B41F

PRINTING MACHINES OR PRESSES (manifolding devices or office printing machines B41L)

NOTE
Attention is drawn to Notes 1 and 2 following the title of subclass B41L.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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
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 [(pad printing B41F 17/001)]
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
1/265 . {Conveying webs (in general B65H)}
1/28 . Sheet-conveying, -aligning or -clamping devices
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 [(clamps in manifolding devices B41L 3/02)]
1/38 . Platens or type-beds
1/40 . Inking units [(for pad printing B41F 17/001)]
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
1/52 . Carriage driving gear
1/54 . Printing-pressure control devices
1/56 . Auxiliary devices
1/565 . {Numbering devices (stamping numbering devices B41K)}
1/58 . . . Arrangements of counting devices for counting sheets
1/60 . . . Safety devices
1/62 . . . for preventing injury to operator
1/64 . . . to the hands of the operator
1/66 . . . responsive to incorrect operating conditions
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
3/30 . Proo-print presses for relief printing, lithography or intaglio printing, i.e. presses for checking accuracy of printing surfaces
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
Rotary machines

5/00 Rotary letterpress machines ([office printing machines B41L 15/00])
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
5/24 . . for flexographic printing

7/00 Rotary lithographic machines ([such office printing machines B41L 7/00])
7/02 . . for offset printing
7/025 . . [Multicolour printing or perfecting on sheets or on one or more webs, in one printing unit]
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
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
7/265 . . . . [for damping from the inside of the cylinders]
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
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)
Common details of rotary presses or machines carrying a plurality of printing surfaces, or for performing letterpress, lithographic, or intaglio processes selectively or in combination

11/00

11/02

for securities (security printing B41M 3/14)

13/00

13/008

[Driving devices (B41F 13/004 and B41F 13/008 take precedence)]

13/0016

[Storage devices for printing cylinders]

13/0024

[Frames]

13/0032

[Auxiliary numbering devices]

13/004

Electric or hydraulic features of drives

13/0045

[Electric driving devices]

13/008

Mechanical features of drives, e.g. gears, clutches

13/012

Taking-up backlash [(devices for taking-up backlash in general F16H 55/00, e.g. F16H 55/18)]

13/016

Brakes

13/02

Conveying or guiding webs through presses or machines

13/025

[Registering devices]

13/03

Threading webs into printing machines

13/04

intermittently

13/06

Turning-bar arrangements

13/08

Cylinders

13/085

(with means for preventing or damping vibrations or shocks)

13/10

Forme cylinders

13/11

Gravure cylinders [(attaching cylindrical forms B41F 27/105)]

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

13/193

Transfer cylinders; Offset cylinders [(attaching blankets B41F 30/04)]

13/20

Supports for bearings or supports for forme, offset, or impression cylinders

13/21

Bearer rings

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

13/56

Folding or cutting

13/58

lengthwise

13/60

crosswise

13/62

Folding-cylinders or drums

13/64

Collecting (gathering sheets or signatures in bookbinding B42C 1/00)

13/66

and stapling

13/68

Adding inserts

13/70

Depositing

13/705

[Interleaving slip sheets]

15/00

Screen printers

15/02

Manually-operable devices

15/04

for multicolour printing

15/06

with auxiliary equipment, e.g. for drying printed articles

15/08

Machines

15/0804

[for printing sheets]

15/0809

(with cylindrical or belt-like screens)

15/0813

(with flat screens)

15/0818

(with a stationary screen and a moving squeegee)

15/0822

(on a stack of sheets)

15/0827

(with a stationary squeegee and a moving screen)

15/0831

[for printing webs]

15/0836

(by means of cylindrical screens or screens in the form of endless belts)

15/084

(simultaneously printing on two sides)

15/0845

(with flat screens)

15/085

(with a stationary screen and a moving squeegee)

15/0854

(with a stationary squeegee and a moving screen)

15/0859

(movable on a long printing table)
Transfer printing apparatus

16/0006 . . . (for printing from an inked or preprinted foil or band)
16/0013 . . . {combined with other printing presses}
16/002 . . . {Presses of the rotary type}
16/0026 . . . {with means for applying print under heat and pressure, e.g. using heat activable adhesive}
16/0033 . . . {with means for applying print under pressure only, e.g. using pressure sensitive adhesive}
16/004 . . . {Presses of the reciprocating type}
16/0046 . . . {with means for applying print under heat and pressure, e.g. using heat activable adhesive}
16/0053 . . . {with means for applying print under pressure only, e.g. using pressure sensitive adhesive}
16/006 . . . {Arrangements for moving, supporting or positioning the printing foil or band}
16/0066 . . . {Printing dies or forms}
16/0073 . . . {with means for printing on specific materials or products}
16/008 . . . . . . {for printing on three-dimensional articles}
16/0086 . . . . . . {for printing on articles with cylindrical surfaces}
16/0093 . . . {Attachments or auxiliary devices}
16/02 . . . for textile material

17/000 Printing apparatus or machines of special types or for particular purposes, not otherwise provided for

17/001 . . . {Pad printing apparatus or machines}
17/002 . . . {Supports of workpieces in machines for printing on hollow articles}
17/003 . . . {Special types of machines for printing textiles (using the screen printing process B41F 15/00; printing on knitted fabrics B41F 17/38)}
17/005 . . . {Supports for workpieces; Devices for securing the workpieces to the supports}
17/006 . . . {for printing on curved surfaces not otherwise provided for}
17/007 . . . {Use of printing belts}
17/008 . . . {Numbering devices for printing on articles other than sheets or webs}
17/009 . . . for printing books or manifolding sets
17/010 . . . for printing calendars
17/008 . . . 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
17/13 . . . for printing on rolls of material, the roll serving as impression cylinder, e.g. strip printers
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 spherical, or part-spherical, articles
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

19/001 . . . {with means for coating or laminating}
19/002 . . . {with means for applying specific material other than ink}
19/004 . . . {with means for applying adhesive}
19/005 . . . {with means for applying metallic, conductive or chargeable material}
19/007 . . . {with selective printing mechanisms, e.g. ink-jet or thermal printers}
19/008 . . . {with means for stamping or cutting out}
19/009 . . . with embossing
19/004 . . . using intaglio printing forms and wipers
19/006 . . . 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"
19/062 . . . {Presses of the rotary type}
19/064 . . . {Presses of the reciprocating type}
19/066 . . . . . . [hand-driven]
19/068 . . . . . . [motor-driven]
Common details of printing machinery

21/00  Devices for conveying sheets through printing apparatus or machines (through platen presses B41F 3/81)

21/005  [Electrostatic holding down devices]

21/02  Pins (B41F 21/12, B41F 21/14 takes precedence)

21/04  Grippers (B41F 21/08, B41F 21/10, B41F 21/12, B41F 21/14 takes precedence)

21/05  . . In-feed grippers (B41F 21/06 takes precedence)

21/06  . . Suction-operated grippers

21/08  . . Combinations of endless conveyors and grippers

21/10  . . Combinations of transfer drums and grippers

21/102  . . (with pneumatic means (B41F 21/108 takes precedence))

21/104  . . (Gripper details (B41F 21/102 takes precedence))

21/106  . . (for reversing sheets, e.g. for perfecting machine)

21/108  . . (with pneumatic means)

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

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

22/00  Means preventing smudging of machine parts or printed articles (B41F 23/00 takes precedence)

22/005  . . (using a back grey cloth)

23/00  Devices for treating the surfaces of sheets, webs, or other articles in connection with printing

23/002  . . (cleaning devices for sheets or webs)

23/005  . . (of non-flat articles)

23/007  . . (with heat treatment before printing)

23/02  . by dampening (in rotary lithographic machines B41F 7/24 (: B41F 23/005 takes precedence))

23/04  . by heat drying, by cooling, by applying powders (B41F 23/005 takes precedence)

23/0403  . . (Drying webs (B41F 23/0486 takes precedence))

23/0406  . . (by radiation (B41F 23/0436 takes precedence))

23/0409  . . . . [Ultra-violet dryers]

23/0413  . . . . [Infra-red dryers]

23/0416  . . . . (by conduction (B41F 23/0436 takes precedence))

23/042  . . . . [using heated rolls]

23/0423  . . . . [by convection (B41F 23/0436 takes precedence)]

23/0426  . . . . [using heated air]

23/043  . . . . [using gas or fuel burners]

23/0433  . . . . [using steam]

23/0436  . . . . [using a combination of radiation, conduction or convection]

23/044  . . . . (Drying sheets, e.g. between two printing stations (B41F 23/0486 takes precedence))

23/0443  . . . . [after printing]

23/0446  . . . . [Wicket conveyors]

23/045  . . . . [by radiation]

23/0453  . . . . [by ultra-violet dryers]

23/0456  . . . . [by infrared dryers]

23/0459  . . . . [by conduction, e.g. using heated rolls]

23/0463  . . . . [by convection]

23/0466  . . . . [by using heated air]

23/0469  . . . . [by using gas or fuel burners]

23/0473  . . . . [by using steam]

23/0476  . . . . [Cooling (B41F 23/0483 takes precedence)]

23/0479  . . . . [using chill rolls]

23/0483  . . . . [Drying combined with cooling]

23/0486  . . . . [Particular types of dryers]

23/0489  . . . . [Vacuum dryers]

23/0493  . . . . [Microwave dryers]

23/0496  . . . . [Proof dryers]

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

23/065  . . . . [for thermography]

23/08  . . Print finishing devices, e.g. for glossing prints (B41F 23/005 takes precedence)

25/00  Devices for presssing sheets or webs against cylinders, e.g. for smoothing purposes

27/00  Devices for attaching printing elements or formes to supports (attaching by chemical means B41N 6/00)

27/005  . . [Attaching and registering printing formes to supports]

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

27/105  . . . [for attaching cylindrical printing formes]

27/12  . . . for attaching flexible printing formes

27/1206  . . . [Feeding to or removing from the forme cylinder]

27/1212  . . . [using pneumatic force]

27/1218  . . . [comprising printing plate tensioning devices]

27/1225  . . . . (moving in the printing plate end substantially rectilinearly)

27/1231  . . . . (by translatory motion substantially tangential to support surface)

27/1237  . . . . (by translatory motion substantially perpendicular to support surface)

27/1243  . . . . (by pivotal or swivelling motion, e.g. by means of a rocking lever)

27/125  . . . . (moving in the printing plate end on a curvilinear path, e.g. by winding on a roll)

27/1256  . . . . (with two semi-cylinders movable relative to each other)

27/1262  . . . . (without tensioning means)

27/1268  . . . . (by self-locking or snap-on means)

27/1275  . . . . (by means of adhesives, staples)

27/1281  . . . . (details of the printing plate ends)

27/1287  . . . . (devices for bending the printing plates or the printing plate ends)

27/1293  . . . [Devices for filling up the cylinder gap; Devices for removing the filler]

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)

30/02  . . attaching to impression cylinders

30/04  . . attaching to transfer cylinders

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

31/00  Inking arrangements or devices (inking units for platen presses B41F 1/40; inking units for cylinder presses B41F 3/81)
Common details of printing machinery

31/001 . [Ink mist preventing means]
31/002 . [Heating or cooling of ink or ink rollers]
31/004 . [Driving means for ink rollers]
31/005 . [Ink viscosity control means]
31/007 . [Removing water from ink trains]
31/008 . [Inking devices for reversible printing presses]
31/02 . Ducts, containers, supply or metering devices
31/022 . . [Ink level control devices]
31/025 . . [Ducts formed between two rollers]
31/027 . . [Ink rail devices for inking ink rollers]
31/03 . . Ink agitators
31/04 . . with duct-blades or like metering devices
31/045 . . . [Remote control of the duct keys]
31/05 . . . Positioning devices therefor
31/06 . . . Troughs or like reservoirs with immersed or partly immersed, rollers or cylinders
31/07 . . . for rotogravure
31/08 . . . with ink ejecting means, e.g. pumps, nozzles
31/10 . . Applications of feed or duct rollers (message or moving transfer rollers B41F 31/14)
31/12 . . . adjustable for regulating supply
31/13 . . Means for driving fountain rollers (B41F 13/12 takes precedence)
31/14 . . Applications of messenger or other moving transfer rollers
31/15 . Devices for moving vibrator-rollers
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
31/30 . Arrangements for tripping, lifting, adjusting, or removing inking rollers; Supports, bearings, or forks therefor
31/301 . . . [Devices for tripping and adjusting form rollers]
31/302 . . . [Devices for tripping inking devices as a whole]
31/304 . . . [Arrangements for inking roller bearings, forks or supports (B41F 31/301 takes precedence)]
31/305 . . . [Eccentric bearings]
31/307 . . . [Sliding bearings]
31/308 . . . [Swinging bearings]
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) (. B41F 1/58; arrangements of counting devices) in cylinder presses B41F 3/84; ink supply or metering devices B41F 31/02)
33/0009 . . [Central control units]
33/0018 . . [Protection means against injury to the operator]
33/0027 . . [Devices for scanning originals, printing formes or the like for determining or presetting the ink supply]
33/0036 . . [Devices for scanning or checking the printed matter for quality control]

33/0045 . . . [for automatically regulating the ink supply]
33/0054 . . [Devices for controlling dampening]
33/0063 . . [Devices for measuring the thickness of liquid films on rollers or cylinders]
33/0072 . . [Devices for measuring the pressure between cylinders or bearer rings]
33/0081 . . [Devices for scanning register marks]
33/009 . . [Devices for controlling numbering]
33/02 . Arrangements of indicating devices, e.g. counters
33/025 . . . [Counters]
33/04 . Tripping devices or stop-motions (tripping devices for doctor blades B41F 9/1027); cylinder-tripping devices of rotary presses or machines B41F 13/24; arrangements for tripping inking rollers B41F 31/30)
33/045 . . . [for starting or stopping operation of numbering devices]
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 dampening 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)
35/00 Cleaning arrangements or devices ([in manifolding apparatus or the like B41L 41/00])
35/001 . . [Devices for cleaning parts removed from the printing machines (B41F 35/003 takes precedence)]
35/002 . . [for dampening rollers]
35/003 . . . [for screen printers or parts thereof]
35/004 . . . [for cylindrical screens]
35/005 . . . [for flat screens]
35/006 . . . [for impression cylinders]
35/007 . . . [for supports of workpieces]
35/008 . . . [for doctor blades]
35/002 . . . for forme cylinders
35/004 . . . for inking rollers
35/006 . . . for offset cylinders