CPC COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING (NOTES omitted)

SHAPING

B31 MAKING ARTICLES OF PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER; WORKING PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER (NOTES omitted)

B31B MAKING CONTAINERS OF PAPER, CARDBOARD OR MATERIAL WORKED IN A MANNER ANALOGOUS TO PAPER (making wound articles, e.g. wound tubes, <u>B31C</u>; combined making and filling <u>B65B</u>)

NOTE

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

- "rigid or semi-rigid containers" includes:
 - containers not deformed by, or not taking-up the shape of, their contents;
 - · containers adapted to be temporarily deformed to expel their contents;
 - pallets;
 - trays;
- "flexible containers" includes:
 - containers deformed by, or taking-up the shape of, their contents;
- containers adapted to be permanently deformed to expel their contents.

50/00	Making rigid or semi-rigid containers, e.g. boxes	50/07	••• by air pressure or suction
	or cartons	50/10	• • Feeding or positioning webs
	NOTE	50/102	• • • {using rolls, belts or chains}
		50/104	• • • {involving aligning}
	In this group, it is desirable to add the indexing codes of groups $\underline{B31B} \ \underline{2100/00} - \underline{B31B} \ \underline{2120/00}$.	50/106	• • {involving changing orientation or changing direction of transport}
50/002	• {Prebreaking}	50/12	• • • by air pressure or suction
50/003	• {Straightening the side walls of boxes; Squaring collapsed folded box blanks; Deforming boxes}	50/14	• Cutting, e.g. perforating, punching, slitting or trimming (cutting window openings <u>B31B 50/83</u>)
50/004	• {Closing boxes}	50/142	• • {using presses or dies}
50/0042	• • {the boxes having their opening facing in	50/144	• • {using tools mounted on belts or chains}
	horizontal direction}	50/146	• • {using tools mounted on a drum}
50/0044	• • {the boxes having their opening facing upwardly}	50/16	• • Cutting webs
50/0045	• • {the boxes being cylindrical}	50/18	longitudinally
50/005	• {involving a particular layout of the machinery or	50/20	• • Cutting sheets or blanks
	relative arrangement of its subunits}	50/22	Notching; Trimming edges of flaps
50/006	• {Controlling; Regulating; Measuring; Improving	50/25	Surface scoring
	safety}	50/252	• • {using presses or dies}
50/02	 Feeding or positioning sheets, blanks or webs 	50/254	• • {using tools mounted on belts or chains}
50/022	• • {Holders for feeding or positioning blanks or	50/256	• • {using tools mounted on a drum}
	webs}	50/26	• Folding sheets, blanks or webs
50/024	• • {Rotating holders, e.g. star wheels, drums}	50/262	• • {involving folding, leading, or trailing flaps of
50/04	• Feeding sheets or blanks		blanks}
50/042	• • { using rolls, belts or chains }	50/28	• • around mandrels, e.g. for forming bottoms
50/044	• • • {involving aligning}	50/282	• • • {involving stripping-off formed boxes from
50/046	• • • {involving changing orientation or changing		mandrels }
	direction of transport}	50/30	the mandrels moving
50/06	from stacks	50/32	in circular paths
50/062	• • • • {from the underside of a magazine}	50/322	\ldots . (the mandrels extending radially from the
50/064	•••• {by being moved in the plane they are		periphery of a drum}
	lying in}	50/324	\ldots . (the mandrels being parallel to the axis of
50/066	• • • • {from above a magazine}		a drum}

50/326	•••• { the mandrels extending tangentially to the periphery of a drum }	50/7
50/34	about their own axes	
50/36	• • by continuously feeding the sheets, blanks or	
	webs to stationary members, e.g. plates, ploughs	50/7
	or cores	50/7
50/38	the members being forming-tubes	50/7
50/40	acting internally	50/7
50/42	• • • • acting externally	
50/44	 by plungers moving through folding dies 	50/7
50/442	 • by plungers moving through rotating dies • {having several cooperating plungers and dies 	
50/772	fitted on a rotating table or on moving chains}	50/7
50/444	• • {having several plungers moving in a closed	50/7
50/444	path and cooperating with stationary folding	50/7
	dies}	50/7
50/46	• • • and interconnecting side walls	
		50/7
50/48	•••• by folding or tucking in locking flaps	50/7
50/50	• • • • by interengaging tongues and slots	50/7
50/52	• by reciprocating or oscillating members, e.g.	50/7
	fingers (by plungers moving through folding dies <u>B31B 50/44</u>)	50/7
50/54	• • • operating on moving material	50/7
50/56	by rotary members co-operating with blades	
50/58	• • by moving endless belts {or chains}	50/7
50/585	• • by air jets	
50/59	• Shaping sheet material under pressure (by folding	50/7
	<u>B31B 50/26;</u> embossing <u>B31B 50/88</u>)	
50/592	• {using punches or dies}	50/7
50/594	• • {Modifying the shape of tubular boxes or of paper	
00,091	bottle necks}	
50/60	 Uniting opposed surfaces or edges; Taping 	50/8
50/61	• {Uniting opposed edges by injecting thermoplastic material}	50/8
50/62	• • by adhesives	50/8
50/622	• • {Applying glue on already formed boxes}	
50/624	• • {Applying glue on blanks}	50/8
50/626	• • {Arrangements for permitting the glue to set}	
50/64	 by applying heat or pressure, e.g. by welding 	50/8
50/04	(to unite areas where adhesives are applied	
	<u>B31B 50/62</u>)	50/8
50/642	• • {using sealing jaws or sealing dies}	
50/644	 . {Using scaling jaws of scaling des} . {Making seals parallel to the direction of 	50/8
30/044	movement, i.e. longitudinal sealing}	50/8
50/615		50/8
50/645	• • {Making seals transversally to the direction of movement}	20/0
50/648	• • { using tools mounted on belts or chains }	50/8
50/649	 . {using tools mounted on berts of chains} . {using tools mounted on a drum} 	
		50/8
50/66	• • • by high-frequency electric heating	20/0
50/68	• • by stitching, stapling or riveting	50/8
50/682	• • {for closing the bottom flaps of boxes, or for securing bottoms or caps to box bodies}	
50/684	• • • { for joining the overlapping edges of collapsed	50/8
	blanks to form tubular blanks}	
50/686	• • • {for attaching hinged covers to boxes}	50/8
50/70	• • by corner stapling	
50/72	 by applying and securing strips or sheets 	50/8
50/722	 by apprying and secting strips of siects fon already formed boxes} 	
50/724	{Applying tapes on the corners of set-up	50/8
50/124	boxes, e.g. involving setting-up}	
50/726	 {for uniting meeting edges of collapsed boxes} 	50/8
50/726	• • • {for unung meeting edges of conapsed boxes}	
		50/8

50/73	• by mechanically interlocking integral parts, e.g. by tongues and slots (interconnecting side walls during folding by plungers moving through folding dies <u>B31B 50/46</u>)
50/732	• • {by folding or tucking-in locking flaps}
50/734	• • • { interengaging tongues and slots }
50/74	• Auxiliary operations
50/741	• • {Moistening; Drying; Cooling; Heating;
007711	Sterilizing}
50/742	 {Coating; Impregnating; Waterproofing; Decoating}
50/743	• • • {Coating or impregnating edges or corners}
50/745	• • • {Coating or impregnating formed boxes}
50/747	• • • {Coating or impregnating blanks or webs}
50/75	••• {by immersing in a bath}
50/753	• • • {by spraying}
50/756	• • • • {only the interior of the boxes}
50/76	• • Opening and distending flattened articles
50/78	Mechanically
50/782	•••• {by pushing the opposite ends of collapsed
	blanks towards each other}
50/784	• • • { for setting up boxes having their opening facing upwardly }
50/786	•••• {by introducing opening fingers in the
	collapsed blanks}
50/787	••••• {Rotating fingers; Two or more fingers moving relatively to each other}
50/788	• • • • {by introducing the blanks into
	undeformable holders, e.g. on a drum or on
	chains}
50/80	Pneumatically
50/802	• • • • {for setting-up boxes having their opening
	facing upwardly}
50/804	• • • • {using two or more suction devices on a
50/01	rotating element}
50/81	• Forming or attaching accessories, e.g. opening
50/011	devices, closures or tear strings
50/811	• • {Applying strips, strings, laces or ornamental edgings to formed boxes}
50/812	• • {Applying tabs, patches, strips or strings on blanks or webs}
50/0121	
50/8121 50/8122	{Applying tabs on corners of box blanks}
	{Applying patches}
50/8123	• • • • {the blanks remaining stationary during application of the patches}
50/8124	{the patches being taken out of a
50/0124	magazine}
50/8125	• • • {Applying strips or strings, e.g. tear strips or
50/8125	strings}
50/8126	• • • • {parallel to the direction of movement of
50/0120	the webs or the blanks}
50/8127	• • • • {perpendicular to the direction of
50/0127	movement of the webs or the blanks}
50/8128	• • • • {the webs or blanks remaining stationary
50/0120	during application of the strips or strings}
50/8129	• • • • { the webs or blanks moving during
50/012)	application of the strips or strings}
50/813	• • • • {obliquely to the direction of movement of
20,012	the webs or blanks or in an irregular path}
50/814	• • {Applying closure elements to blanks, webs or
20/014	boxes}
50/8142	• • • { Applying button-and-string or washer like
23/01-2	closure elements}
	· · · · · · · · · · · · · · · · · · ·

50/0144	
50/8144	• • • {Applying hook-and-loop-type fasteners}
50/82	• • • Forming or attaching windows
50/83	•••• Cutting window openings
50/84	• • • Forming or attaching means for filling or
50/05	dispensing contents, e.g. valves or spouts
50/85	• • • • Applying patches or flexible valve inserts,
50/06	e.g. applying film-like valves
50/86	Forming integral handles; Attaching separate handles
50/87	• • • {Fitting separate handles on boxes, e.g. on
30/87	drinking cups}
50/88	Printing; Embossing
50/92	Delivering
50/94	singly or in succession
50/96	in an overlapping arrangement
50/98	• • • • • • • • • • • • • • • • • • •
50/99	 using hand tools
	-
70/00	Making flexible containers, e.g. envelopes or bags
	NOTES
	1. Processes or apparatus for making both flexible
	containers and rigid or semi-rigid containers are
	classified in group $\underline{B31B}$ 50/00.
	 In this group, it is desirable to add the indexing
	codes of groups $\underline{B31B} \ \underline{2150/00} - \underline{B31B} \ \underline{2170/00}$.
70/001	• {Shaping, other than by folding, sheet material
	under pressure}
70/002	• • {using punches or dies}
70/003	• {Opening or distending bags}
70/004	• {Closing bags}
70/005	• {involving a particular layout of the machinery or
70/00/	relative arrangement of its subunits}
70/006	 {Controlling; Regulating; Measuring; Safety measures}
70/008	• {Stiffening or reinforcing (<u>B31B 70/876</u> takes
/0/008	precedence)}
70/02	• Feeding or positioning sheets, blanks or webs
70/022	 Holders for feeding or positioning sheets or
10/022	webs}
70/024	• • {Rotating holders, e.g. star wheels, drums}
70/04	• Feeding sheets or blanks
70/10	• Feeding or positioning webs
70/14	• Cutting, e.g. perforating, punching, slitting or
	trimming (cutting window openings <u>B31B 70/83</u>)
70/142	• • {using presses or dies}
70/144	• • {using tools mounted on belts or chains}
70/146	• • {using tools mounted on a drum}
70/148	• • {Cutting-out portions from the sides of webs or
	sheets }
70/16	• • Cutting webs
70/18	longitudinally
70/20	• • Cutting sheets or blanks
70/25	• {Surface scoring}
70/252	• • {using presses or dies}
70/254	• • {using tools mounted on belts or chains}
70/256	• • {using tools mounted on a drum}
70/26	• Folding sheets, blanks or webs
70/261	• • {involving transversely folding, i.e. along a line
-0.5	perpendicular to the direction of movement}
70/262	• • {involving longitudinally folding, i.e. along a line
70/011	parallel to the direction of movement}
70/266	• • • {involving gusset-forming}

70/28	• • {around mandrels}
70/30	• • • {Moving mandrels}
70/36	• • by continuously feeding them to stationary
	members, e.g. plates, ploughs or cores
70/44	• • {by plungers moving through folding dies}
70/52	• • by reciprocating or oscillating members other
	than plungers and dies, e.g. by fingers
70/56	• • {by rotary members co-operating with blades}
70/58	• • {by moving belts or chains}
70/60	• Uniting opposed surfaces or edges; Taping
70/61	• • {by applying or securing strips or tape}
70/62	• • by adhesives
70/626	• • { Arrangements for permitting the glue to set }
70/628	• • • {Applying glue on moving webs to form
70/64	tubular webs}by applying heat or pressure (to unite areas where
70/04	adhesives are applied <u>B31B 70/62</u>)
70/642	• • • {using sealing jaws or sealing dies}
70/643	• • • {on piled sheets, e.g. sealing bags arranged in a
	pile}
70/644	• • • {Making seals parallel to the direction of
50/645	movement, i.e. longitudinal sealing}
70/645	• • • {Making seals transversally to the direction of movement}
70/648	• • • {using tools mounted on belts or chains}
70/649	• • {using tools mounted on a drum}
70/66	• • • by high-frequency electric heating
70/68	 by stitching, stapling or riveting
70/74	Auxiliary operations
70/76	 • {Moistening; Drying; Cooling; Heating}
70/79	 (Nontening, Drying, Cooning, Tearing) (Coating; Impregnating; Waterproofing;
10/17	Decoating}
70/81	• Forming or attaching accessories, e.g. opening
	devices, closures or tear strings
70/812	• • • {Applying patches, strips or strings on sheets or
	webs}
70/8122	• • • • {Applying patches}
70/8123	• • • • {Applying strips}
70/813	• • • {Applying closures}
70/8131	• • • {Making bags having interengaging closure elements}
70/8132	• • • • {Applying the closure elements in the
70/0132	machine direction}
70/8133	• • • • • {Applying the closure elements in the
	cross direction}
70/8134	• • • {Applying strings; Making string-closed bags}
70/8135	• • • • {the strings being applied in the machine
10/0100	direction }
70/8136	••••• {the strings being applied in the cross
	direction }
70/8137	\ldots . $\$ {the ends of the strings being attached to
	the side edges of the bags}
70/82	Forming or attaching windows
70/822	• • • {by making paper transparent or translucent;
70/826	by applying transparent melt} {involving applying window patches}
70/820	Cutting window openings
70/83 70/84	Cutting window openings Forming or attaching means for filling or
10/04	dispensing contents, e.g. valves or spouts
70/844	• • • • {Applying rigid valves, spouts, or filling
, 0, 0 IT	tubes}

70/85	•••• Applying patches or flexible valve inserts, e.g. applying film-like valves
70/853	• • • • {Applying valve inserts on tubular webs, e.g. from the inside}
70/855	Forming valves integral with the containers
70/857	•••• {by deforming the bag, e.g. stretching}
70/859	• • • • {involving turning the bags inside out}
70/86	• Forming integral handles or mounting separate
10,00	handles
70/864	• • {Mounting separate handles on bags, sheets or webs}
70/866	•••• {Applying handles on a moving web
	followed by longitudinal folding}
70/868	•••• {Applying handles on a moving web
	followed by transverse folding}
70/87	•••• {Applying handles on one side of a moving longitudinally folded web, e.g. after cutting a tubular web longitudinally; Applying handles on both sides of a moving web and folding
70/070	this web longitudinally afterwards}
70/872	• • • {Forming integral handles on bags}
70/874	{involving punching or cutting}
70/876	 {involving application of reinforcement strips or patches; involving reinforcements obtained by folding}
70/88	Printing; Embossing
70/92	Delivering
70/94	singly or in succession
70/942	• • • • {by winding up}
70/946	• • • • {the bags being interconnected}
70/96	in an overlapping arrangement
70/98	in stacks or bundles
70/982	•••• {involving folding of the bags}
70/984	•••• {Stacking bags on wicket pins}
70/986	• • • • {Stacking bags by means of a rotary stacking
	drum}
70/988	{Assembling or block-forming of bags;
	Loading bags on a mandrel}
70/99	• using hand tools

Indexing scheme associated with group B31B 50/00, relating to making of rigid or semi-rigid containers

2100/00	Rigid or semi-rigid containers made by folding single-piece sheets, blanks or webs
2100/002	• {characterised by the shape of the blank from which they are formed}
2100/0022	• • {made from tubular webs or blanks, including by tube or bottom forming operations}
2100/0024	• • {having all side walls attached to the bottom}
2100/0026	• • {having two opposite first side walls attached to the bottom and the other side walls being attached to the first side walls}
2100/0028	• • {made 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 walls}
2105/00	Rigid or semi-rigid containers made by assembling
	separate sheets, blanks or webs
2105/001	• {made from laminated webs, e.g. including laminating the webs}
2105/002	• {Making boxes characterised by the shape of the blanks from which they are formed}

2105/0022	• • {Making boxes from tubular webs or blanks, e.g.
	with separate bottoms, including tube or bottom
	forming operations}
2105/0024	• {Making boxes having all side walls attached to
2105/0025	the bottom}
2105/0025 2105/0027	 . {Making boxes by uniting two U-shaped blanks} . {Making boxes from blanks consisting of side
2103/0027	wall panels integral with a bottom panel and
	additional side wall panels}
2110/00	
2110/00 2110/10	Shape of rigid or semi-rigid containers
2110/10	• having a cross section of varying size or shape, e.g. conical or pyramidal
2110/20	 having a curved cross section, e.g. circular
2110/30	• having a polygonal cross section
2110/35	• rectangular, e.g. square
2110/40	• without sidewalls
2120/00	Construction of rigid on some rigid containons
2120/00 2120/002	Construction of rigid or semi-rigid containers . {having contracted or rolled necks, having
2120/002	shoulders}
2120/004	• {the bottom of which includes a rim projecting at
	the edges}
2120/10	• provided with covers, e.g. lids
2120/102	• • {with a hinged cover}
2120/20	• provided with two or more compartments
2120/25	• formed by partitions or like inserts not integral
2120/20	with walls
2120/30	collapsible; temporarily collapsed during manufacturing
2120/302	manufacturingfcollapsible into a flat condition}
2120/302	 Ined or internally reinforced
2120/402	 by applying a liner to already made boxes, e.g.
2120/ 102	opening or distending of the liner or the box}
2120/404	• • • {using vacuum or pressure means to force the
	liner against the wall}
2120/406	• • • {the lining material being a plunger, a web, a
	sheet or a bag to be forced into the box, e.g. by
2120/407	using heat} {involving forming of the liner before
2120/407	inserting}
2120/408	• {by folding a sheet or blank around an inner
	tubular liner}
2120/50	covered or externally reinforced
2120/501	• • {by applying wrapping material only on the side
	wall part of a box}
2120/502	• {having integral corner posts or reinforcements}
2120/60	• of drawer-and-shell type
2120/70	• having corrugated or pleated walls

Indexing scheme associated with group B31B 70/00, relating to making of flexible containers

2150/00	Flexible containers made from sheets or blanks, e.g. from flattened tubes
2150/001	• {with square or cross bottom}
2150/0012	• • {having their openings facing in the direction of movement}
2150/0014	• • {having their openings facing transversally to the direction of movement}
2150/0016	• • {made from already formed bags}
2150/002	• {by joining superimposed sheets, e.g. with separate bottom sheets}
2150/003	• {made from tubular sheets}

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2130/10	to the direction in which the sheets or blanks are fed
2150/20	• the longitudinal axes of the containers being
	perpendicular to the direction in which the sheets or
	blanks are fed
2155/00	Flexible containers made from webs
2155/001	• {by folding webs longitudinally}
2155/0012	• • {having their openings facing in the direction of movement}
2155/0014	• • {having their openings facing transversally to the direction of movement}
2155/002	• {by joining superimposed webs, e.g. with separate bottom webs}
2155/003	• {starting from tubular webs}
2160/00	Shape of flexible containers
2160/10	. rectangular and flat, i.e. without structural provision
	for thickness of contents
2160/102	• • {obtained from essentially rectangular sheets}
2160/104	• • {obtained from rhombus shaped sheets}
2160/106	• • {obtained from sheets cut from larger sheets
	or webs before finishing the bag forming
	operations}
2160/20	
2160/20 2160/30	operations }
	operations} . with structural provision for thickness of contents
2160/30	operations}with structural provision for thickness of contentspointed or tapered
2160/30 2170/00	 operations} with structural provision for thickness of contents pointed or tapered Construction of flexible containers
2160/30 2170/00 2170/10	 operations} with structural provision for thickness of contents pointed or tapered Construction of flexible containers interconnected
2160/30 2170/00 2170/10 2170/20	operations} with structural provision for thickness of contents pointed or tapered Construction of flexible containers interconnected having multi-layered walls, e.g. laminated or lined
2160/30 2170/00 2170/10 2170/20	 operations} with structural provision for thickness of contents pointed or tapered Construction of flexible containers interconnected having multi-layered walls, e.g. laminated or lined {having liners applied in already made bags, e.g. including turning the bags inside out} {involving folding a web about an already tubular
2160/30 2170/00 2170/10 2170/20 2170/202	 operations} with structural provision for thickness of contents pointed or tapered Construction of flexible containers interconnected having multi-layered walls, e.g. laminated or lined {having liners applied in already made bags, e.g. including turning the bags inside out}

2150/10 . the longitudinal axes of the containers being parallel

2241/00	Making bags or boxes intended for a specific use
2241/001	Making bottle carriers
2241/002	Making egg cartons
2241/003	Making cigarette boxes
2241/005	• Making paper bottles
2241/006	• Making envelopes holding bar-shaped objects, e.g. cigar holders
2241/007	• Making recording disc envelopes
2241/008	• Making suction cleaner bags
2247/00	Manual operations for making bags or boxes