

## 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

- 1/00 Devices for performing operations in connection with manifolding by means of pressure-sensitive layers or intermediaries, e.g. carbons; Accessories for manifolding purposes**
- 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
- 1/04 • Devices for performing operations subsequent to manifolding, e.g. for separating single sheets or webs from single form sets, continuous manifold assemblies from carbons

- 1/06 • • 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
- 1/16 • Carriers or supply devices for pressure-sensitive material, e.g. for carbon sheets; Carbon gloves
- 1/18 • • for carbon webs; Continuous carbon-supply mechanisms
- 1/20 • 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

- 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	25/00	<b>Devices for damping printing surfaces, e.g. moistening printing surfaces in connection with lithographic printing</b> (applying liquids or other fluent materials to surfaces, in general B05)
17/22	• Driving gear; Control thereof	25/02	• using friction rollers
17/24	• Attachments, e.g. for punching, cutting, severing	25/04	• using brushes
<b>19/00</b>	<b>Duplicating or printing apparatus or machines for office or other commercial purposes, of special types or for particular purposes and not otherwise provided for</b> (addressing machines B41L 45/00)	25/06	• using spraying elements
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)	25/08	• using endless bands
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)	25/10	• using absorbent pads
19/06	• • with co-operating forme and impression cylinders	25/12	• Ducts, containers, or like supply devices for liquids
19/08	• • • by effecting relative movement of forme and impression cylinders during printing cycle	25/14	• Inking rollers serving also to apply ink repellent
19/10	• • • by projecting and retracting parts of the surfaces of the forme cylinders	25/16	• Devices for tripping or lifting damping rollers; Supporting, adjusting, or removing arrangements therefor
19/12	• • • by masking parts of the printing surfaces on the forme cylinders	25/18	• Construction of damping rollers
19/14	• • • by selective damping of the copy material	<b>27/00</b>	<b>Inking arrangements or devices</b> (inking units for stencilling apparatus B41L 13/18; applying liquids or other fluent materials to surfaces, in general B05) [3]
19/16	• • • by selective tripping of impression cylinders	27/02	• adapted for inking by hand
<b><u>Common details of, or accessories for, apparatus or machines for manifolding, duplicating, or printing for office or other commercial purposes</u></b>		27/04	• Ducts, containers, supply devices or ink-level control devices (level control in general G05D 9/00) [3]
<b>21/00</b>	<b>Devices for conveying sheets or webs of copy material through apparatus or machines for manifolding, duplicating, or printing</b> (mechanisms for conveying copy material through addressing machines or like series-printing machines B41L 47/24)	27/06	• • Duct-blades or like supply devices
21/02	• for conveying sheets	27/08	• • Troughs or like reservoirs with immersed, or partly immersed, rollers
21/04	• • Pins	27/10	• • with ink-ejection means, e.g. pumps, nozzles
21/06	• • Grippers	27/12	• • Feed or duct rollers (messenger or moving transfer rollers B41L 27/16)
21/08	• • • Suction-operated grippers	27/14	• • • adjustable for regulating supply
21/10	• • Combinations of endless conveyers and grippers	27/16	• • Messenger or other moving transfer rollers
21/12	• for conveying webs	27/18	• Continuous, e.g. endless-band, apparatus
<b>23/00</b>	<b>Devices for treating the surface of sheets, webs, or other articles in connection with printing</b> (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)	27/20	• for inking selected parts of printing formes
23/02	• by damping, e.g. by moistening copy-sheets in connection with hectographic printing	27/22	• Ink-removing or collecting devices
23/04	• • using friction rollers	27/24	• for inking from interior of cylinder
23/06	• • using brushes	27/26	• Absorbent pads
23/08	• • using spray elements	27/28	• Construction of inking rollers
23/10	• • using endless bands	27/30	• Spray apparatus, e.g. containing brushes
23/12	• • using absorbent pads	27/32	• Arrangements for tripping, lifting, adjusting, or removing inking rollers; Supports, bearings, or forks therefor
23/14	• • Ducts, containers, or like supply devices for liquids	27/34	• • Lifting or adjusting devices
23/16	• • Devices for tripping or lifting damping rollers; Supporting, adjusting, or removing arrangements therefor	27/36	• • • Cams, eccentrics, wedges, or the like devices
23/18	• • Construction of damping rollers	27/38	• • • fluid-pressure operated
23/20	• by heat drying, by cooling, by applying powders	27/40	• • • magnetically operated
23/22	• • Powdering devices, e.g. for preventing set-off	<b>29/00</b>	<b>Devices for attaching printing elements or formes to supports</b>
23/24	• Print-finishing devices, e.g. for glossing prints	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