

CLASS 59, CHAIN, STAPLE, AND HORSESHOE MAKING

SECTION I - CLASS DEFINITION

This class includes generally chain, staple, horseshoe, and ox-shoe making, swivel making being included under Chain making.

Also the article subclasses of Chains, including general purpose and ornamental chains and swivels.

For further explanation in regard to what may be included in the above art and article subclasses, see the definitions, particularly those given under the head of each of the arts.

Chain Making. Relates to the broad art of chain making and includes all patents for machines, apparatus, blanks and processes relating to the manufacture of chains or links, except such as shall be referred to hereinafter. Includes patents relating to the manufacture of swivels (see References to This Class, below).

- (1) Note. The manufacture of simple links for car-couplings will be found in appropriate subclasses under this head.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

Rolling machines or rolls designed especially for the manufacture of chains, chain-links, horseshoes, horseshoe bars or calks, and staples in which there is invention in the construction or operation of the means or parts which give the form to the blank or article produced are included in this class; otherwise in Class 72, Metal Deforming.

If the invention resides simply in the manner of attaching the dies to the rolls, the patents will be found in Class 72, Metal Deforming.

This class is closely related to Classes 29, Metal Working; 72, Metal Deforming; 83, Cutting; and 140, Wireworking, which classes should be kept in mind in completing a search in this class.

Machines which coil the wire or rod into a helix or which coil the helix and cut-off coils or sections to form links are found in Class 72, Metal Deforming. If the machine, in addition to coiling and cutting, gives link

form to the part cut off or assembles such parts into a chain, it will be classified in this class.

Electric heating and welding machines and processes comprising any invention in the means of applying or process of application are classified elsewhere. If however, the use of electricity is incidental and the claims embrace no novel features relating thereto, the patents will be classified herein.

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:
9, for patents relating to the manufacture of swivels.

SECTION IV - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:
72, Metal Deforming, subclasses 135+ for machines which coil the wire or rod into a helix or which coil the helix and cut-off coils or sections to form links.
100, Presses, appropriate subclasses for presses not elsewhere provided for.
291, Electric Heating, for electric heating and welding machines and processes comprising any invention in the means of applying or process of application.

SUBCLASSES

1 CHAIN MAKING:
This subclass is indented under the class definition. Miscellaneous inventions in chain making not included in the subclasses under this head.

SEE OR SEARCH CLASS:
249, Static Molds, subclass 57 for molds for forming chain and other ring-like products.

2 Bead chain:
This subclass is indented under subclass 1. Devices for forming metallic bead chains, said chains usually consisting of hollow balls or

- beads joined to one another by connecting links.
- SEE OR SEARCH CLASS:
72, Metal Deforming, subclasses 343+ for disclosure of hollow ball making by push-drawing.
- 3 Loop interlocked:**
This subclass is indented under subclass 1. Apparatus for making chains formed or oval or elongated links bent into substantially U shape, the link being passed through the previously-formed link or links before being bent.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
13, for miscellaneous machines and apparatus for making links or chains from sheet metal.
15, for stamping and bending machines to form chain links.
- 4 Roller chain:**
This subclass is indented under subclass 1. Devices for forming or uniting the parts or units of a roller-chain.
- 5 Sprocket chain:**
This subclass is indented under subclass 1. Miscellaneous machines and devices employed in the manufacture of sprocket chains.
- 6 Sheet metal:**
This subclass is indented under subclass 5. Machines for forming sprocket chains or links out of sheet metal.
- 7 Link assembling:**
This subclass is indented under subclass 5. Machines for assembling or disassembling the finished sprocket-links to form a chain.
- SEE OR SEARCH CLASS:
29, Metal Working, subclasses 700+ for means for assembling or disassembling in general.
- 8 Blanks and processes:**
This subclass is indented under subclass 5. Blanks and processes used in making sprocket-chains.
- 9 Swivel making:**
This subclass is indented under subclass 1. Apparatus employed in the manufacture of swivels used as connecting means between chains, cables, or similar articles.
- 10 Weldless:**
This subclass is indented under subclass 1. Machines for forming chains with solid links from a continuous bar or blank by rolling, swaging, or cutting and without bending, winding, or welding. This type of machine usually forms the chain from a bar cruciform in cross-section.
- (1) Note. To distinguish between rolling-machines and machines for making weldless chains by rolling, see note under general class definition.
- 11 Link separation:**
This subclass is indented under subclass 10. Machines which separate or cut apart links formed in the manufacture of weldless chains from a continuous bar or rod.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
10, for machines for forming chains with solid links.
- 12 Blanks and processes:**
This subclass is indented under subclass 10. Blanks and processes used in the manufacture of weldless chains.
- 13 Sheet metal:**
This subclass is indented under subclass 1. Miscellaneous machines and apparatus for making links or chains from sheet metal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6, for machines for forming sprocket chains or links out of sheet metal.
- SEE OR SEARCH CLASS:
72, Metal Deforming, appropriate subclasses for machines for crimping, corrugating, beading, bending and embossing sheet metal.

- 14 Prong connected:**
This subclass is indented under subclass 13. Apparatus for making chains from sheet metal having links formed from sheet metal with prongs or projections and corresponding apertures or notches, whereby the links may be connected with one another. Chains of this character are usually designed for ornamental purposes.
- 15 Stamping and bending:**
This subclass is indented under subclass 13. Machines which stamp or cut the link from sheet metal, thread it through the previously formed link, and bend it back upon itself.
- 16 Combined machines:**
This subclass is indented under subclass 1. Miscellaneous combined machines not otherwise classifiable.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
36 through 69, for horseshoe making.
71 through 77, for staple making.
- SEE OR SEARCH CLASS:
29, Metal Working, subclasses 33+ for residual metal working machines additionally involving assembly and see the notes thereunder.
72, Metal Deforming, for pertinent subclass(es) as determined by schedule review for residual metal working machines.
100, Presses, subclass 102 for presses combined with other features and not elsewhere provided for.
- 17 Coiling, cutting, bending, curbing:**
This subclass is indented under subclass 16. Machines for forming wire-curb-chains by coiling the wire into a helix, cutting it into sections, bending it into link form, the links being assembled to form the chains, and giving to the links a curbed or twisted form.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for chain-curbing machines.
- SEE OR SEARCH CLASS:
72, Metal Deforming, subclass 66 and subclasses 129+ for a coiling and cutting machine.
- 18 Feeding, cutting, bending, welding:**
This subclass is indented under subclass 16. Machines for performing the above operations in chain making. Specific feeding means are not shown and described in every case.
- SEE OR SEARCH CLASS:
228, Metal Fusion Bonding, subclasses 13+ for corresponding apparatus not limited to chain making.
- 19 Feeding, cutting, bending, wrapping:**
This subclass is indented under subclass 16. Machines which feed a continuous wire or rod to a cutting mechanism, passing it through the previously formed link, and then bend it into link form, wrapping or twisting the ends of the wire around other portions of the link in order to securely fasten said ends, and so dispense with welding. In some cases no specific feeding or cutting means are shown.
- SEE OR SEARCH CLASS:
140, Wireworking, subclass 72 for making wire heddles or heddle eyes; subclass 88 for making or forming wire rings, hoops, or closed wire loops; subclass 102 for forming loops in or doubling wire; and subclass 104 for forming eyes or closed loops in wire.
- 20 Coiling, cutting, assembling:**
This subclass is indented under subclass 16. Machines for forming chains from a continuous rod or wire by coiling such rod or wire into a helix, cutting off sections to form links, and assembling and uniting the links to form a completed chain.
- SEE OR SEARCH CLASS:
72, Metal Deforming, subclass 66 and subclasses 129+ for a coiling and cutting machine.
140, Wireworking, subclasses 71 through 92.94 for article making or forming.

21 Bending and eye forming:

This subclass is indented under subclass 16. Machines for bending link-blanks into U-shaped links and forming eyes at the ends of the links, the blank generally being thrust through the eyes of the previously formed link before being bent.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

3, for loop interlocked chain-making apparatus.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 3 for buckle-making processes or apparatus.

22 Bending and welding:

This subclass is indented under subclass 16. Combined machines and devices for bending the links into form and welding the ends together. In some of the machines of this type, the links are automatically assembled before welding. These machines may also include means for completing the act of welding by shaping the links.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

27, for bending devices for chain-links.

31, for welding apparatus for chain-links.

23 Cutting and bending:

This subclass is indented under subclass 16. Combined machines for cutting from a bar, rod, or wire sufficient for a link and then bending it into the general or completed form of a link.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

27, for bending devices for chain-links.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 5 for cotter-pin making.

72, Metal Deforming, subclasses 324 through 341 for cutting.

140, Wireworking, subclass 88 for making or forming wire rings, hoops, or closed loops or wire.

24 Automatic feed:

This subclass is indented under subclass 23. Combined machines for cutting and bending having automatic means for feeding the rod or wire to the cutting mechanism.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

15, for stamping and bending machines.

18, for feeding, cutting, bending, and welding machines.

19, for feeding, cutting, bending, and wrapping machines.

37, for combined machines for horseshoe making.

38+, for combined machines for cutting, bending, shaping, punching, and creasing for horseshoe making.

49+, for combined machines for cutting, bending, and shaping for horseshoe making.

66, for apparatus for making horseshoe-calks.

71+, for staple-making.

SEE OR SEARCH CLASS:

226, Advancing Material or 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.

408, Cutting by Use of Rotating Axially Moving Tool, subclasses 62+ for means for cutting in the manner of that class, combined with work-infeed means.

470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, appropriate subclasses, except as provided for in Class 408.

25 Link assembling:

This subclass is indented under subclass 24. Combined machines for cutting and bending having an automatic feed and in which the links are assembled into a completed chain.

26 Winding and welding:

This subclass is indented under subclass 16. Combined machines for making chains by winding several convolutions of the stock or wire into link form and welding the same into

an integral link. These machines are usually constructed so that the convolutions of the link being wound shall pass through the previously formed link; also, machines which simply perform the operation of winding without welding.

SEE OR SEARCH CLASS:

228, Metal Fusion Bonding, subclasses 15+ for similar apparatus not limited to chain making.

27 Bending:

This subclass is indented under subclass 1. Machines and devices for bending links into complete form in the finished chain or preparatory to the operation of welding.

(1) Note. Search the subclasses indented under Combined machines which include the operation of bending; also in the appropriate subclasses under Horse-shoe-making and Staple-making.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 33+ and 700+ for assembly apparatus, and subclasses 428+ for an assembly method, particularly subclasses 432+ for piercing of one workpiece by another, e.g., a staple, etc., and subclasses 505+ for deforming one element about another, e.g., clenching a clip, etc.

72, Metal Deforming, for pertinent subclass(es) as determined by schedule review.

140, Wireworking, for pertinent subclass(es) as determined by schedule review.

28 Curbing:

This subclass is indented under subclass 1. Devices for imparting a curb form to chains.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16, for miscellaneous combined chain-making machines.

17, for machines for forming wire-curb chains.

29 Sizing and trimming:

This subclass is indented under subclass 1. Machines and apparatus for trimming, straightening, stretching, or otherwise imparting uniform dimensions to chain-links after they have received their general form.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22, for bending and eye-forming machines.

30, for swaging and shaping machines.

31, for chain-link welding machines.

33, for welding dies, per se.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 8 for fingering forming or sizing.

72, Metal Deforming, subclasses 324-341 for cutting.

30 Swaging and shaping:

This subclass is indented under subclass 1. Machines or devices for giving form to the link by swaging or the like.

SEE OR SEARCH THIS CLASS, SUBCLASS:

10, 22, and 29, for machines for trimming the links to give them equal dimensions after they have received their general form.

33, for welding dies, per se.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 9 for fish hook making, and subclass 34 for metal forging and bending, cutting, or punching.

72, Metal Deforming, for pertinent subclasses as determined by schedule review.

101, Printing, subclasses 4+ for impressing ornamental forms into a link.

31 Welding:

This subclass is indented under subclass 1. Apparatus particularly adapted for use in welding chain-links. All machines in which there is invention in the form of die are included in this group. Includes machines having, in addition to the welding means, means for completing the weld by sizing or shaping the link.

- (1) Note. Welding-machines in which the invention resides entirely in the means for operating the power hammer or press are included in Class 228, Metal Fusion Bonding, as are also those machines adapted for general welding and having no construction peculiar to chain welding machines. For distinction between Class 59 and Class 219, Electric Heating, see note under definition of Chain making.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 16, for miscellaneous combined chain-making machines and appropriate subclasses indented thereunder.
35, for processes.

32 Rotary feed:

This subclass is indented under subclass 31. Machines which rotate the links during the act of welding. In some cases the act of rotation threads the link to be welded into the previously welded link.

33 Dies:

This subclass is indented under subclass 31. Inventions in the welding dies, per se. It includes also such patents as show or claim finishing or sizing dies in addition to the welding dies.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 22, for combined machines for bending and welding machines.

34 Holding devices:

This subclass is indented under subclass 31. Devices for holding a link or previously formed part of a chain in a convenient position or for manipulating it during the operation of welding.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31, for apparatus for welding chain-links.

SEE OR SEARCH CLASS:

- 269, Work Holders, appropriate subclasses. Class 269 is the residual locus for patents to a device for clamping, support-

ing and/or holding an article (or articles) in position to be operated on or treated. See notes thereunder for other related loci.

35.1 Blanks and processes:

This subclass is indented under subclass 1. Blanks for use in chain making or processes thereunder employed in chain making or link formation.

- (1) Note. Patents having claims both to the chain or link as an article and also to the blank or process will be found in the appropriate subclasses (59/78) under the head of CHAINS.
(2) Note. Blanks and processes relating to the manufacture of sprocket chains are classified in subclass 8, and those relating to the manufacture of weldless chains in subclass 12 of this class.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 592+ for miscellaneous processes of mechanical manufacture not elsewhere provided for, and including assembly by mechanical jointure.
72, Metal Deforming, any appropriate subclass preceding subclass 362 for a process there provided for, and subclasses 362+ for a residual process.
228, Metal Fusion Bonding, subclasses 101+ for metallurgical bonding in general and subclass 192 for bonding in the manufacture of a chain link.

36 HORSESHOE MAKING:

This subclass is indented under the class definition. Miscellaneous horseshoe making inventions not included in the subclasses indented hereunder.

37 Combined machines:

This subclass is indented under subclass 36. Machines performing two or more functions or operations in the manufacture of horseshoes which are not classified in the more specific subclasses.

- (1) Note. This subclass is largely made up of machines which form calks or clips in

addition to the other operations of bending, swaging, etc.

SEE OR SEARCH CLASS:

- 72, Metal Deforming, appropriate subclasses for plastic metal working processes or apparatus, with or without cutting.
- 100, Presses, subclass 102 for presses combined with other features and not elsewhere provided for.

38 Cutting, bending, shaping, punching and creasing:

This subclass is indented under subclass 37. Miscellaneous combined machines for performing the above operations. Machines of this type may or may not have means for feeding forward the blank for operation upon by the machine.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 37, for horseshoe making machines combining two or more functions.
- 56, for horseshoe bending machines.
- 57, for horseshoe punching and creasing machines.
- 58, for horseshoe swaging and shaping machines.

39 Calk and clip bending and forming:

This subclass is indented under subclass 38. Machines which in addition to cutting, bending, shaping, punching, and creasing perform one or more operations relating to the bending or forming of calks or clips.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 37, for horseshoe making machines combining two or more functions.
- 65, for horseshoe calk and clip bending, forming, sharpening and welding machines.

40 Reciprocating jaw or die block:

This subclass is indented under subclass 38. Machines in which a reciprocating motion is imparted to the die-block around which the blank is bent or to the jaws which bend the blank around the die-block.

41 Reciprocating punch and creaser:

This subclass is indented under subclass 40. Machines of this type which have in addition to the reciprocating jaw or die-block a reciprocating means for punching and creasing the shoe.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 42, for reciprocating punches and creasers.

42 Rotary die block:

This subclass is indented under subclass 38. Machines having a rotary die-block or former around which the blank is bent.

43 Rotary punch and creaser:

This subclass is indented under subclass 42. Machines having in addition to the rotary die-block or former around which the blank is bent a rotary means for punching and creasing the blank or shoe.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 40, for rotary punches and creasers.

44 Bending, shaping, punching and creasing:

This subclass is indented under subclass 37. Miscellaneous combined machines for performing the operations above enumerated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 56, for horseshoe bending machines.
- 57, for horseshoe punching and creasing machines.
- 58, for horseshoe swaging and shaping machines.

45 Reciprocating jaw or die block:

This subclass is indented under subclass 44. Machines in which reciprocating motion is communicated to the die-block around which the blank is bent or to jaws which bend the blank around the die-block.

46 Reciprocating punch and creaser:

This subclass is indented under subclass 45. Combined machines which have reciprocating means for punching and creasing the shoe in addition to the reciprocating jaws or die-block for bending and shaping the blank.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
47, for reciprocating punches and creasers.
- 47 Rotary die block:**
This subclass is indented under subclass 44. Combined machines performing the above operations which have a rotary die-block around which the blank is bent.
- 48 Rotary punch and creaser:**
This subclass is indented under subclass 47. Combined bending, shaping, punching, and creasing, rotary die-block machines having in addition to the rotary die-block rotary means for punching and creasing the shoe.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
45, for rotary punches and creasers.
- 49 Cutting, bending, shaping:**
This subclass is indented under subclass 37. Miscellaneous combined machines performing the above operations. Machines of this type may or may not have means for feeding forward the blanks to the cutting apparatus.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
38, for horseshoe-making machines for cutting, bending, shaping, punching and creasing.
56, for horseshoe bending machines.
58, for horseshoe swaging and shaping machines.
- 50 Reciprocating die block:**
This subclass is indented under subclass 49. Combined cutting, bending, and shaping horseshoe-making machines having a reciprocating die-block or former around which the blank is bent.
- 51 Rotary die block:**
This subclass is indented under subclass 49. Combined cutting, bending and shaping horseshoe-making machines characterized by a rotary die-block or former around which the blank is bent in the formation of the shoe.
- 52 Bending and shaping:**
This subclass is indented under subclass 37. Miscellaneous machines for bending the blank into the form of a horseshoe and at the same time or subsequently giving shape to the shoe by swaging or other means.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
56, for horseshoe bending machines.
58, for horseshoe swaging and shaping machines.
- 53 Reciprocating die block:**
This subclass is indented under subclass 52. Machines having a reciprocating die-block or former around which the blank is bent.
- 54 Rotary die block:**
This subclass is indented under subclass 52. Machines having a rotary die-block or former around which the blank is bent.
- 55 Shaping, punching and creasing:**
This subclass is indented under subclass 37. Combined machines for shaping the shoe and also punching or creasing, or both.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
57, for horseshoe punching and creasing machines.
58, for horseshoe swaging and shaping machines.
63, for shaping and punching and creasing before the blank is bent.
- 56 Bending:**
This subclass is indented under subclass 36. Machines or devices particularly designed for bending the bar or blank into the general form or shape of a shoe.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
52+, for machines which thicken the heels in addition to bending; and appropriate subclasses under the heads of Chain-Making and Staple-Making.

SEE OR SEARCH CLASS:

- 29, Metal Working, for pertinent subclass(es) as determined by schedule review.
- 72, Metal Deforming, for pertinent subclass(es) as determined by schedule review.

57 Punching and creasing:

This subclass is indented under subclass 36. Machines and apparatus for performing either one or both the above operations.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 37+, for horseshoe making machines combining two or more functions.
- 60, for dies and tools used in horseshoe-making.
- 63, for rolling-machines and rolls used in horseshoe-making.

58 Swaging and shaping:

This subclass is indented under subclass 36. Machines and devices for swaging, rolling, or in any manner shaping or giving form to the shoe. May include means for thickening up heels or ends of shoes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 37+, for horseshoe making machines combining two or more functions.
- 60, for dies and tools used in horseshoe-making.
- 63, for rolling-machines and rolls used in horseshoe-making.

59 Trimming and bur removing:

This subclass is indented under subclass 36. Machines and devices for trimming horseshoe or for removing the burs raised in the operations of punching and creasing.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 37+, for horseshoe making machines combining two or more functions.

SEE OR SEARCH CLASS:

- 29, Metal Working, for pertinent subclass(es) as determined by schedule review.

60 Dies and tools:

This subclass is indented under subclass 36. Dies designed to be used in forming or making horseshoes; also tools for use in making or shaping calks and horseshoes and not adapted for general purposes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 61, 65, and 66, for dies for forming calks.

SEE OR SEARCH CLASS:

- 168, Farriery, appropriate subclasses for such tools as operate on the shoe when it is on the horse's foot.

61 Processes:

This subclass is indented under subclass 36. The title indicates the contents of this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 64, for processes for rolling blanks or bars.
- 68, for processes for making calks.

62 Blanks and bars:

This subclass is indented under subclass 36. Blanks and bars designed especially for use in the manufacture of horseshoes; also machines and apparatus for producing blanks and bars which are not classified in the subclasses under this head.

- (1) Note. Patents having claims both to the blank or bar and to the shoe are classified in Class 168, Farriery.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 61, for horseshoe-making processes.

SEE OR SEARCH CLASS:

- 168, Farriery, subclass 4 for horseshoe, and subclass 24 for peculiarities in the shoe shape.

63 Rolling:

This subclass is indented under subclass 62. Rolling-machines and rolls for forming blanks or bars particularly designed for horseshoes. One or more of the operations of beveling,

punching, and creasing or calk-forming may be performed during the rolling of the blank.

(1) Note. This subclass does not include machines which bend the blank into the general form of horseshoe or which operate on the blank after it has been so bent.

(2) Note. To distinguish between the machines of this group and those found in Class 72, Metal Deforming, see Lines with Other Classes under the general definition of this class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

57, for machines with rolls which simply punch and crease the blank.

66, through 68, for rolling-machines for forming calks.

64 Processes:

This subclass is indented under subclass 63. Processes or methods for producing blanks and bars for horseshoes by rolling.

65 Calk and clip bending, forming, sharpening, welding:

This subclass is indented under subclass 36. Machines and devices which perform one or more of the above operations such as show means for forming the calk or clip from the horseshoe-blank or operating upon the calk in connection with the shoe.

(1) Note. The thickening of the heels may be included in the operation of shaping in subclass 58 or in any of the subclasses under Combined machines which include shaping.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

37, 39 and 66+, for machines which form the calks apart from the shoe.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclass 460 for metal shaping anvil vises.

168, Farriery, appropriate subclasses for machines for sharpening calks when the shoe is on the horse's foot.

269, Work Holders, appropriate subclasses for workholders residually.

66 Calk making:

This subclass is indented under subclass 36. Apparatus for making horseshoe-calks.

(1) Note. For distinction between this subclass and subclass 65, see Note under the definition of that subclass.

67 Blanks and bars:

This subclass is indented under subclass 66. Blanks and bars designed for use in the manufacture of horseshoe-calks or from which the calks are cut.

68 Processes:

This subclass is indented under subclass 66. Processes or methods for making or treating calks or the blanks or bars from which the calks are made.

69 Calks:

This subclass is indented under subclass 66. Includes calks which are not removable and in which there is invention in the means for attaching them to the shoes.

SEE OR SEARCH CLASS:

168, Farriery, appropriate subclasses for calks not included in this subclass.

70 OX-SHOE MAKING:

This subclass is indented under the class definition. Miscellaneous machines, apparatus, blanks, and processes particularly designed for use in the manufacture of ox-shoes.

(1) Note. This art is analogous to that of horseshoe-making, and in most cases the search should be completed by reference to the appropriate subclasses under Horseshoe-Making.

71 STAPLE MAKING:

This subclass is indented under the class definition. Machines, apparatus, blanks, and processes for making or forming staples of general U-shape having legs substantially equal in length and adapted to be driven into wood or other material, including staples for general purposes and such as are made by machines

which cannot be classified in the specific art classes and subclasses.

- (1) Note. For the distinctions between this class and Class 72, Metal Deforming, see Lines with Other Classes under the general definition of this class.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 3 for buckle-making; subclass 4 for machines for forming staples for fastening buttons to shoes; subclass 5 for cotter-pin-making; and subclass 13 for machines for making staples for paper-fasteners.
- 72, Metal Deforming, appropriate subclasses for bending devices; also appropriate subclasses for Bending under Chain-Making and Horseshoe-making.
- 81, Tools, appropriate subclasses for tools for bending wire into U-shape.
- 140, Wireworking, appropriate subclasses for forming clips from wire.
- 227, Elongated-Member-Driving Apparatus, subclasses 82+ for combined apparatus for forming a member, e.g., staple, and driving it into work, etc.
- 470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, subclasses 134 and 160 for pointing devices for nail-making machines; subclass 195 for wire nail barb and pointing machines.

72 Sheet metal:

This subclass is indented under subclass 71. Machines for making staples from sheet-metal strips or plates.

73 Cutting, bending, barbing:

This subclass is indented under subclass 71. Combined machines which perform the operations of cutting, bending, and barbing or corrugating. This type of machine may or may not have an automatic feeding mechanism for feeding the wire to the cutting apparatus.

- (1) Note. See Notes under general head of Staple Making.

SEE OR SEARCH CLASS:

- 72, Metal Deforming, for pertinent subclass(es) as determined by schedule review.
- 140, Wireworking, subclass 105, for forming crimps or kinks in wire or wire fabrics.

74 Cutting, bending, point forming:

This subclass is indented under subclass 71. Machines which perform the above operations, the point-forming operation being distinct and separate from the operation of cutting the wire or rod into lengths.

- (1) Note. See Notes under subclass 71, Staple Making.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 71, for machines, apparatus, blanks, and processes for making or forming staples of general U-shape.

75 Cutting and bending:

This subclass is indented under subclass 71. Machines for cutting the wire into lengths and bending into staple form. These machines may or may not have an automatic feeding mechanism, and the cutting mechanism may also operate to point the staples.

- (1) Note. See appropriate subclasses under Chain Making and Horseshoe-Making.

76 Rotary former:

This subclass is indented under subclass 75. Machines for cutting and bending having a rotary former or die-block around which the staple is bent or rotary jaws or lugs for bending it around a stationary die-block.

77 Blanks and processes:

This subclass is indented under subclass 71. Processes of manufacture and blanks or bars designed to be used in staple making.

- (1) Note. The line between this class (59) and Class 206, Special Receptacle or Package, and Class 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Lock-Threaded Fastener, is as follows: In this class (59), this sub-

class (77), the blank may have the appearance of a mass of partially-shaped, nonsevered, staple-like elements; however, significant additional shaping, plus severing, is required to convert the blank into a plurality of staples. In Class 206, subclasses 340+, the package may be one of severably-connected staples. In Class 411, subclasses 442+, a plurality of fasteners of the class are secured one to another, e.g., a strip of staples, etc.

- (2) Note. A claim, even though stated to be a “blank”, which is readable upon a completed article for Class 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, Locked-Threaded Fastener, subclasses 442 and 457 is classified therein, for such a claim is generic to both the blank and the article, and therefore is considered to be best classified with the article.
- (3) Note. Patents having claims to both the article and process or method are found in Class 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclasses 457+.

SEE OR SEARCH CLASS:

- 206, Special Receptacle or Package, subclass 206 for a fastener package including an ancillary contact medium and subclasses 338+ for a fastener package. See (1) Note, above.
- 411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclasses 442+ and 457+, and see Notes (1) to (3) above.
- 428, Stock Material or Miscellaneous Articles, subclasses 571+ for metallic stock having a weakened portion for severing, and subclass 587 for a metallic workpiece mimicking the cross section of finished stock.

78 CHAINS:

This subclass is indented under the class definition. This is the generic locus of concatenated elements known as “chains” and includes

both general-purpose and ornamental chains and swivel link mechanisms.

- (1) Note. Patents showing bars, beads, links, or rings strung upon or attached to parallel flexible elements, or lugs or projections attached to continuous flexible elements such as belts or cables, will be found in 474, Endless Belt Power Transmission Systems or Components, or in Class 63, Jewelry, depending upon whether they are designed as machine elements or for jewelry or personal wear.

SEE OR SEARCH CLASS:

- 63, Jewelry, for pertinent subclass(es) as determined by schedule review and see (1) Note above.
- 180, Motor Vehicles, subclasses 9+ for a motor vehicle adapted to travel upon at least one track carried by the vehicle, which track ordinarily comprises an assembly of concatenated elements.
- 211, Supports: Racks, subclass 119.14 for isolated supports with flexible linked supporting means joining the supports.
- 305, Wheel Substitutes for Land Vehicles, subclass 185 for endless flexible tracks for land vehicles.
- 474, Endless Belt Power Transmission Systems or Components, particularly subclasses 202+ for a positive drive power transmission belt; and subclasses 237+ for a friction drive power transmission belt.
- D8, Tools and Hardware, subclass 499 for ornamental forms of chain.

78.1 Conduit:

This subclass is indented under subclass 78. Chains, generally used for supporting chandeliers or the like, in which the links are provided with grooves, openings, or passageways for receiving electric conductors or for providing a conduit for gas or other fluid. The chain may be provided with end fittings such as nipples, hooks, eyes, etc., for attaching the chain to a fixed object or for attaching an article to the chain. The mere recital, broadly, in the claims of electric conductors does not operate to exclude a patent which would otherwise be classified herein.

SEE OR SEARCH CLASS:

- 138, Pipes and Tubular Conduits, subclass 120 for a pipe made up of jointed sections which do not constitute "chain" links.
- 248, Supports, subclasses 317+ for chandelier supports in general and Notes thereto.

79.1 Elastic:

This subclass is indented under subclass 78. Chains which upon the application of tension will be extended and will automatically resume their normal length when the tension is removed.

SEE OR SEARCH CLASS:

- 114, Ships, subclasses 213+ for extensible springs used to prevent tension or strain from rupturing yielding parts of a ship.
- 267, Spring Devices, subclasses 69+ for elastic extension devices which are extensible upon application of tension and recover when the tension is removed; and subclasses 80+ for a panel of interlinked extensible/recoverable spring-influenced members, e.g., bed spring panel, etc.

79.2 Coil spring:

This subclass is indented under subclass 79.1. Chains comprising expansible chain linkages which are biased to retract by a continuous coil spring passing through a plurality of links.

79.3 Sliding link:

This subclass is indented under subclass 79.1. Chains comprising expansible chain linkages in which links are slidable upon each other to expanded and contracted positions.

80 Ornamental:

This subclass is indented under subclass 78. Chains ornamental in appearance designed for jewelry or personal wear, and includes chains having alternate or different links composed of different materials, or the links joined in a manner to render the chain ornamental in appearance, or the individual links composed of different metals or materials which render them ornamental in appearance, or having parts or features rendering the chains ornamental in

appearance, but which parts or features would possess no particular utility in a general purpose chain. Metallic bead chains are included in this subclass.

- (1) Note. Where the invention resides in the structure of an ornamental fabric, per se, and does not include features characteristic of chains, it will be classified in Class 63, Jewelry, appropriate subclasses or Class 245, Wire Fabrics and Structure, appropriate subclasses.
- (2) Note. This subclass does not include wire curb-chains or chains made up of twisted-wire links. Such chains are found in this class, subclass 83.

SEE OR SEARCH CLASS:

- D11, Jewelry, Symbolic Insignia, and Ornaments, subclass 13 for ornamental chain designs.

81 Multistrand roller:

This subclass is indented under subclass 80. Chains composed of two or more parallel rows or strands or roller links or beads having means extending transversely of the chain for connecting them.

82 Links:

This subclass is indented under subclass 80. Inventions limited to the construction of the link.

83 Wire:

This subclass is indented under subclass 78. Chains composed of wire links or elements. If the invention be limited to the link structure, the patents will be classified in the appropriate subclass under the head of Links.

- (1) Note. As to what wire chains should be included under ornamental chains, see definition of subclass 80, herein. Elastic wire chains will be found in subclass 79 herein.

SEE OR SEARCH CLASS:

- 245, Wire Fabrics and Structure, subclass 4 for chain-type fabrics.

84 Links:

This subclass is indented under subclass 78. Miscellaneous inventions in the construction of the link. This subclass includes links made up of two or more parts or composed of different materials.

SEE OR SEARCH THIS CLASS, SUBCLASS:

82, for ornamental links.
84, and 90, for plain oval or elongated car-coupling links.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 243 through 245 for links intended for use for anti-skid purposes.
174, Electricity: Conductors and Insulators, subclasses 184 and 207 for insulator terminals in the form of links or clevises.

85 Detachable:

This subclass is indented under subclass 84. Links or coupling devices of the general form of a chain-link which are designed to replace broken links or connect chains or parts of chains without heating or welding. These links should be capable of receiving two chain-links and furnishing bearings for the same, one at each end of the detachable link.

(1) Note. This subclass does not include hooks or coupling members or devices which are especially designed for other purposes and are classifiable elsewhere, as whiffletree-connectors, clevises, etc. Lap links or rings designed for general use and which answer the above requirements will be included in this subclass.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 598.2+ for a ring shaped projection member of a separable-fastener, subclasses 598.4+ for a hook with a gate for closing its access throat, and subclasses 698.1+ for a hook shaped projection member of a separable-fastener.

54, Harness for Working Animal, subclass 30 for hame and trace connectors, and subclass 53 whiffletree connectors.

70, Locks, subclass 456 for key holders.

114, Ships, subclass 113 for hoops and connections and subclass 114 for cringles and hanks to control sails.

278, Land Vehicles: Animal Draft Appliances, subclasses 90+ for whiffletrees.

403, Joints and Connections, appropriate subclasses for connections in general.

474, Endless Belt Power Transmission Systems or Components, appropriate subclasses for links for connecting sprocket-chains, particularly subclasses 202+ for a positive drive power transmission belt and links used in such belts.

86 Shackles:

This subclass is indented under subclass 85. Couplings for chains or parts of chains comprising U or link shaped members pivoted together by a removable pin and having means for normally retaining the pin in position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85, for detachable links or coupling devices.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 573+ for a three-part separable-fastener.

70, Locks, subclass 18 for shackles embodying lock mechanism.

114, Ships, subclass 114, for cringles and hanks to control sails.

278, Land Vehicles: Animal Draft Appliances, subclasses 96+, for links or clevises.

87 Double lap:

This subclass is indented under subclass 85. Links comprising two main members, usually constituting the sides of the links, which members overlap each other at and for some distance adjacent their extremities. The members may or may not have interlocking lugs and recesses.

- 88 Pivoted:**
This subclass is indented under subclass 87. Double-lap links which are pivoted together or have means for maintaining them in pivotal relation.
- 89 Pivoted closure:**
This subclass is indented under subclass 85. Links having pivoted closures which may or may not have locking means.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclasses, subclass 598.2 for a ring shaped projection member of a separable-fastener.
70, Locks, subclass 456, for key holders.
- 90 One piece:**
This subclass is indented under subclass 84. Such links as are formed of a single piece of metal or other material.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
84, for composite links made up of different metals.
- 91 Sheet metal:**
This subclass is indented under subclass 90. The title is self-explanatory.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
80, for ornamental chains.
82, for construction of links.
- 92 Wrapped and twisted:**
This subclass is indented under subclass 90. Links usually formed from wire having their ends wrapped or twisted about other portions of the links, thereby securely fastening said ends and dispensing with welding.
- 93 Attachments:**
This subclass is indented under subclass 78. Various devices not otherwise classifiable, such as hooks, bars, and rings to be attached at or intermediate the ends of the chain and becoming a part of and being used in connection with the chain.
- SEE OR SEARCH CLASS:
16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), appropriate subclasses for hand grips or handles applied to chain ends.
24, Buckles, Buttons, Clasps, Etc., subclass 114.5 for strap cable or pipe button chain attachments, and subclass 116 for chain devices similar to cordholders.
54, Harness for Working Animal, subclass 30 for hame and trace connectors and subclass 33 for adjustable tags.
63, Jewelry, subclass 9 for multiple hinge bracelets.
278, Land Vehicles: Animal Draft Appliances, subclasses 90+ for whiffle trees and their connections to poles, thills, or forward part of a vehicle.
- 95 Swivels:**
This subclass is indented under subclass 78. Includes all devices in which the invention resides in the swivel, per se.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclass 905 for swiveling devices shown with snap hooks for attaching a watch to a chain.
43, Fishing, Trapping, and Vermin Destroying, subclasses 43.1+ and see the reference to this class (59) in the definition of subclass 43.1.
285, Pipe Joints or Couplings, subclasses 272+ for a swivelled pipe coupling.
403, Joints and Connections, subclasses 164+ for a swivel connection in general.
482, Exercise Devices, particularly subclasses 87+ for a multidirectionally movable bag or pad which may be supported by a swivel.
- CROSS-REFERENCE ART COLLECTIONS
- 900 PLASTIC:**
Links which are made of plastic or contain significant plastic portions.

901 CROSS PIN:
Links characterized by some particular significance in the cross pin use at the pivot point with another link.

END