

CPC**COOPERATIVE PATENT CLASSIFICATION****B31B****MAKING BOXES, CARTONS, ENVELOPES OR BAGS OF PAPER OR CARDBOARD** (incising, scoring, in general [B26D 3/08](#); combined making and filling [B65B](#))**NOTES**

1. In this subclass, envelopes or bags are regarded as being essentially flexible containers, the final shape of which is determined by their contents.
2. In this subclass, the following expression is used with the meaning indicated:
 - "boxes or cartons" includes bags formed similarly to cartons, trays with upstanding side-walls, barrels, tubes and cups, other than articles formed by winding.
3. In this subclass, it is desirable to add the indexing codes of [B31B 2201/00](#) - [B31B 2247/00](#)

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[B31B 7/02](#) covered by [B31B 1/02](#)
[B31B 7/14](#) covered by [B31B 1/14](#)
[B31B 7/60](#) covered by [B31B 1/60](#)
[B31B 7/74](#) covered by [B31B 1/74](#)
[B31B 9/00](#) covered by [B31B 3/00](#)
[B31B 9/02](#) covered by [B31B 3/02](#)
[B31B 9/14](#) covered by [B31B 3/14](#)
[B31B 9/26](#) covered by [B31B 3/26](#)
[B31B 9/60](#) covered by [B31B 3/60](#)
[B31B 9/74](#) covered by [B31B 3/74](#)
[B31B 11/02](#) covered by [B31B 1/02](#)
[B31B 11/14](#) covered by [B31B 1/14](#)
[B31B 11/26](#) covered by [B31B 1/26](#)
[B31B 11/60](#) covered by [B31B 1/60](#)
[B31B 11/74](#) covered by [B31B 1/74](#)
[B31B 13/02](#) covered by [B31B 1/02](#)
[B31B 13/14](#) covered by [B31B 1/14](#)
[B31B 13/60](#) covered by [B31B 1/60](#)
[B31B 13/74](#) covered by [B31B 1/74](#)
[B31B 15/14](#) covered by [B31B 1/14](#)
[B31B 15/26](#) covered by [B31B 1/26](#)
[B31B 15/60](#) covered by [B31B 1/60](#)
[B31B 15/74](#) covered by [B31B 1/74](#)
[B31B 21/02](#) covered by [B31B 19/02](#)
[B31B 21/14](#) covered by [B31B 19/14](#)

B31B

(continued)

B31B 21/26 covered by [B31B 19/26](#)
B31B 21/60 covered by [B31B 19/60](#)
B31B 21/74 covered by [B31B 19/74](#)
B31B 23/02 covered by [B31B 19/02](#), [B31B 23/00](#)
B31B 23/14 covered by [B31B 19/14](#), [B31B 23/00](#)
B31B 23/26 covered by [B31B 19/26](#), [B31B 23/00](#)
B31B 23/60 covered by [B31B 19/60](#), [B31B 23/00](#)
B31B 23/74 covered by [B31B 19/74](#), [B31B 23/00](#)
B31B 25/02 covered by [B31B 19/02](#), [B31B 25/00](#)
B31B 25/14 covered by [B31B 19/14](#), [B31B 25/00](#)
B31B 25/26 covered by [B31B 19/26](#), [B31B 25/00](#)
B31B 25/60 covered by [B31B 19/60](#), [B31B 25/00](#)
B31B 25/74 covered by [B31B 19/74](#), [B31B 25/00](#)
B31B 27/02 covered by [B31B 19/02](#), [B31B 27/00](#)
B31B 27/14 covered by [B31B 19/14](#), [B31B 27/00](#)
B31B 27/26 covered by [B31B 19/26](#), [B31B 27/00](#)
B31B 27/60 covered by [B31B 19/60](#), [B31B 27/00](#)
B31B 27/74 covered by [B31B 19/74](#), [B31B 27/00](#)
B31B 29/02 covered by [B31B 19/02](#), [B31B 29/00](#)
B31B 29/14 covered by [B31B 19/14](#), [B31B 29/00](#)
B31B 29/26 covered by [B31B 19/26](#), [B31B 29/00](#)
B31B 31/00 covered by [B31B 29/00](#)
B31B 31/02 covered by [B31B 19/02](#), [B31B 29/00](#)
B31B 31/14 covered by [B31B 19/14](#), [B31B 29/00](#)
B31B 31/26 covered by [B31B 19/26](#), [B31B 29/00](#)
B31B 31/60 covered by [B31B 29/60](#)
B31B 31/74 covered by [B31B 29/74](#)
B31B 33/00 covered by [B31B 29/00](#)
B31B 33/02 covered by [B31B 19/02](#), [B31B 29/00](#)
B31B 33/14 covered by [B31B 19/14](#), [B31B 29/00](#)
B31B 33/26 covered by [B31B 19/26](#), [B31B 29/00](#)
B31B 33/60 covered by [B31B 29/60](#)
B31B 33/74 covered by [B31B 29/74](#)
B31B 35/00 covered by [B31B 29/00](#)
B31B 35/02 covered by [B31B 19/02](#), [B31B 29/00](#)
B31B 35/14 covered by [B31B 19/14](#), [B31B 29/00](#)
B31B 35/26 covered by [B31B 19/26](#), [B31B 29/00](#)
B31B 35/60 covered by [B31B 29/60](#)
B31B 35/74 covered by [B31B 29/74](#)
B31B 37/02 covered by [B31B 19/02](#), [B31B 37/00](#)
B31B 37/14 covered by [B31B 19/14](#), [B31B 37/00](#)
B31B 37/26 covered by [B31B 19/26](#), [B31B 37/00](#)

B31B

(continued)

[B31B 37/60](#) covered by [B31B 19/60](#), [B31B 37/00](#)
[B31B 37/74](#) covered by [B31B 19/74](#), [B31B 37/00](#)
[B31B 39/02](#) covered by [B31B 19/02](#), [B31B 39/00](#)
[B31B 39/14](#) covered by [B31B 19/14](#), [B31B 39/00](#)
[B31B 39/26](#) covered by [B31B 19/26](#), [B31B 39/00](#)
[B31B 39/60](#) covered by [B31B 19/60](#), [B31B 39/00](#)
[B31B 41/02](#) covered by [B31B 19/02](#), [B31B 41/00](#)
[B31B 41/14](#) covered by [B31B 19/14](#), [B31B 41/00](#)
[B31B 41/26](#) covered by [B31B 19/26](#), [B31B 41/00](#)
[B31B 41/60](#) covered by [B31B 19/60](#), [B31B 41/00](#)
[B31B 41/74](#) covered by [B31B 19/74](#), [B31B 41/00](#)

B31B 1/00

Box, carton, envelope or bag making machinery characterised by performing specific operations (machinery for performing operations of general application, see the appropriate subclasses)

NOTE

Envelope or bag making machinery characterised by performing specific operations is classified in the respective subgroups of group [B31B 19/00](#) (or of groups [B31B 23/00](#) to [B31B 29/00](#), [B31B 37/00](#) to [B31B 41/00](#))

- [B31B 1/02](#) . Feeding or positioning sheets, blanks, or webs
- [B31B 1/04](#) . . Feeding sheets or blanks
- [B31B 1/06](#) . . . from stacks {([B31B 5/76](#) takes precedence)}
- [B31B 1/08](#) . . . during envelope or bag-making operations
- [B31B 1/10](#) . . Feeding or positioning webs
- [B31B 1/12](#) . . by air pressure or suction {([B31B 1/06](#) takes precedence)}
- [B31B 1/14](#) . Cutting, e.g. perforating, punching, slitting, trimming {(means for removing cut-out material or waste [B26D 7/18](#))}
- [B31B 1/16](#) . . Cutting webs to form sheets or blanks
- [B31B 1/18](#) . . Slitting webs longitudinally
- [B31B 1/20](#) . . Cutting sheets or blanks {e.g. cutting corners, or involving scoring or printing or embossing (surface scoring per se [B31B 1/25](#); printing or embossing per se [B31B 1/88](#))}
- [B31B 1/22](#) . . . Notching; Trimming edges of flaps
- [B31B 1/24](#) . . . Making window openings
- [B31B 1/25](#) . Surface scoring (cutting through material [B31B 1/14](#))
- [B31B 1/26](#) . Folding sheets, blanks, or webs
- [B31B 1/28](#) . . around mandrels, including bottom-forming operations
- [B31B 1/30](#) . . . the mandrels moving
- [B31B 1/32](#) in circular paths
- [B31B 1/34](#) about their own axes
- [B31B 1/36](#) . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores

- B31B 1/38 . . . the members being forming-tubes
- B31B 1/40 acting internally
- B31B 1/42 acting externally
- B31B 1/44 . . by plungers moving through folding dies
- B31B 1/46 . . . and interconnecting side walls during such movement
- B31B 1/48 by folding or tucking-in locking flaps
- B31B 1/50 by interengaging tongues and slots
- B31B 1/52 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- B31B 1/54 . . . operating on moving material
- B31B 1/56 . . by rotary members co-operating with blades
- B31B 1/58 . . by moving endless belts
- B31B 1/60 Uniting opposed surfaces or edges; Taping
- B31B 1/62 . . by adhesives
- B31B 1/64 . . by applying heat or pressure
- B31B 1/66 . . . high-frequency electric heating
- B31B 1/68 . . by stitching, stapling, or riveting
- B31B 1/70 . . . by corner stapling
- B31B 1/72 . . by applying or securing strips or sheets {(on already formed boxes [B31B 3/72](#); delivering and applying strips, sheets, tape in general [B65H 35/00](#))}
- B31B 1/74 . . . Auxiliary operations; {Parts; Components}
- B31B 1/76 . . . Opening or distending flattened articles
- B31B 1/78 mechanically
- B31B 1/80 pneumatically
- B31B 1/82 . . . Attaching windows
- B31B 1/84 . . . Forming valves or applying valve inserts; {Applying rigid valves, spouts, filling tubes} (connection of valves to inflatable elastic bodies [B60C 29/00](#))
- B31B 1/86 . . . Forming integral handles or mounting separate handles (making separate handles by multi-step processes [B31D 1/06](#))
- B31B 1/88 . . . Printing or embossing
- B31B 1/90 . . . Attaching accessories not otherwise provided for, e.g. opening or closure devices, tear strings
- B31B 1/92 . . . Delivering {(B31B 19/92 takes precedence)}
- B31B 1/94 singly or in succession
- B31B 1/96 in overlapping arrangement
- B31B 1/98 in stacks or bundles

Machinery for making boxes or cartons

- B31B 3/00** Machinery characterised by making boxes or cartons by folding single-piece sheets, blanks, or webs ([B31B 5/00](#) takes precedence)

- B31B 3/02
 - and having means for feeding or positioning sheets, blanks, or webs {(not used; see B31B 1/02)}
- B31B 3/14
 - and having means for cutting, e.g. perforating, punching, slitting, trimming {(not used; see B31B 1/14)}
- B31B 3/26
 - and having means for folding sheets, blanks, or webs
- B31B 3/28
 - . . around mandrels, including bottom-forming operations
- B31B 3/30
 - . . . the mandrels moving {e.g. with independent mandrels or with mandrels fixed on an endless chain}
- B31B 3/32
 - in circular paths {e.g. with radially extending mandrels on a rotating drum}
- B31B 3/34
 - about their own axes
- B31B 3/36
 - . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- B31B 3/44
 - . . by plungers moving through folding dies
- B31B 3/46
 - . . . and interconnecting side walls during such movement
- B31B 3/48
 - by folding or tucking-in locking flaps
- B31B 3/50
 - by interengaging tongues and slots
- B31B 3/52
 - . . by reciprocating or oscillating members, e.g. fingers, other than plungers and dies
- B31B 3/60
 - and having means for uniting opposed surfaces or edges, or for taping
- B31B 3/64
 - . . by applying heat or pressure
- B31B 3/72
 - . . by applying and securing strips or sheets {on already formed boxes}
- B31B 3/74
 - and having means for effecting auxiliary operations
- B31B 5/00**

Machinery characterised by making boxes or cartons by folding single-piece sheets which can be set-up from a collapsed condition, including setting-up and recollapsing to break creases
- B31B 5/02
 - and having means for feeding or positioning sheets {(not used; see B31B 1/02)}
- B31B 5/14
 - and having means for cutting, e.g. perforating, punching, slitting, trimming {(not used; see B31B 1/14)}
- B31B 5/26
 - and having means for folding sheets, blanks, or webs
- B31B 5/36
 - . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- B31B 5/60
 - and having means for uniting opposed surfaces or edges, or for taping
- B31B 5/74
 - and having means for effecting auxiliary operations
- B31B 5/76
 - . . Opening or distending flattened articles {e.g. collapsed blanks, including arrangements therefor; Setting-up of boxes}
- B31B 5/78
 - . . . mechanically
- B31B 5/80
 - . . . pneumatically {i.e. with suction cups for totally or partially opening the collapsed blanks or by introducing a jet of gas into the collapsed blanks, e.g. with means for recollapsing or breaking creases}
- B31B 7/00**

Machinery characterised by making lined or internally-reinforced boxes or cartons (B31B 11/00 takes precedence)
- B31B 7/26
 - and having means for folding sheets, blanks, or webs

- B31B 7/28 . . around mandrels, including bottom-forming operations
- B31B 7/30 . . . the mandrels moving {with independent mandrels or with mandrels fixed on an endless chain}
- B31B 7/32 in circular paths {, e.g. with radially extending mandrels on a rotating drum}
- B31B 7/44 . . by plungers moving through folding dies
- B31B 7/46 . . . and interconnecting side walls during such movement
- B31B 11/00** **Machinery characterised by making boxes or cartons having partitions or like inserts not integral with walls** (making partitions, inserts, or reinforcements for boxes or cartons [B31D](#))
- NOTE**
Making non-integral partitions or like inserts is classified in group [B31B 11/00](#)
- B31B 13/00** **Machinery characterised by assembling drawer-and-shell boxes or cartons**
- B31B 15/00** **Machinery characterised by making covered or externally-reinforced boxes or cartons** {([B31B 7/00](#) takes precedence)}
- B31B 15/02 . and having means for feeding or positioning sheets, blanks, or webs
- B31B 17/00** **Machinery characterised by making other boxes or cartons by assembling several separate sheets, blanks, or webs**
- NOTE**
The term "other boxes or cartons" is understood as to cover subject matter other than that of groups [B31B 7/00](#), [B31B 11/00](#), [B31B 13/00](#) or [B31B 15/00](#)
- B31B 17/60 . and having means for uniting opposed surfaces or edges, or for taping
- B31B 17/74 . and having means for effecting auxiliary operations

Machinery for making envelopes or bags**NOTE**

Machinery for making boxes or cartons as well as envelopes or bags are classified in groups [B31B 3/00](#) to [B31B 17/00](#).

- B31B 19/00** **Machinery characterised by making rectangular envelopes or bags of flat form, i.e. without structural provision at the base for thickness of contents** ([B31B 21/00](#), [B31B 23/00](#) take precedence)
- B31B 19/02 . and having means for feeding or positioning sheets, blanks, or webs
- B31B 19/10 . . Feeding or positioning webs
- B31B 19/14 . and having means for cutting, e.g. perforating, punching, slitting, trimming
- B31B 19/16 . . Cutting webs to form sheets or blanks
- B31B 19/18 . . Slitting webs longitudinally
- B31B 19/20 . . Cutting sheets or blanks, {e.g. applying corner cuts}
- B31B 19/26 . and having means for folding sheets, blanks, or webs

- B31B 19/36
 - . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- B31B 19/52
 - . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- B31B 19/60
 - and having means for uniting opposed surfaces or edges, or for taping
- B31B 19/62
 - . by adhesives
- B31B 19/64
 - . by applying heat or pressure [{\(for block bottom bags B31B 29/60\)}](#)
- B31B 19/66
 - . . high-frequency electric heating
- B31B 19/68
 - . by stitching, stapling or riveting
- B31B 19/74
 - Auxiliary operations; [{Parts; Components}](#)
- B31B 19/82
 - . Attaching windows
- B31B 19/84
 - . Forming valves or applying valve inserts
- B31B 19/86
 - . Forming integral handles or mounting separate handles [\(making separate handles by multi-step processes B31D 1/06\)](#)
- B31B 19/88
 - . Printing or embossing
- B31B 19/90
 - . Attaching accessories not otherwise provided for, e.g. opening or closure devices, tear strings [{patches}](#)
- B31B 19/92
 - . Delivering
- B31B 19/94
 - . . singly or in succession
- B31B 19/96
 - . . . in overlapping arrangement
- B31B 19/98
 - . . . in stacks or bundles

- B31B 21/00**

Machinery characterised by making rectangular envelopes or bags of flat form, i.e. without structural provision at the base for thickness of contents, from sheets or blanks, e.g. from flattened tubes [{e.g. making mailing envelopes}](#)

- B31B 23/00**

Machinery characterised by making rectangular envelopes or bags of flat form, i.e. without structural provision at the base for thickness of contents, from webs, e.g. from flattened tubular webs [\(machinery characterised by cutting sheets or blanks from webs and working them to form such envelopes or bags B31B 21/00\)](#)

- B31B 25/00**

Machinery characterised by making pointed or tapered envelopes or bags

- B31B 27/00**

Machinery characterised by making interconnected envelopes or bags

- B31B 29/00**

Machinery characterised by making envelopes or bags with structural provision at the base for thickness or contents [\(B31B31/00 to B31B 37/00 take precedence; {B31B31/00, B31B33/00, B31B35/00 takes precedence}\)](#)
- B31B 29/60
 - and having means for uniting opposed surfaces or edges, or for taping
- B31B 29/74
 - and having means for effecting auxiliary operations
- B31B 29/84
 - . Forming valves or applying valve inserts

B31B 37/00	Machinery characterised by making envelopes or bags with structural provision at the base for thickness of contents from webs, e.g. from tubular webs (machinery characterised by cutting sheets and blanks from webs and working them to form such envelopes or bags B31B 21/00)
B31B 39/00	Machinery characterised by making lined envelopes or bags
B31B 41/00	Machinery characterised by making envelopes or bags of other specific form or construction {i.e. not particularly otherwise provided for }
B31B 43/00	Machinery characterised by making containers by shaping, other- wise than folding, sheet material under pressure
B31B 45/00	Machinery characterised by making containers having corrugated or pleated walls
B31B 47/00	Hand tools for making envelopes, bags, boxes or cartons
B31B 47/02	<ul style="list-style-type: none"> for making envelopes or bags without preshaped bottoms
B31B 47/04	<ul style="list-style-type: none"> for making envelopes or bags with preshaped bottoms
B31B 49/00	Machinery, accessories or processes not provided for in B31B 1/00 to B31B 47/00 (forms or constructions of boxes, cartons, envelopes or bags B65D)
	<u>NOTE</u>
	Processes dependent on the use of specific machinery provided for in groups B31B 1/00 to B31B 45/00 are classified in those groups.
B31B 49/02	<ul style="list-style-type: none"> for making boxes or cartons
B31B 49/04	<ul style="list-style-type: none"> for making envelopes or bags

B31B 2201/00	Specific operations carried out during box making
B31B 2201/02	<ul style="list-style-type: none"> Feeding or positioning webs, blanks or boxes
B31B 2201/0205	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Feeding or positioning webs
B31B 2201/0211	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> involving air pressure or vacuum
B31B 2201/0217	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> using rolls, belts or chains
B31B 2201/0223	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> involving aligning
B31B 2201/0229	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> involving changing orientation or changing direction of transport
B31B 2201/0235	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Feeding or positioning blanks
B31B 2201/0241	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> by air pressure or vacuum
B31B 2201/0247	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> using rolls, belts or chains
B31B 2201/0252	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> involving aligning
B31B 2201/0258	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> involving changing orientation or changing direction of transport
B31B 2201/0264	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> from stacks
B31B 2201/027	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> from the underside of a magazine
B31B 2201/0276	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> by being moved in the plane they are lying in
B31B 2201/0282	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> from above a magazine

- B31B 2201/0288 . . Holders for feeding or positioning blanks or webs
- B31B 2201/0294 . . . the holders rotating, e.g. star wheels, drums
- B31B 2201/14 . Cutting, perforating, punching, slitting, trimming
- B31B 2201/141 . . using presses or dies
- B31B 2201/142 . . using tools mounted on belts or chains
- B31B 2201/143 . . using tools mounted on a drum
- B31B 2201/145 . . Cutting webs
- B31B 2201/146 . . . cutting or slitting webs longitudinally
- B31B 2201/147 . . Cutting blanks
- B31B 2201/148 . . Notching; Trimming edges of flaps
- B31B 2201/22 . Shaping, other-wise than folding, sheet material under pressure
- B31B 2201/223 . . Using punches or dies
- B31B 2201/226 . . Modifying the shape of tubular boxes, of paper bottle necks
- B31B 2201/24 . Prebreaking
- B31B 2201/25 . Surface scoring
- B31B 2201/252 . . using presses or dies
- B31B 2201/255 . . using tools mounted on belts or chains
- B31B 2201/257 . . using tools mounted on a drum
- B31B 2201/26 . Folding blanks or webs
- B31B 2201/2604 . . around mandrels
- B31B 2201/2608 . . . the mandrels moving
- B31B 2201/2612 the mandrels being mounted on a drum, or a wheel
- B31B 2201/2616 the mandrels extending radially from the periphery of the drum
- B31B 2201/262 the mandrels being parallel to the axis of the drum
- B31B 2201/2625 the mandrels extending tangentially to the periphery of the drum
- B31B 2201/2629 the mandrels rotating about their own axes
- B31B 2201/2633 . . . involving stripping-off formed boxes from mandrels
- B31B 2201/2637 . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- B31B 2201/2641 . . . the members being forming-tubes
- B31B 2201/2645 acting internally
- B31B 2201/265 acting externally
- B31B 2201/2654 . . by plungers moving through folding dies
- B31B 2201/2658 . . . having several cooperating plungers and dies fitted on a rotating table or on moving chains
- B31B 2201/2662 . . . having several plungers moving in a closed path and cooperating with stationary folding dies
- B31B 2201/2666 . . . involving interconnecting side walls
- B31B 2201/267 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- B31B 2201/2675 . . . operating on moving material

- B31B 2201/2679 . . by rotary members co-operating with blades
- B31B 2201/2683 . . by moving belts or chains
- B31B 2201/2687 . . by air jets
- B31B 2201/2691 . . involving folding leading or trailing flaps of blanks
- B31B 2201/2695 . . involving corrugating or pleating
- B31B 2201/27 . Straightening the side walls of boxes, squaring collapsed folded box blanks, deforming boxes
- B31B 2201/28 . Opening or distending flattened boxes
- B31B 2201/281 . . mechanically
- B31B 2201/282 . . . by pushing the opposite ends of collapsed blanks towards each other
- B31B 2201/283 . . . for setting-up boxes having their opening facing upwardly
- B31B 2201/284 . . . by introducing opening fingers in the collapsed blanks
- B31B 2201/285 by rotating fingers or with several fingers moving relatively to each other
- B31B 2201/286 . . . by introducing the blanks into undeformable holders, e.g. on a drum or on chains
- B31B 2201/287 . . pneumatically
- B31B 2201/288 . . . for setting-up boxes having their opening facing upwardly
- B31B 2201/289 . . . with several suction devices on a rotating element
- B31B 2201/29 . Closing boxes
- B31B 2201/292 . . the boxes having their opening facing in horizontal direction
- B31B 2201/295 . . the boxes having their opening facing upwardly
- B31B 2201/297 . . the boxes being cylindrical
- B31B 2201/60 . Uniting opposed surfaces or edges; Taping
- B31B 2201/6004 . . by injecting of thermoplastic material for uniting opposed edges
- B31B 2201/6008 . . by adhesives
- B31B 2201/6013 . . . Applying glue on already formed boxes
- B31B 2201/6017 . . . Applying glue on blanks
- B31B 2201/6021 . . . Arrangements for permitting the glue to set
- B31B 2201/6026 . . by applying heat or pressure
- B31B 2201/603 . . . using sealing jaws or sealing dies
- B31B 2201/6034 . . . Making seals parallel to the direction of movement, i.e. longitudinal sealing
- B31B 2201/6039 . . . Making seals transversally to the direction of movement
- B31B 2201/6043 . . . using tools mounted on belts or chains
- B31B 2201/6047 . . . using tools mounted on a drum
- B31B 2201/6052 . . by stitching, stapling, or riveting
- B31B 2201/6056 . . . for closing the bottom flaps of boxes, or for securing bottoms or caps to box bodies
- B31B 2201/606 . . . for joining the overlapping edges of collapsed blanks to form tubular blanks
- B31B 2201/6065 . . . for attaching hinged covers to boxes

- B31B 2201/6069 . . . by corner stapling
- B31B 2201/6073 . . by applying or securing strips or tape
- B31B 2201/6078 . . . on already formed boxes
- B31B 2201/6082 Applying tape on the corners of set-up boxes (box staying), e.g. involving setting-up
- B31B 2201/6086 . . . for uniting meeting edges of collapsed boxes
- B31B 2201/6091 . . by folding or tucking-in locking flaps
- B31B 2201/6095 . . . and interengaging tongues and slots
- B31B 2201/61 . Moistening; Drying; Cooling; Heating; Sterilizing
- B31B 2201/62 . Coating; Impregnating; Water proofing; Decoating
- B31B 2201/621 . . Coating or impregnating edges or corners
- B31B 2201/622 . . Coating or impregnating formed boxes
- B31B 2201/624 . . Coating or impregnating blanks or webs
- B31B 2201/625 . . by immersing in a bath
- B31B 2201/627 . . by spraying
- B31B 2201/628 . . . by only spraying the interior of the boxes
- B31B 2201/88 . Printing, marking, embossing
- B31B 2201/90 . Forming or attaching accessories
- B31B 2201/9004 . . Applying strips, strings, lace or like ornamental edging to formed boxes
- B31B 2201/9009 . . Applying tabs, patches, strips or strings on blanks or webs
- B31B 2201/9014 . . . Applying tabs on corners of box blanks
- B31B 2201/9019 . . . Applying patches
- B31B 2201/9023 the blanks remaining stationary during application of the patches
- B31B 2201/9028 the patches being taken out of a magazine
- B31B 2201/9033 . . . Applying strips or strings, e.g. tear strips or strings
- B31B 2201/9038 parallel to the direction of movement of the webs or the blanks
- B31B 2201/9042 perpendicular to the direction of movement of the webs or the blanks
- B31B 2201/9047 the webs or blanks remaining stationary during application of the strips or strings
- B31B 2201/9052 the webs or blanks moving during application of the strips or strings
- B31B 2201/9057 obliquely to the direction of movement of the webs or blanks or in an irregular path
- B31B 2201/9061 . . Applying closure elements to blanks, webs or boxes
- B31B 2201/9066 . . . Applying button-and-string or washer like closure elements
- B31B 2201/9071 . . . Applying other closure elements, e.g. hook and loop-type fastener
- B31B 2201/9076 . . Forming or attaching windows
- B31B 2201/908 . . . involving cutting window openings
- B31B 2201/9085 . . Forming valves or applying valve inserts, e.g. rigid valves, spouts, filling tubes
- B31B 2201/909 . . Forming integral handles or mounting separate handles
- B31B 2201/9095 . . . Fitting separate handles on boxes, e.g. on drinking cups

- B31B 2201/92 . Delivering
 - B31B 2201/922 . . singly or in succession
 - B31B 2201/925 . . . in overlapping arrangement
 - B31B 2201/927 . . in stacks or bundles
 - B31B 2201/94 . Involving a particular layout of the machinery or relative arrangement of its subunits
 - B31B 2201/95 . Controlling; Regulating; Measuring; Improving safety
- B31B 2203/00 Making boxes by folding single-piece blanks, or webs**
- B31B 2203/003 . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
 - B31B 2203/006 . . Collapsing already made boxes into a flat condition
 - B31B 2203/06 . Making boxes characterised by their shape
 - B31B 2203/062 . . Making conical or pyramidal boxes; Making boxes of varying cross-section
 - B31B 2203/064 . . Making boxes of curved cross section
 - B31B 2203/066 . . Making boxes of polygonal cross section
 - B31B 2203/068 . . . having non-square, non-rectangular cross section
 - B31B 2203/08 . Making boxes characterised by the shape of the blank from which they are formed
 - B31B 2203/082 . . Making boxes from tubular webs or blanks, including tube or bottom forming operations
 - B31B 2203/084 . . Making boxes having all side walls attached to the bottom
 - B31B 2203/086 . . Making boxes having two opposite first side walls attached to the bottom, the other side walls being attached to the first side walls
 - B31B 2203/088 . . Making boxes by first folding a sheet to a U-shape, constituting the bottom and two first-side walls, after which the two other side walls are formed from these first side wall
 - B31B 2203/10 . Involving forming accessories or reinforcements
 - B31B 2203/101 . . Making boxes having a hinged cover
 - B31B 2203/103 . . Making multi-compartment boxes
 - B31B 2203/105 . . Making boxes having integral corner posts or reinforcements
 - B31B 2203/106 . . Making boxes having contracted or rolled necks, having shoulders
 - B31B 2203/108 . . Making boxes, the bottom of which includes a rim projecting at the edges
- B31B 2217/00 Making boxes by assembling several separate blanks, or webs; making lined boxes; making boxes from laminated blanks or webs**
- B31B 2217/0007 . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
 - B31B 2217/0015 . . Collapsing already made boxes into a flat condition
 - B31B 2217/0023 . Making covered or externally-reinforced boxes
 - B31B 2217/003 . . Applying wrapping material only on the side wall part of a box
 - B31B 2217/0038 . Making lined or internally-reinforced boxes
 - B31B 2217/0046 . . Applying a liner to already made boxes, e.g. including opening or distending of the liner or the box

- B31B 2217/0053 . . . using vacuum or pressure means to force the liner against the wall
- B31B 2217/0061 . . . the lining material being a web, a sheet or a bag to be forced into the box, e.g. by using heat, or a plunger
- B31B 2217/0069 . . . involving forming of the liner before inserting
- B31B 2217/0076 . . . Folding a sheet or blank around an inner tubular liner
- B31B 2217/0084 . . . Making boxes from laminated webs, e.g. including laminating the webs
- B31B 2217/0092 . . . Making drawer-and-shell boxes
- B31B 2217/02 . . . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
- B31B 2217/06 . . . Making boxes characterised by their geometry
- B31B 2217/062 . . . Making conical or pyramidal boxes; Making boxes of varying cross-section
- B31B 2217/064 . . . Making boxes of curved cross section
- B31B 2217/066 . . . Making boxes of polygonal cross section
- B31B 2217/068 . . . having non-square, non-rectangular cross section
- B31B 2217/08 . . . Making boxes characterised by the shape of the blanks from which they are formed
- B31B 2217/082 . . . Making boxes from tubular webs or blanks, e.g. with separate bottoms, including tube or bottom forming operations
- B31B 2217/084 . . . Making boxes having all side walls attached to the bottom
- B31B 2217/086 . . . Making boxes by uniting two U-shaped blanks
- B31B 2217/088 . . . Making boxes from blanks consisting of side wall panels integral with a bottom panel and additional side wall panels
- B31B 2217/10 . . . Involving forming accessories or reinforcements
- B31B 2217/101 . . . Making boxes having a cover
- B31B 2217/103 . . . Making multi-compartment boxes
- B31B 2217/105 . . . Inserting partitions in boxes or cartons
- B31B 2217/106 . . . Making boxes having corner posts or reinforcements
- B31B 2217/108 . . . Inserting necks in boxes, forming or applying shoulders
- B31B 2219/00** **Specific operations carried out during bag making**
- B31B 2219/02 . . . Feeding or positioning webs, sheets or bags
- B31B 2219/022 . . . Feeding or positioning webs
- B31B 2219/024 . . . Feeding or positioning sheets
- B31B 2219/026 . . . Holders for feeding or positioning sheets or webs
- B31B 2219/028 . . . the holders rotating, e.g. star wheels, drums
- B31B 2219/14 . . . Cutting, perforating, punching, slitting, trimming
- B31B 2219/141 . . . using presses or dies
- B31B 2219/142 . . . using tools mounted on belts or chains
- B31B 2219/143 . . . using tools mounted on a drum
- B31B 2219/145 . . . Cutting webs
- B31B 2219/146 . . . slitting webs longitudinally
- B31B 2219/147 . . . Cutting sheets

- B31B 2219/148 . . Cutting-out portions from the sides of webs or sheets
- B31B 2219/22 . Shaping, other-wise than folding, sheet material under pressure
- B31B 2219/225 . . using punches or dies
- B31B 2219/23 . Stiffening, reinforcing bags
- B31B 2219/25 . Surface scoring
- B31B 2219/252 . . using presses or dies
- B31B 2219/255 . . using tools mounted on belts or chains
- B31B 2219/257 . . using tools mounted on a drum
- B31B 2219/26 . Folding sheets or webs
- B31B 2219/2609 . . around mandrels
- B31B 2219/2618 . . . the mandrels moving
- B31B 2219/2627 . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- B31B 2219/2636 . . by plungers moving through folding dies
- B31B 2219/2645 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- B31B 2219/2654 . . by rotary members co-operating with blades
- B31B 2219/2663 . . by moving belts or chains
- B31B 2219/2672 . . involving transversely folding, i.e. along a line perpendicular to the direction of movement
- B31B 2219/2681 . . involving longitudinally folding, i.e. along a line parallel to the direction of movement
- B31B 2219/269 . . . involving gusset-forming
- B31B 2219/28 . Opening or distending bags
- B31B 2219/29 . Closing bags
- B31B 2219/60 . Uniting opposed surfaces or edges; Taping
- B31B 2219/6007 . . by adhesives
- B31B 2219/6015 . . . Arrangements for permitting the glue to set
- B31B 2219/6023 . . . Applying glue on moving webs to form tubular webs
- B31B 2219/603 . . by applying heat or pressure
- B31B 2219/6038 . . . using sealing jaws or sealing dies
- B31B 2219/6046 . . . on piled sheets, e.g. sealing bags arranged in a pile
- B31B 2219/6053 . . . Making seals parallel to the direction of movement, i.e. longitudinal sealing
- B31B 2219/6061 . . . Making seals transversally to the direction of movement
- B31B 2219/6069 . . . using tools mounted on belts or chains
- B31B 2219/6076 . . . using tools mounted on a drum
- B31B 2219/6084 . . by stitching, stapling, or riveting
- B31B 2219/6092 . . by applying or securing strips or tape
- B31B 2219/61 . Moistening; Drying; Cooling; Heating
- B31B 2219/62 . Coating; Impregnating; Water proofing; Decoating

- B31B 2219/88 . Printing or embossing
- B31B 2219/90 . Forming or attaching accessories
- B31B 2219/9003 . . Applying patches, strips or strings on sheets or webs
- B31B 2219/9006 . . . Applying patches
- B31B 2219/9009 . . . Applying strips
- B31B 2219/9012 . . Applying closure elements
- B31B 2219/9016 . . . Making bags having interengaging closure elements
- B31B 2219/9019 Applying the closure elements in the machine direction
- B31B 2219/9022 Applying the closure elements in the cross direction
- B31B 2219/9025 . . . Applying strings; Making string-closed bags
- B31B 2219/9029 the strings being applied in the machine direction
- B31B 2219/9032 the strings being applied in the cross direction
- B31B 2219/9035 the ends of the strings being attached to the side edges of the bags
- B31B 2219/9038 . . Forming or attaching windows
- B31B 2219/9041 . . . by making paper transparent or translucent, by applying transparent melt
- B31B 2219/9045 . . . involving applying window patches
- B31B 2219/9048 . . . involving cutting windows
- B31B 2219/9051 . . Forming valves or applying valve inserts
- B31B 2219/9054 . . . Applying rigid valves, spouts, or filling tubes
- B31B 2219/9058 . . . Forming valves integral with the bags
- B31B 2219/9061 by deforming, e.g. stretching, the bag
- B31B 2219/9064 involving turning the bags inside out
- B31B 2219/9067 . . . Applying patches or flexible valve inserts, e.g. involving making of the inserts
- B31B 2219/907 Applying valve inserts on tubular webs, e.g. from the inside
- B31B 2219/9074 . . Forming integral handles or mounting separate handles
- B31B 2219/9077 . . . Mounting separate handles on bags, sheets or webs
- B31B 2219/908 Applying handles on a moving web followed by longitudinal folding
- B31B 2219/9083 Applying handles on a moving web followed by transverse folding
- B31B 2219/9087 Applying handles on one side of a moving longitudinally folded web, e.g. after cutting a tubular web longitudinally, or on both sides of a moving web and folding this web longitudinally afterwards
- B31B 2219/909 . . . Forming integral handles on bags
- B31B 2219/9093 . . . involving punching or cutting
- B31B 2219/9096 . . . involving application of reinforcement strips or patches; involving reinforcements obtained by folding
- B31B 2219/92 . . Delivering
- B31B 2219/921 . . singly or in succession
- B31B 2219/922 . . . in overlapping arrangement
- B31B 2219/923 . . . by winding up
- B31B 2219/924 . . . the bags being interconnected

- B31B 2219/925 . . . in stacks or bundles
- B31B 2219/926 . . . involving folding of the bags
- B31B 2219/927 . . . Stacking bags on wicket pins
- B31B 2219/928 . . . Stacking bags by means of a rotary stacking drum
- B31B 2219/929 . . . Assembling or block-forming of bags; Loading bags on a mandrel
- B31B 2219/94 . Involving a particular layout of the machinery or relative arrangement of its subunits
- B31B 2219/95 . Controlling; Regulating; Measuring; Safety measures

B31B 2221/00**Making bags from sheets**

- B31B 2221/05 . the bags having multilayered walls, e.g. lined or laminated
- B31B 2221/055 . . Applying liners in already made bags, e.g. including turning the bags inside out
- B31B 2221/10 . the bags having no structural provision at the base for thickness of content, e.g. flat bags
- B31B 2221/102 . . obtained from essentially rectangular sheets
- B31B 2221/105 . . obtained from rhombus shaped sheets
- B31B 2221/107 . . obtained from sheets cut from larger sheets or webs before finishing the bag forming operations
- B31B 2221/20 . the bags having structural provision at the base for thickness of content
- B31B 2221/25 . the bags being of pointed or tapered shape
- B31B 2221/40 . involving square or cross bottom forming
- B31B 2221/402 . . the bags having their openings facing in the direction of movement
- B31B 2221/405 . . the bags having their openings facing transversally to the direction of movement
- B31B 2221/407 . . starting from already formed bags
- B31B 2221/50 . involving joining superimposed sheets, e.g. with separate bottom sheets
- B31B 2221/60 . starting from tubular sheets

B31B 2237/00**Making bags from webs**

- B31B 2237/05 . the bags having multilayered walls, e.g. lined or laminated
- B31B 2237/055 . . involving folding a web about an already tubular web
- B31B 2237/10 . the bags having no structural provision at the base for thickness of content, e.g. flat bags
- B31B 2237/20 . the bags having structural provision at the base for thickness of content
- B31B 2237/25 . the bags being of pointed or tapered shape
- B31B 2237/40 . involving folding webs longitudinally
- B31B 2237/403 . . the bags having their openings facing in the direction of movement
- B31B 2237/406 . . the bags having their openings facing transversally to the direction of movement
- B31B 2237/50 . involving joining superimposed webs, e.g. with separate bottom webs
- B31B 2237/60 . starting from tubular webs

B31B 2241/00

Making bags or boxes intended for a specific use

B31B 2241/001

- Making bottle carriers

B31B 2241/002

- Making egg cartons

B31B 2241/003

- Making cigarette boxes

B31B 2241/005

- Making paper bottles

B31B 2241/006

- Making envelopes holding bar-shaped objects, e.g. cigar holders

B31B 2241/007

- Making recording disc envelopes

B31B 2241/008

- Making suction cleaner bags

B31B 2247/00

Manual operations or hand tools for making bags or boxes