

CLASS 66, TEXTILES: KNITTING**SECTION I - CLASS DEFINITION**

The manufacture of fabric structures from strands by forming loops and drawing the bights thereof through previously-formed loops.

- (1) Note. The class includes articles and products involving any significant step of knitting and articles peculiarly adapted to be produced by significant knitting steps even when the production of such articles includes or involves subsequent operations, as sewing or cutting, to complete them.
- (2) Note. Certain parts of knitting machines have been regarded as elements and have been placed after the "Machine" subclasses of this class. See Subclass References to this Class, below, for specific subclasses.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

For combined knitting and weaving, see Class 139, Textiles: Weaving, subclasses 1 and 383.

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:
90, 114, 116, 125, 147, 157, 168, and 231+, and indented subclasses, for certain parts of knitting machines that have been regarded as elements and have been placed after the "Machine" subclasses of this class.

SUBCLASSES

- 1 MISCELLANEOUS:**
This subclass is indented under the class definition. Inventions coming within this class, but not especially provided for.
- 1.5 REKNITTING:**
This subclass is indented under the class definition. Methods, machines and instruments for repairing holes or runs in knitted fabrics to restore the original interlooped condition of the

threads whose distortion from loop form has caused the run.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for darning, and for lasts.
116+, for needles used in reknitting.

SEE OR SEARCH CLASS:

223, Apparel Apparatus, subclass 100 for lasts.

2 DARNING:

This subclass is indented under the class definition. The repairing of holes in a fabric by means of instruments designed to draw strands initially through the fabric and thereafter to knit sufficient fabric to close the hole.

SEE OR SEARCH CLASS:

112, Sewing, subclass 121.

3 LOOPER PIN AND HOOK:

This subclass is indented under the class definition. In place of the usual needles there is a bank of pins or hooks adapted to receive a strand, but not adapted to draw the new strand loop through the old, the loop drawing or casting being performed by other means.

4 Hand:

This subclass is indented under subclass 3. The new loop is cast over the old by a hand-carried implement.

5 UNITED NEEDLE KNITTING AND INDEPENDENT NEEDLES:

This subclass is indented under the class definition. The needles are actuated to partake of their knitting movements as a unit bank, but are independently mounted so as to permit of ready and usually automatic addition to or removal from the bank of certain needles at desired times, or needles may knit independently in conjunction with united needle knitting.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, 82, and indented subclasses.

- 6 With independent needle knitting:**
This subclass is indented under subclass 5. Some of the needles partake of their knitting movements as a unit, while other needles move independently and in succession.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
7+,
- 7 INDEPENDENT-NEEDLE MACHINES:**
This subclass is indented under the class definition. The needles are not secured together, but move in succession to draw the loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6,
- 8 Circular:**
This subclass is indented under subclass 7. The knitting line is always a true circle.
- 9 Incorporating unknit or fleece-type materials:**
This subclass is indented under subclass 8. Material is combined with the knitting strand, which material is not knit into the fabric, but held thereto by the knitting strands, or material is knit in with the body fabric, but of a character and so incorporated as to be napped up or constitute loop piles.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
61, 80, 83, 91, 94, 190, 194, and any subclasses indented thereunder.
- SEE OR SEARCH CLASS:
53, Package Making, appropriate subclasses for methods of and apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting or unit handling the goods or materials, particularly subclasses 582+ for apparatus to form a package by placing a band about the contents.
- 10 Warp and weft type:**
This subclass is indented under subclass 9. Wherein the unknit material consists of overlapping but not interwoven longitudinal and transverse strands.
- (1) Note. Where interwoven, search Class 139, Textiles: Weaving, subclass 1.
- 11 Laterally displaceable needle:**
This subclass is indented under subclass 9. Needles are moved in a direction at right angles to their knitting motion to avoid certain strands or the production of certain stitches.
- (1) Note. Does not include lateral displacement of needles for engagement with beard pressers.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, 35, 66, 72, and any subclasses indented thereunder.
100, for lateral displacement of needles for engagement with beard pressers.
- 12 Varied needle:**
This subclass is indented under subclass 9. A bank of needles includes needles of different types either to facilitate the throwing into or out of action of certain needles or to change the character of the knitting when different type needles are knitting.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
20, 38-49, 68, and 74.
- 13 Special-type machines:**
This subclass is indented under subclass 8. The independent movements of the needles are actuated by means other than cams having a plow action directly on the needle butts to cause reciprocation of the same in the needle grooves or on butts on members or jacks that move in the needle grooves and with the needles in the movements of the same. Also includes machines having special means for operating other needles than the ordinary single-ended pivoted-latch or spring-beard needle.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
62, 63 and 120.
- 14 Doubl-ended needle:**
This subclass is indented under subclass 13. The two ends of the needles are adapted to act at different times as loop drawing members.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
63,
- 15 Swing jack needle, dail and cylinder:**
This subclass is indented under subclass 13. Where there are two needle beds of which one needle bed is flat with the needles radially arranged, while the other is cylindrical with the needles arranged to slide lengthwise of the same. The strand-engaging ends of the needles of one bed are bent substantially at right angles to the shank or jack portions, and the jacks are mounted upon a pivot and constitute levers for carrying and actuating the needles.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
19+,
- 16 Axially reciprocating actuator:**
This subclass is indented under subclass 13. The means for actuating the needles in their knitting movements is moved substantially in line with the movements of the needles, but is not carried in the needle grooves.
- 17 Multiple-needle bank:**
This subclass is indented under subclass 8. A plurality of series of needles are employed which are adapted to cooperate in knitting at substantially the same place and usually designed to produce rib fabric.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
64+,
- 18 Opposed conical:**
This subclass is indented under subclass 17. Conical needle beds are arranged one above or axially aligned with the other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
34,
- 19 Dial and cylinder:**
This subclass is indented under subclass 17. One needle bed is flat with the needles radially arranged, while the other is cylindrical with the needles arranged to slide lengthwise of the same.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
15, 31 and indented subclasses.
- 20 Varied needle, frequently with special stitch:**
This subclass is indented under subclass 19. A bank of needles includes needles of different types either to facilitate the throwing into or out of action of certain needles or to change the character of the knitting when different type needles are knitting, sometimes employing stitches other than plain or rib for producing ornamental or other effects, frequently tuck, drop, and other fancy stitches. Includes stitch-length variation when designed for special stitch work, but not when employed for fashioning.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12, and 25, and see search notes thereunder.
- 21 Pocket welt, frequently with special stitch:**
This subclass is indented under subclass 19. One bank of needles retains its stitches while the other bank knits a section of plain fabric, after which the first set of needles resumes knitting, thus connecting its loops with the loops on the other bank, whereby rib fabric may be knit, sometimes employing stitches other than plain or rib for producing ornamental or other effects, frequently tuck, drop, and other fancy stitches. Includes stitch-length variation when designed for special stitch work, but not when employed for fashioning.
- (1) Note. See this class, subclass 25, and the search notes thereunder.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
41, 95, 172, and any subclasses indented thereunder.
- 22 Two-ply simultaneously knit:**
This subclass is indented under subclass 21. Each bank knits an independent web from separate yarn feed until completion of the welt, when one feed may be discontinued and rib fabric knit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
173,
- 23 With stitch-length variation:**
This subclass is indented under subclass 21. Means is provided to cause the needles to draw loops of different lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
27, 54, 55, 71, and 77.
- 24 To or from rib or rib change:**
This subclass is indented under subclass 19. The needle banks so cooperate as to change from plain to rib fabric or vice versa or to change from one type of rib to another at will. (For definition of "rib" see ...).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
29, and 199.
- 25 Special stitch:**
This subclass is indented under subclass 19. Embodying stitches other than plain or rib for producing ornamental or other effects, frequently tuck, drop, and other fancy stitches. Includes stitch-length variation when designed for the same purposes, but not when employed for fashioning.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
20, 21, 36, 40, 69, 75.1+, 103, 135, 172, 180, 198, 215+, and any subclasses indented thereunder.
- 26 Racking:**
This subclass is indented under subclass 25. Change in the character of stitch is produced by a relative circumferential shifting of the needle beds.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
69,
- 27 Stitch-length variation:**
This subclass is indented under subclass 19. Means is provided to cause the needles to draw loops of different lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
23, and see search notes thereunder.
- 28 Dial and cylinder connections:**
This subclass is indented under subclass 19. Means is provided designed to prevent one of the beds turning relatively to the other during continuous circular knitting.
- 29 To or from rib or rib change:**
This subclass is indented under subclass 17. The needle banks so cooperated as to change from plain to rib fabric or vice versa or to change from one type of rib to another at will.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
24, and 199.
- 30 Narrowing and widening:**
This subclass is indented under subclass 17. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
32, 37, 39, 46, 51, 67, 70, 73, 76, 89, 183, 189, and any subclasses indented thereunder.
- 31 Dial:**
This subclass is indented under subclass 8. Limited to a flat circular needle bed with the needles radially disposed.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
15, and 19, and indented subclasses.
- 32 Narrowing and widening:**
This subclass is indented under subclass 31. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see the search notes thereunder.
- 33 Laterally displaceable needle:**
This subclass is indented under subclass 32. The insertion or removal of wales results from the sidewise displacement of the fashioning needles.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, and see the search notes thereunder.
- 34 Conical:**
This subclass is indented under subclass 8. The needle bed is a truncated cone.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
18,
- 35 Laterally displaceable needle:**
This subclass is indented under subclass 8. Needles are moved in a direction at right angles to their knitting motion to avoid certain strands or the production of certain stitches.
- (1) Note. Does not include lateral displacement of needles for engagement with beard pressers.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, and see the search notes thereunder.
100, for lateral displacement of needles for engagement with beard pressers.
- 36 Special stitch:**
This subclass is indented under subclass 35. Employing stitches other than plain for producing ornamental or other effects, frequently tuck, drop, and other fancy stitches. Includes stitch-length variation when designed for the same purposes, but not when employed for fashioning.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
25, and see the search notes thereunder.
- 37 Narrowing and widening:**
This subclass is indented under subclass 35. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see the search notes thereunder.
12, and see search notes thereunder.
- Independent-Needle Machines, Circular, Varied Needle.**
A bank of needles includes needles of different types either to facilitate the throwing into or out of action of certain needles or to change the character of the knitting when different type needles are knitting.
- 38 Separate cam paths:**
There are a plurality of complete sets of cams at different levels each specially designed for controlling its particular set of needles.
- 39 Narrowing and widening:**
This subclass is indented under subclass 38. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see the search notes thereunder.
- 40 Special stitch:**
Employing stitches other than plain for producing ornamental or other effects, frequently tuck, drop, and other fancy stitches. Includes stitch-length variation when designed for the same purposes, but not when employed for fashioning.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
25, and see the search notes thereunder.

- 41 Welt or antiravel:**
This subclass is indented under subclass 40. Change in the character of stitch consists in varying the needle action to produce a circumferential bunching of the strand, wherein certain of the needles retain their loops, while the remaining needles knit.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
95, 172, and indented subclasses.
- 42 Multifeed:**
This subclass is indented under subclass 40. A plurality of strands are fed from different stations with a needle-actuating means corresponding to each station.
- 43 Suture forming:**
This subclass is indented under subclass 42. One section of the needles (usually half) takes a strand from one feed, while the other section of needles takes a strand from another, the resultant fabric sections being interlocked by the adjacent end needles of two sections taking strands from both feeds.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
179,
- 44 With varied latch:**
This subclass is indented under subclass 40. The variation in the character of stitch is due to certain of the needle latches being longer than the others.
- 45 Hand coverings, forming:**
Peculiarly adapted to produce gloves or mittens.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
65, and 174.
- 46 Narrowing and widening:**
Wherein the fabric is enlarged or diminished by the addition or dropping of wales.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 47 With needle-actuated pickers:**
This subclass is indented under subclass 46. Includes elements which are adapted to move end needles of a series into or out of action, the movements of the elements being initiated by contact of the relatively advancing end needle therewith.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
52, and 53.
- 48 Rotary needle carrier:**
This subclass is indented under subclass 47. The needle carrier by its rotation moves the needles along the cam path.
- 49 Splicing:**
An additional strand is knit in with the main strand for reenforcing purposes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
182,
- 51 Narrowing and widening:**
This subclass is indented under subclass 8. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 52 With needle-actuated pickers:**
This subclass is indented under subclass 51. Includes elements which are adapted to move end needles of a series into or out of action, the movements of the elements being initiated by contact of the relatively advancing end needle therewith.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
47, and 48.
- 53 Needle-actuated pickers:**
This subclass is indented under subclass 52. Limited to pickers and picker control.

- 54** **Stitch-length variation:**
This subclass is indented under subclass 8. Means is provided to cause the needles to draw loops of different lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
23, and see search notes thereunder.
- 55** **Axial cylinder adjustment:**
This subclass is indented under subclass 54. By moving the needle or cam cylinders in an axial direction. Includes adjustments of conical needle beds.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
59,
- 56** **Cylinder movement or speed change:**
This subclass is indented under subclass 8. Devices for changing from continuous rotating to oscillating motion; change-speed mechanisms and the like.
- 57** **Needle-cam construction:**
This subclass is indented under subclass 8. The structure of the needle-actuating cams, per se, other than modifications of the cam structure designed to produce special work.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
78,
- 58** **Preparing for transfer:**
This subclass is indented under subclass 8. Means designed to arrange or operate the needles and other parts of the knitting machine to receive the loops of a previously knit web or to arrange or operate the needles so that the stitches of the knit web may be readily removed and applied to another machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
148,
- 59** **Including axial cylinder movement:**
This subclass is indented under subclass 58. By moving the needle or cam cylinders in an axial direction. Includes adjustments of conical needle beds.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
55,
- 60** **Straight:**
This subclass is indented under subclass 7. The knitting line is always straight.
- 61** **Incorporating unknit or fleecy-type materials:**
This subclass is indented under subclass 60. Material is combined with the knitting strand, which material is not knit into the fabric, but held thereto by the knitting strands, or material is knit in with the body fabric, but of such a character and so incorporated as to be napped up or constitute pile loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
9, and see search notes thereunder.
- 62** **Special-type machines:**
This subclass is indented under subclass 60. The independent movements of the needles are actuated by means other than cams having a plow action directly on the needle butts to cause reciprocation of the same in the needle grooves or on butts on members or jacks that move in the needle grooves and with the needles in the movements of the same. Also includes machines having special means for operating other needles than the ordinary single-ended pivoted-latch or spring-beard needles.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
13, and 120.
- 63** **Double-ended needle:**
This subclass is indented under subclass 62. The two ends of the needles are adapted to act at different times as loop-drawing members.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14,
- 64** **Multiple-needle bank:**
This subclass is indented under subclass 60. A plurality of series of needles are employed which are adapted to cooperate in knitting at

- substantially the same place and usually designed to produce rib fabric.
- 65 Hand coverings, forming:**
This subclass is indented under subclass 64. Peculiarly adapted to produce gloves or mittens.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
45, and 174.
- 66 Laterally displaceable needle:**
This subclass is indented under subclass 64. Needles are moved in a direction at right angles to their knitting motion to avoid certain strands or the production of certain stitches.
- (1) Note. Does not include lateral displacement of needles for engagement with beard pressers, for which search this class, subclass 100.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, and see search notes thereunder.
- 67 Narrowing and widening:**
This subclass is indented under subclass 66. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 68 Varied needle:**
This subclass is indented under subclass 64. A bank of needles includes needles of different types either to facilitate the throwing into or out of action of certain needles or to change the character of the knitting when different type needles are knitting.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12, and see search notes thereunder.
- 69 Racking:**
This subclass is indented under subclass 64. Change in the character of the stitch is produced by a relative shifting of the needle beds parallel to the knitting line.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
26,
- 70 Narrowing and widening:**
This subclass is indented under subclass 64. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 71 With stitch-length variation:**
This subclass is indented under subclass 64. Means is provided to cause the needles to draw loops of different lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
23, and see search notes thereunder.
- 72 Laterally displaceable needle:**
This subclass is indented under subclass 60. Needles are moved in a direction at right angles to their knitting motion to avoid certain strands or the production of certain stitches.
- (1) Note. Does not include lateral displacement of needles for engagement with beard pressers, for which search this class, subclass 100.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
11, and see search notes thereunder.
- 73 Narrowing and widening:**
This subclass is indented under subclass 72. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 74 Varied needle:**
This subclass is indented under subclass 60. A bank of needles includes needles of different types either to facilitate the throwing into or out of action of certain needles or to change the character of the knitting when different type needles are knitting.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12, and see search notes thereunder.
- 75.1 Special stitch:**
This subclass is indented under subclass 60. Device wherein a regulating means is provided for controlling the movement of knitting instrumentalities to produce an ornamental or other special pattern fabric.
- (1) Note. Examples of the type of operations controlled by the regulating means of this subclass are variations in stitch length to produce an ornamental or special effect and not merely to effect fashioning of a garment, manipulations of a knitting instrumentality, or produce a tuck, drop or other fancy stitch, etc.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
25, for circular knitting machines having means enabling them to make special stitches, and see the search notes thereunder.
- 75.2 Fluid pressure, electric or magnetic stitch selector control means:**
This subclass is indented under subclass 75.1. Device wherein the regulating means includes (a) hydraulic or pneumatic means, (b) means responsive to variations in electrical impulses, or (c) means responsive to variations in magnetic lines of flux.
- 76 Narrowing widening:**
This subclass is indented under subclass 60. Wherein the fabric is enlarged or diminished by the addition or dropping of wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, and see search notes thereunder.
- 77 With stitch-length variation:**
This subclass is indented under subclass 60. Means is provided to cause the needles to draw loops of different lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
23, and see search notes thereunder.
- 78 Needle-cam construction:**
This subclass is indented under subclass 60. The structure of the needle-actuating cams, per se, other than modifications of the cam structure designed to produce special work.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
57,
- UNITED NEEDLE MACHINES:**
The needles are secured together and have no independent strand-taking and loop-drawing movements.
- 79 Circular:**
The needles are secured together and have no independent strand-taking and loop-drawing movements. The knitting line is always a true circle.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
5, and 6.
- 80 Incorporating unknit or fleecy-type materials:**
This subclass is indented under subclass 79. Material is combined with the knitting strand, which material is not knit into the fabric, but held thereto by the knitting strands, or material is knit in with the body fabric, but of a character and so incorporated as to be napped up or constitute pile loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
9, and see search notes thereunder.
- SEE OR SEARCH CLASS:
53, Package Making, appropriate subclasses for methods of and apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting or unit handling the goods or materials, particularly subclasses 582+ for apparatus to form a package by placing a band about the contents.

- 81 Warp:**
This subclass is indented under subclass 79. Usually there are as many strands as needles and each needle knits from a separate strand.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
84, 85, 87, 192, 193, and 195.
- 82 Straight:**
The needles are secured together and have no independent strand-taking and loop-drawing movements. The knitting line is always straight.
- 83 Incorporating unknit or fleece-type materials:**
This subclass is indented under subclass 82. Material is combined with the knitting strand, which material is not knit into the fabric, but held thereto by the knitting strands, or material is knit in with the body fabric, but of a character and so incorporated as to be napped up or constitute pile loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
9, and see search notes thereunder.
- 84 Warp:**
This subclass is indented under subclass 83. Usually there are as many knitting strands as needles and each needle knits from a separate strand.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
81, and see search notes thereunder.
- 85 Crotchet type:**
This subclass is indented under subclass 84. Each needle knits continually from the same strand, the several resultant chain stitches being connected together by the other material.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
193,
- 87 Multiple-needle bank:**
This subclass is indented under subclass 203. A plurality of series of needles are employed which are adapted to cooperate in knitting at substantially the same place.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
88,
- 88 Multiple-needle bank:**
This subclass is indented under subclass 82. A plurality of series of needles are employed which are adapted to cooperate in knitting at substantially the same place.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
87,
- 89 Narrowing and widening, frequently with loop traversing:**
This subclass is indented under subclass 82. Wherein the fabric is enlarged or diminished by the addition or dropping of wales, frequently by devices constructed and designed to remove stitches from certain needles and place them on others.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, 96 and 198, and see search notes thereunder.
- 90 NEEDLE COOPERATING ELEMENTS:**
This subclass is indented under the class definition. Devices designed to assist the needles in forming knit fabric and located adjacent the knitting point.
- (1) Note. Does not include feeding, for which see subclass 125.
- 91 Pile loop formers:**
This subclass is indented under subclass 90. For causing strand structure to stand out from the base of the fabric in the form of loops.
- 92 For needle dial and cylinder machines:**
This subclass is indented under subclass 91. For use with machines having one needle bed which is flat with the needles radially arranged

- while the other is cylindrical with the needles arranged to slide lengthwise of the same.
- 93 Radially slidable:**
This subclass is indented under subclass 91. Moving in straight lines substantially perpendicular to the axis of the cylinder.
- 94 Wheels, nonlooping, fleece type:**
This subclass is indented under subclass 90. Devices coming and arranged at the periphery of a rotatable wheel for combining a strand, adapted to be napped, with the main strand without causing loops to stand up from the fabric.
- 95 Loop traversers or holders:**
This subclass is indented under subclass 90. Devices constructed and designed to remove stitches from certain needles and place them on other needles or devices constructed to hold loops while the needles are knitting a series of courses as in forming a welt.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
24, for transferring means (including modified needles) combined with dial and cylinder structure.
89, for united needle straight knitting machines including narrowing and widening means.
123, for needles modified to permit their functioning as loop or stitch transferring means.
189, for fashioned knitted garments.
198+, for knitted fabrics in which occur loops displaced from wale to wale or from one course to another in the same wale.
- 96 For straight machines:**
This subclass is indented under subclass 95. Used in connection with machines in which the knitting line is always straight.
- 97 Wheel:**
This subclass is indented under subclass 95. Arranged at the periphery of a rotatable wheel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
103, 105 and 113.
- 98 Beard pressers:**
This subclass is indented under subclass 90. Devices arranged to close the beards of spring-beard needles.
- 99 With press-off preventers:**
This subclass is indented under subclass 98. For throwing the beard pressers out of operation to avoid the casting off of the fabric from the needles.
- 100 Needle displacement:**
This subclass is indented under subclass 98. Adapted to move the upper or bearded ends of the needles against the beard pressers.
- 101 Individually movable:**
This subclass is indented under subclass 98. Adapted to be separately movable to and from the beards to close the same.
- 102 Sliding:**
This subclass is indented under subclass 101. Movable in substantially a straight line.
- 103 Special stitch wheels:**
This subclass is indented under subclass 98. Arranged at the periphery of a rotatable wheel so constructed that the beards of all the needles are not pressed in every course, thus producing special stitch work in the fabric.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
97, and see search notes thereunder.
- 104 Sinkers or web holders:**
This subclass is indented under subclass 90. Arranged to act on the strand or web to maintain the same under proper tension and assist in the casting off of the new loops.
- (1) Note. See this class, subclass 149, and indented subclasses, for web holders not located at the knitting point.
- 105 Wheel:**
This subclass is indented under subclass 104. Arranged at the periphery of a rotatable wheel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
97, and see search notes thereunder.

- 106 Pivoted:**
This subclass is indented under subclass 104. Arranged to swing to or from operative position in the arc of a circle.
- 107 Radially slidable:**
This subclass is indented under subclass 104. Moving in straight lines substantially perpendicular to the axis of the cylinder.
- 108 Movable cam sections:**
This subclass is indented under subclass 107. Portions of cams for imparting movement to the sinkers are movable with respect to the cam carrier to vary the movement of the sinkers.
- 109 For straight machines:**
This subclass is indented under subclass 104. Arranged to cooperate with machines in which the knitting line is always straight.
- 110 Transversely slidable:**
This subclass is indented under subclass 109. Arranged to move in straight lines substantially perpendicular to the needles.
- 111 Pivoted latch actuators:**
This subclass is indented under subclass 90. Limited to means adapted to open or close the latches of pivoted-latch needles or to maintain them open or closed.
- 112 Gap closers:**
This subclass is indented under subclass 111. Constructions arranged to close or maintain closed a gap formed in a ring arranged around the needles outside the latches.
- 113 Wheel:**
This subclass is indented under subclass 90. Arranged at the periphery of a rotatable wheel. Includes many cast-off wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
97, and see search notes thereunder.
- 114 NEEDLE BEDS:**
This subclass is indented under the class definition. Construction of cylinders and other supports for machine needles and devices arranged to cooperate therewith to maintain the needles in the bed.
- 115 Independent needle:**
This subclass is indented under subclass 114. Arranged to support needles for independent actuation.
- 116 NEEDLES:**
This subclass is indented under the class definition. The primary knitting elements, frequently hooked in machine type, for engaging the strand to form the new loops and pull them through the old ones.

SEE OR SEARCH CLASS:
163, Needle and Pin Making, subclasses 2+.
- 117 Hand:**
This subclass is indented under subclass 116. Adapted to be held in the hand.
- 118 Crochet:**
This subclass is indented under subclass 117. Designed for the production of a chain of loops in which each loop is drawn through the preceding one.
- 119 Spring beard:**
This subclass is indented under subclass 116. Having resilient hooked ends adapted to be flexed to close the hooks for the casting off of loops.
- 120 Sliding latch:**
This subclass is indented under subclass 116. Having hooked ends and bars each movable substantially in a straight line for closing the hooks.

SEE OR SEARCH THIS CLASS, SUBCLASS:
13, and 62.
- 121 Pivoted latch:**
This subclass is indented under subclass 116. Having hooked ends and bars each swinging about a point for closing the hooks.

SEE OR SEARCH CLASS:
163, Needle and Pin Making, subclass 3.

- 122 Latch pivots:**
This subclass is indented under subclass 121. Limited to the construction of the pivot for the latch.
- 123 Shanks:**
This subclass is indented under subclass 116. The construction of machine needles other than the portion which contacts with the yarn.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
95, for needles modified to permit them to act as means for transferring stitches to other needles.
- 124 Self-frictioning:**
This subclass is indented under subclass 123. The shanks are constructed to frictionally engage the walls of the needle bed to maintain the needles in any given position.
- 125 FEEDING:**
This subclass is indented under the class definition. Means for conducting strands into the field of action of the needles or the needle-cooperating elements and operating devices for such means.
- SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, appropriate subclasses for methods of, and apparatus for, feeding material without utilizing the leading or trailing ends to effect movement of the material.
- 126 Traversing guides, straight machine:**
This subclass is indented under subclass 125. Guides arranged to move to-and-fro along a straight knitting line.
- SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 476.7+ for traversing guides for winding machines.
- 127 Alternately idled guides:**
This subclass is indented under subclass 126. Guides are thrown into and out of feeding position to the needles with peculiar intercontrol, whereby the incoming guide replaces the guide thrown out of action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
138+,
- 128 Partial traverse:**
This subclass is indented under subclass 126. The traversing movement of the guides is at times less than the maximum traverse requisite to feed the strand to all the needles.
- 129 With additional strand:**
This subclass is indented under subclass 128. Additional means is provided to feed reinforcing or other strands as well as the main strand.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
133, 142, and indented subclasses.
- 130 Shock reducers:**
This subclass is indented under subclass 126. Means for gradually decreasing the speed of the guide carrying means at the ends of the traverse.
- 131 Close-feed devices:**
This subclass is indented under subclass 125. Means specialized for bringing the strand into close engagement with the needles and not falling in the group.
- 132 Positive:**
This subclass is indented under subclass 125. Means other than the knitting elements for engaging the strands and advancing them.
- 133 Additional strand idled guide:**
This subclass is indented under subclass 125. Means for feeding a reinforcing or separate strand to the needles consisting of a guide carrying such strand and adapted to be moved to or from feeding position at will.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
129, 142 and any subclasses indented thereunder.
- 134 With clamp or cutter:**
This subclass is indented under subclass 133. Includes means for gripping and holding the idle strand or a rupturing edge for severing the strand that is thrown out of action.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
140, 142, 145 and any subclasses indented thereunder.
- 135 Needle-wrapping type:**
This subclass is indented under subclass 133. Guides are caused to move to feed the strand between the needles as well as along the line of knitting, thereby causing the strand to pass entirely or partially around one or more needles.
- 136 Plating:**
This subclass is indented under subclass 125. Guides are constructed and controlled so that the desired one of a plurality of strands shall be the surface strand in the fabric.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
201,
- 137 Reversible:**
This subclass is indented under subclass 136. With means for changing the strand from one face of the fabric to the other.
- 138 Alternately idled guides:**
This subclass is indented under subclass 125. Guides are thrown into and out of feeding position to the needles with peculiar intercontrol, whereby the incoming guide replaces the guide thrown out of action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
127,
- 139 Sliding:**
This subclass is indented under subclass 138. Guides move in a straight line to and from feeding position.
- 140 With clamp or cutter:**
This subclass is indented under subclass 138. Includes means for gripping and holding the idle strand or a rupturing edge for severing the strand that is thrown out of action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
134, and see search notes thereunder.
- 141 Nonidling or nonplating guides:**
This subclass is indented under subclass 125. Guides not adapted or intended to be readily and automatically thrown into and out of action during knitting, although the guide may be thrown out of action at the conclusion of knitting. Also excludes guides specifically provided for in subclasses 136 and 137.
- 142 With clamp or cutter:**
This subclass is indented under subclass 141. Includes means for gripping and holding the idle strand or a rupturing edge for severing the strand that is thrown out of action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
134, and see search notes thereunder.
- 143 Starting by strand interengagement:**
This subclass is indented under subclass 142. An additional or substituted strand is initially engaged by the knitting strand and drawn by the same into position to be engaged by the needles.
- 144 Uniting:**
This subclass is indented under subclass 143. There is means for joining the additional or substituted strand to the knitting strand other than by mere friction, as by tying or wrapping.
- 145 With clamp or cutter:**
This subclass is indented under subclass 125. Includes means for gripping and holding the idle strand or a rupturing edge for severing the strand that is thrown out of action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
134, and see search notes thereunder.
- 146 Strand tensions:**
This subclass is indented under subclass 125. Means for maintaining a suitable tension on the knitting strand, but does not include slack producers used in connection with the devices found in subclasses 143 and 144.
- SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, subclass 195 for feed tensioners, per se.

- 242, Winding, Tensioning, or Guiding, subclasses 410+ and 147+ for tensioning a running material.
- 147 FABRIC MANIPULATION:**
This subclass is indented under the class definition. Means arranged to act on the knit fabric either to take it up or to assist the knitting elements to perform the knitting operation or to do special operations on the completed fabric and not provided for in subclasses.
- SEE OR SEARCH CLASS:
139, Textiles: Weaving, subclass 291.
- 148 Transferring fabric:**
This subclass is indented under subclass 147. Means adapted to engage the loops of a fabric to be removed from the needles of a knitting machine or to apply the loops already engaged to the needles of a knitting machine.
- (1) Note. Devices specially constructed to permit the looping operation to be performed with the loops thereon are found in Class 112, Sewing, subclass 127.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
58, and 59.
- 149 Take-ups:**
This subclass is indented under subclass 147. Means located at a distance from the knitting point and designed to maintain a proper tension on the web and remove the fabric.
- SEE OR SEARCH CLASS:
87, Textiles: Braiding, Netting, and Lace Making, subclass 31.
139, Textiles: Weaving, subclasses 304+.
- 150 Special-shape work:**
This subclass is indented under subclass 149. Means peculiarly adapted for taking up work of nonuniform dimensions.
- SEE OR SEARCH CLASS:
139, Textiles: Weaving, subclass 305.
- 151 Winding, from rotary needle bank:**
This subclass is indented under subclass 149. Means for winding the knit fabric wherein the fabric is knit in a machine in which the needles
- are caused to travel in a circular course past the knitting point.
- SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 520+ for convolute winding which includes fabrics.
- 152 Continuous:**
This subclass is indented under subclass 149. The knit fabric is not wound on a reel, but is taken up by means adapted to act on an indefinite length of fabric and frequently consists of two rolls.
- SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, appropriate subclasses for methods of, and apparatus for, feeding material without utilizing the leading or trailing ends to effect movement of the material.
- 153 From rotary needle bank:**
This subclass is indented under subclass 152. Wherein the fabric is knit in a machine in which the needles are caused to travel in a circular course past the knitting point.
- 157 STOPPING:**
This subclass is indented under the class definition. Limited to means for throwing off the power from the driven parts of the knitting mechanism. Includes stop signals.
- SEE OR SEARCH CLASS:
192, Clutches and Power-Stop Control, subclasses 116.5+, with their search notes.
- 158 Strand controlled:**
This subclass is indented under subclass 157. By abnormal condition of the strand.
- SEE OR SEARCH CLASS:
19, Textiles: Fiber Preparation, subclasses .25+.
28, Textiles: Manufacturing, subclasses 186+ for stopping means associated with warp preparing apparatus.
57, Textiles: Spinning, Twisting, and Twining, subclasses 80+.
87, Textiles: Braiding, Netting, and Lace Making, subclasses 18+.

- 139, Textiles: Weaving, subclass 349.
226, Advancing Material of Indeterminate Length, subclass 10 for material responsive control means that actuate means to advance material of indefinite length.
- 242, Winding, Tensioning, or Guiding, subclasses 472.9+, 484.9+, 479.9+, and 484.8 for a helical winding device having controls responsive to material conditions or the state of a winding operation.
- 159 With strand severing:**
This subclass is indented under subclass 158. The strand is parted at a distance from the needles, permitting the machine to stop before the fabric is cast off.
- 160 With tension relieving:**
This subclass is indented under subclass 158. When stopping is called for by increased tension, a slack length of strand is provided to prevent undesirable breaking of the same.
- 161 Electrical:**
This subclass is indented under subclass 160. Means causing the stopping of the machine is controlled by an electric circuit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
163,
- SEE OR SEARCH CLASS:
19, Textiles: Fiber Preparation, subclasses .2+.
28, Textiles: Manufacturing, subclasses 187, for electric stopping means associated with a warp preparing apparatus.
57, Textiles: Spinning, Twisting, and Twining, subclass 81.
139, Textiles: Weaving, subclasses 353+.
200, Electricity: Circuit Makers and Breakers, subclasses 61.13+ for electrical switches which are controlled by threads or strands; see subclass 61.14 where the switch is controlled by a knot or change in diameter of the thread or strand, and subclass 61.18 where the switch is controlled by the slack, breakage, run-out or failure to travel along its intended path.
- 162 Moving actuator:**
This subclass is indented under subclass 160. Power from a moving part of the machine is applied to stop-motion connections by means of a normally ineffective connection.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
164,
- 163 Electrical:**
This subclass is indented under subclass 158. Means causing the stopping of the machine is controlled by an electric circuit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
161, and see search notes thereunder.
- 164 Moving actuator:**
This subclass is indented under subclass 158. Power from a moving part of the machine is applied to stop-motion connections by means of a normally ineffective connection.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
162,
- 165 Needle cooperating element controlled:**
This subclass is indented under subclass 157. Abnormal condition or movement of a needle-cooperating element, such as a sinker or other element provided for, causes the stopping of the machine.
- 166 Fabric controlled:**
This subclass is indented under subclass 157. Abnormal condition of the fabric, such as holes therein or the dropping of the fabric from the needles, results in the stopping of the machine.
- SEE OR SEARCH CLASS:
139, Textiles: Weaving, subclass 348.
- 167 Length control:**
This subclass is indented under subclass 157. Means are actuated to stop the machine at a desired length of fabric, either at the conclusion of knitting or at an intermediate stage, as when the character of knitting is to be changed.

- SEE OR SEARCH CLASS:
139, Textiles: Weaving, subclass 340.
- 168 CLEANING ATTACHMENTS:**
This subclass is indented under the class definition. Means for cleaning the needles and elements of a knitting machine from dirt, lint, etc.
- 169 FABRICS OR ARTICLES:**
This subclass is indented under the class definition. The products of operations falling within the scope of the class.
- SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product which may include a knitted component.
442, Fabric (Woven, Knitted, or Nonwoven Textile or Cloth, etc.), subclasses 59+ for a knit fabric which is coated or impregnated and subclasses 304+ for a knit fabric which may be bonded to a second component.
- 170 Articles:**
This subclass is indented under subclass 169. Objects not in the nature of webs or tubes of indefinite length. The objects may be connected together, so as to form string work. Includes inventions peculiarly adapted to be produced by knitting even when the production of such articles involves subsequent cutting or sewing to complete them.
- 171 Garments:**
This subclass is indented under subclass 170. Articles of wearing apparel.

(1) Note. See Class 2, Apparel.
- 172 Border or antiravel portions, frequently hosiery:**
This subclass is indented under subclass 171. Construction of the cuff or other edges and adjacent portions or constructions tending to prevent raveling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
41,
- 173 Pocket welt:**
This subclass is indented under subclass 172. The border portion is knit as a pocket, as by doubling in knitting the edge of the fabric or joining two simultaneously-knit fabrics at the edge.

SEE OR SEARCH THIS CLASS, SUBCLASS:
21, 95, and indented subclasses.
- 174 Hand coverings:**
This subclass is indented under subclass 171. Limited to constructions peculiarly adapted to serve as gloves or mittens.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45, and 65.

SEE OR SEARCH CLASS:
2, Apparel, subclasses 158 through 170, indented under Hand or arm coverings.
- 175 Union, trunk, and nether:**
This subclass is indented under subclass 171. Garments adapted to clothe the legs and trunk.

SEE OR SEARCH CLASS:
2, Apparel, subclasses 69+.
- 176 Trunk:**
This subclass is indented under subclass 171. Garments adapted to clothe the trunk.

SEE OR SEARCH THIS CLASS, SUBCLASS:
175, and see search notes thereunder.
- 177 Nether:**
This subclass is indented under subclass 171. Garments adapted to clothe the body from the waist down.

SEE OR SEARCH THIS CLASS, SUBCLASS:
175, and see search notes thereunder.

- 178 Hosiery:**
This subclass is indented under subclass 177. Garments not adapted to clothe the body higher than the legs and usually provided with coverings for the feet.
- SEE OR SEARCH CLASS:
2, Apparel, subclasses 239+.
- 179 Suture seam:**
This subclass is indented under subclass 178. Hosiery provided with sections knit from separate strands and connected along a line by interlocking or overlapping loops, except where the interlocking is the result of heel or toe narrowing and widening, in which case the patents will be found in subclasses 184, 186 and 187.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
43,
- 180 Ornamental stitch:**
This subclass is indented under subclass 178. Hosiery knit with a character of stitch designed to enhance the appearance of the same.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
25, and see search notes thereunder.
- 181 With mock seam:**
This subclass is indented under subclass 180. Provided with a knitted seam imitation not essential to the process of manufacture.
- 182 Reinforced:**
This subclass is indented under subclass 178. Provided with an additional strand incorporated with the main strand over a substantial area or with a single heavier strand and intended to increase the strength or wearing qualities of the hose.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
49, 129, 133, 142, and any subclasses indented thereunder.
- SEE OR SEARCH CLASS:
2, Apparel, subclass 241.
- 183 Combined foot structure and fashioned calf:**
This subclass is indented under subclass 178. The upper portion of the hose is shaped to fit the leg by variations in the stitch length or in the number of wales, and the portion from the ankle down is knit in a manner not conventional.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
185+, and 189.
- 184 With heel or toe:**
This subclass is indented under subclass 183. The heel or toe portions are knit in a manner not conventional.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
186, and 187.
- 185 Foot structure:**
This subclass is indented under subclass 178. The portion from the ankle down is knit in a manner not conventional.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
183, and 184.
- 186 With heel or toe:**
This subclass is indented under subclass 185. There is novelty in the knitting of the heel or toe portions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
184,
- 187 Heel or toe:**
This subclass is indented under subclass 186. Limited to construction of the heel or toe portions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
184,
- 188 With rib leg and foot:**
This subclass is indented under subclass 178. The leg and foot portions are ribbed or provided with ribbed sections.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
24, 29, and 199.
172, 173, for rib-top construction.
- 189 Fashioned:**
This subclass is indented under subclass 171. The garment is shaped by variations in the number of wales or in the length of stitch, frequently by stitches or portions thereof moved from one wale to another.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
23, 30 and 198, and see search notes thereunder.
- 190 Incorporated unknitted materials:**
This subclass is indented under subclass 169. Includes material held by the loops of the main fabric, but not formed into any knitted loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
9, and see search notes thereunder.
- SEE OR SEARCH CLASS:
53, Package Making, appropriate subclasses for methods of and apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting or unit handling the goods or materials, particularly subclasses 582+ for apparatus to form a package by placing a band about the contents.
- 191 Fleece or pile type:**
This subclass is indented under subclass 190. The unknit material is of a character or so incorporated as to be readily napped up or to constitute pile loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
194,
- 192 Warp:**
This subclass is indented under subclass 190. The unknit material is incorporated in warp fabric--that is, fabric knit of separate strands, each strand passing from one wale in one course to an adjacent or other wale in a succeeding course or each strand forming a chain of interknit loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
81, and see search notes thereunder.
- 193 With crochet stitch:**
This subclass is indented under subclass 192. Incorporated with warp fabric wherein certain strands are not interknit, but each strand forms an interknit chain, the chains being united together by other strands.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
85,
- 194 Fleece or pile type:**
This subclass is indented under subclass 169. Including strands of a character or so knit as to be readily napped up or constitute pile loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
191,
- SEE OR SEARCH CLASS:
112, Sewing, subclasses 410+ for a web or sheet with a tufted or looped surface formed by a sewing operation.
139, Textiles: Weaving, subclasses 391+ for a woven pile fabric.
428, Stock Material or Miscellaneous Articles, subclasses 85+ for a stock material product with a pile or nap-type surface and not provided for in any other class.
- 195 Warp:**
This subclass is indented under subclass 169. Fabric formed of separate strands, each strand passing from one wale in one course to an adjacent or other wale in a succeeding course or each strand forming a chain of interknit loops.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
81, and see search notes thereunder.

- 196 Multi-ply:**
This subclass is indented under subclass 169. Fabric formed of two interknitted webs, either web forming a substantially complete fabric.
- 197 Rib:**
This subclass is indented under subclass 196. The interknitted webs are of fabric formed of loops drawn through preceding course loops, some in one direction and others in the other direction.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
188, 199 and 200.
- 198 Traversed or doubled loop:**
This subclass is indented under subclass 169. The body of the fabric has accumulated loops of certain of the wales, the accumulation being of two adjacent or other loops in the same course or of loops of wales in different courses, or loops at certain wales are interknit with loops of other wales.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
89, 95, 189, and 198, and indented subclasses.
- 199 To or from rib or rib change:**
This subclass is indented under subclass 198. The courses of the fabric change from plain to rib or vice versa or from one type of rib to another.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
24, and 29.
- 200 Rib:**
This subclass is indented under subclass 169. Fabric formed of loops drawn through preceding course loops, some in one direction and others in the other direction.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
188, 197 and 199.
- 201 Strand change:**
This subclass is indented under subclass 169. The appearance of the fabric is altered by substituting or adding a strand or by reversing the surface or plated strands.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
127, 133, 136, 138, and any indented subclasses.
- 202 Materials:**
This subclass is indented under subclass 169. Involving selection of strands of a peculiar nature.
- SEE OR SEARCH CLASS:
2, Apparel, subclass 195.8 for a knitted head covering with an upturned brim where no significance is given to the particular arrangement of the loops and bights of the knitted fabric structure.
139, Textiles: Weaving, subclasses 420+.
- 203 Warp:**
This subclass is indented under subclass 82. Device wherein each of a multiplicity of needles in a knitting apparatus is usually supplied with its own thread which is fed thereto in a vertical or warp-wise fashion.
- 204 Means to control motion of needle, or needle cooperating element:**
This subclass is indented under subclass 203. Device wherein means are provided to regulate the movement of the fabric-producing instrumentalities of a warp- knitting machine.
- 205 Individual transducer for particular element:**
This subclass is indented under subclass 204. Device wherein the regulating means has an energy-converting means associated with one specific fabric-producing instrumentality which moves said instrumentality in controlled manner and independently of other instrumentalities.
- (1) Note. Example of structures to be found herein are guide bars moved by fluid motors and guide bars moved by stepping motors.

- 206 Presser means:**
This subclass is indented under subclass 204. Device wherein the instrumentality controlled is a means to move the beard of a needle towards the needle's shank.
- 207 Guide bar:**
This subclass is indented under subclass 204. Device wherein the control means has means to regulate the motion of means for lapping, guiding or laying the warp-threads.
- 208 Needle bar:**
This subclass is indented under subclass 204. Device wherein the control means has means to regulate the motion of a bed of stitch-forming elements.
- 209 Let off:**
This subclass is indented under subclass 203. Device including means for advancing warp-threads to the fabric-producing instrumentalities of a warp-knitting machine.
- 210 Means controlling rate of let off:**
This subclass is indented under subclass 209. Device having means to regulate the rate at which warp-threads are fed.
- 211 By means sensing strand tension:**
This subclass is indented under subclass 210. Device wherein the regulating means is controlled in response to variations in the strains imposed upon the fed thread.
- 212 By means responsive to radius of beam:**
This subclass is indented under subclass 210. Device wherein the regulating means is controlled by means sensing variations in the diameter of the thread-supplying means.
- 213 Strand-tensioning means:**
This subclass is indented under subclass 209. Device wherein means are provided to control the strain imposed upon threads being fed to the knitting instrumentalities.
- 214 Yarn guides:**
This subclass is indented under subclass 203. Device wherein means are provided for controllably directing a warp-thread to its associated needle.
- 215 Special stitch:**
This subclass is indented under subclass 8. Apparatus and method wherein the machine operates to produce a configuration of yarn in at least one course and wale that provides an ornamental or other visual effect in the knitted fabric.
- (1) Note. Tuck, welt, plate, or other exotic knitting is generally found in this subclass.
- (2) Note. This subclass also includes stitch length variation for other than strictly fashioning.
- 216 Having butt selection means:**
This subclass is indented under subclass 215. Subject matter wherein the knitting machine is provided with a plurality of butts dependent from needles or other elements in a bed and further provided with means designed to select and cause motion relative to the bed of either: (a) one of the butts or (b) a needle or other element either of which is associated with and capable of causing one of the butts thereon to engage additional means for further moving the butt relative to the bed at the location wherein the special stitch is desired in a selected wale.
- (1) Note. The term "butt" refers to the projection or projectionlike structure on a needle jack, sinker, or other element residing in a knitting machine supporting structure.
- (2) Note. The selection means may also cause the formation of a special stitch by selectively not imparting motion to a butt, needle, or other element.
- 217 Control of sinkers:**
This subclass is indented under subclass 216. Subject matter wherein the butt structure occurs on either: (a) a sinker, (b) a sinker-moving element in the bed upon which the sinker rests, or (c) a sinker-moving element on a structure fixed relative to a bed upon which the sinker rests.

- 218 Electrical control type:**
This subclass is indented under subclass 216. Subject matter wherein at least a portion of intelligence is transmitted to, from, or within the butt selection means in the form of electrical energy.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
232, for pattern systems, per se, of the electrical type.
- 219 Magnetic:**
This subclass is indented under subclass 218. Subject matter wherein the butt selection means utilizes magnetic energy.
- 220 Butt translation:**
This subclass is indented under subclass 219. Subject matter wherein at least a portion of the magnetic energy acts to attract or repel a butt or an element from which the butt depends.
- 221 And pivoted butt-engaging member:**
This subclass is indented under subclass 219. Subject matter including means that rotates about a pivot to contact and move the butt structure to provide selection thereof.
- (1) Note. The butt-engaging member may also execute a linear movement in addition to the pivotal motion.
- 222 Simultaneous control of multiple butt levels:**
This subclass is indented under subclass 216. Subject matter wherein the butt selection means is capable of either selectively: (a) simultaneously engaging butts at plural levels on a needle or other element to provide motion thereto relative to the supporting bed or (b) moving a needle or other element to cause a plurality of butts thereon at plural levels to simultaneously engage further means for additionally moving said plurality of butts relative to the supporting bed.
- (1) Note. The other elements reside either within the needle bed or other bed structure which is fixed relative thereto.
- 223 Including permanent selection means:**
This subclass is indented under subclass 222. Subject matter wherein the butt selection means consists of a profile structure that projects into the paths of, and thereby selectively engages, the butts moving relative thereto, the profile structure remaining in the butt paths unless removed manually or by means external to the knitting machine.
- 224 Including drum having integral plural level pattern:**
This subclass is indented under subclass 222. Subject matter wherein the butt selection means includes a cylinder structurally provided with components at plural levels directly controlling selective engagement of butts at plural levels.
- (1) Note. Included in this subclass are knitting machines with control drums provided with a flexible pattern tape which either: (a) surrounds the drum and thereby constitutes an integral part of the drum or (b) causes the tape to selectively position the components thereby transferring the pattern thereto.
- (2) Note. The term "pattern" generally connotes a design array stored mechanically or electrically which is retrieved to control the formation of a fabric design.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
233+, for pattern systems of the flexible-member type.
239+, for a drum-type pattern storage device, per se.
- 225 Selection by axial movement of element with multiple butt levels:**
This subclass is indented under subclass 224. Subject matter wherein during selection of a butt a part engages the butt and thereby moves the needle or other element upon which the butt resides along its longitudinal axis.
- 226 Drum contact with butts:**
This subclass is indented under subclass 224. Subject matter wherein the components physically engage and move the butts.

227 Having additional butt-engaging member control means:

This subclass is indented under subclass 224. Subject matter further provided with additional means distinct from and controlled independently of the pattern drum for engaging and regulating the operation of at least one of the butts.

228 Having pattern at rotating member engaging butts at single level:

This subclass is indented under subclass 216. Subject matter wherein the butt selection means comprises a revolving device either integrally incorporating a storage array for direct physical engagement and selection of only one level of butts or for conveying a separate distinct storage array to only one level of butts for engagement and selection thereof.

- (1) Note. The selection means of this subclass is capable of selecting only one level of butts during initial engagement thereof but can disengage at plural levels.
- (2) Note. The jack or other structure upon which the butts reside may have butts at several levels although only one level can be engaged by the selection means of this subclass.
- (3) Note. See (2) Note of subclass 224 of this class for clarification of the term "pattern".

229 Inclined rotating member with integral pattern:

This subclass is indented under subclass 228. Subject matter wherein the butt selection means is of the type integrally incorporating the storage array and further, wherein the axis of rotation of the means lies in a different plane from the planes that include the axis about which the supporting bed rotates.

230 Having butt-engaging members limited to other than rotary motion about the periphery and longitudinal axis of the needle cylinder:

This subclass is indented under subclass 216. Subject matter wherein the butt selection means includes movable butt-engaging mem-

bers that remain fixed circumferentially relative to both the circular support bed for the needles and its vertical axis during butt selection operations.

231 PATTERN SYSTEM:

This subclass is indented under the class definition. Subject matter drawn to an assemblage of devices or design arrays for storing information for use in a knitting machine with either advancement of a portion or all of the assemblage relative to an information retrieval device or retrieval of stored information.

- (1) Note. The pattern system can include means for subsequent processing or mere routing of any or all of the retrieved information.
- (2) Note. Apparatus specifically provided for in a prior subclass that is at least partially controlled by the retrieved, processed, or routed information is properly placed in such subclass.
- (3) Note. See appropriate subclasses for pattern systems combined with other control or operating mechanisms for use with knitting machines of this class.

232 Electrical signal type:

This subclass is indented under subclass 231. Subject matter wherein at least a portion of the information is stored, retrieved, or transmitted in the form of electrical energy.

- (1) Note. The electrical stored, retrieved, or transmitted energy can control the rate or sequence of reading information which is mechanically stored, retrieved, or transmitted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

218+, for special stitch circular independent needle machines provided with an electrical-type butt selection control system.

233 Flexible member type:

This subclass is indented under subclass 231. Subject matter wherein at least a portion of the information is stored in or on a movable pliable

structure which conforms to the shape of and is driven by a motion-imparting means.

234 Chain:

This subclass is indented under subclass 233. Subject matter wherein the flexible member consists of a series of pivotally-connected rigid links.

235 Chain being horizontally fed to drive sprocket:

This subclass is indented under subclass 234. Subject matter wherein each link of the chain is horizontally disposed when at the point of approach engagement with a motion-imparting toothed wheel.

236 Having coaxial pattern member:

This subclass is indented under subclass 234. Subject matter provided with an additional pattern device having a common axis with a rotary axis of the motion-imparting means.

- (1) Note. The pattern device may be mounted on the same shaft as the rotary axis of the motion-imparting means.

237 Multiplier or divider:

This subclass is indented under subclass 231. Subject matter provided with means to either: (a) stop or reverse the normal unidirectional movement, or change the mode of reading, of a device or design array for storing information such that a discrete portion of the information is multiply retrieved or (b) increase the rate or range of the normal movement, or change the mode of reading, of a device or design array for storing information such that a division of a discrete portion of the information is retrieved.

238 PATTERN STORAGE DEVICE:

This subclass is indented under the class definition. Subject matter drawn to subcombination structures used in pattern control systems for storing retrievable information for use with a knitting machine.

- (1) Note. See appropriate subclasses for pattern storage devices or arrays combined with knitting machines of this class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

231+, for pattern systems employing a plurality of devices or design arrays for storage.

239 Drum type:

This subclass is indented under subclass 238. Subject matter wherein the subcombination structure is in the form of a cylindrical member structurally provided with components on or in its curvilinear surface and further, wherein said components occur at levels that are spaced apart axially of the member in an array that comprises information.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

224+, for special stitch circular knitting machines provided butt selection means employing a drum-type pattern storage device.

240 Having removable pin:

This subclass is indented under subclass 239. Subject matter wherein the components are removable and consist of relatively thin rod members radially projecting from the drum.

- (1) Note. Generally within this subclass, every pin of any one drum will have the same longitudinal profile.

241 Having jack:

This subclass is indented under subclass 239. Subject matter wherein a plurality of the components occur orthogonally to and spaced along the longitudinal axis of a shaftlike member having a square or rectangular cross section and further, wherein the member is removably disposed on the drum.

- (1) Note. The protrusions can be frangible thereby allowing for their removal.

242 Flexible type:

This subclass is indented under subclass 238. Subject matter wherein the subcombination structure consists of a pliable structure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 224, for special stitch circular knitting machines having butt selection means employing a drum and flexible pattern tape.
- 233+, for pattern systems including an information structure that is flexible.

END