

## SECTION B — PERFORMING OPERATIONS; TRANSPORTING

### B41 PRINTING; LINING MACHINES; TYPEWRITERS; STAMPS

**B41L APPARATUS OR DEVICES FOR MANIFOLDING, DUPLICATING, OR PRINTING FOR OFFICE OR OTHER COMMERCIAL PURPOSES; ADDRESSING MACHINES OR LIKE SERIES-PRINTING MACHINES** (printing presses or machines for industrial purposes B41F; stamps, stamping or numbering devices B41K)

#### Note(s)

1. This subclass does not cover constituent parts common to manifolding by means of pressure-sensitive layers or intermediaries, to apparatus or machines for duplicating or printing for office or other commercial purposes, or to addressing machines or like series-printing machines, which are covered by subclass B41F.
2. In this subclass, as indicated by the references, groups B41L 15/00 and B41L 17/00 are intended to cover letterpress and lithographic printing apparatus only in so far as it is specially adapted for office or other commercial purposes; the general constructions or features of apparatus of these types are classified in subclass B41F. Constructions or features determining classification in these groups are, for example: ease of operation by clerical staff, cleanliness of operation in non-industrial environments, the use of printing surfaces constructed for the production of a limited number of copies.
3. In this subclass, the following terms are used with the meanings indicated:
  - "manifolding" means the obtaining of several copies simultaneously by means of pressure-sensitive layers when making an original;
  - "duplicating" means the obtaining of successive copies from a master, e.g. a hectographic image;
  - "stencilling" involves the use of a printing surface which is perforated to form the image, the ink flowing through the perforations on the copy material.

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#### Manifolding by means of pressure-sensitive layers or intermediaries

<b>1/00</b>	<b>Devices for performing operations in connection with manifolding by means of pressure-sensitive layers or intermediaries, e.g. carbons; Accessories for manifolding purposes</b>	1/06	• • on single form sets
		1/08	• • on continuous manifold assemblies
		1/10	• • • Separate folding or disposition of single webs
		1/12	• • • Severing webs to obtain single sheets or forms, e.g. by cutting, by bursting
		1/14	• • • Severing edge perforations from webs
1/02	• Devices for preparatory operations, e.g. for bringing together sheets or webs and interposed carbons; Devices combined with devices for printing, for coating with carbon, for folding	1/16	• Carriers or supply devices for pressure-sensitive material, e.g. for carbon sheets; Carbon gloves
		1/18	• • for carbon webs; Continuous carbon-supply mechanisms
1/04	• Devices for performing operations subsequent to manifolding, e.g. for separating single sheets or webs from single form sets, continuous manifold assemblies from carbons	1/20	• Manifolding assemblies, e.g. book-like assemblies
		1/22	• • made up of single sheets or forms
		1/24	• • • Pads or books
		1/26	• • Continuous assemblies made up of webs

## B41L

- 1/28 • • • in rolled or wound form
- 1/30 • • • folded longitudinally
- 1/32 • • • folded transversely
- 1/34 • • for making masters for hectographic duplicators
- 1/36 • • with pressure-sensitive layers or coating other than carbon (sheet materials B41M 5/00)

### 3/00 **Platens or like sheet supports for manifolding using pressure-sensitive layers or intermediaries, e.g. for book-keeping purposes**

- 3/02 • with stationary clamping means for holding the manifolding assembly in registered position, e.g. resilient clamps for holding non-perforated sheets
- 3/04 • • Bars provided with pins engaging perforations in the elements
- 3/06 • with movable clamping or guiding means for the elements of the manifolding assembly
- 3/08 • with non-mechanical means for holding the elements in registered position, e.g. magnetic means
- 3/10 • with means for moving assembled elements step by step relative to platen or support, e.g. for column or line selection; Means for locating assembled elements when stationary
- 3/12 • Auxiliary devices
- 3/14 • • Magazines or storage compartments, e.g. for slips
- 3/16 • • Web-feeding arrangements
- 3/18 • • Displaceable covers, e.g. with windows
- 3/20 • • for facilitating manifolding in books
- 3/22 • • Applications of ink ribbons; Holding, feeding, or guiding means therefor

### 5/00 **Autographic registers or like apparatus for manifolding by means of pressure-sensitive layers, using movable strips or webs (movable-strip writing or reading apparatus B42D 19/00)**

- 5/02 • with means for limiting movements of webs fed by hand
- 5/04 • with mechanisms for feeding webs or for arranging web feed; with web-storage arrangements
- 5/06 • • by means of rollers, wheels, or chains
- 5/08 • • by reciprocating mechanisms
- 5/10 • with mechanisms for feeding the pressure-sensitive web or webs separately from the other webs, e.g. transversely
- 5/12 • with means for indicating exhaustion of web supply
- 5/14 • with auxiliary means for printing, perforating, or severing the web
- 5/16 • Accessories, e.g. drawers for storing forms, for money (cash registers G07G)

### Apparatus or machines for duplicating or printing for office or other commercial purposes

#### 7/00 **Apparatus for directly duplicating from hectographic originals, i.e. for obtaining copies in mirror image**

- 7/02 • by passing original and copy-sheet or -web between rollers
- 7/04 • • with means for guiding original or copy-sheet or -web
- 7/06 • • with means for severing copy-sheet or -web
- 7/08 • • with means for moistening or drying

#### 9/00 **Apparatus for indirectly duplicating from hectographic originals by means of hectographic intermediaries or transfer surfaces, i.e. "dry duplicators"**

- 9/02 • Containers for clay or gelatin
- 9/04 • with flat supports over which gelatin-paper is stretched
- 9/06 • • and with carriages for feeding the sheets
- 9/08 • • and with devices for rolling-in and securing hectographic gelatin-paper webs
- 9/10 • with rotary cylinders carrying sheets of hectographic gelatin-paper

#### 11/00 **Apparatus for directly duplicating from hectographic masters in mirror image, i.e. "wet duplicators" for producing positive copies**

- 11/02 • with a flat support carrying the masters
- 11/04 • • and with carriages for feeding the sheets
- 11/06 • • for stack duplicating with pressure rollers
- 11/08 • with rotary cylinders carrying the masters
- 11/10 • with two rollers between which master is stretched
- 11/12 • Driving gear; Control thereof
- 11/14 • Constructional features of masters (chemical aspects B41M)

#### 13/00 **Stencilling apparatus for office or other commercial use (screen printing B41F 15/00; stencils, stencil materials, carriers therefor B41N 1/24)**

- 13/02 • with flat stencil carriers
- 13/04 • with curved or rotary stencil carriers
- 13/06 • • with a single cylinder carrying the stencil
- 13/08 • • with stencil carried by two or more cylinders, e.g. through the intermediary of endless bands
- 13/10 • • • Clips or clamps for securing stencils to stencil carriers
- 13/12 • for special purposes, e.g. for reproducing Braille characters
- 13/14 • Attachments, e.g. for punching, cutting, severing
- 13/16 • Driving gear; Control thereof
- 13/18 • Inking units [3]

#### 15/00 **Letterpress printing apparatus specially adapted for office or other commercial purposes (in general B41F; printing plates or foils, materials therefor B41N 1/00)**

- 15/02 • with flat printing surfaces, e.g. with flat type-beds, surfaces made of thin sheet material or moulded from plastics or rubber
- 15/04 • • of composed type locked in chases
- 15/06 • with curved printing surfaces, e.g. cylinders
- 15/08 • • with stereotypes
- 15/10 • for multicolour printing; for perfecting
- 15/12 • Driving gear; Control thereof
- 15/14 • Attachments, e.g. for punching, cutting, severing

#### 17/00 **Lithographic printing apparatus for office or other commercial purposes (in general B41F; printing plates or foils, materials therefor B41N 1/00)**

- 17/02 • for direct impression printing
- 17/04 • • with flat printing surfaces
- 17/06 • • with curved printing surfaces, e.g. cylinders
- 17/08 • for offset printing
- 17/10 • • with flat printing surfaces, e.g. co-operating with travelling offset cylinders
- 17/12 • • with curved printing surfaces, e.g. forme cylinders
- 17/14 • of two-cylinder type, e.g. co-operating forme and impression cylinders
- 17/16 • of three-cylinder type
- 17/18 • for multicolour printing, e.g. tandem machines; for perfecting

- 17/20 • without damping means, e.g. using heat-activatable inks, refrigerated printing surfaces
- 17/22 • Driving gear; Control thereof
- 17/24 • Attachments, e.g. for punching, cutting, severing
- 19/00 Duplicating or printing apparatus or machines for office or other commercial purposes, of special types or for particular purposes and not otherwise provided for** (addressing machines B41L 45/00)
- 19/02 • having forme cylinders carrying a plurality of printing surfaces, or for performing letterpress and lithographic processes selectively or in combination (in general B41F 11/00)
- 19/04 • for printing from selected parts of one or more printing surfaces in one cycle, e.g. line printing (by inking selected areas B41L 27/20)
- 19/06 • • with co-operating forme and impression cylinders
- 19/08 • • • by effecting relative movement of forme and impression cylinders during printing cycle
- 19/10 • • • by projecting and retracting parts of the surfaces of the forme cylinders
- 19/12 • • • by masking parts of the printing surfaces on the forme cylinders
- 19/14 • • • by selective damping of the copy material
- 19/16 • • • by selective tripping of impression cylinders
- Common details of, or accessories for, apparatus or machines for manifolding, duplicating, or printing for office or other commercial purposes**
- 21/00 Devices for conveying sheets or webs of copy material through apparatus or machines for manifolding, duplicating, or printing** (mechanisms for conveying copy material through addressing machines or like series-printing machines B41L 47/24)
- 21/02 • for conveying sheets
- 21/04 • • Pins
- 21/06 • • Grippers
- 21/08 • • • Suction-operated grippers
- 21/10 • • Combinations of endless conveyers and grippers
- 21/12 • for conveying webs
- 23/00 Devices for treating the surface of sheets, webs, or other articles in connection with printing** (cleaning in general B08B, of metals C23G; as a final step in the manufacture of such articles, see the relevant places, e.g. B29C 71/00, D21H 23/00 or D21H 25/00; after-treatment of prints B41M 7/00)
- 23/02 • by damping, e.g. by moistening copy-sheets in connection with hectographic printing
- 23/04 • • using friction rollers
- 23/06 • • using brushes
- 23/08 • • using spray elements
- 23/10 • • using endless bands
- 23/12 • • using absorbent pads
- 23/14 • • Ducts, containers, or like supply devices for liquids
- 23/16 • • Devices for tripping or lifting damping rollers; Supporting, adjusting, or removing arrangements therefor
- 23/18 • • Construction of damping rollers
- 23/20 • by heat drying, by cooling, by applying powders
- 23/22 • • Powdering devices, e.g. for preventing set-off
- 23/24 • Print-finishing devices, e.g. for glossing prints
- 25/00 Devices for damping printing surfaces, e.g. moistening printing surfaces in connection with lithographic printing** (applying liquids or other fluent materials to surfaces, in general B05)
- 25/02 • using friction rollers
- 25/04 • using brushes
- 25/06 • using spraying elements
- 25/08 • using endless bands
- 25/10 • using absorbent pads
- 25/12 • Ducts, containers, or like supply devices for liquids
- 25/14 • Inking rollers serving also to apply ink repellent
- 25/16 • Devices for tripping or lifting damping rollers; Supporting, adjusting, or removing arrangements therefor
- 25/18 • Construction of damping rollers
- 27/00 Inking arrangements or devices** (inking units for stencilling apparatus B41L 13/18; applying liquids or other fluent materials to surfaces, in general B05) [3]
- 27/02 • adapted for inking by hand
- 27/04 • Ducts, containers, supply devices or ink-level control devices (level control in general G05D 9/00) [3]
- 27/06 • • Duct-blades or like supply devices
- 27/08 • • Troughs or like reservoirs with immersed, or partly immersed, rollers
- 27/10 • • with ink-ejection means, e.g. pumps, nozzles
- 27/12 • • Feed or duct rollers (messenger or moving transfer rollers B41L 27/16)
- 27/14 • • • adjustable for regulating supply
- 27/16 • • Messenger or other moving transfer rollers
- 27/18 • Continuous, e.g. endless-band, apparatus
- 27/20 • for inking selected parts of printing formes
- 27/22 • Ink-removing or collecting devices
- 27/24 • for inking from interior of cylinder
- 27/26 • Absorbent pads
- 27/28 • Construction of inking rollers
- 27/30 • Spray apparatus, e.g. containing brushes
- 27/32 • Arrangements for tripping, lifting, adjusting, or removing inking rollers; Supports, bearings, or forks therefor
- 27/34 • • Lifting or adjusting devices
- 27/36 • • • Cams, eccentrics, wedges, or the like devices
- 27/38 • • • fluid-pressure operated
- 27/40 • • • magnetically operated
- 29/00 Devices for attaching printing elements or formes to supports**
- 29/02 • magnetic
- 29/04 • for attaching printing elements to flat type-beds
- 29/06 • for attaching printing elements to forme cylinders
- 29/08 • for attaching printing formes to flat type-beds
- 29/10 • for attaching non-deformable curved printing formes to forme cylinders
- 29/12 • for attaching flexible printing formes
- 29/14 • • Clamping devices
- 29/16 • • • operating automatically during operation of rotary machines to attach the printing formes to the forme cylinders
- 29/18 • • • • electromagnetic, pneumatic, or hydraulic
- 29/20 • • • for adjusting position of leading edges of flexible printing formes circumferentially of forme cylinders
- 29/22 • for attaching printing formes to intermediate supports, e.g. adapter members

- 31/00** Devices for removing flexible printing formes from forme cylinders
- 33/00** Pressing flexible printing formes or sheets or webs of copy material against cylinders, e.g. for smoothing purposes
- 35/00** Cylinders for apparatus or machines for manifolding, duplicating, or printing for office or other commercial purposes
- 35/02 • Forme cylinders
  - 35/04 • • Registering devices
  - 35/06 • • • with means for displacing the cylinders
  - 35/08 • • • with means for displacing the printing formes on the cylinders
  - 35/10 • Impression cylinders
  - 35/12 • Bearings or supports for forme, offset or transfer, or impression cylinders
  - 35/14 • Means for heating or cooling forme or impression cylinders
  - 35/16 • Cylinder-tripping devices; Cylinder-impression adjustments
  - 35/18 • • Arrangements or dispositions of cylinder bearings, forks, or supports
  - 35/20 • • • Eccentric bearings
  - 35/22 • • • Sliding bearings
  - 35/24 • • • Swinging bearings
  - 35/26 • • Cylinder-lifting or adjusting devices
  - 35/28 • • • Cams, eccentrics, wedges, or the like
  - 35/30 • • • electrically or magnetically operated
  - 35/32 • • • fluid-pressure operated
  - 35/34 • Guards or covers, e.g. for safety purposes, for preventing egress or ingress of foreign matter
- 38/00** 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]
- 38/02 • attaching to impression cylinders [5]
  - 38/04 • attaching of endless or like continuously-fed coverings [5]
- 39/00** Indicating, counting, warning, control or safety devices (ink-level control devices B41L 27/04; such devices in general, see the relevant subclasses, e.g. counting in general G06M) [3]
- 39/02 • Indicating devices, e.g. counters
  - 39/04 • Tripping devices or stop-motions
  - 39/06 • • for starting or stopping operation of sheet or web feed
  - 39/08 • • for starting or stopping operation of cylinders
  - 39/10 • • for starting or stopping operation of damping or inking units
  - 39/12 • • for starting or stopping the machines as a whole
  - 39/14 • • Automatic control of tripping devices by feelers, photoelectric devices, pneumatic devices, or other detectors
  - 39/16 • Programming systems for automatic control of sequence of operations
- 41/00** Cleaning arrangements or devices
- 41/02 • for forme cylinders
  - 41/04 • for inking rollers
  - 41/06 • for offset cylinders
- 43/00** Auxiliary folding, collecting, or depositing of sheets or webs

- 43/02 • Folding
- 43/04 • • lengthwise
- 43/06 • • crosswise
- 43/08 • • Folding-cylinders or -drums
- 43/10 • Collecting
- 43/12 • • and stapling
- 43/14 • Adding inserts
- 43/16 • Depositing

#### Addressing machines or like series-printing machines

- 45/00** Kinds or types of addressing machines or of like series-printing machines
- 45/02 • using printing plates
  - 45/04 • • composed on type-setting machines
  - 45/06 • • for addressing combined with other operations, e.g. franking, collating documents
  - 45/08 • with printing surfaces in the form of belts, or carried by chains
  - 45/10 • • for addressing combined with other operations, e.g. franking, collating documents
  - 45/12 • with separate devices for printing additional texts or images, e.g. for printing receipts on blank sheets or webs
- 47/00** Details of addressing machines or like series-printing machines (common details of printing machines B41F 21/00-B41F 35/00)
- 47/02 • Applications of printing surfaces in addressing machines or like series-printing machines (printing surfaces in general B41N)
  - 47/04 • • of flat or curved plates for relief printing
  - 47/06 • • of flat or curved stencils
  - 47/08 • • of flat or curved plates for hectographic printing
  - 47/10 • • of printing surfaces in the form of belts or chains
  - 47/12 • Auxiliary devices, e.g. for flattening plates, for assembling plates in predetermined order, for wetting stencils
  - 47/14 • Devices or arrangements for storing or handling plates
  - 47/16 • • Magazines
  - 47/18 • • Devices for feeding the plates in their plane
  - 47/20 • • Devices for feeding the plates otherwise than in their plane, e.g. transversely thereto
  - 47/22 • • with means for presenting plates for repeated printing operations
  - 47/24 • Mechanisms for conveying copy material through addressing machines or like series-printing machines (in general B65H)
  - 47/26 • • for conveying or positioning single sheet-like articles, e.g. envelopes
  - 47/28 • • with gauging-rulers or the like, e.g. for facilitating hand-printing of copy material fed from stacks
  - 47/30 • • for conveying webs
  - 47/32 • • • combined with devices for other purposes, e.g. for cutting, severing, gluing
  - 47/34 • • • specially adapted for conveying chains of forms
  - 47/36 • • for conveying sheets or webs for tabulating purposes; Tabulating mechanisms combined with sheet or web conveyers
  - 47/38 • • • with clamping means for head or margin
  - 47/40 • • • with means for automatically reciprocating sheet or web transversely to enable addresses to be printed in columns side by side
  - 47/42 • Printing mechanisms

- 47/44 • • using flat platens
- 47/46 • • using line-contact members, e.g. rollers, cylinders
- 47/48 • • with inking or ink-ribbon devices
- 47/50 • • using multiple impression-members or -surfaces, e.g. for printing series of addresses with standing context, for printing from selected parts of printing surfaces (applications of counting, numbering, or dating apparatus B41L 49/02)
- 47/52 • • with movable counter-pressure plates for printing from selected areas of printing surfaces
- 47/54 • • with means for automatically reciprocating printing plate transversely to enable addresses to be printed in columns side by side
- 47/56 • Indicating, warning, control or safety devices (B41L 47/58 takes precedence)
- 47/58 • Arrangements or devices for selecting, or for facilitating selection of, text or image to be printed
- 47/60 • • Markings applied to printing plates, e.g. code marks, colours, clips, perforations, edge notches, projections
- 47/62 • • Selecting devices, e.g. cams, windows, position indicators
- 47/64 • • • Automatic selecting devices with or without overriding manual control, e.g. with scanning-fingers, with presetting controls operable by push-buttons, with programme control by punched tapes
- 49/00 Accessories or attachments for addressing machines or like series-printing machines**
- 49/02 • Counting, numbering, or dating devices
- 49/04 • Devices for applying selection markings to printing plates