

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](#), {[B44D](#)} ; 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](#); {applying transfers or decalcomanias [B44C 1/16](#)} ; handling thin or filamentary material [B65H](#); electrography, electrophotography, magnetography [G03G](#))

Definition statement

This place covers:

Machines or presses always include a fixed or static printing form, usually a printing plate, carrying a graphical and/or alphanumerical design forming the printing image,

after applying ink on the surface of said printing form, said inked image is applied by contact pressure onto the surface of a substrate which will form the printed matter,

machines or presses as a whole as well as all parts, details, objects and controls specifically adapted for use in such machines, e.g. drying, dampening, heating, cooling, cleaning, air blowing and suction devices,

feeding and/or handling of substrates to be printed upon is covered from the in-feed device through the whole machine down to the delivery device,

auxiliary folding, cutting, collecting and depositing specifically adapted for printing machines or presses in covered by [B41F 13/54](#) - [B41F 13/70](#),

machines or apparatus for printing operations in combination with other operations, e.g. embossing, are covered by [B41F 19/00](#),

machines or apparatus for printing operations in combination with perforating operations are covered by [B41G 7/00](#).

References

Limiting references

This place does not cover:

Apparatus or devices for printing for office or other commercial purposes	B41L
Manufacturing printed circuits using screen printing type machines	H05K 3/12

Informative references

Attention is drawn to the following places, which may be of interest for search:

Spraying or atomizing of liquids/fluids or particles, nozzles	B05B
Apparatus for applying liquids/fluids in general	B05C
Processes for applying liquids/fluids in general	B05D
Cleaning in general	B08B
Working by laser beam in general	B23K 26/00

Cutting, severing, perforating, punching, stamping-out in general	B26D , B26F
Presses in general	B30B
Manufacture or reproduction of printing surfaces in general	B41C
Apparatus for mechanical reproduction of printing surfaces in general	B41D 1/00 - B41D 5/00
Shaping elastic or deformable material to printing surfaces	B41D 7/00
Apparatus for bronze or line printing, bordering, edging of sheets	B41G 1/00 - B41G 5/00
Auxiliary perforating in conjunction with printing	B41G 7/00
Selective printing mechanisms which have single types or characters or selectively activated printing elements, e.g. ink jet or thermal print heads, for consecutively printing character by character and line by line; correction of typographical errors	B41J
Stamps, stamping or numbering apparatus or devices in general	B41K
Printing, duplicating marking or copying processes	B41M
Printing forms as such, e.g. printing plates, printing screens	B41N 1/00
Preparing for use and conserving printing surfaces	B41N 3/00
Layers, shells, covers, surfaces specifically adapted for use in printing machines or presses	B41N 6/00 - B41N 11/00
Permanently attaching together sheets, quires or signatures	B42B
Bookbinding	B42C
Books, book covers, printed matter of special format or style not otherwise provided for	B42D
Sheets temporarily attached together, filing appliances	B42F
Implements for writing or drawing, e.g. pens	B43K
Articles for writing or drawing upon	B43L
Bureau accessories not otherwise provided for, opening and/or closing of envelopes, inserting documents into envelopes	B43M
Machines, apparatus or tools for sculpturing, carving, engraving, guilloching in general	B44B 1/00 , B44B 3/00
Machines or apparatus for embossing in general	B44B 5/00
Machines, apparatus or tools for branding in general	B44B 7/00
Machines or apparatus for inlaying in general	B44B 9/00
Producing surface effects, mosaics, paperhanging in general	B44C
Painting or artistic drawing in general	B44D
Special designs or pictures in general	B44F
Label dispensers having printing equipment	B65C
Feeding and/or handling of sheet or web-like substrates in general	B65H 1/00 - B65H 47/00
Coating compositions: inks, paints, varnishes, lacquers, pastes or solids for printing	C09D
Adhesives	C09J
Paper making and production of cellulose in general	D21
Measuring, testing in general	G01
Measurement of light, measurement of colour, colorimetry	G01J

Optical elements in general	G02B
Photomechanical production of printing surfaces in general	G03F
Electrography and electrophotography in general	G03G
Controlling, regulating in general	G05B
Electric digital data processing	G06F
Digital output to print units	G06F 3/00
Ticket printing, franking apparatus	G07B
Displaying, advertising, signs, labels	G09F
Scanning, transmission or reproduction of documents	H04N 1/00
Apparatus or processes for manufacturing printed circuits in general	H05K 3/00

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Printing	always encompasses use of ink or colour
Print image or printing image	any design having any colour and or alphanumeric elements
Offset print or offset printing	using an intermediate element, most commonly a blanket cylinder, for transfer in one step of the whole inked print image on the printing element, most commonly on a printing plate, onto the surface of the substrate to be printed upon
Screen dots	very small coloured printed points on the surface of the printed substrate forming the printed image
Rotary machines	using at least one printing plate in cylindrical form

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- "offset" and "lithographic"

B41F 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

Definition statement

This place covers:

Printing technology having the same working principle as used since the very first printing machines made in Europe in the 15th century, e.g. from Guttenberg.

Types are almost rigid three-dimensional printing elements having on their top surface an alphanumeric or similar symbol, which latter will be inked for directly printing onto a substrate.

B41F 3/00

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

Definition statement

This place covers:

Printing technology mostly used in the 19th century.

B41F 5/00

Rotary letterpress machines {(office printing machines [B41L 15/00](#))}

Definition statement

This place covers:

Letterpress or relief printing machines use the following printing forms or printing plates:

all parts of the surface of the printing plate accepting ink to form the printing image are raised above the level of the non-printing parts of the printing image not accepting ink.

Flexographic printing presses use a printing plate, wherein the raised parts forming the printing image are formed from flexible material, e.g. rubber.

B41F 7/00

Rotary lithographic machines {(such office printing machines [B41L 7/00](#))}

Definition statement

This place covers:

Lithographic printing machines, which use the following printing forms or printing plates:

whole surface of the printing surface or plate is essentially even,

all parts of the surface of the printing plate forming the printing image have hydrophobic characteristics accepting ink to form the printing image,

whereas all the rest parts of the surface of said printing plate forming the non-printing part of the printing image have hydrophilic characteristics for repelling ink.

B41F 9/00

Rotary intaglio printing presses

Definition statement

This place covers:

Intaglio or heliographic printing machines, which use the following printing forms or printing plates:

all parts of the surface of the printing plate accepting ink to form the printing image are below the level, e.g. engraved, of the non-printing parts of the printing surface not accepting ink.

B41F 11/00

Rotary presses or machines having forme cylinders carrying a plurality of printing surfaces, or for performing letterpress, lithographic, or intaglio processes selectively or in combination

Definition statement

This place covers:

Rotary presses or machines, which have at least two printing units of different type or at least two printing plates of different type in one printing unit.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Screen printing apparatus or machines	B41F 15/00
Transfer printing apparatus or machines	B41F 16/00
Printing apparatus or machines of special types or for particular purposes, not otherwise provided for	B41F 17/00

B41F 13/00

Common details of rotary presses or machines

Definition statement

This place covers:

Driving devices adapted and/or used in rotary presses or machines, and their electric or hydraulic or mechanical features in form of constitutive elements, e.g. motors, gearings, couplings, clutches, rotary energy transmitters;

auxiliary devices or processes associated with the drives, e.g. vibration-dampers, noise reduction, lubrication;

driving devices associated with particular installations or situations;

brakes;

conveying or guiding webs through presses or machines including:

- registering webs;
- tensioning webs;
- decurling webs.

Cylinders including forme cylinders, impression cylinders, transfer and offset cylinders and including their accessories;

cylinder registering devices;

cylinder tripping devices;

cylinder-impression adjustments;

cylinder lifting or adjusting devices;

cylinder bearings;

supports for bearings or supports for cylinders;

cylinder cooling and/or heating;

machines frames, guards and/or covers;

registering and control of registering with means for:

- displacing forme cylinders or printing forms on a cylinder;
- or acting on sheet or web-like substrates to be printing upon;
- or acting on means for transporting the substrates through printing machines or presses.

Auxiliary devices for:

- numbering;
- folding;
- cutting;
- collecting;
- or depositing.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Portable hand-operated numbering devices in general	B41K 1/16 , B41K 1/18
Numbering apparatus in general	B41K 3/10 , B41K 3/12
Printing forms as such in general, e.g. printing plates or printing screens	B41N 1/00
Registering, tensioning, smoothing or guiding webs in general	B65H 23/00

B41F 15/00

Screen printers (for selective printing [B41J 2/005](#))

Definition statement

This place covers:

screen printing apparatus, which always use a perforated printing screen, the perforated parts forming the printing image.

Apparatus and machines adapted to print on sheets or webs of any material, e.g. including textiles, and

adapted to print on any substrate having any shape, e.g. filamentary, cylindrical, polyhedral, conical, spherical and all kind of irregularly shaped three-dimensional surfaces.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Stencil printing apparatus or machines	B41L 13/00
Manufacturing printed circuits	H05K 3/12

B41F 16/00

Transfer printing apparatus (apparatus or machines for applying decalcomanias [B65C](#))

Definition statement

This place covers:

Machines or presses which always use a sheet or web-like coloured or preprinted transfer element, a printing element, usually a printing plate, applying by contact pressure said transfer element onto a substrate to be printed upon.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Machines or presses for printing and embossing	B41F 19/02
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B41F 17/00

Printing apparatus or machines of special types or for particular purposes, not otherwise provided for (hand stamps, plier-like tools for printing or punching tickets or the like [B41K](#); addressographs 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](#))

Definition statement

This place covers:

Pad printing apparatus,

textile printing apparatus,

printing apparatus using at least one printing belt,

printing apparatus for printing or numbering on non sheet- or web-like substrates having the following three-dimensional shapes:

- filamentary
- cylindrical of indefinite or definite length,
- polyhedral articles having flat surfaces,
- mainly conical,
- essentially spherical or
- all curved surfaces not otherwise provided for,

or printing on specific articles, e.g.

books, manifolding sets e.g. booklets, calendars, tablets, pills, knitted fabric and hollow articles.

References

Limiting references

This place does not cover:

Platen presses	B41F 1/00
Cylinder presses	B41F 3/00
Rotary letterpress machines	B41F 5/00
Rotary lithographic machines	B41F 7/00
Rotary intaglio printing presses	B41F 9/00
Screen printers	B41F 15/00
Transfer printing apparatus	B41F 16/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Typewriters, selective printing mechanisms, e.g. ink-jet or thermal print heads	B41J
Stencil printing apparatus	B41L 13/00

B41F 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](#))

Definition statement

This place covers:

Embossing operations are herein considered to deform the substrate without colouring the substrate.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Transfer printing apparatus without embossing	B41F 16/00
Machines or apparatus for embossing decorations or marks in general	B44B 5/00
Processes for applying transfer pictures, e.g. decalcomania	B44C 1/16
Pressing or stamping ornamental designs on surfaces in general	B44C 1/24

B41F 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](#); {through manifolding apparatus or the like [B41L 21/00](#)})

Definition statement

This place covers:

Devices or apparatus for conveying sheets
and devices or apparatus for guiding sheets.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Devices or apparatus for smoothing or de-curling sheets	B41F 25/00
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B41F 22/00

Means preventing smudging of machine parts or printed articles ([B41F 23/00](#) takes precedence)

Definition statement

This place covers:

Printing machine elements having specific materials or surfaces,
guiding means using air pressure.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Cleaning means for substrates to be printed upon or for printed substrates	B41F 23/00
Cleaning means for printing machines or parts thereof in general	B41F 35/00

B41F 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](#); {in manifolding apparatus or the like [B41L 23/00](#)}; surface treatment in general [B44D](#), of metal [C23G](#))

Definition statement

This place covers:

Cleaning devices for sheets or webs or other substrates to be printed upon,

dampening or heat drying or cooling devices acting before and/or after printing,
 powder applying means and
 print finishing devices including glossing or varnishing devices.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Spraying of liquids/fluids or particles in general, nozzles	B05B
Apparatus for applying liquids/fluids in general	B05C
Processes for applying liquids/fluids in general	B05D
Cooling in general	F25B , F25D
Drying in general	F26B

B41F 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](#))

Definition statement

This place covers:

Means for acting mechanically and/or pneumatically onto the sheets or webs.

B41F 27/00

Devices for attaching printing elements or formes to supports (attaching by chemical means [B41N 6/00](#))

Definition statement

This place covers:

Registering printing elements or printing forms to supports,

feeding printing elements or printing formes to forme cylinders or type-beds,

removing printing elements or printing formes from forme cylinders or type-beds,

tensioning devices for flexible printing plates,

flexing devices for flexible printing plates

and devices for filling cylinder gaps and/or removing the filler.

B41F 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](#))

Definition statement

This place covers:

Devices for attaching sheet-like flexible coverings, usually blankets, and/or cylindrical coverings, usually blankets

and devices for attaching underlays.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Blankets or like coverings per se in printing machines in general	B41N 10/00
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B41F 31/00

Inking arrangements or devices (inking units for platen presses [B41F 1/40](#); for cylinder presses [B41F 3/81](#); {for rotary intaglio printing presses [B41F 9/061](#)}; applying liquids or other fluent materials to surfaces in general [B05](#); inking arrangements or devices for typewriters or selective printing mechanisms [B41J](#))

Definition statement

This place covers:

Inking arrangements or devices including accessories specifically adapted for an inking arrangement like

driving means,

remote control of duct keys,

heating or cooling means,

recovering printing ink.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Measuring and controlling consumption of ink	B41F 33/00
Shells for inking rollers	B41N 7/06

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Ink rail devices	two duct blades cooperating with the cylindrical surface of an inking roller having a screened surface, e.g. an anilox roller
Screen roller or anilox roller	roller having almost its whole cylindrical surface formed by a plurality of evenly distributed small engraved cells all having the same size

B41F 33/00

Indicating, counting, warning, control, or safety devices (ink supply or metering devices [B41F 31/02](#); such devices in general, see the relevant subclasses, e.g. counting in general [G06M](#))

Definition statement

This place covers:

Central control units,

programming systems to sequence of machine operations,

means for starting up the machine,

safety devices preventing damage of machine parts including web break detection,

safety devices preventing injury to the operators,

devices for scanning printing formes and/or printed matter for quality control,

measuring the thickness of liquid films,

measuring or controlling the consumption of ink,

measuring contact pressure,

sensors,

counters

and marks, e.g. registering marks, on printed material.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Tripping	removing machine parts in/out of operating position into non-operating position
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B41F 35/00**Cleaning arrangements or devices {(in manifolding apparatus or the like [B41L 41/00](#))}****Definition statement**

This place covers:

Devices for cleaning parts removed from a printing machine,

cleaning means being part of a printing press including:

means for cleaning adapted to a specific purpose, e.g. cleaning of inking rollers or offset cylinders,

or means for cleaning being characterised by the cleaning method or device, e.g. wiping devices, spraying devices, suction devices,

means for recovering used solvents or residues,

and selection of materials or products for cleaning.

References***Informative references***

Attention is drawn to the following places, which may be of interest for search:

Cleaning of printed substrates or substrates to be printed upon	B41F 23/00
Cleaning in general	B08B