### B41 PRINTING, LINING MACHINES, TYPEWRITERS, STAMPS (reproduction or duplication of pictures or patterns by scanning and converting into electrical signals H04N) [4]

### B41F PRINTING MACHINES OR PRESSES (machines for manufacturing footwear incorporating printing or embossing apparatus A43D, e.g. A43D 8/26, A43D 95/14; presses in general B30B; making of printing surfaces B41C, B41D; manifolding devices, office printing machines B41L; stencilling B41L; printing processes not dependent on the use of special machines B41M; duplicating or marking by sublimation or volatilisation of design B41M 5/035; thermography B41M 5/26; embossing decorations or marks B44B 5/00; handling thin or filamentary material B65H; electrography, electrophotography, magnetography G03G) [4]

#### Note
Attention is drawn to Notes (1) and (2) following the title of subclass B41L. [6]

### Subclass index

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**PLATEN PRESSES**

| Letterpress, lithographic, intaglio machines | 5/00, 7/00, 9/00 |
| Other machines; combined machines | 11/00, 17/00, 19/00 |
| Details | 13/00 |

**CYLINDER PRESSES**

| Screen printers | 15/00 |

#### 1/00 Platen presses, i.e. presses in which printing is effected by at least one essentially-flat pressure-applying member co-operating with a flat type-bed

| 1/02 | Hand-operated platen presses |
| 1/04 | for mono-impression printing, e.g. on sheets |
| 1/06 | with platen maintained parallel to bed during movement (preparing stereotype matrices using presses B41D 1/06) |
| 1/08 | on webs |
| 1/10 | for multi-impression printing in one or more colours, e.g. on webs |
| 1/12 | on sheets |
| 1/14 | using swinging platens, or forme supports |
| 1/16 | for offset printing |
| 1/18 | for lithography |
| 1/20 | for perfecting sheets, i.e. for printing on both sides of sheets |
| 1/22 | specially adapted for printing heads, e.g. letter heads |
| 1/24 | specially adapted for proof printing |
| 1/26 | Details |
| 1/28 | Sheet-conveying, -aligning or -clamping devices (in general B65H) |
| 1/30 | using rotary grippers |
| 1/32 | using air pressure, e.g. vacuum |
| 1/34 | Registering devices, e.g. gauges |
| 1/36 | Clamps for conveying sheets and for holding same on the platens |
| 1/38 | Platens or type-beds |
| 1/40 | Inking units |
| 1/42 | using flat inking elements, e.g. discs |
| 1/44 | using inking ribbons |
| 1/46 | using rollers |
| 1/48 | pivoting around the platen or base |
| 1/50 | supported on carriages for movement in or on runways |

#### 3/00 Cylinder presses, i.e. presses essentially comprising at least one cylinder co-operating with at least one flat type-bed

| 3/02 | with impression cylinder or cylinders rotating unidirectionally |
| 3/04 | intermittently; Stop-cylinder presses |
| 3/06 | continuously |
| 3/08 | Single-revolution presses |
| 3/10 | Two-revolution presses |
| 3/12 | Twin presses, i.e. with more than one cylinder or type-bed |
| 3/14 | with impression cylinder or cylinders rotating in opposite directions during each working cycle |
| 3/16 | Twin presses, i.e. with more than one cylinder or type-bed |
| 3/18 | of special construction or for particular purposes |
| 3/20 | with fixed type-beds and travelling impression cylinders |
| 3/22 | with more than one type-bed |
| 3/24 | with cylinders travelling around type-beds having upper and lower printing surfaces |
| 3/26 | with type-beds and impression cylinders simultaneously movable relative to one another |
| 3/28 | Proof-print presses for relief printing, lithography or intaglio printing, i.e. presses for checking accuracy of printing surfaces |

Transfer printing machines .......................... 16/00

Handling sheets or other surfaces to be printed; treating such surfaces.......... 21/00, 25/00; 22/00, 23/00

Attaching printing elements; make-ready arrangements, impression or offset surfaces; inking ....................... 27/00; 30/00; 31/00

Auxiliary devices; cleaning....................... 33/00; 35/00
Rotary letterpress machines
5/02 for printing on sheets
5/04 for printing on webs
5/06 with several printing units in sequential arrangement
5/08 with several printing units in both superimposed and sequential arrangement
5/10 with several printing units arranged side by side
5/12 for printing on one side and on the other side of webs between the same forme and impression cylinders
5/14 with several impression cylinders arranged around a forme cylinder
5/16 for multicolour printing
5/18 using one impression cylinder co-operating with several forme cylinders
5/20 specially adapted for proof printing
5/22 for indirect printing [3]
5/24 for flexographic printing [3]

Rotary lithographic machines
7/00 for offset printing
7/02 using printing units incorporating one forme cylinder, one transfer cylinder, and one impression cylinder, e.g. for printing on webs
7/04 for printing on sheets
7/06 using one transfer cylinder co-operating with several forme cylinders for printing on sheets or webs, e.g. sampling of colours on one transfer cylinder
7/08 using one impression cylinder co-operating with several transfer cylinders for printing on sheets or webs, e.g. satellite-printing units
7/10 using two cylinders one of which serves two functions, e.g. as a transfer and impression cylinder in perfecting machines
7/12 with two or more impression cylinders coacting with a single transfer cylinder
7/14 with two or more impression cylinders coacting with a single impression cylinder
7/15 for printing on more than one web simultaneously [6]
7/16 for printing on non-deformable material, e.g. sheet metal
7/18 specially adapted for proof printing
7/20 Details
7/24 Damping devices
7/26 using transfer rollers [3]
7/28 using brushes
7/30 using spraying elements
7/32 Ducts, containers, or like supply devices for liquids
7/34 Endless bands
7/36 Inking-rollers serving also to apply ink repellent
7/37 with supercooling for condensation of air moisture (cooling forme or impression cylinders B41F 13/22) [6]
7/38 Absorbent pads
7/40 Devices for tripping or lifting damping rollers; Supporting, adjusting, or removing arrangements therefor (such arrangements or devices for inking rollers B41F 31/30)

Rotary intaglio printing presses
9/00 for indirect printing [3,5]
9/02 for multicolour printing
9/04 specially adapted for proof printing
9/06 Details
9/08 Wiping mechanisms
9/10 with doctors, scrapers, or like devices
9/12 with absorbent pads
9/14 with continuous flexible surfaces, e.g. endless bands
9/16 Removing or recovering ink from wiping mechanisms
9/18 Auxiliary devices for exchanging forme cylinders

Rotary presses or machines having forme cylinders carrying a plurality of printing surfaces, or for performing letterpress, lithographic, or intaglio processes selectively or in combination
11/00 for securities (security printing B41M 3/14) [3]

Common details of rotary presses or machines
13/00 for electric or hydraulic features of drives [6]
13/004 for mechanical features of drives, e.g. gears, clutches [6]
13/012 Taking-up backlash [6]
13/016 Brakes [6]
13/02 . Conveying or guiding webs through presses or machines (web handling in general B65H, e.g. step-by-step advancement B65H 20/00, turning or reversing B65H 23/32)
13/03 . Threading webs into printing machines [6]
13/04 . intermittently
13/06 . Turning-bar arrangements
13/08 . Cylinders
13/10 . Forme cylinders
13/12 . Registering devices
13/14 . with means for displacing the cylinders
13/16 . with means for displacing the printing forms on the cylinders
13/18 . Impression cylinders
13/187 . for rotogravure [6]
13/193 . Transfer cylinders; Offset cylinders [6]
13/20 . Supports for bearings or supports for forme, offset, or impression cylinders
13/22 . Means for cooling or heating forme or impression cylinders
13/24 . Cylinder-tripping devices; Cylinder-impression adjustments
13/26 . Arrangement of cylinder bearings
13/28 . Bearings mounted eccentrically of the cylinder axis
13/30 . Bearings mounted on sliding supports
13/32 . Bearings mounted on swinging supports
13/34 . Cylinder-lifting or -adjusting devices
13/36 . Cams, eccentrics, wedges, or the like
13/38 . electrically or magnetically operated
13/40 . fluid-pressure operated
13/42 . Guards or covers, e.g. for preventing ingress or egress of foreign matter
13/44 . Arrangements to accommodate interchangeable cylinders of different sizes to enable machine to print on areas of different sizes
13/46 . Printing units for inserting latest news
13/48 . Arrangements to enable printing to be effected over selected areas of a single forme cylinder (by inking selected areas B41F 31/18)
15/00 Screen printers (for selective printing B41J 2/005)
15/02 . Manually-operable devices
15/04 . for multicolour printing
15/06 . with auxiliary equipment, e.g. for drying printed articles
15/08 . Machines
15/10 . for multicolour printing
15/12 . with auxiliary equipment, e.g. for drying printed articles
15/14 . Details
15/16 . Printing tables
15/18 . . . Supports for workpieces
15/20 . . . with suction-operated elements
15/22 . . . for single sheets
15/24 . . . for webs
15/26 . . . for articles with flat surfaces
15/28 . . . for elongated flat articles, e.g. strips, bands
15/30 . . . for articles with curved surfaces
15/32 . . . for articles with conical surfaces
15/34 . . . Screens; Frames; Holders therefor
15/36 . . . flat
15/38 . . . curved
15/40 . . . Inking units
15/42 . . . comprising squeegees or doctors
15/44 . . . Squeegees or doctors (doctors of rotary intaglio printing presses B41F 9/10)
15/46 . . . with two or more operative parts
16/00 Transfer printing apparatus (apparatus or machines for applying decalcomanias B65C) [4]
16/02 . for textile material [4]
17/00 Printing apparatus or machines of special types or for particular purposes, not otherwise provided for (hand stamps, plier-like tools for printing or punching tickets or the like B41K, addressing machines or other office printing equipment B41L; coding or marking of packaging material or of completed packages in packaging machines B65B 61/00; ticket-printing and issuing apparatus G07B)
17/02 . for printing books or manifolding sets
17/04 . for printing calendars
17/08 . for printing on filamentary or elongated articles or material, or on articles with cylindrical surfaces
17/10 . . . on articles or material of indefinite length, e.g. wires, hoses, tubes or yarns
17/12 . . . at an angle to axis
17/13 . . . for printing on rolls of material, the roll serving as impression cylinder, e.g. strip printers [2009.01]
17/14 . . . on articles of finite length
17/16 . . . on end or bottom surfaces thereof
17/18 . . . on curved surfaces of articles of varying cross-section, e.g. bottles, lamp glasses
17/20 . . . on articles of uniform cross-section, e.g. pencils, rulers, resistors
17/22 . . . . by rolling contact
17/24 . . . . for printing on flat surfaces of polyhedral articles
17/26 . . . . by rolling contact
17/28 . . . . for printing on curved surfaces of conical or frusto-conical articles
17/30 . . . . for printing on curved surfaces of essentially spherical, or part-spherical, articles
17/32 . . . . on lamp bulbs
17/34 . . . . on articles with surface irregularities, e.g. fruit, nuts
17/36 . . . . for printing on tablets, pills, or like small articles
17/38 . . . . for printing on knitted fabrics
B41F

19/00 Apparatus or machines for carrying out printing operations combined with other operations (auxiliary perforating apparatus associated with printing devices B41G 7/06; coding or marking in association with packaging B65B 61/00; label dispensers having printing equipment B65C) [2]

19/02 . with embossing (printing with a printer’s forme combined with embossing B41M 1/24)

19/04 . using intaglio printing forms and wipers

19/06 . Printing and embossing between a negative and a positive forme after inking and wiping the negative forme; Printing from an ink band treated with colour or “gold”

19/08 . Simultaneous moulding and printing

Common details of printing machinery

21/00 Devices for conveying sheets through printing apparatus or machines (through platen presses B41F 1/28; feeding sheets to or from printing apparatus or machines B65H)

21/02 . Pins [3,5]

21/04 . Grippers [3,5]

21/05 . In-feed grippers [3,5]

21/06 . Suction-operated grippers

21/08 . Combinations of endless conveyers and grippers

21/10 . Combinations of transfer drums and grippers [3]

21/12 . Adjusting leading edges, e.g. front stops [3]

21/14 . Adjusting lateral edges, e.g. side stops [3]

22/00 Means preventing smuggling of machine parts or printed articles (B41F 23/00 takes precedence) [6]

23/00 Devices for treating the surfaces of sheets, webs, or other articles in connection with printing (cleaning in general B08B; as a final step in the manufacture of such articles, see appropriate subclasses, e.g. B29C 71/00, D21H 23/00 or D21H 25/00; surface treatment in general, see the relevant places, e.g. applying liquids or other fluent materials B05, of metals C23G)

23/02 . by dampening (in rotary lithographic machines B41F 7/24)

23/04 . by heat drying, by cooling, by applying powders

23/06 . Powdering devices, e.g. for preventing set-off

23/08 . Print-finishing devices, e.g. for glossing prints

25/00 Devices for pressing sheets or webs against cylinders, e.g. for smoothing purposes (apparatus for taking-out curl from webs in general B65H 23/34)

27/00 Devices for attaching printing elements or forms to supports (attaching by chemical means B41N 6/00) [5]

27/02 . Magnetic devices

27/04 . for attaching printing elements to flat type-beds

27/06 . for attaching printing elements to forme cylinders

27/08 . for attaching printing forms to flat type-beds

27/10 . for attaching non-deformable curved printing forms to forme cylinders

27/12 . for attaching flexible printing forms

27/14 . for attaching printing forms to intermediate supports, e.g. adapter members

30/00 Devices for attaching coverings or make-ready devices; Guiding devices for coverings (make-ready devices B41N 6/00; blankets or like coverings B41N 10/00) [5]

30/02 . attaching to impression cylinders [5]

30/04 . attaching to transfer cylinders [5]

30/06 . attaching of endless or like continuously-fed coverings [5]

31/00 Inking arrangements or devices (inking units for platen presses B41F 1/40; inking units for cylinder presses B41F 3/81; applying liquids or other fluent materials to surfaces, in general B05; for typewriters or selective printing mechanisms B41J)

31/02 . Ducts, containers, supply or metering devices (level control in general G05D 9/00) [3]

31/03 . Ink agitators [6]

31/04 . with duct-blades or like metering devices

31/05 . Positioning devices thereof [6]

31/06 . Troughs or like reservoirs with immersed, or partly immersed, rollers or cylinders

31/07 . for rotogravure [6]

31/08 . with ink-ejecting means, e.g. pumps, nozzles

31/10 . Applications of feed or duct rollers (messenger or moving transfer rollers B41F 31/14)

31/12 . adjustable for regulating supply


31/14 . Applications of messenger or other moving transfer rollers


31/16 . Continuous, e.g. endless, band apparatus

31/18 . for inking selected parts of printing forms

31/20 . Ink-removing or collecting devices

31/22 . for inking from interior of cylinder

31/24 . Absorbent pads

31/26 . Construction of inking rollers (inking-rollers serving also to apply ink repellant in rotary lithographic machines B41F 7/36)

31/28 . Spray apparatus, e.g. containing brushes

31/30 . Arrangements for tripping, lifting, adjusting, or removing inking rollers; Supports, bearings, or forks thereof

31/32 . Lifting or adjusting devices (for damping rollers B41F 7/40)

31/34 . Cam, eccentric, wedge, or like devices

31/36 . Fluid-pressure operated

31/38 . Magnetically operated

33/00 Indicating, counting, warning, control, or safety devices (arrangements of counting devices in platen presses B41F 1/00, in cylinder presses B41F 3/84, in typewriters or selective printing mechanisms B41J 29/20; ink supply or metering devices B41J 31/02; such devices in general, see the relevant subclasses, e.g. counting in general G06M) [3]

33/02 . Arrangements of indicating devices, e.g. counters [2]

33/04 . Tripping devices or stop-motions (cylinder-tripping devices of rotary presses or machines B41F 13/24; arrangements for tripping inking rollers B41F 31/30) [2]

33/06 . for starting or stopping operation of sheet or web feed

33/08 . for starting or stopping operation of cylinders

33/10 . for starting or stopping operation of damping or inking units

33/12 . for starting or stopping the machine as a whole

33/14 . Automatic control of tripping devices by feelers, photoelectric devices, pneumatic devices, or other detectors
33/16. Programming systems for automatic control of sequence of operations
33/18. Web break detection (B41F 33/04 takes precedence) [6]

35/00 Cleaning arrangements or devices
  35/02 . for forme cylinders
  35/04 . for inking rollers
  35/06 . for offset cylinders