

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

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]

KINDS OF APPARATUS

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

COMMON DETAILS OR ACCESSORIES

Character selection 5/00, 7/00
Hammer impression..... 9/00
Supporting or handling copy or
duplicating material 11/00 15/00

Transfer material

of page-width..... 17/00
in ribbon form; ink ribbon
cartridges 31/00, 33/00,
35/00; 32/00
Inking..... 27/00
Spacing 19/00
Drives 23/00
Particular operations 21/00
Others 25/00, 29/00,
35/00

Kinds of typewriters or of selective printing mechanisms

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

- 1/02 . with separate or detached types or dies
- 1/04 . with types or dies carried upon levers or radial arms, e.g. manually operated (B41J 1/16 takes precedence)
- 1/06 . . on power-operated levers or arms
- 1/08 . with types or dies carried on sliding bars or rods
- 1/10 . . on end surfaces thereof
- 1/12 . . on side surfaces thereof, e.g. fixed thereto
- 1/14 . . . the types or dies being movable relative to the bars or rods (mounted on flexible bars or rods B41J 1/16)
- 1/16 . with types or dies arranged in stationary or sliding cases or frames or upon flexible strips, plates, bars, or rods
- 1/18 . with types or dies strung on wires or rods

- 1/20 . with types or dies mounted on endless bands or the like
- 1/22 . with types or dies mounted on carriers rotatable for selection
- 1/24 . . the plane of the type or die face being perpendicular to the axis of rotation (B41J 1/60 takes precedence)
- 1/26 . . . Carriers moving for impression (B41J 1/27 takes precedence) [3]
- 1/27 . . . Carriers moving during impression [3]
- 1/28 . . . Carriers stationary for impression, e.g. with the types or dies not moving relative to the carriers
- 1/30 . . . with the types or dies moving relative to the carriers or mounted on flexible carriers
- 1/32 . . the plane of the type or die face being parallel to the axis of rotation, e.g. with type on the periphery of cylindrical carriers (B41J 1/60 takes precedence)
- 1/34 . . . Carriers rotating during impression

- 1/36 . . . Carriers sliding for impression, e.g. manually operated
- 1/38 . . . power operated
- 1/40 . . . Carriers swinging for impression
- 1/42 . . . about an axis parallel to the axis of rotation of the carrier
- 1/44 . . . Carriers stationary for impression
- 1/46 . . . Types or dies fixed on wheel, drum, cylinder, or like carriers
- 1/48 . . . with a plurality of carriers, one for each character space
- 1/50 . . . with one or more carriers travelling across copy material in letter-space direction
- 1/52 . . . with copy material moving in the letter-space direction, and carrier mounting being fixed relative to the machine
- 1/54 . . . Types or dies movable on wheel, drum, cylinder, or like carriers
- 1/56 . . . Types or dies on shuttles or like loose carriers
- 1/58 . . . Types or dies upon arcuate bars
- 1/60 . . . with types or dies on spherical, truncated-spherical, or like surfaces
- 2/00 Typewriters or selective printing mechanisms characterised by the printing or marking process for which they are designed** (mounting, arrangement, or disposition of types or dies B41J 1/00; marking methods B41M 5/00; structure or manufacture of heads, e.g. inductive, for recording by magnetisation or demagnetisation of a record carrier G11B 5/127; heads for reproducing capacitive information G11B 9/07) [5]
- (1) This group covers devices reproducing only a discrete number of tones, whereas group H04N 1/00 covers devices used for the reproduction of documents or the like, which devices are capable of reproducing continuous tone value scales. [5]
- (2) In this group, the following expressions are used with the meanings indicated:
- “ink jet” involves the projection of ink on to the printing material, e.g. paper, through a nozzle as a stream of droplets or particles of colouring matter;
 - “continuous ink jet” means a jet of ink transformed into a continuous stream of droplets or particles of colouring matter after having left the nozzle;
 - “ink spray” means a spray of ink transported by a stream of charged particles or air on to the printing material. [5]
- 2/005 . . . characterised by bringing liquid or particles selectively into contact with a printing material (printing by selective application of impact or pressure on a printing or impression-transfer material B41J 2/22) [5]
- 2/01 . . . Ink jet [5]
- 2/015 . . . characterised by the jet generation process (B41J 2/215 takes precedence) [5]
- 2/02 . . . generating a continuous ink jet [5]
- 2/025 . . . by vibration [5]
- 2/03 . . . by pressure [5]
- 2/035 . . . by electric or magnetic field [5]
- 2/04 . . . generating single droplets or particles on demand [5]
- 2/045 . . . by pressure, e.g. electromechanical transducers [5]
- 2/05 . . . produced by the application of heat [5]
- 2/055 . . . Devices for absorbing or preventing back-pressure [5]
- 2/06 . . . by electric or magnetic field [5]
- 2/065 . . . involving the preliminary making of ink protuberances [5]
- 2/07 . . . characterised by jet control (B41J 2/205 takes precedence) [5]
- 2/075 . . . for many-valued deflection [5]
- 2/08 . . . charge-control type [5]
- 2/085 . . . Charge means, e.g. electrodes [5]
- 2/09 . . . Deflection means [5]
- 2/095 . . . electric field-control type [5]
- 2/10 . . . magnetic field-control type [5]
- 2/105 . . . for binary-valued deflection [5]
- 2/11 . . . for ink spray [5]
- 2/115 . . . synchronising the droplet separation and charging time [5]
- 2/12 . . . testing or correcting charge or deflection [5]
- 2/125 . . . Sensors, e.g. deflection sensors [5]
- 2/13 . . . for inclination of printed pattern [5]
- 2/135 . . . Nozzles [5]
- 2/14 . . . Structure thereof [5]
- 2/145 . . . Arrangement thereof [5]
- 2/15 . . . for serial printing [5]
- 2/155 . . . for line printing [5]
- 2/16 . . . Production of nozzles [5]
- 2/165 . . . Prevention of nozzle clogging, e.g. cleaning, capping or moistening for nozzles [5]
- 2/17 . . . characterised by ink handling [5]
- 2/175 . . . Ink supply systems [5]
- 2/18 . . . Ink recirculation systems [5]
- 2/185 . . . Ink-collectors; Ink-catchers [5]
- 2/19 . . . for removing air bubbles [5]
- 2/195 . . . for monitoring ink quality [5]
- 2/20 . . . for preventing or detecting contamination of compounds [5]
- 2/205 . . . for printing a discrete number of tones (B41J 2/21 takes precedence) [5]
- 2/21 . . . for multi-colour printing [5]
- 2/215 . . . by passing a medium, e.g. consisting of an air or particle stream, through an ink mist [5]
- 2/22 . . . characterised by selective application of impact or pressure on a printing material or impression-transfer material [5]
- 2/225 . . . ballistic, e.g. using solid balls or pellets [5]
- 2/23 . . . using print wires [5]
- 2/235 . . . Print head assemblies [5]
- 2/24 . . . serial printer type (B41J 2/25, B41J 2/265 take precedence) [5]
- 2/245 . . . line printer type (B41J 2/25, B41J 2/265 take precedence) [5]
- 2/25 . . . Print wires [5]
- 2/255 . . . Arrangement of the print ends of the wires [5]
- 2/26 . . . Connection of print wire and actuator [5]
- 2/265 . . . Guides for print wires [5]
- 2/27 . . . Actuators for print wires [5]
- 2/275 . . . of clapper type (B41J 2/28 takes precedence) [5]
- 2/28 . . . of spring charge type, i.e. with mechanical power under electro-magnetic control [5]
- 2/285 . . . of plunger type [5]

- 2/29 of moving-coil type [5]
- 2/295 using piezo-electric elements [5]
- 2/30 Control circuits for actuators [5]
- 2/305 Ink supply apparatus (ink ribbons, ink-ribbon mechanisms B41J 31/00 B41J 35/00) [5]
- 2/31 using a print element with projections on its surface impacted or impressed by hammers [5]
- 2/315 characterised by selective application of heat to a heat sensitive printing or impression-transfer material (B41J 2/385, B41J 2/435 take precedence) [5]
- 2/32 using thermal heads [5]
- 2/325 by selective transfer of ink from ink carrier, e.g. from ink ribbon or sheet [5]
- 2/33 from ink roller [5]
- 2/335 Structure of thermal heads [5]
- 2/34 comprising semiconductors [5]
- 2/345 characterised by the arrangement of resistors or conductors [5]
- 2/35 providing current or voltage to the thermal head [5]
- 2/355 Control circuits for heating-element selection [5]
- 2/36 Print density control [5]
- 2/365 by compensation for variation in temperature [5]
- 2/37 by compensation for variation in current [5]
- 2/375 Protection arrangements against overheating [5]
- 2/38 Preheating, i.e. heating to a temperature insufficient to cause printing [5]
- 2/385 characterised by selective supply of electric current or selective application of magnetism to a printing or impression-transfer material (B41J 2/005 takes precedence; electrography, magnetography G03G) [5]
- 2/39 using multi-stylus heads [5]
- 2/395 Structure of multi-stylus heads [5]
- 2/40 providing current or voltage to the multi-stylus head [5]
- 2/405 Selection of the stylus or auxiliary electrode to be supplied (electronic switching circuits in general H03K 17/00) [5]
- 2/41 for electrostatic printing (B41J 2/39 takes precedence) [5]
- 2/415 by passing charged particles through a hole or a slit [5]
- 2/42 for heating selectively [5]
- 2/425 for removing surface layer selectively from electro-sensitive material, e.g. metal coated paper [5]
- 2/43 for magnetic printing [5]
- 2/435 characterised by selective application of radiation to a printing material or impression-transfer material (optical elements, systems, or apparatus G02B; modulation or deflection of light G02F; electrophotography G03G) [5]
- 2/44 using single radiation source, e.g. lighting beams or shutter arrangements (B41J 2/475 takes precedence) [5]
- 2/445 using liquid crystals [5]
- 2/447 using arrays of radiation sources (B41J 2/475 takes precedence) [6]
- 2/45 using light-emitting diode arrays [5]
- 2/455 using laser arrays [5]
- 2/46 characterised by using glass fibres [5]
- 2/465 using masks, e.g. light-switching masks (photographic composing B41B) [5]
- 2/47 using the combination of scanning and modulation of light [5]
- 2/475 for heating selectively [5]
- 2/48 melting ink on a film or melting ink granules [5]
- 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
- 19/38 adapted for silent return
- 19/40 . . . Escapements having a single pawl or like detent
- 19/42 . . . Escapements having two pawls or like detents
- 19/44 coacting with two toothed members, e.g. racks or wheels
- 19/46 and mounted on a single rocker
- 19/48 and mounted on a single slider
- 19/50 . . . Electromagnetically-controlled escapements
- 19/52 . . . Escapements controlling positive-feed mechanism
- 19/54 . . . Construction of universal bars
- 19/56 . . . Escapements controlling web or strip feed
- 19/58 . . . Differential or variable-spacing arrangements
- 19/60 . . Auxiliary feed or adjustment devices
- 19/62 . . . for back-spacing
- 19/64 . . . for justifying
- 19/66 . . Carriage-release mechanisms
- 19/68 . . Carriage-return mechanisms, e.g. manually actuated
- 19/70 . . . power driven
- 19/72 with power stored during character spacing
- 19/74 . . with special means to maintain character-spacing or back-spacing elements in engagement during case-shift or like movement
- 19/76 . Line-spacing mechanisms (special line-feeds, e.g. long feeds, B41J 11/36)
- 19/78 . . Positive-feed mechanisms
- 19/80 . . . Pawl-and-ratchet mechanisms
- 19/82 moving a paper or like carriage
- 19/84 in the form of a roller rotated for line spacing
- 19/86 the pawl being normally in engagement with the ratchet
- 19/88 moving a type carriage
- 19/90 moving a paper or like web or strip, e.g. over a stationary support, automatically in response to movements other than carriage return
- 19/92 . . . Electromagnetically-operated mechanisms
- 19/94 . . . automatically operated in response to carriage return
- 19/96 . . . Variable-spacing arrangements
- 19/98 . . Escapement-feed mechanisms
- 21/00 Column, tabular, or like printing arrangements; Means for centralising short lines** (carriage-release mechanisms B41J 19/66; key actions B41J 25/18)
- 21/02 . Stops or stop-racks
- 21/04 . Mechanisms for setting or restoring tabulation stops
- 21/06 . with means for preventing rebound from stops
- 21/08 . Mechanisms for initiating, effecting, skipping, or stopping tabulation movement; Means for centralising short lines
- 21/10 . with central, counter, or equivalent stop projected into path of tabulation stops
- 21/12 . characterised by arrangements of electrical contacts

- 21/14 . characterised by denominational arrangements
- 21/16 . controlled by the sensing of marks or formations on the paper being typed, an undersheet, or the platen
- 21/17 . controlled by stored information [5]
- 21/18 . characterised by applications of scales or indicators
- 23/00 Power drives for actions or mechanisms (B41J 9/00 take precedence)**
 - 23/02 . Mechanical power drives
 - 23/04 . . with driven mechanism arranged to be clutched to continuously-operating power source
 - 23/06 . . . by snatch rolls
 - 23/08 . . . by one-revolution or part-revolution clutches
 - 23/10 . . . and arrested in selected position
 - 23/12 . . Mechanism driven by cams engaging rotating roller
 - 23/14 . . Mechanism driven through an oscillating or reciprocating member
 - 23/16 . . Mechanism driven by a spring tensioned by power means
 - 23/18 . . Continuously-cycling drives
 - 23/20 . Fluid-pressure power drives
 - 23/22 . . for key or like type selection
 - 23/24 . . for impression mechanisms
 - 23/26 . . for platen or carriage movements, e.g. for line spacing, letter spacing, or carriage return
 - 23/28 . . for type-carriage movements
 - 23/30 . . for case shift
 - 23/32 . Electromagnetic power drives, e.g. applied to key levers
 - 23/34 . . applied to elements other than key levers
 - 23/36 . . . and acting on type members
 - 23/38 . . . and acting on aligning or case-shift mechanisms
- 25/00 Actions or mechanisms not otherwise provided for**
 - 25/02 . Key actions for specified purposes
 - 25/04 . . Back-spacing
 - 25/06 . . Carriage return
 - 25/08 . . Case shift
 - 25/10 . . Ink-ribbon adjustment
 - 25/12 . . Character spacing
 - 25/14 . . Line spacing
 - 25/16 . . Line spacing and carriage return by a single key
 - 25/18 . . Tabulating
 - 25/20 . Auxiliary type mechanisms for printing distinguishing marks, e.g. for accenting, using dead or half-dead key arrangements, for printing marks in telegraph printers to indicate that machine is receiving
 - 25/22 . for aligning characters for impression (in machines using index setting B41J 5/02)
 - 25/24 . Case-shift mechanisms (B41J 11/14 takes precedence; key actions B41J 25/08); Fount-change arrangements
 - 25/304 . Bodily-movable mechanisms for print heads or carriages movable towards or from paper surface (type carriers sliding for impression B41J 1/36; type carriers swinging for impression B41J 1/40) [5]
 - 25/308 . . with print gap adjustment mechanisms [5]
 - 25/312 . . with print pressure adjustment mechanisms, e.g. pressure-on-the-paper mechanisms [5]
 - 25/316 . . with tilting motion mechanisms relative to paper surface [5]
- 25/32 . Impression mechanisms in which a roller co-operates with stationary type-faces
- 25/34 . Bodily-changeable print heads or carriages (B41J 1/20, B41J 1/22, B41J 1/60 take precedence) [5]
- 27/00 Inking apparatus**
 - 27/02 . with ink applied by pads or rotary discs
 - 27/04 . . Pads or discs; Ink-supply arrangements therefor
 - 27/06 . . Arrangements to ensure maximum life of pads or discs
 - 27/08 . . Arrangements for multicolour work
 - 27/10 . with ink applied by rollers; Ink-supply arrangements therefor
 - 27/12 . . Rollers
 - 27/14 . . Arrangements for multicolour work
 - 27/16 . with ink deposited electrostatically or electromagnetically, e.g. powdered ink
 - 27/18 . . with liquid ink deposited
 - 27/20 . with ink supplied by capillary action, e.g. through porous type-members, through porous platens
 - 27/22 . with inking discs or sectors
- 29/00 Details of, or accessories for, typewriters or selective printing mechanisms not otherwise provided for**
 - 29/02 . Framework
 - 29/04 . Means for attaching machines to baseboards
 - 29/06 . Special supports, platforms, or trolleys for supporting machines on tables
 - 29/08 . Sound-deadening or shock-absorbing stands, supports, cases, or pads separate from machines
 - 29/10 . Sound-deadening devices embodied in machines (B41J 19/04 takes precedence)
 - 29/12 . Guards, shields or dust excluders [5]
 - 29/13 . . Cases or covers [5]
 - 29/14 . Attachments operated by the leg, e.g. the foot or knee
 - 29/15 . Script supports connected to the typewriter or printer (tables, desks, office furniture, in general A47B) [5]
 - 29/16 . Auxiliary receptacles for articles, e.g. erasers, pencils
 - 29/17 . Cleaning arrangements [5]
 - 29/18 . Mechanisms for rendering the print visible to the operator (ink-ribbon shifts B41J 35/20) [5]
 - 29/19 . . with reflectors or illuminating devices [5]
 - 29/20 . Arrangements of counting devices
 - 29/22 . . Line counters
 - 29/24 . . Word counters
 - 29/26 . Devices, non-fluid media or methods for cancelling, correcting errors, underscoring or ruling [4]
 - 29/28 . . Writing or like instruments in holders or guides
 - 29/30 . . Wheels
 - 29/32 . . Type-members
 - 29/34 . . . repeatedly actuated
 - 29/36 . . for cancelling or correcting errors by overprinting (B41J 31/00 takes precedence) [4]
 - 29/367 . . . sheet media carrying a pigmented transferable correction layer [4]
 - 29/373 . . . sheet media bearing an adhesive layer effective to lift off wrongly typed characters [4]
 - 29/377 . Cooling or ventilating arrangements [5]
 - 29/38 . Drives, motors, controls, or automatic cut-off devices for the entire printing mechanism
 - 29/387 . . Automatic cut-off devices [5]
 - 29/393 . . Devices for controlling or analysing the entire machine [5]
 - 29/40 . Means for printing fixed, i.e. unchanging, matter in addition to selectable matter

B41J

- 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
- 33/10 . . Arrangements of endless ribbons
- 33/12 . . Ribbons carried by coaxially-mounted spools
- 33/14 . Ribbon-feed devices or mechanisms
- 33/16 . . with drive applied to spool or spool spindle
- 33/18 . . . by ratchet mechanism (B41J 33/30 takes precedence)
- 33/20 . . . by friction
- 33/22 . . . by gears or pulleys
- 33/24 . . with drive applied directly to ribbon
- 33/26 . . . by rollers engaging the ribbon
- 33/28 . . . by mechanism pulling or gripping the ribbon
- 33/30 . . Escapement mechanisms
- 33/32 . . Electromagnetic devices
- 33/34 . . driven by motors independently of the machine as a whole
- 33/36 . . with means for adjusting feeding rate
- 33/38 . . Slow, e.g. "creep", feed mechanisms
- 33/382 . . . the ribbon being fed only during carriage return
- 33/384 and attached to the carriage during writing
- 33/386 . . . the ribbon being fed only by operation of the line-spacing mechanism
- 33/388 . . . the ribbon being fed only when type impression takes place
- 33/40 . . with arrangements for reversing the feed direction
- 33/42 . . . manually
- 33/44 . . . automatically
- 33/46 and characterised by its application to mechanism in which two spools are driven by pawl-and-ratchet mechanism
- 33/48 comprising two pawls and ratchets, one for each spool
- 33/50 comprising a single pawl or integral double-tooth pawl selectively engageable with two ratchets, one for each spool
- 33/51 and characterised by the use of particular reversing control means
- 33/512 using a pivoted reversing-feeler engaging the external periphery of the wound ribbon
- 33/514 using a pivoted reversing-feeler engaging the interior of the wound ribbon
- 33/516 using a reversing-feeler responsive to the tension of the ribbon
- 33/518 the reversing-feeler engaging buttons or the like secured to the ribbon near its ends
- 33/52 . . Braking devices therefor
- 33/54 . . for ensuring maximum life of the ribbon (B41J 33/38 takes precedence; by adjustment of vibrator mechanisms B41J 35/14)
- 33/56 . . . Ribbon adjusted transversely
- 33/58 . . . Ribbon fed angularly
- 33/60 . . responsive to telegraph code or other extraneous signals

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
- 35/00 Other apparatus or arrangements associated with, or incorporated in, ink-ribbon mechanisms**
- 35/02 . Frames or holders for unwound short lengths of ink ribbons
- 35/03 . . the holder being movable to inoperative position, e.g. by swinging upwardly
- 35/04 . Ink-ribbon guides
- 35/06 . . stationary
- 35/08 . . with tensioning arrangements
- 35/10 . . Vibrator mechanisms; Driving gear therefor
- 35/12 . . . adjustable, e.g. for case shift (key actions B41J 25/02)

- 35/14 for multicolour work; for ensuring maximum life of ink ribbon; for rendering ink ribbon inoperative
- 35/16 . Multicolour arrangements (B41J 35/10 takes precedence)
- 35/18 . . Colour change effected automatically
- 35/20 . Ink-ribbon shifts, e.g. for exposing print, for case-shift adjustment, for rendering ink ribbon inoperative
- 35/22 . Mechanisms permitting the selective use of a plurality of ink ribbons
- 35/23 . . with two or more ribbon guides
- 35/24 . Mechanisms specially adapted for feeding impression-transfer materials of foil form
- 35/26 . Ink-ribbon shields or backings
- 35/28 . Detachable carriers or holders for ink-ribbon mechanisms
- 35/30 . Manifolding or like arrangements
- 35/32 . . for producing a plurality of copies along the printing line by a single ink ribbon
- 35/34 . . using a plurality of separate ink ribbons, e.g. including one hectographic ink ribbon
- 35/35 . . using unwound short lengths of ink ribbons
- 35/36 . Alarms, indicators, or feed-disabling devices responsive to ink-ribbon breakage or exhaustion
- 35/38 . Feeding the ink ribbon to waste after use