

# CPC COOPERATIVE PATENT CLASSIFICATION

## D TEXTILES; PAPER

### PAPER

## D21 PAPER-MAKING; PRODUCTION OF CELLULOSE

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

<b>1/00</b>	<b>Wet end of machines for making continuous webs of paper</b>	1/46	. . Dandy rolls
1/0009	. {Regulating the freeness of the pulp}	1/48	. Suction apparatus ( <a href="#">suction rolls D21F 3/10</a> )
1/0018	. {Devices for dispensing fibres in a fluid}	1/483	. . {Drainage foils and bars}
1/0027	. {Screen-cloths}	1/486	. . . {adjustable}
1/0036	. . {Multi-layer screen-cloths}	1/50	. . Suction boxes with rolls
1/0045	. . . {Triple layer fabrics}	1/52	. . Suction boxes without rolls
1/0054	. . {Seams thereof}	1/523	. . . {Covers thereof}
1/0063	. . {Perforated sheets}	1/526	. . . . {consisting of endless moving belts}
1/0072	. . {Link belts}	1/54	. Skimming devices, e.g. froth ledges
1/0081	. . {with single endless strands travelling in generally parallel convolutions}	1/56	. Deckle frame arrangements
1/009	. {Fibre-rearranging devices}	1/58	. Deckle straps
1/02	. Head boxes of Fourdrinier machines	1/60	. Cylinder moulds
1/022	. . {Means for injecting material into flow within the headbox}	1/62	. Sand traps
1/024	. . {Details of the feed chamber}	1/64	. Magnetic separators
1/026	. . {Details of the turbulence section}	1/66	. Pulp catching, de-watering, or recovering; Re-use of pulp-water
1/028	. . {Details of the nozzle section}	1/68	. . using hydrocyclones ( <a href="#">hydrocyclones B04C</a> )
1/04	. Head boxes of cylinder machines	1/70	. . by flotation
1/043	. . {with immersed cylinders}	1/72	. . using funnels
1/046	. . {with non-immersed cylinder}	1/74	. . using cylinders
1/06	. Regulating pulp flow	1/76	. . . with suction
1/065	. . {Shock-absorbing devices}	1/78	. . . with pressure
1/08	. Regulating consistency	1/80	. . using endless screening belts
1/10	. Wire-cloths ( <a href="#">production of wire-cloths B21F</a> )	1/82	. . adding fibre agglomeration compositions
1/105	. . {Multi-layer wire-cloths}	<b>2/00</b>	<b>Transferring webs from wet ends to press sections</b>
1/12	. . Seams thereof		<b>{(handling webs in general B65H)}</b>
1/14	. . . welded	<b>3/00</b>	<b>Press section of machines for making continuous webs of paper</b>
1/16	. . . sewn	3/02	. Wet presses
1/18	. Shaking apparatus for wire-cloths and associated parts	3/0209	. . {with extended press nip}
1/20	. . in Fourdrinier machines	3/0218	. . . {Shoe presses}
1/22	. . in cylinder machines	3/0227	. . . . {Belts or sleeves therefor}
1/24	. Tilting, raising, or lowering mechanisms for wire-cloths	3/0236	. . . . . {manufacturing methods}
1/26	. . in Fourdrinier machines	3/0245	. . . . . {Means for fixing the sleeve to the roller end}
1/28	. . in cylinder machines	3/0254	. . . {Cluster presses, i.e. presses comprising a press chamber defined by at least three rollers}
1/30	. Protecting wire-cloths from mechanical damage	3/0263	. . . . {Sealing arrangements therefor}
1/32	. Washing wire-cloths or felts	3/0272	. . {in combination with suction or blowing devices}
1/325	. . {with reciprocating devices}	3/0281	. . {in combination with a dryer roll}
1/34	. Construction or arrangement of spraying pipes	3/029	. . {using special water-receiving belts}
1/345	. . {Spraying-pipe cleaners}	3/04	. . Arrangements thereof
1/36	. Guiding mechanisms ( <a href="#">suction rolls D21F 3/10</a> )	3/045	. . . {including at least one extended press nip}
1/365	. . {for controlling the lateral position of the screen}	3/06	. . Means for regulating the pressure
1/38	. . Pads	3/08	. . Pressure rolls
1/40	. . Rolls	3/083	. . . {perforated}
1/42	. . Jets	3/086	. . . {having a grooved surface}
1/44	. Watermarking devices		

- 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
    - 5/021 . . {Construction of the cylinders}
    - 5/022 . . {Heating the cylinders}
      - 5/024 . . . {using electrical means}
      - 5/025 . . . {using combustion gases}
      - 5/027 . . . {using a heat-transfer fluid between the heating means and the cylinder shell}
    - 5/028 . . . {using steam}
  - 5/04 . . on two or more drying cylinders
  - 5/042 . . . {in combination with suction or blowing devices}
    - 5/044 . . . . {using air hoods over the cylinders}
    - 5/046 . . . . {using pocket ventilation systems}
    - 5/048 . . . {in combination with other heating means}
  - 5/06 . . Regulating temperature
  - 5/08 . . Arrangement of steam points in the cylinders
  - 5/10 . . Removing condensate from the interior of the cylinders
    - 5/12 . Festoon drying
  - 5/14 . Drying webs by applying vacuum
    - 5/143 . . {through perforated cylinders}
    - 5/146 . . {Vacuum seals}
  - 5/16 . Drying webs by electrical heating
    - 5/162 . . {Resistance heating}
    - 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
- 7/00 Other details of machines for making continuous webs of paper**
  - 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
- 9/00 Complete machines for making continuous webs of paper**
  - 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}
- 11/00 Processes for making continuous lengths of paper, or of cardboard, or of wet web for fibre board production, on paper-making machines**
  - 11/002 . {by using a foamed suspension}
  - 11/004 . {by modification of the viscosity of the suspension}
  - 11/006 . {Making patterned paper}
  - 11/008 . {Making apertured paper}
  - 11/02 . of the Fourdrinier type
    - 11/04 . . paper or board consisting on two or more layers
    - 11/06 . of the cylinder type
      - 11/08 . . paper or board consisting of two or more layers
    - 11/10 . Making imitation mould-made paper
    - 11/12 . Making corrugated paper or board
    - 11/14 . Making cellulose wadding, filter or blotting paper
      - 11/145 . . {including a through-drying process}
    - 11/16 . Making paper strips for spinning or twisting
  - 13/00 Making discontinuous sheets of paper, pulpboard or cardboard, or of wet web, for fibreboard production (making discontinuous sheets of board in moulds [D21J](#); drying paper, pulpboard, or cardboard, in discontinuous sheet form [F26B](#))**
    - 13/02 . Making hand-made paper
    - 13/04 . on cylinder board machines
      - 13/06 . . Format rolls
        - 13/08 . . . Automatic cut-off rolls
      - 13/10 . using board presses
      - 13/12 . . Platen presses