

# CPC COOPERATIVE PATENT CLASSIFICATION

## D21F PAPER-MAKING MACHINES; METHODS OF PRODUCING PAPER THEREON

### 1/00 Wet end of machines for making continuous webs of paper

- 1/0009 . {Regulating the freeness of the pulp}
- 1/0018 . {Devices for dispensing fibres in a fluid}
- 1/0027 . {Screen-cloths}
- 1/0036 . . {Multi-layer screen-cloths}
- 1/0045 . . . {Triple layer fabrics}
- 1/0054 . . {Seams thereof}
- 1/0063 . . {Perforated sheets}
- 1/0072 . . {Link belts}
- 1/0081 . . {with single endless strands travelling in generally parallel convolutions}
- 1/009 . {Fibre-rearranging devices}
- 1/02 . Head boxes of Fourdrinier machines
- 1/022 . . {Means for injecting material into flow within the headbox}
- 1/024 . . {Details of the feed chamber}
- 1/026 . . {Details of the turbulence section}
- 1/028 . . {Details of the nozzle section}
- 1/04 . Head boxes of cylinder machines
- 1/043 . . {with immersed cylinders}
- 1/046 . . {with non-immersed cylinder}
- 1/06 . Regulating pulp flow
- 1/065 . . {Shock-absorbing devices}
- 1/08 . Regulating consistency
- 1/10 . Wire-cloths (production of wire-cloths [B21F](#))
- 1/105 . . {Multi-layer wire-cloths}
- 1/12 . . Seams thereof
- 1/14 . . . welded
- 1/16 . . . sewn
- 1/18 . Shaking apparatus for wire-cloths and associated parts
- 1/20 . . in fourdrinier machines
- 1/22 . . in cylinder machines
- 1/24 . Tilting, raising, or lowering mechanisms for wire-cloths
- 1/26 . . in Fourdrinier machines
- 1/28 . . in cylinder machines
- 1/30 . Protecting wire-cloths from mechanical damage
- 1/32 . Washing wire-cloths or felts
- 1/325 . . {with reciprocating devices}
- 1/34 . Construction or arrangement of spraying pipes
- 1/345 . . {Spraying-pipe cleaners}
- 1/36 . Guiding mechanisms (suction rolls [D21F 3/10](#))
- 1/365 . . {for controlling the lateral position of the screen}
- 1/38 . . Pads
- 1/40 . . Rolls
- 1/42 . . Jets
- 1/44 . Watermarking devices
- 1/46 . . Dandy rolls
- 1/48 . Suction apparatus (suction rolls [D21F 3/10](#))
- 1/483 . . {Drainage foils and bars}
- 1/486 . . . {adjustable}
- 1/50 . . Suction boxes with rolls
- 1/52 . . Suction boxes without rolls
- 1/523 . . . {Covers thereof}

- 1/526 . . . . {consisting of endless moving belts}
- 1/54 . Skimming devices, e.g. froth ledges
- 1/56 . Deckle frame arrangements
- 1/58 . Deckle straps
- 1/60 . Cylinder moulds
- 1/62 . Sand traps
- 1/64 . Magnetic separators
- 1/66 . Pulp catching, de-watering, or recovering; Re-use of pulp-water
- 1/68 . . using hydrocyclones ([hydrocyclones B04C](#))
- 1/70 . . by flotation
- 1/72 . . using funnels
- 1/74 . . using cylinders
- 1/76 . . . with suction
- 1/78 . . . with pressure
- 1/80 . . using endless screening belts
- 1/82 . . adding fibre agglomeration compositions

### 2/00 Transferring webs from wet ends to press sections ({handling webs in general [B65H](#)})

### 3/00 Press section of machines for making continuous webs of paper

- 3/02 . Wet presses
- 3/0209 . . {with extended press nip}
- 3/0218 . . . {Shoe presses}
- 3/0227 . . . . {Belts or sleeves therefor}
- 3/0236 . . . . . {manufacturing methods}
- 3/0245 . . . . . {Means for fixing the sleeve to the roller end}
- 3/0254 . . . {Cluster presses, i.e. presses comprising a press chamber defined by at least three rollers}
- 3/0263 . . . . {Sealing arrangements therefor}
- 3/0272 . . {in combination with suction or blowing devices}
- 3/0281 . . {in combination with a dryer roll}
- 3/029 . . {using special water-receiving belts}
- 3/04 . Arrangements thereof
- 3/045 . . . {including at least one extended press nip}
- 3/06 . Means for regulating the pressure
- 3/08 . Pressure rolls
- 3/083 . . . {perforated}
- 3/086 . . . {having a grooved surface}
- 3/10 . . Suction rolls, e.g. couch rolls
- 3/105 . . . {Covers thereof}

### 5/00 Dryer section of machines for making continuous webs of paper

- 5/001 . {Drying webs by radiant heating}
- 5/002 . . {from infra-red-emitting elements}
- 5/003 . . {Shutter means}
- 5/004 . {Drying webs by contact with heated surfaces or materials}
- 5/005 . . {in a fluid bed}
- 5/006 . {Drying webs by using sonic vibrations}
- 5/007 . {Drying webs by contact with sorbent bodies}
- 5/008 . {Drying webs by direct contact with gas flames}
- 5/009 . {Drying webs by centrifugal treatment}

5/02	. Drying on cylinders	11/00	<b>Processes for making continuous lengths of paper, or of cardboard, or of wet web for fibre board production, on paper-making machines</b>
5/021	. . {Construction of the cylinders}	11/002	. {by using a foamed suspension}
5/022	. . {Heating the cylinders}	11/004	. {by modification of the viscosity of the suspension}
5/024	. . . {using electrical means}	11/006	. {Making patterned paper}
5/025	. . . {using combustion gases}	11/008	. {Making apertured paper}
5/027	. . . {using a heat-transfer fluid between the heating means and the cylinder shell}	11/02	. of the Fourdrinier type
5/028	. . . {using steam}	11/04	. . paper or board consisting on two or more layers
5/04	. . on two or more drying cylinders	11/06	. of the cylinder type
5/042	. . . {in combination with suction or blowing devices}	11/08	. . paper or board consisting of two or more layers
5/044	. . . . {using air hoods over the cylinders}	11/10	. Making imitation mould-made paper
5/046	. . . . {using pocket ventilation systems}	11/12	. Making corrugated paper or board
5/048	. . . {in combination with other heating means}	11/14	. Making cellulose wadding, filter or blotting paper
5/06	. . Regulating temperature	11/145	. . {including a through-drying process}
5/08	. . Arrangement of steam points in the cylinders	11/16	. Making paper strips for spinning or twisting
5/10	. . Removing condensate from the interior of the cylinders	13/00	<b>Making discontinuous sheets of paper, pulpboard or cardboard, or of wet web, for fibreboard production (making discontinuous sheets of board in moulds <a href="#">D21J</a>; drying paper, pulpboard, or cardboard, in discontinuous sheet form <a href="#">F26B</a>)</b>
5/12	. Festoon drying	13/02	. Making hand-made paper
5/14	. Drying webs by applying vacuum	13/04	. on cylinder board machines
5/143	. . {through perforated cylinders}	13/06	. . Format rolls
5/146	. . {Vacuum seals}	13/08	. . . Automatic cut-off rolls
5/16	. Drying webs by electrical heating	13/10	. using board presses
5/162	. . {Resistance heating}	13/12	. . Platen presses
5/165	. . {Inductive heating; Capacitive heating}		
5/167	. . {Microwave heating}		
5/18	. Drying webs by hot air		
5/181	. . {on Yankee cylinder}		
5/182	. . {through perforated cylinders}		
5/184	. . . {Surfaces thereof}		
5/185	. . {Supporting webs in hot air dryers}		
5/187	. . . {by air jets}		
5/188	. . . . {Blowing devices}		
5/20	. Waste heat recovery		
<b>7/00</b>	<b>Other details of machines for making continuous webs of paper</b>		
7/001	. {Wire-changing arrangements}		
7/003	. {Indicating or regulating the moisture content of the layer}		
7/005	. {Wire-tensioning devices}		
7/006	. {Cutting the edges of the paper-web}		
7/008	. {Steam showers}		
7/02	. Mechanical driving arrangements		
7/04	. Paper-break control devices		
7/06	. Indicating or regulating the thickness of the layer; Signal devices		
7/08	. Felts		
7/083	. . {Multi-layer felts}		
7/086	. . {Substantially impermeable for transferring fibrous webs}		
7/10	. . Seams thereof		
7/12	. . Drying		
<b>9/00</b>	<b>Complete machines for making continuous webs of paper</b>		
9/003	. {of the twin-wire type}		
9/006	. . {paper or board consisting of two or more layers}		
9/02	. of the Fourdrinier type		
9/04	. of the cylinder type		
9/043	. . {with immersed cylinder}		
9/046	. . {with non-immersed cylinder}		