

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; manifoldng 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]

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

PLATEN PRESSES	1/00	Transfer printing machines	16/00
CYLINDER PRESSES	3/00	DETAILS	
ROTARY MACHINES		Handling sheets or other surfaces to be printed; treating such surfaces.....	21/00, 25/00; 22/00, 23/00
Letterpress, lithographic, intaglio machines	5/00, 7/00, 9/00	Attaching printing elements; make- ready arrangements, impression or offset surfaces; inking	27/00; 30/00; 31/00
Other machines; combined machines	11/00, 17/00; 19/00	Auxiliary devices; cleaning.....	33/00; 35/00
Details	13/00		
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	1/52	 Carriage driving gear
1/02 . Hand-operated platen presses	1/54	. . Printing-pressure control devices
1/04 . for mono-impression printing, e.g. on sheets	1/56	. . Auxiliary devices
1/06 . . with platen maintained parallel to bed during movement (preparing stereotype matrices using presses B41D 1/06)	1/58	. . . Arrangements of counting devices for counting sheets
1/08 . . on webs	1/60	. . Safety devices
1/10 . for multi-impression printing in one or more colours, e.g. on webs	1/62	. . . for preventing injury to operator
1/12 . . on sheets	1/64	 to the hands of the operator
1/14 . . . using swinging platens, or forme supports	1/66	. . . responsive to incorrect operating conditions
1/16 . for offset printing	3/00 Cylinder presses, i.e. presses essentially comprising at least one cylinder co-operating with at least one flat type-bed	
1/18 . for lithography	3/02 . with impression cylinder or cylinders rotating unidirectionally	
1/20 . for perfecting sheets, i.e. for printing on both sides of sheets	3/04 . . intermittently; Stop-cylinder presses	
1/22 . specially adapted for printing heads, e.g. letter heads	3/06 . . continuously	
1/24 . specially adapted for proof printing	3/08 . . . Single-revolution presses	
1/26 . Details	3/10 . . . Two-revolution presses	
1/28 . . Sheet-conveying, -aligning or -clamping devices (in general B65H)	3/12 . . Twin presses, i.e. with more than one cylinder or type-bed	
1/30 . . . using rotary grippers	3/14 . with impression cylinder or cylinders rotating in opposite directions during each working cycle	
1/32 . . . using air pressure, e.g. vacuum	3/16 . . Twin presses, i.e. with more than one cylinder or type-bed	
1/34 . . . Registering devices, e.g. gauges	3/18 . of special construction or for particular purposes	
1/36 . . . Clamps for conveying sheets and for holding same on the platens	3/20 . . with fixed type-beds and travelling impression cylinders	
1/38 . . Platens or type-beds	3/22 . . . with more than one type-bed	
1/40 . . Inking units	3/24 . . . with cylinders travelling around type-beds having upper and lower printing surfaces	
1/42 . . . using flat inking elements, e.g. discs	3/26 . . with type-beds and impression cylinders simultaneously movable relative to one another	
1/44 . . . using inking ribbons	3/28 . . Proof-print presses for relief printing, lithography or intaglio printing, i.e. presses for checking accuracy of printing surfaces	
1/46 . . . using rollers		
1/48 . . . pivoting around the platen or base		
1/50 . . . supported on carriages for movement in or on runways		

- 3/30 . . . for lithography (proof-print presses B41F 3/28)
- 3/32 . . . Damping devices
- 3/34 . . . for offset printing
- 3/36 . . . for intaglio or heliogravure printing (proof-print presses B41F 3/28)
- 3/38 . . . Wiping mechanisms
- 3/40 . . . for perfecting sheets, i.e. for printing on both sides thereof
- 3/42 . . . for multicolour printing on sheets
- 3/44 . . . for monocolour or multicolour printing on one side of webs, or for perfecting webs, i.e. monocolour or multicolour printing on both sides of webs
- 3/46 . . Details
- 3/48 . . Press frames
- 3/51 . . Type-beds; Supports therefor (B41F 3/52 take precedence) [3]
- 3/52 . . Apparatus for cooling, heating, or drying printing surfaces [3]
- 3/54 . . Impression cylinders; Supports therefor (blankets or like coverings B41N 10/00)
- 3/56 . . . Devices for adjusting cylinders relative to type-beds and setting in adjusted position
- 3/58 . . Driving, synchronising, or control gear
- 3/60 . . . for type-beds
- 3/62 Applications of linkwork or gearing for producing reciprocatory or angular motion
- 3/64 of crank motions
- 3/66 of rack-and-pinion gearing
- 3/68 with pinion rotating unidirectionally
- 3/70 Applications of directly-coupled motors
- 3/72 of fluid motors
- 3/74 Applications of clutches
- 3/76 Applications of braking devices or of devices for stopping type-bed in registered position
- 3/78 Air cushions
- 3/80 . . . for impression cylinders
- 3/81 . . Inking units [3]
- 3/82 . Auxiliary devices
- 3/84 . . Arrangements of counting devices (in printing machines in general B41F 33/02) [2]
- 3/86 . . Numbering devices

Rotary machines

5/00 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]

7/00 Rotary lithographic machines

- 7/02 . . for offset printing
- 7/04 . . . using printing units incorporating one forme cylinder, one transfer cylinder, and one impression cylinder, e.g. for printing on webs
- 7/06 . . . for printing on sheets
- 7/08 . . . 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
- 7/10 . . . using one impression cylinder co-operating with several transfer cylinders for printing on sheets or webs, e.g. satellite-printing units
- 7/12 . . . using two cylinders one of which serves two functions, e.g. as a transfer and impression cylinder in perfecting machines
- 7/14 . . . with two or more impression cylinders coacting with a single transfer 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)

9/00 Rotary intaglio printing presses

- 9/01 . . 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

11/00 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

- 11/02 . . for securities (security printing B41M 3/14) [3]

13/00 Common details of rotary presses or machines

- 13/004 . Electric or hydraulic features of drives [6]
- 13/008 . 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
- 13/11 Gravure cylinders [6]
- 13/12 Registering devices
- 13/14 with means for displacing the cylinders
- 13/16 with means for displacing the printing formes 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
- 13/21 Bearer rings [6]
- 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)
- 13/50 by effecting relative movement of forme and impression cylinders during printing cycle
- 13/52 by projecting and retracting parts of the surface of the forme cylinder
- 13/54 Auxiliary folding, cutting, collecting, or depositing of sheets or webs (in general B26D, B65H; gathering sheets or signatures in bookbinding B42C 1/00)
- 13/56 Folding or cutting
- 13/58 lengthwise
- 13/60 crosswise
- 13/62 Folding-cylinders or drums
- 13/64 Collecting
- 13/66 and stapling
- 13/68 Adding inserts
- 13/70 Depositing
- 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 manifold sets
- 17/04 for printing calendars
- 17/06 for printing on rolls of material, the roll serving as impression cylinder, e.g. strip printers
- 17/08 for printing on filamentary or elongated articles, or on articles with cylindrical surfaces
- 17/10 on articles of indefinite length, e.g. wires, hoses, tubes, yarns
- 17/12 at an angle to axis
- 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

- 19/00 Apparatus or machines for carrying out printing operations combined with other operations** (auxiliary perforating apparatus associated with printing devices B41G 7/00; 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 formes 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 smudging 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 formes 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 formes to flat type-beds
- 27/10 . for attaching non-deformable curved printing formes to forme cylinders
- 27/12 . for attaching flexible printing formes
- 27/14 . for attaching printing formes 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 therefor [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
- 31/13 . . Means for driving fountain rollers [6]
- 31/14 . . Applications of messenger or other moving transfer rollers
- 31/15 . Devices for moving vibrator-rollers [6]
- 31/16 . Continuous, e.g. endless, band apparatus
- 31/18 . for inking selected parts of printing formes
- 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 repellent 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 therefor
- 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