

D03 WEAVING**D03C SHEDDING MECHANISMS; PATTERN CARDS OR CHAINS; PUNCHING OF CARDS; DESIGNING PATTERNS****Subclass index****SHEDDING MECHANISMS**

Dobbies; jacquards; cam and other
 direct-acting mechanisms 1/00; 3/00;
 5/00

Healds 9/00

Selvage mechanisms not forming
 part of shedding mechanisms 11/00

Other shedding mechanisms 7/00, 13/00

PATTERN CARDS OR CHAINS; CARD-
 PUNCHING; METHODS OR DEVICES FOR
 PREPARING PATTERNS 15/00; 17/00;
 19/00

1/00 Dobbies

- 1/02 . Single-lift dobbies, i.e. dobbies in which the same draw-knife or equivalent operates for every pick (D03C 1/10 takes precedence)
- 1/04 . . Open-shed single-lift dobbies
- 1/06 . Double-lift dobbies, i.e. dobbies in which separate draw-knives or equivalent operate on alternate picks
- 1/08 . . reversible, i.e. correct sheds open automatically when the loom is driven backwards
- 1/10 . Centre-shed dobbies, i.e. shed formed by lifting some threads and lowering the others from central shed-closed position
- 1/12 . Dobbies employing toothed gearing instead of draw-knives
- 1/14 . Features common to dobbies of different types (stop motions acting on defective operation of shedding mechanisms D03D 51/46)
- 1/16 . . Arrangements of dobby in relation to loom
- 1/18 . . Knives; Knife frames
- 1/20 . . Hooks; Lifters
- 1/22 . . Needles; Needle boxes; Needle boards
- 1/24 . . Cylinders; Cylinder battens
- 1/26 . . Facilitating engagement of lifting-hooks with draw-knives
- 1/28 . . . by creating and then eliminating back-lash between hooks and knives
- 1/30 . . . wherein all the hooks are disengaged from the knives, and selected hooks then re-engaged
- 1/32 . . . wherein all the hooks are engaged with the knives, and unselected hooks then disengaged
- 1/34 . . Arrangements wherein warp threads pass one another at different heights to avoid congestion
- 1/36 . . Card- or chain-saving arrangements, e.g. cross-border dobbies

3/00 Jacquards (controlling jacquard by scanning design D03C 17/06; for gripper Axminster looms D03D 39/08)

- 3/02 . Single-lift jacquards
- 3/04 . . of open-shed type
- 3/06 . Double-lift jacquards
- 3/08 . . of open-shed type
- 3/10 . Centre-shed jacquards
- 3/12 . Multiple-shed jacquards, i.e. jacquards which move warp threads to several different heights, e.g. for weaving pile fabrics
- 3/14 . Jacquards not employing lifting-hooks, e.g. employing knotted cords in conjunction with keyhole slots

- 3/16 . Verdol or other jacquards having intermediate power-operated needles between reading needles and lifting-hooks
- 3/18 . Selvage jacquards
- 3/20 . Electrically-operated jacquards
- 3/22 . Fluid-operated jacquards
- 3/24 . Features common to jacquards of different types
- 3/26 . . General arrangements of jacquards, or disposition in relation to loom
- 3/28 . . Pick-finding arrangements; Arrangements for preventing next shed from being opened during stopping of loom
- 3/30 . . Arrangements wherein hooks are positively operated to close shed
- 3/32 . . Jacquard driving mechanisms
- 3/34 . . . Cylinder operating mechanisms
- 3/36 . . . Griffe operating mechanisms
- 3/38 . . Comber boards
- 3/40 . . Constructions of lifting-cords
- 3/42 . . Arrangements of lifting-cords
- 3/44 . . Lingoes

5/00 Cam or other direct-acting shedding mechanisms, i.e. operating heald frames without intervening power-supplying devices

- 5/02 . operated by rotating cams
- 5/04 . . Construction or shape of cams (cams in general F16H 53/00)
- 5/06 . operated by cam devices other than rotating cams

7/00 Leno or similar shedding mechanisms

- 7/02 . Gauze healds
- 7/04 . Mechanisms having discs oscillating about a weftwise axis and having apertures for warp threads
- 7/06 . Mechanisms having eyed needles for moving warp threads from side to side of other warp threads
- 7/08 . Devices for twisting warp threads repeatedly in the same direction

9/00 Healds; Heald frames (for leno shedding D03C 7/00)

- 9/02 . Healds
- 9/04 . . Metal healds
- 9/06 . Heald frames

11/00 Selvage shedding mechanisms not forming part of main shedding mechanism (selvage jacquards D03C 3/18; leno selvage mechanism D03C 7/00)**13/00 Shedding mechanisms not otherwise provided for**

15/00	Pattern cards or chains	17/00	Card-punching apparatus (marking record carriers in digital fashion G06K)
15/02	• Chains of metal, wood, or similar material with projecting pattern-indicating elements	17/02	• manually-controlled, i.e. holes to be punched determined by the operator
15/04	• Cards or paper perforated to indicate pattern	17/04	• power-operated
15/06	• Apparatus for setting pegs in, or removing pegs from, pattern cards	17/06	• automatic, i.e. design scanned optically or otherwise to control punching apparatus or to control loom jacquard directly
15/08	• Apparatus for interconnecting, e.g. by lacing, or disconnecting pattern cards	19/00	Methods or devices concerned with designing or making patterns, not provided for in other groups of this subclass

D03D WOVEN FABRICS; METHODS OF WEAVING; LOOMS

- (1) Class D06 takes precedence over this subclass in respect of processes involving both weaving and finishing steps and in respect of the finished fabrics.
- (2) A method of weaving is classified in the group designating the fabric woven unless the method is characterised by the operation of a particular loom rather than by the production of a particular fabric. In this case, the method is classified in the group for the loom.
- (3) In this subclass, if there is any doubt as to which of the essential features is the most important (this is usually the most restrictive feature), the groups designating woven fabrics should be considered in the order in which they appear at each level of indentation, except that groups designating woven pile fabrics are to be considered as taking precedence over groups designating other woven fabrics.

Subclass index

WOVEN FABRICS OR CORRESPONDING WEAVING METHODS

Characterised by: the construction of the yarn or the material; their shape; their resiliency; their elasticity.....	15/00; 3/00; 7/00; 17/00
Kinds of woven fabrics	
open-work fabrics; woven pile fabrics; gauze; lappet- or swivel-woven.....	9/00; 27/00; 19/00; 21/00
with special disposition of warp or weft threads; multi-ply fabrics not otherwise provided for.....	13/00; 11/00
for specified articles.....	1/00
other kinds	25/00
Selvages	5/00, 47/40

General weaving methods not special to a particular fabric or loom..... 23/00

LOOMS OR CORRESPONDING METHODS OF WEAVING

Hand looms	29/00
Characterised by the article to be woven: lappet or swivel type for embroidery-like decoration; for narrow ribbon-like fabrics; for pile fabric; other types for other kinds of fabrics.....	31/00; 35/00; 39/00; 41/00
Characterised by their construction: circular; with change-boxes; with automatic weft replenishment; of shuttleless type	37/00; 43/00; 45/00; 47/00
Multiple looms	33/00
General details and constructional features.....	49/00
Driving; starting, stopping the loom.....	51/00

Woven fabrics: Methods of weaving other than those characterised by the operation of a particular loom

1/00	Woven fabrics designed to make specified articles
1/02	• Inflatable articles
1/04	• Sack- or bag-like articles
1/06	• Curtain heading tapes
1/08	• Ladder tapes (ladder tapes for venetian blinds E06B 9/382)
3/00	Woven fabrics characterised by their shape
3/02	• Tubular fabrics
3/04	• Endless fabrics
3/06	• Fabrics of varying width
3/08	• Arched, corrugated, or like fabrics

5/00	Selvages
7/00	Woven fabrics designed to be resilient, i.e. to recover from compressive stress
9/00	Open-work fabrics (ladder-tape fabrics D03D 1/08)
11/00	Double or multi-ply fabrics not otherwise provided for
11/02	• Fabrics formed with pockets, tubes, loops, folds, tucks, or flaps (fabrics for curtain heading tapes D03D 1/06; fabrics consisting of a single tube D03D 3/02)

13/00	Woven fabrics characterised by the special disposition of the warp or weft threads, e.g. with curved weft threads, with discontinuous warp threads, with diagonal warp or weft	39/10	<ul style="list-style-type: none"> Wire-tapestry looms, e.g. for weaving velvet or Brussels or Wilton carpets, the pile being formed over weftwise wires
15/00	Woven fabrics characterised by the material or construction of the yarn or other warp or weft elements used	39/12	<ul style="list-style-type: none"> Mechanisms for operating the pile wires
15/02	<ul style="list-style-type: none"> the warp or weft elements being of stiff material, e.g. wire, cane, slat 	39/14	<ul style="list-style-type: none"> Construction of the pile wires, e.g. pile wires which cut
15/04	<ul style="list-style-type: none"> woven to produce shapes or effects upon differential shrinkage 	39/16	<ul style="list-style-type: none"> Double-plush looms, i.e. for weaving two pile fabrics face-to-face
15/06	<ul style="list-style-type: none"> using scaffolding threads, i.e. threads removed after weaving 	39/18	<ul style="list-style-type: none"> Separating the two plush layers, e.g. by cutting
15/08	<ul style="list-style-type: none"> using stretchable or elastic threads (woven fabrics whose elastic or stretch properties are due to the manner of weaving D03D 17/00) 	39/20	<ul style="list-style-type: none"> Looms forming pile over warpwise wires
15/10	<ul style="list-style-type: none"> using threads having high or low coefficients of friction 	39/22	<ul style="list-style-type: none"> Terry looms
15/12	<ul style="list-style-type: none"> using heat-resistant or fireproof threads 	39/24	<ul style="list-style-type: none"> Devices for cutting the pile on the loom (pile wires which cut D03D 39/14; separating two plush layers D03D 39/18)
17/00	Woven fabrics having elastic or stretch properties due to manner of weaving (fabrics using stretchable or elastic threads D03D 15/08)	41/00	Looms not otherwise provided for, e.g. for weaving chenille yarn; Details peculiar to these looms
19/00	Gauze or leno-woven fabrics	43/00	Looms with change-boxes
21/00	Lappet- or swivel-woven fabrics	43/02	<ul style="list-style-type: none"> with drop boxes
23/00	General weaving methods not special to the production of any particular woven fabric or the use of any particular loom; Weaves not provided for in any other single group	43/04	<ul style="list-style-type: none"> Operating mechanisms
25/00	Woven fabrics not otherwise provided for	43/06	<ul style="list-style-type: none"> with rotary boxes
27/00	Woven pile fabrics	43/08	<ul style="list-style-type: none"> Operating mechanisms
27/02	<ul style="list-style-type: none"> wherein the pile is formed by warp or weft 	43/10	<ul style="list-style-type: none"> Weft catchers, i.e. means for preventing entanglement of wefts
27/04	<ul style="list-style-type: none"> Weft pile fabrics 	45/00	Looms with automatic weft replenishment (automatic replenishment in smallware looms D03D 35/00, in circular looms D03D 37/00; bobbins rewound on loom D03J 1/12)
27/06	<ul style="list-style-type: none"> Warp pile fabrics 	45/02	<ul style="list-style-type: none"> Controlling replenishment
27/08	<ul style="list-style-type: none"> Terry fabrics 	45/04	<ul style="list-style-type: none"> Pirn feelers or other detectors for initiating replenishment (weft stop motions D03D 51/34)
27/10	<ul style="list-style-type: none"> Fabrics woven face-to-face, e.g. double velvet 	45/06	<ul style="list-style-type: none"> mechanical
27/12	<ul style="list-style-type: none"> wherein pile tufts are inserted during weaving 	45/08	<ul style="list-style-type: none"> of the side-slip type
27/14	<ul style="list-style-type: none"> with tufts around warps 	45/10	<ul style="list-style-type: none"> electrical
27/16	<ul style="list-style-type: none"> with tufts around wefts 	45/12	<ul style="list-style-type: none"> optical
27/18	<ul style="list-style-type: none"> Chenille fabrics 	45/14	<ul style="list-style-type: none"> Storing the need for replenishment or the colour required until the spent shuttle returns to the replenishing end of the loom
<u>Looms; Methods of weaving characterised by the operation of particular looms</u>		45/16	<ul style="list-style-type: none"> selecting thereby weft of correct colour
29/00	Hand looms	45/18	<ul style="list-style-type: none"> Shuttle feelers or other devices for preventing replenishment if shuttle is incorrectly positioned in shuttle box (shuttle stop motions D03D 51/40)
31/00	Lappet, swivel or other looms for forming embroidery-like decoration on fabrics	45/20	<ul style="list-style-type: none"> Changing bobbins, cops, or other shuttle stock
33/00	Multiple looms, i.e. two or more looms assembled together, whether or not they have mechanisms in common (D03D 35/00 takes precedence)	45/22	<ul style="list-style-type: none"> effected with shuttle in normal shuttle box
35/00	Smallware looms, i.e. looms for weaving ribbons or other narrow fabrics (D03D 47/00 takes precedence)	45/24	<ul style="list-style-type: none"> effected otherwise than in normal box
37/00	Circular looms (looms for weaving separate fabrics disposed in a circle or polygon D03D 33/00)	45/26	<ul style="list-style-type: none"> Magazines
39/00	Pile-fabric looms	45/28	<ul style="list-style-type: none"> for one type of thread, e.g. same colour
39/02	<ul style="list-style-type: none"> Axminster looms, i.e. wherein pile tufts are inserted during weaving 	45/30	<ul style="list-style-type: none"> rotary
39/04	<ul style="list-style-type: none"> Spool Axminster looms 	45/32	<ul style="list-style-type: none"> for several types of thread, e.g. multicolour
39/06	<ul style="list-style-type: none"> Tuft yarn tube or spool frames 	45/34	<ul style="list-style-type: none"> Shuttle changing
39/08	<ul style="list-style-type: none"> Gripper Axminster looms 	45/36	<ul style="list-style-type: none"> fresh shuttle being substituted for spent shuttle in the same cell of shuttle box
		45/38	<ul style="list-style-type: none"> Shuttle box with an extra cell which is used only during replenishment
		45/40	<ul style="list-style-type: none"> the spent shuttle being received in the normal cell and the fresh shuttle being picked from the extra cell
		45/42	<ul style="list-style-type: none"> the spent shuttle being received in the extra cell and the fresh shuttle being picked from the normal cell
		45/44	<ul style="list-style-type: none"> Magazines
		45/46	<ul style="list-style-type: none"> for one type of thread, e.g. single colour
		45/48	<ul style="list-style-type: none"> for several types of threads, e.g. multicolour
		45/50	<ul style="list-style-type: none"> Cutting, holding, manipulating, or disposing of, weft ends

D03D

- 45/52 . . Cutting weft of depleted shuttle near shuttle and holding the piece attached to the fabric
- 45/54 . . Cutting fresh weft and holding the piece attached to the fabric
- 45/56 . . Cutting depleted and fresh wefts at selvage
- 45/58 . . Removing tip bunch or fresh weft end from fresh bobbin
- 45/60 . . . substantially by air stream or suction
- 45/62 . . Disposing of waste pieces of cut weft end (D03D 45/58 takes precedence)
- 47/00 Looms in which bulk supply of weft does not pass through shed, e.g. shuttleless looms, gripper shuttle looms, dummy shuttle looms** (circular looms D03D 37/00)
 - 47/02 . wherein loops of continuous weft thread are inserted, i.e. double picks (D03D 47/27 takes precedence) [3]
 - 47/04 . . by a reciprocating needle having a permanently-threaded eye
 - 47/06 . . by a pivoted having a permanently-threaded eye
 - 47/08 . . . the path of the needle being modified by cams, linkages, or other means
 - 47/10 . . by a forked needle pushing loop of weft through shed
 - 47/12 . wherein single picks of weft thread are inserted, i.e. with shedding between each pick (D03D 47/27 takes precedence) [3]
 - 47/14 . . by a gripper needle taking the end of the weft through the shed
 - 47/16 . . by a gripper needle entering the shed empty and drawing the weft as it retracts
 - 47/18 . . two weft inserters meeting at or near the middle of the shed and transferring the weft from one to the other
 - 47/20 . . Constructional features of the thread-engaging device on the inserters
 - 47/22 . . . adapted for working a loop of weft part-way inserted in the shed and then straightened-out
 - 47/23 . . . Thread grippers (in dummy or gripper shuttles D03J 5/06) [3]
 - 47/24 . . by gripper or dummy shuttle (travelling-wave-shed looms D03D 47/26; inserting mechanisms for shuttles D03D 49/24; gripper or dummy shuttles per se D03J 5/06)
 - 47/25 . . . inserted from only one side of loom [3]
 - 47/26 . . Travelling-wave-shed looms
 - 47/27 . Drive or guide mechanisms for weft inserting [3]
 - 47/28 . wherein the weft itself is projected into the shed
 - 47/30 . . by gas jet
 - 47/32 . . by liquid jet
 - 47/34 . Handling the weft between bulk storage and weft-inserting means
 - 47/36 . . Measuring and cutting the weft
 - 47/38 . . Weft pattern mechanisms
 - 47/39 . wherein cane, straw, slats, material for hair-cloth or similar material is handled [3]
 - 47/40 . Forming selvages
 - 47/42 . . by knitting or interlacing loops of weft
 - 47/44 . . . with additional selvage thread
 - 47/46 . . by selvage shuttle or other device passing selvage thread through loop of weft (by knitting D03D 47/44)
 - 47/48 . . by inserting cut end of weft in next shed, e.g. by tucking, by blowing
 - 47/50 . . by adhesion

49/00 Details or constructional features not peculiar to looms of a particular type (templates D03J 1/22)

- 49/02 . Construction of loom framework
- 49/04 . Control of the tension in warp or cloth
- 49/06 . . Warp let-off mechanisms (construction of warp beam D02H)
 - 49/08 . . . Warp beam brakes
 - 49/10 . . . Driving the warp beam to let the warp off
 - 49/12 . . Controlling warp tension by means other than let-off mechanisms
 - 49/14 . . . Compensating for tension differences during shedding
 - 49/16 . . . Warp supplied by creel
 - 49/18 . . Devices for indicating warp tension (measuring tension of threads in general G01L 5/04)
 - 49/20 . . Take-up motions; Cloth beams (storage racks for beams D02H)
 - 49/22 . . Back rests; Lease rods; Brest beams
 - 49/24 . Mechanisms for inserting shuttle in shed (shuttles per se D03J 5/00)
 - 49/26 . . Picking mechanisms, e.g. for propelling gripper shuttles or dummy shuttles
 - 49/28 . . . Driving mechanisms for the picker stick
 - 49/30 operated by cam
 - 49/32 operated by previously-loaded spring or equivalent
 - 49/34 operated by liquid or gas pressure
 - 49/36 . . . Pickers; Arresting means therefor (check straps D03D 49/40)
 - 49/38 . . . Picking sticks; Arresting means therefor (check straps D03D 49/40)
 - 49/40 . . . Check straps; Lug straps; Similar strap components
 - 49/42 . . whereby the shuttle is propelled by liquid or gas pressure
 - 49/44 . . whereby the shuttle is propelled by electric or magnetic means
 - 49/46 . . wherein the shuttle is pushed or pulled positively (travelling-wave-shed type looms D03D 47/26)
 - 49/48 . . positioning shuttle in readiness for picking
 - 49/50 . . Devices or arrangements concerning insertion of the weft, not otherwise provided for
 - 49/52 . Shuttle boxes (change-boxes D03D 43/00)
 - 49/54 . . Braking means; Swells
 - 49/56 . . . Shuttle relief mechanisms, i.e. reducing shuttle swell pressure before picking
 - 49/58 . Shuttle guards
 - 49/60 . Construction or operation of slay
 - 49/62 . . Reeds mounted on slay
 - 49/64 . . wherein the slay dwells or moves slowly while the weft is being inserted
 - 49/66 . . Shuttle races
 - 49/68 . Reeds or beat-up combs not mounted on the slay (loose reed stop motion D03D 51/42)
 - 49/70 . Devices for cutting weft threads (cutting weft in looms with automatic weft replenishment D03D 45/50; apparatus for slitting fabric D03J 1/08)

51/00 Driving, starting, or stopping arrangements; Automatic stop motions

- 51/02 . General arrangements of driving mechanism
- 51/04 . Manual controls
- 51/06 . using particular methods of stopping
- 51/08 . . stopping at definite point in weaving cycle, or moving to such point after stopping
- 51/10 . . stopping suddenly

51/12	. for adjusting speed	51/30 wherein droppers are suspended on
51/14	. for reducing speed temporarily		individual warp threads or small groups of
51/16	. for varying speed cyclically		threads
51/18	. Automatic stop motions	51/32 Detector healds
51/20	. . Warp stop motions	51/34	. . Weft stop motions
51/22	. . . mechanical	51/36	. . . Centre weft forks
51/24 wherein droppers are suspended on	51/38	. . . Side weft forks
	individual warp threads or small groups of	51/40	. . Shuttle stop motions
	threads	51/42	. . . Loose reed mechanisms
51/26 Detector healds	51/44	. . acting on defective operation of loom mechanisms
51/28	. . . electrical	51/46	. . . of shedding mechanisms

D03J AUXILIARY WEAVING APPARATUS; WEAVERS' TOOLS; SHUTTLES

1/00	Auxiliary apparatus combined with or associated with looms	3/00	Weavers' tools, e.g. knot-tying tools
1/02	. for treating warp, e.g. cleaning, moistening	3/02	. Reed and heald hooks
1/04	. for treating weft	3/04	. Shuttle-threading tools (threading devices in shuttles D03J 5/20)
1/06	. for treating fabric (cutting pile on the loom D03D 39/24)	5/00	Shuttles (swivel shuttles D03D 31/00; shuttles for smallware looms D03D 35/00; circular loom shuttles D03D 37/00; selvedge shuttles D03D 47/46)
1/08	. . for slitting fabric	5/02	. Construction of shuttle body
1/10	. for indicating pattern to weaver	5/04	. . Shuttle tips
1/12	. transferring bobbins between loom and winding station (bobbin-winding machines B65H)	5/06	. Dummy shuttles; Gripper shuttles
1/13	. for leasing warp (leasing in general D02H 9/00) [2]	5/08	. Supports for pirns, bobbins, or cops
1/14	. Apparatus for threading warp stop-motion droppers, healds, or reeds	5/10	. . Pegs or spindles
1/16	. Apparatus for joining warp ends (knot-tying tools D03J 3/00)	5/12	. . . removable
1/18	. . for joining, e.g. tying, a complete series of fresh warp threads to the used warp threads	5/14	. . . pivoted
1/20	. Measuring length of fabric or number of picks woven	5/16	. . Bobbin clamps, e.g. for automatic bobbin-changing loom shuttles
1/22	. Temples	5/18	. . for coreless cops, i.e. shuttles having no peg or bobbin clamp
1/24	. Mirrors or other arrangements for inspecting loom parts	5/20	. Devices in shuttles for threading (separate tools for threading shuttles D03J 3/04)
		5/22	. . for self-threading, i.e. threading automatically when shuttle is picked
		5/24	. Tension devices