14, 14') at the jet walls (4, 5) are equidistant or they are at different intervals of 50-1000 mm and preferably 200-500 mm. The swing axis (6) of the swing jet wall (4) is close to the center section (1), and a swing axis (24a) is close to the end (15) of the jet. Two swing mountings are between a stock inlet side wall and a side support. The side supports are at the mounting and/or foundation of the stock inlet. At least one adjustable support (12) grips the center section (1) directly or indirectly, at a gap from the end (15) of the jet, so that the bending of the stock inlet structure is the same laterally between and/or outside the support points. The swing axis at the end (15) of the jet is defined by guides where the axis is mounted. At least one support (12) has at least two support units, at different gaps from the end (15) of the jet on the pulp flow direction, giving different lifts, so that the stock inlet swings close to its end (15). An entry plate (11) is at the entry side (2) to stiffen the center section (1) and/or as a mounting for additional function units. The plate is across the flow line, generally across the width of the center section (1), forming part of the entry section (2) over its height. At least one jet wall (5) is on a sliding support (10) to move along the flow direction, with at least one mechanical, hydraulic and/or pneumatic adjustment unit, to be moved over the support (10). The adjustment unit has at least two rotating bolts in the support (10), each with an eccentric extension to engage in a groove in the jet wall (5). The rotating bolts preferably have levers with integrated swing nuts, operated by a common spindle with opposed threadings. Each eccentric extension can be detached from its rotating bolt. The entry section (2) has separate feed drillings (18) to take the inflow of the fiber pulp suspension. The drillings (18) are connected either with longer hoses (3) or directly to a common distribution pipe, parallel to the outflow gap at the jet end.

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