

Title (en)
Pressing arrangement

Title (de)
Pressenanordnung

Title (fr)
Dispositif de pressage

Publication
EP 0950759 A3 20001129 (DE)

Application
EP 99106354 A 19990329

Priority
• DE 19827483 A 19980619
• DE 19816673 A 19980415
• DE 29811048 U 19980415

Abstract (en)

[origin: EP0950759A2] The press section of a machine processing a wet fiber web has a lower shoe press roller (20) and two upper shoe press rollers (22,24) to form two extended press gaps (S1,S2) along the line (L) of web (10) travel. Two blankets pass through the first press gap (S1). The second press gap (S2), in the direction (L) of web travel, has a single blanket moving through it, with the web (10) between the blanket (18) and the upper press roller (24) at the second press gap (S2). The second press gap (S2) can have two blankets passed through it, and the press assembly uses a max. of three blankets (14,18,26). The press section has a closed web guide path. One blanket (18) passes through both press gaps (S1,S2), with the web (10), and together round a suction deflection roller (36) between the gaps. The first blanket (14) through the press gaps (S1,S2) also acts as a pick-up blanket, moving with the web (10) on a rising inclined path into the first press gap (S1). The web (10), on leaving the second press gap (S2), is deflected round a suction roller (30) to move onwards pref. to a following drying station. On arrival at the second press gap (S2), the web (10) is passed to a blanket (18) which carries it through, and the web (10) is detached from the blanket (18) at the suction deflection roller (30), while the blanket (18) follows a downward path away from the web. The web (10) can follow a free and unsupported path between the second press gap (S2) and the suction deflection roller (30). The flexible shoe press roller mantle has blind drillings and/or ridges at the rollers (20,22,24) forming the press gaps (S1,S2). The trailing upper press roller (24) can have a smooth roller mantle, where a single blanket carries the web through the second press gap (S2). The water extraction action at least at one press gap (S1,S2) is at least partially through centrifugal forces, where the water is spun out to be caught in a gutter (72,74,76,78) or the like. At least one of the upper press rollers (22,24) is a hollow roller, with internal supports, pref. as a bending compensation roller, and at least one of the upper rollers (22,24) is solid. A blowing tube is at the trailing upper press roller (24), at least over the whole web width. A suction unit (66) is at the second press gap (S2), in the outlet gap between the roller and the web/blanket, to catch water spray and/or extract water from the web (10) and the lower blanket (18) emerging from the press gap (S2). A suction roller to separate the web is after the second press gap (S2). The shoe press roller (20) has a press mantle guide to give position stability. The press roller (20) has two supports for the roller press mantle at the press gaps (S1,S2), on an inner support carrier, with the press shoes linked to the supports. The support force can be varied, independently for each support. The non-rotating hollow carrier and the inner carrier are in equidistant mountings at their ends. The amount of bend can be adjusted at the inner carrier of the press roller, to compensate for the forces applied at the two press gaps (S1,S2). The bending action is affected by the use of heat on the inner carrier, or the carrier has slits to give a controlled bending action or it has an inner or outer auxiliary carrier to give a bend through radial clamping using a hydraulic, pneumatic, mechanical, thermal and/or electromagnetic system. The bend at the inner carrier can also be set by a row of supports between the hollow and inner carriers, across the direction of web travel. The press mantle is offset from the hollow carrier, as seen on the cross section plane of the roller (20), and it is polygonal at least in sections. The upper press rollers (22,24) each have a support, to press them against the supports of the center press roller (20) at an equal pressure for the two press gaps (S1,S2), each with separate and independent pressures. On leaving the second press gap (S2), the blanket (18) is deflected by a pref. swing guide roller (96), and the blanket (14) leaving the first press gap (S1) is deflected by a pref. swing guide roller (97). The upper press rollers (22,24) are powered, where the second roller (24) has a higher drive power than the leading roller (22), so that the press mantle of the center roller (20) and/or the blanket (18) is under tension between both press gaps (S1,S2). The draw tension between the two press gaps is controlled to keep it at a constant level, from the press drive. The entry gap is under suction, between the leading upper press roller (22) and the upper blanket (14) at the first press gap (S1). The roller supports for the press rollers (20,22,24) are locked with positive fit components, which can be released for a blanket and roller change. At least one heater and pref. a steam blower box (98) is at the suction deflection roller (36) between the two press gaps (S1,S2).

IPC 1-7
D21F 3/04

IPC 8 full level
D21F 3/02 (2006.01); **D21F 3/04** (2006.01)

CPC (source: EP US)
D21F 3/0218 (2013.01 - EP US); **D21F 3/04** (2013.01 - EP US); **D21F 3/045** (2013.01 - EP US)

Citation (search report)

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Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 0950759 A2 19991020; EP 0950759 A3 20001129; JP H11323761 A 19991126; US 6332955 B1 20011225

DOCDB simple family (application)

