

B41F

PRINTING MACHINES OR PRESSES (manifolding devices or office printing machines [B41L](#))

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 |
|---|----------------------|

Informative references

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

| | |
|---|---|
| Machines for manufacturing footwear incorporating printing or embossing apparatus | A43D |
| 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 |
| Stencilling | B41L |
| 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 |
| Handling thin or filamentary material | B65H |
| 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 |

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|--|---------------------------|
| 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 |
| Manufacturing printed circuits using screen printing type machines | H05K 3/12 |

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 alphanumerical 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"
- "repellent" and "repellant"

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 alphanumerical 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;

Definition statement

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

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:

| | |
|--|----------------------------|
| Selective printing | B41J 2/005 |
| Stencil printing apparatus or machines | B41L 13/00 |
| Manufacturing printed circuits | H05K 3/12 |

B41F 16/00

Transfer printing apparatus

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 |
| Apparatus or machines for applying decalcomanias | B65C |

B41F 17/00

Printing apparatus or machines of special types or for particular purposes, not otherwise provided for

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

References

Informative references

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

| | |
|-----------------------------|---------------------------|
| 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 |
| Typewriters, selective printing mechanisms, e.g. ink-jet or thermal print heads | B41J |
| Hand stamps, plier-like tools for printing or punching tickets or the like | B41K |
| Addressing machines or other office printing equipment | B41L |
| Stencil printing apparatus | B41L 13/00 |
| Coding or marking of packaging material or of completed Packages in packaging machines | B65B 61/00 |
| Ticket-printing and issuing apparatus | G07B |

B41F 19/00

Apparatus or machines for carrying out printing operations combined with other operations

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 |
| Auxiliary perforating apparatus associated with printing devices | B41G 7/00 |
| 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 |
| Coding or marking in association with packaging | B65B 61/00 |
| Label dispensers having printing equipment | B65C |

B41F 21/00

Devices for conveying sheets through printing apparatus or machines (through platen presses [B41F 1/28](#))

Definition statement

This place covers:

Devices or apparatus for conveying sheets

and devices or apparatus for guiding sheets.

References

Limiting references

This place does not cover:

| | |
|---|---------------------------|
| Printing apparatus or machines through platen presses | B41F 1/28 |
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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 |
| Feeding sheets to or from printing apparatus or machines | B65H |

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

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 |
| After-treatment of articles without altering their shape; Apparatus therefor | B29C 71/00 |
| Cleaning or degreasing of metallic material by chemical methods other than electrolysis | C23G |
| Processes or apparatus for adding material to the pulp or to the paper | D21H 23/00 |
| After-treatment of paper not provided for in groups D21H 17/00 - D21H 23/00 | D21H 25/00 |
| 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

Definition statement

This place covers:

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

References

Informative references

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

| | |
|--|----------------------------|
| Apparatus for taking-out curl from webs in general | B65H 23/34 |
|--|----------------------------|

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](#))

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

Limiting references

This place does not cover:

| | |
|--------------------|---------------------------|
| Make-ready devices | B41N 6/00 |
|--------------------|---------------------------|

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](#); inking units for cylinder presses [B41F 3/81](#))

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

Limiting references

This place does not cover:

| | |
|-----------------------------------|---------------------------|
| Inking units for platen presses | B41F 1/40 |
| Inking units for cylinder presses | B41F 3/81 |

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 |
|--|----------------------------|

| | |
|--|---------------------------|
| Applying liquids or other fluent materials to surfaces, in general | B05 |
| For typewriters or selective printing mechanisms | B41J |
| 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 (arrangements of counting devices in platen presses [B41F 1/00](#) {, [B41F 1/58](#); arrangements of counting devices} in cylinder presses [B41F 3/84](#); ink supply or metering devices [B41F 31/02](#))

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.

References

Limiting references

This place does not cover:

| | |
|--|---|
| Arrangements of counting devices in platen presses | B41F 1/00 , B41F 1/58 |
| Cylinder presses | B41F 3/84 |

| | |
|--------------------------------|----------------------------|
| Ink supply or metering devices | B41F 31/02 |
|--------------------------------|----------------------------|

Informative references

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

| | |
|---|----------------------------|
| Typewriters or selective printing mechanisms | B41J 29/20 |
| Ink ribbons characterised by the material from which they are woven | B41J 31/02 |
| Counting mechanisms; counting of objects | G06M |

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 |
|----------|---|

B41F 33/02

Arrangements of indicating devices, e.g. counters

References

Informative references

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

| | |
|---|----------------------------|
| In typewriters or selective printing mechanisms | B41J 29/20 |
| In manifolding apparatus or the like | B41L 39/00 |

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 |