

# 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:

<a href="#">B31B 7/02</a>	covered by	<a href="#">B31B 1/02</a>
<a href="#">B31B 7/14</a>	covered by	<a href="#">B31B 1/14</a>
<a href="#">B31B 7/60</a>	covered by	<a href="#">B31B 1/60</a>
<a href="#">B31B 7/74</a>	covered by	<a href="#">B31B 1/74</a>
<a href="#">B31B 9/00</a>	covered by	<a href="#">B31B 3/00</a>
<a href="#">B31B 9/02</a>	covered by	<a href="#">B31B 3/02</a>
<a href="#">B31B 9/14</a>	covered by	<a href="#">B31B 3/14</a>
<a href="#">B31B 9/26</a>	covered by	<a href="#">B31B 3/26</a>
<a href="#">B31B 9/60</a>	covered by	<a href="#">B31B 3/60</a>
<a href="#">B31B 9/74</a>	covered by	<a href="#">B31B 3/74</a>
<a href="#">B31B 11/02</a>	covered by	<a href="#">B31B 1/02</a>
<a href="#">B31B 11/14</a>	covered by	<a href="#">B31B 1/14</a>
<a href="#">B31B 11/26</a>	covered by	<a href="#">B31B 1/26</a>
<a href="#">B31B 11/60</a>	covered by	<a href="#">B31B 1/60</a>
<a href="#">B31B 11/74</a>	covered by	<a href="#">B31B 1/74</a>
<a href="#">B31B 13/02</a>	covered by	<a href="#">B31B 1/02</a>
<a href="#">B31B 13/14</a>	covered by	<a href="#">B31B 1/14</a>
<a href="#">B31B 13/60</a>	covered by	<a href="#">B31B 1/60</a>
<a href="#">B31B 13/74</a>	covered by	<a href="#">B31B 1/74</a>
<a href="#">B31B 15/14</a>	covered by	<a href="#">B31B 1/14</a>
<a href="#">B31B 15/26</a>	covered by	<a href="#">B31B 1/26</a>
<a href="#">B31B 15/60</a>	covered by	<a href="#">B31B 1/60</a>
<a href="#">B31B 15/74</a>	covered by	<a href="#">B31B 1/74</a>
<a href="#">B31B 21/02</a>	covered by	<a href="#">B31B 19/02</a>
<a href="#">B31B 21/14</a>	covered by	<a href="#">B31B 19/14</a>
<a href="#">B31B 21/26</a>	covered by	<a href="#">B31B 19/26</a>
<a href="#">B31B 21/60</a>	covered by	<a href="#">B31B 19/60</a>
<a href="#">B31B 21/74</a>	covered by	<a href="#">B31B 19/74</a>
<a href="#">B31B 23/02</a>	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 23/00</a>
<a href="#">B31B 23/14</a>	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 23/00</a>
<a href="#">B31B 23/26</a>	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 23/00</a>
<a href="#">B31B 23/60</a>	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 23/00</a>
<a href="#">B31B 23/74</a>	covered by	<a href="#">B31B 19/74</a> , <a href="#">B31B 23/00</a>
<a href="#">B31B 25/02</a>	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 25/00</a>
<a href="#">B31B 25/14</a>	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 25/00</a>
<a href="#">B31B 25/26</a>	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 25/00</a>
<a href="#">B31B 25/60</a>	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 25/00</a>
<a href="#">B31B 25/74</a>	covered by	<a href="#">B31B 19/74</a> , <a href="#">B31B 25/00</a>
<a href="#">B31B 27/02</a>	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 27/00</a>
<a href="#">B31B 27/14</a>	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 27/00</a>
<a href="#">B31B 27/26</a>	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 27/00</a>
<a href="#">B31B 27/60</a>	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 27/00</a>
<a href="#">B31B 27/74</a>	covered by	<a href="#">B31B 19/74</a> , <a href="#">B31B 27/00</a>
<a href="#">B31B 29/02</a>	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 29/00</a>
<a href="#">B31B 29/14</a>	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 29/00</a>
<a href="#">B31B 29/26</a>	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 29/00</a>
<a href="#">B31B 31/00</a>	covered by	<a href="#">B31B 29/00</a>
<a href="#">B31B 31/02</a>	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 29/00</a>

B31B 31/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 29/00</a>
B31B 31/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 29/00</a>
B31B 31/60	covered by	<a href="#">B31B 29/60</a>
B31B 31/74	covered by	<a href="#">B31B 29/74</a>
B31B 33/00	covered by	<a href="#">B31B 29/00</a>
B31B 33/02	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 29/00</a>
B31B 33/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 29/00</a>
B31B 33/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 29/00</a>
B31B 33/60	covered by	<a href="#">B31B 29/60</a>
B31B 33/74	covered by	<a href="#">B31B 29/74</a>
B31B 35/00	covered by	<a href="#">B31B 29/00</a>
B31B 35/02	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 29/00</a>
B31B 35/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 29/00</a>
B31B 35/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 29/00</a>
B31B 35/60	covered by	<a href="#">B31B 29/60</a>
B31B 35/74	covered by	<a href="#">B31B 29/74</a>
B31B 37/02	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 37/00</a>
B31B 37/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 37/00</a>
B31B 37/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 37/00</a>
B31B 37/60	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 37/00</a>
B31B 37/74	covered by	<a href="#">B31B 19/74</a> , <a href="#">B31B 37/00</a>
B31B 39/02	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 39/00</a>
B31B 39/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 39/00</a>
B31B 39/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 39/00</a>
B31B 39/60	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 39/00</a>
B31B 41/02	covered by	<a href="#">B31B 19/02</a> , <a href="#">B31B 41/00</a>
B31B 41/14	covered by	<a href="#">B31B 19/14</a> , <a href="#">B31B 41/00</a>
B31B 41/26	covered by	<a href="#">B31B 19/26</a> , <a href="#">B31B 41/00</a>
B31B 41/60	covered by	<a href="#">B31B 19/60</a> , <a href="#">B31B 41/00</a>
B31B 41/74	covered by	<a href="#">B31B 19/74</a> , <a href="#">B31B 41/00</a>

**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](#) - [B31B 29/00](#), [B31B 37/00](#) - [B31B 41/00](#))

- 1/02 . Feeding or positioning sheets, blanks, or webs
- 1/04 . . Feeding sheets or blanks
- 1/06 . . . from stacks { [\(B31B 5/76 takes precedence\)](#) }
- 1/08 . . . during envelope or bag-making operations
- 1/10 . . Feeding or positioning webs
- 1/12 . . by air pressure or suction { [\(B31B 1/06 takes precedence\)](#) }
- 1/14 . Cutting, e.g. perforating, punching, slitting, trimming { (means for removing cut-out material or waste [B26D 7/18](#)) }
- 1/16 . . Cutting webs to form sheets or blanks
- 1/18 . . Slitting webs longitudinally
- 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](#)) }
- 1/22 . . . Notching; Trimming edges of flaps
- 1/24 . . . Making window openings
- 1/25 . Surface scoring (cutting through material [B31B 1/14](#))
- 1/26 . Folding sheets, blanks, or webs

- 1/28 . . around mandrels, including bottom-forming operations
- 1/30 . . . the mandrels moving
- 1/32 . . . . in circular paths
- 1/34 . . . . about their own axes
- 1/36 . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- 1/38 . . . the members being forming-tubes
- 1/40 . . . . acting internally
- 1/42 . . . . acting externally
- 1/44 . . by plungers moving through folding dies
- 1/46 . . . and interconnecting side walls during such movement
- 1/48 . . . . by folding or tucking-in locking flaps
- 1/50 . . . . . by interengaging tongues and slots
- 1/52 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- 1/54 . . . operating on moving material
- 1/56 . . by rotary members co-operating with blades
- 1/58 . . by moving endless belts
- 1/60 . Uniting opposed surfaces or edges; Taping
- 1/62 . . by adhesives
- 1/64 . . by applying heat or pressure
- 1/66 . . . high-frequency electric heating
- 1/68 . . by stitching, stapling, or riveting
- 1/70 . . . by corner stapling
- 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](#)) }
- 1/74 . Auxiliary operations; {Parts; Components}
- 1/76 . . Opening or distending flattened articles

- 1/78 . . . mechanically
- 1/80 . . . pneumatically
- 1/82 . . Attaching windows
- 1/84 . . Forming valves or applying valve inserts;  
{Applying rigid valves, spouts, filling tubes}  
(connection of valves to inflatable elastic bodies  
[B60C 29/00](#))
- 1/86 . . Forming integral handles or mounting separate  
handles (making separate handles by multi-step  
processes [B31D 1/06](#))
- 1/88 . . Printing or embossing
- 1/90 . . Attaching accessories not otherwise provided for,  
e.g. opening or closure devices, tear strings
- 1/92 . . Delivering {(B31B 19/92 takes precedence)}
- 1/94 . . . singly or in succession
- 1/96 . . . . in overlapping arrangement
- 1/98 . . . in stacks or bundles

#### **Machinery for making boxes or cartons**

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

- 5/36 . . by continuously feeding same to stationary  
members, e.g. plates, ploughs, cores
- 5/60 . and having means for uniting opposed surfaces or  
edges, or for taping
- 5/74 . and having means for effecting auxiliary operations
- 5/76 . . Opening or distending flattened articles {,  
e.g. collapsed blanks, including arrangements  
therefor; Setting-up of boxes}
- 5/78 . . . mechanically
- 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}

#### **7/00 Machinery characterised by making lined or internally-reinforced boxes or cartons ([B31B 11/00](#) takes precedence)**

- 7/26 . and having means for folding sheets, blanks, or  
webs
- 7/28 . . around mandrels, including bottom-forming  
operations
- 7/30 . . . the mandrels moving {with independent  
mandrels or with mandrels fixed on an endless  
chain}
- 7/32 . . . . in circular paths {, e.g. with radially  
extending mandrels on a rotating drum}
- 7/44 . . by plungers moving through folding dies
- 7/46 . . . and interconnecting side walls during such  
movement

#### **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](#)

#### **13/00 Machinery characterised by assembling drawer- and-shell boxes or cartons**

#### **15/00 Machinery characterised by making covered or externally-reinforced boxes or cartons {(B31B 7/00 takes precedence)}**

- 15/02 . and having means for feeding or positioning sheets,  
blanks, or webs

#### **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](#)

- 17/60 . and having means for uniting opposed surfaces or  
edges, or for taping

- 17/74 . and having means for effecting auxiliary operations

#### **Machinery for making envelopes or bags**

##### **NOTE**

(continued)

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

- 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)
- 19/02 . and having means for feeding or positioning sheets, blanks, or webs
- 19/10 . . Feeding or positioning webs
- 19/14 . and having means for cutting, e.g. perforating, punching, slitting, trimming
- 19/16 . . Cutting webs to form sheets or blanks
- 19/18 . . Slitting webs longitudinally
- 19/20 . . Cutting sheets or blanks, {e.g. applying corner cuts}
- 19/26 . and having means for folding sheets, blanks, or webs
- 19/36 . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- 19/52 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- 19/60 . and having means for uniting opposed surfaces or edges, or for taping
- 19/62 . . by adhesives
- 19/64 . . by applying heat or pressure {(for block bottom bags [B31B 29/60](#))}
- 19/66 . . . high-frequency electric heating
- 19/68 . . by stitching, stapling or riveting
- 19/74 . Auxiliary operations; {Parts; Components}
- 19/82 . . Attaching windows
- 19/84 . . Forming valves or applying valve inserts
- 19/86 . . Forming integral handles or mounting separate handles (making separate handles by multi-step processes [B31D 1/06](#))
- 19/88 . . Printing or embossing
- 19/90 . . Attaching accessories not otherwise provided for, e.g. opening or closure devices, tear strings {patches}
- 19/92 . . Delivering
- 19/94 . . . singly or in succession
- 19/96 . . . . in overlapping arrangement
- 19/98 . . . . in stacks or bundles
- 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}
- 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](#))
- 25/00** Machinery characterised by making pointed or tapered envelopes or bags
- 27/00** Machinery characterised by making interconnected envelopes or bags

- 29/00** Machinery characterised by making envelopes or bags with structural provision at the base for thickness or contents ([B31B31/00](#) - [B31B 37/00](#) take precedence; {[B31B31/00](#), [B31B33/00](#), [B31B35/00](#) takes precedence})
- 29/60 . and having means for uniting opposed surfaces or edges, or for taping
- 29/74 . and having means for effecting auxiliary operations
- 29/84 . . Forming valves or applying valve inserts
- 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](#))
- 39/00** Machinery characterised by making lined envelopes or bags
- 41/00** Machinery characterised by making envelopes or bags of other specific form or construction {, i.e. not particularly otherwise provided for}
- 43/00** Machinery characterised by making containers by shaping, other- wise than folding, sheet material under pressure
- 45/00** Machinery characterised by making containers having corrugated or pleated walls
- 47/00** Hand tools for making envelopes, bags, boxes or cartons
- 47/02 . for making envelopes or bags without preshaped bottoms
- 47/04 . for making envelopes or bags with preshaped bottoms
- 49/00** Machinery, accessories or processes not provided for in [B31B 1/00](#) - [B31B 47/00](#) (forms or constructions of boxes, cartons, envelopes or bags [B65D](#))
- NOTE**
- Processes dependent on the use of specific machinery provided for in groups [B31B 1/00](#) - [B31B 45/00](#) are classified in those groups.
- 49/02 . for making boxes or cartons
- 49/04 . for making envelopes or bags

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- 2201/00** Specific operations carried out during box making
- 2201/02 . Feeding or positioning webs, blanks or boxes
- 2201/0205 . . Feeding or positioning webs
- 2201/0211 . . . involving air pressure or vacuum
- 2201/0217 . . . using rolls, belts or chains
- 2201/0223 . . . involving aligning
- 2201/0229 . . . involving changing orientation or changing direction of transport
- 2201/0235 . . Feeding or positioning blanks
- 2201/0241 . . . by air pressure or vacuum
- 2201/0247 . . . using rolls, belts or chains
- 2201/0252 . . . involving aligning
- 2201/0258 . . . involving changing orientation or changing direction of transport

- 2201/0264 . . . from stacks
- 2201/027 . . . . from the underside of a magazine
- 2201/0276 . . . . . by being moved in the plane they are lying in
- 2201/0282 . . . . from above a magazine
- 2201/0288 . . Holders for feeding or positioning blanks or webs
- 2201/0294 . . . the holders rotating, e.g. star wheels, drums
- 2201/14 . Cutting, perforating, punching, slitting, trimming
- 2201/141 . . using presses or dies
- 2201/142 . . using tools mounted on belts or chains
- 2201/143 . . using tools mounted on a drum
- 2201/145 . . Cutting webs
- 2201/146 . . . cutting or slitting webs longitudinally
- 2201/147 . . Cutting blanks
- 2201/148 . . Notching; Trimming edges of flaps
- 2201/22 . Shaping, other-wise than folding, sheet material under pressure
- 2201/223 . . Using punches or dies
- 2201/226 . . Modifying the shape of tubular boxes, of paper bottle necks
- 2201/24 . Prebreaking
- 2201/25 . Surface scoring
- 2201/252 . . using presses or dies
- 2201/255 . . using tools mounted on belts or chains
- 2201/257 . . using tools mounted on a drum
- 2201/26 . Folding blanks or webs
- 2201/2604 . . around mandrels
- 2201/2608 . . . the mandrels moving
- 2201/2612 . . . . the mandrels being mounted on a drum, or a wheel
- 2201/2616 . . . . . the mandrels extending radially from the periphery of the drum
- 2201/262 . . . . . the mandrels being parallel to the axis of the drum
- 2201/2625 . . . . . the mandrels extending tangentially to the periphery of the drum
- 2201/2629 . . . . the mandrels rotating about their own axes
- 2201/2633 . . . involving stripping-off formed boxes from mandrels
- 2201/2637 . . by continuously feeding same to stationary members, e.g. plates, ploughs, cores
- 2201/2641 . . . the members being forming-tubes
- 2201/2645 . . . . acting internally
- 2201/265 . . . . acting externally
- 2201/2654 . . by plungers moving through folding dies
- 2201/2658 . . . having several cooperating plungers and dies fitted on a rotating table or on moving chains
- 2201/2662 . . . having several plungers moving in a closed path and cooperating with stationary folding dies
- 2201/2666 . . . involving interconnecting side walls
- 2201/267 . . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies
- 2201/2675 . . . operating on moving material
- 2201/2679 . . by rotary members co-operating with blades
- 2201/2683 . . by moving belts or chains
- 2201/2687 . . by air jets
- 2201/2691 . . involving folding leading or trailing flaps of blanks
- 2201/2695 . . involving corrugating or pleating
- 2201/27 . Straightening the side walls of boxes, squaring collapsed folded box blanks, deforming boxes
- 2201/28 . Opening or distending flattened boxes
- 2201/281 . . mechanically
- 2201/282 . . . by pushing the opposite ends of collapsed blanks towards each other
- 2201/283 . . . for setting-up boxes having their opening facing upwardly
- 2201/284 . . . by introducing opening fingers in the collapsed blanks
- 2201/285 . . . . by rotating fingers or with several fingers moving relatively to each other
- 2201/286 . . . by introducing the blanks into undeformable holders, e.g. on a drum or on chains
- 2201/287 . . pneumatically
- 2201/288 . . . for setting-up boxes having their opening facing upwardly
- 2201/289 . . . with several suction devices on a rotating element
- 2201/29 . Closing boxes
- 2201/292 . . the boxes having their opening facing in horizontal direction
- 2201/295 . . the boxes having their opening facing upwardly
- 2201/297 . . the boxes being cylindrical
- 2201/60 . Uniting opposed surfaces or edges; Taping
- 2201/6004 . . by injecting of thermoplastic material for uniting opposed edges
- 2201/6008 . . by adhesives
- 2201/6013 . . . Applying glue on already formed boxes
- 2201/6017 . . . Applying glue on blanks
- 2201/6021 . . . Arrangements for permitting the glue to set
- 2201/6026 . . by applying heat or pressure
- 2201/603 . . . using sealing jaws or sealing dies
- 2201/6034 . . . Making seals parallel to the direction of movement, i.e. longitudinal sealing
- 2201/6039 . . . Making seals transversally to the direction of movement
- 2201/6043 . . . using tools mounted on belts or chains
- 2201/6047 . . . using tools mounted on a drum
- 2201/6052 . . by stitching, stapling, or riveting
- 2201/6056 . . . for closing the bottom flaps of boxes, or for securing bottoms or caps to box bodies
- 2201/606 . . . for joining the overlapping edges of collapsed blanks to form tubular blanks
- 2201/6065 . . . for attaching hinged covers to boxes
- 2201/6069 . . . by corner stapling
- 2201/6073 . . by applying or securing strips or tape
- 2201/6078 . . . on already formed boxes
- 2201/6082 . . . . Applying tape on the corners of set-up boxes (box staying), e.g. involving setting-up
- 2201/6086 . . . for uniting meeting edges of collapsed boxes
- 2201/6091 . . by folding or tucking-in locking flaps
- 2201/6095 . . . and interengaging tongues and slots
- 2201/61 . Moistening; Drying; Cooling; Heating; Sterilizing
- 2201/62 . Coating; Impregnating; Water proofing; Decoating
- 2201/621 . . Coating or impregnating edges or corners
- 2201/622 . . Coating or impregnating formed boxes
- 2201/624 . . Coating or impregnating blanks or webs
- 2201/625 . . by immersing in a bath
- 2201/627 . . by spraying
- 2201/628 . . . by only spraying the interior of the boxes
- 2201/88 . Printing, marking, embossing
- 2201/90 . Forming or attaching accessories
- 2201/9004 . . Applying strips, strings, lace or like ornamental edging to formed boxes

- 2201/9009 . . Applying tabs, patches, strips or strings on blanks or webs
- 2201/9014 . . . Applying tabs on corners of box blanks
- 2201/9019 . . . Applying patches
- 2201/9023 . . . . the blanks remaining stationary during application of the patches
- 2201/9028 . . . . the patches being taken out of a magazine
- 2201/9033 . . . Applying strips or strings, e.g. tear strips or strings
- 2201/9038 . . . . parallel to the direction of movement of the webs or the blanks
- 2201/9042 . . . . perpendicular to the direction of movement of the webs or the blanks
- 2201/9047 . . . . the webs or blanks remaining stationary during application of the strips or strings
- 2201/9052 . . . . the webs or blanks moving during application of the strips or strings
- 2201/9057 . . . . obliquely to the direction of movement of the webs or blanks or in an irregular path
- 2201/9061 . . Applying closure elements to blanks, webs or boxes
- 2201/9066 . . . Applying button-and-string or washer like closure elements
- 2201/9071 . . . Applying other closure elements, e.g. hook and loop-type fastener
- 2201/9076 . . Forming or attaching windows
- 2201/908 . . . involving cutting window openings
- 2201/9085 . . Forming valves or applying valve inserts, e.g. rigid valves, spouts, filling tubes
- 2201/909 . . Forming integral handles or mounting separate handles
- 2201/9095 . . . Fitting separate handles on boxes, e.g. on drinking cups
- 2201/92 . . Delivering
- 2201/922 . . singly or in succession
- 2201/925 . . . in overlapping arrangement
- 2201/927 . . in stacks or bundles
- 2201/94 . . Involving a particular layout of the machinery or relative arrangement of its subunits
- 2201/95 . . Controlling; Regulating; Measuring; Improving safety
- 2203/00 Making boxes by folding single-piece blanks, or webs**
- 2203/003 . . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
- 2203/006 . . Collapsing already made boxes into a flat condition
- 2203/06 . . Making boxes characterised by their shape
- 2203/062 . . Making conical or pyramidal boxes; Making boxes of varying cross-section
- 2203/064 . . Making boxes of curved cross section
- 2203/066 . . Making boxes of polygonal cross section
- 2203/068 . . . having non-square, non-rectangular cross section
- 2203/08 . . Making boxes characterised by the shape of the blank from which they are formed
- 2203/082 . . Making boxes from tubular webs or blanks, including tube or bottom forming operations
- 2203/084 . . Making boxes having all side walls attached to the bottom
- 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
- 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
- 2203/10 . . Involving forming accessories or reinforcements
- 2203/101 . . Making boxes having a hinged cover
- 2203/103 . . Making multi-compartment boxes
- 2203/105 . . Making boxes having integral corner posts or reinforcements
- 2203/106 . . Making boxes having contracted or rolled necks, having shoulders
- 2203/108 . . Making boxes, the bottom of which includes a rim projecting at the edges
- 2217/00 Making boxes by assembling several separate blanks, or webs; making lined boxes; making boxes from laminated blanks or webs**
- 2217/0007 . . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
- 2217/0015 . . Collapsing already made boxes into a flat condition
- 2217/0023 . . Making covered or externally-reinforced boxes
- 2217/003 . . Applying wrapping material only on the side wall part of a box
- 2217/0038 . . Making lined or internally-reinforced boxes
- 2217/0046 . . Applying a liner to already made boxes, e.g. including opening or distending of the liner or the box
- 2217/0053 . . . using vacuum or pressure means to force the liner against the wall
- 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
- 2217/0069 . . . involving forming of the liner before inserting
- 2217/0076 . . Folding a sheet or blank around an inner tubular liner
- 2217/0084 . . Making boxes from laminated webs, e.g. including laminating the webs
- 2217/0092 . . Making drawer-and-shell boxes
- 2217/02 . . Making collapsible boxes; Making boxes being in a collapsed condition at least during some of the manufacturing steps
- 2217/06 . . Making boxes characterised by their geometry
- 2217/062 . . Making conical or pyramidal boxes; Making boxes of varying cross-section
- 2217/064 . . Making boxes of curved cross section
- 2217/066 . . Making boxes of polygonal cross section
- 2217/068 . . . having non-square, non-rectangular cross section
- 2217/08 . . Making boxes characterised by the shape of the blanks from which they are formed
- 2217/082 . . Making boxes from tubular webs or blanks, e.g. with separate bottoms, including tube or bottom forming operations
- 2217/084 . . Making boxes having all side walls attached to the bottom
- 2217/086 . . Making boxes by uniting two U-shaped blanks
- 2217/088 . . Making boxes from blanks consisting of side wall panels integral with a bottom panel and additional side wall panels



2217/10	. Involving forming accessories or reinforcements	2219/6076	. . . using tools mounted on a drum
2217/101	. . Making boxes having a cover	2219/6084	. . by stitching, stapling, or riveting
2217/103	. . Making multi-compartment boxes	2219/6092	. . by applying or securing strips or tape
2217/105	. . . Inserting partitions in boxes or cartons	2219/61	. Moistening; Drying; Cooling; Heating
2217/106	. . Making boxes having corner posts or reinforcements	2219/62	. Coating; Impregnating; Water proofing; Decoating
2217/108	. . Inserting necks in boxes, forming or applying shoulders	2219/88	. Printing or embossing
<b>2219/00</b>	<b>Specific operations carried out during bag making</b>	2219/90	. Forming or attaching accessories
2219/02	. Feeding or positioning webs, sheets or bags	2219/9003	. . Applying patches, strips or strings on sheets or webs
2219/022	. . Feeding or positioning webs	2219/9006	. . . Applying patches
2219/024	. . Feeding or positioning sheets	2219/9009	. . . Applying strips
2219/026	. . Holders for feeding or positioning sheets or webs	2219/9012	. . Applying closure elements
2219/028	. . . the holders rotating, e.g. star wheels, drums	2219/9016	. . . Making bags having interengaging closure elements
2219/14	. Cutting, perforating, punching, slitting, trimming	2219/9019	. . . . Applying the closure elements in the machine direction
2219/141	. . using presses or dies	2219/9022	. . . . Applying the closure elements in the cross direction
2219/142	. . using tools mounted on belts or chains	2219/9025	. . . Applying strings; Making string-closed bags
2219/143	. . using tools mounted on a drum	2219/9029	. . . . the strings being applied in the machine direction
2219/145	. . Cutting webs	2219/9032	. . . . the strings being applied in the cross direction
2219/146	. . . slitting webs longitudinally	2219/9035	. . . . the ends of the strings being attached to the side edges of the bags
2219/147	. . Cutting sheets	2219/9038	. . Forming or attaching windows
2219/148	. . Cutting-out portions from the sides of webs or sheets	2219/9041	. . . by making paper transparent or translucent, by applying transparent melt
2219/22	. Shaping, other-wise than folding, sheet material under pressure	2219/9045	. . . involving applying window patches
2219/225	. . using punches or dies	2219/9048	. . . involving cutting windows
2219/23	. Stiffening, reinforcing bags	2219/9051	. . Forming valves or applying valve inserts
2219/25	. Surface scoring	2219/9054	. . . Applying rigid valves, spouts, or filling tubes
2219/252	. . using presses or dies	2219/9058	. . . Forming valves integral with the bags
2219/255	. . using tools mounted on belts or chains	2219/9061	. . . . by deforming, e.g. stretching, the bag
2219/257	. . using tools mounted on a drum	2219/9064	. . . . involving turning the bags inside out
2219/26	. Folding sheets or webs	2219/9067	. . . Applying patches or flexible valve inserts, e.g. involving making of the inserts
2219/2609	. . around mandrels	2219/907	. . . . Applying valve inserts on tubular webs, e.g. from the inside
2219/2618	. . . the mandrels moving	2219/9074	. . Forming integral handles or mounting separate handles
2219/2627	. . by continuously feeding same to stationary members, e.g. plates, ploughs, cores	2219/9077	. . . Mounting separate handles on bags, sheets or webs
2219/2636	. . by plungers moving through folding dies	2219/908	. . . . Applying handles on a moving web followed by longitudinal folding
2219/2645	. . by reciprocating or oscillating members, e.g. fingers, other than plungers or dies	2219/9083	. . . . Applying handles on a moving web followed by transverse folding
2219/2654	. . by rotary members co-operating with blades	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
2219/2663	. . by moving belts or chains	2219/909	. . . Forming integral handles on bags
2219/2672	. . involving transversely folding, i.e. along a line perpendicular to the direction of movement	2219/9093	. . . involving punching or cutting
2219/2681	. . involving longitudinally folding, i.e. along a line parallel to the direction of movement	2219/9096	. . . involving application of reinforcement strips or patches; involving reinforcements obtained by folding
2219/269	. . . involving gusset-forming	2219/92	. Delivering
2219/28	. Opening or distending bags	2219/921	. . singly or in succession
2219/29	. Closing bags	2219/922	. . . in overlapping arrangement
2219/60	. Uniting opposed surfaces or edges; Taping	2219/923	. . . by winding up
2219/6007	. . by adhesives	2219/924	. . . the bags being interconnected
2219/6015	. . . Arrangements for permitting the glue to set	2219/925	. . in stacks or bundles
2219/6023	. . . Applying glue on moving webs to form tubular webs		
2219/603	. . by applying heat or pressure		
2219/6038	. . . using sealing jaws or sealing dies		
2219/6046	. . . on piled sheets, e.g. sealing bags arranged in a pile		
2219/6053	. . . Making seals parallel to the direction of movement, i.e. longitudinal sealing		
2219/6061	. . . Making seals transversally to the direction of movement		
2219/6069	. . . using tools mounted on belts or chains		

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

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

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

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

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

#### **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 or hand tools for making bags or boxes**