

SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B41 PRINTING; LINING MACHINES; TYPEWRITERS; STAMPS

B41B MACHINES OR ACCESSORIES FOR MAKING, SETTING, OR DISTRIBUTING TYPE; TYPE; PHOTOGRAPHIC OR PHOTOELECTRONIC COMPOSING DEVICES (photographic devices in general G03)

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| | |
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| HAND COMPOSING..... | 1/00 |
| MECHANICAL COMPOSING | |
| Using prefabricated type; making type..... | 3/00, 5/00 |
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| PHOTOGRAPHIC COMPOSING | |
| Machines composing lines prior to photography..... | 15/00 |
| Machines without means for composing lines prior to photography..... | 17/00 |
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| PREPARATION OF RECORD CARRIERS..... | 25/00 |
| CONTROL, INDICATING, SAFETY..... | 27/00 |

1/00 Elements or appliances for hand composition; Chases, quoins, or galleys

- 1/02 • Printing letters; Type
- 1/04 • Quadrats or quads; Spaces or other justifiers
- 1/06 • for special purposes
- 1/08 • • for inserting latest news
- 1/10 • • for inserting advertisements
- 1/12 • • for setting musical notations
- 1/14 • Composing rules, e.g. of brass
- 1/16 • Reglets
- 1/18 • Chases
- 1/20 • Quoins or other binding means
- 1/22 • Composing tables; Type cases; Storage cabinets; Washing or cleaning devices therefor
- 1/24 • • Washing or cleaning devices
- 1/26 • Composing or setting sticks
- 1/28 • Galleys

- 5/10 • • for polishing or finishing type (polishing in general B24B)

- 5/12 • • for making type in the form of lines, e.g. by drawing or casting

- 5/14 • • for cutting spaces

7/00 Kinds or types of apparatus for mechanical composition in which the type is cast or moulded from matrices

- 7/02 • operating with fixed combinations of matrices (details B41B 9/00)
- 7/04 • • for casting individual characters or spaces, e.g. "monotype" machines
- 7/06 • • for composing, justifying, and casting complete lines of matrices, e.g. "monoline" machines
- 7/08 • operating with separate matrices for individual characters or spaces which are selected and assembled (details B41B 11/00)
- 7/10 • • in which a line is composed of matrices and in which single types or spaces are cast, e.g. stringer type
- 7/12 • • in which a justified line is composed of matrices and a type line is cast in one piece
- 7/14 • • • the matrices being composed by hand
- 7/16 • • • the lines of matrices being composed and justified by machine operation, e.g. "linotype", "intertype" machines
- 7/18 • • • the matrices being guided by wires, e.g. "typograph" machines

Machines or other mechanical apparatus for composing**3/00 Apparatus for mechanical composition using prefabricated type, i.e. without casting equipment**

- 3/02 • Mechanical composing machines using single types or logotypes and having slide magazines therefor, e.g. flat, cylindrical, radial, single magazines
- 3/04 • Means for distributing type
- 3/06 • Justifying means

5/00 Devices for making type or lines (for mechanical composition B41B 7/00, B41B 9/00, B41B 11/00)

- 5/02 • Matrices
- 5/04 • Casting devices
- 5/06 • • mechanically operated
- 5/08 • Tools or auxiliaries

9/00 Details of, or accessories for, machines for mechanical composition using fixed combinations of matrices from which type is cast or moulded

- 9/02 • Combinations of matrices
- 9/04 • Carriers for combinations of matrices, e.g. blocks, cylinders, wheels, bars

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- 9/06 • Mechanisms for effecting relative movements of matrix carriers and moulds for character or space selection
 - 9/08 • Moulding or casting devices
 - 9/10 • • Moulds
 - 9/12 • • Justifying devices
 - 9/14 • • Supply devices for molten metal
 - 9/16 • Devices for handling type after casting
 - 9/18 • • Ejector mechanisms
 - 9/20 • • Trimming devices
- 11/00 Details of, or accessories for, machines for mechanical composition using matrices for individual characters which are selected and assembled for type casting or moulding**
- 11/02 • Matrices
 - 11/04 • Space bands
 - 11/06 • Storage devices for matrices or space bands
 - 11/08 • • Magazines for matrices
 - 11/10 • • • for composing by hand
 - 11/12 • • • Attachment of magazines to machines; Magazine-selection or magazine-shift mechanisms (controlling selection or shifting B41B 27/42)
 - 11/14 • • • with escapement devices
 - 11/16 • • Boxes for space bands; Escapements or guides for releasing space bands
 - 11/18 • Devices or arrangements for assembling matrices and space bands (control devices therefor B41B 27/44)
 - 11/20 • • Assembler guide channels
 - 11/22 • • Assembler cover plates or framework
 - 11/24 • • Belt conveyers co-operating with assembler guides
 - 11/26 • • Devices for feeding or guiding space bands into association with matrices
 - 11/28 • • Star wheels or other stacking devices for matrices and space bands; Guides associated therewith
 - 11/30 • • Assembler elevators or associated mechanisms, e.g. braking devices, retaining pawls, line resistants, delivery slides
 - 11/32 • • Transfer channels or line-delivery carriages
 - 11/34 • • First elevators or associated mechanisms
 - 11/36 • • for presenting matrices or space bands directly to moulds
 - 11/38 • Devices for aligning or clamping lines of matrices and space bands
 - 11/40 • • Jaw clamps; Operating devices therefor
 - 11/42 • • • for quadding and centring
 - 11/44 • • • for justifying
 - 11/46 • • Aligning devices
 - 11/48 • • Cleaning devices for aligning jaws (cleaning matrices B41B 11/96)
 - 11/50 • • Vice frames; Devices for releasing or locking
 - 11/52 • Moulding or casting devices or associated mechanisms
 - 11/54 • • Moulds; Liners therefor
 - 11/56 • • • Mould wheels; Slides or driving gear therefor
 - 11/58 • • • • with locking wedges
 - 11/60 • • • • adjustable or removable
 - 11/62 • • • • with interchangeable moulds
 - 11/64 • • • • with a series of moulds and mechanism for selecting individual moulds
 - 11/66 • • • mounted on reciprocable carriages
 - 11/68 • • • with provision for adjusting length or width of slot; with a plurality of slots
 - 11/70 • • • for casting type-bars of special form, e.g. with projections
 - 11/72 • • Devices for trimming type-bars; Cleaning devices for trimming knives; Ejectors for type-bars
 - 11/74 • • Devices for supplying molten metal
 - 11/76 • • • Pots (melting pots for casting stereotype plates B41D 3/20)
 - 11/78 • • • • movable towards, and away from, mould
 - 11/80 • • • • with stirrers or means for removing dross
 - 11/82 • • • • associated with mechanisms for introducing metal in solid form
 - 11/84 • • • • Throats or mouthpieces; Wipers for mouthpieces
 - 11/86 • • • • Heaters for pots; Temperature-control devices
 - 11/88 • • • Pumps; Stop-motions or safety devices therefor
 - 11/90 • Arrangements or devices for distributing matrices or space bands after casting or moulding
 - 11/92 • • Second elevators
 - 11/94 • • Screw conveyers
 - 11/96 • Devices for cooling or cleaning matrices
- Photographic or photoelectronic composing devices**
- 13/00 Equipment specially adapted for photographing mounted characters or the like, e.g. advertisements, lines**
- 13/02 • the characters being composed or mounted by hand, and photographed simultaneously
 - 13/04 • • with means for justifying
 - 13/06 • • • by elastic or extensible type-line carriers
 - 13/08 • • • by optical line correction
 - 13/10 • the characters being progressively photographed one by one
- 15/00 Photographic composing machines with movable character carriers for composing lines of characters prior to photography**
- 15/02 • with means for photographing complete lines
 - 15/04 • • and with carriers for individual characters
 - 15/06 • • and with carriers for complete sets of characters, e.g. slidable elongated members, rotary wheels
 - 15/08 • with means for photographing composed characters in succession
 - 15/10 • Details
 - 15/12 • • Character carriers; Cleaning devices therefor
 - 15/14 • • • with a single character, or with combinations of different styles of a single character
 - 15/16 • • • with combinations of different characters
 - 15/18 • • • with parts of characters for building up complex characters, e.g. oriental characters
 - 15/20 • • Devices for handling or storing character carriers
 - 15/22 • • • Magazines
 - 15/24 • • • for justifying purposes
 - 15/26 • • • for repeating a character
 - 15/28 • • Photographic devices (in general G03)
 - 15/30 • • • Composing cameras
 - 15/32 • • • Film-handling mechanisms
 - 15/34 • • • Adjusting enlargement or register; Correcting exposure time
- 17/00 Photographic composing machines having fixed or movable character carriers and without means for composing lines prior to photography**

- 17/02 • with manually-adjustable character carriers to enable characters to be photographed in succession
- 17/04 • with a carrier for all characters in at least one fount
- 17/06 • • with an adjustable carrier
- 17/08 • • with a fixed carrier
- 17/10 • • with a continuously-movable carrier
- 17/12 • • with means for moving the optical path for photographing characters, e.g. intermittently
- 17/14 • • • continuously
- 17/16 • • with means for moving the film in its plane for photographing characters in succession
- 17/18 • Details
- 17/20 • • Character carriers; Cleaning devices therefor
- 17/22 • • • with a single character; with a single character in more than one style
- 17/24 • • • with all characters
- 17/26 • • • • on belts
- 17/28 • • • • on polygonal rods
- 17/30 • • • • on a sheet of square or rectangular shape
- 17/32 • • • • on a flat disc
- 17/34 • • • • on a cylinder
- 17/36 • • • with selection indicators
- 17/38 • • • with means for indicating the width
- 17/40 • • • • in caliper form
- 17/42 • • • • in coded form

- 19/00 Photoelectronic composing machines [3]**
- 19/01 • having electron-beam tubes producing an image of at least one character which is photographed [3]
- 19/02 • • the characters appearing on the screen in succession [3]
- 19/04 • • • at the same place [3]
- 19/06 • • • at different predetermined places [3]
- 19/08 • • with combinations of characters appearing on the screen at the same time [3]
- 19/10 • • • in unbroken lines or columns [3]
- 19/12 • • • in broken lines or columns [3]
- 19/14 • • • and presenting a text of more than one line [3]
- 19/16 • • Character carriers associated with electron-beam tubes [3]

- 21/00 Common details of photographic composing machines of the kinds covered in groups B41B 17/00 and B41B 19/00**
- 21/02 • Shutters in optical systems (in general G03B)
- 21/04 • • for selecting characters
- 21/06 • • for adjusting exposures
- 21/08 • Light sources; Devices associated therewith, e.g. control devices
- 21/10 • • Single light sources
- 21/12 • • Stroboscopic light sources
- 21/14 • • Combinations of light sources
- 21/16 • Optical systems (shutters B41B 21/02; light sources B41B 21/08)
- 21/18 • • defining a single optical path
- 21/20 • • • with means for moving stepwise
- 21/22 • • • with means for moving continuously
- 21/24 • • defining multiple optical paths
- 21/26 • • • with means for selecting individual optical paths (means for moving the optical path B41B 17/12)
- 21/28 • • • with means for fount selection
- 21/30 • Electron-beam tubes or charactrons (in general H01J 31/00)

- 21/32 • Film carriers; Film-conveying or -positioning devices (film-handling means in line-composing photographic devices B41B 15/32; machines with means for moving the film in its plane for photographing characters in succession B41B 17/16)
- 21/34 • • with positioning mechanisms
- 21/36 • • • for feeding films stepwise in line direction
- 21/38 • • • for feeding films continuously in line direction
- 21/40 • • • for line spacing
- 21/42 • • • for subscript or superscript notation
- 21/44 • • adjustable for enlarging purposes

- 23/00 Auxiliary devices for modifying, mixing, or correcting text or layout in connection with photographic or photoelectronic composing**
- 23/02 • for mixing by line-by-line projection of parts of texts from a number of films on to another
- 23/04 • for facilitating hand correction of texts
- 23/06 • for correcting texts by removing incorrect lines from one film and splicing-in corrected lines from another film

- Marking record carriers used for controlling composing machines; Control, indicating, or safety devices or systems for composing machines of various kinds or types**

- 25/00 Apparatus specially adapted for preparation of record carriers for controlling composing machines (for casting individual characters or spaces, e.g. in "monotype" machines, B41B 7/04; methods for marking or reproducing record carriers having digital data thereon in general G06K 1/00)**
- 25/10 • incorporating devices for line justification, e.g. counting and indicating devices for length of line
- 25/12 • • comprising elements which circulate from and to magazines
- 25/14 • • operating without space bands
- 25/16 • • using a binary code for the width of the matrices
- 25/18 • combined with type-setting machines
- 25/20 • Auxiliary devices; Devices serving special purposes
- 25/22 • • for indicating length of line
- 25/24 • • for error correction
- 25/26 • • for changing the fount of type

- 27/00 Control, indicating, or safety devices or systems for composing machines of various kinds or types (computers in general G06F)**
- 27/02 • Systems for controlling all operations
- 27/04 • • Keyboards
- 27/06 • • • operable by input of recorded or stored information, e.g. on punched tapes
- 27/08 • • • • from several sources
- 27/10 • • with direct control of all operations by input of recorded or stored information
- 27/12 • • • on tapes
- 27/14 • • • • on punched tapes
- 27/16 • • • • on magnetic tapes
- 27/18 • • • from memory devices
- 27/20 • • • • from electromagnetic devices, e.g. memory matrices
- 27/22 • • • from several sources
- 27/24 • • of several associated machines
- 27/26 • • with means for temporarily arresting input of recorded or stored information to introduce time delays

B41B

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| 27/28 | <ul style="list-style-type: none">Control, indicating, or safety devices for individual operations or machine elements (in devices for supplying molten metal B41B 11/86, B41B 11/88; for light sources B41B 21/08) | 27/41 | <ul style="list-style-type: none">Printing mechanisms coupled to typographical composing machines |
| 27/30 | <ul style="list-style-type: none">for arresting or varying speed of one operation in response to failure or variation in speed of another operation | 27/42 | <ul style="list-style-type: none">for controlling selection of shifting of matrix magazines |
| 27/32 | <ul style="list-style-type: none">for line-justification operations | 27/44 | <ul style="list-style-type: none">for controlling assembly of matrices and space bands |
| 27/34 | <ul style="list-style-type: none">without the use of space bands | 27/46 | <ul style="list-style-type: none">for controlling insertion of space bands (for line justification B41B 27/32) |
| 27/36 | <ul style="list-style-type: none">using electronic devices | 27/48 | <ul style="list-style-type: none">for deleting errors or inserting corrections (devices, non-fluid media or methods for cancelling or correcting errors in typewriters or selective printing mechanisms B41J 29/26) |
| 27/38 | <ul style="list-style-type: none">for measuring length of composed lines; for reading composed characters | 27/50 | <ul style="list-style-type: none">operated by coupled machines |
| 27/40 | <ul style="list-style-type: none">for proof-printing operations | | |

B41C PROCESSES FOR THE MANUFACTURE OR REPRODUCTION OF PRINTING SURFACES (photomechanical processes for producing printing surfaces G03F; photoelectrical processes for producing printing surfaces G03G)

1/00 Forme preparation

- 1/02 • Engraving; Heads therefor (recording on record carriers, heads therefor G11B) [5]

Note(s)

Attention is drawn to the title of class B41 and to subclass H04N, in particular to the Notes following the title of that subclass and to group H04N 1/00.

- 1/04 • using heads controlled by an electric information signal
- 1/045 • Mechanical engraving heads [5]
- 1/05 • Heat-generating engraving heads, e.g. laser beam, electron beam [5]
- 1/055 • Thermographic processes for producing formes (B41C 1/02 takes precedence) [5]
- 1/06 • Transferring (B41C 1/10, B41C 1/18 take precedence) [5]
- 1/08 • by embossing, e.g. with a typewriter (typewriters adapted therefor B41J 3/38)

- 1/10 • for lithographic printing; Master sheets for transferring a lithographic image to the forme (B41C 1/055 takes precedence; neutralising or similar differentiation treatments of lithographic printing formes B41N 3/08) [5]
- 1/12 • Multicolour formes
- 1/14 • for stencil printing or silk-screen printing (B41C 1/055 takes precedence) [5]
- 1/16 • Formes with areas rendered ink-resistant by covering with an amalgam; Printing plates for amalgam printing [5]
- 1/18 • Curved printing formes or printing cylinders

3/00 Reproduction or duplicating of printing formes

- 3/02 • Stereotyping (casting stereotype plates B41D 3/00) [2]
- 3/04 • to produce rubber printing blocks
- 3/06 • to produce printing blocks from plastics
- 3/08 • Electrotyping; Application of backing layers thereon [5]

B41D APPARATUS FOR THE MECHANICAL REPRODUCTION OF PRINTING SURFACES FOR STEREOTYPE PRINTING; SHAPING ELASTIC OR DEFORMABLE MATERIAL TO FORM PRINTING SURFACES (marking or engraving metal by the action of a high concentration of electric current B23H 9/06; type, machines, or accessories for making, setting, or distributing type B41B; processes for the manufacture or reproduction of printing surfaces B41C; machines or apparatus for engraving in general, or for embossing B44B 3/00, B44B 5/00; chemical etching of metal C23F 1/00; electrolytic etching C25F 3/00; photomechanical reproduction G03F)

1/00 Preparing or treating stereotype matrices

- 1/02 • using brushes
- 1/04 • using cylinders or rollers
- 1/06 • using presses, e.g. toggle or like lever-and-link type presses
- 1/08 • using hydraulic presses
- 1/10 • Performing secondary operations on matrices
- 1/12 • Humidifying or moistening
- 1/14 • Drying

- 3/06 • Vertical moulds
- 3/08 • Moulds, e.g. horizontal, for casting tubular, i.e. cylindrical, plates
- 3/10 • Vertical moulds
- 3/12 • Multiple-mould stereotype casting machines
- 3/14 • Details
- 3/16 • Matrix clamps
- 3/18 • Devices for closing or opening moulds
- 3/20 • Melting pots
- 3/22 • with pumps for conveying the molten metal into the casting chambers or boxes
- 3/24 • with control valves
- 3/26 • with devices for stirring the molten metal
- 3/28 • Devices for cooling the moulds

Producing printing surfaces

3/00 Casting stereotype plates; Machines, moulds, or devices therefor

- 3/02 • Horizontal moulds for casting flat plates
- 3/04 • Moulds, e.g. horizontal, for casting curved, e.g. semi-cylindrical, plates

5/00 Working, treating, or handling stereotype plates

- 5/02 • by bending
- 5/04 • of flat plates

- 5/06 • of curved plates
- 7/00 **Shaping elastic or deformable material, e.g. rubber, plastics material, to form printing surfaces** (making rubber printing blocks B41C 3/04)
- 7/02 • by impression
- 7/04 • Forming printing surfaces by covering printing forms with a thin elastic skin, e.g. rubber foil, and retaining the latter thereon; Obtaining reduced or enlarged printing surfaces by using thin elastic transfer foils (pantographic instruments for copying, reducing, or enlarging B43L 13/10)

99/00 Subject matter not provided for in other groups of this subclass [2006.01]

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(s)

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

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| DETAILS | |
| 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 |

| | | |
|--|--|---|
| 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 | 1/38 | • • Platens or type-beds |
| | 1/40 | • • Inking units |
| 1/02 • Hand-operated platen presses | 1/42 | • • • using flat inking elements, e.g. discs |
| 1/04 • for mono-impression printing, e.g. on sheets | 1/44 | • • • using inking ribbons |
| 1/06 • • with platen maintained parallel to bed during movement (preparing stereotype matrices using presses B41D 1/06) | 1/46 | • • • using rollers |
| | 1/48 | • • • pivoting around the platen or base |
| | 1/50 | • • • supported on carriages for movement in or on runways |
| 1/08 • • on webs | 1/52 | • • • • Carriage driving gear |
| 1/10 • for multi-impression printing in one or more colours, e.g. on webs | 1/54 | • • Printing-pressure control devices |
| 1/12 • • on sheets | 1/56 | • • Auxiliary devices |
| 1/14 • • • using swinging platens, or forme supports | 1/58 | • • • Arrangements of counting devices for counting sheets |
| 1/16 • for offset printing | 1/60 | • • Safety devices |
| 1/18 • for lithography | 1/62 | • • • for preventing injury to operator |
| 1/20 • for perfecting sheets, i.e. for printing on both sides of sheets | 1/64 | • • • • to the hands of the operator |
| 1/22 • specially adapted for printing heads, e.g. letter heads | 1/66 | • • • responsive to incorrect operating conditions |
| 1/24 • specially adapted for proof printing | 3/00 Cylinder presses, i.e. presses essentially comprising at least one cylinder co-operating with at least one flat type-bed | |
| 1/26 • Details | | |
| 1/28 • • Sheet-conveying, -aligning or -clamping devices (in general B65H) | 3/02 | • with impression cylinder or cylinders rotating unidirectionally |
| 1/30 • • • using rotary grippers | 3/04 | • • intermittently; Stop-cylinder presses |
| 1/32 • • • using air pressure, e.g. vacuum | 3/06 | • • continuously |
| 1/34 • • • Registering devices, e.g. gauges | 3/08 | • • • Single-revolution presses |
| 1/36 • • • Clamps for conveying sheets and for holding same on the platens | 3/10 | • • • Two-revolution presses |

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- 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
- 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 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

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- 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]

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| <p>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]</p> <p>33/06 • • for starting or stopping operation of sheet or web feed</p> <p>33/08 • • for starting or stopping operation of cylinders</p> <p>33/10 • • for starting or stopping operation of damping or inking units</p> <p>33/12 • • for starting or stopping the machine as a whole</p> | <p>33/14 • • Automatic control of tripping devices by feelers, photoelectric devices, pneumatic devices, or other detectors</p> <p>33/16 • Programming systems for automatic control of sequence of operations</p> <p>33/18 • Web break detection (B41F 33/04 takes precedence) [6]</p> <p>35/00 Cleaning arrangements or devices</p> <p>35/02 • for forme cylinders</p> <p>35/04 • for inking rollers</p> <p>35/06 • for offset cylinders</p> |
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B41G APPARATUS FOR BRONZE PRINTING, LINE PRINTING, OR FOR BORDERING OR EDGING SHEETS OR LIKE ARTICLES; AUXILIARY APPARATUS FOR PERFORATING IN CONJUNCTION WITH PRINTING (perforating in general B26D; production of decorations B44C; perforating in conjunction with sheet or web delivery B65H 35/00; folding or unfolding thin material, e.g. sheets, webs, B65H 45/00, B65H 47/00)

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| <p>1/00 Apparatus for bronze printing or for like operations (applying granular materials or metallic foils for decorative purposes B44C 1/00)</p> <p>1/02 • platen type</p> <p>1/04 • cylinder type</p> <p>3/00 Apparatus for printing lines</p> | <p>5/00 Apparatus for bordering or edging sheets or like articles, e.g. for producing black rims on mourning cards</p> <p>7/00 Auxiliary perforating apparatus associated with printing devices (apparatus or machines for carrying-out printing operations combined with operations other than perforating B41F 19/00)</p> |
|---|---|

B41J TYPEWRITERS; SELECTIVE PRINTING MECHANISMS, i.e. MECHANISMS PRINTING OTHERWISE THAN FROM A FORME; CORRECTION OF TYPOGRAPHICAL ERRORS (composing B41B; printing on special surfaces B41F; laundry marking B41K; erasers, rubbers or erasing devices B43L 19/00; fluid media for correction of typographical errors by coating C09D 10/00; recording the results of measuring G01; recognition or presentation of data, marking record carriers in digital fashion, e.g. by punching, G06K; franking or ticket-printing and issuing apparatus G07B; electric keyboard switches, in general H01H 13/70, H03K 17/94; coding in connection with keyboards or like devices, in general H03M 11/00; receivers or transmitters for transmission of digital information H04L; transmission or reproduction of documents, or the like, e.g. facsimile transmission, H04N 1/00; printing mechanisms specially adapted for apparatus, e.g. cash registers, weighing machines, producing records of their own performance, see the relevant subclasses)

Note(s)

1. This subclass covers:
 - manually controlled power-operated apparatus or apparatus of this type with additional control by input of recorded information, e.g. on punched cards or tapes;
 - the "print-out" features of apparatus controlled by record carriers or electric signals in so far as these are of general interest, e.g. impression, inking, line-spacing mechanisms, printing heads.
2. This subclass does not cover:
 - electrical features of apparatus controlled by record carriers or electric signals and of interest apart from the "print-out" features of said apparatus;
 - apparatus controlled by record carriers or electric signals, as a whole.
3. In this subclass, the following term is used with the meaning indicated:
 - "paper" covers also similar flexible copy material;
 - "printing material" covers both paper and temporary record carriers from which records are transferred to a paper, but does not cover printing masters, e.g. formes.

Subclass index

KINDS OF APPARATUS

characterised by the mounting, arrangement, or disposition of the types or dies.....1/00
 characterised by the printing or marking process for which they are designed.....2/00
 characterised by the purpose.....3/00

COMMON DETAILS OR ACCESSORIES

Character selection.....5/00, 7/00
 Hammer impression.....9/00
 Supporting or handling copy or duplicating material.....11/00-15/00
 Transfer material
 of page-width.....17/00
 in ribbon form; ink ribbon cartridges.....31/00, 33/00, 35/00, 32/00

| | |
|----------------------------|---------------------|
| Inking..... | 27/00 |
| Spacing..... | 19/00 |
| Drives..... | 23/00 |
| Particular operations..... | 21/00 |
| Others..... | 25/00, 29/00, 35/00 |

Kinds of typewriters or of selective printing mechanisms

1/00 Typewriters or selective printing mechanisms characterised by the mounting, arrangement, or disposition of the types or dies (non-selective embossing B44B 5/00)

- 1/02 • with separate or detached types or dies
- 1/04 • with types or dies carried upon levers or radial arms, e.g. manually operated (B41J 1/16 takes precedence)
- 1/06 • • on power-operated levers or arms
- 1/08 • with types or dies carried on sliding bars or rods
- 1/10 • • on end surfaces thereof
- 1/12 • • on side surfaces thereof, e.g. fixed thereto
- 1/14 • • the types or dies being movable relative to the bars or rods (mounted on flexible bars or rods B41J 1/16)
- 1/16 • with types or dies arranged in stationary or sliding cases or frames or upon flexible strips, plates, bars, or rods
- 1/18 • with types or dies strung on wires or rods
- 1/20 • with types or dies mounted on endless bands or the like
- 1/22 • with types or dies mounted on carriers rotatable for selection
- 1/24 • • the plane of the type or die face being perpendicular to the axis of rotation (B41J 1/60 takes precedence)
- 1/26 • • • Carriers moving for impression (B41J 1/27 takes precedence) [3]
- 1/27 • • • Carriers moving during impression [3]
- 1/28 • • • Carriers stationary for impression, e.g. with the types or dies not moving relative to the carriers
- 1/30 • • • • with the types or dies moving relative to the carriers or mounted on flexible carriers
- 1/32 • • the plane of the type or die face being parallel to the axis of rotation, e.g. with type on the periphery of cylindrical carriers (B41J 1/60 takes precedence)
- 1/34 • • • Carriers rotating during impression
- 1/36 • • • Carriers sliding for impression, e.g. manually operated
- 1/38 • • • • power operated
- 1/40 • • • Carriers swinging for impression
- 1/42 • • • • about an axis parallel to the axis of rotation of the carrier
- 1/44 • • • Carriers stationary for impression
- 1/46 • • • • Types or dies fixed on wheel, drum, cylinder, or like carriers
- 1/48 • • • • • with a plurality of carriers, one for each character space
- 1/50 • • • • • with one or more carriers travelling across copy material in letter-space direction
- 1/52 • • • • • with copy material moving in the letter-space direction, and carrier mounting being fixed relative to the machine
- 1/54 • • • • Types or dies movable on wheel, drum, cylinder, or like carriers

1/56 • • • • Types or dies on shuttles or like loose carriers

1/58 • • • • Types or dies upon arcuate bars

1/60 • with types or dies on spherical, truncated-spherical, or like surfaces

2/00 Typewriters or selective printing mechanisms characterised by the printing or marking process for which they are designed (mounting, arrangement, or disposition of types or dies B41J 1/00; marking methods B41M 5/00; structure or manufacture of heads, e.g. inductive, for recording by magnetisation or demagnetisation of a record carrier G11B 5/127; heads for reproducing capacitive information G11B 9/07) [5]

Note(s)

1. This group covers devices reproducing only a discrete number of tones, whereas group H04N 1/00 covers devices used for the reproduction of documents or the like, which devices are capable of reproducing continuous tone value scales.
2. In this group, the following expressions are used with the meanings indicated:
 - "ink jet" involves the projection of ink on to the printing material, e.g. paper, through a nozzle as a stream of droplets or particles of colouring matter;
 - "continuous ink jet" means a jet of ink transformed into a continuous stream of droplets or particles of colouring matter after having left the nozzle;
 - "ink spray" means a spray of ink transported by a stream of charged particles or air on to the printing material.

2/005 • characterised by bringing liquid or particles selectively into contact with a printing material (printing by selective application of impact or pressure on a printing or impression-transfer material B41J 2/22) [5]

2/01 • • Ink jet [5]

2/015 • • • characterised by the jet generation process (B41J 2/215 takes precedence) [5]

2/02 • • • • generating a continuous ink jet [5]

2/025 • • • • • by vibration [5]

2/03 • • • • • by pressure [5]

2/035 • • • • • by electric or magnetic field [5]

2/04 • • • • • generating single droplets or particles on demand [5]

2/045 • • • • • by pressure, e.g. electromechanical transducers [5]

2/05 • • • • • • produced by the application of heat [5]

2/055 • • • • • • Devices for absorbing or preventing back-pressure [5]

2/06 • • • • • • by electric or magnetic field [5]

2/065 • • • • • • involving the preliminary making of ink protuberances [5]

2/07 • • • characterised by jet control (B41J 2/205 takes precedence) [5]

- 2/075 • • • • for many-valued deflection [5]
- 2/08 • • • • • charge-control type [5]
- 2/085 • • • • • • Charge means, e.g. electrodes [5]
- 2/09 • • • • • • Deflection means [5]
- 2/095 • • • • • • electric field-control type [5]
- 2/10 • • • • • • magnetic field-control type [5]
- 2/105 • • • • • for binary-valued deflection [5]
- 2/11 • • • • • for ink spray [5]
- 2/115 • • • • • synchronising the droplet separation and charging time [5]
- 2/12 • • • • • testing or correcting charge or deflection [5]
- 2/125 • • • • • Sensors, e.g. deflection sensors [5]
- 2/13 • • • • • for inclination of printed pattern [5]
- 2/135 • • • • • Nozzles [5]
- 2/14 • • • • • Structure thereof [5]
- 2/145 • • • • • Arrangement thereof [5]
- 2/15 • • • • • • for serial printing [5]
- 2/155 • • • • • • for line printing [5]
- 2/16 • • • • • Production of nozzles [5]
- 2/165 • • • • • Prevention of nozzle clogging, e.g. cleaning, capping or moistening for nozzles [5]
- 2/17 • • • • • characterised by ink handling [5]
- 2/175 • • • • • Ink supply systems [5]
- 2/18 • • • • • Ink recirculation systems [5]
- 2/185 • • • • • • Ink-collectors; Ink-catchers [5]
- 2/19 • • • • • for removing air bubbles [5]
- 2/195 • • • • • for monitoring ink quality [5]
- 2/20 • • • • • for preventing or detecting contamination of compounds [5]
- 2/205 • • • • • for printing a discrete number of tones (B41J 2/21 takes precedence) [5]
- 2/21 • • • • • for multi-colour printing [5]
- 2/215 • • • • • by passing a medium, e.g. consisting of an air or particle stream, through an ink mist [5]
- 2/22 • • characterised by selective application of impact or pressure on a printing material or impression-transfer material [5]
- 2/225 • • • • • ballistic, e.g. using solid balls or pellets [5]
- 2/23 • • • • • using print wires [5]
- 2/235 • • • • • Print head assemblies [5]
- 2/24 • • • • • • serial printer type (B41J 2/25, B41J 2/265 take precedence) [5]
- 2/245 • • • • • • line printer type (B41J 2/25, B41J 2/265 take precedence) [5]
- 2/25 • • • • • • Print wires [5]
- 2/255 • • • • • • Arrangement of the print ends of the wires [5]
- 2/26 • • • • • • Connection of print wire and actuator [5]
- 2/265 • • • • • • Guides for print wires [5]
- 2/27 • • • • • • Actuators for print wires [5]
- 2/275 • • • • • • of clapper type (B41J 2/28 takes precedence) [5]
- 2/28 • • • • • • of spring charge type, i.e. with mechanical power under electro-magnetic control [5]
- 2/285 • • • • • • of plunger type [5]
- 2/29 • • • • • • of moving-coil type [5]
- 2/295 • • • • • • using piezo-electric elements [5]
- 2/30 • • • • • Control circuits for actuators [5]
- 2/305 • • • • • Ink supply apparatus (ink ribbons, ink-ribbon mechanisms B41J 31/00-B41J 35/00) [5]
- 2/31 • • • using a print element with projections on its surface impacted or impressed by hammers [5]
- 2/315 • • characterised by selective application of heat to a heat sensitive printing or impression-transfer material (B41J 2/385, B41J 2/435 take precedence) [5]
- 2/32 • • • • • using thermal heads [5]
- 2/325 • • • • • • by selective transfer of ink from ink carrier, e.g. from ink ribbon or sheet [5]
- 2/33 • • • • • • from ink roller [5]
- 2/335 • • • • • • Structure of thermal heads [5]
- 2/34 • • • • • • comprising semiconductors [5]
- 2/345 • • • • • • characterised by the arrangement of resistors or conductors [5]
- 2/35 • • • • • • providing current or voltage to the thermal head [5]
- 2/355 • • • • • • Control circuits for heating-element selection [5]
- 2/36 • • • • • • Print density control [5]
- 2/365 • • • • • • • by compensation for variation in temperature [5]
- 2/37 • • • • • • • by compensation for variation in current [5]
- 2/375 • • • • • Protection arrangements against overheating [5]
- 2/38 • • • Preheating, i.e. heating to a temperature insufficient to cause printing [5]
- 2/385 • • characterised by selective supply of electric current or selective application of magnetism to a printing or impression-transfer material (B41J 2/005 takes precedence; electrography, magnetography G03G) [5]
- 2/39 • • • • • using multi-stylus heads [5]
- 2/395 • • • • • Structure of multi-stylus heads [5]
- 2/40 • • • • • providing current or voltage to the multi-stylus head [5]
- 2/405 • • • • • • Selection of the stylus or auxiliary electrode to be supplied (electronic switching circuits in general H03K 17/00) [5]
- 2/41 • • • for electrostatic printing (B41J 2/39 takes precedence) [5]
- 2/415 • • • • • by passing charged particles through a hole or a slit [5]
- 2/42 • • • • • for heating selectively [5]
- 2/425 • • • • • for removing surface layer selectively from electro-sensitive material, e.g. metal coated paper [5]
- 2/43 • • • • • for magnetic printing [5]
- 2/435 • • characterised by selective application of radiation to a printing material or impression-transfer material (optical elements, systems, or apparatus G02B; modulation or deflection of light G02F; electrophotography G03G) [5]
- 2/44 • • • • • using single radiation source, e.g. lighting beams or shutter arrangements (B41J 2/475 takes precedence) [5]
- 2/445 • • • • • using liquid crystals [5]
- 2/447 • • • using arrays of radiation sources (B41J 2/475 takes precedence) [6]
- 2/45 • • • • • using light-emitting diode arrays [5]
- 2/455 • • • • • using laser arrays [5]
- 2/46 • • • • • characterised by using glass fibres [5]
- 2/465 • • • using masks, e.g. light-switching masks (photographic composing B41B) [5]
- 2/47 • • • using the combination of scanning and modulation of light [5]
- 2/475 • • • for heating selectively [5]
- 2/48 • • • • • melting ink on a film or melting ink granules [5]

B41J

- 2/485 • characterised by the process of building-up characters applicable to two or more kinds of printing or marking processes [5]
- 2/49 • • by writing [5]
- 2/495 • • by selective printing from a rotating helical member [5]
- 2/50 • • by the selective combination of two or more non-identical printing elements [5]
- 2/505 • • from an assembly of identical printing elements [5]
- 2/51 • • • serial printer type [5]
- 2/515 • • • line printer type [5]
- 2/52 • Arrangement for printing a discrete number of tones, not covered by group B41J 2/205, e.g. applicable to two or more kinds of printing or marking process (B41J 2/525 takes precedence; for photomechanical production G03F 5/00) [5]
- 2/525 • Arrangement for multi-colour printing, not covered by group B41J 2/21, e.g. applicable to two or more kinds of printing or marking process (for photomechanical production G03F 3/00) [5]

3/00 Typewriters or selective printing or marking mechanisms characterised by the purpose for which they are constructed (cryptographic typewriters G09C 3/00) [5]

- 3/01 • for special character, e.g. for Chinese characters or bar codes [5]
- 3/24 • for perforating or stencil cutting using special types or dies
- 3/26 • for stenographic writing
- 3/28 • for printing downwardly on flat surfaces, e.g. of books, drawings, boxes
- 3/30 • for printing with large type, e.g. on bulletins, tickets
- 3/32 • for printing in Braille or with keyboards specially adapted for use by blind or disabled persons
- 3/34 • for printing musical scores
- 3/36 • for portability
- 3/37 • • Foldable typewriters [5]
- 3/38 • for embossing, e.g. for making matrices for stereotypes
- 3/39 • • hand-held (manually-controlled or manually-operable label dispensers having printing equipment B65C 11/02) [5]
- 3/407 • for marking on special material (printing on special surfaces B41F 17/00) [5]
- 3/413 • • for metal [5]
- 3/42 • Two or more complete typewriters coupled for simultaneous operation
- 3/44 • Typewriters or selective printing mechanisms having dual functions or combined with, or coupled to, apparatus performing other functions (printing mechanisms coupled to typographical composing machines B41B 27/41)
- 3/46 • • Printing mechanisms combined with apparatus providing a visual indication
- 3/50 • • Mechanisms producing characters by printing and also producing a record by other means (punching mechanisms G06K) [5]
- 3/51 • • • the printed and recorded information being identical; using type elements with code-generating means (G06K 1/12 takes precedence) [5]
- 3/54 • with two or more sets of type or printing elements (B41J 3/60 takes precedence) [5]
- 3/60 • for printing on both faces of the printing material [5]

- 3/62 • for printing on two or more separate sheets or strips of printing material (B41J 3/54 takes precedence) [5]

Common details or accessories

- 5/00 **Devices or arrangements for controlling character selection** (methods or arrangements for sensing record carriers G06K 7/00)
- 5/02 • Character or syllable selected by setting an index
- 5/04 • • Single-character selection
- 5/06 • • Multiple-character selection
- 5/08 • Character or syllable selected by means of keys or keyboards of the typewriter type
- 5/10 • • Arrangements of keyboards
- 5/12 • • Construction of key buttons
- 5/14 • • Construction of key levers
- 5/16 • • Mounting or connecting key buttons on or to key levers
- 5/18 • • Locks
- 5/20 • • • for subsidiary keys, e.g. for shift keys
- 5/22 • • • Interlocks between keys, e.g. without detent arrangements
- 5/24 • • • • with detent arrangements
- 5/26 • • Regulating touch, key dip or stroke, or the like
- 5/28 • • Multiple-action keys, e.g. keys depressed by two or more amounts or movable in two or more directions to effect different functions or selections
- 5/30 • Character or syllable selection controlled by recorded information
- 5/31 • • characterised by form of recorded information
- 5/32 • • • by printed, embossed, or photographic records, e.g. cards, sheets
- 5/34 • • • • by strips or tapes
- 5/36 • • • • by punched records, e.g. cards, sheets
- 5/38 • • • • by strips or tapes
- 5/40 • • • • by magnetic or electrostatic records, e.g. cards, sheets
- 5/42 • • • • by strips or tapes
- 5/44 • • characterised by the kind of storage of recorded information
- 5/46 • • • the storage being on internal storages
- 5/48 • • • the storage being on external storages
- 5/50 • • • • on a single storage
- 5/51 • • • • on more than one separate storage, e.g. on additional correction strips or tapes [3]
- 5/52 • • characterised by the provision of additional devices for producing a punched or like record, e.g. simultaneously
- 7/00 **Type-selecting or type-actuating mechanisms** (index setting B41J 5/02)
- 7/02 • Type-lever actuating mechanisms
- 7/04 • • Levers mounted on fixed pivots
- 7/06 • • • and connected to transmission members, e.g. toothed gearing
- 7/08 • • • • with pin-and-slot or like loose connections; Cam-slot members
- 7/10 • • • • Chain, belt, flexible-cable, or like members
- 7/12 • • • U-shaped type-lever on two pivots
- 7/14 • • • Single key-and-type lever
- 7/16 • • • Type-head pivoted to, or rotating on, lever
- 7/18 • • Levers having moving or variable fulcra to alter the mechanical advantage during the stroke
- 7/20 • • Levers having moving pivots fixed relative to the lever; Type-bars each pivoted on two links

- 7/22 • • Type-baskets; Bearings or hangers for type-levers
- 7/24 • • Construction of type-levers (U-shaped levers B41J 7/12)
- 7/26 • • Special means, e.g. repulsers, for ensuring return of type-levers
- 7/28 • • Key-lever and type-member returned independently to rest position
- 7/30 • • Preventing rebound or clash of levers or type-members
- 7/32 • Type-face selected by operation of sliding members
- 7/34 • Type-face selected by operation of rotary members
- 7/36 • Selecting arrangements applied to type-carriers rotating during impression
- 7/38 • • Type movable on carrier for selection
- 7/40 • • Type movable on carrier for impression
- 7/42 • • Timed impression, e.g. without impact
- 7/44 • • • with impact
- 7/46 • • Rolling contact during impression
- 7/48 • Type-carrier arrested in selected position by electromagnetic means
- 7/50 • Type-face selected by combinations of two movements of type-carrier
- 7/52 • • by combined rotary and sliding movement
- 7/54 • Selecting arrangements including combination, permutation, summation, or aggregation means
- 7/56 • • Summation devices for mechanical movements
- 7/58 • • • Wedges
- 7/60 • • • Levers
- 7/62 • • • Gearing
- 7/64 • • • Pulley-and-strand mechanism
- 7/66 • • Movable members, e.g. pins, displaceable according to a code
- 7/68 • • with means for selectively closing an electric circuit for type presentation
- 7/90 • Syllable, line, or like type selection
- 7/92 • Impact adjustment; Means to give uniformity of impression (B41J 9/46, B41J 9/48 take precedence) [5]
- 7/94 • • Character-by-character adjustment
- 7/96 • Means for checking correctness of setting
- 9/00 Hammer-impression mechanisms**
- 9/02 • Hammers; Arrangements thereof
- 9/04 • • of single hammers, e.g. travelling along printing line
- 9/06 • • • of stationary hammers, e.g. engaging a single type-carrier
- 9/08 • • • • engaging more than one type-carrier
- 9/10 • • of more than one hammer, e.g. one for each character position
- 9/12 • • • each operating in more than one character position
- 9/127 • • Mounting of hammers [3]
- 9/133 • • Construction of hammer body or tip [3]
- 9/14 • Means for selecting or suppressing individual hammers
- 9/16 • Means for cocking or resetting hammers
- 9/18 • • Cams
- 9/20 • • Springs
- 9/22 • • Fluid-pressure means
- 9/24 • • Electromagnetic means
- 9/26 • Means for operating hammers to effect impression
- 9/28 • • Cams
- 9/30 • • Springs
- 9/32 • • arranged to be clutched to snatch roll
- 9/34 • • Fluid-pressure means
- 9/36 • • in which mechanical power is applied under electromagnetic control
- 9/38 • • Electromagnetic means
- 9/40 • • including an electro-adhesive clutch
- 9/42 • with anti-rebound arrangements
- 9/44 • Control for hammer-impression mechanisms [5]
- 9/46 • • for deciding or adjusting hammer-firing time [5]
- 9/48 • • for deciding or adjusting hammer-drive energy [5]
- 9/50 • • for compensating for the variations of printer drive conditions, e.g. for compensating for the variation of temperature or current supply [5]
- 9/52 • • for checking the operation of print hammers [5]
- 9/54 • • • for checking the breakage of print hammers [5]
- 11/00 Devices or arrangements for supporting or handling copy material in sheet or web form** (specially adapted for supporting or handling copy material in short lengths B41J 13/00, in continuous form B41J 15/00; holders for text to be copied B41J 29/00)
- 11/02 • Platen
- 11/04 • • Roller platens
- 11/053 • • • with sound-deadening devices (structure of surface B41J 11/057) [3]
- 11/057 • • • Structure of the surface [3]
- 11/06 • • Flat page-size platens
- 11/08 • • Bar or like line-size platens
- 11/10 • • Anvil or like character-size platens
- 11/13 • • Backings or blankets (for roller platens B41J 11/057) [3]
- 11/14 • • Platen-shift mechanisms; Driving gear therefor
- 11/16 • • with balancing means
- 11/18 • Platen-impression arrangements
- 11/20 • Platen adjustments for varying the strength of impression, for a varying number of papers, for wear or for alignment
- 11/22 • Paper-carriage guides or races
- 11/24 • Detents, brakes, or couplings for feed rollers or platens
- 11/26 • Pin feeds
- 11/27 • • on or within the platen-rollers
- 11/28 • • Pin wheels
- 11/30 • • Pin traction elements other than wheels, e.g. pins on endless bands
- 11/32 • • Adjustment of pin wheels or traction elements, e.g. laterally
- 11/34 • • Guides coacting with pin feeds
- 11/36 • Blanking or long feeds; Feeding to a particular line, e.g. by rotation of platen or feed roller
- 11/38 • • Manually-operated feeding devices
- 11/40 • • specially adapted for printing musical scores
- 11/42 • • Controlling
- 11/44 • • • by devices, e.g. programme tape or contact wheel, moved in correspondence with movement of paper-feeding devices, e.g. platen rotation
- 11/46 • • • by marks or formations on the paper being fed
- 11/48 • Apparatus for condensed record, tally strip, or like work using two or more papers, or sets of papers
- 11/50 • • in which two or more papers or sets are separately fed in the same direction towards the printing position
- 11/51 • • • with different feed rates [3]
- 11/52 • • in which one paper or set is moved transversely relative to another

- 11/53 • • • Devices for holding in place one paper or set during replacement of one or more of the auxiliary papers or sets
- 11/54 • • in which one paper or set is fed towards printing position from the front of the apparatus
- 11/55 • • • with means for adjusting a paper or set [3]
- 11/56 • specially constructed to facilitate storage or transport of typewriter
- 11/58 • Supply holders for sheets or fan-folded webs, e.g. shelves, tables, scrolls, pile holders
- 11/60 • Erasing or correcting tables
- 11/62 • Shields or masks
- 11/64 • Applications of scales or indicators
- 11/66 • Applications of cutting devices
- 11/68 • • cutting parallel to the direction of paper feed
- 11/70 • • cutting perpendicular to the direction of paper feed
- 13/00 Devices or arrangements specially adapted for supporting or handling copy material in short lengths, e.g. sheets**
- 13/02 • Rollers (roller platens B41J 11/04)
- 13/03 • • driven, e.g. feed rollers separate from platen
- 13/036 • • co-operating with a roller platen [3]
- 13/042 • • • Front and rear rollers or sets of front or rear rollers each mounted on a separate carrier [3]
- 13/048 • • • Front and rear rollers both mounted on a common carrier [3]
- 13/054 • • • • on the paper apron concentric with the roller platen [3]
- 13/076 • • Construction of rollers; Bearings therefor
- 13/08 • Bands or like feeding devices
- 13/10 • Sheet holders, retainers, or stationary guides
- 13/12 • • specially adapted for cards, envelopes, or the like
- 13/14 • • Aprons or guides
- 13/16 • • • movable for insertion or release of sheets
- 13/18 • • • concentric with roller platen
- 13/20 • • Bails
- 13/22 • • Clamps or grippers
- 13/24 • • Strips for supporting or holding papers
- 13/26 • Registering devices
- 13/28 • • Front lays, stops, or gauges
- 13/30 • • Side lays or gauges
- 13/32 • • Means for positioning sheets in two directions under one control, e.g. for format control or orthogonal sheet positioning
- 15/00 Devices or arrangements specially adapted for supporting or handling copy material in continuous form, e.g. webs**
- 15/02 • Web rolls or spindles; Attaching webs to cores or spindles
- 15/04 • Supporting, feeding, or guiding devices; Mountings for web rolls or spindles
- 15/06 • • characterised by being applied to printers having stationary carriages
- 15/08 • • characterised by being applied to printers having transversely-moving carriages
- 15/10 • • • and mounted on the carriage
- 15/12 • • • and coupled to the carriage
- 15/14 • • • and detached from the carriage
- 15/16 • Means for tensioning or winding the web
- 15/18 • Multiple-web feeding apparatus
- 15/20 • • for webs superimposed during printing (machines for separating superposed webs B65H 41/00)
- 15/22 • • for feeding webs in separate paths during printing
- 15/24 • • with means for registering the webs with each other
- 17/00 Mechanisms for manipulating page-width impression-transfer material, e.g. carbon paper** (in manifolding devices B41L; sheet material for duplicating or marking B41M 5/00)
- 17/02 • Feeding mechanisms
- 17/04 • • Feed dependent on the record-paper feed, e.g. both moved at the same time
- 17/06 • • • "Creep" feed, i.e. impression-transfer material fed slower than the record paper
- 17/07 • • • electromagnetically controlled
- 17/08 • • Feed independent of the record-paper feed
- 17/10 • • • electromagnetically controlled
- 17/12 • • Special adaptations for ensuring maximum life
- 17/14 • • Automatic arrangements for reversing the feed direction
- 17/16 • Holders in the machine for sheets of impression-transfer material
- 17/18 • • pivotable to and from the platen
- 17/20 • • slidable to and from the platen
- 17/22 • Supply arrangements for webs or impression-transfer material
- 17/24 • • Webs supplied from reels or spools attached to the machine (reels per se B65H 75/02)
- 17/26 • • Webs supplied from trays or like supports attached to the machines
- 17/28 • Arrangements of guides for the impression-transfer material
- 17/30 • Constructions of guides for the impression-transfer material
- 17/32 • Detachable carriers or holders for impression-transfer material mechanism
- 17/34 • Backings for impression-transfer material, e.g. sheets for reducing friction, shields for preventing imprint
- 17/36 • Alarms, indicators, or feed-disabling devices responsive to material breakage or exhaustion
- 17/38 • for dealing with the impression-transfer material after use
- 17/40 • • for retracting sheets for re-use
- 17/42 • • for webs
- 19/00 Character- or line-spacing mechanisms** (key actions B41J 25/02)
- 19/02 • with retarding devices, e.g. brakes
- 19/04 • Sound-deadening or shock-absorbing devices or measures therein (B41J 19/38 takes precedence)
- 19/06 • • Resilient mounting of mechanism
- 19/08 • • Buffers, springs, or like carriage stops
- 19/10 • • Dash-pots
- 19/12 • • Gearing made of special material or specially constructed to reduce sound or shock
- 19/14 • with means for effecting line or character spacing in either direction
- 19/16 • Special spacing mechanisms for circular, spiral, or diagonal-printing apparatus
- 19/18 • Character-spacing or back-spacing mechanisms; Carriage-return or release devices therefor
- 19/20 • • Positive-feed character-spacing mechanisms (controlled by escapements B41J 19/52)
- 19/22 • • • acting by friction or gripping effect
- 19/24 • • • Pawl and ratchet
- 19/26 • • • moving a paper or like carriage
- 19/28 • • • • moving a paper or like web or strip, e.g. over a stationary support

- 19/30 • • • Electromagnetically-operated mechanisms
- 19/32 • • • Differential or variable-spacing arrangements
- 19/34 • • Escapement-feed character-spacing mechanisms
- 19/36 • • • Driving mechanisms, e.g. springs stressed during carriage return
- 19/38 • • • • adapted for silent return
- 19/40 • • • Escapements having a single pawl or like detent
- 19/42 • • • Escapements having two pawls or like detents
- 19/44 • • • • coacting with two toothed members, e.g. racks or wheels
- 19/46 • • • • and mounted on a single rocker
- 19/48 • • • • and mounted on a single slider
- 19/50 • • • Electromagnetically-controlled escapements
- 19/52 • • • Escapements controlling positive-feed mechanism
- 19/54 • • • Construction of universal bars
- 19/56 • • • Escapements controlling web or strip feed
- 19/58 • • • Differential or variable-spacing arrangements
- 19/60 • • Auxiliary feed or adjustment devices
- 19/62 • • • for back-spacing
- 19/64 • • • for justifying
- 19/66 • • Carriage-release mechanisms
- 19/68 • • Carriage-return mechanisms, e.g. manually actuated
- 19/70 • • • power driven
- 19/72 • • • • with power stored during character spacing
- 19/74 • • with special means to maintain character-spacing or back-spacing elements in engagement during case-shift or like movement
- 19/76 • Line-spacing mechanisms (special line-feeds, e.g. long feeds, B41J 11/36)
- 19/78 • • Positive-feed mechanisms
- 19/80 • • • Pawl-and-ratchet mechanisms
- 19/82 • • • • moving a paper or like carriage
- 19/84 • • • • • in the form of a roller rotated for line spacing
- 19/86 • • • • • the pawl being normally in engagement with the ratchet
- 19/88 • • • • moving a type carriage
- 19/90 • • • • moving a paper or like web or strip, e.g. over a stationary support, automatically in response to movements other than carriage return
- 19/92 • • • Electromagnetically-operated mechanisms
- 19/94 • • • automatically operated in response to carriage return
- 19/96 • • • Variable-spacing arrangements
- 19/98 • • Escapement-feed mechanisms
- 21/00 Column, tabular, or like printing arrangements; Means for centralising short lines** (carriage-release mechanisms B41J 19/66; key actions B41J 25/18)
- 21/02 • Stops or stop-racks
- 21/04 • Mechanisms for setting or restoring tabulation stops
- 21/06 • with means for preventing rebound from stops
- 21/08 • Mechanisms for initiating, effecting, skipping, or stopping tabulation movement; Means for centralising short lines
- 21/10 • with central, counter, or equivalent stop projected into path of tabulation stops
- 21/12 • characterised by arrangements of electrical contacts
- 21/14 • characterised by denominational arrangements
- 21/16 • controlled by the sensing of marks or formations on the paper being typed, an undersheet, or the platen
- 21/17 • controlled by stored information [5]
- 21/18 • characterised by applications of scales or indicators
- 23/00 Power drives for actions or mechanisms** (B41J 9/00 take precedence)
- 23/02 • Mechanical power drives
- 23/04 • • with driven mechanism arranged to be clutched to continuously-operating power source
- 23/06 • • • by snatch rolls
- 23/08 • • • by one-revolution or part-revolution clutches
- 23/10 • • • and arrested in selected position
- 23/12 • • Mechanism driven by cams engaging rotating roller
- 23/14 • • Mechanism driven through an oscillating or reciprocating member
- 23/16 • • Mechanism driven by a spring tensioned by power means
- 23/18 • • Continuously-cycling drives
- 23/20 • Fluid-pressure power drives
- 23/22 • • for key or like type selection
- 23/24 • • for impression mechanisms
- 23/26 • • for platen or carriage movements, e.g. for line spacing, letter spacing, or carriage return
- 23/28 • • for type-carriage movements
- 23/30 • • for case shift
- 23/32 • Electromagnetic power drives, e.g. applied to key levers
- 23/34 • • applied to elements other than key levers
- 23/36 • • • and acting on type members
- 23/38 • • • and acting on aligning or case-shift mechanisms
- 25/00 Actions or mechanisms not otherwise provided for**
- 25/02 • Key actions for specified purposes
- 25/04 • • Back-spacing
- 25/06 • • Carriage return
- 25/08 • • Case shift
- 25/10 • • Ink-ribbon adjustment
- 25/12 • • Character spacing
- 25/14 • • Line spacing
- 25/16 • • Line spacing and carriage return by a single key
- 25/18 • • Tabulating
- 25/20 • Auxiliary type mechanisms for printing distinguishing marks, e.g. for accenting, using dead or half-dead key arrangements, for printing marks in telegraph printers to indicate that machine is receiving
- 25/22 • for aligning characters for impression (in machines using index setting B41J 5/02)
- 25/24 • Case-shift mechanisms (B41J 11/14 takes precedence; key actions B41J 25/08); Fount-change arrangements
- 25/304 • Bodily-movable mechanisms for print heads or carriages movable towards or from paper surface (type carriers sliding for impression B41J 1/36; type carriers swinging for impression B41J 1/40) [5]
- 25/308 • • with print gap adjustment mechanisms [5]
- 25/312 • • with print pressure adjustment mechanisms, e.g. pressure-on-the-paper mechanisms [5]
- 25/316 • • with tilting motion mechanisms relative to paper surface [5]
- 25/32 • Impression mechanisms in which a roller co-operates with stationary type-faces
- 25/34 • Bodily-changeable print heads or carriages (B41J 1/20, B41J 1/22, B41J 1/60 take precedence) [5]

27/00 Inking apparatus

- 27/02 • with ink applied by pads or rotary discs
- 27/04 • • Pads or discs; Ink-supply arrangements therefor
- 27/06 • • Arrangements to ensure maximum life of pads or discs
- 27/08 • • Arrangements for multicolour work
- 27/10 • with ink applied by rollers; Ink-supply arrangements therefor
- 27/12 • • Rollers
- 27/14 • • Arrangements for multicolour work
- 27/16 • with ink deposited electrostatically or electromagnetically, e.g. powdered ink
- 27/18 • • with liquid ink deposited
- 27/20 • with ink supplied by capillary action, e.g. through porous type-members, through porous platens
- 27/22 • with inking discs or sectors

29/00 Details of, or accessories for, typewriters or selective printing mechanisms not otherwise provided for

- 29/02 • Framework
- 29/04 • Means for attaching machines to baseboards
- 29/06 • Special supports, platforms, or trolleys for supporting machines on tables
- 29/08 • Sound-deadening or shock-absorbing stands, supports, cases, or pads separate from machines
- 29/10 • Sound-deadening devices embodied in machines (B41J 19/04 takes precedence)
- 29/12 • Guards, shields or dust excluders [5]
- 29/13 • • Cases or covers [5]
- 29/14 • Attachments operated by the leg, e.g. the foot or knee
- 29/15 • Script supports connected to the typewriter or printer (tables, desks, office furniture, in general A47B) [5]
- 29/16 • Auxiliary receptacles for articles, e.g. erasers, pencils
- 29/17 • Cleaning arrangements [5]
- 29/18 • Mechanisms for rendering the print visible to the operator (ink-ribbon shifts B41J 35/20) [5]
- 29/19 • • with reflectors or illuminating devices [5]
- 29/20 • Arrangements of counting devices
- 29/22 • • Line counters
- 29/24 • • Word counters
- 29/26 • Devices, non-fluid media or methods for cancelling, correcting errors, underscoring or ruling [4]
- 29/28 • • Writing or like instruments in holders or guides
- 29/30 • • Wheels
- 29/32 • • Type-members
- 29/34 • • • repeatedly actuated
- 29/36 • • for cancelling or correcting errors by overprinting (B41J 31/00 takes precedence) [4]
- 29/367 • • • sheet media carrying a pigmented transferable correction layer [4]
- 29/373 • • • sheet media bearing an adhesive layer effective to lift off wrongly typed characters [4]
- 29/377 • Cooling or ventilating arrangements [5]
- 29/38 • Drives, motors, controls, or automatic cut-off devices for the entire printing mechanism
- 29/387 • • Automatic cut-off devices [5]
- 29/393 • • Devices for controlling or analysing the entire machine [5]
- 29/40 • Means for printing fixed, i.e. unchanging, matter in addition to selectable matter
- 29/42 • Scales and indicators, e.g. for determining side margins
- 29/44 • • for determining top and bottom margins or indicating exhaust of paper

- 29/46 • Applications of alarms, e.g. responsive to approach of end of line (responsive to transfer-material breakage or exhaustion B41J 17/36, B41J 35/36)
- 29/48 • • responsive to breakage or exhaustion of paper or approach of bottom of paper
- 29/50 • Side-stop mechanisms
- 29/52 • Top-and-bottom stop mechanisms
- 29/54 • Locking devices applied to printing mechanisms
- 29/56 • • and manually actuated
- 29/58 • • and automatically actuated
- 29/60 • • • in response to failure of power supply
- 29/62 • • • by the absence of paper to lock hammer mechanism
- 29/64 • • • by a function of the printer to lock the keyboard
- 29/66 • • • Locking devices actuated when platen reaches the end of a line
- 29/68 • • • by completion of a page or predetermined number of lines or exhaustion of paper to lock the keyboard
- 29/70 • • • Interlocks between any two carriage-moving mechanisms, e.g. character-space, back-space, tabulation, carriage-return, or carriage-release mechanisms

Ink ribbons; Ink-ribbon mechanisms**31/00 Ink ribbons** (sheet material for duplicating or marking B41M 5/00; storing webs or tapes, e.g. on reels, B65H 75/00); **Renovating or testing ink ribbons**

- 31/02 • Ink ribbons characterised by the material from which they are woven
- 31/04 • • woven from synthetic material
- 31/05 • Ink ribbons having coatings other than impression-material coatings
- 31/06 • • the coatings being directly on the base material, i.e. below impression-transfer material; Ink ribbons having base material impregnated with material other than impression material
- 31/08 • • the coatings being superimposed on impression-transfer material
- 31/09 • Ink ribbons characterised by areas carrying media for obliteration or removal of typing errors [4]
- 31/10 • Ink ribbons having arrangements to facilitate threading through a machine
- 31/12 • Ink ribbons having arrangements to prevent undesired contact between the impression-transfer material and machine parts or other articles
- 31/14 • Renovating or testing ink ribbons
- 31/16 • • while fitted in the machine using the ink ribbons

32/00 Ink-ribbon cartridges [3]

- 32/02 • for endless ribbons [3]

33/00 Apparatus or arrangements for feeding ink ribbons or like character-size impression-transfer material (ink-ribbon cartridges B41J 32/00)

- 33/02 • Ribbon arrangements
- 33/04 • • mounted on moving carriages
- 33/06 • • Ribbons associated, but not moving, with typewriter platens, e.g. extending transversely to the length of the platen
- 33/08 • • • and extending parallel to the length of the platen
- 33/10 • • Arrangements of endless ribbons
- 33/12 • • Ribbons carried by coaxially-mounted spools
- 33/14 • Ribbon-feed devices or mechanisms

- 33/16 • • with drive applied to spool or spool spindle
- 33/18 • • • by ratchet mechanism (B41J 33/30 takes precedence)
- 33/20 • • • by friction
- 33/22 • • • by gears or pulleys
- 33/24 • • with drive applied directly to ribbon
- 33/26 • • • by rollers engaging the ribbon
- 33/28 • • • by mechanism pulling or gripping the ribbon
- 33/30 • • Escapement mechanisms
- 33/32 • • Electromagnetic devices
- 33/34 • • driven by motors independently of the machine as a whole
- 33/36 • • with means for adjusting feeding rate
- 33/38 • • Slow, e.g. "creep", feed mechanisms
- 33/382 • • • the ribbon being fed only during carriage return
- 33/384 • • • • and attached to the carriage during writing
- 33/386 • • • the ribbon being fed only by operation of the line-spacing mechanism
- 33/388 • • • the ribbon being fed only when type impression takes place
- 33/40 • • with arrangements for reversing the feed direction
- 33/42 • • • manually
- 33/44 • • • automatically
- 33/46 • • • • and characterised by its application to mechanism in which two spools are driven by pawl-and-ratchet mechanism
- 33/48 • • • • • comprising two pawls and ratchets, one for each spool
- 33/50 • • • • • comprising a single pawl or integral double-tooth pawl selectively engageable with two ratchets, one for each spool
- 33/51 • • • • and characterised by the use of particular reversing control means
- 33/512 • • • • • using a pivoted reversing-feeler engaging the external periphery of the wound ribbon
- 33/514 • • • • • using a pivoted reversing-feeler engaging the interior of the wound ribbon
- 33/516 • • • • • using a reversing-feeler responsive to the tension of the ribbon
- 33/518 • • • • • the reversing-feeler engaging buttons or the like secured to the ribbon near its ends
- 33/52 • • Braking devices therefor
- 33/54 • • for ensuring maximum life of the ribbon (B41J 33/38 takes precedence; by adjustment of vibrator mechanisms B41J 35/14)
- 33/56 • • • Ribbon adjusted transversely
- 33/58 • • • Ribbon fed angularly
- 33/60 • • responsive to telegraph code or other extraneous signals
- 35/00 Other apparatus or arrangements associated with, or incorporated in, ink-ribbon mechanisms**
- 35/02 • Frames or holders for unwound short lengths of ink ribbons
- 35/03 • • the holder being movable to inoperative position, e.g. by swinging upwardly
- 35/04 • Ink-ribbon guides
- 35/06 • • stationary
- 35/08 • • with tensioning arrangements
- 35/10 • • Vibrator mechanisms; Driving gear therefor
- 35/12 • • • adjustable, e.g. for case shift (key actions B41J 25/02)
- 35/14 • • • • for multicolour work; for ensuring maximum life of ink ribbon; for rendering ink ribbon inoperative
- 35/16 • Multicolour arrangements (B41J 35/10 takes precedence)
- 35/18 • • Colour change effected automatically
- 35/20 • Ink-ribbon shifts, e.g. for exposing print, for case-shift adjustment, for rendering ink ribbon inoperative
- 35/22 • Mechanisms permitting the selective use of a plurality of ink ribbons
- 35/23 • • with two or more ribbon guides
- 35/24 • Mechanisms specially adapted for feeding impression-transfer materials of foil form
- 35/26 • Ink-ribbon shields or backings
- 35/28 • Detachable carriers or holders for ink-ribbon mechanisms
- 35/30 • Manifolding or like arrangements
- 35/32 • • for producing a plurality of copies along the printing line by a single ink ribbon
- 35/34 • • using a plurality of separate ink ribbons, e.g. including one hectographic ink ribbon
- 35/35 • • using unwound short lengths of ink ribbons
- 35/36 • Alarms, indicators, or feed-disabling devices responsive to ink-ribbon breakage or exhaustion
- 35/38 • Feeding the ink ribbon to waste after use

B41K STAMPS; STAMPING OR NUMBERING APPARATUS OR DEVICES (marking meat A22C 17/10; embossing combined with printing B41F 19/00; selective printing mechanisms B41J; embossing decorations or marks B44B 5/00; marking or coding completed packages B65B 61/26; ticket printing and issuing, fare registering, non-printing aspects of franking apparatus G07B)

- 1/00 Portable hand-operated devices without means for supporting or locating the articles to be stamped, i.e. hand stamps; Inking devices or other accessories therefor**
- 1/02 • with one or more flat stamping surfaces having fixed images
- 1/04 • • with multiple stamping surfaces; with stamping surfaces replaceable as a whole
- 1/06 • • with means for locating the image to be obtained
- 1/08 • with a flat stamping surface and changeable characters
- 1/10 • • having movable type-carrying bands or chains
- 1/12 • • having adjustable type-carrying wheels
- 1/14 • • having automatic means for changing type-characters
- 1/16 • • • Numbering devices
- 1/18 • • • • for pages
- 1/20 • • with means for locating the image to be obtained
- 1/22 • with curved stamping surfaces for stamping by rolling contact
- 1/24 • • Rocking stamps
- 1/26 • with stamping surfaces adapted for application to non-flat surfaces
- 1/28 • • flexible
- 1/30 • for offset or intaglio stamping
- 1/32 • for stencilling
- 1/34 • for multicolour stamping

B41K

- 1/36 • Details
- 1/38 • • Inking devices; Stamping surfaces
- 1/40 • • • Inking devices operated by stamping movement
- 1/42 • • • • with pads or rollers movable for inking
- 1/44 • • • for offset, intaglio, or stencil stamping
- 1/46 • • • for multicolour stamping
- 1/48 • • • with ink ribbons, ink sheets, or carbon tape or paper
- 1/50 • • • Stamping surfaces impregnated with ink, or made of material leaving a mark after stamping contact
- 1/52 • • • Ink reservoirs, e.g. integral with stamp handles
- 1/54 • • • Inking pads
- 1/56 • • Handles
- 1/58 • • Stands or other means for keeping hand stamps or the like within easy reach
- 3/00 Apparatus for stamping articles having integral means for supporting the articles to be stamped**
(means for printing on articles of special shape or having a surface of particular configuration B41F 17/00)
- 3/02 • with stamping surface located above article-supporting surface
- 3/04 • • and movable at right angles to the surface to be stamped
- 3/06 • • • having type-carrying bands or chains
- 3/08 • • • having adjustable type-carrying wheels
- 3/10 • • • having automatic means for changing type-characters, e.g. numbering devices
- 3/12 • • with curved stamping surface for stamping by rolling contact
- 3/14 • • • for relief stamping
- 3/16 • • • for intaglio stamping
- 3/18 • • • for offset stamping
- 3/20 • • • for stencilling
- 3/22 • • • with means for producing distorted images
- 3/24 • • for multicolour stamping
- 3/26 • with stamping surface located below article-supporting surface
- 3/28 • • and bearing a positive image
- 3/30 • • • and having means for varying the image, e.g. by exchanging stamping plates in succession
- 3/32 • with co-operating stamping and counter-stamping members
- 3/34 • • in the form of indexable cylinders, e.g. of curved or polygonal cross-section, or of movable chains or bands
- 3/36 • with means for deforming or punching the copy matter
- 3/38 • • separate from the stamping means
- 3/40 • • for numerical or alphabetical characters
- 3/42 • Stamping apparatus with selection mechanisms for successively stamping and delivering lists or other items giving information, e.g. for warehouse administration, washing lists, supermarket guides
- 3/44 • Means for handling copy matter
- 3/46 • • for locating when stationary
- 3/48 • • for conveying intermittently to or from stamping station
- 3/50 • • for conveying during stamping operation
- 3/52 • • for discharging
- 3/54 • Inking devices
- 3/56 • • using inking pads
- 3/58 • • using ink ribbons, ink sheets, or carbon tape or paper
- 3/60 • • using rollers, e.g. rollers with integral ink-supply devices
- 3/62 • Details or accessories
- 3/64 • • Stamping mechanisms controlled by feed of copy matter
- 3/66 • • Safety devices, e.g. for preventing extraction of copy matter before completion of stamping operation
- 3/68 • • Cutting or severing devices (in general B26)
- 5/00 Plier-like tools for stamping, or stamping and delivering, tickets or the like**
- 5/02 • with means for varying the image stamped
- 5/04 • with devices for collecting counterfoils, or with other means for recording stamping operations (counting devices G06M)
- 5/06 • • for recording on separate tape
- 5/08 • • with counting devices
- 99/00 Subject matter not provided for in other groups of this subclass [2006.01]**

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
- 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

B41L

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

B41M PRINTING, DUPLICATING, MARKING, OR COPYING PROCESSES; COLOUR PRINTING (correction of typographical errors B41J; processes for applying transfer pictures or the like B44C 1/16; fluid media for correction of typographical errors by coating C09D 10/00; printing textiles D06P)

1/00 Inking and printing with a printer's forme

- 1/02 • Letterpress printing, e.g. book printing
- 1/04 • • Flexographic printing
- 1/06 • Lithographic printing
- 1/08 • • Dry printing
- 1/10 • Intaglio printing
- 1/12 • Stencil printing; Silk-screen printing
- 1/14 • Multicolour printing
- 1/16 • • using different inks which flow into one another to produce iridescent effects
- 1/18 • • Printing one ink over another
- 1/20 • • by applying differently-coloured inks simultaneously to different parts of the printing surface
- 1/22 • Metallic printing; Printing with powdered inks

- 1/24 • combined with embossing (printing machines for carrying out printing operations combined with embossing B41F 19/02) [2]
- 1/26 • Printing on other surfaces than ordinary paper (B41M 1/40 takes precedence)
- 1/28 • • on metals
- 1/30 • • on organic plastics, horn, or like materials
- 1/32 • • on rubber
- 1/34 • • on glass or ceramic surfaces
- 1/36 • • on pretreated paper, e.g. on parchment, oiled paper, paper for registration purposes
- 1/38 • • on wooden surfaces, leather, or linoleum (printing on matches or match boxes when combined with match manufacture C06F 1/18)
- 1/40 • Printing on bodies of particular shapes
- 1/42 • Printing without contact between forme and surface to be printed, e.g. by using electrostatic fields [2]
- 3/00 Printing processes to produce particular kinds of printed work, e.g. patterns** (special designs or pictures *per se* B44F; manufacturing printed circuits using printing techniques H05K 3/12) [5]
- 3/02 • Maps; Sea or meteorological charts
- 3/04 • Music
- 3/06 • Veined printings; Fluorescent printings; Stereoscopic images; Imitated patterns, e.g. tissues, textiles [5]
- 3/10 • Watermarks
- 3/12 • Transfer pictures or the like, e.g. decalcomanias
- 3/14 • Security printing
- 3/16 • Braille printing (typewriters or selective printing mechanisms for Braille printing B41J 3/32) [2]
- 3/18 • Particular kinds of wallpapers
- 5/00 Duplicating or marking methods; Sheet materials for use therein** (by using light-sensitive materials G03; electrography, magnetography G03G)
- 5/025 • by transferring ink from the master sheet [4]
- 5/03 • • by pressure [4]
- 5/035 • • by sublimation or volatilisation of design [4]
- 5/04 • • using solvent-soluble dyestuffs on the master sheet, e.g. alcohol-soluble [5]
- 5/06 • • using master sheets coated with jelly-like materials, e.g. gelatin
- 5/08 • • • Sheet materials therefor
- 5/10 • by using carbon paper or the like
- 5/124 • using pressure to make a masked colour visible, e.g. to make a coloured support visible, to create an opaque or transparent pattern, or to form colour by uniting colour-forming components [5]
- 5/128 • • Desensitisers; Compositions for fault correction, detection or identification of the layers [5]
- 5/132 • • Chemical colour-forming components; Additives or binders therefor [5]
- 5/136 • • • Organic colour formers, e.g. leuco dyes [5]
- 5/145 • • • • with a lactone or lactam ring [5]
- 5/15 • • • • Spiro-pyrans [5]
- 5/155 • • • Colour-developing components, e.g. acidic compounds; Additives or binders therefor; Layers containing such colour-developing components, additives or binders [5]
- 5/165 • • characterised by the use of microcapsules; Special solvents for incorporating the ingredients [5]
- 5/20 • using electric current (B41M 5/24 takes precedence) [5]
- 5/24 • Ablative recording, e.g. by burning marks; Spark recording [5]
- 5/26 • Thermography (B41M 5/20, B41M 5/24 take precedence; photothermographic systems G03C 1/498) [5]
- 5/28 • • using thermo-chromic compounds or layers containing liquid crystals, microcapsules, bleachable dyes or heat decomposable compounds, e.g. gas liberating [5]
- 5/30 • • using chemical colour formers (B41M 5/34 takes precedence) [5]
- 5/32 • • • one component thereof being a heavy metal compound [5]
- 5/323 • • • Organic colour formers, e.g. leuco dyes [2006.01]
- 5/327 • • • • with a lactone or lactam ring [2006.01]
- 5/333 • • • Colour developing components therefor, e.g. acidic compounds [2006.01]
- 5/337 • • • Additives; Binders [2006.01]
- 5/34 • • Multicolour thermography [5]
- 5/36 • • using a polymeric layer, which may be particulate and which is deformed or structurally changed with modification of its properties, e.g. of its optical, hydrophobic-hydrophilic, solubility or permeability properties [5]
- 5/382 • • Contact transfer or sublimation processes (sublistatic printing B41M 5/035; ink-, dye- or pigment-receptive coatings B41M 5/50) [2006.01]
- 5/385 • • • characterised by the transferable dyes or pigments [2006.01]
- 5/388 • • • • Azo dyes [2006.01]
- 5/39 • • • • Dyes containing one or more carbon-to-nitrogen double bonds, e.g. azomethine [2006.01]
- 5/392 • • • Additives other than colour forming substances, dyes or pigments, e.g. sensitisers, transfer promoting agents [2006.01]
- 5/395 • • • • Macromolecular additives, e.g. binders [2006.01]
- 5/398 • • Processes based on the production of stickiness patterns using powders [2006.01]
- 5/40 • • characterised by the base, intermediate or covering layers; Heat, radiation filtering or absorbing means or layers; combined with layers or compositions suitable for other methods of image registration; Special originals for reproduction by thermography [5]
- 5/41 • • • Base layers [2006.01]
- 5/42 • • • Intermediate or covering layers [2006.01]
- 5/44 • • • • characterised by the macromolecular compounds [2006.01]
- 5/46 • • • characterised by the light-to-heat converting means; characterised by the heat or radiation filtering or absorbing means or layers [2006.01]
- 5/48 • • • combined with other image registration layers or compositions; Special originals for reproduction by thermography [2006.01]
- 5/50 • Recording sheets characterised by the coating used to improve ink, dye or pigment receptivity, e.g. for ink-jet or thermal dye transfer recording (printing on pretreated paper B41M 1/36) [2006.01]
- 5/52 • • Macromolecular coatings [2006.01]
- 7/00 After-treatment of printed works, e.g. heating, irradiating**
- 7/02 • Dusting; Varnishing (devices for treating the surfaces of sheets, webs, or other articles in connection with printing B41F 23/00, B41L 23/00)

B41M

9/00 Processes wherein make-ready devices are used
(make-ready devices per se B41N 6/00) [5]

9/02 • Relief make-readies

9/04 • • photomechanical

99/00 Subject matter not provided for in other groups of this subclass [2006.01]

B41N PRINTING PLATES OR FOILS (photosensitive materials G03); MATERIALS FOR SURFACES USED IN PRINTING MACHINES FOR PRINTING, INKING, DAMPING, OR THE LIKE; PREPARING SUCH SURFACES FOR USE OR CONSERVING THEM

1/00 Printing plates or foils; Materials therefor

1/02 • made of stone

1/04 • metallic

1/06 • • for relief printing or intaglio printing

1/08 • • for lithographic printing

1/10 • • • multiple

1/12 • non-metallic other than stone

1/14 • • Lithographic printing foils

1/16 • Curved printing plates, especially cylinders

1/18 • • made of stone

1/20 • • made of metal

1/22 • • made of other substances

1/24 • Stencils; Stencil materials; Carriers therefor (stencilling apparatus for office or other commercial use B41L 13/00)

3/00 Preparing for use or conserving printing surfaces

3/03 • Chemical or electrical pretreatment [5]

3/04 • Graining or abrasion by mechanical means (chemical graining B41N 3/03) [5]

3/06 • by use of detergents

3/08 • Damping; Neutralising or similar differentiation treatments of lithographic printing formes [5]

6/00 Mounting boards; Make-ready devices, e.g. underlays, overlays; Attaching by chemical means, e.g. vulcanising [5]

6/02 • Chemical means for fastening printing formes on mounting boards [5]

7/00 Shells for rollers of printing machines

7/02 • of leather

7/04 • for damping rollers

7/06 • for inking rollers [5]

10/00 Blankets or like coverings; Coverings for wipers for intaglio printing (wipers for intaglio printing B41F 9/08) [5]

10/02 • Blanket structure [5]

10/04 • • multi-layer [5]

10/06 • • facilitating fastening to, or location on, supports [5]

11/00 Stereotype mats

99/00 Subject matter not provided for in other groups of this subclass [2006.01]