

## PRINTING

**B41 PRINTING; LINING MACHINES; TYPEWRITERS; STAMPS** (reproduction or duplication of pictures or patterns by scanning and converting into electrical signals H04N) [4]

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

### Subclass index

HAND COMPOSING.....	1/00	Machines without means for composing lines prior to photography.....	17/00
MECHANICAL COMPOSING		Electronic machines .....	19/00
Using prefabricated type; making type.....	3/00; 5/00	Equipment for special work .....	13/00
By casting the type .....	7/00, 9/00, 11/00	Details of machines; auxiliaries.....	21/00; 23/00
PHOTOGRAPHIC COMPOSING		PREPARATION OF RECORD CARRIERS .....	25/00
Machines composing lines prior to photography .....	15/00	CONTROL, INDICATING, SAFETY .....	27/00

<b>1/00 Elements or appliances for hand composition; Chases, quoins, or galleys</b>	<b>7/00 Kinds or types of apparatus for mechanical composition in which the type is cast or moulded from matrices</b>
1/02 . Printing letters; Type	7/02 . operating with fixed combinations of matrices (details B41B 9/00)
1/04 . Quadrats or quads; Spaces or other justifiers	7/04 . . . for casting individual characters or spaces, e.g. "monotype" machines
1/06 . for special purposes	7/06 . . . for composing, justifying, and casting complete lines of matrices, e.g. "monoline" machines
1/08 . . . for inserting latest news	7/08 . operating with separate matrices for individual characters or spaces which are selected and assembled (details B41B 11/00)
1/10 . . . for inserting advertisements	7/10 . . . in which a line is composed of matrices and in which single types or spaces are cast, e.g. stringer type
1/12 . . . for setting musical notations	7/12 . . . in which a justified line is composed of matrices and a type line is cast in one piece
1/14 . Composing rules, e.g. of brass	7/14 . . . the matrices being composed by hand
1/16 . Reglets	7/16 . . . the lines of matrices being composed and justified by machine operation, e.g. "linotype", "intertype" machines
1/18 . Chases	7/18 . . . . the matrices being guided by wires, e.g. "typograph" machines
1/20 . Quoins or other binding means	
1/22 . Composing tables; Type cases; Storage cabinets; Washing or cleaning devices therefor	<b>9/00 Details of, or accessories for, machines for mechanical composition using fixed combinations of matrices from which type is cast or moulded</b>
1/24 . . . Washing or cleaning devices	9/02 . Combinations of matrices
1/26 . Composing or setting sticks	9/04 . Carriers for combinations of matrices, e.g. blocks, cylinders, wheels, bars
1/28 . Galleys	9/06 . Mechanisms for effecting relative movements of matrix carriers and moulds for character or space selection
<b>3/00 Apparatus for mechanical composition using prefabricated type, i.e. without casting equipment</b>	9/08 . Moulding or casting devices
3/02 . Mechanical composing machines using single types or logotypes and having slide magazines therefor, e.g. flat, cylindrical, radial, single magazines	9/10 . . Moulds
3/04 . Means for distributing type	9/12 . . Justifying devices
3/06 . Justifying means	9/14 . . Supply devices for molten metal
<b>5/00 Devices for making type or lines</b> (for mechanical composition B41B 7/00, B41B 9/00, B41B 11/00)	9/16 . Devices for handling type after casting
5/02 . Matrices	9/18 . . Ejector mechanisms
5/04 . Casting devices	9/20 . . Trimming devices
5/06 . . mechanically operated	
5/08 . Tools or auxiliaries	
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	

- 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
  - 27/28 . 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)
  - 27/30 . . for arresting or varying speed of one operation in response to failure or variation in speed of another operation
  - 27/32 . . for line-justification operations
  - 27/34 . . . without the use of space bands
  - 27/36 . . . using electronic devices
  - 27/38 . . for measuring length of composed lines; for reading composed characters
  - 27/40 . . for proof-printing operations

**B41B – B41D**

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| <ul style="list-style-type: none"> <li>27/41 . . . Printing mechanisms coupled to typographical composing machines</li> <li>27/42 . . . for controlling selection of shifting of matrix magazines</li> <li>27/44 . . . for controlling assembly of matrices and space bands</li> </ul> | <ul style="list-style-type: none"> <li>27/46 . . . for controlling insertion of space bands (for line justification B41B 27/32)</li> <li>27/48 . . . 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)</li> <li>27/50 . . . operated by coupled machines</li> </ul> |
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**B41C PROCESSES FOR THE MANUFACTURE OR REPRODUCTION OF PRINTING SURFACES** (photomechanical processes for producing printing surfaces G03F; photoelectrical processes for producing printing surfaces G03G)

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| <p><b>1/00 Forme preparation</b></p> <p>1/02 . Engraving; Heads therefor (recording on record carriers, heads therefor G11B) [5]</p> <p><b>Note</b></p> <p>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. [5]</p> <p>1/04 . . . using heads controlled by an electric information signal</p> <p>1/045 . . . Mechanical engraving heads [5]</p> <p>1/05 . . . Heat-generating engraving heads, e.g. laser beam, electron beam [5]</p> <p>1/055 . Thermographic processes for producing formes (B41C 1/02 takes precedence) [5]</p> <p>1/06 . Transferring (B41C 1/10, B41C 1/18 take precedence) [5]</p> <p>1/08 . by embossing, e.g. with a typewriter (typewriters adapted therefor B41J 3/38)</p> | <p>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]</p> <p>1/12 . Multicolour formes</p> <p>1/14 . for stencil printing or silk-screen printing (B41C 1/055 takes precedence) [5]</p> <p>1/16 . Formes with areas rendered ink-resistant by covering with an amalgam; Printing plates for amalgam printing [5]</p> <p>1/18 . Curved printing formes or printing cylinders</p> <p><b>3/00 Reproduction or duplicating of printing formes</b></p> <p>3/02 . Stereotyping (casting stereotype plates B41D 3/00) [2]</p> <p>3/04 . to produce rubber printing blocks</p> <p>3/06 . to produce printing blocks from plastics</p> <p>3/08 . Electrotyping; Application of backing layers thereon [5]</p> |
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**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)

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| <p><b>1/00 Preparing or treating stereotype matrices</b></p> <p>1/02 . using brushes</p> <p>1/04 . using cylinders or rollers</p> <p>1/06 . using presses, e.g. toggle or like lever-and-link type presses</p> <p>1/08 . . . using hydraulic presses</p> <p>1/10 . Performing secondary operations on matrices</p> <p>1/12 . . Humidifying or moistening</p> <p>1/14 . . Drying</p> <p><b>Producing printing surfaces</b></p> <p><b>3/00 Casting stereotype plates; Machines, moulds, or devices therefor</b></p> <p>3/02 . Horizontal moulds for casting flat plates</p> <p>3/04 . Moulds, e.g. horizontal, for casting curved, e.g. semi-cylindrical, plates</p> <p>3/06 . . Vertical moulds</p> <p>3/08 . Moulds, e.g. horizontal, for casting tubular, i.e. cylindrical, plates</p> | <p>3/10 . . Vertical moulds</p> <p>3/12 . Multiple-mould stereotype casting machines</p> <p>3/14 . Details</p> <p>3/16 . . Matrix clamps</p> <p>3/18 . . Devices for closing or opening moulds</p> <p>3/20 . . Melting pots</p> <p>3/22 . . . with pumps for conveying the molten metal into the casting chambers or boxes</p> <p>3/24 . . . with control valves</p> <p>3/26 . . . with devices for stirring the molten metal</p> <p>3/28 . . Devices for cooling the moulds</p> <p><b>5/00 Working, treating, or handling stereotype plates</b></p> <p>5/02 . by bending</p> <p>5/04 . of flat plates</p> <p>5/06 . of curved plates</p> |
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**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 [8]**

**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

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

### Subclass index

PLATEN PRESSES ..... 1/00  
CYLINDER PRESSES ..... 3/00  
ROTARY MACHINES  
Letterpress, lithographic, intaglio  
machines ..... 5/00, 7/00,  
9/00  
Other machines; combined  
machines ..... 11/00, 17/00;  
19/00  
Details ..... 13/00  
Screen printers ..... 15/00

Transfer printing machines ..... 16/00  
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**

1/02 . Hand-operated platen presses  
1/04 . for mono-impression printing, e.g. on sheets  
1/06 . . with platen maintained parallel to bed during movement (preparing stereotype matrices using presses B41D 1/06)  
1/08 . . on webs  
1/10 . for multi-impression printing in one or more colours, e.g. on webs  
1/12 . . on sheets  
1/14 . . . using swinging platens, or forme supports  
1/16 . for offset printing  
1/18 . for lithography  
1/20 . for perfecting sheets, i.e. for printing on both sides of sheets  
1/22 . specially adapted for printing heads, e.g. letter heads  
1/24 . specially adapted for proof printing  
1/26 . Details  
1/28 . . Sheet-conveying, -aligning or -clamping devices (in general B65H)  
1/30 . . . using rotary grippers  
1/32 . . . using air pressure, e.g. vacuum  
1/34 . . . Registering devices, e.g. gauges  
1/36 . . . Clamps for conveying sheets and for holding same on the platens  
1/38 . . Platens or type-beds  
1/40 . . Inking units

1/42 . . . using flat inking elements, e.g. discs  
1/44 . . . using inking ribbons  
1/46 . . . using rollers  
1/48 . . . pivoting around the platen or base  
1/50 . . . supported on carriages for movement in or on runways  
1/52 . . . . Carriage driving gear  
1/54 . . Printing-pressure control devices  
1/56 . . Auxiliary devices  
1/58 . . . Arrangements of counting devices for counting sheets  
1/60 . . Safety devices  
1/62 . . . for preventing injury to operator  
1/64 . . . . to the hands of the operator  
1/66 . . . responsive to incorrect operating conditions

**3/00 Cylinder presses, i.e. presses essentially comprising at least one cylinder co-operating with at least one flat type-bed**

3/02 . with impression cylinder or cylinders rotating unidirectionally  
3/04 . . intermittently; Stop-cylinder presses  
3/06 . . continuously  
3/08 . . . Single-revolution presses  
3/10 . . . Two-revolution presses  
3/12 . . Twin presses, i.e. with more than one cylinder or type-bed  
3/14 . with impression cylinder or cylinders rotating in opposite directions during each working cycle

## B41F

- 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	13/60	. . . crosswise
9/18	. . Auxiliary devices for exchanging forme cylinders	13/62	. . . Folding-cylinders or drums
11/00	<b>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</b>	13/64	. . Collecting
11/02	. for securities (security printing B41M 3/14) [3]	13/66	. . . and stapling
13/00	<b>Common details of rotary presses or machines</b>	13/68	. . Adding inserts
13/004	. Electric or hydraulic features of drives [6]	13/70	. . Depositing
13/008	. Mechanical features of drives, e.g. gears, clutches [6]	15/00	<b>Screen printers</b> (for selective printing B41J 2/005)
13/012	. . Taking-up backlash [6]	15/02	. Manually-operable devices
13/016	. Brakes [6]	15/04	. . for multicolour printing
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)	15/06	. . with auxiliary equipment, e.g. for drying printed articles
13/03	. . Threading webs into printing machines [6]	15/08	. Machines
13/04	. . intermittently	15/10	. . for multicolour printing
13/06	. . Turning-bar arrangements	15/12	. . with auxiliary equipment, e.g. for drying printed articles
13/08	. Cylinders	15/14	. Details
13/10	. . Forme cylinders	15/16	. . Printing tables
13/11	. . . Gravure cylinders [6]	15/18	. . . Supports for workpieces
13/12	. . . Registering devices	15/20	. . . . with suction-operated elements
13/14	. . . . with means for displacing the cylinders	15/22	. . . . for single sheets
13/16	. . . . with means for displacing the printing formes on the cylinders	15/24	. . . . for webs
13/18	. . Impression cylinders	15/26	. . . . for articles with flat surfaces
13/187	. . . for rotogravure [6]	15/28	. . . . for elongated flat articles, e.g. strips, bands
13/193	. . Transfer cylinders; Offset cylinders [6]	15/30	. . . . for articles with curved surfaces
13/20	. . Supports for bearings or supports for forme, offset, or impression cylinders	15/32	. . . . for articles with conical surfaces
13/21	. . . Bearer rings [6]	15/34	. . Screens; Frames; Holders therefor
13/22	. . Means for cooling or heating forme or impression cylinders	15/36	. . . flat
13/24	. . Cylinder-tripping devices; Cylinder-impression adjustments	15/38	. . . curved
13/26	. . . Arrangement of cylinder bearings	15/40	. . Inking units
13/28	. . . . Bearings mounted eccentrically of the cylinder axis	15/42	. . . comprising squeegees or doctors
13/30	. . . . Bearings mounted on sliding supports	15/44	. . Squeegees or doctors (doctors of rotary intaglio printing presses B41F 9/10)
13/32	. . . . Bearings mounted on swinging supports	15/46	. . . with two or more operative parts
13/34	. . . . Cylinder-lifting or -adjusting devices	16/00	<b>Transfer printing apparatus</b> (apparatus or machines for applying decalcomanias B65C) [4]
13/36	. . . . Cams, eccentrics, wedges, or the like	16/02	. for textile material [4]
13/38	. . . . electrically or magnetically operated	17/00	<b>Printing apparatus or machines of special types or for particular purposes, not otherwise provided for</b> (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)
13/40	. . . . fluid-pressure operated	17/02	. for printing books or manifolding sets
13/42	. . Guards or covers, e.g. for preventing ingress or egress of foreign matter	17/04	. for printing calendars
13/44	. Arrangements to accommodate interchangeable cylinders of different sizes to enable machine to print on areas of different sizes	17/08	. for printing on filamentary or elongated articles or material, or on articles with cylindrical surfaces
13/46	. Printing units for inserting latest news	17/10	. . on articles or material of indefinite length, e.g. wires, hoses, tubes or yarns
13/48	. Arrangements to enable printing to be effected over selected areas of a single forme cylinder (by inking selected areas B41F 31/18)	17/12	. . . at an angle to axis
13/50	. . by effecting relative movement of forme and impression cylinders during printing cycle	17/13	. . . for printing on rolls of material, the roll serving as impression cylinder, e.g. strip printers [2009.01]
13/52	. . by projecting and retracting parts of the surface of the forme cylinder	17/14	. . on articles of finite length
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)	17/16	. . . on end or bottom surfaces thereof
13/56	. . Folding or cutting	17/18	. . . on curved surfaces of articles of varying cross-section, e.g. bottles, lamp glasses
13/58	. . . lengthwise	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

## B41F

- 17/28 . for printing on curved surfaces of conical or frusto-conical articles
- 17/30 . for printing on curved surfaces of essentially spherical, or part-spherical, articles
- 17/32 . . on lamp bulbs
- 17/34 . . on articles with surface irregularities, e.g. fruit, nuts
- 17/36 . for printing on tablets, pills, or like small articles
- 17/38 . for printing on knitted fabrics
- 19/00 **Apparatus or machines for carrying out printing operations combined with other operations** (auxiliary perforating apparatus associated with printing devices B41G 7/00; coding or marking in association with packaging B65B 61/00; label dispensers having printing equipment B65C) [2]
- 19/02 . with embossing (printing with a printer's forme combined with embossing B41M 1/24)
- 19/04 . . using intaglio printing formes and wipers
- 19/06 . . Printing and embossing between a negative and a positive forme after inking and wiping the negative forme; Printing from an ink band treated with colour or "gold"
- 19/08 . Simultaneous moulding and printing

### Common details of printing machinery

- 21/00 **Devices for conveying sheets through printing apparatus or machines** (through platen presses B41F 1/28; feeding sheets to or from printing apparatus or machines B65H)
- 21/02 . Pins [3,5]
- 21/04 . Grippers [3,5]
- 21/05 . . In-feed grippers [3,5]
- 21/06 . . Suction-operated grippers
- 21/08 . Combinations of endless conveyers and grippers
- 21/10 . Combinations of transfer drums and grippers [3]
- 21/12 . Adjusting leading edges, e.g. front stops [3]
- 21/14 . Adjusting lateral edges, e.g. side stops [3]
- 22/00 **Means preventing smudging of machine parts or printed articles** (B41F 23/00 takes precedence) [6]
- 23/00 **Devices for treating the surfaces of sheets, webs, or other articles in connection with printing** (cleaning in general B08B; as a final step in the manufacture of such articles, see appropriate subclasses, e.g. B29C 71/00, D21H 23/00 or D21H 25/00; surface treatment in general, see the relevant places, e.g. applying liquids or other fluent materials B05, of metals C23G)
- 23/02 . by dampening (in rotary lithographic machines B41F 7/24)
- 23/04 . by heat drying, by cooling, by applying powders
- 23/06 . . Powdering devices, e.g. for preventing set-off
- 23/08 . Print-finishing devices, e.g. for glossing prints
- 25/00 **Devices for pressing sheets or webs against cylinders, e.g. for smoothing purposes** (apparatus for taking-out curl from webs in general B65H 23/34)
- 27/00 **Devices for attaching printing elements or formes to supports** (attaching by chemical means B41N 6/00) [5]
- 27/02 . Magnetic devices
- 27/04 . for attaching printing elements to flat type-beds
- 27/06 . for attaching printing elements to forme cylinders
- 27/08 . for attaching printing formes to flat type-beds
- 27/10 . for attaching non-deformable curved printing formes to forme cylinders

- 27/12 . for attaching flexible printing formes
- 27/14 . for attaching printing formes to intermediate supports, e.g. adapter members
- 30/00 **Devices for attaching coverings or make-ready devices; Guiding devices for coverings** (make-ready devices B41N 6/00; blankets or like coverings B41N 10/00) [5]
- 30/02 . attaching to impression cylinders [5]
- 30/04 . attaching to transfer cylinders [5]
- 30/06 . attaching of endless or like continuously-fed coverings [5]
- 31/00 **Inking arrangements or devices** (inking units for platen presses B41F 1/40; inking units for cylinder presses B41F 3/81; applying liquids or other fluent materials to surfaces, in general B05; for typewriters or selective printing mechanisms B41J)
- 31/02 . Ducts, containers, supply or metering devices (level control in general G05D 9/00) [3]
- 31/03 . . Ink agitators [6]
- 31/04 . . with duct-blades or like metering devices
- 31/05 . . . Positioning devices therefor [6]
- 31/06 . . Troughs or like reservoirs with immersed, or partly immersed, rollers or cylinders
- 31/07 . . . for rotogravure [6]
- 31/08 . . with ink-ejecting means, e.g. pumps, nozzles
- 31/10 . . Applications of feed or duct rollers (messenger or moving transfer rollers B41F 31/14)
- 31/12 . . . adjustable for regulating supply
- 31/13 . . Means for driving fountain rollers [6]
- 31/14 . . Applications of messenger or other moving transfer rollers
- 31/15 . Devices for moving vibrator-rollers [6]
- 31/16 . Continuous, e.g. endless, band apparatus
- 31/18 . for inking selected parts of printing formes
- 31/20 . Ink-removing or collecting devices
- 31/22 . for inking from interior of cylinder
- 31/24 . Absorbent pads
- 31/26 . Construction of inking rollers (inking-rollers serving also to apply ink repellent in rotary lithographic machines B41F 7/36)
- 31/28 . Spray apparatus, e.g. containing brushes
- 31/30 . Arrangements for tripping, lifting, adjusting, or removing inking rollers; Supports, bearings, or forks therefor
- 31/32 . . Lifting or adjusting devices (for damping rollers B41F 7/40)
- 31/34 . . . Cam, eccentric, wedge, or like devices
- 31/36 . . . fluid-pressure operated
- 31/38 . . . magnetically operated
- 33/00 **Indicating, counting, warning, control, or safety devices** (arrangements of counting devices in platen presses B41F 1/00, in cylinder presses B41F 3/84, in typewriters or selective printing mechanisms B41J 29/20; ink supply or metering devices B41J 31/02; such devices in general, see the relevant subclasses, e.g. counting in general G06M) [3]
- 33/02 . Arrangements of indicating devices, e.g. counters [2]
- 33/04 . Tripping devices or stop-motions (cylinder-tripping devices of rotary presses or machines B41F 13/24; arrangements for tripping inking rollers B41F 31/30) [2]
- 33/06 . . for starting or stopping operation of sheet or web feed
- 33/08 . . for starting or stopping operation of cylinders



33/10	. . for starting or stopping operation of damping or inking units	33/16	. Programming systems for automatic control of sequence of operations
33/12	. . for starting or stopping the machine as a whole	33/18	. Web break detection (B41F 33/04 takes precedence) [6]
33/14	. . Automatic control of tripping devices by feelers, photoelectric devices, pneumatic devices, or other detectors	35/00	<b>Cleaning arrangements or devices</b>
		35/02	. for forme cylinders
		35/04	. for inking rollers
		35/06	. for offset cylinders

**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)

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

**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)

- (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. [5]
- (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. [5]
- (3) In this subclass, the following term is used with the meaning indicated:
  - “paper” covers also similar flexible copy material; [3]
  - “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. [5]

#### 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 to 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**

<b>1/00</b>	<b>Typewriters or selective printing mechanisms characterised by the mounting, arrangement, or disposition of the types or dies</b> (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
<b>2/00</b>	<b>Typewriters or selective printing mechanisms characterised by the printing or marking process for which they are designed</b> (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]
(1)	This group <u>covers</u> 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. [5]
(2)	In this group, the following expressions are used with the meanings indicated: <ul style="list-style-type: none"> <li>– “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;</li> <li>– “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;</li> <li>– “ink spray” means a spray of ink transported by a stream of charged particles or air on to the printing material. [5]</li> </ul>
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 to 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. matel 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]
- 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 . Platens
- 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	23/00	<b>Power drives for actions or mechanisms</b> (B41J 9/00 take precedence)
19/38	. . . . adapted for silent return	23/02	. Mechanical power drives
19/40	. . . Escapements having a single pawl or like detent	23/04	. . with driven mechanism arranged to be clutched to continuously-operating power source
19/42	. . . Escapements having two pawls or like detents	23/06	. . . by snatch rolls
19/44	. . . . coating with two toothed members, e.g. racks or wheels	23/08	. . . by one-revolution or part-revolution clutches
19/46	. . . . and mounted on a single rocker	23/10	. . . and arrested in selected position
19/48	. . . . and mounted on a single slider	23/12	. Mechanism driven by cams engaging rotating roller
19/50	. . . Electromagnetically-controlled escapements	23/14	. Mechanism driven through an oscillating or reciprocating member
19/52	. . . Escapements controlling positive-feed mechanism	23/16	. Mechanism driven by a spring tensioned by power means
19/54	. . . Construction of universal bars	23/18	. . Continuously-cycling drives
19/56	. . . Escapements controlling web or strip feed	23/20	. Fluid-pressure power drives
19/58	. . . Differential or variable-spacing arrangements	23/22	. . for key or like type selection
19/60	. . Auxiliary feed or adjustment devices	23/24	. . for impression mechanisms
19/62	. . . for back-spacing	23/26	. . for platen or carriage movements, e.g. for line spacing, letter spacing, or carriage return
19/64	. . . for justifying	23/28	. . for type-carriage movements
19/66	. . Carriage-release mechanisms	23/30	. . for case shift
19/68	. . Carriage-return mechanisms, e.g. manually actuated	23/32	. Electromagnetic power drives, e.g. applied to key levers
19/70	. . . power driven	23/34	. . applied to elements other than key levers
19/72	. . . . with power stored during character spacing	23/36	. . . and acting on type members
19/74	. . with special means to maintain character-spacing or back-spacing elements in engagement during case-shift or like movement	23/38	. . . and acting on aligning or case-shift mechanisms
19/76	. Line-spacing mechanisms (special line-feeds, e.g. long feeds, B41J 11/36)	25/00	<b>Actions or mechanisms not otherwise provided for</b>
19/78	. . Positive-feed mechanisms	25/02	. Key actions for specified purposes
19/80	. . . Pawl-and-ratchet mechanisms	25/04	. . Back-spacing
19/82	. . . . moving a paper or like carriage	25/06	. . Carriage return
19/84	. . . . . in the form of a roller rotated for line spacing	25/08	. . Case shift
19/86	. . . . . the pawl being normally in engagement with the ratchet	25/10	. . Ink-ribbon adjustment
19/88	. . . . moving a type carriage	25/12	. . Character spacing
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	25/14	. . Line spacing
19/92	. . . Electromagnetically-operated mechanisms	25/16	. . Line spacing and carriage return by a single key
19/94	. . . automatically operated in response to carriage return	25/18	. . Tabulating
19/96	. . . Variable-spacing arrangements	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
19/98	. . Escapement-feed mechanisms	25/22	. for aligning characters for impression (in machines using index setting B41J 5/02)
21/00	<b>Column, tabular, or like printing arrangements; Means for centralising short lines</b> (carriage-release mechanisms B41J 19/66; key actions B41J 25/18)	25/24	. Case-shift mechanisms (B41J 11/14 takes precedence; key actions B41J 25/08); Fount-change arrangements
21/02	. Stops or stop-racks	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]
21/04	. Mechanisms for setting or restoring tabulation stops	25/308	. . with print gap adjustment mechanisms [5]
21/06	. with means for preventing rebound from stops	25/312	. . with print pressure adjustment mechanisms, e.g. pressure-on-the-paper mechanisms [5]
21/08	. Mechanisms for initiating, effecting, skipping, or stopping tabulation movement; Means for centralising short lines	25/316	. . with tilting motion mechanisms relative to paper surface [5]
21/10	. with central, counter, or equivalent stop projected into path of tabulation stops	25/32	. Impression mechanisms in which a roller co-operates with stationary type-faces
21/12	. characterised by arrangements of electrical contacts	25/34	. Bodily-changeable print heads or carriages (B41J 1/20, B41J 1/22, B41J 1/60 take precedence) [5]
21/14	. characterised by denominational arrangements	27/00	<b>Inking apparatus</b>
21/16	. controlled by the sensing of marks or formations on the paper being typed, an undersheet, or the platen	27/02	. with ink applied by pads or rotary discs
21/17	. controlled by stored information [5]		
21/18	. characterised by applications of scales or indicators		

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

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**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)

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<b>1/00</b>	<b>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</b>	1/14	. . having automatic means for changing type-characters
1/02	. with one or more flat stamping surfaces having fixed images	1/16	. . . . Numbering devices
1/04	. . with multiple stamping surfaces; with stamping surfaces replaceable as a whole	1/18	. . . . . for pages
1/06	. . with means for locating the image to be obtained	1/20	. . with means for locating the image to be obtained
1/08	. with a flat stamping surface and changeable characters	1/22	. with curved stamping surfaces for stamping by rolling contact
1/10	. . having movable type-carrying bands or chains	1/24	. . Rocking stamps
1/12	. . having adjustable type-carrying wheels	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

1/36	. Details	3/32	. with co-operating stamping and counter-stamping members
1/38	. . Inking devices; Stamping surfaces	3/34	. . in the form of indexable cylinders, e.g. of curved or polygonal cross-section, or of movable chains or bands
1/40	. . . Inking devices operated by stamping movement	3/36	. with means for deforming or punching the copy matter
1/42	. . . . with pads or rollers movable for inking	3/38	. . separate from the stamping means
1/44	. . . for offset, intaglio, or stencil stamping	3/40	. . for numerical or alphabetical characters
1/46	. . . for multicolour stamping	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
1/48	. . . with ink ribbons, ink sheets, or carbon tape or paper	3/44	. Means for handling copy matter
1/50	. . . Stamping surfaces impregnated with ink, or made of material leaving a mark after stamping contact	3/46	. . for locating when stationary
1/52	. . . Ink reservoirs, e.g. integral with stamp handles	3/48	. . for conveying intermittently to or from stamping station
1/54	. . . Inking pads	3/50	. . for conveying during stamping operation
1/56	. . Handles	3/52	. . for discharging
1/58	. . Stands or other means for keeping hand stamps or the like within easy reach	3/54	. Inking devices
3/00	<b>Apparatus for stamping articles having integral means for supporting the articles to be stamped</b> (means for printing on articles of special shape or having a surface of particular configuration B41F 17/00)	3/56	. . using inking pads
3/02	. with stamping surface located above article-supporting surface	3/58	. . using ink ribbons, ink sheets, or carbon tape or paper
3/04	. . and movable at right angles to the surface to be stamped	3/60	. . using rollers, e.g. rollers with integral ink-supply devices
3/06	. . . having type-carrying bands or chains	3/62	. Details or accessories
3/08	. . . having adjustable type-carrying wheels	3/64	. . Stamping mechanisms controlled by feed of copy matter
3/10	. . . having automatic means for changing type-characters, e.g. numbering devices	3/66	. . Safety devices, e.g. for preventing extraction of copy matter before completion of stamping operation
3/12	. . with curved stamping surface for stamping by rolling contact	3/68	. . Cutting or severing devices (in general B26)
3/14	. . . for relief stamping	5/00	<b>Plier-like tools for stamping, or stamping and delivering, tickets or the like</b>
3/16	. . . for intaglio stamping	5/02	. with means for varying the image stamped
3/18	. . . for offset stamping	5/04	. with devices for collecting counterfoils, or with other means for recording stamping operations (counting devices G06M)
3/20	. . . for stencilling	5/06	. . for recording on separate tape
3/22	. . . with means for producing distorted images	5/08	. . with counting devices
3/24	. . for multicolour stamping	99/00	<b>Subject matter not provided for in other groups of this subclass [8]</b>
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		

**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)

- (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.

### Subclass index

MANIFOLDING.....	1/00, 3/00, 5/00
DUPLICATING	
From hectographic masters.....	7/00, 9/00, 11/00
By stencil .....	13/00
Otherwise .....	19/00
PRINTING	
Letterpress apparatus .....	15/00
Lithographic apparatus .....	17/00
Other apparatus .....	19/00
COMMON DETAILS OR ACCESSORIES	
Treatment of surfaces before printing; handling thereof .....	23/00; 21/00, 33/00

Impression or offset surfaces; moistening thereof.....	38/00; 25/00
Inking.....	27/00
Handling printing elements or formes .....	29/00 to 33/00
Cylinders; Attaching coverings or make-ready devices.....	35/00; 38/00
Auxiliary operations.....	39/00, 41/00, 43/00

### **SPECIAL MACHINES FOR SERIES-**

PRINTING.....	45/00, 47/00, 49/00
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### Manifolding by means of pressure-sensitive layers or intermediaries

<b>1/00</b>	<b>Devices for performing operations in connection with manifolding by means of pressure-sensitive layers or intermediaries, e.g. carbons; Accessories for manifolding purposes</b>
1/02	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)
<b>3/00</b>	<b>Platens or like sheet supports for manifolding using pressure-sensitive layers or intermediaries, e.g. for book-keeping purposes</b>
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
<b>5/00</b>	<b>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)</b>
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

**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	47/20	. . Devices for feeding the plates otherwise than in their plane, e.g. transversely thereto
39/16	. Programming systems for automatic control of sequence of operations	47/22	. . with means for presenting plates for repeated printing operations
<b>41/00</b>	<b>Cleaning arrangements or devices</b>	47/24	. Mechanisms for conveying copy material through addressing machines or like series-printing machines (in general B65H)
41/02	. for forme cylinders	47/26	. . for conveying or positioning single sheet-like articles, e.g. envelopes
41/04	. for inking rollers	47/28	. . with gauging-rulers or the like, e.g. for facilitating hand-printing of copy material fed from stacks
41/06	. for offset cylinders	47/30	. . for conveying webs
<b>43/00</b>	<b>Auxiliary folding, collecting, or depositing of sheets or webs</b>	47/32	. . . combined with devices for other purposes, e.g. for cutting, severing, gluing
43/02	. Folding	47/34	. . . specially adapted for conveying chains of forms
43/04	. . lengthwise	47/36	. . for conveying sheets or webs for tabulating purposes; Tabulating mechanisms combined with sheet or web conveyers
43/06	. . crosswise	47/38	. . . with clamping means for head or margin
43/08	. . Folding-cylinders or -drums	47/40	. . . with means for automatically reciprocating sheet or web transversely to enable addresses to be printed in columns side by side
43/10	. Collecting	47/42	. Printing mechanisms
43/12	. . and stapling	47/44	. . using flat platens
43/14	. Adding inserts	47/46	. . using line-contact members, e.g. rollers, cylinders
43/16	. Depositing	47/48	. . with inking or ink-ribbon devices
<b>Addressing machines or like series-printing machines</b>		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)
<b>45/00</b>	<b>Kinds or types of addressing machines or of like series-printing machines</b>	47/52	. . with movable counter-pressure plates for printing from selected areas of printing surfaces
45/02	. using printing plates	47/54	. . with means for automatically reciprocating printing plate transversely to enable addresses to be printed in columns side by side
45/04	. . composed on type-setting machines	47/56	. Indicating, warning, control or safety devices (B41L 47/58 takes precedence)
45/06	. . for addressing combined with other operations, e.g. franking, collating documents	47/58	. Arrangements or devices for selecting, or for facilitating selection of, text or image to be printed
45/08	. with printing surfaces in the form of belts, or carried by chains	47/60	. . Markings applied to printing plates, e.g. code marks, colours, clips, perforations, edge notches, projections
45/10	. . for addressing combined with other operations, e.g. franking, collating documents	47/62	. . Selecting devices, e.g. cams, windows, position indicators
45/12	. with separate devices for printing additional texts or images, e.g. for printing receipts on blank sheets or webs	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
<b>47/00</b>	<b>Details of addressing machines or like series-printing machines</b> (common details of printing machines B41F 21/00 to B41F 35/00)	<b>49/00</b>	<b>Accessories or attachments for addressing machines or like series-printing machines</b>
47/02	. Applications of printing surfaces in addressing machines or like series-printing machines (printing surfaces in general B41N)	49/02	. Counting, numbering, or dating devices
47/04	. . of flat or curved plates for relief printing	49/04	. Devices for applying selection markings to printing plates
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		

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**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)

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<b>1/00</b>	<b>Inking and printing with a printer's forme</b>	1/04	. . Flexographic printing
1/02	. Letterpress printing, e.g. book 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 [8]
- 5/327 . . . . with a lactone or lactam ring [8]
- 5/333 . . . Colour developing components therefor, e.g. acidic compounds [8]
- 5/337 . . . Additives; Binders [8]
- 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) [8]
- 5/385 . . . characterised by the transferable dyes or pigments [8]
- 5/388 . . . . Azo dyes [8]
- 5/39 . . . . Dyes containing one or more carbon-to-nitrogen double bonds, e.g. azomethine [8]
- 5/392 . . . Additives other than colour forming substances, dyes or pigments, e.g. sensitisers, transfer promoting agents [8]
- 5/395 . . . . Macromolecular additives, e.g. binders [8]
- 5/398 . . Processes based on the production of stickiness patterns using powders [8]
- 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 [8]
- 5/42 . . . Intermediate or covering layers [8]
- 5/44 . . . characterised by the macromolecular compounds [8]
- 5/46 . . . characterised by the light-to-heat converting means; characterised by the heat or radiation filtering or absorbing means or layers [8]
- 5/48 . . . combined with other image registration layers or compositions; Special originals for reproduction by thermography [8]

- 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) [8]
- 5/52 . . Macromolecular coatings [8]
- 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)

- 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 [8]**

**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 [8]**