

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

### TRANSPORTING

#### B65 CONVEYING; PACKING; STORING; HANDLING THIN OR FILAMENTARY MATERIAL

**B65B MACHINES, APPARATUS OR DEVICES FOR, OR METHODS OF, PACKAGING ARTICLES OR MATERIALS; UNPACKING** (bundling and pressing devices for cigars [A24C 1/44](#); paper-bag holders as shop or office accessories [A47F 13/08](#); apparatus for coating, e.g. by dipping, [B05C](#); devices for tensioning and securing binders adapted to be supported by the article or articles to be bound [B25B](#), [B65B 13/00](#); nailing or stapling devices *per se* [B25C](#), [B27F](#); {cutting or severing in general [B26D](#), [B26F](#);} inserting documents in envelopes and closing the latter [B43M 3/00](#), [B43M 5/00](#); wrappers, containers or other packaging elements, e.g. binders protective caps [B65D](#); stacking articles in, or removing them from, pallets [B65G](#); devices for handling sheets or webs of interest apart from their application in packaging machines [B65H](#); packaging of matches [C06F](#); wrapping sugar during manufacture [C13B 45/00](#); {filling of grease guns [F16N 37/02](#); packing of shotgun cartridges for immediate use [F42B](#); wrapping of coins [G07D 9/00](#)}; making containers or receptacles *per se*, *see the appropriate subclasses*)

#### NOTE

The term "packaging" should be understood as including mainly the following operations:

- filling portable containers or receptacles with materials or small articles to form packages
- inserting articles, or groups of articles, into containers or receptacles
- closing filled containers or receptacles otherwise than by metal-, glass-, or wood-working operations
- enclosing, or partially enclosing, articles or quantities of material, in sheets, strips, blanks, webs, or tubes of thin flexible material, e.g. wrapping
- bundling articles, e.g. holding articles together in groups by applying string or wire
- attaching articles to cards, sheets, or webs

Operations of these types employed in the manufacture of articles other than packages are classified in other appropriate subclasses, e.g. making confectionery products by casting in moulds formed by wrappers [A23G](#), filling ammunition cartridges [F42B](#). Methods of packaging which are wholly characterised by the form of the package produced, or the form of the container or packaging-element utilised, are to be classified in [B65D](#) rather than in this subclass. In the following elaborations, the term "package" is used to mean the end product of a packaging operation, e.g. a filled and closed container, an article enclosed in a wrapper, a group of articles held together by string or wire, a crate of bottles. In the following elaborations, the term "materials" is to be understood as embracing matter, or masses of articles, which are to be packaged, as distinct from separate or individual articles. Machines, apparatus or methods of general application for packaging articles or materials

#### 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:

[B65B 51/09](#)

covered by

[B65B 51/00](#)

#### Machines, apparatus or methods of general application for packaging articles or materials

**1/00 Packaging fluent solid material, e.g. powders, granular or loose fibrous material, loose masses of small articles, in individual containers or receptacles, e.g. bags, sacks, boxes, cartons, cans jars (under special atmospheric or gaseous conditions [B65B 31/00](#))**

1/02

- Machines characterised by the incorporation of means for making the containers or receptacles (from flat, folded, or tubular webs of flexible sheet material [B65B 9/00](#); making containers or receptacles of interest apart from this application, *see appropriate subclasses*)

1/04

- Methods of, or means for, filling the material into the containers or receptacles

1/06

- . by gravity flow

- 1/08 . . by vibratory feeders
- 1/10 . . by rotary feeders
- 1/12 . . . of screw type
- 1/14 . . . of centrifugal type
- 1/16 . . by pneumatic means, e.g. by suction
- 1/18 . . for filling valve-bags
- 1/20 . Reducing volume of filled material
- 1/22 . . by vibration
- 1/24 . . by mechanical compression
- 1/26 . . by pneumatic means, e.g. suction
- 1/28 . Controlling escape of air or dust from containers or receptacles during filling ([cleaning of, or removing dust from, container wrappers or packages B65B 55/24](#))
- 1/30 . Devices or methods for controlling or determining the quantity or quality of the material fed or filled
- 1/32 . . by weighing ([check-weighing of filled containers or receptacles B65B 1/46](#); weighing in general [G01G](#))
- 1/34 . . . Adjusting weight by trickle feed
- 1/36 . . by volumetric devices or methods ([checking volume of filled material B65B 1/48](#); volumetric measurement in general [G01F](#))
- 1/363 . . . {with measuring pockets moving in an endless path}
- 1/366 . . . . {about a horizontal axis of symmetry}
- 1/38 . . by pistons co-operating with measuring chambers
- 1/385 . . . . {moving in an endless path}
- 1/40 . . by timing of filling operations
- 1/42 . . . and arresting flow by cut-off means
- 1/44 . . Checking density of material to be filled
- 1/46 . . Check-weighing of filled containers or receptacles ([check-weighing in general G01G](#))
- 1/48 . . Checking volume of filled material
- 3/00 Packaging plastic material, semi-liquids, liquids, or mixed solids and liquids, in individual containers or receptacles, e.g. bags, sacks, boxes, cartons, cans, jars** ([packaging under special atmospheric or gaseous conditions, adding propellants to aerosol containers B65B 31/00](#); filling bottles or other containers with liquids or semi-liquids by bottling machines [B67C](#); filling of gas bottles at high pressure for storing gases [F17C](#))
- 3/003 . {Filling medical containers such as ampoules, vials, syringes or the like}
- 3/006 . . {Related operations, e.g. scoring ampoules}
- 3/02 . Machines characterised by the incorporation of means for making the containers or receptacles ([making containers or receptacles of interest apart from this application, see appropriate subclasses](#))
- 3/022 . . {Making containers by moulding of a thermoplastic material}
- 3/025 . . {Making parallelepipedal containers from a single carton blank}
- 3/027 . . {Making containers from separate body and end-parts}
- 3/04 . Methods of, or means for, filling the material into the containers or receptacles
- 3/045 . . {for filling flexible containers having a filling and dispensing spout, e.g. containers of the "bag-in-box"-type}
- 3/06 . . by gravity flow
- 3/08 . . by screw-type feeders
- 3/10 . . by application of pressure to material ([by screw-type feeders B65B 3/08](#))
- 3/12 . . . mechanically, e.g. by pistons or pumps
- 3/14 . . . pneumatically
- 3/16 . . for filling collapsible tubes ([for filling valve bags B65B 3/17](#))
- 3/17 . . for filling valve bags
- 3/18 . Controlling escape of air from containers or receptacles during filling
- 3/22 . Defoaming liquids in connection with filling
- 3/24 . Topping-up containers or receptacles to ensure complete filling
- 3/26 . Methods or devices for controlling the quantity of the material fed or filled
- 3/28 . . by weighing ([in general G01G](#))
- 3/30 . . by volumetric measurement ([in general G01F](#))
- 3/305 . . . {with measuring pockets moving in an endless path}
- 3/32 . . . by pistons co-operating with measuring chambers
- 3/323 . . . . {with measuring chambers travelling in an endless path}
- 3/326 . . . . {for dosing several products to be mixed}
- 3/34 . . by timing of filling operations
- 3/36 . . . and arresting flow by cut-off means
- 5/00 Packaging individual articles in containers or receptacles, e.g. bags, sacks, boxes, cartons, cans, jars**
- 5/02 . Machines characterised by incorporation of means for making the containers or receptacles ([from flat, folded, or tubular webs of flexible sheet material B65B 9/00](#); making containers or receptacles of interest apart from this application, see appropriate subclasses)
- 5/022 . . {for making bags}
- 5/024 . . {for making containers from preformed blanks}
- 5/026 . . . {for making trays}
- 5/028 . . . {for making containers from two or more blanks ([B65B 5/026 takes precedence](#))}
- 5/04 . Packaging single articles
- 5/045 . . {in bags}
- 5/06 . Packaging groups of articles, the groups being treated as single articles
- 5/061 . . {Filled bags}
- 5/062 . . {Confectionery}
- 5/064 . . {Potato chips}
- 5/065 . . {Gable-topped container}
- 5/067 . . {in bags ([B65B 5/061 - B65B 5/065 take precedence](#))}
- 5/068 . . {in trays ([B65B 5/061 - B65B 5/065 take precedence](#))}
- 5/08 . Packaging groups of articles, the articles being individually gripped or guided for transfer to the containers or receptacles
- 5/10 . Filling containers or receptacles progressively or in stages by introducing successive articles, or layers of articles
- 5/101 . . {by gravity ([B65B 5/12 and B65B 5/108 take precedence](#))}
- 5/103 . . . {for packaging pills or tablets}
- 5/105 . . {by grippers ([B65B 5/12 and B65B 5/108 take precedence](#))}

- 5/106 . . {by pushers ([B65B 5/12](#) and [B65B 5/108](#) take precedence)}
- 5/108 . . {Article support means temporarily arranged in the container}
- 5/12 . . Introducing successive articles, e.g. confectionery products, of different shape or size in predetermined positions
- 7/00 Closing containers or receptacles after filling** (combinations of container-closing apparatus with apparatus for filling containers [B65B 1/00](#), [B65B 3/00](#), [B65B 5/00](#); under special atmospheric or gaseous conditions [B65B 31/00](#))
- 7/01 . Machines characterised by incorporation of means for making the closures before applying (making closures, of interest apart from this application, see the relevant subclass)
- 7/02 . Closing containers or receptacles deformed by, or taking-up shape, of, contents, e.g. bags, sacks
- 7/025 . . {Closing valve bags}
- 7/04 . . by tucking-in mouth portion to form two flaps and subsequently folding-down
- 7/06 . . by collapsing mouth portion, e.g. to form a single flap
- 7/08 . . . and folding
- 7/10 . . . and rolling-in
- 7/12 . . . and twisting
- 7/14 . Closing collapsible or resilient tubes, e.g. for tooth paste, for lighter fuel
- 7/16 . Closing semi-rigid or rigid containers or receptacles not deformed by, or not taking-up shape of, contents, e.g. boxes, cartons (closing cans by metal-working operations [B21D 51/26](#); stoppering or capping bottles or jars [B67B](#))
- 7/161 . . {Sealing filled ampoules}
- 7/162 . . {by feeding web material to securing means}
- 7/164 . . . {Securing by heat-sealing}
- 7/165 . . . {Securing by deformation of the web material}
- 7/167 . . . {Securing by heat-shrinking}
- 7/168 . . {by applying and securing double closures}
- 7/18 . . by collapsing mouth portion and subsequently folding-down or securing flaps
- 7/20 . . by folding-down preformed flaps
- 7/22 . . . and inserting flap portions between contents and wall
- 7/24 . . . and interengaging tongue and slot closures
- 7/26 . . by closing hinged lids
- 7/28 . . by applying separate preformed closures, e.g. lids, covers
- 7/2807 . . . {Feeding closures}
- 7/2814 . . . . {the closures being interconnected}
- 7/2821 . . . {applying plugs or threadless stoppers (for bottles or jars [B67B 1/04](#))}
- 7/2828 . . . {inserting and rotating screw stoppers (for bottles or jars [B67B 1/06](#))}
- 7/2835 . . . {applying and rotating preformed threaded caps (for bottles or jars [B67B 3/20](#))}
- 7/2842 . . . {Securing closures on containers (in general [B65B 51/00](#))}
- 7/285 . . . . {by deformation of the closure}
- 7/2857 . . . . . {and the container rim}
- 7/2864 . . . . {by adhesive tape}
- 7/2871 . . . . {by gluing}
- 7/2878 . . . . {by heat-sealing}
- 7/2885 . . . . {by heat-shrinking (in general [B65B 53/02](#))}
- 7/2892 . . . . {by deformation of the container rim}
- 9/00 Enclosing successive articles, or quantities of material, e.g. liquids or semiliquids, in flat, folded, or tubular webs of flexible sheet material; Subdividing filled flexible tubes to form packages**
- 9/02 . Enclosing successive articles, or quantities of material between opposed webs
- 9/023 . . {Packaging fluent material ([B65B 9/04](#) takes precedence)}
- 9/026 . . {the webs forming a curtain}
- 9/04 . . one or both webs being formed with pockets for the reception of the articles, or of the quantities of material
- 9/042 . . . {for fluent material}
- 9/045 . . . {for single articles, e.g. tablets}
- 2009/047 . . . {Rotary pocket formers}
- 9/06 . Enclosing successive articles, or quantities of material, in a longitudinally-folded web, or in a web folded into a tube about the articles or quantities of material placed upon it
- NOTE**  
If an invention involves both continuous and intermittent web motion, it is classified in both groups [B65B 9/067](#) and [B65B 9/073](#).
- 2009/063 . . {Forming shoulders}
- 9/067 . . the web advancing continuously ([B65B 9/08](#) takes precedence)
- 9/073 . . the web having intermittent motion ([B65B 9/08](#) takes precedence)
- 9/08 . . in a web folded and sealed transversely to form pockets which are subsequently filled and then closed by sealing
- NOTE**  
If an invention involves both continuous and intermittent web motion, it is classified in both groups [B65B 9/087](#) and [B65B 9/093](#).
- 9/087 . . . the web advancing continuously
- 9/093 . . . the web having intermittent motion
- 9/10 . Enclosing successive articles, or quantities of material, in preformed tubular webs, or in webs formed into tubes around filling nozzles, e.g. extruded tubular webs (sausage making [A22C 11/00](#))
- 9/12 . . Subdividing filled tubes to form two or more packages by sealing or securing involving displacement of contents (sausage making [A22C 11/00](#))
- 9/13 . . the preformed tubular webs being supplied in a flattened state
- 9/135 . . . {for palletised loads}
- 9/14 . . . Devices for distending tubes supplied in the flattened state
- 9/15 . . the preformed tubular webs being stored on filling nozzles
- 9/18 . . . Devices for storing tubular webs

9/20	. . the webs being formed into tubes <u>in situ</u> around the filling nozzles	11/08	. . in a single straight path
	<b>NOTE</b>	11/10	. . . to fold the wrappers in tubular form about contents
	If an invention involves both continuous and intermittent web motion, it is classified in both groups <a href="#">B65B 9/207</a> and <a href="#">B65B 9/213</a> .	11/105	. . . . {the axis of the tube being parallel to the conveying direction}
9/2007	. . . {Means for stripping or squeezing filled tubes prior to sealing to remove air or products from sealing area}	11/12	. . . . and then to form closing folds of similar form at opposite ends of the tube
9/2014	. . . {Tube advancing means}	11/14	. . . . the ends of the tube being subsequently twisted
9/2021	. . . . {combined with longitudinal welding devices}	11/16	. . . to fold the wrappers in channel form about contents and then to close the ends of the channel by folding and finally the mouth of the channel by folding or twisting
9/2028	. . . . {Rollers or belts}	11/18	. . in two or more straight paths
9/2035	. . . {Tube guiding means}	11/20	. . . to fold the wrappers in tubular form about contents
9/2042	. . . {Means for altering the cross-section of the tube filling opening prior to transversal sealing, e.g. tube spreading devices (subdividing filled tubes to form two or more packages by sealing involving displacement of contents <a href="#">B65B 9/12</a> )}	11/22	. . . . and then to form closing folds of similar form at opposite ends of the tube
9/2049	. . . {Package shaping devices acting on filled tubes prior to sealing the filling opening (shaping or reshaping completed packages <a href="#">B65B 61/24</a> )}	11/24	. . . . the ends of the tube being subsequently twisted
9/2056	. . . {Machines for packages of special type or form}	11/26	. . . to fold the wrappers in channel form about contents and then to close the ends of the channel by folding and finally the mouth of the channel by folding or twisting
9/2063	. . . . {The webs being spirally wound around the filling nozzle}	11/28	. . in a curved path, e.g. on rotary tables or turrets
9/207	. . . the web advancing continuously ( <a href="#">B65B 9/22</a> takes precedence)	11/30	. . . to fold the wrappers in tubular form about contents
9/213	. . . the web having intermittent motion ( <a href="#">B65B 9/22</a> takes precedence)	11/32	. . . . and then to form closing folds of similar form at opposite ends of the tube
9/22	. . . Forming shoulders; Tube formers	11/34	. . . . the ends of the tube being subsequently twisted
9/24	. . the tubes being formed <u>in situ</u> by extrusion	11/36	. . . to fold the wrappers in channel form about contents and then to close the ends of the channel by folding and finally the mouth of the channel by folding or twisting
<b>11/00</b>	<b>Wrapping, e.g. partially or wholly enclosing, articles, or quantities of material, in strips, sheets or blanks, of flexible material (bundling articles by applying narrow strips or bands of flexible material <a href="#">B65B 13/00</a>; devices for folding or bending wrappers around contents <a href="#">B65B 49/00</a>; devices for gathering or twisting wrappers <a href="#">B65B 51/00</a>)</b>	11/38	. . in a combination of straight and curved paths
2011/002	. {Prestretching mechanism in wrapping machines}	11/40	. . . to fold the wrappers in tubular form about contents
11/004	. {in blanks, e.g. sheets precut and creased for folding (devices for folding or bending wrappers around contents <a href="#">B65B 49/00</a> )}	11/42	. . . . and then to form closing folds of similar form at opposite ends of the tube
11/006	. {Helical strip wrapping combined with roping}	11/44	. . . . the ends of the tube being subsequently twisted
11/008	. {by webs revolving around articles moved along the axis of revolution}	11/46	. . . to fold the wrappers in channel form about contents and then to close the ends of the channel by folding and finally the mouth of the channel by folding or twisting
11/02	. Wrapping articles, or quantities of material, without changing their position during the wrapping operation, e.g. in moulds with hinged folders (by doubling a wrapper and securing its opposed free margins to enclose contents <a href="#">B65B 11/48</a> ; by disposing contents between two sheets and securing their opposed free margins <a href="#">B65B 11/50</a> ; covering or wrapping cores by winding webs, tapes, or filamentary material <a href="#">B65H 81/00</a> )	11/48	. Enclosing articles, or quantities of material, by folding a wrapper, e.g. a pocketed wrapper, and securing its opposed free margins to enclose contents
11/025	. . {by webs revolving around stationary articles}	11/50	. Enclosing articles, or quantities of material, by disposing contents between two sheets, e.g. pocketed sheets, and securing their opposed free margins (apparatus or devices for forming pockets in or from sheets, blanks or webs <a href="#">B65B 47/00</a> )
11/04	. the articles being rotated {(wrapping devices for round bales <a href="#">A01F 15/071</a> )}	11/52	. . one sheet being rendered plastic, e.g. by heating, and forced by fluid pressure, e.g. vacuum, into engagement with the other sheet and contents, e.g. skin-, blister-, or bubble- packaging
11/045	. . {by rotating platforms supporting the articles}	11/54	. Wrapping by causing the wrapper to embrace one end and all sides of the contents, and closing the wrapper onto the opposite end by forming regular or irregular pleats
11/06	. Wrapping articles, or quantities of material, by conveying wrapper and contents in {common} defined paths	11/56	. Rolling articles with wrappers along a supporting surface (for bottles <a href="#">B65B 21/26</a> )



- 11/58 . . Applying two or more wrappers, e.g. in succession
- 11/585 . . {to stacked articles, e.g. pallettised loads}
- 13/00 Bundling articles (bundling particular articles presenting special problems using string, wire or narrow tape or band [B65B 27/00](#); {straining wire in general [B21F 9/00](#); connecting wire to wire in general [B21F 15/00](#)})**
- 13/02 . . Applying and securing binding material around articles or groups of articles, e.g. using strings, wires, strips, bands, tapes (specially adapted for harvesting [A01D 37/00](#), [A01D 39/00](#), [A01D 59/00](#), [A01F 1/00](#); tying devices in baling presses [A01F 15/14](#), [B30B 9/30](#); applying reinforcing means to non-metal sleepers [E01B 31/28](#))
- 13/022 . . {Applying preformed bands of continuous-ring form, e.g. elastic}
- 13/025 . . {Hand-held tools}
- 13/027 . . . {for applying straps having preformed connecting means, e.g. cable ties}
- 13/04 . . with means for guiding the binding material around the articles prior to severing from supply
- 13/06 . . . Stationary ducts or channels
- 13/08 . . . Single guide or carrier for the free end of material movable part-away around articles from one side only
- 13/10 . . . Carriers travelling completely around the articles while holding the free end of material
- 13/12 . . . . attached to rotating rings
- 13/14 . . . Pairs of carriers or guides movable around opposite sides of the articles
- 13/16 . . with means for severing the binding material from supply and then applying it around the articles
- 13/18 . . Details of, or auxiliary devices used in, bundling machines {or bundling tools}
- 13/181 . . {applying edge protecting members during bundling}
- 13/182 . . {Affixing labels during bundling (labelling machines in general [B65C](#))}
- 13/183 . . {Load orienting means}
- 13/184 . . {Strap accumulators}
- 13/185 . . {Details of tools ([B65B 13/24](#) takes precedence)}
- 13/186 . . . {Supports or tables facilitating tensioning operations}
- 13/187 . . . . {Motor means}
- 13/188 . . . . . {pneumatic or hydraulic}
- 13/189 . . . . . {using explosives}
- 13/20 . . Means for compressing or compacting bundles prior to bundling
- 13/22 . . Means for controlling tension of binding means
- 13/24 . . Securing ends of binding material
- 13/26 . . . by knotting
- 13/265 . . . . {Hand tools}
- 13/28 . . . by twisting
- 13/285 . . . . {Hand tools}
- 13/30 . . . by deforming the overlapping ends of the strip or band
- 13/305 . . . . {Hand tools}
- 13/32 . . . by welding, soldering, or heat-sealing; by applying adhesive
- 13/322 . . . . {Friction welding}
- 13/325 . . . . {Ultrasonic welding}
- 13/327 . . . . {Hand tools}
- 13/34 . . . by applying separate securing members, e.g. deformable clips
- 13/345 . . . . {Hand tools}
- 15/00 Attaching articles to cards, sheets, strings, webs, or other carriers**
- 15/02 . . Attaching small articles, e.g. buttons, to cards (cards for buttons, collar-studs, or sleeve-links [A44B 7/00](#))
- 15/04 . . Attaching a series of articles, e.g. small electrical components, to a continuous web {(ammunition filling [F42B](#); placing of electric components on belts holding the terminals [H05K 13/003](#))}
- 17/00 Other machines, apparatus, or methods for packaging articles or materials**
- 17/02 . . Joining articles, e.g. cans, directly to each other for convenience of storage, transport, or handling
- 17/025 . . {the articles being joined by a top carrier element}
- Machines, apparatus or methods adapted for packaging articles or materials presenting special problems, or for special packaging operations; Unpacking bottles or eggs**
- 19/00 Packaging rod-shaped or tubular articles susceptible to damage by abrasion or pressure, e.g. cigarettes, cigars, macaroni, spaghetti, drinking straws, welding electrodes (final treatment of cigars or cigarettes after manufacture [A24C 1/38](#), [A24C 5/60](#))**
- 19/02 . . Packaging cigarettes {(auxiliary devices for drying glued or sealed packages [B65B 61/002](#))}
- 19/025 . . {in webs of flexible sheet material}
- 19/04 . . Arranging, feeding, or orientating the cigarettes
- 19/06 . . . Turning individual cigarettes to present printed marks in desired position
- 19/08 . . . Positioning oval cigarettes in overlapped arrangement
- 19/10 . . . Arranging cigarettes in layers each comprising a predetermined number
- 19/105 . . . . {using rotary drums for withdrawal of successive layers from a hopper}
- 19/12 . . Inserting the cigarettes, or wrapped groups thereof, into preformed containers
- 19/14 . . . into pocket boxes, e.g. boxes of rectangular form closed at one end by a flap adapted to be inserted into a slot in the body
- 19/16 . . . . into boxes with two pockets
- 19/18 . . . into drawer-and-shell type boxes or cartons
- 19/20 . . . into boxes with hinged lids
- 19/22 . . Wrapping the cigarettes; Packaging the cigarettes in containers formed by folding wrapping material around formers
- 19/221 . . . {in one or more straight paths ([B65B 19/24](#) takes precedence)}
- 19/223 . . . {in a curved path; in a combination of straight and curved paths, e.g. on rotary tables or other endless conveyors ([B65B 19/24](#) takes precedence)}
- 19/225 . . . . {the conveyors having continuous movement}
- 19/226 . . . . . {using endless conveyors having pockets, each pocket being provided with separate members, e.g. folders ([B65B 19/225](#) takes precedence)}

19/228	. . . {Preparing and feeding blanks (in general <a href="#">B65B 41/00</a> )}	23/08	. . . using grippers (testing, sorting, or cleaning eggs <a href="#">A01K 43/00</a> ; egg grippers for cooking purposes <a href="#">A47J 29/06</a> )
19/24	. . . using hollow mandrels through which groups of cigarettes are fed	23/10	. Packaging biscuits
19/245	. . . . {carried by continuously driven endless conveyors}	23/12	. . Arranging, feeding, or orientating the biscuits to be packaged (in connection with baking <a href="#">A21C 15/00</a> )
19/26	. Machines specially adapted for packaging cigars	23/14	. . . Forming groups of biscuits
19/28	. Control devices for cigarette or cigar packaging machines (of general application in packaging machines <a href="#">B65B 57/00</a> )	23/16	. . Inserting the biscuits, or wrapped groups thereof, into {already} preformed containers
19/30	. . responsive to presence of faulty articles, e.g. incorrectly filled cigarettes	23/18	. . Wrapping individual biscuits, or groups of biscuits
19/32	. . responsive to incorrect grouping of articles or to incorrect filling of packages	23/20	. Packaging plate glass, tiles, or shingles {(measures for preventing damage to stacked glass sheets <a href="#">B65G 49/068</a> )}
19/34	. Packaging other rod-shaped articles, e.g. sausages, macaroni, spaghetti, drinking straws, welding electrodes	23/22	. Packaging glass ampoules, lamp bulbs, radio valves or tubes, or the like
<b>21/00</b>	<b>Packaging or unpacking of bottles (bundling bottles <a href="#">B65B 27/04</a>)</b>	<b>25/00</b>	<b>Packaging other articles presenting special problems (bundling <a href="#">B65B 27/00</a>)</b>
21/02	. in or from preformed containers, e.g. crates	25/001	. {of foodstuffs, combined with their conservation ( <a href="#">B65B 25/041</a> , <a href="#">B65B 25/062</a> , <a href="#">B65B 25/067</a> take precedence)}
21/025	. . {the bottles being arranged in a head-to-bottom formation}	25/002	. {packaging of information carriers, e.g. records, CD, DVD}
21/04	. . Arranging, assembling, feeding, or orientating the bottles prior to introduction into, or after removal from, containers {( <a href="#">B65B 21/025</a> takes precedence)}	25/003	. {packaging of razor blades}
21/06	. . . Forming groups of bottles	25/005	. {packaging of confectionery}
21/08	. . Introducing or removing single bottles, or groups of bottles, e.g. for progressive filling or emptying of containers	25/006	. . {packaging of lollipops}
21/10	. . . using gravity flow	25/007	. {packaging of ice-cream}
21/12	. . . using grippers engaging bottles, e.g. bottle necks (grippers in general <a href="#">B25J</a> )	25/008	. {packaging of contact lenses}
21/14	. . Introducing or removing groups of bottles, for filling or emptying containers in one operation	25/02	. Packaging agricultural or horticultural products
21/16	. . . using gravity flow	25/023	. . {Packaging flower bouquets}
21/18	. . . using grippers engaging bottles, e.g. bottle necks (grippers in general <a href="#">B25J</a> )	25/026	. . {Packaging flower pots}
21/183	. . . . {the grippers moving in an endless path}	25/04	. . Packaging fruit or vegetables (bag or sack-filling devices associated with digging harvesters <a href="#">A01D 33/10</a> )
21/186	. . . . {Inflatable grippers}	25/041	. . . {combined with their conservation}
21/20	. . . . with means for varying spacing of bottles	25/043	. . . {of olives}
21/22	. . . by inverting and raising or lowering the container relative to bottles	25/045	. . . {by flotation means}
21/24	. Enclosing bottles in wrappers	25/046	. . . {in crates or boxes ( <a href="#">B65B 25/045</a> takes precedence)}
21/242	. . {in collapsed carton sleeves}	25/048	. . . {in nets}
21/245	. . {in flexible wrappers, e.g. foils ( <a href="#">B65B 21/26</a> takes precedence)}	25/06	. Packaging slices or specially-shaped pieces of meat, cheese, or other plastic or tacky products
21/247	. . {Wrapping individual bottles in straw-made wrappers}	25/061	. . {of fish}
21/26	. . Applying wrappers to individual bottles by operations involving rotation or rolling of the bottles (to articles in general <a href="#">B65B 11/56</a> ; {straw-made wrappers <a href="#">B65B 21/247</a> })	25/062	. . . {combined with its conservation}
<b>23/00</b>	<b>Packaging fragile or shock-sensitive articles other than bottles; Unpacking eggs (embedding articles in shock-absorbing media <a href="#">B65B 55/20</a>)</b>	25/064	. . {of poultry (processing of poultry <a href="#">A22C 21/00</a> )}
23/02	. Packaging or unpacking eggs	25/065	. . {of meat}
23/04	. . Erecting egg trays or cartons from collapsed blanks	25/067	. . . {combined with its conservation}
23/06	. . Arranging, feeding, or orientating the eggs to be packed; Removing eggs from trays or cartons	25/068	. . {of cheese}
		25/08	. . between layers or strips of sheet or web material, e.g. in webs folded to zig-zag form
		25/10	. . Forming sector-shaped packages of cheese or like plastic products
		25/12	. . . and enclosing in circular containers
		25/14	. Packaging paper or like sheets, envelopes, or newspapers, in flat, folded, or rolled form
		25/141	. . {packaging flat articles in boxes}
		25/143	. . . {by introducing successive articles}
		25/145	. . {packaging folded articles}
		25/146	. . {packaging rolled-up articles}
		25/148	. . . {Jumbo paper rolls}

25/16	• Packaging bread or like bakery products, e.g. unsliced loaves	29/028	• . {packaging infusion material into filter bags}
25/18	• . Sliced bread ( <a href="#">cutting or slicing machines specially adapted for bakeries A21C 15/04; breadslicing machines or apparatus B26D</a> )		<b><u>WARNING</u></b>
25/20	• Packaging garments, e.g. socks, stockings, shirts		Group <a href="#">B65B 29/028</a> is incomplete pending reclassification of documents from group <a href="#">B65B 29/02</a> .
25/22	• Packaging articles of food, e.g. fish fillets, intended to be cooked in the package		Groups <a href="#">B65B 29/02</a> and <a href="#">B65B 29/028</a> should be considered in order to perform a complete search.
25/24	• Packaging annular articles, e.g. tyres		
<b>27/00</b>	<b>Bundling particular articles presenting special problems using string, wire, or narrow tape or band; Baling fibrous material, e.g. peat, not otherwise provided for (<a href="#">bundling articles in general B65B 13/00</a>)</b>	29/04	• . Attaching, or forming and attaching, string handles or tags to tea bags
27/02	• Bundling bricks or other building blocks	29/06	• Packaging of substances to which a further ingredient, e.g. water, is to be added in the package by the user for mixing prior to dispensing
27/04	• Bundling groups of cans or bottles	29/08	• Packaging of edible materials intended to be cooked in the package ( <a href="#">infusible substances B65B 29/02</a> )
27/06	• Bundling coils of wire or like annular objects	29/10	• Packaging two or more different substances isolated from one another in the package but capable of being mixed without opening the package, e.g. forming packages containing a resin and hardener isolated by a frangible partition
27/08	• Bundling paper sheets, envelopes, bags, newspapers, or other thin flat articles		
27/083	• . {Storage receptacles therefor}	<b>31/00</b>	<b>Packaging articles or materials under special atmospheric or gaseous conditions; Adding propellants to aerosol containers (<a href="#">auxiliary treatments during loading or unloading in a fluid medium other than air B65G 69/20</a>)</b>
27/086	• . {using more than one tie, e.g. cross-ties}	31/003	• {Adding propellants in fluid form to aerosol containers ( <a href="#">in solid form B65B 31/10</a> )}
27/10	• Bundling rods, sticks, or like elongated objects	31/006	• {Adding fluids for preventing deformation of filled and closed containers or wrappers}
27/105	• . {by means of adhesive tape}	31/02	• Filling, closing, or filling and closing, containers {or wrappers} in chambers maintained under vacuum or superatmospheric pressure or containing a special atmosphere, e.g. of inert gas
27/12	• Baling or bundling compressible fibrous material, e.g. peat ( <a href="#">baling presses for straw, hay, or the like A01F 15/00; baling presses in general B30B 9/30</a> )	31/021	• . {the containers or wrappers being interconnected}
27/125	• . {and wrapping or bagging}	31/022	• . {the chambers moving in an endless path}
<b>29/00</b>	<b>Packaging of materials presenting special problems</b>	31/024	• . {specially adapted for wrappers or bags ( <a href="#">B65B 31/021</a> , <a href="#">B65B 31/022</a> take precedence)}
29/02	• Packaging of substances, e.g. tea, which are intended to be infused in the package	31/025	• . {specially adapted for rigid or semi-rigid containers ( <a href="#">B65B 31/021</a> , <a href="#">B65B 31/022</a> take precedence)}
	<b><u>WARNING</u></b>	31/027	• . . {closed by a stopper}
	Group <a href="#">B65B 29/02</a> is impacted by reclassification into groups <a href="#">B65B 29/022</a> , <a href="#">B65B 29/025</a> , and <a href="#">B65B 29/028</a> .	31/028	• . . {closed by a lid sealed to the upper rim of the container, e.g. tray-like container}
	Groups <a href="#">B65B 29/02</a> and <a href="#">B65B 29/022</a> , <a href="#">B65B 29/025</a> and <a href="#">B65B 29/028</a> should be considered in order to perform a complete search.	31/04	• Evacuating, pressurising, or gasifying filled containers or wrappers, {or containers or wrappers to be filled,} by means of nozzles through which air or other gas, e.g. an inert gas, is withdrawn or supplied ( <a href="#">nozzles for introducing articles or materials into containers B65B 39/00</a> )
29/022	• . {packaging infusion material into capsules}	31/041	• . {the nozzles acting from above on containers or wrappers open at their top ( <a href="#">B65B 31/044</a> take precedence)}
	<b><u>WARNING</u></b>	31/042	• . . {the nozzles being arranged for insertion into, and withdrawal from, the container or wrapper}
	Group <a href="#">B65B 29/022</a> is incomplete pending reclassification of documents from group <a href="#">B65B 29/02</a> .	31/043	• . {the nozzles acting horizontally between an upper and a lower part of the container or wrapper, e.g. between container and lid}
	Groups <a href="#">B65B 29/02</a> and <a href="#">B65B 29/022</a> should be considered in order to perform a complete search.	31/044	• . {the nozzles being combined with a filling device ( <a href="#">B65B 31/043</a> takes precedence)}
29/025	• . {packaging infusion material into pods}	31/045	• . . {of Vertical Form-Fill-Seal [VFFS] machines}
	<b><u>WARNING</u></b>		
	Group <a href="#">B65B 29/025</a> is incomplete pending reclassification of documents from group <a href="#">B65B 29/02</a> .		
	Groups <a href="#">B65B 29/02</a> and <a href="#">B65B 29/025</a> should be considered in order to perform a complete search.		

31/046	. . {the nozzles co-operating, or being combined, with a device for opening or closing the container or wrapper ( <a href="#">B65B 31/06</a> takes precedence)}	35/405	. . . {linked to endless conveyors}
31/047	. . . {the nozzles co-operating with a check valve in the opening of the container or wrapper}	35/42	. . by roller-ways
31/048	. . . {specially adapted for wrappers or bags}	35/44	. . by endless belts or chains {( <a href="#">B65B 35/405</a> takes precedence)}
31/06	. . the nozzle being arranged for insertion into, and withdrawal from, the mouth of a filled container and operating in conjunction with means for sealing the container mouth	35/46	. . by rotary conveyors
31/08	. . the nozzle being adapted to pierce the container or wrapper	35/48	. . by pneumatic conveyors
31/10	. Adding propellants in solid form to aerosol containers	35/50	. . Stacking one article, or group of articles, upon another before packaging
<b>33/00</b>	<b>Packaging articles by applying removable, e.g. strippable, coatings (applying liquids or other fluent materials to surfaces in general <a href="#">B05</a>; wrapping cores by winding <a href="#">B65H 81/00</a>)</b>	35/52	. . . building-up the stack from the bottom
33/02	. Packaging small articles, e.g. spare parts for machines or engines	35/54	. . Feeding articles along multiple paths to a single packaging position
33/04	. Packaging large articles, e.g. complete machines, aircraft	35/56	. Orientating, i.e. changing the attitude of, articles, e.g. of non-uniform cross-section
33/06	. . the coating being applied to a supporting layer or framework of sheets or strips of thin flexible material, e.g. cocoon packaging	35/58	. . Turning articles by positively-acting means, e.g. to present labelled portions in uppermost position
<b><u>Details of, auxiliary devices applied to, or auxiliary measures taken in, machines, apparatus, or methods, not otherwise provided for</u></b>		<b>37/00</b>	<b>Supplying or feeding fluent-solid, plastic, or liquid material, or loose masses of small articles, to be packaged (methods of, or means for, filling individual containers with such materials or articles <a href="#">B65B 1/04</a>, <a href="#">B65B 3/04</a>)</b>
<b>35/00</b>	<b>Supplying, feeding, arranging, or orientating articles to be packaged (cigarettes <a href="#">B65B 19/04</a>; bottles <a href="#">B65B 21/04</a>; eggs <a href="#">B65B 23/06</a>; biscuits <a href="#">B65B 23/12</a>; {adjustable conveying means <a href="#">B65B 59/005</a>} if not restricted to packaging machines <a href="#">B07C</a>, <a href="#">B65G</a>, <a href="#">B65H</a>)</b>	37/005	. {by endless belts or chains}
35/02	. Supply magazines	37/02	. by gravity flow
35/04	. . with buffer storage devices	37/04	. by vibratory feeders
35/06	. Separating single articles from loose masses of articles	37/06	. by pistons or pumps
35/08	. . using pocketed conveyors	37/08	. by rotary feeders
35/10	. Feeding, e.g. conveying, single articles ( <a href="#">orientating <a href="#">B65B 35/56</a></a> )	37/10	. . of screw type
35/12	. . by gravity	37/12	. . of centrifugal type
35/14	. . by agitators or vibrators	37/14	. by pneumatic feeders
35/16	. . by grippers	37/16	. Separating measured quantities from supply ( <a href="#">in container-filling machines <a href="#">B65B 1/30</a>, <a href="#">B65B 3/26</a></a> )
35/18	. . . by suction-operated grippers	37/18	. . by weighing ( <a href="#">in general <a href="#">G01G</a></a> )
35/20	. . by reciprocating or oscillatory pushers	37/20	. . by volume measurement ( <a href="#">in general <a href="#">G01F</a></a> )
35/205	. . . {linked to endless conveyors}	<b>39/00</b>	<b>Nozzles, funnels, or guides for introducing articles or materials into containers or wrappers (<a href="#">nozzles in general <a href="#">B05B</a>; funnels in general <a href="#">B67C 11/00</a></a>)</b>
35/22	. . by roller-ways	39/001	. {with flow cut-off means, e.g. valves}
35/24	. . by endless belts or chains {( <a href="#">B65B 35/205</a> takes precedence)}	39/002	. . {Pivoting plates}
35/243	. . . {using cooperating conveyors engaging the articles simultaneously}	39/003	. . {Rotating means}
35/246	. . . {using extensible or retractable conveyors}	39/004	. . {moving linearly}
35/26	. . by rotary conveyors	39/005	. . . {transverse to flow direction}
35/28	. . by pneumatic conveyors	39/006	. {Grids for introducing bottles into cases}
35/30	. Arranging and feeding articles in groups ( <a href="#">orientating <a href="#">B65B 35/56</a></a> )	39/007	. {Guides or funnels for introducing articles into containers or wrappers}
35/32	. . by gravity	2039/008	. {Strainer means}
35/34	. . by agitators or vibrators	2039/009	. {Multiple outlets}
35/36	. . by grippers	39/02	. Expansible or contractible nozzles, funnels, or guides
35/38	. . . by suction-operated grippers	39/04	. having air-escape, or air-withdrawal, passages
35/40	. . by reciprocating or oscillatory pushers	39/06	. adapted to support containers or wrappers
		39/08	. . by means of clamps
		39/10	. . . operating automatically
		39/12	. movable towards or away from container or wrapper during filling or depositing
		39/14	. movable with a moving container or wrapper during filling or depositing
		39/145	. . {in an endless path}
		<b>41/00</b>	<b>Supplying or feeding container-forming sheets or wrapping material (<a href="#">in general <a href="#">B65H</a></a>)</b>
		41/02	. Feeding sheets or wrapper blanks
		41/04	. . by grippers
		41/06	. . . by suction-operated grippers



- 41/08 . . by reciprocating or oscillating pushers
- 41/10 . . by rollers
- 41/12 . Feeding webs from rolls
- 41/14 . . by grippers
- 41/16 . . by rollers
- 41/18 . Registering sheets, blanks, or webs
- 43/00 Forming, feeding, opening or setting-up containers or receptacles in association with packaging (forming pockets in sheets, blanks or webs, by pressing the material into forming dies or moving it through folding dies [B65B 47/00](#))**
- 43/02 . Forming flat bags from individual sheets or blanks
- 43/04 . Forming flat bags from webs
- 43/06 . . from more than one web
- 43/08 . Forming three-dimensional containers from sheet material
- 43/10 . . by folding the material
- 43/12 . Feeding flexible bags or carton blanks in flat or collapsed state; Feeding flat bags connected to form a series or chain
- 43/123 . . {Feeding flat bags connected to form a series or chain}
- 43/126 . . {Feeding carton blanks in flat or collapsed state}
- 43/14 . . Feeding individual bags or carton blanks from piles or magazines {(shopping bag dispensing systems [A47F 9/042](#))}
- 43/145 . . . {Feeding carton blanks from piles or magazines}
- 43/16 . . . by grippers
- 43/165 . . . . {specially adapted for carton blanks}
- 43/18 . . . . by suction-operated grippers
- 43/185 . . . . . {specially adapted for carton blanks}
- 43/20 . . . by reciprocating or oscillating pushers
- 43/205 . . . . {specially adapted for carton blanks}
- 43/22 . . . by rollers
- 43/225 . . . . {specially adapted for carton blanks}
- 43/24 . Breaking creases to facilitate setting-up cartons
- 43/26 . Opening or distending bags; Opening, erecting, or setting-up boxes, cartons, or carton blanks
- 43/262 . . {opening of valve bags (filling of valve bags [B65B 1/18](#), [B65B 3/17](#))}
- 43/265 . . {Opening, erecting or setting-up boxes, cartons or carton blanks}
- 43/267 . . {Opening of bags interconnected in a web}
- 43/28 . . by grippers co-operating with fixed supports
- 43/285 . . . {specially adapted for boxes, cartons or carton blanks}
- 43/30 . . by grippers engaging opposed walls, e.g. suction-operated
- 43/305 . . . {specially adapted for boxes, cartons or carton blanks}
- 43/32 . . by external pressure diagonally applied
- 43/325 . . . {to boxes, cartons or carton blanks}
- 43/34 . . by internal pressure
- 43/345 . . . {applied to boxes, cartons or carton blanks}
- 43/36 . . . applied pneumatically
- 43/365 . . . . {to boxes, cartons or carton blanks}
- 43/38 . Opening hinged lids
- 43/39 . . Opening-out closure flaps clear of bag, box, or carton mouth
- 43/40 . Removing separate lids
- 43/41 . Opening drawer-and-shell cartons
- 43/42 . Feeding or positioning bags, boxes, or cartons in the distended, opened, or set-up state; Feeding preformed rigid containers, e.g. tins, capsules, glass tubes, glasses, to the packaging position; Locating containers or receptacles at the filling position (by means of filling-nozzles [B65B 39/00](#)); Supporting containers or receptacles during the filling operation (by filling-nozzles [B65B 39/00](#))
- 43/44 . . from supply magazines
- 43/46 . . using grippers
- 43/465 . . . {for bags}
- 43/48 . . using reciprocating or oscillating pushers
- 43/50 . . using rotary tables or turrets {(B65B 43/46 takes precedence)}
- 43/52 . . using roller-ways or endless conveyors
- 43/54 . . Means for supporting containers or receptacles during the filling operation
- 43/56 . . . movable stepwise to position container or receptacle for the reception of successive increments of contents
- 43/58 . . . . vertically movable
- 43/59 . . . . vertically movable ([B65B 43/58](#) takes precedence)
- 43/60 . . . . rotatable
- 43/62 . . . . about an axis located at the filling position, e.g. the axis of the container or receptacle
- 45/00 Apparatus or devices for supporting or holding wrappers during wrapping operation (filling nozzles, funnels, guides [B65B 39/00](#))**
- 47/00 Apparatus or devices for forming pockets or receptacles in or from sheets, blanks, or webs, comprising essentially a die into which the material is pressed or a folding die through which the material is moved**
- 47/02 . with means for heating the material prior to forming
- 47/04 . by application of mechanical pressure
- 47/06 . . using folding dies
- 47/08 . by application of fluid pressure
- 47/10 . . by vacuum
- 49/00 Devices for folding or bending wrappers around contents**
- 49/02 . Fixed or resiliently-mounted folders, e.g. non-driven rollers
- 49/04 . . Ploughs or plates with inclined slots or opposed inclined edges
- 49/06 . Resilient folders, e.g. brushes, diaphragms
- 49/08 . Reciprocating or oscillating folders
- 49/10 . Folders movable in closed non-circular paths
- 49/12 . Rotary folders
- 49/14 . Folders forming part of, or attached to, conveyors for partially-wrapped articles
- 49/16 . Pneumatic means, e.g. air jets
- 51/00 Devices for, or methods of, sealing or securing package folds or closures; Devices for gathering or twisting wrappers, or necks of bags**
- 51/02 . Applying adhesives or sealing liquids (activating adhesives by applying heat or pressure [B65B 51/10](#))
- 51/023 . . {using applicator nozzles}
- 51/026 . . {using rotating applicators}
- 51/04 . Applying separate sealing or securing members, e.g. clips, (applying separate lids or covers [B65B 7/28](#))

51/043	. . {Applying springy clips around bag necks}	55/02	. Sterilising, e.g. of complete packages
51/046	. . {Applying a closure element to the mouths of bags}	55/022	. . {of flexible containers having a filling and dispensing spout, e.g. containers of the "bag-in-box"-type ( <a href="#">B65B 55/025</a> , <a href="#">B65B 55/027</a> take precedence)}
51/05	. . Stapling	55/025	. . {Packaging in aseptic tunnels}
51/06	. . Applying adhesive tape {(adhesive tape dispensers <a href="#">B65H 35/0006</a> )}	55/027	. . {Packaging in aseptic chambers}
51/062	. . . {to the mouths of bags}	55/04	. . Sterilising wrappers or receptacles prior to, or during, packaging {(sterilising bottles <a href="#">B67C 7/00</a> )}
51/065	. . . {to the necks of bags}	55/06	. . . by heat
51/067	. . . {to the closure flaps of boxes}	55/08	. . . by irradiation
51/07	. . Sewing or stitching	55/10	. . . by liquids or gases
51/08	. . Applying binding material, e.g. to twisted bag necks	55/103	. . . . {Sterilising flat or tubular webs}
51/10	. Applying or generating heat or pressure or combinations thereof {(welding of plastics per se <a href="#">B29C 65/02</a> ; closing plastic tube ends in general <a href="#">B29C 57/10</a> )}	55/106	. . . . {Sterilising connected bags}
2051/105	. . {Heat seal temperature control}	55/12	. . Sterilising contents prior to, or during, packaging
51/12	. . by resilient means, e.g. brushes	55/14	. . . by heat
51/14	. . by reciprocating or oscillating members ( <a href="#">B65B 51/148</a> takes precedence)	55/16	. . . by irradiation
51/142	. . . {Closing bottle necks or tubes}	55/18	. . . by liquids or gases ( <a href="#">B65B 55/14</a> takes precedence)
51/144	. . . {Closing paperboard containers}	55/19	. . . by adding materials intended to remove free oxygen or to develop inhibitor gases, e.g. vapour phase inhibitors
51/146	. . . {Closing bags}	55/20	. Embedding contents in shock-absorbing media, e.g. plastic foam, granular material
51/148	. . . {Hand-operated members}	55/22	. Immersing contents in protective liquids
51/16	. . by rotary members	55/24	. Cleaning of, or removing dust from, containers, wrappers, or packaging (; <a href="#">Preventing of fouling</a> )
51/18	. . by endless bands or chains	57/00	<b>Automatic control, checking, warning, or safety devices (registering wrapping or container-forming material fed from rolls <a href="#">B65B 41/18</a>; accident-prevention measures applicable for general use <a href="#">F16P</a>; {factory control systems <a href="#">G05B 19/418</a>; operation of audible or visible signals besides this application <a href="#">G08G</a>}; photoelectric cells <a href="#">H01J</a>, <a href="#">H01L</a>; such devices in general see the relevant classes)</b>
51/20	. . by fluid pressure acting directly on folds or on opposed surfaces, e.g. using hot-air jets ( <a href="#">shrinking wrappers by heating <a href="#">B65B 53/02</a></a> )	57/005	. {Safety-devices ( <a href="#">B65B 57/18</a> takes precedence)}
51/22	. . by friction or ultrasonic or high-frequency electrical means{, i.e. by friction or ultrasonic or induction welding}	57/02	. responsive to absence, presence, abnormal feed, or misplacement of binding or wrapping material, containers, or packages
51/222	. . . {by friction welding}	57/04	. . and operating to control, or to stop, the feed of such material, containers, or packages
51/225	. . . {by ultrasonic welding}	57/06	. . and operating to control, or to stop, the feed of articles or material to be packaged
51/227	. . . {by induction welding}	57/08	. . and operating to stop, or to control the speed of, the machine as a whole
51/24	. . to produce bead seals (combined with severing by heated wires or rods <a href="#">B65B 61/10</a> )	57/10	. responsive to absence, presence, abnormal feed, or misplacement of articles or materials to be packaged
51/26	. . Devices specially adapted for producing transverse or longitudinal seams in webs or tubes	57/12	. . and operating to control, or stop, the feed of wrapping materials, containers, or packages
51/28	. . . Rollers for producing longitudinal and transverse seams simultaneously	57/14	. . and operating to control, or stop, the feed of articles or material to be packaged
51/30	. . . Devices, e.g. jaws, for applying pressure and heat, e.g. for subdividing filled tubes (for subdividing filled tubes involving displacement of contents <a href="#">B65B 9/12</a> )	57/145	. . . {for fluent material}
51/303	. . . . {reciprocating along only one axis}	57/16	. . and operating to stop, or to control the speed of, the machine as a whole
51/306	. . . . {Counter-rotating devices}	57/18	. causing operation of audible or visible alarm signals
51/32	. Cooling, or cooling and pressing, package closures after heat-sealing	57/20	. Applications of counting devices for controlling the feed of articles (other applications <a href="#">B65B 65/08</a> )
53/00	<b>Shrinking wrappers, containers, or container covers during or after packaging</b>	59/00	<b>Arrangements to enable machines to handle articles of different sizes, to produce packages of different sizes, to vary the contents of packages or to give access for cleaning or maintenance purposes</b>
53/02	. by heat		
53/04	. . supplied by liquids		
53/06	. . supplied by gases, e.g. hot-air jets		
53/063	. . . {Tunnels}		
53/066	. . . {Mobile frames, hoods, posts or the like}		
55/00	<b>Preserving, protecting, or purifying packages or package contents in association with packaging (by packaging under special atmospheric or gaseous conditions <a href="#">B65B 31/00</a>; devices for placing protecting sheets, plugs, or wads over contents <a href="#">B65B 61/22</a>; if not restricted to packaging <a href="#">A23L</a>, <a href="#">A61L</a>)</b>		

- 59/005 . {Adjustable conveying means ([B65B 59/02](#) takes precedence)}
- 59/02 . Arrangements to enable adjustments to be made while the machine is running ([weight or volumetric adjustment of material to be packaged B65B 1/30, B65B 3/26](#))
- 59/04 . Machines constructed with readily-detachable units or assemblies, e.g. to facilitate maintenance
- 61/00 Miscellaneous auxiliary devices operating on sheets, blanks, webs, binding material, containers, or packages, and not otherwise provided for (operating on articles or materials to be packaged and not otherwise provided for B65B 63/00)**
  - 61/002 . {for drying glued or sealed packages}
  - 61/005 . {for removing material by cutting}
  - 61/007 . {Perforating strips of completed packages}
  - 61/02 . for perforating, scoring {, slitting,} or applying code or date marks on material prior to packaging ({[scoring ampoules B65B 3/006](#)})
  - 61/025 . . {for applying, e.g. printing, code or date marks on material prior to packaging}
  - 61/04 . for severing webs, or for separating joined packages
  - 61/06 . . by cutting
  - 61/065 . . . {by punching out}
  - 61/08 . . . using rotary cutters
  - 61/10 . . . using heated wires or cutters
  - 61/12 . . by tearing along perforations or lines of weakness
  - 61/14 . for incorporating, or forming and incorporating, handles or suspension means in packages ([attaching, or forming and attaching, string handles or tags to tea-bags B65B 29/04](#))
  - 61/16 . . Forming suspension apertures in packages
  - 61/18 . for making package-opening or unpacking elements
  - 61/182 . . {by applying tear-strips or tear-tapes}
  - 61/184 . . {by applying tabs over discharge openings, e.g. over discharge openings defined by tear or score lines}
  - 61/186 . . {by applying or incorporating rigid fittings, e.g. discharge spouts}
  - 61/188 . . {by applying or incorporating profile-strips, e.g. for reclosable bags}
  - 61/20 . for adding cards, coupons, or other inserts to package contents {, e.g. for adding or applying accessories or inserts to the inside or the outside of a container} ([adding unpacking elements B65B 61/18; labelling B65C](#))
  - 61/202 . . {for attaching articles to the outside of a container ([B65B 61/205](#) takes precedence)}
  - 61/205 . . {for adding drinking straws to a container}
  - 61/207 . . {for inserting partitions between package contents}
  - 61/22 . . for placing protecting sheets, plugs, or wads over contents, e.g. cotton-wool in bottles of pills
  - 61/24 . for shaping or reshaping completed packages
  - 61/26 . for marking or coding completed packages
  - 61/28 . for discharging completed packages from machines
- 63/00 Miscellaneous auxiliary devices operating on articles or materials to be packaged and not otherwise provided for (operating on sheets, blanks, webs, binding material, or packages, and not otherwise provided for B65B 61/00)**
  - 63/005 . {for marking or coding articles prior to packaging}
  - 63/02 . for compressing or compacting articles or materials prior to wrapping or insertion in containers or receptacles ([tableting or compressing of powders B30B 11/00](#))
  - 63/022 . . {using compressing chambers or plates moving in an endless path}
  - 63/024 . . {for compressing by winding}
  - 63/026 . . {for compressing by feeding articles through a narrowing space}
  - 63/028 . . {by pneumatic means}
  - 63/04 . for folding or winding articles, e.g. gloves, stockings ({[B65B 63/024](#) takes precedence;}) folding or winding webs or filamentary material in general [B65H 45/00, B65H 54/00](#); folding textile articles in connection with laundering preparatory to packaging [D06F 89/00](#))
  - 63/045 . . {for folding garments, e.g. stockings, shirts}
  - 63/06 . . Forming elongated hanks, e.g. of shoe laces
  - 63/08 . for heating or cooling articles or materials to facilitate packaging
- 65/00 Details peculiar to packaging machines and not otherwise provided for; Arrangements of such details**
  - 65/003 . {Packaging lines, e.g. general layout}
  - 65/006 . . {Multiple parallel packaging lines}
  - 65/02 . Driving gear
  - 65/04 . Mechanisms for converting a continuous rotary motion to intermittent rotary motion, e.g. Geneva drives
  - 65/06 . coated or treated with anti-friction or anti-sticking materials, e.g. polytetrafluoroethylene
  - 65/08 . Devices for counting or registering the number of articles handled, or the number of packages produced by the machine
- 67/00 Apparatus or devices facilitating manual packaging operations; Sack holders**
  - 67/02 . Packaging of articles or materials in containers
  - 67/04 . . Devices facilitating the insertion of articles or materials into bags {, e.g. guides or chutes ([sack holders B65B 67/12](#))}
  - 67/06 . . Manually-operable devices for closing bag necks, by applying and securing lengths of string, wire or tape
  - 67/08 . Wrapping of articles
  - 67/085 . . {using hand-held dispensers for stretch films}
  - 67/10 . . Wrapping-tables
  - 67/12 . Sack holders, i.e. stands or frames with means for supporting sacks in the open condition to facilitate filling with articles or materials ({[nozzles, funnels or guides adapted to support sacks B65B 39/06](#)})
  - 67/1205 . . {collapsible or foldable ([B65B 67/1216, B65B 67/1244, B65B 67/1255](#) take precedence)}
  - 67/1211 . . {characterised by mechanisms for moving, e.g. pivoting, lids or frame parts, e.g. pedal-operated ([B65B 67/1216](#) takes precedence; pedal-operated mechanisms for opening or closing container lids [B65D 43/26](#))}
  - 67/1216 . . {co-operating with the door of a cabinet or the like}
  - 67/1222 . . {characterised by means for suspending sacks, e.g. pedal-operated}

- 67/1227 . . . {only by a part of the periphery, e.g. by single points or handles, or by one side or two opposite sides only ([B65B 67/1244 takes precedence](#))}
- 67/1233 . . . {Clamping or holding means}
- 67/1238 . . {Inserts or external supports, e.g. baskets, for stiffening sacks in the open condition}
- 67/1244 . . {characterised by mechanisms for temporarily closing the mouth of the sack, e.g. pedal-operated ([B65B 67/1211](#), [B65B 67/1255 take precedence](#); final closing or sealing of sacks [B65B 7/02](#), [B65B 51/00](#))}
- 67/125 . . . {comprising resilient closing elements, e.g. inserts, cooperating with the mouth of the sack}
- 67/1255 . . {characterised by positively acting means for stretching the mouth of the sack into the open condition, e.g. using springs}
- 2067/1261 . . {Holders with lids}
- 67/1266 . . {specially adapted for storing or dispensing sacks from a supply}
- 2067/1272 . . . {the sacks being rolled-up}
- 67/1277 . . . {for dispensing flexible tubular material gathered up in the shape of a ring}
- 2067/1283 . . {Means for gathering, closing or sealing the sacks}
- 2067/1288 . . {Inflatable parts}
- 2067/1294 . . {Holders for multiple sacks}
- 69/00 Unpacking of articles or materials, not otherwise provided for**
- 69/0008 . {Opening and emptying bags}
- 69/0016 . . {for urine bags or medical drainage bags}
- 69/0025 . {Removing or cutting binding material, e.g. straps or bands}
- 69/0033 . {by cutting ([B65B 69/0008-B65B 69/0025 take precedence](#))}
- 69/0041 . . {by puncturing}
- 69/005 . {by expelling contents, e.g. by squeezing the container}
- 69/0058 . . {Solid contents}
- 69/0066 . {Heating materials to facilitate their unpacking}
- 69/0075 . {Emptying systems for flexible intermediate bulk containers [FIBC]}
- 69/0083 . . {using frames whereby the container is only suspended}
- 69/0091 . . {using frames whereby the container is bottom supported}

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**2210/00 Specific aspects of the packaging machine**

- 2210/02 . Plurality of alternative input or output lines or plurality of alternative packaging units on the same packaging line for improving machine flexibility
- 2210/04 . Customised on demand packaging by determining a specific characteristic, e.g. shape or height, of articles or material to be packaged and selecting, creating or adapting a packaging accordingly, e.g. making a carton starting from web material
- 2210/06 . Sterilising or cleaning machinery or conduits ([cleaning machinery in general B08B](#))
- 2210/08 . . Cleaning nozzles, funnels or guides through which articles are introduced into containers or wrappers

- 2210/10 . Means for removing bridges formed by the material or article, e.g. anti-clogging devices
- 2210/12 . Means for automatically detecting and removing jammed straps in strapping machines, e.g. jam clearing devices
- 2210/14 . Details of wrapping machines with web dispensers for application of a continuous web in layers onto the articles
- 2210/16 . . the web dispenser travelling around the article along a non-rotating ring
- 2210/18 . . the web dispenser being mounted on a rotary ring
- 2210/20 . . the web dispenser being mounted on a rotary arm

**Details of, auxiliary devices applied to, or auxiliary measures taken in, machines, apparatus, or methods, not otherwise provided for**

**2220/00 Specific aspects of the packaging operation**

- 2220/02 . Erecting a carton by pushing a blank into a form
- 2220/04 . Means for, or method of collapsing containers with walls hinged together or detachably connected ([such containers per se B65D 11/18](#))
- 2220/06 . Cutting webs along their longitudinal direction
- 2220/08 . Creating fin seals as the longitudinal seal on horizontal or vertical form fill seal [FFS] machines
- 2220/10 . Creating an off-center longitudinal seal on horizontal or vertical form fill seal [FFS] machines
- 2220/12 . Creating additional longitudinal welds on horizontal or vertical form fill seal [FFS] machines for stiffening packages or for creating package edges
- 2220/14 . Adding more than one type of material or article to the same package
- 2220/16 . Packaging contents into primary and secondary packaging
- 2220/18 . . the primary packaging being bags the subsequent secondary packaging being rigid containers, e.g. cardboard box
- 2220/20 . . the primary packaging being bags, the secondary packaging being further bags, the primary bags being either finished or formed concurrently with the secondary bags
- 2220/22 . Interconnected packages concurrently produced from the same web, the packages not being separated from one another
- 2220/24 . Cooling filled packages ([cooling articles or materials to be packaged B65B 63/08](#); [cooling package closures after heat sealing B65B 51/32](#))

**2230/00 Aspects of the final package**

- 2230/02 . Containers having separate compartments isolated from one another ([B65B 29/10 and B65B 2220/16 take precedence](#))
- 2230/04 . Cigarette packages having a hinged lid