

# 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](#); devices for tensioning and securing binders adapted to be supported by the article or articles to be bound [B25B 25/00](#); applying closure members to bottles, jars or similar containers [B67B 1/00-B67B 6/00](#); concurrent cleaning, filling and closing of bottles [B67C 7/00](#); emptying bottles, jars, cans, casks, barrels or similar containers [B67C 9/00](#))

#### 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

#### WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:  

<a href="#">B65B 51/09</a>	covered by	<a href="#">B65B 51/00</a>
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- In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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

1/00	<b>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, or jars</b>	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
1/02	. Machines characterised by the incorporation of means for making the containers or receptacles (from flat, folded, or tubular webs of flexible sheet material <a href="#">B65B 9/00</a> )	1/26	. . by pneumatic means, e.g. suction
		1/28	. Controlling escape of air or dust from containers or receptacles during filling
1/04	. Methods of, or means for, filling the material into the containers or receptacles	1/30	. Devices or methods for controlling or determining the quantity or quality of the material fed or filled
1/06	. . by gravity flow	1/32	. . by weighing (check-weighing of filled containers or receptacles <a href="#">B65B 1/46</a> )
1/08	. . by vibratory feeders	1/34	. . . Adjusting weight by trickle feed
1/10	. . by rotary feeders		

- 1/36 . . by volumetric devices or methods ([checking volume of filled material B65B 1/48](#))
- 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
- 1/48 . . Checking volume of filled material
- 3/00 Packaging plastic material, semiliquids, liquids or mixed solids and liquids, in individual containers or receptacles, e.g. bags, sacks, boxes, cartons, cans, or jars**
- 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
- 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
- 3/30 . . by volumetric measurement
- 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
- 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**
- 7/01 . Machines characterised by incorporation of means for making the closures before applying
- 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 or cartons
- 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
- 9/12 . . Subdividing filled tubes to form two or more packages by sealing or securing involving displacement of contents
- 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 *in situ* around the filling nozzles
- NOTE**
- If an invention involves both continuous and intermittent web motion, it is classified in both groups [B65B 9/207](#) and [B65B 9/213](#).
- 9/2007 . . . . {Means for stripping or squeezing filled tubes prior to sealing to remove air or products from sealing area}
- 9/2014 . . . . {Tube advancing means}
- 9/2021 . . . . {combined with longitudinal welding devices}
- 9/2028 . . . . . {Rollers or belts}
- 9/2035 . . . . {Tube guiding means}
- 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 [B65B 9/12](#))}
- 9/2049 . . . . {Package shaping devices acting on filled tubes prior to sealing the filling opening (shaping or reshaping completed packages [B65B 61/24](#))}
- 9/2056 . . . . {Machines for packages of special type or form}
- 9/2063 . . . . . {The webs being spirally wound around the filling nozzle}
- 9/207 . . . the web advancing continuously ([B65B 9/22](#) takes precedence)
- 9/213 . . . the web having intermittent motion ([B65B 9/22](#) takes precedence)
- 9/22 . . . Forming shoulders; Tube formers
- 9/24 . . the tubes being formed *in situ* by extrusion

11/00	<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 B65B 13/00)</b>	11/44	. . . . the ends of the tube being subsequently twisted
2011/002	. {Prestretching mechanism in wrapping machines}	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
11/004	. {in blanks, e.g. sheets precut and creased for folding }	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
11/006	. {Helical strip wrapping combined with roping}	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 B65B 47/00)
11/008	. {by webs revolving around articles moved along the axis of revolution}	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
11/02	. 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 B65B 11/48; by disposing contents between two sheets and securing their opposed free margins B65B 11/50)	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
11/025	. . {by webs revolving around stationary articles}	11/56	. Rolling articles with wrappers along a supporting surface
11/04	. the articles being rotated	11/58	. Applying two or more wrappers, e.g. in succession
11/045	. . {by rotating platforms supporting the articles}	11/585	. . {to stacked articles, e.g. pallettised loads}
11/06	. Wrapping articles, or quantities of material, by conveying wrapper and contents in {common} defined paths	<b>13/00</b>	<b>Bundling articles</b>
11/08	. . in a single straight path	13/02	. Applying and securing binding material around articles or groups of articles, e.g. using strings, wires, strips, bands or tapes
11/10	. . . to fold the wrappers in tubular form about contents	13/022	. . {Applying preformed bands of continuous-ring form, e.g. elastic}
11/105	. . . . {the axis of the tube being parallel to the conveying direction}	13/025	. . {Hand-held tools}
11/12	. . . . and then to form closing folds of similar form at opposite ends of the tube	13/027	. . . {for applying straps having preformed connecting means, e.g. cable ties}
11/14	. . . . the ends of the tube being subsequently twisted	13/04	. . with means for guiding the binding material around the articles prior to severing from supply
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	13/06	. . . Stationary ducts or channels
11/18	. . in two or more straight paths	13/08	. . . Single guide or carrier for the free end of material movable part-away around articles from one side only
11/20	. . . to fold the wrappers in tubular form about contents	13/10	. . . Carriers travelling completely around the articles while holding the free end of material
11/22	. . . . and then to form closing folds of similar form at opposite ends of the tube	13/12	. . . . attached to rotating rings
11/24	. . . . the ends of the tube being subsequently twisted	13/14	. . . Pairs of carriers or guides movable around opposite sides of the articles
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	13/16	. . with means for severing the binding material from supply and then applying it around the articles
11/28	. . in a curved path, e.g. on rotary tables or turrets	13/18	. Details of, or auxiliary devices used in, bundling machines {or bundling tools}
11/30	. . . to fold the wrappers in tubular form about contents	13/181	. . {applying edge protecting members during bundling}
11/32	. . . . and then to form closing folds of similar form at opposite ends of the tube	13/182	. . {Affixing labels during bundling}
11/34	. . . . the ends of the tube being subsequently twisted	13/183	. . {Load orienting means}
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	13/184	. . {Strap accumulators}
11/38	. . in a combination of straight and curved paths	13/185	. . {Details of tools (B65B 13/24 takes precedence)}
11/40	. . . to fold the wrappers in tubular form about contents	13/186	. . . {Supports or tables facilitating tensioning operations}
11/42	. . . . and then to form closing folds of similar form at opposite ends of the tube	13/187	. . . {Motor means}
		13/188	. . . . {pneumatic or hydraulic}
		13/189	. . . . {using explosives}



<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>	25/16	
23/02	• Packaging or unpacking eggs	25/18	• Packaging bread or like bakery products, e.g. unsliced loaves
23/04	• • Erecting egg trays or cartons from collapsed blanks	25/20	• • Wrapping sliced bread
23/06	• • Arranging, feeding, or orientating the eggs to be packed; Removing eggs from trays or cartons	25/22	• Packaging garments, e.g. socks, stockings, shirts
23/08	• • • using grippers	25/24	• Packaging articles of food, e.g. fish fillets, intended to be cooked in the package
23/10	• Packaging biscuits	<b>27/00</b>	• Packaging annular articles, e.g. tyres
23/12	• • Arranging, feeding or orientating the biscuits to be packaged		<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</b>
23/14	• • • Forming groups of biscuits	27/02	• Bundling bricks or other building blocks
23/16	• • Inserting the biscuits, or wrapped groups thereof, into {already} preformed containers	27/04	• Bundling groups of cans or bottles
23/18	• • Wrapping individual biscuits, or groups of biscuits	27/06	• Bundling coils of wire or like annular objects
23/20	• Packaging plate glass, tiles, or shingles	27/08	• Bundling paper sheets, envelopes, bags, newspapers, or other thin flat articles
23/22	• Packaging glass ampoules, lamp bulbs, radio valves or tubes, or the like	27/083	• • {Storage receptacles therefor}
<b>25/00</b>	<b>Packaging other articles presenting special problems (bundling <a href="#">B65B 27/00</a>)</b>	27/086	• • {using more than one tie, e.g. cross-ties}
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)}	27/10	• Bundling rods, sticks, or like elongated objects
25/002	• {packaging of information carriers, e.g. records, CD, DVD}	27/105	• • {by means of adhesive tape}
25/003	• {packaging of razor blades}	27/12	• Baling or bundling compressible fibrous material, e.g. peat
25/005	• {packaging of confectionery}	27/125	• • {and wrapping or bagging}
25/006	• • {packaging of lollipops}	<b>29/00</b>	<b>Packaging of materials presenting special problems</b>
25/007	• {packaging of ice-cream}	29/02	• Packaging of substances, e.g. tea, which are intended to be infused in the package
25/008	• {packaging of contact lenses}	29/022	• • {packaging infusion material into capsules}
25/02	• Packaging agricultural or horticultural products	29/025	• • {packaging infusion material into pods}
25/023	• • {Packaging flower bouquets}	29/028	• • {packaging infusion material into filter bags}
25/026	• • {Packaging flower pots}	29/04	• • Attaching, or forming and attaching, string handles or tags to tea bags
25/04	• • Packaging fruit or vegetables	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
25/041	• • • {combined with their conservation}	29/08	• Packaging of edible materials intended to be cooked in the package ( <a href="#">infusible substances <a href="#">B65B 29/02</a></a> )
25/043	• • • {of olives}	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
25/045	• • • {by flotation means}		
25/046	• • • {in crates or boxes ( <a href="#">B65B 25/045</a> takes precedence)}	<b>31/00</b>	<b>Packaging articles or materials under special atmospheric or gaseous conditions; Adding propellants to aerosol containers</b>
25/048	• • • {in nets}		
25/06	• Packaging slices or specially-shaped pieces of meat, cheese, or other plastic or tacky products	31/003	• {Adding propellants in fluid form to aerosol containers ( <a href="#">in solid form <a href="#">B65B 31/10</a></a> )}
25/061	• • {of fish}	31/006	• {Adding fluids for preventing deformation of filled and closed containers or wrappers}
25/062	• • • {combined with its conservation}	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
25/064	• • {of poultry ( <a href="#">processing of poultry <a href="#">A22C 21/00</a></a> )}	31/021	• • {the containers or wrappers being interconnected}
25/065	• • {of meat}	31/022	• • {the chambers moving in an endless path}
25/067	• • • {combined with its conservation}	31/024	• • {specially adapted for wrappers or bags ( <a href="#">B65B 31/021</a> , <a href="#">B65B 31/022</a> take precedence)}
25/068	• • {of cheese}	31/025	• • {specially adapted for rigid or semi-rigid containers ( <a href="#">B65B 31/021</a> , <a href="#">B65B 31/022</a> take precedence)}
25/08	• • between layers or strips of sheet or web material, e.g. in webs folded to zig-zag form	31/027	• • • {closed by a stopper}
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}		

31/028	. . . {closed by a lid sealed to the upper rim of the container, e.g. tray-like container}	35/246	. . . {using extensible or retractable conveyors}
31/04	. Evacuating, pressurising or gasifying filled containers or wrappers by means of nozzles through which air or other gas, e.g. an inert gas, is withdrawn or supplied	35/26	. . by rotary conveyors
31/041	. . {the nozzles acting from above on containers or wrappers open at their top (B65B 31/044 take precedence)}	35/28	. . by pneumatic conveyors
31/042	. . . {the nozzles being arranged for insertion into, and withdrawal from, the container or wrapper}	35/30	. Arranging and feeding articles in groups
31/043	. . {the nozzles acting horizontally between an upper and a lower part of the container or wrapper, e.g. between container and lid}	35/32	. . by gravity
31/044	. . {the nozzles being combined with a filling device (B65B 31/043 takes precedence)}	35/34	. . by agitators or vibrators
31/045	. . . {of Vertical Form-Fill-Seal [VFFS] machines}	35/36	. . by grippers
31/046	. . {the nozzles co-operating, or being combined, with a device for opening or closing the container or wrapper (B65B 31/06 takes precedence)}	35/38	. . . by suction-operated grippers
31/047	. . . {the nozzles co-operating with a check valve in the opening of the container or wrapper}	35/40	. . by reciprocating or oscillatory pushers
31/048	. . . {specially adapted for wrappers or bags}	35/405	. . . {linked to endless conveyors}
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	35/42	. . by roller-ways
31/08	. . the nozzle being adapted to pierce the container or wrapper	35/44	. . by endless belts or chains {(B65B 35/405 takes precedence)}
31/10	. Adding propellants in solid form to aerosol containers	35/46	. . by rotary conveyors
<b>33/00</b>	<b>Packaging articles by applying removable, e.g. strippable, coatings (B65B 11/52 takes precedence)</b>	35/48	. . by pneumatic conveyors
33/02	. Packaging small articles, e.g. spare parts for machines or engines	35/50	. . Stacking one article, or group of articles, upon another before packaging
33/04	. Packaging large articles, e.g. complete machines, aircraft	35/52	. . . building-up the stack from the bottom
33/06	. . the coating being applied to a supporting layer or framework of sheets or strips of thin flexible material, e.g. cocoon packaging	35/54	. . Feeding articles along multiple paths to a single packaging position
		35/56	. Orientating, i.e. changing the attitude of, articles, e.g. of non-uniform cross-section
		35/58	. . Turning articles by positively-acting means, e.g. to present labelled portions in uppermost position
		<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 B65B 1/04, B65B 3/04)</b>
		37/005	. {by endless belts or chains}
		37/02	. by gravity flow
		37/04	. by vibratory feeders
		37/06	. by pistons or pumps
		37/08	. by rotary feeders
		37/10	. . of screw type
		37/12	. . of centrifugal type
		37/14	. by pneumatic feeders
		37/16	. Separating measured quantities from supply (in container-filling machines B65B 1/30, B65B 3/26)
		37/18	. . by weighing {(devices or methods for controlling the quantity of material or liquid fed or filled into a container by weighing B65B 1/32, B65B 3/28)}
		37/20	. . by volume measurement
		<b>39/00</b>	<b>Nozzles, funnels or guides for introducing articles or materials into containers or wrappers</b>
		39/001	. {with flow cut-off means, e.g. valves}
		39/002	. . {Pivoting plates}
		39/003	. . {Rotating means}
		39/004	. . {moving linearly}
		39/005	. . . {transverse to flow direction}
		39/006	. {Grids for introducing bottles into cases}
		39/007	. {Guides or funnels for introducing articles into containers or wrappers}
		2039/008	. {Strainer means}
		2039/009	. {Multiple outlets}
		39/02	. Expansible or contractible nozzles, funnels, or guides
		39/04	. having air-escape, or air-withdrawal, passages
		39/06	. adapted to support containers or wrappers
		39/08	. . by means of clamps
		39/10	. . . operating automatically
<b>35/00</b>	<b>Supplying, feeding, arranging or orientating articles to be packaged</b>		
35/02	. Supply magazines		
35/04	. . with buffer storage devices		
35/06	. Separating single articles from loose masses of articles		
35/08	. . using pocketed conveyors		
35/10	. Feeding, e.g. conveying, single articles		
35/12	. . by gravity		
35/14	. . by agitators or vibrators		
35/16	. . by grippers		
35/18	. . . by suction-operated grippers		
35/20	. . by reciprocating or oscillatory pushers		
35/205	. . . {linked to endless conveyors}		
35/22	. . by roller-ways		
35/24	. . by endless belts or chains {(B65B 35/205 takes precedence)}		
35/243	. . . {using cooperating conveyors engaging the articles simultaneously}		

39/12	. movable towards or away from container or wrapper during filling or depositing	43/345	. . . {applied to boxes, cartons or carton blanks}
39/14	. movable with a moving container or wrapper during filling or depositing	43/36	. . . applied pneumatically
39/145	. . {in an endless path}	43/365	. . . . {to boxes, cartons or carton blanks}
		43/38	. Opening hinged lids
<b>41/00</b>	<b>Supplying or feeding container-forming sheets or wrapping material</b>	43/39	. . Opening-out closure flaps clear of bag, box, or carton mouth
41/02	. Feeding sheets or wrapper blanks	43/40	. Removing separate lids
41/04	. . by grippers	43/41	. Opening drawer-and-shell cartons
41/06	. . . by suction-operated grippers	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 <a href="#">B65B 39/00</a> ); Supporting containers or receptacles during the filling operation (by filling-nozzles <a href="#">B65B 39/00</a> )
41/08	. . by reciprocating or oscillating pushers		. . from supply magazines
41/10	. . by rollers		. . using grippers
41/12	. Feeding webs from rolls		. . . {for bags}
41/14	. . by grippers		. . using reciprocating or oscillating pushers
41/16	. . by rollers		. . using rotary tables or turrets {( <a href="#">B65B 43/46</a> takes precedence)}
41/18	. Registering sheets, blanks, or webs	43/44	. . using roller-ways or endless conveyors
<b>43/00</b>	<b>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 <a href="#">B65B 47/00</a>)</b>	43/46	. . Means for supporting containers or receptacles during the filling operation
		43/465	. . . movable stepwise to position container or receptacle for the reception of successive increments of contents
43/02	. Forming flat bags from individual sheets or blanks	43/48	. . . . vertically movable
43/04	. Forming flat bags from webs	43/50	. . . vertically movable ( <a href="#">B65B 43/58</a> takes precedence)
43/06	. . from more than one web	43/52	. . . rotatable
43/08	. Forming three-dimensional containers from sheet material	43/54	. . . . about an axis located at the filling position, e.g. the axis of the container or receptacle
43/10	. . by folding the material	43/56	
43/12	. Feeding flexible bags or carton blanks in flat or collapsed state; Feeding flat bags connected to form a series or chain	43/57	
43/123	. . {Feeding flat bags connected to form a series or chain}	43/58	
43/126	. . {Feeding carton blanks in flat or collapsed state}	43/59	
43/14	. . Feeding individual bags or carton blanks from piles or magazines	43/60	
43/145	. . . {Feeding carton blanks from piles or magazines}	43/62	
43/16	. . . by grippers	<b>45/00</b>	<b>Apparatus or devices for supporting or holding wrappers during wrapping operation</b>
43/165	. . . . {specially adapted for carton blanks}	<b>47/00</b>	<b>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</b>
43/18	. . . . by suction-operated grippers		. with means for heating the material prior to forming
43/185	. . . . . {specially adapted for carton blanks}	47/02	. by application of mechanical pressure
43/20	. . . by reciprocating or oscillating pushers	47/04	. . using folding dies
43/205	. . . . {specially adapted for carton blanks}	47/06	. by application of fluid pressure
43/22	. . . by rollers	47/08	. . by vacuum
43/225	. . . . {specially adapted for carton blanks}	47/10	
43/24	. Breaking creases to facilitate setting-up cartons	<b>49/00</b>	<b>Devices for folding or bending wrappers around contents</b>
43/26	. Opening or distending bags; Opening, erecting, or setting-up boxes, cartons, or carton blanks	49/02	. Fixed or resiliently-mounted folders, e.g. non-driven rollers
43/262	. . {opening of valve bags}	49/04	. . Ploughs or plates with inclined slots or opposed inclined edges
43/265	. . {Opening, erecting or setting-up boxes, cartons or carton blanks}	49/06	. Resilient folders, e.g. brushes, diaphragms
43/267	. . {Opening of bags interconnected in a web}	49/08	. Reciprocating or oscillating folders
43/28	. . by grippers co-operating with fixed supports	49/10	. Folders movable in closed non-circular paths
43/285	. . . {specially adapted for boxes, cartons or carton blanks}	49/12	. Rotary folders
43/30	. . by grippers engaging opposed walls, e.g. suction-operated	49/14	. Folders forming part of, or attached to, conveyors for partially-wrapped articles
43/305	. . . {specially adapted for boxes, cartons or carton blanks}	49/16	. Pneumatic means, e.g. air jets
43/32	. . by external pressure diagonally applied		
43/325	. . . {to boxes, cartons or carton blanks}		
43/34	. . by internal pressure		

<b>51/00</b>	<b>Devices for, or methods of, sealing or securing package folds or closures; Devices for gathering or twisting wrappers, or necks of bags</b>	<b>55/00</b>	<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>)</b>
51/02	. Applying adhesives or sealing liquids		
51/023	. . {using applicator nozzles}		
51/026	. . {using rotating applicators}	55/02	. Sterilising, e.g. of complete packages
51/04	. Applying separate sealing or securing members, e.g. clips, ( <a href="#">applying separate lids or covers B65B 7/28</a> )	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)}
51/043	. . {Applying springy clips around bag necks}	55/025	. . {Packaging in aseptic tunnels}
51/046	. . {Applying a closure element to the mouths of bags}	55/027	. . {Packaging in aseptic chambers}
51/05	. . Stapling	55/04	. . Sterilising wrappers or receptacles prior to, or during, packaging {( <a href="#">sterilising bottles B67C 7/00</a> )}
51/06	. . Applying adhesive tape		
51/062	. . . {to the mouths of bags}	55/06	. . . by heat
51/065	. . . {to the necks of bags}	55/08	. . . by irradiation
51/067	. . . {to the closure flaps of boxes}	55/10	. . . by liquids or gases
51/07	. . Sewing or stitching	55/103	. . . . {Sterilising flat or tubular webs}
51/08	. . Applying binding material, e.g. to twisted bag necks	55/106	. . . . {Sterilising connected bags}
51/10	. Applying or generating heat or pressure or combinations thereof {( <a href="#">welding of plastics per se B29C 65/02</a> ; <a href="#">closing plastic tube ends in general B29C 57/10</a> )}	55/12	. . Sterilising contents prior to, or during, packaging
2051/105	. . {Heat seal temperature control}	55/14	. . . by heat
51/12	. . by resilient means, e.g. brushes	55/16	. . . by irradiation
51/14	. . by reciprocating or oscillating members ( <a href="#">B65B 51/148</a> takes precedence)	55/18	. . . by liquids or gases ( <a href="#">B65B 55/14</a> takes precedence)
51/142	. . . {Closing bottle necks or tubes}	55/19	. . . by adding materials intended to remove free oxygen or to develop inhibitor gases, e.g. vapour phase inhibitors
51/144	. . . {Closing paperboard containers}	55/20	. Embedding contents in shock-absorbing media, e.g. plastic foam, granular material
51/146	. . . {Closing bags}	55/22	. Immersing contents in protective liquids
51/148	. . . {Hand-operated members}	55/24	. Cleaning of, or removing dust from, containers, wrappers, or packaging {; <a href="#">Preventing of fouling</a> }
51/16	. . by rotary members		
51/18	. . by endless bands or chains	<b>57/00</b>	<b>Automatic control, checking, warning, or safety devices (registering wrapping or container-forming material fed from rolls <a href="#">B65B 41/18</a>)</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 B65B 53/02</a> )	57/005	. { <a href="#">Safety-devices (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 ( <a href="#">combined with severing by heated wires or rods 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	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 ( <a href="#">other applications B65B 65/08</a> )
<b>53/00</b>	<b>Shrinking wrappers, containers, or container covers during or after packaging</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}		

<p><b>59/00</b>     <b>Arrangements to enable machines to handle articles of different sizes, to produce packages of different sizes, to vary the contents of packages {, to handle different types of packaging material,} or to give access for cleaning or maintenance purposes</b></p> <p>59/001     . {Arrangements to enable adjustments related to the product to be packaged}</p> <p>59/003     . {Arrangements to enable adjustments related to the packaging material}</p> <p>59/005     . {Adjustable conveying means}</p> <p>59/02       . Arrangements to enable adjustments to be made while the machine is running</p> <p>59/04       . Machines constructed with readily-detachable units or assemblies, e.g. to facilitate maintenance</p> <p><b>61/00</b>     <b>Auxiliary devices, not otherwise provided for, for operating on sheets, blanks, webs, binding material, containers or packages</b></p> <p>61/002     . {for drying glued or sealed packages}</p> <p>61/005     . {for removing material by cutting}</p> <p>61/007     . {Perforating strips of completed packages}</p> <p>61/02       . for perforating, scoring {, slitting,} or applying code or date marks on material prior to packaging {<a href="#">scoring ampoules B65B 3/006</a>}</p> <p>61/025     . . {for applying, e.g. printing, code or date marks on material prior to packaging}</p> <p>61/04       . for severing webs, or for separating joined packages</p> <p>61/06       . . by cutting</p> <p>61/065     . . . {by punching out}</p> <p>61/08       . . . using rotary cutters</p> <p>61/10       . . . using heated wires or cutters</p> <p>61/12       . . by tearing along perforations or lines of weakness</p> <p>61/14       . for incorporating, or forming and incorporating, handles or suspension means in packages (<a href="#">attaching, or forming and attaching, string handles or tags to tea-bags B65B 29/04</a>)</p> <p>61/16       . . Forming suspension apertures in packages</p> <p>61/18       . for making package-opening or unpacking elements</p> <p>61/182     . . {by applying tear-strips or tear-tapes}</p> <p>61/184     . . {by applying tabs over discharge openings, e.g. over discharge openings defined by tear or score lines}</p> <p>61/186     . . {by applying or incorporating rigid fittings, e.g. discharge spouts}</p> <p>61/188     . . {by applying or incorporating profile-strips, e.g. for reclosable bags}</p> <p>61/20       . for adding cards, coupons or other inserts to package contents (<a href="#">adding unpacking elements B65B 61/18</a>)</p> <p>61/202     . . {for attaching articles to the outside of a container (<a href="#">B65B 61/205 takes precedence</a>)}</p> <p>61/205     . . {for adding drinking straws to a container}</p> <p>61/207     . . {for inserting partitions between package contents}</p> <p>61/22       . . for placing protecting sheets, plugs, or wads over contents, e.g. cotton-wool in bottles of pills</p> <p>61/24       . for shaping or reshaping completed packages</p> <p>61/26       . for marking or coding completed packages</p> <p>61/28       . for discharging completed packages from machines</p> <p><b>63/00</b>     <b>Auxiliary devices, not otherwise provided for, for operating on articles or materials to be packaged</b></p> <p>63/005     . {for marking or coding articles prior to packaging}</p>	<p>63/02       . for compressing or compacting articles or materials prior to wrapping or insertion in containers or receptacles</p> <p>63/022     . . {using compressing chambers or plates moving in an endless path}</p> <p>63/024     . . {for compressing by winding}</p> <p>63/026     . . {for compressing by feeding articles through a narrowing space}</p> <p>63/028     . . {by pneumatic means}</p> <p>63/04       . for folding or winding articles, e.g. gloves or stockings</p> <p>63/045     . . {for folding garments, e.g. stockings, shirts}</p> <p>63/06       . . Forming elongated hanks, e.g. of shoe laces</p> <p>63/08       . for heating or cooling articles or materials to facilitate packaging</p> <p><b>65/00</b>     <b>Details peculiar to packaging machines and not otherwise provided for; Arrangements of such details</b></p> <p>65/003     . {Packaging lines, e.g. general layout}</p> <p>65/006     . . {Multiple parallel packaging lines}</p> <p>65/02       . Driving gear</p> <p>65/04       . Mechanisms for converting a continuous rotary motion to intermittent rotary motion, e.g. Geneva drives</p> <p>65/06       . coated or treated with anti-friction or anti-sticking materials, e.g. polytetrafluoroethylene</p> <p>65/08       . Devices for counting or registering the number of articles handled, or the number of packages produced by the machine</p> <p><b>67/00</b>     <b>Apparatus or devices facilitating manual packaging operations; Sack holders</b></p> <p>67/02       . Packaging of articles or materials in containers</p> <p>67/04       . . Devices facilitating the insertion of articles or materials into bags {, e.g. guides or chutes (<a href="#">sack holders B65B 67/12</a>)}</p> <p>67/06       . . Manually-operable devices for closing bag necks, by applying and securing lengths of string, wire or tape</p> <p>67/08       . Wrapping of articles</p> <p>67/085     . . {using hand-held dispensers for stretch films}</p> <p>67/10       . . Wrapping-tables</p> <p>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 {(<a href="#">nozzles, funnels or guides adapted to support sacks B65B 39/06</a>)}</p> <p>67/1205    . . {collapsible or foldable (<a href="#">B65B 67/1216, B65B 67/1244, B65B 67/1255 take precedence</a>)}</p> <p>67/1211    . . {characterised by mechanisms for moving, e.g. pivoting, lids or frame parts, e.g. pedal-operated (<a href="#">B65B 67/1216 takes precedence; pedal-operated mechanisms for opening or closing container lids B65D 43/26</a>)}</p> <p>67/1216    . . {co-operating with the door of a cabinet or the like}</p> <p>67/1222    . . {characterised by means for suspending sacks, e.g. pedal-operated}</p> <p>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 (<a href="#">B65B 67/1244 takes precedence</a>)}</p> <p>67/1233    . . . {Clamping or holding means}</p> <p>67/1238    . . {Inserts or external supports, e.g. baskets, for stiffening sacks in the open condition}</p>
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- 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}

- 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
- 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
- 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

**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
- 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