

## SECTION D — TEXTILES; PAPER

## D05 SEWING; EMBROIDERING; TUFTING

**D05B SEWING** (appliances for the tailoring trade A41H; sewing tables A47B 29/00; sewing in bookbinding B42B 2/00; sewing machines modified for knitting D04B 39/08)

**Note(s)**

In this subclass, the groups designating sewing apparatus or machines cover also sewing processes dependent on their use, and the thread seams produced thereby.

**Subclass index**

## TYPES OF MACHINES

General types for making thread seams without lateral movement.....	1/00
Special-purpose or automatic machines	
with lateral movement of needle or work.....	3/00
for sewing quilts or mattresses, sacks, leather goods.....	11/00, 13/00, 15/00
for temporarily connecting articles.....	5/00
linking machines; hem-stitch machines; for making thread and welded seams.....	7/00, 9/00, 17/00
programme-controlled.....	19/00, 21/00
Other types of sewing machines.....	23/00
Combination of machines; machines incorporating devices for other purposes than sewing.....	25/00, 81/00

## THE WORK; MACHINE ELEMENTS RELATING THERETO

For feeding, pressing, holding, supplying, or removing the work.....	27/00, 29/00, 31/00, 33/00
Devices for slitting, grooving, or cutting the work.....	37/00
Work-piece carriers, work- collecting devices.....	39/00, 41/00
Other elements relating to the work.....	35/00

## SEWING-THREAD; MACHINE ELEMENTS RELATING THERETO

Needle thread	
spool-pin assemblies.....	43/00
measuring length of thread used; regulating tension; severing thread.....	45/00, 47/00, 65/00
take-up, needle-thread guard, break detectors, thread laying; needle holders.....	49/00, 51/00, 53/00, 55/00
Lower thread	
loop takers; loop manipulators; tension; severing thread.....	57/00, 61/00, 63/00, 65/00
bobbin winding or changing.....	59/00
Lubricating, waxing, or colouring thread.....	67/00

## OTHER ELEMENTS OF SEWING MACHINES; ACCESSORIES

Driving or control; lubricating or cooling; lighting equipment.....	69/00, 71/00, 79/00
Accessories	
guards for operator.....	83/00
casings; frames or tables; covers or portable enclosures.....	73/00, 75/00, 77/00

## HAND SEWING

Tools and accessories; stitches or stitch seams.....	91/00, 93/00
Preparatory or finishing operations.....	95/00
Hand-sewing processes and apparatus for other special work, or not otherwise provided for.....	97/00

## NEEDLES; NEEDLE-THREADING DEVICES; SEAM-RIPPING.....85/00, 87/00, 89/00

**1/00 General types of sewing apparatus or machines without mechanism for lateral movement of the needle or the work or both**

- 1/02 • for making single-thread seams
- 1/04 • • Running-stitch seams
- 1/06 • • Single chain-stitch seams
- 1/08 • for making multi-thread seams
- 1/10 • • Double chain-stitch seams

- 1/12 • • Lock-stitch seams
- 1/14 • • Combined or alternative chain-stitch and lock-stitch seams
- 1/16 • • Pseudo-lock-stitch seams in which the thread loops do not positively interlock (shoe or welt sewing machines D05B 15/02)
- 1/18 • • Seams for protecting or securing edges (zig-zag sewing machines D05B 3/02, D05B 3/04)

## D05B

- 1/20 • • • Overedge seams
- 1/22 • • • • combined with joining or securing seams
- 1/24 • for making blind-stitch seams
- 1/26 • for making fluid-tight seams (sewing machines for concurrently making thread and welded seams D05B 17/00)

### Special-purpose or automatic sewing apparatus or machines

**3/00 Sewing apparatus or machines with mechanism for lateral movement of the needle or the work or both for making ornamental pattern seams, for sewing buttonholes, for reinforcing openings, or for fastening articles, e.g. buttons, by sewing** (programme-controlled sewing machines D05B 19/00; with devices for automatically controlling movement of work-carrier D05B 21/00) [6]

- 3/02 • with mechanisms for needle-bar movement
- 3/04 • with mechanisms for work feed
- 3/06 • for sewing buttonholes (buttonholes A41F 1/02)
- 3/08 • • for buttonholes with eyelet ends
- 3/10 • for making piped openings
- 3/12 • for fastening articles by sewing
- 3/14 • • perforated or press buttons
- 3/16 • • shank buttons
- 3/18 • • hooks or eyelets
- 3/20 • • labels (labelling fabrics otherwise than by sewing B65C 5/00; labels or securing means therefor, in general G09F 3/00)
- 3/22 • • Article-, e.g. button-, feed mechanisms therefor
- 3/24 • formed by general-purpose sewing machines modified by attachments, e.g. by detachable devices

**5/00 Sewing machines for temporarily connecting articles, e.g. pairs of socks**

**7/00 Linking machines, e.g. for joining knitted fabrics**

**9/00 Hem-stitch sewing machines**

**11/00 Machines for sewing quilts or mattresses** (control of workpiece-holding frames, or of sewing machines, in order to obtain particular seam configuration D05B 21/00)

**13/00 Machines for sewing sacks**

- 13/02 • for closing filled bags or sacks (combined with bag- or sack-filling apparatus B65B)

**15/00 Machines for sewing leather goods** (making pseudo-lock-stitch seams D05B 1/16)

- 15/02 • Shoe sewing machines
- 15/04 • • for lock-stitch work (D05B 15/08 takes precedence)
- 15/06 • • Welt sewing machines
- 15/08 • • • for lock-stitch work
- 15/10 • • Lining sewing machines

**17/00 Sewing machines for concurrently making thread and welded seams** (for making non-welded fluid-tight seams D05B 1/26)

**19/00 Programme-controlled sewing machines** (with devices for automatically controlling movement of work-carrier D05B 21/00; devices for stopping drive when sewing tools have reached a predetermined position D05B 69/22)

- 19/02 • Sewing machines having electronic memory or micro-processor control unit [6]
- 19/04 • • characterised by memory aspects [6]
- 19/06 • • • Physical exchange of memory [6]
- 19/08 • • • Arrangements for inputting stitch or pattern data to memory [6]
- 19/10 • • • Arrangements for selecting combinations of stitch or pattern data from memory [6]
- 19/12 • • characterised by control of operation of machine [6]
- 19/14 • • • Control of needle movement, e.g. varying amplitude or period of needle movement [6]
- 19/16 • • • Control of workpiece movement, e.g. modulation of travel of feed dog [6]

**21/00 Sewing machines with devices for automatically controlling movement of work-carrier relative to stitch-forming mechanism in order to obtain particular configuration of seam, e.g. programme-controlled for sewing collars, for attaching pockets**

**23/00 Sewing apparatus or machines not otherwise provided for** (for making zip closures A44B 19/00)

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**25/00 Sewing units consisting of combinations of several sewing machines**

### Sewing-machine elements for feeding, positioning, handling, or treating the work

**27/00 Work-feeding means for sewing machines**

- 27/02 • with feed dogs having horizontal and vertical movements
- 27/04 • • arranged above the workpieces
- 27/06 • • arranged above and below the workpieces
- 27/08 • • with differential feed motions
- 27/10 • with rotary circular feed members
- 27/12 • • rotating continuously
- 27/14 • • rotating discontinuously
- 27/16 • • with differential feed motions
- 27/18 • • Feed cups
- 27/20 • constituted by sewing needles
- 27/22 • with means for setting length of stitch
- 27/24 • Feed-dog lifting and lowering devices
- 27/26 • in machines for sewing leather

**29/00 Pressers or presser feet for sewing machines** (for feeding D05B 27/04)

- 29/02 • Presser-control devices
- 29/04 • Pressers in machines for sewing leather
- 29/06 • Presser feet
- 29/08 • • comprising relatively-movable parts
- 29/10 • • with rollers
- 29/12 • Presser-foot attachment

**31/00 Workpiece holders or hold-downs in machines for sewing leather**

- 31/02 • Welt guides

**33/00 Devices incorporated in sewing machines for supplying or removing the work**

- 33/02 • and connected, for synchronous operation, with the work-feeding devices of the sewing machine

- 35/00 Work-feeding or work-handling elements for sewing machines, not otherwise provided for**
- 35/02 • for facilitating seaming; Hem-turning elements; Hemmers
  - 35/04 • • with movable tools
  - 35/06 • for attaching bands, ribbons, strips, or tapes or for binding
  - 35/08 • for ruching, gathering, casing, or filling lace, ribbons, or bindings; Pleating devices; Cuttlers; Gathering feet; Crimpers; Curlers; Rufflers
  - 35/10 • Edge guides
  - 35/12 • Indicators for positioning work, e.g. with graduated scales
- 37/00 Devices incorporated in sewing machines for slitting, grooving, or cutting** (severing sewing-threads D05B 65/00)
- 37/02 • Slitting or grooving devices
  - 37/04 • Cutting devices
  - 37/06 • • with oscillating tools
  - 37/08 • • with rotatable tools
  - 37/10 • • with heated tools
- 39/00 Workpiece carriers for sewing machines** (for automatically controlling movement of work-carrier to obtain particular configuration of seam D05B 21/00; in general A41H 15/00)
- 41/00 Work-collecting devices for sewing machines**
- Sewing-machine elements for supplying, handling, or treating thread material**
- 43/00 Spool-pin assemblies incorporated in sewing machines**
- 45/00 Applications of measuring devices for determining the length of threads used in sewing machines** (measuring devices in embroidery machines D05C, in general G01B)
- 47/00 Needle-thread tensioning devices for sewing machines; Applications of tensometers in sewing machines**
- 47/02 • Manually-controlled tensioning devices
  - 47/04 • Automatically-controlled tensioning devices
  - 47/06 • Applications of tensometers (application of tension indicators in handling thin or filamentary material B65H 59/40; for embroidery machines D05C 11/08; tensometers in general G01L)
- 49/00 Take-up devices, e.g. levers, for the needle thread of sewing machines**
- 49/02 • operated by cams or linkages
  - 49/04 • rotary
  - 49/06 • for machines for sewing leather
- 51/00 Applications of needle-thread guards in sewing machines; Thread-break detectors for sewing machines** (for embroidery machines D05C 11/00)
- 53/00 Thread- or cord-laying mechanisms for sewing machines; Thread fingers for sewing machines**
- 55/00 Needle holders for sewing machines; Needle bars for sewing machines** (needles D05B 85/00)
- 55/02 • Devices for fastening needles to needle bars
  - 55/04 • Devices for inserting needles
- 55/06 • Needle guides; Needle protectors (finger-protecting devices D05B 83/00)
  - 55/08 • Driving arrangements for curved needles
  - 55/10 • Needle bars for multiple-needle sewing machines
  - 55/12 • • with provision for varying the distance between the needles
  - 55/14 • Needle-bar drives
  - 55/16 • • with provision for disengaging individual needle bars
- 57/00 Loop takers, e.g. loopers, for sewing machines**
- 57/02 • for chain-stitch sewing machines, e.g. oscillating
  - 57/04 • • rotary
  - 57/06 • for overedge-stitch sewing machines
  - 57/08 • for lock-stitch sewing machines
  - 57/10 • • Shuttles
  - 57/12 • • • oscillating
  - 57/14 • • • with rotary hooks
  - 57/16 • • • with bobbin casings guided in tracks
  - 57/18 • • • with bobbin casings held by removable caps
  - 57/20 • • • with bobbin casings held by magnetic forces
  - 57/22 • • with spool-size bobbin for lower thread
  - 57/24 • • • with lower-thread packages mounted for controlled sliding movements
  - 57/26 • Bobbin holders or casings; Bobbin holder or case guards; Bobbin discharge devices
  - 57/28 • Applications of bobbins for storing the lower thread
  - 57/30 • Driving-gear for loop takers
  - 57/32 • • in chain-stitch sewing machines
  - 57/34 • • in overedge-stitch sewing machines
  - 57/36 • • in lock-stitch sewing machines
  - 57/38 • • • Shuttle drives
- 59/00 Applications of bobbin-winding or -changing devices in sewing machines; Indicating or control devices associated therewith**
- 59/02 • Devices for determining or indicating the length of thread still on the bobbin
  - 59/04 • Devices for changing the bobbin
- 61/00 Loop holders; Loop spreaders for sewing machines; Stitch-forming fingers for sewing machines**
- 63/00 Devices associated with the loop-taker thread of sewing machines, e.g. for tensioning**
- 63/02 • Loop-taker thread take-up levers
  - 63/04 • Loop-taker thread guards
- 65/00 Devices for severing the needle or lower thread in sewing machines**
- 65/02 • controlled by the sewing mechanisms
  - 65/04 • controlled by the workpieces
  - 65/06 • and for disposing of the severed thread end
- 67/00 Devices incorporated in sewing machines for lubricating, waxing, or colouring the threads**
- Driving-gear, control, lubricating, or cooling devices for sewing machines**
- 69/00 Driving-gear or control devices for sewing machines**
- 69/02 • Mechanical drives
  - 69/04 • • Manual drives
  - 69/06 • • Pedal drives
  - 69/08 • Fluid drives, e.g. pneumatic
  - 69/10 • Electrical or electromagnetic drives

## D05B

- 69/12 • • using rotary electric motors
- 69/14 • Devices for changing speed or for reversing direction of rotation
- 69/16 • • mechanical
- 69/18 • • electric
- 69/20 • Control devices responsive to the number of stitches made
- 69/22 • Devices for stopping drive when sewing tools have reached a predetermined position (electric motor control systems in general H02P)
- 69/24 • • Applications of devices for indicating or ascertaining sewing-tool position
- 69/26 • • with automatic means to reduce speed of drive, e.g. in one or more steps
- 69/28 • Applications of servo devices for tool-positioning purposes
- 69/30 • Details (work-feeding drives D05B 27/00; needle-bar drives D05B 55/14; loop-taker drives D05B 57/30)
- 69/32 • • Vibration-minimising devices
- 69/34 • • Hand-wheel clutches
- 69/36 • Devices for stopping drive when abnormal conditions occur, e.g. thread breakage

### 71/00 Lubricating or cooling devices for sewing machines

- 71/02 • Loop-taker lubricating devices
- 71/04 • Needle cooling devices

### Casings, supports, covers, or accessories for sewing machines; Sewing machines combined with auxiliary devices serving purposes other than sewing

#### 73/00 Casings for sewing machines

- 73/02 • Upper casings
- 73/04 • Lower casings
- 73/06 • • for free-arm sewing machines
- 73/08 • • for column-type sewing machines
- 73/10 • • Devices for converting free-arm sewing machines into flat-bed machines
- 73/12 • • Slides; Needle plates

#### 75/00 Frames, stands, tables, or other furniture adapted to carry sewing machines (furniture aspects A47B, A47C)

- 75/02 • for drop-head sewing machines
- 75/04 • with noise-suppressing devices
- 75/06 • Arrangements, e.g. hinges, for mounting sewing-machine casings to frames, stands, or tables

#### 77/00 Covers, or portable enclosures, for sewing machines

#### 79/00 Incorporations or adaptations of lighting equipment for sewing machines

#### 81/00 Sewing machines incorporating devices serving purposes other than sewing, e.g. for blowing air, for grinding

## D05C EMBROIDERING (programme-controlled sewing machines with embroidering capability D05B 19/00, D05B 21/00); TUFTING (making non-woven fabrics D04H; sewing D05B)

### Subclass index

HAND EMBROIDERY.....	1/00
EMBROIDERING MACHINES	
General types of machines.....	3/00
Machines with automatic control or for special kinds of embroidery.....	5/00, 7/00

## 83/00 Guards or like devices for preventing injury to operator of sewing machines (machine safety devices in general F16P)

### Needles; Needle threaders; Seam-ripping devices

#### 85/00 Needles (surgical needles A61B 17/06; manufacture of needles B21G 1/00)

- 85/02 • with slotted eyes
- 85/04 • Spring or bearded needles
- 85/06 • Curved needles
- 85/08 • Flexible needles
- 85/10 • Hollow needles
- 85/12 • Coated needles
- 85/14 • Latch needles

#### 87/00 Needle-threading devices

- 87/02 • with mechanical means for moving thread through needle eye
- 87/04 • with optical devices to assist threading

#### 89/00 Seam-ripping devices

### Hand sewing

#### 91/00 Tools, implements, or accessories for hand sewing (needles, needle threaders D05B 85/00, D05B 87/00; appliances for the tailoring trade A41H)

- 91/02 • Bodkins
- 91/04 • Thimbles; Finger shields; Palm protectors
- 91/06 • Work holders or supports
- 91/08 • • Mushrooms; Darning eggs
- 91/10 • • Hoops or frames (for embroidery D05C)
- 91/12 • Tool receptacles
- 91/14 • Thread-spool pins
- 91/16 • Thread-spool receptacles

#### 93/00 Stitches; Stitch seams for hand sewing

- 93/02 • strengthened by auxiliary elements, e.g. rivets, staples

#### 95/00 Preparatory or finishing operations in connection with hand sewing

- 95/04 • Softening material prior to sewing
- 95/06 • Flattening, pounding, or pressing stitched seams (in shoemaking A43D 8/44)

#### 97/00 Hand sewing processes or apparatus for special work or not otherwise provided for

- 97/02 • Hand-guided apparatus
- 97/04 • for darning
- 97/06 • • using apparatus with latch or bearded needles
- 97/08 • using special threads or wires
- 97/10 • for attaching buttons or fasteners
- 97/12 • for attaching patches or like small pieces of fabric

Details.....	9/00, 11/00, 13/00
Auxiliary devices.....	13/00
MAKING PILE FABRICS BY INSERTING LOOPS.....	15/00
EMBROIDERED OR TUFTED PRODUCTS.....	17/00

<b>1/00 Apparatus, devices, or tools for hand embroidering</b>	11/10	• • Guides, e.g. resilient
1/02 • Work frames	11/12	• • Rollers
1/04 • • circular	11/14	• • Stop motions responsive to thread tension or breakage
1/06 • Needles specially adapted for hand embroidering (sewing needles D05B 85/00); Holders for needles or threads	11/16	• Arrangements for repeating thread patterns or for changing threads
1/08 • Patterns for hand embroidering; Manufacture thereof	11/18	• Shuttles
	11/20	• Arrangements for cutting the needle or lower threads
	11/22	• Arrangements for cutting-out broken threads
	11/24	• incorporating devices for dyeing or impregnating the threads
<b>Embroidering machines</b>		
<b>3/00 General types of embroidering machines</b>		
3/02 • with vertical needles	<b>13/00</b>	<b>Auxiliary devices incorporated in embroidering machines, not otherwise provided for; Ancillary apparatus for use with embroidering machines</b>
3/04 • with horizontal needles		
<b>5/00 Embroidering machines with arrangements for automatic control of a series of individual steps</b>	13/02	• Counting, measuring, indicating, warning, or safety devices
5/02 • by electrical or magnetic control devices	13/04	• Lubricating devices
5/04 • by input of recorded information, e.g. on perforated tape	13/06	• Apparatus for filling or threading shuttles
5/06 • • with means for recording the information		
<b>7/00 Special-purpose or automatic embroidering machines</b>		
7/02 • with accessories for peculiar kinds of embroidery	<b>15/00</b>	<b>Making pile fabrics or articles having similar surface features by inserting loops into a base material (layered products B32B; non-woven pile fabrics D04H 11/00)</b>
7/04 • for boring or jogging	15/02	• Rooting of hair in doll heads or wigs (wigs A41G 3/00; hair or wigs for doll heads A63H 3/44)
7/06 • for embroidering festoons	15/04	• Tufting
7/08 • for attaching cords, tapes, bands, or the like	15/06	• • Hand tufting needles
7/10 • for separating and burning-off parts of the base fabric (making patterns or designs on fabrics by singeing or etching D06C 23/02)	15/08	• • Tufting machines
7/12 • for making cotton buttons	15/10	• • • operating with a plurality of needles, e.g. in one row
<b>9/00 Appliances for holding or feeding the base fabric in embroidering machines</b>	15/12	• • • • in more than one row
9/02 • in machines with vertical needles	15/14	• • • Arrangements or devices for holding or feeding the base material (D05C 15/26 takes precedence)
9/04 • • Work holders, e.g. frames	15/16	• • • Arrangements or devices for manipulating threads (D05C 15/26 takes precedence)
9/06 • • • Feeding arrangements therefor, e.g. influenced by patterns, operated by pantographs	15/18	• • • • Thread feeding or tensioning arrangements
9/08 • in machines with horizontal needles	15/20	• • • • Arrangements or devices, e.g. needles, for inserting loops; Driving mechanisms therefor
9/10 • • Work holders or carriers	15/22	• • • • Loop-catching arrangements, e.g. loopers; Driving mechanisms therefor
9/12 • • • Holding or stretching arrangements for the base fabric in embroidery work holders	15/24	• • • • Loop cutters; Driving mechanisms therefor
9/14 • • • Suspension or balancing arrangements therefor	15/26	• • • • with provision for producing patterns
9/16 • • • Feeding arrangements therefor	15/28	• • • • by moving the base material laterally
9/18 • Movement of the base fabric in one of the two directions controlled by embroidering needles	15/30	• • • • by moving the tufting tools laterally
9/20 • Movement of the base fabric controlled by the presser feet; Driving arrangements therefor	15/32	• • • • by altering the loop length
9/22 • Adjusting or registering devices for the base fabric, e.g. for alignment with respect to the needles	15/34	• • • • by inserting loops of different nature or colour
<b>11/00 Devices for guiding, feeding, handling, or treating the threads in embroidering machines; Machine needles; Operating or control mechanisms therefor</b>	15/36	• • • • by selective cutting of loops
11/02 • Machine needles	15/38	• by passing thread material in zig-zag manner through spaced layers of base material and subsequently cutting along a central plane
11/04 • • Arrangements for fastening or inserting in bars or carriers		
11/06 • • Needle-driving or control mechanisms		
11/08 • Thread-tensioning arrangements		

**D05C**

**17/00 Embroidered or tufted products; Base fabrics specially adapted for embroidered work; Inserts for producing surface irregularities in embroidered**

**products** (layered products B32B; non-woven pile fabrics D04H 11/00)

17/02 • Tufted products