# SECTION B — PERFORMING OPERATIONS; TRANSPORTING

# **B31** MAKING PAPER ARTICLES; WORKING PAPER

#### Note(s)

- This class <u>covers</u> subject matter restricted to adaptations or associations of handling sheets, webs, or blanks peculiar to paper-working, e.g. bag or box making, machinery.
- 2. This class does not cover:
  - making articles directly from paper pulp, which is covered by D21J;
  - handling sheets, webs, or blanks of wider applicability, irrespective of whether described or claimed only for paper-working machinery, which is regarded as being of a more comprehensive nature and is covered by B65H.
- 3. In this class, the following term is used with the meaning indicated:
  - · "paper" covers material worked in a manner analogous to paper, e.g. plastics sheet materials, laminated materials or metal foils.

**B31B MAKING BOXES, CARTONS, ENVELOPES, OR BAGS** (incising, scoring, in general B26D 3/08; combined making and filling B65B)

### Note(s)

- 1. In this subclass, envelopes or bags are regarded as being essentially flexible containers, the final shape of which is determined by their contents
- 2. In this subclass, the following expression is used with the meaning indicated:
  - "boxes or cartons" includes bags formed similarly to cartons, trays with upstanding side-walls, barrels, tubes and cups, other than
    articles formed by winding.

### **Subclass index**

MAKING IN GENERAL	1/00, 47/00, 49/00
MAKING BOXES OR CARTONS	
Characterised by the method of making	
by folding a single piece	3/00, 5/00
by assembling pieces	13/00, 17/00
by other shaping under pressure Characterised by the kind of articles	
lined or reinforced articles	7/00, 9/00, 15/00
other specified articles	11/00, 13/00, 45/00
MAKING ENVELOPES OR BAGS	
Characterised by the method of making	
from sheets	
from webs	
by other shaping under pressure	43/00
Characterised by the kind of articles	
flat rectangular articles	
articles with bases provided for thickness	
other specified articles	25/00, 27/00, 39/00, 41/00, 45/00

# 1/00 Box, carton, envelope or bag making machinery characterised by performing specific operations (machinery for performing operations of general application, see the appropriate subclasses)

1/02 • Feeding or positioning sheets, blanks, or webs

1/04 • • Feeding sheets or blanks

1/06 • • • from stacks

1/08 • • during envelope- or bag-making operations

1/10 • • Feeding or positioning webs

1/12 • • by air pressure or suction

- 1/14 Cutting, e.g. perforating, punching, slitting, trimming
- 1/16 • Cutting webs to form sheets or blanks
- 1/18 • Slitting webs longitudinally
- 1/20 • Cutting sheets or blanks
- 1/22 • Notching; Trimming edges of flaps
- 1/24 • Making window openings
- Surface scoring (cutting through material B31B 1/14) [2]
- 1/26 Folding sheets, blanks, or webs

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1/28	<ul> <li>around mandrels, including bottom-forming operations</li> </ul>	3/46	• • and interconnecting side walls during such movement
1/30	• • the mandrels moving	3/48	• • • by folding or tucking in locking flaps
1/32	• • • in circular paths	3/50	• • • • by interengaging tongues and slots
1/34	• • • about their own axes	3/52	<ul> <li>by reciprocating or oscillating members, e.g.</li> </ul>
1/36	by continuously feeding same to stationary		fingers other than plungers and dies
1750	members, e.g. plates, ploughs, cores	3/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>
1/38	• • the members being forming-tubes		edges, or for taping
1/40	• • • acting internally	3/64	<ul> <li>by applying heat or pressure</li> </ul>
1/42	• • • acting externally	3/72	<ul> <li>by applying and securing strips or sheets</li> </ul>
1/44	by plungers moving through folding dies	3/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
1/46	• • and interconnecting side walls during such		
17 .0	movement	5/00	Machinery characterised by making boxes or cartons
1/48	• • • by folding or tucking in locking flaps		by folding single-piece sheets which can be set-up
1/50	• • • • by interengaging tongues and slots		from a collapsed condition, including setting-up and
1/52	<ul> <li>by reciprocating or oscillating members, e.g.</li> </ul>	5/02	recollapsing to break creases
	fingers other than plungers and dies		• and having means for feeding or positioning sheets
1/54	operating on moving material	5/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>
1/56	<ul> <li>by rotary members co-operating with blades</li> </ul>	5/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>
1/58	by moving endless belts	5/36	<ul> <li>by continuously feeding same to stationary</li> </ul>
1/60	<ul> <li>Uniting opposed surfaces or edges; Taping</li> </ul>	3/30	members, e.g. plates, ploughs, cores
1/62	• • by adhesives	5/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>
1/64	by applying heat or pressure	3/00	edges, or for taping
1/66	• • high-frequency electric heating	5/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
1/68	by stitching, stapling, or riveting	5/76	<ul> <li>Opening and distending flattened articles</li> </ul>
1/70	• • by corner stapling	5/78	• • mechanically
1/72	<ul> <li>by applying and securing strips or sheets</li> </ul>	5/80	• • • pneumatically
1/74	Auxiliary operations	3/00	is a pheumaticany
1/76	Opening and distending flattened articles	7/00	Machinery characterised by making lined or
1/78	• • mechanically		internally-reinforced boxes or cartons (B31B 11/00
1/80	• • pneumatically		takes precedence)
1/82	Attaching windows	7/02	<ul> <li>and having means for feeding or positioning sheets,</li> </ul>
1/84	Forming valves or applying valve inserts		blanks, or webs
1/04	(connection of valves to inflatable elastic bodies B60C 29/00)	7/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>
1/86	Forming integral handles or mounting separate	7/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>
	handles (making separate handles by multi-step processes B31D 1/06)	7/28	<ul> <li>around mandrels, including bottom-forming operations</li> </ul>
1/88	Printing or embossing	7/30	<ul> <li>the mandrels moving</li> </ul>
1/90	<ul> <li>Attaching accessories not otherwise provided for,</li> </ul>	7/32	• • • in circular paths
	e.g. opening or closure devices, tear strings	7/44	<ul> <li>by plungers moving through folding dies</li> </ul>
1/92	• • Delivering	7/46	<ul> <li>and interconnecting side walls during such</li> </ul>
1/94	• • singly or in succession	- 450	movement
1/96	• • • in overlapping arrangement	7/60	and having means for uniting opposed surfaces or
1/98	• • • in stacks or bundles	7/74	edges, or for taping
		7/74	and having means for effecting auxiliary operations
<u>Machine</u>	ry for making boxes or cartons	9/00	Machinery characterised by making boxes or cartons having shouldered walls
3/00	Machinery characterised by making boxes or cartons	9/02	<ul> <li>and having means for feeding or positioning sheets,</li> </ul>
	by folding single-piece sheets, blanks, or webs		blanks, or webs
	(B31B 5/00 takes precedence)	9/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>
3/02	<ul> <li>and having means for feeding or positioning sheets,</li> </ul>		punching, slitting, trimming
	blanks, or webs	9/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>
3/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>	9/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>
	punching, slitting, trimming		edges, or for taping
3/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>	9/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
3/28	<ul> <li>around mandrels, including bottom-forming</li> </ul>	11/00	Machinery characterized by making haves as
	operations	11/00	Machinery characterised by making boxes or cartons having partitions or like inserts not integral with
3/30	• • • the mandrels moving		walls (making partitions, inserts, or reinforcements for
3/32	• • • in circular paths		boxes or cartons B31D)
3/34	• • • about their own axes	11/02	<ul> <li>and having means for feeding or positioning sheets,</li> </ul>
3/36	<ul> <li>by continuously feeding same to stationary</li> </ul>		blanks, or webs
	members, e.g. plates, ploughs, cores	11/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>
3/44	<ul> <li>by plungers moving through folding dies</li> </ul>		punching, slitting, trimming

11/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>	19/10	<ul> <li>Feeding or positioning webs</li> </ul>
11/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>	19/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>
11/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>	19/16	<ul> <li>Cutting webs to form sheets or blanks</li> </ul>
		19/18	Slitting webs longitudinally
13/00	Machinery characterised by assembling drawer-and-	19/20	<ul> <li>Cutting sheets or blanks</li> </ul>
40.700	shell boxes or cartons	19/26	• and having means for folding sheets, blanks, or webs
13/02	<ul> <li>and having means for feeding or positioning sheets, blanks, or webs</li> </ul>	19/36	<ul> <li>by continuously feeding same to stationary</li> </ul>
13/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>		members, e.g. plates, ploughs, cores
	punching, slitting, trimming	19/52	<ul> <li>by reciprocating or oscillating members, e.g. fingers other than plungers and dies</li> </ul>
13/26	and having means for folding sheets, blanks, or webs	19/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>
13/28	around mandrels, including bottom-forming		edges, or for taping
12/20	operations	19/62	• • by adhesives
13/30	<ul><li>the mandrels moving</li><li>in circular paths</li></ul>	19/64	<ul> <li>by applying heat or pressure</li> </ul>
13/32 13/34	• • • about their own axes	19/66	<ul> <li>high-frequency electric heating</li> </ul>
		19/68	<ul> <li>by stitching, stapling, or riveting</li> </ul>
13/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>	19/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
13/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>	19/82	<ul> <li>Attaching windows</li> </ul>
13//4	and having means for effecting auxiliary operations	19/84	<ul> <li>Forming valves or applying valve inserts</li> </ul>
15/00	Machinery characterised by making covered or externally-reinforced boxes or cartons		(connection of valves to inflatable elastic bodies B60C 29/00)
15/02	<ul> <li>and having means for feeding or positioning sheets, blanks, or webs</li> </ul>	19/86	<ul> <li>Forming integral handles or mounting separate handles (making separate handles by multi-step</li> </ul>
15/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>		processes B31D 1/06)
15/11	punching, slitting, trimming	19/88	<ul> <li>Printing or embossing</li> </ul>
15/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>	19/90	<ul> <li>Attaching accessories not otherwise provided for,</li> </ul>
15/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>		e.g. opening or closure devices, tear strings
	edges, or for taping	19/92	<ul> <li>Delivering</li> </ul>
15/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>	19/94	<ul> <li>singly or in succession</li> </ul>
		19/96	• • • in overlapping arrangement
17/00	Machinery characterised by making other boxes or	19/98	• • • in stacks or bundles
	cartons by assembling several separate sheets, blanks, or webs	21/00	Machinery characterised by making rectangular
17/02	<ul> <li>and having means for feeding or positioning sheets,</li> </ul>	21/00	envelopes or bags of flat form, i.e. without structural
17702	blanks, or webs		provision at the base for thickness of contents, from
17/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>		sheets or blanks, e.g. from flattened tubes
	punching, slitting, trimming	21/02	· and having means for feeding or positioning sheets or
17/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>		blanks
17/28	<ul> <li>around mandrels, including bottom-forming</li> </ul>	21/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>
	operations		punching, slitting, trimming
17/30	• • the mandrels moving	21/26	<ul> <li>and having means for folding sheets or blanks</li> </ul>
17/32	• • • in circular paths	21/60	and having means for uniting opposed surfaces or
17/44	<ul> <li>by plungers moving through folding dies</li> </ul>	04 /54	edges, or for taping
17/46	<ul> <li>and interconnecting side walls during such movement</li> </ul>	21/74	and having means for effecting auxiliary operations
17/52	<ul> <li>by reciprocating or oscillating members, e.g. fingers other than plungers and dies</li> </ul>	23/00	Machinery characterised by making rectangular envelopes or bags of flat form, i.e. without structural
17/60	and having means for uniting opposed surfaces or edges, or for taping		provision at the base for thickness of contents, from webs, e.g. from flattened tubular webs (machinery
17/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>		characterised by cutting sheets or blanks from webs and working them to form such envelopes or bags B31B 21/00)
		23/02	<ul> <li>and having means for feeding or positioning webs</li> </ul>
<u>Machine</u>	ry for making envelopes or bags	23/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>
	Note(s)		punching, slitting, trimming
		23/26	<ul> <li>and having means for folding webs</li> </ul>
	Machinery for making boxes or cartons as well as envelopes or bags is classified in groups B31B 3/00-	23/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>
	B31B 17/00.		edges, or for taping
		23/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>

# 19/00 Machinery characterised by making rectangular envelopes or bags of flat form, i.e. without structural

**provision at the base for thickness of contents** (B31B 21/00, B31B 23/00 take precedence)

19/02  $\phantom{0}$  • and having means for feeding or positioning sheets, blanks, or webs

# 25/00 Machinery characterised by making pointed or tapered envelopes or bags

25/02 • and having means for feeding or positioning sheets, blanks, or webs

25/14 • and having means for cutting, e.g. perforating, punching, slitting, trimming

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25/26	and having means for folding sheets, blanks, or webs	35/02	and having means for feeding or positioning sheets or
25/60	<ul> <li>and having means for uniting opposed surfaces or</li> </ul>		blanks
25/74	<ul><li>edges, or for taping</li><li>and having means for effecting auxiliary operations</li></ul>	35/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>
27/00	Weller described by the second	35/26	<ul> <li>and having means for folding sheets or blanks</li> </ul>
27/00	Machinery characterised by making interconnected envelopes or bags	35/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>
27/02	<ul> <li>and having means for feeding or positioning sheets, blanks, or webs</li> </ul>	35/74	and having means for effecting auxiliary operations
27/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>	37/00	Machinery characterised by making envelopes or bags with structural provision at the base for
27/26	<ul> <li>and having means for folding sheets, blanks, or webs</li> </ul>		thickness of contents, from webs, e.g. from tubular
27/60	and having means for uniting opposed surfaces or edges, or for taping		webs (machinery characterised by cutting sheets or blanks from webs and working them to form such envelopes or bags B31B 31/00)
27/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>	37/02	<ul> <li>and having means for feeding or positioning webs</li> </ul>
29/00	Machinery characterised by making envelopes or bags with structural provision at the base for	37/14	and having means for cutting, e.g. perforating, punching, slitting, trimming
	thickness or contents (B31B 31/00-B31B 37/00 take	37/26	<ul> <li>and having means for folding webs</li> </ul>
29/02	<ul><li>precedence)</li><li>and having means for feeding or positioning sheets,</li></ul>	37/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>
29/14	blanks, or webs  • and having means for cutting, e.g. perforating,	37/74	and having means for effecting auxiliary operations
2071.	punching, slitting, trimming	39/00	Machinery characterised by making lined envelopes
29/26	• and having means for folding sheets, blanks, or webs		or bags
29/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>	39/02	<ul> <li>and having means for feed or positioning sheets, blanks, or webs</li> </ul>
29/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>	39/14	and having means for cutting, e.g. perforating,
29/84	• Forming valves or applying valve inserts	39/26	<ul><li>punching, slitting, trimming</li><li>and having means for folding sheets, blanks or webs</li></ul>
	(connection of valves to inflatable elastic bodies B60C 29/00)	39/60	and having means for uniting opposed surfaces or edges, or for taping
31/00	Machinery characterised by making envelopes or	39/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
	bags with structural provision at the base for thickness of contents, from sheets or blanks, e.g. from flattened tubes (B31B 33/00, B31B 35/00 take	39/84	• • Forming valves or applying valve inserts (connection of valves to inflatable elastic bodies
	precedence)		B60C 29/00)
31/02	<ul> <li>and having means for feeding or positioning sheets or blanks</li> </ul>	41/00	Machinery characterised by making envelopes or bags of other specific form or construction
31/14	<ul> <li>and having means for cutting, e.g. perforating, punching, slitting, trimming</li> </ul>	41/02	<ul> <li>and having means for feeding or positioning sheets, blanks, or webs</li> </ul>
31/26	<ul> <li>and having means for folding sheets or blanks</li> </ul>	41/14	<ul> <li>and having means for cutting, e.g. perforating,</li> </ul>
31/60	and having means for uniting opposed surfaces or		punching, slitting, trimming
21/74	<ul><li>edges, or for taping</li><li>and having means for effecting auxiliary operations</li></ul>	41/26	• and having means for folding sheets, blanks or webs
31/74	and naving means for effecting auxiliary operations	41/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>
33/00	Machinery characterised by making envelopes or bags with structural provision at the base for	41/74	<ul> <li>and having means for effecting auxiliary operations</li> </ul>
	thickness of contents, from sheets or blanks, e.g.		
	from flattened tubes, the longitudinal axes of the		
	envelopes or bags being parallel to the direction in which the sheets or blanks are fed	43/00	Machinery characterised by making containers by
33/02	and having means for feeding or positioning sheets or blanks		shaping, otherwise than by folding, sheet material under pressure
33/14	and having means for cutting, e.g. perforating, punching, slitting, trimming	45/00	Machinery characterised by making containers having corrugated or pleated walls
33/26	and having means for folding sheets or blanks		
33/60	<ul> <li>and having means for uniting opposed surfaces or edges, or for taping</li> </ul>	47/00	Hand tools for making envelopes, bags, boxes or cartons
33/74	and having means for effecting auxiliary operations	47/02	<ul> <li>for making envelopes or bags without preshaped bottoms</li> </ul>
35/00	Machinery characterised by making envelopes or bags with structural provision at the base for thickness of contents, from sheets or blanks, a g	47/04	<ul> <li>for making envelopes or bags with preshaped bottoms</li> </ul>
	thickness of contents, from sheets or blanks, e.g. from flattened tubes, the longitudinal axes of the envelopes or bags being perpendicular to the direction in which the sheets or blanks are fed	49/00	Machinery, accessories or processes not provided for in groups B31B 1/00-B31B 47/00 (forms or constructions of boxes, cartons, envelopes or bags B65D) [2]

### Note(s)

Processes dependent on the use of specific machinery provided for in groups B31B 1/00-B31B 45/00 are classified in those groups.

49/02 • for making boxes or cartons

this subclass [2009.01]

for making envelopes or bags

**B31C** MAKING WOUND ARTICLES, e.g. WOUND TUBES (characteristics relating to the working of plastics B29; shaping of plastics or substances in a plastic state B29C)

49/04

### Note(s)

In this subclass, the following term is used with the meaning indicated:

• "winding" means forming two or more complete convolutions.

#### **Subclass index**

Windi Windi Windi MAKING Tubes Cones Other	WOUND ARTICLES CHARACTERISED BY THE METHON ng around mandrels	OF THE ART	5/00 9/00 FICLES PRODUCED 1/00, 3/00, 5/00 7/00 9/00, 99/00
1/00	Forming paper tubes or pipes by feeding at right	7/04	• • on two or more mandrels
	angles to the winding mandrel centre line	7/06	• • • and inserting into a cone end a bottom to form a
1/02	<ul> <li>Machines therefor having additional mandrels</li> </ul>		container
1/04	<ul> <li>and forming a tube end into a container bottom</li> </ul>	7/08	<ul> <li>Forming pointed cones</li> </ul>
1/06	<ul> <li>and inserting into a tube end a bottom to form a container</li> </ul>	7/10	• • on two or more mandrels
1/08	<ul> <li>Accessories of machines therefor not otherwise provided for</li> </ul>	9/00	Simultaneous forming of cylindrical and conical shapes by winding separate webs, e.g. forming bottles (winding blanks B31B)
3/00	Forming paper tubes or pipes by feeding obliquely to		
	the winding mandrel centre line	11/00	Paper-winding machinery combined with other
3/02	<ul> <li>and inserting into a tube end a bottom to form a</li> </ul>	11 (00	machinery
	container	11/02	for additionally shaping the articles
3/04	Seam processing	11/04	<ul> <li>for applying impregnating by coating-substances during the winding</li> </ul>
5/00	Forming paper tubes or pipes without mandrels	11/06	<ul> <li>for drying the wound and impregnated articles</li> </ul>
7/00	Forming conical paper articles by winding (winding	99/00	Subject matter not provided for in other groups of

**MAKING OTHER PAPER ARTICLES** (manufacture by dry processes of articles made from particles or fibres consisting of wood or other lignocellulosic or like organic material B27N; making layered products not composed wholly of paper or cardboard B32B; making cardboard or paper D21F, D21H, making articles from wood pulp D21J)

## Note(s)

1/06

7/02

blanks B31B)

· Forming truncated cones

the articles being handles

This subclass <u>covers</u> the making, otherwise than by winding, of articles other than boxes, cartons, envelopes, bags, and tubes from paper, other than from paper pulp.

1/00	Multiple-step processes for making flat articles	3/00	Making articles of cellular structure, e.g. insulating
1/02	<ul> <li>the articles being labels or tags (means or processes</li> </ul>		board
	for attaching threads D05)	3/02	<ul> <li>honeycombed structures</li> </ul>
1/04	<ul> <li>the articles being napkins, handkerchiefs, towels,</li> </ul>	3/04	<ul> <li>cellular packaging articles, e.g. for bottles</li> </ul>
	doilies, or the like		

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5/00 Multiple-step processes for making threedimensional articles (assembly of garlands A41G 1/00; making receptacles or containers B31B; making tubes B31B, B31C) 5/02 • including pressing

• including folding or pleating, e.g. Chinese lanterns

99/00 Subject matter not provided for in other groups of this subclass [2006.01]

**B31F MECHANICAL WORKING OR DEFORMATION OF PAPER OR CARDBOARD** (cutting, trimming, in general B26; incising, scoring, in general B26D 3/08; making layered products not composed wholly of paper or cardboard B32B; multi-ply material of paper or cardboard, its manufacture D21H)

1/00 Mechanical deformation of paper or cardboard without removing material including combined deformation and laminating (embossing combined with application of ink, type marking presses, selective embossing machines B41F, B41J, B41K, B41M; machines or apparatus for embossing decorations or marks B44B 5/00; artists hand tools for embossing B44B 11/04; producing decorative effects by processes for stamping ornamental designs on surfaces B44C 1/24; mechanical deformation during paper or board making, kinds of paper or board D21) [2]

1/07 • Embossing (corrugating B31F 1/20) [3]

 Creasing (corrugating B31F 1/20; zig-zag folding B65H 45/20) [2]

1/10 • • by rotary tools

1/12 • Crêping paper

1/14 • • by doctor blades arranged crosswise to the web

1/16 • • by elastic belts

1/18 • • by tools arranged in the direction of web feed

 Corrugating; Corrugating combined with laminating to other paper or cardboard layers (corrugating veneer B27D) [2]

1/22 • • Making webs in which the channel of each corrugation is longitudinal with the web feed

 Making webs in which the channel of each corrugation is transverse to the web feed 1/26 • • • by interengaging toothed cylinders [2]

1/28 • • • combined with uniting the corrugated webs to flat webs

1/29 • • • by making use of rods, e.g. co-operating with a toothed cylinder [2]

1/30 • • • Tools secured to endless chains

1/32 • • Corrugating already corrugated webs

 Moistening and heating webs to facilitate mechanical deformation and drying deformed webs

5/00 Attaching together paper or cardboard sheets, strips, or webs; Reinforcing edges of paper or cardboard (means for applying adhesive or glue B05C; stapling in box or like making B31B; attaching the replacement web to the expiring web during web-roll changing B65H 19/18; apparatus for splicing webs during handling B65H 21/00)

5/02 • by crimpling or slotting

5/04 • by exclusive use of adhesives

5/06 • by adhesive tape

5/08 • • for reinforcing edges

7/00 Processes for working paper not otherwise provided for

7/02 • Breaking the coating on paper