

CLASS 294, HANDLING: HAND AND HOIST-LINE IMPLEMENTS

SECTION I - CLASS DEFINITION

This class comprises all devices combined with handles, terminal elements, or attachments peculiarly adapted for engaging supporting articles or materials for handling or manipulating purposes and not structurally limited to any classified art and such combinations thereof and accessories therefor as not elsewhere classifiable.

- (1) Note. This class includes power applying element which relate to the engaging of the load and not to its movement thereafter, except that a means for applying a straight line force or push to the load after the load has been released from the engaging means to move the load away from the engaging means is classified in this class.
- (2) Note. The addition of wheels to any type of handlers included in this class, except where such addition is merely incidental, (such as adding casters to hoisting buckets), is held to involve transportation combinations.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

- (1) Note. This class does not include hoisting machines, which are provided for in Class 414, Material or Article Handling.
- (2) Note. For hand and hoist-line terminal implements and attachments, classifiable on their necessary function in more elemental classes, see particularly, Classes 24, Buckles, Buttons, Clasps, etc., 279, Chucks or Sockets, and 403, Joints and Connections.
- (3) Note. For hand and hoist-line terminal implements and attachments so specialized as to be of only limited application as handling devices see particularly classes 30, Cutlery, 43, Fishing, Trapping, and Vermin Destroying, 56, Harvesters, 81, Tools, 111, Planting, 119, Animal Husbandry and 258, Railway Mail Delivery.

- (4) Note. For hand and hoist-line terminal implements and attachments involving features additional to mere handling, such as changing the shape or condition of the matter engaged, see particularly Classes 37, Excavating, and 100, Presses.
- (5) Note. For power applying elements that relate to the movement of the load see Classes 198, Conveyors: Power-Driven, 212, Traversing Hoists, 414, Material or Article Handling, 254, Implements or Apparatus for Applying Pushing or Pulling Force, and 280, Land Vehicles.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

- 2, Apparel, subclasses 16+, for miscellaneous shields for the hands not specialized as handling devices.
- 5, Beds, subclasses 861+, for invalid lifts and transfer devices.
- 7, Compound Tools, for compound tools involving some features outside of this class.
- 15, Brushing, Scrubbing, and General Cleaning, subclasses 104.03+, 146, 147.1+, 173, 177+, and 220.1+, for holders for cleaning implements.
- 16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 110+ for handles.
- 24, Buckles, Buttons, Clasps, etc., appropriate subclasses, for nonforce transmitting or driving, holding devices and gripping elements, per se, handling-implement combinations not being present. (See specific search notes below and 2 Note).
- 29, Metal Working, subclasses 700+, for assembling-frames, valve-lifters, piston-ring removers and the like devices.
- 30, Cutlery, subclasses 322+, for table forks. (Also see 3 Note).
- 37, Excavating, subclasses 182, 411+, and 461, for scoops and orange peel and clamshell buckets. (See 4 Note).
- 43, Fishing, Trapping, and Vermin Destroying, subclass 6, for fishing harpoons and spears.

- 47, Plant Husbandry, subclass 1.01, for tong-like devices for treating tobacco-plants, etc.
- 53, Package Making, subclasses 147+ for machines to form packages combined with means to group the contents thereof prior to completion of the packaging operation.
- 56, Harvesters, subclasses 328.1+, for fruit gatherers. (Also see Note 3).
- 76, Metal Tools and Implements, Making, subclasses 101.1+, 111 and 113, for processes for making implements such as rakes, shovels, pitchforks, etc.
- 81, Tools, for a hand held tool specifically adapted to permit manipulation of a part, (e.g. fastener, valve) rather than merely transporting or moving an article from one location to another. Class 81 is the generic locus for pliers (subclasses 300+) and wrendus (subclasses 53+). See also subclass 487 for hand held holder (e.g., welding rod, holder) and miscellaneous hand tools having a clamp.
- 100, Presses, subclass 234 for plier type presses not elsewhere provided for.
- 111, Planting, (See 3 Note).
- 114, Ships, subclasses 51 and 221, for tools for use in ships and ship making, repairing, etc.; and subclasses 378+ for releasing devices claiming modified boat structure, separable fastenings on hoist-line and boat, and those showing boat fixtures of releasing hook type.
- 119, Animal Husbandry, subclasses 712+ for a device for controlling or handling an animal, especially subclasses 801+ for catching or holding animals. (Also see 3 Note).
- 140, Wireworking, subclasses 123+ for tools for wireworking.
- 166, Wells, appropriate subclasses for processes including grappling in a well bore, subclass 98 for grapples combined with well anchored lifting means, subclass 99 for well devices with junk retrievers, subclasses 162+ for well receptacles.
- 171, Unearthing Plants or Buried Objects, subclasses 50+ for plant and buried object pull-up type extractor devices having a wheel or ground supported frame.
- 188, Brakes, subclasses 43, 44, 63, and 127 for brakes involving gripping and release.
- 215, Bottles and Jars, subclasses 396+ for bottle holding and carrying devices of types other than those provided for in subclasses 27.1+ of this class (294).
- 220, Receptacles, appropriate subclasses, for receptacles with handles to be manipulated by hand.
- 221, Article Dispensing, appropriate subclasses for article dispensers not otherwise provided for, many of which include a supply receptacle containing articles to be dispensed, combined with an implement of the handling, hand and hoist-line implement type of removing articles from said supply receptacle. See particularly subclasses 210+ in which discharge assistants of the article adhering or gripping type are included in combination with a source of supply of articles.
- 223, Apparel Apparatus, subclasses 113 through 119 for devices specialized for holding footwear.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses, for devices wherein handling-terminals are combined with means for obtaining some mechanical advantage in handling the load. (Also see 5 Note).
- 258, Railway Mail Delivery, subclass 3, for handling implements for the delivery of train-orders to persons on moving trains. (Also see 3 Note).
- 269, Work Holders, appropriate subclasses. Class 269 is the residual locus for patents to a device for clamping, supporting and/or holding an article (or articles) in position to be operated on or treated. See notes thereunder for other related loci.
- 279, Chucks and Sockets, (see 2 Note).
- 280, Land Vehicles, (see 5 Note).
- 396, Photography, subclasses 647+ for photographer's work handling devices in fluid treating apparatus.
- 405, Hydraulic and Earth Engineering, subclass 186 for divers tools; and subclasses 190+ for submarines and diving bells having remotely operated means (e.g., mechanical arms) for performing underwater work.
- 414, Material or Article Handling, subclasses 444+, 618+ and 729+ for portable grapples or grappling mechanism having power means for moving or manipulating the mechanism.
- 449, Bee Culture, subclasses 61+ for a handling implement to be used in manipulating the components of a bee hive.
- 452, Butchering, subclass 17 for oyster openers and subclasses 189+ for supports for animal carcasses to facilitate their handling during butchering (gambrels).
- 606, Surgery, subclasses 205+, for forceps. 130, Threshing, subclass 4 for corn husking pegs.

901, Robots, subcollection 31+ for gripping devices useable on robots.

(1) Note. Devices involving combined features not tools or handling devices will be found with the specific structures.

SUBCLASSES

1.2 CONTACT LENS APPLICATOR:

This subclass is indented under the class definition. Devices especially adapted for the handling of a contact lens during insertion or removal from the eye.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 5.1 for contact lens applicators which also include, in combination, a receptacle for storing the lenses.

SEE OR SEARCH CLASS:

7, Compound Tools, appropriate subclass.
42, Firearms, subclass 93, for gun attachments forming combined intrenching-tools and shields.
215, Bottles and Jars, subclasses 386+ for bottle-carriers combined with openers, etc.
222, Dispensing, subclasses 466+, for dispensers having auxiliary tilting handles.

1.3 SANITARY HANDLER FOR PET DROPPINGS:

This subclass is indented under the class definition. Devices specially adapted to handle waste excreted from a small domesticated animal.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 257.1+ for dustpan type implements.

3 Pliers or tong type:

This subclass is indented under subclass 2. Devices having one or more implements of the plier or tong type.

SEE OR SEARCH CLASS:

7, Compound Tools, subclasses 125+, where one of the tools in the combination does not fall within this class.
81, Tools, subclasses 303+, for pliers and tongs with multiple jaws.

1.4 Pole mounted:

This subclass is indented under subclass 1.3. Devices which are mounted on an elongated member so that the handling may be done by a person in a standing position.

3.5 MORTAR HAWK:

This subclass is indented under the class definition. Device comprising a hand tray for holding mortar.

1.5 Catcher:

This subclass is indented under subclass 1.4. Devices specially adapted to intercept the waste before it is deposited on an underlying surface.

3.6 ZIPPER PULLING TOOL:

This subclass is indented under the class definition. Devices including means which releasably engages a zipper slider and pulls it along the interlocking surfaces of its zipper to open or close the zipper.

(1) Note. Patents which claim the combination of a tool for moving a zipper slider and details of the zipper are classified in this subclass.

2 MISCELLANEOUS COMPOUND TOOL:

This subclass is indented under the class definition. Devices including combinations of two or more types of implements included within the class. Multiple or convertible or combined implements belonging in the same major subclass group in this class are classified with such groups.

4 BARREL-ROLLER TYPE:

This subclass is indented under the class definition. Devices, usually of the grapple type, peculiarly adapted for rolling barrels or similar objects.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
5, for swiveled grasper-terminals.
- SEE OR SEARCH CLASS:
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 35+, for car pusher type implements, particularly the wheel engaging type.
- 5 EAR-CORN HOLDERS:**
This subclass is indented under the class definition. Devices peculiarly adapted to facilitate the handling of ears of hot corn at the dining table.
- (1) Note. Expect for specialized implements search general structural subclasses in the search notes below.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
4, for swiveled grasper-terminals.
61, for implements in the nature of spears. (See Note 1).
86.4, for grapples of general utility (See Note 1).
- 5.5 ROD-TYPE SUPPORTS AND HANGERS (E.G., TOBACCO, CONFECTION, ETC.):**
This subclass is indented under the class definition. Rods or sticks adapted to support material thereon for the purpose of facilitating handling, not specially adapted for handling articles at a distance.
- (1) Note. Many of the patents in this subclass relate to sticks to which tobacco leaves or stalks may be strung to facilitate handling, and to sticks or poles for supporting sheet during drying.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
61, for spears.
209, for rods or poles peculiarly adapted for handling articles at a distance.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., appropriate subclasses, for attaching clips, per se.
- 34, Drying and Gas or Vapor Contact With Solids, subclass 240, for apparatus within that class including rod supports and not more specifically provided for.
- 414, Material or Article Handling, subclass 26, for devices for use in stringing tobacco upon sticks or unstringing tobacco therefrom.
- 6 PLATE TURNER, INCLUDING TRAY TURNER:**
This subclass is indented under the class definition. Devices peculiarly adapted to grasp objects of platelike form and turn them in a horizontal plane.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
21, for rotatable graspers on globe manipulating poles.
27.1, for plate lifters generally.
- 7 PANCAKE TURNER, ICE CUBE REMOVER, OR CAKE SERVER TYPE:**
This subclass is indented under the class definition. Devices of flat blade-like type peculiarly adapted to turn pancakes.
- 8 Special turning element:**
This subclass is indented under subclass 7. Devices having positively operating means to bring about the oscillation of the blade, usually about an axis parallel with the handle.
- SEE OR SEARCH CLASS:
81, Tools, subclass 53.12 for rotatable globe manipulators of the pole type.
- 8.5 CLOTHES TONGS:**
This subclass is indented under the class definition. Devices of the plier or tong type peculiarly adapted to lift clothes.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
3, for compound implements including one or more plier or tong type devices.
- SEE OR SEARCH CLASS:
81, Tools, subclasses 300+, for pliers and tongs of general utility.

8.6 CARPET STRETCHER:

This subclass is indented under the class definition. Device provided with prongs or other analogous structure for use in grasping and forcing a carpet or like covering into place in laying it.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 200+, for a similar device including means for affording mechanical advantage.

9 STOVE IMPLEMENTS:

This subclass is indented under the class definition. Devices peculiarly adapted for use with domestic stoves and furnaces.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

49+, for fire-shovels.

10 Combined:

This subclass is indented under subclass 9. Devices comprising combined stove implements not otherwise classifiable, usually lid-lifters and pokers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

2, for miscellaneous compound tools comprising two or more types found in this class.

SEE OR SEARCH CLASS:

7, Compound Tools, subclass 109 for similar devices including a tool not proper for Class 294.

11 Fire tong:

This subclass is indented under subclass 9. Devices known as "household" or "kitchen" tongs and designed to be used in connection with stoves and open grates.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

99.1+, for resilient grapples generally.
104, for grapples of general utility having a fixed and a movable jaw.

12 Lid lifter:

This subclass is indented under subclass 9. Devices including structure or form of stove-lid lifters.

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.), subclasses 431 through 446, for stove-lid lifters having insulated handles.

13 Pivoted jaw:

This subclass is indented under subclass 12. Devices having a pivoted grasping, latching, or bearing jaw.

14 Poker:

This subclass is indented under subclass 9. Devices including household pokers.

SEE OR SEARCH CLASS:

126, Stoves and Furnaces, subclass 173, for raking attachments for grates.

15 HAND BARS AND HAND BARROWS:

This subclass is indented under the class definition. Load engaging bars or frames provided with one or more handholds or equivalent means permitting the load to be carried or an article to be manipulated by one or more persons, usually at the normal level of the hands.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

137, for other article carriers adapted to be gripped and carried by the hand.

SEE OR SEARCH CLASS:

5, Beds, subclasses 861+, for devices specialized to handling invalids.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 29 (and see the notes thereto) for hand bars, etc., in which a continuously applied force operates successively to bring the apparatus into engagement with the load and then to handle the load.

280, Land Vehicles, subclasses 47.17+, 47.34+ and 79.11+ for similar struc-

- tures having the invention in the wheels or runners.
- 296, Land Vehicles: Bodies and Tops, subclass 20 for wheeled stretchers.
- 16 Opposing jaws:**
This subclass is indented under subclass 15. Devices having pairs of load-engaging elements contracting or expanding against the object carried.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
113+, for pivoted jaw grapples having a surrounding frame.
- 17 Cant hook type:**
This subclass is indented under subclass 15. Devices having lifting-levers provided intermediate their length with load-engaging hooks fixed or moveably mounted thereon. In this subclass are included the second-class levers (cant dogs) used for handling logs and heavy timbers.
- SEE OR SEARCH CLASS:
37, Excavating, subclass 302 and 303, for similar devices for removing stumps and stones.
157, Wheelwright Machines, subclasses 1.1+ particularly subclasses 1.26+ and 1.86, and subclasses 5 and 11, for similar structures adapted for the mounting and demounting of rubber tires.
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 35+, for car pushing implements, and 131, for single throw levers of general utility.
- 18 Railway coupling tools:**
This subclass is indented under subclass 15. Devices comprising hand bars to facilitate the coupling and uncoupling of railway cars from a safe position, usually outside of the trackway.
- SEE OR SEARCH CLASS:
213, Railway Draft Appliances, subclasses 205+, for vehicle attached coupling- operating tools.
- 19.2 BALL RETRIEVER:**
This subclass is indented under the class definition. Devices particularly adapted for retrieving balls used in games (e.g., golf or tennis balls).
- 19.3 GRAPPLING GAFF:**
This subclass is indented under the class definition. Device wherein the handling implement has moveable grasping elements of a barbed or hook like configuration for the purpose of capturing an animate object (e.g., fish).
- (1) Note. These devices usually include spring biased, trigger actuated jaws which, upon contact with animate object, will be automatically actuated.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
110.1, for automatically actuated pivoted jaw grapples which are not mounted on poles.
- 22 FOR STORE GOODS:**
This subclass is indented under the class definition. Devices peculiarly adapted for handling goods in the windows or on the shelves of stores.
- 23 Compound tool (i.e., for plural objects):**
This subclass is indented under subclass 22. Devices having more than one article-engaging means, usually to be selectively used.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
2, for miscellaneous compound implements under the class definition.
- 23.5 LAUNDRY STICKS:**
This subclass is indented under the class definition. Poles peculiarly adapted for use in handling laundry.
- 24 COMPOUND TOOL (I.E., FOR PLURAL OBJECTS):**
This subclass is indented under the class definition. Devices having several article-engaging terminals, usually to be used selectively.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 2, for miscellaneous compound tools under the class definition.
- 23, for compound implements especially adapted for handling store goods.
- 87.1+, for grapples for multiple objects.

25

HAND AND FINGER ATTACHMENTS:

This subclass is indented under the class definition. Miscellaneous hand and finger attachments designed to facilitate the handling of articles or material.

- (1) Note. This subclass includes devices especially adapted for handling sheets of paper.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 131, for shield devices under the class definition.

SEE OR SEARCH CLASS:

- 2, Apparel, subclasses 16+ for a guard or protector for the hand against unusual conditions such as the application of a strong force, high temperature, etc.
- 15, Brushing, Scrubbing, and General Cleaning, subclass 104.94 and 227, for a wiper, dauber or polisher in the form of a mitt or cott; and subclass 443, for a penholder shaped to receive a hand or finger.
- 34, Drying and Gas or Vapor Contact With Solids, subclass 95.2, for a hand-or finger-attachable blotter.
- 119, Animal Husbandry, subclasses 712+ for body harness of general utility and search notes for various fields of search involving harnesses.
- 401, Coating Implements With Material Supply, subclass 7 and 8, for an implement of that class including a hand-or finger-attachable pocket or loop or strap.
- 460, Crop Threshing or Separating, subclasses 25+ for attachments for husking and shelling corn.

26

HAND-HOOK TYPE:

This subclass is indented under the class definition. Miscellaneous hand implements having the general configuration of a hook.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 2, for compound implements, one element of which may be a hook.
- 82.1+, for hoist-line or grab hooks.
- 87.1+, for devices of the pipe-hook type for handling a plurality of objects.

SEE OR SEARCH CLASS:

- 119, Animal Husbandry, subclass 801, for crook type animal catchers.

26.5

DISCHARGING HAND RECEPTACLES, TRAYS OR CAGES:

This subclass is indented under the class definition. Apparatus in which a hand manipulable material support in the nature of a container, platform or open frame work is comprised of relatively displaceable portions facilitating the gravity discharge of the material from the support.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 7+, for pancake turners.
- 68.22+, for hoist-line buckets.

SEE OR SEARCH CLASS:

- 99, Foods and Beverages: Apparatus, subclass 407 for food discharging supports associated with a cooking liquid bath.
- 249, Static Molds, subclass 66.1 for molds including means to apply a force to a molded product to remove or release the same from the mold.

27.1

DETACHABLE:

This subclass is indented under the class definition. Devices particularly adapted to handle receptacles of any of the various types, such as jars, cuspidors, plates, pots, etc., and which are readily removable therefrom.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 6, for plate turners.

- 86.1+, for grappling devices particularly adapted to function in a well bore or similar earth opening.
- 86.4+, for devices of similar structure, but of general application, and for crucible tongs and grapples usually of special construction for hoist-line operation.

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.), subclasses 422 through 430 for similar devices which provide a handle for a receptacle and which are designed to engage or cooperate with a modification of the receptacle. Conventional features or designs of a receptacle such as a bead are not considered a modification of a receptacle to receive a handle.
- 81, Tools, subclasses 3.07+, for special tools adapted for facilitating various operations upon fruit jars or similar articles, usually involving the applying or removing of covers or the loosening of packing rings and subclasses 300+ for releasable gripping tools (e.g., pliers).
- 190, Trunks and Hand-Carried Luggage, subclass 39 for a trunk handle and subclasses 115+ for a traveling bag combined with a handle.
- 215, Bottles and Jars, subclasses 396+ for bottle and jar handling attachments combined with bottle or jar structure.
- 220, Receptacles, subclasses 752+ for a handle for a receptacle wherein the handle structure is part of the device or the receptacle is modified to receive the handle.
- 222, Dispensing, subclasses 466+, for dispensers having auxiliary tilting handles.
- 248, Supports, subclass 145.6 for self supporting devices which support a receptacle in substantially spaced relationship to a horizontal surface such as a table, floor, or the ground, and include a handle.

28 Pivoted graspers:

This subclass is indented under subclass 27.1. Devices having pivoted load-engaging members.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104, for fixed and pivoted jaw grapples.
106+, for pivoted jaw grapples.

SEE OR SEARCH CLASS:

- 81, Tools, subclass 415, 347+ and 424, for pliers and tongs having pivotally connected jaws.

29 Rim- and bottom-engaging:

This subclass is indented under subclass 28. Devices engaging both the rim and bottom of the receptacle.

30 Axially extending handle:

This subclass is indented under subclass 28. Devices having pivots upon an axis parallel with the handle.

SEE OR SEARCH CLASS:

- 81, Tools, subclass 346, for pliers and tongs having parallel pivoted rods.

31.1 Rim gripping jaws:

This subclass is indented under subclass 28. Devices grasping the rim or edge of the receptacle or plate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 86.4+, for grapples of general utility.

SEE OR SEARCH CLASS:

- 81, Tools, subclasses 300+, for pliers.

31.2 Band type:

This subclass is indented under subclass 27.1. Lifting devices comprising a strip of material adapted to extend around a receptacle and provide substantially continuous.

- (1) Note. A handle portion for these devices is usually associated with the means for securing the ends of the strip together or with eyelets formed intermediate the ends of the strip.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 28, for band type graspers having pivotally connected sectors.
 33, for grapples in which the strip is of resilient material and is formed to provide relatively movable distinct jaw portions.
- 32 Bottom-engaging:**
 This subclass is indented under subclass 27.1. Devices usually of plate or fork-like shape designed to be pushed under a plate or receptacle and to handle the same by supplying merely a bottom support for such article.
- 33 Resilient:**
 This subclass is indented under subclass 27.1. Devices in which the gripping members are so connected as to form spring-arms and depend upon the spring of the material to open or close the jaws.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 99.1, for resilient grapples of general utility.
 99.2, for tweezers.
- SEE OR SEARCH CLASS:
 24, Buckles, Buttons, Clasps, etc., subclasses 530+, for resilient clasps.
- 34 Sliding graspers:**
 This subclass is indented under subclass 27.1. Devices, in which the jaws have a relative sliding movement, one or both jaws moving on guides.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 103, for fixed and movable jaw grapples.
- SEE OR SEARCH CLASS:
 81, Tools, subclasses 355+, for pliers and tongs having a sliding jaw.
- 49 HAND FORKS AND SHOVELS:**
 This subclass is indented under the class definition. Hand implements comprising a stem or handle fitted at one end with a blade or row of tines extending in the general direction of the handle and designed to engage and lift a load usually when held in approximately horizontal position.
- (1) Note. Hand implements constructed with a bottom, three sides and an open fourth side and used like scoops, have been placed elsewhere (see the search notes below) even though they have no handle or have a handle disposed in a position otherwise than that set out in the definition of this subclass (49).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 7, for pancake turners.
 176, for hand implements constructed with a bottom, three sides, and an open fourth side, and used like scoops (see (1) Note above).
 61, for fork-like devices designed to be used in a vertical position.
- SEE OR SEARCH CLASS:
 15, Brushing, Scrubbing, and General Cleaning, subclasses 257.1+ for dust pans.
 30, Cutlery, subclasses 322+ for table and culinary forks.
 37, Excavating, subclasses 411+ for scoop structures.
 42, Firearms, subclass 93 for intrenching-tools.
 56, Harvesters, subclass 400.12 for hand rakes provided with grapples.
 76, Metal Tools and Implements, Making, subclass 111 and 113 for making forks and shovels.
 171, Unearthing Plants or Buried Objects, particularly subclasses 63+, 82, 100, 102, and 105 for wheel or runner supported devices provided with spaced depending teeth or tines which are adapted to comb through the earth and gather therefrom desired plants or like buried objects.
 172, Earth Working, subclasses 371+ for hand held earth working tools other than shovels or forks (e.g., hoes).
 175, Boring or Penetrating the Earth, subclass 316 for an earth boring device having relatively movable parts to facilitate emptying without disassembly.

- 209, Classifying, Separating, and Assorting Solids, subclass 418 and 419, for shovel type sifters.
- 211, Supports: Racks, subclass 54.1, 57.1, 59.1, and 125, for racks with impaling means.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 131.5, for forks and shovels having fixed or movable fulcrums.
- 403, Joints and Connections, appropriate subclasses for a joint between a tool and a handle wherein no structure of either the tool or handle is included, other than that which cooperates to form the joint.

50 Fork-tine shovel clearers:

This subclass is indented under subclass 49. Implements having reciprocating elements to push the load from the fork-tines or shovel-blade.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 61, for spears having clearers.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclass 129, for forks under the definition of that class combined with strippers.
- 56, Harvesters, subclasses 400.08+, for rakes equipped with cleaners.
- 175, Boring or Penetrating the Earth, subclass 313, for an earth boring bit or cutter element provided with a mechanical cleaner therefor.

50.5 With grappling-type forks or shovels:

This subclass is indented under subclass 50. Implements wherein the fork or shovel is of the grappling type.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclass 129, for cutlery forks having material holding and ejecting means.
- 47, Plant Husbandry, subclasses, 73+ for transplanting receptacles having clearing or ejecting means.
- 111, Planting, subclass 101 for an apparatus which removes a plant from the soil for transplanting purposes or sets

a plant into the soil and which may use a grappling type fork or shovel

50.6 Grappling type:

This subclass is indented under subclass 49. Implements peculiarly adapted to grasp, grapple or otherwise retain a load in or on the fork or shovel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 86.4+, for grapples of general types and see the search notes following the definition of subclasses 86.4+

SEE OR SEARCH CLASS:

- 7, Compound Tools, subclasses 114+, for grappling type root cutters equipped with a cutter.
- 30, Cutlery, particularly subclasses 124+, for cutlery devices having means acting to hold or dispose of material, and see (7) Note to the definition of subclass 124 for a statement of the line.
- 56, Harvesters, subclass 400.12, for hand rakes equipped with material holding or receiving means of grappling type.
- 111, Planting, subclasses 118+, for devices for impregnating the earth with liquid or gases and having means to hold material such as water or the like and also provided with an earth working implement and subclasses 92+, 101, and 106+, for similar devices for setting plants or seeds.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 132, for grappling type root pullers equipped with a fulcrum means.

50.7 Annularly arranged:

This subclass is indented under subclass 50.6. Implements wherein the shovel blade or blades or the fork tines are arranged so as to form in cross section a substantially closed curve, usually a circle. The load holding portion is substantially rigid although it may be sufficiently resilient so as to be flexed to contract and grasp the load.

SEE OR SEARCH CLASS:

- 30, Cutlery, particularly subclass 130, 301, 302, and 316, for annular hand cutters.

- 47, Plant Husbandry, subclasses 73+, for transplanting receptacles adapted to and used for the purpose of removing a core of earth with a plant.
- 50.8 With movable cooperating load-engaging member:**
This subclass is indented under subclass 50.6. Implements wherein a movable member cooperates with the fork or shovel to grip the load. The member may be another fork or shovel blade.
- 50.9 Fixed and movable members:**
This subclass is indented under subclass 50.8. Implements wherein one blade or set of tines is rigid with the tool handle and the cooperating member is moveably mounted and is provided with means to move it relative to the fixed blade or tines.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
103.1+, for grapples of similar construction.
- 51 Convertible and combined:**
This subclass is indented under subclass 49. Implements having parts or adjustments permitting a single implement to be used as or converted into either a fork or a shovel, or a device of either of these types to be used as or changed to a different implement or a different type of the same implement.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
2, for forks or shovels combined with other handling implements.
10, for combined type stove implements.
- SEE OR SEARCH CLASS:
7, Compound Tools, particularly subclasses 114+.
172, Earth Working, subclass 245 for convertible or changeable earth working implements.
- 52 Fork and rake:**
This subclass is indented under subclass 51. Implements having structural features or adjustments permitting them to be used as either forks or rakes.
- SEE OR SEARCH CLASS:
56, Harvesters, subclasses 400.04+ for hand rakes combined with tools other than forks.
- 53.5 Pivoted and adjustable head:**
This subclass is indented under subclass 49. Implements wherein the fork or shovel head is pivotally and adjustably attached to the handle.
- SEE OR SEARCH CLASS:
56, Harvesters, subclass 400.18, 400.19 and 400.2 for hand rake heads adjustable mounted to a handle.
172, Earth Working, subclasses 372+ for a hand held earth working tool such as a hoe with an adjustable head.
403, Joints and Connections, subclasses 52+ for articulated joints in general.
- 54.5 Snow shovel:**
This subclass is indented under subclass 49. Shovels having a relatively broad blade adapted to handle snow or similar material.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
176, for a general purpose, manually operated scoop.
- SEE OR SEARCH CLASS:
37, Excavating, subclasses 264+ for a snow excavating scoop including three closed sides and an open fourth side; and subclasses 266+ for a snow plow wherein the blade is obliquely angled relative to the handle and is not designed to lift a load.
- 55.5 Fork:**
This subclass is indented under subclass 49. Implements wherein the load engaging and lifting means comprises a row of tines, (e.g., forks).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
61, for fork-like devices designed to be used in a vertical position.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 322+ for table and culinary forks.

- 171, Unearthing Plants or Buried Objects, particularly subclasses 63+, 82, 100, 102, and 105 for wheel or runner supported devices provided with spaced depending teeth or tines which are adapted to comb through the earth and gather therefrom desired plants or like buried objects.
- 211, Supports: Racks, subclass 54.1, 57.1, 59.1, and 125, for racks with impaling means.
- 56 Edge guards:**
This subclass is indented under subclass 49. Devices to be attached to the edges of forks or shovels to reinforce them or to protect them against wear.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
51, for detachable plates for converting these tools from one type to another.
- 57 Handles:**
This subclass is indented under subclass 49. Devices include handles and attachments for handles to be used with hand forks and shovels.
- 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.), subclasses 110.1 through 430 for handles, including handles for implements such as hoes, and see the search notes under subclass 110 of Class 16 for handles generally.
- 58 Auxiliary:**
This subclass is indented under subclass 57. Devices includes a handle additional to the handle usually present and frequently detachable or adjustable, or both. The point of attachment may be at any part of the implement.
- 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.), subclasses 422 through 430 for detachable handles, including auxiliary detachable handles for earth working implements such as hoes.
- 224, Package and Article Carriers, appropriate subclasses for body-attached auxiliary supports combined with additional handholds.
- 59 Attachments:**
This subclass is indented under subclass 49. Miscellaneous devices to be applied to the fork or shovel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
51, and 52, for attachments for converting the shovel or fork to another form of implement.
- 60 Foot pieces:**
This subclass is indented under subclass 59. Devices to be applied to a fork or shovel to be engaged by the foot of the operator.
- 61 SPEARS:**
This subclass is indented under the class definition. Devices which include a handle or stem fitted with one or more tines and designed to be plunged into or through the article engaged. Spears are usually designed to be used in vertical position and generally have the tines centrally grouped.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
5.5, for rod type supports and hangers.
55.5, for forks.
86.24+, for expanding grapples peculiarly adapted for use in a well bore.
93, for expanding grapples.
97, for pivoted type expanding grapples.
126, for harpoon type hay forks.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 164.5+, for spear-like devices for picking and chipping ice.
43, Fishing, Trapping, and Vermin Destroying, subclass 6 for harpoon and spear devices specialized for fishing or trapping.

- 81, Tools, subclass 3.47, 3.48 and 3.49 for impaling type receptacle closure removers.
- 62 BRICK CARRIERS:**
This subclass is indented under the class definition. Devices for handling bricks, particularly bricks in rows or stacks.
- 63.1 Hoist-line frame:**
This subclass is indented under subclass 62. Rigid or semi-rigid hoist-line terminals composed of parts united into a structural assembly and used for the handling of brick stacks without breaking bulk.
- (1) Note. In most instances these frames are characterized by a series of expanding fingers at the base of the device for laterally grasping the lower rows of brick.
- SEE OR SEARCH CLASS:
414, Material or Article Handling, subclass 450 and 621 for devices including relatively movable jaws of the type found here for grasping a load.
- 63.2 Expanding grapple, fluid pressure inflatable:**
This subclass is indented under subclass 63.1. Devices in which the fingers are expanded by the introduction of fluid pressure into a resiliently inflatable member.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
98.1, for inflatable expandable grapples of more general utility.
119.3, for inflatable contracting grapples.
- 64.2 Venturi effect:**
This subclass is indented under subclass 183. Devices wherein a fluid stream is conducted through a tube having a constricted throat to create the negative pressure.
- 64.3 By positive fluid stream directed against article:**
This subclass is indented under subclass 183. Devices wherein a positive pressure fluid stream is caused to flow over a surface of the article to be handled thereby creating the negative pressure.
- 65 Frames:**
This subclass is indented under subclass 183. Devices having skeleton supports adapting the device to lift sheet material, such as plate-glass and sheet metal.
- 65.5 MAGNET:**
This subclass is indented under the class definition. Devices for raising material by means of one or more magnets.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.14, for grapples controlled by a magnet which are adapted to function within a well bore.
183, for grapples actuated by a magnetic system.
- SEE OR SEARCH CLASS:
175, Boring or Penetrating the Earth, subclass 328 for an earth boring bit which includes a magnetized portion.
209, Classifying, Separating, and Assorting Solids, subclasses 38 through 40 and 212-232 for magnetic assorting of solid materials.
248, Supports, subclass 206.5 and 309.3 for a magnet means for mounting a bracket type support.
279, Chucks or Sockets, subclass 128 for a magnet type chuck.
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, subclasses 209+ for electromagnet and magnet structure.
414, Material or Article Handling, subclass 606 for a self-loading or unloading elevator or hoist having a magnet and a grab means to engage the load, and subclass 737 for a vertically swinging load support having a magnet to engage load.
- 66.1 UNDERWATER IMPLEMENT:**
This subclass is indented under the class definition. Devices specially adapted for use in an underwater environment.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.1+, for grapples adapted to function within a well bore.

SEE OR SEARCH CLASS:

- 37, Excavating, subclasses 317+ for suction dredgers.
 114, Ships, subclass 50 and 51 for raising and docking submerged vessels.

66.2 With locating means:

This subclass is indented under subclass 66.1. Devices additionally including means to assist in the determination of the position of an underwater object to facilitate the handling thereof.

- (1) Note. The combination of a handling implement and a nominally claimed position determining means (e.g., light, T.V. camera, etc.) will not bar original placement in this subclass.

SEE OR SEARCH CLASS:

- 348, Television, subclass 81 for underwater television systems having detailed recitations of the television system.

67.1 HOISTLINE ATTACHED LOAD SUPPORTING FRAME:

This subclass is indented under the class definition. Rigid or semi-rigid hoistline terminals composed of parts united into a structural assembly that includes portions which directly engage the load and which are disposed in a generally horizontal plane to thereby bear the load against gravity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 63.1+, for brick carrying hoistline frames.
 65, for vacuum frames.
 81.5+, for hoistline frames with a plurality of distinct load engaging units.
 68.1+, for a hoistable container or cage.

SEE OR SEARCH CLASS:

- 5, Beds, subclasses 861+ for invalid lift and transfer.
 114, Ships, subclass 381 for checks and lashings for bolting life bouts on ships.
 186, Merchandising, subclasses 26+ and 46+ for track supported carriers for store and dining room service respectively.

67.2 L-frame:

This subclass is indented under subclass 67.1. Devices wherein the load supporting frame is of generally L-shaped configuration, the lower horizontal leg of which bears the weight of the load and the vertical leg of which is usually connected to the hoistline.

67.21 With center of gravity adjustment:

This subclass is indented under subclass 67.2. Devices wherein the suspension means of the L-frame is shiftable relative thereto to compensate for uneven load distribution so that a load supported thereon remains level.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67.5, for a load shifting hoistline frame.
 81.3, for a spacing hoist bar having a center of gravity adjustment.
 82.12, for a cable and hook tackle having a center of gravity adjustment.
 86.41, for a load shifting grapple.

67.22 With load retainer:

This subclass is indented under subclass 67.2. Devices and additionally including structure which contacts the load to securely maintain it on the L-frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67.41, for an underlying support and sling which includes a load retainer.

67.3 Load capturing supports:

This subclass is indented under subclass 67.1. Devices which include opposed laterally movable load supporting members which are lowered around the load and then moved inwardly to thereby provide load support.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 81.5+, for two or more distinct load capturing supports on a spacing hoist bar or frame.

67.31 Pivotal about horizontal axis:

This subclass is indented under subclass 67.3. Devices wherein at least one of the load capturing supports pivots about a horizontally disposed axis.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 81.51, for a load capturing support pivotal about a horizontal axis and mounted on a spacing hoist bar or frame.
 104+, for fixed and pivoted jaw grapples.
 106+, for pivoted jaw grapples.
- 67.32 Rotatable about vertical axis:**
 This subclass is indented under subclass 67.3. Devices wherein at least one of the load capturing supports rotates about a vertically disposed axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 81.52, for a load capturing support rotatable about a vertical axis and mounted on a spacing hoist bar or frame.
- 67.33 Horizontally slideable:**
 This subclass is indented under subclass 67.3. Devices wherein at least one of the load capturing supports moves linearly in a horizontally disposed plane.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 81.54, for a horizontally slideable load capturing support mounted on a spacing hoist bar or frame.
 103.1+, for fixed and moveable jaw grapples.
 119.1, for slideable jaw grapples.
- 67.4 Underlying load spanning support and sling:**
 This subclass is indented under subclass 67.1. Devices wherein the load engaging portion comprises a rigid member which spans the underside of the load and has attached at opposite ends thereof flexible members which suspend the load from the hoistline.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 81.55, for an underlying load spanning support and sling suspended from a spacing hoist bar or frame.
- 67.41 With load retainer:**
 This subclass is indented under subclass 67.4. Devices and additionally including structure which contacts the load to securely maintain it on the underlying load spanning support.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 67.22, for a L-frame which includes a load retainer.
- 67.5 Load leveling or shifting:**
 This subclass is indented under subclass 67.1. Devices wherein the suspension means of the frame is shiftable relative thereto (1) to compensate for uneven load distribution so that the load frame and load with respect to a surface or other object to provide for a specific spatial orientation therebetween.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 67.21, for a L-frame having a center of gravity adjustment.
 81.3, for a spacing hoist bar or frame with a center of gravity adjustment.
 81.4, for a spacing hoist bar or frame with orienting means.
 82.12, for a cable and hook tackle having a center of gravity adjustment.
 86.41, for a load shifting grapple.
- 68.1 HOISTABLE RECEPTACLE:**
 This subclass is indented under the class definition. Containers or cages provided with hoist-line terminal elements or attachments which (1) are adapted for carrying and/or readily dumping a load or (2) are especially adapted to be inserted into a body of liquid to remove a portion of the liquid or other material therefrom.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 86.11, for grappling means which form a lifting basket within a well bore.
- SEE OR SEARCH CLASS:
 5, Beds, subclasses 81.1+ and 83.1+ for invalid lift and transfer.
 37, Excavating, subclass 182 and 461 for orange peel and clamshell buckets.

- 166, Wells, subclasses 162+ and the subclasses there noted, for well receptacles, and see subclass 162 for the line between Classes 294 and 166.
- 175, Boring or Penetrating the Earth, subclasses 232+ for an earth boring device including a receptacle provided with means for cutting or disintegrating the material of the earth to form a hole therein.
- 186, Merchandising, subclasses 26+ and 46+ for track supported carriers for store and dining room service respectively.
- 187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 401+ for specific elevator car structure or arrangement (e.g., car framing).
- 210, Liquid Purification or Separation, subclasses 523+ for gravitational separators with mechanical removers, and subclasses 532.1+ for gravitational separators with heavier constituent traps.
- 68.2 With discharge or loading means:**
This subclass is indented under subclass 68.1. Receptacles having specific means for releasing or acquiring the load.
- 68.21 Bottom or side discharge or loading:**
This subclass is indented under subclass 68.2. Receptacles having means for releasing or acquiring the load through the bottom or side of the receptacle.
- SEE OR SEARCH CLASS:
- 105, Railway Rolling Stock, subclasses 247+ for hopper type dumping railway cars.
- 298, Land Vehicles: Dumping, subclasses 24+ for hopper type dumping vehicles.
- 68.22 Charging bucket, concrete bucket, hod, caldron, or well bailer type:**
This subclass is indented under subclass 68.21. Receptacles of closed wall configuration and peculiarly adapted to handle a fluent material.
- 68.23 Identical twin sectors (e.g., clamshell type, etc.):**
This subclass is indented under subclass 68.22. Receptacles composed of substantially identical sectors or parts hinged or otherwise adapted to separate to release or acquire the load.
- 68.24 Twin doors:**
This subclass is indented under subclass 68.22. Receptacles in which substantially identical doors are used to release or acquire the load.
- (1) Note. Usually, the twin doors cooperate with each other to open simultaneously.
- 68.25 Vertically sliding closure:**
This subclass is indented under subclass 68.22. Receptacles including a load retaining device which moves vertically to discharge or acquire the load.
- 68.26 Tilting discharge or loading:**
This subclass is indented under subclass 68.2. Receptacles having means, such as pivots, or a dropping or turning mechanism, to facilitate the rotation of the receptacle to discharge or acquire the load.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
122+, for a single tilting hayfork.
- 68.27 With trunnions:**
This subclass is indented under subclass 68.26. Receptacles where the means facilitating rotation of the receptacle is a pair of opposed pins or gudgeons.
- 68.3 Separable auxiliary hoistline means(e.g., sling, spreader frame):**
This subclass is indented under subclass 68.1. Receptacle and additionally including hoisting means connected to the hoistline which is readily detachable from the receptacle upon load release.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
74+, for hoist-line slings, per se.
81.1+, for spreader frames, per se.

74 HOIST-LINE SLINGS:

This subclass is indented under the class definition. Devices adapted for use on hoist or derrick lines, usually comprising flexible cables or nets partially or wholly surrounding the load.

- (1) Note. The term "cable" is used herein to designate flexible elements, such as rope, chain, wire, or flat bands.
- (2) Note. Where the sling structure is a mere strand with or without eyes or loops formed therein, see the appropriate article subclasses of the textile arts, viz., in the search notes below.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 115+ for cord and rope holders, per se, subclasses 698.1+ for hooks, and subclasses 598.4+ for snap hooks.
- 57, Textiles: Spinning, Twisting, and Twining, subclasses 139+, (see (2) Note above).
- 87, Textiles: Braiding, Netting, and Lace Making, subclasses 1 through 13, inclusive (see (2) Note above).
- 187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, appropriate subclasses, for slings adapted to travel on guides in an elevator shaft and carry an elevator car, cage, platform or equivalent device.
- 428, Stock Material or Miscellaneous Articles, subclasses 364+, for a structurally defined or coated strand not specifically provided for in any other class, and see search notes thereunder, and see (2) Note above.

75 Latch release:

This subclass is indented under subclass 74. Devices having some form of tripping device for discharging the load.

76 Bottom:

This subclass is indented under subclass 75. Devices having a latch located beneath the load, which is usually discharged through the separating of the several parts of the sling.

77 Net:

This subclass is indented under subclass 74. Devices includes sling-net structure.

81.1 SPACING HOIST BAR OR FRAME:

This subclass is indented under the class definition. Devices comprising a bar or frame supporting two or more distinct load engaging units in spaced relation or a hoist bar or fixture adapted for arranging several handling devices for use as a single implement.

- (1) Note. The individual "distinct load engaging units" must be capable, of and by themselves, of supporting a load, although not necessarily the entire load.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67.1+, for hoistline frames, per se.
- 68.1+, for containers or cages, per se.
- 74+, for hoistline slings, per se.
- 82.1+, for hoistline or grab hooks, per se.
- 82.11, for cable and hook tackles, per se.
- 86.4+, for grapples, per se.
- 87.1+, for grapples spaced along a hoist bar or frame for handling multiple objects wherein each load engaging grapple handles a single object.
- 128+, for multiple type hay harpoons.

81.2 Adjustable to accommodate different size loads:

This subclass is indented under subclass 81.1. Devices wherein the distinct load engaging units are shiftable by being mounted on sections that slide one inside another.

81.21 Telescopic:

Devices under 81.2 wherein the distinct load engaging units are shiftable by being mounted on sections that slide one inside another.

81.3 With center of gravity adjustment:

This subclass is indented under subclass 81.1. Devices wherein the suspension means of the hoist bar or frame is shiftable relative thereto to compensate for uneven load distribution so that a load suspended therefrom remains level.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67.5, for a load shifting hoistline frame.

- 67.21, for a L-frame having a center of gravity adjustment.
- 82.12, for a cable and hook tackle having a center of gravity adjustment.
- 86.41, for a load shifting grapple.

81.4 With orienting means:

This subclass is indented under subclass 81.1. Devices wherein means are provided on the hoist bar or frame to tilt or guide (1) the hoist bar or frame with respect to the load or (2) the combined hoist bar or frame and the load with respect to a surface or other object, to provide for a specific spatial orientation therebetween.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67.5, for a load shifting hoistline frame.
- 86.41, for a load shifting grapple.

81.41 Load engaging guide:

This subclass is indented under subclass 81.4. Devices comprising aligning means mounted on the hoist bar or frame which engage the load to cause alignment of the load engaging units relative to the load (e.g., corner guides for spreader frames).

81.5 Load supporting units:

This subclass is indented under subclass 81.1. Devices wherein the load engaging units have portions disposed in a horizontal plane to thereby bear the load against gravity.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67.2+, for L-shaped frames, the lower leg of which bears the load against gravity.
- 67.3+, for frames having a single distinct load engaging unit with a horizontal portions which bear the load against gravity.
- 81.6+, for spacing hoist bars or frames with load engaging units which grip the load.

81.51 Pivotal about horizontal axis:

This subclass is indented under subclass 81.5. Devices wherein at least one of the components of the load engaging units pivots about a horizontally disposed axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67.31, for hoistline frames having a single distinct load engaging unit at least one component of which pivots about a horizontally disposed axis to capture the load.

81.52 Rotatable about vertical axis:

This subclass is indented under subclass 81.5. Devices wherein least one of the components of the load engaging units rotates about a vertically disposed axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67.31, for hoistline frames having a single distinct load engaging unit, at least one component of which rotates about a vertically disposed axis to capture the load.

81.53 Twist lock:

This subclass is indented under subclass 81.52. Devices where the load engaging component is insertable into a recess in the load and rotatable therein for attachment purposes.

81.54 Horizontally slideable:

This subclass is indented under subclass 81.5. Devices wherein at least one of the components of the load engaging units moves linearly in a horizontally disposed plane.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67.32, for hoistline frames having a single distinct load engaging unit, at least one component of which moves linearly in a horizontally disposed plane.

81.55 Underlying load spanning support and sling:

This subclass is indented under subclass 81.5. Devices where at least one of the load supporting units is a rigid member which spans the under side of the load and has attached at opposite ends thereof flexible members which suspend the load from the hoist bar or frame.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

67.4, for a hoistline frame having an underlying load spanning support and sling.

81.56 Hook:

This subclass is indented under subclass 81.5. Devices wherein the load supporting units are a curved or bent implement of hook shaped configuration.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

82.1+, for hoistline hook structure, per se.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 230.5+ and 231+ for hook structure of general utility.

81.6 Load gripping units:

This subclass is indented under subclass 81.1. Devices wherein the load engaging units are adapted for grasping and firmly holding a load.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

65.5, for magnetic type gripping units, per se.

86.4+, for grapples, per se.

183, for vacuum-type gripping units, per se.

81.61 Pivoted gripping element:

This subclass is indented under subclass 81.6. Devices wherein at least one of the components of the load gripping units is mounted for pivotal movement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

104+, for fixed and pivoted jaw grapples.

106+, for pivoted jaw grapples.

81.62 Slideable grapple element:

This subclass is indented under subclass 81.6. Devices wherein at least one of the components of the load gripping units is mounted for sliding movement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

103.1+, for fixed and movable jaw grapples.

119.1, for slideable jaw grapples.

82.1 HOOK, HOISTLINE, OR GRAB TYPE:

This subclass is indented under the class definition. Devices including a hook of general application provided with hoistline or draftline terminals.

- (1) Note. The line between Class 24, Buckles, Buttons, Clasps, etc., and this class (294) with regard to hooks is a disclosure line, with Class 294 being superior. That is, if there is any disclosed utility, as a hoistline or grab hook, original placement will be in this class (294).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

26, for hand hooks.

66.1+, for submarine hooks and grapples.

81.56, for hooks mounted on a spacing hoist bar or frame.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 698.1+ for a separable-fastener hook of general utility, and subclasses 598.4+ for snap hooks of general utility, and see (1) Note above.

278, Land Vehicles: Animal Draft Appliances, subclasses 111+ for trace hooks.

82.11 Cable and hook tackle:

This subclass is indented under subclass 82.1. Load engaging hooks supported on flexible members through which usually the hoisting tension is applied.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

74+, for hoistline slings.

82.12 With center of gravity adjustment:

This subclass is indented under subclass 82.11. Cable and hook tackle wherein a suspension means for the cable and hook tackle is shiftable relative to the load to compensate for uneven load distribution so that a load suspended therefrom remains level.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 67.21, for a L-frame with a center of gravity adjustment.
 67.5, for a load shifting hoist-line frame.
 81.3, for a spacing hoist bar or frame with a center of gravity adjustment.
 86.41, for a load shifting grapple.
- 82.13 Opposed load grasping hooks:**
 This subclass is indented under subclass 82.11. Cable and hook tackle wherein at least two opposing hooks grip a load therebetween when tension is applied to the tackle.
- (1) Note. Usually, the load is impaled on a pointed part of the hook.
- 82.14 Choker type:**
 This subclass is indented under subclass 82.11. Cable and hook tackle wherein the tackle is a flexible member which is looped around the load and slideably connected back upon itself with the hook so that as tension is applied to the flexible member the loop contracts about the load.
- 82.15 Driven positioning means:**
 This subclass is indented under subclass 82.1. Load engaging hooks and additionally including means to move the hook in either a vertical and/or or rotary motion for the purpose of (1) precisely orienting or locating the hook relative to the load or (2) for orienting and/or locating the combined hook and load with respect to a surface or other object, to provide for a specific spatial orientation therebetween.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 81.4, for a spacing hoist bar with orienting means.
- SEE OR SEARCH CLASS:
 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264+ for devices which hoist the load (e.g., winches).
- 82.16 Resilient suspension means (e.g., spring or fluid):**
 This subclass is indented under subclass 82.1. Load engaging hooks including a cushioning device located on the hook for the purpose of absorbing shocks between the hoistline and the load.
- SEE OR SEARCH CLASS:
 188, Brakes, subclasses 266+ for dashpot type shock absorbers, per se.
 267, Spring Devices, appropriate subclasses for spring devices, per se.
- 82.17 Locking device (i.e., hook throat closure):**
 This subclass is indented under subclass 82.1. Load engaging hooks wherein a moveable member may be selectively positioned in or adjacent to the throat of the hook, thereby restricting the opening thereof in order to prevent accidental release of the load.
- SEE OR SEARCH CLASS:
 24, Buckles, Buttons, Clasp, etc., subclasses 241+ for hooks of general utility having locking devices.
- 82.18 Overlapping loop forming hooks:**
 This subclass is indented under subclass 82.17. Load engaging hooks comprising a pair of pivotally mounted mirror image hooks which, when moved into side by side relationship with one another form a load confining closed loop.
- 82.19 Locking arm swings in plane of hook:**
 This subclass is indented under subclass 82.17. Load engaging hooks wherein the locking device is a member which pivots in a plane defined by the load engaging hook.
- 82.2 With pivoted latch:**
 This subclass is indented under subclass 82.19. Load engaging hooks wherein the pivoted locking arm is held in a load retaining position by a member which is pivotally mounted relative thereto.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 82.33, for a load releasing hook having a pivoted load support with a pivoted latch.

82.21 With sliding latch:

This subclass is indented under subclass 82.19. Load engaging hooks wherein the pivotal locking arm is held in a load retaining position by a member which is mounted on the device for linear movement relative thereto.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

82.34, for load releasing hook having a pivoted load support with a sliding latch.

82.22 Swivel locking arm:

This subclass is indented under subclass 82.17. Load engaging hooks wherein the locking device revolves about the load engaging hook.

82.23 Slideable locking arm:

This subclass is indented under subclass 82.17. Load engaging hooks wherein the locking device is mounted on the load engaging hook so as to be linearly movable.

82.24 Load releasing means:

This subclass is indented under subclass 82.1. Load engaging hooks having some special adaptation for detaching the load.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

75, for hoist-line, slings with latch release.

110.1+, for automatic pivoted jaw grapples.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 410 for a pulley wheel element housed in a portable block, the block is provided with the means for fastening it to a support or a load which is either remotely operable or of the breakaway type.

82.25 Parachute release means:

This subclass is indented under subclass 82.24. Load engaging hooks designed for instantaneous operation in detaching loads suspended from a parachute.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 164+ for buckles used for securing parachute harnesses to a person or a load.

244, Aeronautics and Astronautics, subclasses 142+ for buckles or hooks claimed in combination with the parachute.

82.26 Store ejector (e.g., aircraft carried):

This subclass is indented under subclass 82.24. Load engaging hooks designed for instantaneous operation in detaching objects from aircraft.

SEE OR SEARCH CLASS:

89, Ordnance, subclass 1.5 for bomb, flare, and signal dropping.

244, Aeronautics and Astronautics, subclass 137 for store ejectors claim in combination with aircraft structure.

82.27 Boat detaching:

This subclass is indented under subclass 82.24. Load engaging hooks designed for instantaneous operation in detaching boats from davit lines.

SEE OR SEARCH CLASS:

114, Ships, subclasses 377+ for connectors between a boat and the lowering tackle therefor.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 410 for a pulley wheel element housed in a portable block being provided with means for fastening it to a support or a load which is either remotely operable or of the breakaway type.

82.28 Plurality of balls:

This subclass is indented under subclass 82.24. Load engaging hooks wherein the release means includes plural spherically shaped members which are moveable relative to a load suspension to effect load release.

82.29 Explosive release:

This subclass is indented under subclass 82.24. Load engaging wherein the release means is actuated upon detonation of an explosive charge.

82.3 Motor operated:

This subclass is indented under subclass 82.24. Load engaging hooks wherein a self-contained motor is provided to actuate the load releasing means.

82.31 Pivoted load support:

This subclass is indented under subclass 82.24. Load engaging hooks wherein a load bearing portion of the hook pivots to effect load release.

82.32 Plurality of similar coacting supports:

This subclass is indented under subclass 82.31. Load engaging hooks wherein the plural members of like configuration support the load and are simultaneously pivoted out of load bearing relationship to affect load release.

82.33 With pivoted latch:

This subclass is indented under subclass 82.31. Load engaging hooks wherein the pivoted load support is held in the nonrelease position by a member which is pivotally mounted relative thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

82.2, for a hook having a pivoted locking device with a pivoted latch therefor.

82.34 With sliding latch:

This subclass is indented under subclass 82.31. Load engaging hooks wherein the pivoted load support is held in the nonrelease position by a member which is mounted on the device for linear movement relative thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

82.21, for a hook having a pivoted locking device with a slideable latch therefor.

82.35 Sliding load support:

This subclass is indented under subclass 82.24. Load engaging hooks wherein a load bearing portion of the hook moves linearly to effect load release.

82.36 Load ejecting:

This subclass is indented under subclass 82.24. Load engaging hooks wherein the load releasing means applies a force or push to the load to effect load release from the hook.

85 OVERHEAD BEAM HOOKS AND GRAPPLES:

This subclass is indented under the class definition. Hooks and graspers designed to be engaged with an overhead beam or rafter and provided with hoist-line terminals.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.4+, appropriate subclass for devices not specialized to engagement with overhead beams or rafter.

SEE OR SEARCH CLASS:

248, Supports, subclass 72 for beam clamped pipe or cable brackets and 228.1+, for beam clamped brackets of general utility.

86.1 Well type:

This subclass is indented under subclass 86.4. Grapples that are intended to be used in a well, the grapple having a diameter only slightly less than the diameter of the well for the purpose of retrieving or placing an object in the well.

(1) Note. Processes of using a well grapple in a well are classified in Class 166, Wells, subclass 301.

(2) Note. A mere pipe joint or coupling of general utility, such as a screw threaded joint, is not included and will be found in appropriate subclasses in Class 285, Pipe Joints or Couplings. However, where a retrieving device for a stuck object includes a washover or cutover means as defined in subclass 86.34 below, the means making the connection with the stuck object may be a mere pipe joint or coupling of general utility such as a

screw threaded joint. Such mere joint or coupling is considered to be a “grapple” for purposes of classification in subclass 86.34 but is not considered a “grapple” for purposes of classification in any other subclass under this definition.

- (3) Note. The combination of a metal cutting means for cutting away material around a stuck object and a retrieving means for such object is included under this definition, see especially subclass 86.34. The combination of a broadly recited washing means or earth cutting means for removing matter around a stuck object is also included under this definition, see especially subclass 86.34, though the recitation of a specific earth boring means causes classification in Class 175, Boring or Penetrating the Earth.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 65.5, for magnet type well grapples.
 66.1+, for devices other than those under the definition of subclass 86.1 for recovering submerged objects.
 209, for devices having a pole and a grappling means attached thereto.

SEE OR SEARCH CLASS:

- 166, Wells, subclass 301 for processes for grappling objects in a well, subclass 98 for a grapple with a well anchored lifting means, subclass 99 for well devices combined with junk retrieving means and for certain types of junk retrieving means, as set forth in the definition of subclass 99, subclasses 118+ and 206+ for expanding anchors used in a well, and subclasses 123+, 143+ and 181+ for detachable setting means for well devices.
 175, Boring or Penetrating the Earth, subclasses 244+ for earth boring means including a grapple for a core of earth material. See the reference to Class 294 in the class definition of Class 175 for the line between Classes 294 and 175.
 188, Brakes, particularly subclass 67.

- 285, Pipe Joints or Couplings, appropriate subclasses for pipe connections of general utility, and particularly subclasses 384+, 386+ and 390+ for screw threaded joint connections. See (2) Note above.
 403, Joints and Connections, appropriate subclasses for joints of general utility.
 413, Sheet Metal Container Making, subclasses 58+.
 901, Robots, subcollections 31+ for gripping devices useable on robots.

86.11 **Basket-forming:**

This subclass is indented under subclass 86.1. Devices that have circumferentially mounted means that move radially inward or are flexibly mounted to move from an open to a closed position to form a perforated bottom closure of a container for retaining objects therein, whereby an object is retrieved by passing into the basket through the bottom thereof and is then held in the basket by openwork means beneath the object.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 68+, for miscellaneous receptacles under the class definition which may be especially adapted to be inserted into a body of liquid to remove a portion of the liquid.

SEE OR SEARCH CLASS:

- 166, Wells, subclass 99 for well devices combined with means for retrieving loose objects (e.g., junk baskets), and subclass 162 for receptacles which have some feature special to use in a well. Also see the search notes under subclass 99 and 162 for the line between the receptacles of Class 166 and Class 294.

86.12 **Combined insertable and surrounding grappling means:**

This subclass is indented under subclass 86.1. Grapples having a grappling means that is inwardly directed from a surrounding supporting member and other grappling means that is outwardly directed from a central supporting member, said means being formed to grapple an external surface and an internal surface respectively of an object within a well.

86.13 With separate lateral positioning means:

This subclass is indented under subclass 86.1. Grapples having additional means (e.g., a gathering arm) which functions separately from the grappling manipulation to laterally move either the grapple or the object, one relative to the other, to align the grapple and object to permit the grapple to engage and grapple the object.

- (1) Note. The functioning of the “additional means” must require a movement distinct from that of the grappling operation. If, for example, a grapple is caused to be engaged by an object by a downward movement and an inclined surface on the grapple causes the object to move laterally incident to the downward movement, then this definition is not satisfied.

SEE OR SEARCH CLASS:

- 166, Wells, subclasses 117.5+ for devices positionable in a well conduit for directing a well device laterally of the longitudinal axis of the well.

86.14 With separate grapple-setting operator:

This subclass is indented under subclass 86.1. Grapples comprising a grapple body and a grappling means carried thereby and wherein a separate means is provided for causing the grappling means to become attached to the object being grappled, which separate means is operable from the surface of the well independently of any movement of the grapple body.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 111+, for pivoted jaw grapples of general utility having supplemental cable means to operate the jaws.
117, for pivoted jaw grapples of general utility having an independent handle or bar for operating the grapple.
183, for grapples of general utility having magnetic means to operate the grapple.

86.15 Fluid pressure operator:

This subclass is indented under subclass 86.14. Grapples wherein the separate means comprises a fluid reactive element which moves by fluid pressure to move the grappling means.

86.16 With laterally movable grapple support:

This subclass is indented under subclass 86.1. Grapples combined with separate means secured to the grapple that moves laterally relative to the grapple body to engage the object being grappled to prevent downward movement of the grapple body relative to the object.

SEE OR SEARCH CLASS:

- 166, Wells, subclass 98 for grapples combined with means for anchoring the grapple body to the interior surface of a well to permit the grapple to engage and lift an object relative to the anchored means, and subclasses 206+ for well anchors, per se, having a means that is movable outwardly to engage and jam against a surrounding conduit wall to attach the anchor to the conduit wall to resist the action of gravity or a lifting force and which anchors are disclosed for use other than as a grapple. Sole disclosure of or a statement in a claim of use as a grapple is enough for classification in Class 294.

86.17 With releasing means:

This subclass is indented under subclass 86.1. Grapples having a grappling means that engages and holds an object for removal from a well, and further provided with means formed as part of the grapple for releasing the grappling means from its engaged position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 86.14+, for well grapples having separate grapple operating means which may include releasing means, and see the search notes thereunder for other grapples in Class 294 of general utility having separate grapple operating means.

SEE OR SEARCH CLASS:

- 175, Boring or Penetrating the Earth, subclass 294 for below ground impact apparatus combined with a joint between two parts which may be selectively uncoupled below ground independently of the other joints in the apparatus, and subclasses 300+ for

below ground impact apparatus combined with telescoping members and having selectively releasable means on one of the telescoping members for engaging and holding the other member against relative axial movement.

86.18 Excessive force-responsive:

This subclass is indented under subclass 86.17. Grapples having means that is intended to release or rupture when excessive force is applied to the engaged grapple to permit disengagement from the grappled object.

SEE OR SEARCH CLASS:

- 175, Boring or Penetrating the Earth, subclass 301 for below ground impact means combined with releasable telescoping members having a frangible connection between the telescoping members.
- 285, Pipe Joints or Couplings, subclasses 1+ for pipe joints having means responsive to a predetermined force to release the means holding the joint together, and subclass 304 for pipe joints having means to hold the two pipe members together in assembled relationship but which will release upon the application of excessive forces.

86.19 Spring release means:

This subclass is indented under subclass 86.17. Grapples having a spring means for moving the grappling means to a released position.

86.2 Grappling means latched in release position:

This subclass is indented under subclass 86.17. Grapples having means to latch the grappling means in a released position away from an object engaged position.

86.21 Lateral pocket and lug:

This subclass is indented under subclass 86.2. Grapples wherein the latch means is a lug on either a grappling member or a grapple body member, and a lateral pocket on the other member, the lug and lateral pocket being relatively rotatable to hold the grappling member in a released position.

86.22 Screw-threaded:

This subclass is indented under subclass 86.17. Grapples having screw threaded means between the grappling means and the grapple body which moves the grappling means to an object released position.

86.23 With impact means:

This subclass is indented under subclass 86.1. Grapples combined with means to deliver a blow, or to jar the grapple or the object being grappled.

- (1) Note. The means to deliver the blow may function to set the grapple or to release or set an object in the well.

SEE OR SEARCH CLASS:

- 166, Wells, subclass 178 for well devices combined with a jar means for releasing them.
- 175, Boring or Penetrating the Earth, subclass 293 for below ground hammer or impact members, per se.

86.24 Expanding grapple means:

This subclass is indented under subclass 86.1. Grapples having a grappling means that is movable laterally outwardly from the grapple body for effecting grappling engagement with an object to be grappled.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 61, for spear devices other than those under the definition of subclass 86.24.
- 93+, for expanding grapples of general utility.

SEE OR SEARCH CLASS:

- 166, Wells, subclasses 206+, for well anchors, per se, having a means that is movable outwardly to engage and jam against a surrounding conduit wall to resist action of gravity or a lifting force and which anchors are disclosed for use other than as a grapple. Sole disclosure of or a statement in a claim of use as a grapple is enough for classification in Class 294.

86.25 Cammed grappling means:

This subclass is indented under subclass 86.24. Grapples wherein the grappling means is urged outwardly by means including a cam.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

86.19, for grappling means that is spring biased along a cam surface to a released position.

86.22, for screw thread means that moves a grappling means along a cam surface to a released position.

94+, for expanding grapples of general application having a cam mechanism to produce the grapple expansion.

86.26 Contracting grappling means (e.g., overshoot):

This subclass is indented under subclass 86.1. Grapples having a grappling means that is movable laterally inwardly from the grapple body for effecting grappling engagement with an object to be grappled.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

103.1+, for grapples of general application having a fixed and a movable jaw.

113+, for grapples of general application having a grappling means that is pivoted from a load surrounding frame.

86.27 Inwardly biased grappling means with trip:

This subclass is indented under subclass 86.26. Grapples having a grappling means which is inwardly biased to an engaged position, but which is held outwardly from the engaged position by a holding means that may be inactivated by a tripping action to permit the grappling means to move inwardly to a grappling position through the force of the biasing means.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

110.1+, for pivoted grapples of general utility having an automatic operating member.

SEE OR SEARCH CLASS:

43, Fishing, Trapping and Vermin Destroying, subclasses 88+ for trip-operated animal traps having two jaw-like catching elements which move toward each other to grip an animal between them.

86.28 Outwardly biased grappling means:

This subclass is indented under subclass 86.26. Grapples having a grappling means that is normally biased to a position outwardly of the object engaged position and is moved to an engaged position through the action of some mechanical movement means of the grapple.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

99.1+, for grapples of general utility having grappling members which are connected to spring arms which may normally position the grasping members outwardly of an object to be engaged.

86.29 Pivoted grappling means:

This subclass is indented under subclass 86.26. Grapples having grappling means that pivots about a fixed pivot axis to an engaged position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

87.22+, for plural object engaging grapples having pivotal jaw means to engage grooved or shouldered portions of objects.

104, for load engaging grapples of general application having a fixed jaw and a pivoted jaw.

106+, for load engaging grapples of general application having a pivotal engaging means.

86.3 Cammed grappling means:

This subclass is indented under subclass 86.26. Grapples having a grappling means that is urged inwardly by means including a cam.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

86.22, for screw threaded means which moves a grappling means along a cam surface to effect releasing of a grappling means.

- 87.26, for multiple object engaging grapples of general utility having relatively slidable groove engaging means.
- 102.1, for grapples of general application having cammed grappling means within a socket for embracing a load.
- 103.1+, for fixed and movable jaw grapples of general application.
- 116, for pivoted jaw grapples of general application having a cam as part of the operating means.

86.31 Inwardly biased grappling means:

This subclass is indented under subclass 86.3. Grapples wherein the grappling means is biased toward its engaged position.

86.32 Resilient grappling means:

This subclass is indented under subclass 86.26. Grapples having a resilient grappling means that is normally positioned inwardly of the object engaged position but flexes outwardly to permit an object to move upwardly past the grappling means and then engages the object to prevent downward movement of the object relative to the grapple.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 86.11, for grapples having flexibly mounted inwardly directed means that forms a perforated closure for a container, which means flexes outwardly to permit an object to pass therethrough.
- 99.1+, for grapples of general utility having grappling arms connected so as to form spring-arms.

86.33 Shoulder-engaging:

This subclass is indented under subclass 86.26. Grapples wherein a part of the grappling means moves into a position below an enlarged portion of a grappled object to form with the remaining part of the grapple an opening of smaller diameter than the diameter of the enlarged portion of the grappled object to prevent withdrawal of the grappled object from the grapple on upward movement of the grapple.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 90+, for grapples of general utility having means to engage shoulders on rods, pipes, or similar objects.

86.34 Including washover or cutover means:

This subclass is indented under subclass 86.1. Grapples comprising (1) a tube for surrounding a stuck object in the well for the purpose of flowing a fluid down the tube to wash away matter from around the object to free it for retrieval or (2) a means for cutting away material around the object to free it for retrieval or to cut away material at the periphery of the object to free the central portion of the object for retrieval.

- (1) Note. The “grapple” under this definition may be a mere joint of general utility such as a screw threaded joint. See (2) Note under subclass 86.1.
- (2) Note. A device under this definition is intended to retrieve only a single, unitary stuck object. If the device is adapted to retrieve a plurality of objects, such as junk, it is excluded. Such devices may be found in numerous subclasses depending on the features claimed. See, for example Class 166, Wells, subclass 99 and the notes in the definition of that subclass.

SEE OR SEARCH CLASS:

- 166, Wells, subclasses 55+ especially subclasses 55.1 and 55.6+ for a means for perforating, weakening, bending or separating the side wall of a pipe at an unprepared point below ground in a well combined with means for retrieving the pipe or a part thereof.
- 175, Boring or Penetrating the Earth, subclasses 244+ for an earth boring means combined with a means for retrieving a core sample of the earth, which core may include within it a stuck object. The line between Class 175 and Class 294 as to the subject matter of Class 294 subclass 86.34 is that a specific recitation of earth cutting means causes classification in Class 175 but a mere broad recitation

of such means permits classification in Class 294.

86.4 GRAPPLE:

This subclass is indented under the class definition. Devices adapted for grasping a load and having handling or hoist-line terminals.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 27.1+, for plate and receptacle lifters.
- 50.5, and 50.6+, for grappling type hand forks and shovels.
- 209, for pole-attached grapples.

SEE OR SEARCH CLASS:

- 15, Brushing, Scrubbing, and General Cleaning subclasses 104.03+ and especially subclass 104.32 for the combination of grapple and flexible linkage organized to grasp obstructions inside a tortuous conduit.
- 47, Plant Husbandry, subclass 1, for tong-like devices for treating tobacco plants etc.
- 70, Locks, subclasses 16 through 18, for manacles and handcuffs.
- 81, Tools, for grapples specialized to work other than mere handling, such as bending, twisting, clamping, etc.
- 100, Presses, subclass 234 for plier type presses not elsewhere provided for.
- 114, Ships, subclass 51, for hoisting devices for submerged vessels.
- 166, Wells, subclass 98 for well grapples combined with well anchored lifting means, subclass 99 for well devices with junk retrievers (see subclass 99 for the line between classes 294 and 166 as to junk retrievers).
- 168, Farriery, subclass 45 and 47 for force shoeing tools.
- 175, Boring or Penetrating the Earth, subclasses 249+ for an earth boring device of the core forming type provided with core grasping means, and subclasses 293+ for a below ground hammer or jar combined with an earth boring means. Class 175 takes a below ground hammer or jar of general utility, or combined with an earth boring means. A below ground hammer or jar combined with a grapple is classified in Class 294.

- 248, Supports, subclasses 75+ for hose or nozzle type supports.
- 413, Sheet Metal Container Making, subclasses 58+ for roofer's tongs.
- 417, Pumps, subclass 451, for pumps having a valve mounted in a fixed wall and removed by the movable pumping member.
- 483, Tool Changing, subclasses 16+ for a machine tool combined with a means for transferring a tool and cross reference collection 902 for tool grippers.
- 623, Prosthesis (i.e. Artificial Body Members), Parts Thereof, or Aids and Accessories Therefor, subclasses 57+ for artificial hands adapted to engage or grasp object.

86.41 Load shifting:

This subclass is indented under subclass 86.4. Grapples wherein the suspension means of the grapple is shiftable relative thereto (1) to compensate for uneven load distribution so that the load remains level or (2) to orient the combined grapple and load with the respect to a surface or other object to provide for a specific spatial orientation therebetween.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67.21, for L-frame having a center of gravity adjustment.
- 67.5, for a load shifting hoist-line frame.
- 81.3, for spacing hoist bar or frame with a center of gravity adjustment.
- 81.4, for a spacing hoist bar or frame with orienting means.
- 82.12, for a cable and hook tackle having a center of gravity adjustment.

86.42 Interwoven contractible gripper (e.g., Chinese fingers):

This subclass is indented under subclass 86.4. Grapples wherein the grapple is mesh-like general tubular structure which encompasses the load, the gripping action being controlled by forces directed along the longitudinal centerline of the tube to thereby expand or contract the tube about the load.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 115+ for cord and rope holders of an interwoven contractible gripper type.
- 248, Supports, subclass 60 for pipe and cable supports of an interwoven contractible gripper type.
- 403, Joints and Connections, subclass 373 for joints formed by an interwoven contractible gripper.

87.1 Multiple grapples for multiple objects:

This subclass is indented under subclass 86.4. Grapples having a plurality of distinct load grasping units, each of which is designed to grasp an individual load.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 2, for miscellaneous compound handling implements.
- 23, for compound tools mounted on poles for handling store goods.
- 24, for poles having compound handling devices thereon.
- 137+, for other article carriers for carrying plural articles, especially subclass 159 for carriers having a discrete station for each article carried.

SEE OR SEARCH CLASS:

- 81, Tools, subclasses 303+ for tools with three or more jaws adapted to hold a plurality of objects.

87.11 Confection stick handling (e.g., stick used for frozen confection containing water, flavoring, and coloring):

This subclass is indented under subclass 87.1. Grapples adapted to grasp elongated handling elements which are usually associated with confectionaries.

87.12 Egg handler:

This subclass is indented under subclass 87.1. Grapples specially adapted to handle eggs.

87.2 Groove- or shoulder-engaging type:

This subclass is indented under subclass 87.1. Grapples designed to engage grooved or shouldered portions of objects.

- (1) Note. Structures classified here are for the most part bottle handling devices.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 31.1, for devices which grasp a receptacle by its rim or edge.
- 86.33, for shoulder or collar engaging grapples peculiarly adapted to function within a well bore.
- 90+, for grapples adapted to engage collars on individual articles.

87.22 Pivoted jaws:

This subclass is indented under subclass 87.2. Grapples comprising cooperating jaw means having relative pivotal movement to engage objects.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 104+, for fixed and pivoted jaw type of grapple.
- 106+, for grapples having pivoted jaws.

87.24 Link- or lever-operated:

This subclass is indented under subclass 87.2. Pivoted jaw type of grapples in which links or levers are provided for controlling the pivoted movement of the jaw means.

87.26 Slidable jaws:

This subclass is indented under subclass 87.2. Grapples in which cooperating object engaging portions have relative sliding movement to grasp the objects.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 34, for plate or receptacle lifters having sliding graspers.

87.28 Rigid type:

This subclass is indented under subclass 87.2. Grapples in which the object engaging and holding portion is rigid or integral and adapted to frictionally grasp objects usually through change in the angular position of the grasping element.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

92, for rigid gripper type of grapple for individual articles.

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Lewis:

This subclass is indented under subclass 86.4. Fastening devices to be inserted in holes cut in blocks of stone for the purpose of attaching hoisting apparatus. The lewises are usually iron dovetailed tenons which fit into dovetailed mortises cut into the stone.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

93+, for expanding grapples.

SEE OR SEARCH CLASS:

411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, subclasses 15+ for expanding anchors; and subclasses 340+ for pivoted end lock fasteners.

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Collar-engaging:

This subclass is indented under subclass 86.4. Grapples designed to engage shoulders on rods, pipes, or similar objects or shoulders on coupling members thereof and usually having no gripping action on the pipe.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

86.33, for shoulder or collar engaging grapples peculiarly adapted to function within a well bore.

87.28+, for similar grapples adapted to seize a plurality of articles.

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Rigid yoke:

This subclass is indented under subclass 90. Grapples in which the element upon which the collar rests is an integral or rigid piece usually having a latch device to prevent accidental disengagement of the load.

92

Rigid gripper:

This subclass is indented under subclass 86.4. Integral or rigid devices designed to grasp an object directly, usually through change in the angular position of the grasping element causing a pinching action.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

86.26, for contracting grappling means peculiarly adapted to function in a well bore.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 144+, for similar devices used with intermittent grip mechanical movement devices.

314, Electric Lamp and Discharge Devices: Consumable Electrodes, subclasses 101+, for consumable electrode discharge devices (carbon arc lamps, et cetera), which are provided with a grip device which is designed to grip and release the electrode (carbon) through changes in the angular position of the grip device.

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Expanding:

This subclass is indented under subclass 86.4. Grapples in which the load is internally engaged through the expansion of the device.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

16, for opposing jaw hand bars and hand arrows.

86.24+, for expanding grappling means peculiarly adapted to function in a well bore.

89, for lewises.

120+, for hay forks having similar mode of operation.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclass 72, 165 and 212, for expansible hollow ware cleaners, and 149, for expansible mop holders.

52, Static Structures (e.g., Buildings), subclasses 155+ for a piercing and expanding earth anchor.

81, Tools, subclass 3.05, for shell extractors, 3.4+, for gripping type receptacle closure removers, 15.2+, for tire repair tools and 302, for expanding pliers and tweezers.

128, Surgery, subclass 12 for expansion-clamps for dental operations.

- 166, Wells, subclass 117.7, for means anchored against rotation in a conduit in a well for relatively rotating another section and subclasses 206+ and the subclasses there noted for well devices with expanding anchor means, these means usually being for positioning a well device in the well rather than for use as a grapple.
- 168, Farriery, subclass 47 for horse hoof and shoe expanders.
- 94 Cam-spread jaws:**
This subclass is indented under subclass 93. Grapples in which the expanding action is being produced by some form of cam mechanism.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
86.25, for expanding grappling means having a cam action and which is peculiarly adapted to function in a well bore.
- 95 Pivoted:**
This subclass is indented under subclass 94. Grapples in which the cam action being upon pivoted load-engaging elements.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
116, for cam operated pivoted jaw grapples.
- 96 Slip wedge:**
This subclass is indented under subclass 94. Grapples having sliding wedge members and cooperating cam-tracks.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
102.1+, for grapples having a socket and slip wedge.
- 97 Pivoted:**
This subclass is indented under subclass 93. Grapples in which the grasping element or elements are pivoted.
- 98 Hayfork type:**
This subclass is indented under subclass 97. Grapples particularly designed to grasp loose material, such as hay.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
127, for hay harpoons having mechanically spread barbs.
- 98.1 Inflatable:**
This subclass is indented under subclass 93. Expanding grapples wherein the grasping force is produced by the introduction fluid pressure into a resiliently inflatable member.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
63.2, for brick carrying frames having expansible, inflatable grapples.
119.3, for inflatable grapples which externally engage the load.
- 99.1 Resilient jaws:**
This subclass is indented under subclass 86.4. Grapples having grasping members connected so as to form spring arms which depend upon the spring of the material to open or close the jaws.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
4, for barrel roller type implements.
5, for ear corn holders.
11, for fire tongs.
86.32, for resilient grappling means peculiarly adapted to engage about an object in a well bore.
- SEE OR SEARCH CLASS:
15, Brushing, Scrubbing, and General Cleaning, subclass 72, 165 and 212, for expansible cleaners for hollow ware, and 149 for expansible mop holders.
24, Buckles, Buttons, Clasps, etc., subclasses 530+, for resilient clasps.
81, Tools, subclasses 3.34+, for hand manipulated receptacle closure removers, 3.41, for finger grapple type receptacle closure removers
- 99.2 Hand-held (e.g., tweezer, tongs):**
This subclass is indented under subclass 99.1. Grapples in which the device is carried by hand and actuation of the grasping members is accomplished by direct manual manipulation thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 8.5, for clothes tongs.
- 11, for fire tongs.
- 33, for resilient plate or receptacle lifters.

SEE OR SEARCH CLASS:

- 128, Surgery, subclass 354 for surgical tweezers.
- 433, Dentistry, subclass 162 for dental tweezers.

100 **Separate sliding operator:**

This subclass is indented under subclass 99.1. Grapples having a distinct grapple operating means which has sliding action along the support for the jaws.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 86.28, for outwardly biased resilient grappling means adapted to close inwardly about an object in a well bore through a distinct operating means.
- 115, for pivoted jaw grapples with sliding operator.
- 209, for poles having handling devices thereon.

SEE OR SEARCH CLASS:

- 15, Brushing, Scrubbing, and General Cleaning, subclass 149 and 154, for mop holders having sliding fasteners.
- 24, Buckles, Buttons, Clasps, etc., particularly subclasses 535+ for resilient, nonforce transmitting or driving, clasps with sliding operators.

101 **Pivoted cam and hook:**

This subclass is indented under subclass 86.4. Grapples having hook-shaped terminals, within the bight of which the load is latched by a pivoted cam.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 82.11+, for cable and hook tackle.
- 113+, for grapples having pivoted jaws with a surrounding frame.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 115+ for cord and rope holders.

102.1 **Socket and slip wedge:**

This subclass is indented under subclass 86.4. Grapples having socket members, usually embracing the load, within which is a wedge, which grasp the load through cam action upon the socket casing.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 86.3+, for cam operated contracting grappling means peculiarly adapted to function in a well bore.
- 96, for expanding grapples of this type.

SEE OR SEARCH CLASS:

- 166, Wells, subclasses 55+ for devices which cut or perforate well pipe having similar structure.
- 175, Boring or Penetrating the Earth, subclass 255, for an earth boring device of the core forming type provided with a core grasping means of the sliding wedge type.
- 188, Brakes, particularly subclass 67 for slip type rope or rod brakes.

102.2 **Well pipe elevator:**

This subclass is indented under subclass 102.1. Grapples specially adapted for raising or lowering pipe or tubing into or out of a well during the breaking up or making up of well strings.

103.1 **Fixed and moveable jaw:**

This subclass is indented under subclass 86.4. Grapples having one jaw in fixed and the other in movable relation to the handling terminal.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 11, for fire tongs.
- 34, for plate and receptacle lifters having sliding graspers.
- 50.9, for grappling type hand forks and shovels of this type.
- 62, for brick carriers of this type.
- 209, for pole-mounted implements.

SEE OR SEARCH CLASS:

- 166, Wells, subclasses 55+ for devices which cut or perforate well pipe having similar structure.
- 175, Boring or Penetrating the Earth, subclass 255 for an earth boring device of the core forming type provided with a core grasping means of the sliding wedge type.
- 188, Brakes, particularly subclass 67 for slip type pipe or rod brakes.

103.2 Coil gripper:

This subclass is indented under subclass 103.1. Grapple specially adapted to handle material which is wound about a central axis.

104 Pivoted jaw:

This subclass is indented under subclass 103.1. Grapples in which one jaw is being pivoted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 62, and 87.22+, for brick carriers of this type.
- 101, for pivoted cam and hook grapples.

SEE OR SEARCH CLASS:

- 81, Tools, subclasses 364+, 367+, 381+, and 384 for similar hand tools.

105 Hayfork type:

This subclass is indented under subclass 104. Grapples which are particularly designed to grasp loose material such as hay.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 98, for expanding pivoted jaw grapples for handling hay.
- 107+, for hay fork type pivoted jaw grapples.
- 120+, for hay fork type implements.

106 Pivoted jaws:

This subclass is indented under subclass 86.4. Grapples in which the engaging elements being pivoted.

- (1) Note. "Pivoted", as used throughout this class, includes fulcrums other than regulation pivot-pins.

- (2) Note. In this group of subclasses have been placed all handling devices of general application coming within the definition.

- (3) Note. Mere finger-pieces designed to release a clip are not regarded as handling terminals.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 11, for fire tongs.
- 28+, for pivoted jaw plate and receptacle lifters.
- 85, 87.22, for overhead beam hooks and grapples.
- 86.29, for contracting grappling means having a pivotal grappling movement and which means is peculiarly adapted to function within a well bore.
- 97, for expanding grapples having pivoted jaws.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 489+, for pivoted clasps.
- 37, Excavating, subclass 182 and 461, for orange peel and clamshell buckets.
- 72, Metal Deforming, subclass 290 and 422+ for a metal-drawing gripper.
- 81, Tools, subclasses 348+ for pliers and tongs with means for pivoting both jaws.
- 140, Wireworking, subclass 123, for wire working implements.

107 Hayfork type:

This subclass is indented under subclass 106. Grapples particularly designed to grasp loose material, such as hay.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 92, for rigid gripper type grapples.
- 98, for expanding grapples for handling hay.
- 120, for hay fork type implements.

108 With auxiliary retainer:

This subclass is indented under subclass 107. Grapples having some means additional to the pivoted jaws for retaining the load.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
121, showing auxiliary retainers, in hay-fork type implements.
- 109 Latched:**
This subclass is indented under subclass 107. Grapples having some trip mechanism for releasing the jaws to grasp or discharge the load.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
107, for jaws controlling toggle operation analogous to latching action. Where the tripping of a latch is preliminary to a toggle release, the latch feature controls the classification of the patent.
- 110.1 Automatic:**
This subclass is indented under subclass 106. Grapples having some special operating member including means to sense a changing condition for effecting operation of grapple.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
19.3, for triggered, pole mounted fishing gaffs.
68.21+, for bottom or side discharge hoisting buckets.
86.27, for contracting inwardly biased grappling means that is held disengaged by a trip means and which is adapted to function within a well bore.
96, for expanding jar grapples with slip wedge.
99.1+, for resilient grapples.
102.1+, for grapples with socket and slip wedge.
- SEE OR SEARCH CLASS:
43, Fishing, Trapping, and Vermin Destroying, subclass 6 and 88, for trip-operated jaws.
119, Animal Husbandry, subclasses 151+, for animal catching and holding tools.
293, Vehicle Fenders, subclasses 15+, for vehicle fenders having body traps.
- 110.2 Cam and follower:**
This subclass is indented under subclass 110.1. Grapples wherein a cam and cam follower arrangement is used to selectively allow movement of the grasping jaws between opened and closed positions.
- 111 Separate cable operator:**
This subclass is indented under subclass 106. Grapples in which the operation of the jaws is caused by a supplemental cable.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
86.14+, for grappling means adapted to function in a well bore and having a separate grapple operating means.
107, for toggle-operated jaws with separate cable.
109, for toggle-operated jaws with separate cable and latching means.
- 112 Suspension:**
This subclass is indented under subclass 111. Grapples in which the supplemental-cable to operate the device is a suspension-cable.
- SEE OR SEARCH CLASS:
37, Excavating, subclass 182 and 461, for orange peel and clamshell buckets.
- 113 Surrounding frame:**
This subclass is indented under subclass 108. Grapples in which the grasping-jaws are pivoted upon a structure which surrounds the load.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
104, for surrounding frame devices having but a single pivoted jaw.
- 114 Opposing load-engaging cams:**
This subclass is indented under subclass 113. Grapples in which opposing pivoted jaws have cam action on the load.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
16, for hand and barrows having opposing jaws.

- SEE OR SEARCH CLASS:
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 31.
- 115 Separate sliding operator:**
This subclass is indented under subclass 106. Grapples having a distinct grapple-operating means which has sliding action along the support for the jaws.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
100, for resilient grapples with slide.
104, for fixed and pivoted jaw grapples.
209, for pole-mounted implements.
- 116 Cam-operated:**
This subclass is indented under subclass 106. Grapples in which the operation of the jaws is produced by some form of cam action.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
95, for expanding grapples with cam spread jaws.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclass 134, for cam lever cord and rope holders.
- 117 Auxiliary operating handle:**
This subclass is indented under subclass 106. Grapples having an independent handle or bar for operation the grapple.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.14, for grappling means adapted to function in a well bore and having a separate grapple operating means.
115, for pivoted jaw grapples having a sliding operator.
- 118 Crossed levers:**
This subclass is indented under subclass 106. Grapples in which the grasping elements comprising crossed levers are centrally fulcrumed or pivoted.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
28+, for pivoted plate or receptacle graspers.
104, for fixed and pivoted jaw grapples.
- SEE OR SEARCH CLASS:
81, Tools, subclasses 415+, for pliers and tongs with crossed handles.
- 119 Tandem tongs:**
This subclass is indented under subclass 118. Grapples having a secondary-lever system to cause the operation of the primary load-gripping elements.
- SEE OR SEARCH CLASS:
81, Tools, subclasses 381+, for pliers and having tandem levers.
- 119.1 Slideable jaws:**
This subclass is indented under subclass 86.4. Grapples in which all of the grasping jaws have a relative sliding movement and usually move on guides.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
34, for sliding graspers on a plate or receptacle lifter.
67.33, for slideable supports on a hoist-line attached load supporting frame.
81.62, for slideable grippers on a spacing hoist bar or frame.
103, for fixed and moveable jaw grapples.
- SEE OR SEARCH CLASS:
81, Tools, subclasses 355+ for pliers and tongs having a sliding jaw.
- 119.2 Band type:**
This subclass is indented under subclass 86.4. Grapples comprising a strip of material adapted to extend around a load and provide substantially continuous gripping engagement therewith in a single plane.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for a plate or receptacles lifter with band type graspers having pivotally connected sectors.

- 31.2, for a band type plate or receptacle lifter.
- 33, for a plate or receptacle lifter having a grapple in which a strip of resilient material is formed to provide relative moveable distinct jaw portions.
- 119.3 Inflatable:**
This subclass is indented under subclass 86.4. Grapples wherein the grasping force is produced by the introduction of fluid pressure into a resiliently inflatable member.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
63.2, for brick carrying frames having expandible inflatable grapples.
98.1, for inflatable expanding grapples in general.
- 119.4 Swing dampener:**
This subclass is indented under subclass 86.4. Grapples wherein the suspension means for the grapple includes a motion retarder to prevent undesired oscillation of the grapple.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.12, for hoist-line hook having a resilient suspension means.
- SEE OR SEARCH CLASS:
188, Brakes, subclasses 266+ for dashpot type shock absorbers, per se.
267, Spring Devices, appropriate subclasses for spring devices, per se.
- 120 HAYFORK TYPE:**
This subclass is indented under the class definition. Implements particularly designed to engage loose material, such as hay, not provided for under more specific "hay-fork type" subclasses above.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
49+, for hand forks.
98, for expanding grapples adapted to handle hay.
105, for hay handling grapples having fixed and pivoted jaws.
107+, for hay fork type pivoted jaw grapples.
- 121 Corkscrew:**
This subclass is indented under subclass 120. Hay-fork type implements having a corkscrew-like load-engaging element.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 157 for an auger type land anchor.
- 122 Single tilting fork:**
This subclass is indented under subclass 120. Hay fork type implements, in which the load-carrying means is usually a tilting frame normally held in a horizontal position and having means controlling its position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
68.26, for tilting discharge hoisting buckets.
- 123 With auxiliary retainer:**
This subclass is indented under subclass 122. Hay fork type implements having some means additional to the fork for seizing and retaining hold of the load.
- 124 Latch release:**
This subclass is indented under subclass 122. Hay fork type implements having a trip-latch to control the position of the fork-frame.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
122, for toggle mechanisms for forks of this type.
- 125 Combined harpoon and fork:**
This subclass is indented under subclass 120. Hay fork type implements having load-engaging means comprising a barbed spear and cooperating fork.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
108, for pivoted jaw hay grapple with auxiliary retainer.
- 126 Harpoon:**
This subclass is indented under subclass 120. Hay fork type implements in which the load-engaging means comprises a spear-shaped

implement provided with barbs or shoulders set to prevent the disengagement of the load.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

61, for spears of general utility.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 155+ for an earth piercing or expanding land anchor.

127 Mechanically spread barbs:

This subclass is indented under subclass 126. Harpoons wherein mechanical means is provided to move the barbs to engaging or disengaging position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

98, for expanding grapples for handling hay.

128 Multiple:

This subclass is indented under subclass 127. Harpoons wherein a plurality of harpoon-shafts are associated to form the load-engaging means.

129 Latch release:

This subclass is indented under subclass 128. Harpoons wherein a trip-operated device releases the barb-controlling mechanism.

130 Latch release:

This subclass is indented under subclass 127. Harpoons wherein a trip-operated device releases the barb-controlling mechanism.

131 SHIELD DEVICES:

This subclass is indented under the class definition. Shields or protectors designed to be applied to devices within the class definition and to shield the hand of the operator while using the device or protect the implement or object handled against injury.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

25, for hand and finger attached implements.

59, for attachments for hand forks and shovels.

SEE OR SEARCH CLASS:

2, Apparel, subclass 16 for a guard or protector for the hand against unusual conditions such as the application of a strong force, high temperature, etc.

114, Ships, subclass 221 for similar structures to prevent rats climbing ships' hawsers.

132 WIRE ENGAGING AND CLAMPING MEANS FOR USE WITH CABLE TYPE WIRE TENSIONING APPARATUS:

This subclass is indented under the class definition. Devices consisting of means which includes a portion peculiarly adapted to contact and positively grip at least one wire which is being tensioned by apparatus connected to the means by a cable.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 199+ for portable implements or apparatus for tensioning flexible material or for extracting stumps or poles.

133 Wire engaging portion of means includes rotatable, generally circular disk or cylinder:

This subclass is indented under subclass 132. Devices wherein the contacting portion includes at least one generally disk or cylinder which is rotated when a gripping force is applied to the wire.

134 Including threaded tightener:

This subclass is indented under subclass 132. Devices wherein the means also includes a threaded, cylindrical rod cooperating with a threaded, nutlike structure to apply the wire gripping force to the contacting portion.

135 Including pivotally attached and hand engaged lever:

This subclass is indented under subclass 132. Devices wherein the means includes a hand held and powered lever which pivots about a fixed axis to apply the wire gripping force to the contacting portion.

136 Having curved, camming protrusion formed on lever:

This subclass is indented under subclass 135. Devices in which the lever has a curved, camming projection formed thereon which either cams against the wire contacting portion or the wire.

137 ARTICLE CARRIER GRIPPED AND CARRIED BY HAND:

This subclass is indented under the class definition. Device including means to support an article to be transported and which is provided with structure specifically adapted to be grasped and supported by the hand of the bearer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 2, for a device comprising a combination of two or more types of implements included within this class.
- 3.5, for hand trays for mortar.
- 5.5, for rod-type article supports (e.g., clothes hanging bars).
- 15+, for a load-carrying bar or frame provided with one or more handholds permitting the load to be carried at the normal level of the hands.
- 26, for carriers in the form of a hook.
- 27.1+, for plate or receptacle carriers.
- 62+, for brick carriers.
- 65.5, for carriers which hold an article by magnetic force.
- 86.4+, for grapples.
- 183, for carriers which hold an article by suction.
- 903, for a cross reference art collection of battery carriers.

SEE OR SEARCH CLASS:

- 12, Boot and Shoe Making, subclass 120.5 for ski boot carriers.
- 16, Miscellaneous Hardware (e.g., Bushing, Carpet Fastener, Caster, Door Closer, Panel Hanger, Attachable or Adjunct Handle, Hinge, Window Sash Balance, etc.), subclasses 110.1 through 430 for handle structure, per se; especially subclass 114 for removable handles (viz., those which engage cooperating structure on the article). Class 16 is the residual locus for han-

- dles claimed as a subcombination of an article.
- 150, Purses, Wallets, and Protective Covers, subclasses 100+ for purses and handbags used to carry money, credit cards, and items of identifications on the person.
- 190, Trunks and Hand-Carried Luggage, appropriate subclasses for trunks and travelling bags. See subclass 116, for an article of hand luggage combined with a detachable handle.
- 206, Special Receptacle or Package, appropriate subclasses for a carrier in the form of a mercantile or display package for a particular article, or a receptacle configured for a particular article.
- 211, Supports: Racks, appropriate subclasses for a support for a plurality of articles which is adapted to rest upon or be attached to a surface (no handle being claimed).
- 217, Wooden Receptacles, subclasses 5+ for wooden boxes for carrying articles; and subclass 122 for wooden or straw baskets.
- 220, Receptacles, appropriate subclasses for article carriers in the form of metal or plastic receptacles. See subclasses 752+ for handle details. A removable handle claimed in combination with cooperating structure on a Class 220 receptacle is classified in Class 220, subclasses 752+. See subclasses 485+ for wire baskets.
- 221, Article Dispensing, appropriate subclasses for article carriers having means to separate an article from a group of articles carried by the carrier.
- 224, Package and Article Carriers, appropriate subclasses for body or vehicle supported carriers. Carriers which are gripped and supported by the hand of the bearer are classified in Class 294. Those carriers which can be used in either manner (e.g., car-carried on hand-held) have been classified as originals in Class 224.
- 229, Envelopes, Wrappers, and Paperboard Boxes, subclasses 117.09+ for a paperboard box having a handle.
- 248, Supports, appropriate subclasses for an article holder adapted to rest upon

- or be attached to a surface (no handle being claimed).
- 269, Work Holders, subclasses 3+ for a hand-held device for supporting a work piece while it is being treated.
- 383, Flexible Bags, subclasses 6+ for a flexible bag combined with a handle.
- 138 Including means to cover book or sheet:**
This subclass is indented under subclass 137. Device including one or more sheets or panels folded or joined to form at least a partial jacket for one or more books or sheets of paper.
- SEE OR SEARCH CLASS:
- 206, Special Receptacle or Package, subclass 232 for a combined or convertible receptacle or package for a book or leaflet; subclasses 449+ for a special container or package for a book or sheet; and subclasses 472 for a book cover having an attached article retainer (no handle claimed).
- 281, Books, Strips, and Leaves, subclass 34 for removable book covers.
- 139 Including support for optical instrument (e.g., camera holder):**
This subclass is indented under subclass 137. Device specifically adapted to support an instrument having an optical lens.
- SEE OR SEARCH CLASS:
- 150, Purses, Wallets, and Protective Covers, subclass 52 for camera cases.
- 206, Special Receptacle or Package, subclass 316.2 for a camera case or package.
- 248, Supports, subclasses 163.1+ for tripods.
- 396, Photography, subclasses 419+ for a camera support.
- 140 Carrier for person:**
This subclass is indented under subclass 137. Device specially adapted to support a person.
- SEE OR SEARCH CLASS:
- 5, Beds, subclasses 861+ for a field stretcher carried by a person or persons.
- 19, Textiles: Fiber Preparation, subclass 96 for a body harness and/or tether of general utility useful for both animals
- or human beings, e.g., a harness for moving an unconscious person by means of an attached line.
- 224, Package or Article Carriers, subclass 158 for a carrier for a person which is attached to or worn by the bearer.
- 141 Convertible to, or useable as, different device or different type carrier:**
This subclass is indented under subclass 137. Device wherein either (a) all or a portion is useable, with or without modification, as an apparatus other than an article carrier (b) the carrier is alternately useable as a different type article carrier.
- SEE OR SEARCH CLASS:
- 190, Trunks and Hand-Carried Luggage, subclasses 1+ for convertible baggage.
- 206, Special Receptacle or Package, subclasses 736+ for a package or receptacle convertible to or from a contents displaying mode.
- 220, Receptacles, subclass 23.86 for an arrangement of plural receptacles, at least one of which is combined with or convertible to another device.
- 224, Package and Article Carriers, subclasses 575+ for a body attached carrier which is convertible to, or useable as a different device or type of carrier.
- 383, Flexible Bags, subclass 4 for bag convertible to a nonbag device.
- 142 Having means for supporting or mounting carrier:**
This subclass is indented under subclass 141. Device having specific means (e.g., legs, clamp, hanger, etc.) for supporting the carrier on a surface or for mounting or suspending the carrier from a supporting structure.
- SEE OR SEARCH CLASS:
- 248, Supports, appropriate subclasses for a stand or bracket, per se.
- 143 Having plural receivers or supports for plural articles (e.g., rack):**
This subclass is indented under subclass 142. Device specially configured to support a plurality of articles simultaneously.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
159, for a carrier, per se, having plural discrete receivers or supports for plural articles.
- SEE OR SEARCH CLASS:
211, Supports: Racks, appropriate subclasses for a support comprising built-up or open framework structure for supporting a plurality of articles. Racks having handles by which the rack is adapted to be gripped and carried are classified in Class 294.
- 144 Tray:**
This subclass is indented under subclass 142. Device comprising a rigid platelike element having a horizontal article supporting surface which is substantially longer and wider than its thickness.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
172, for an article carrying tray, per se.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 557+ for a shallow receptacle (e.g., tray) which is specially configured to hold a particular type article. A tray having mere "apertures" or "circular depressions" is not considered to be specially configured. Structure such as "elongated recesses for hypodermic syringes" is sufficient to cause classification in Class 206.
- 145 Configured for complimentary projections on package or article:**
This subclass is indented under subclass 137. Device provided with a plurality of protrusions or recesses for engagement with corresponding but opposite protrusions or recesses on the article to be carried.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
158, for a carrier having a component positioned in an aperture in the article (e.g., record carrier).
- 146 Having plural diverse receivers or supports for diverse articles:**
This subclass is indented under subclass 137. Device including two distinct article engaging or supporting portions, each of which is configured to engage or support a different type article.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
159, for a carrier provided with plural discrete receivers or supports for plural articles of the same type.
- SEE OR SEARCH CLASS:
150, Purses, Wallets, and Protective Covers, subclass 106 for a purse or pocketbook combined with an article holder.
- 147 Including receiver or support for ski:**
This subclass is indented under subclass 146. Device wherein one of the engaging or supporting portions is specifically adapted to engage or support a ski.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 315.1 for a bag or receptacle for skis.
211, Supports: Rocks, subclass 70.5 for a support or rack for holding a ski in storage.
280, Land Vehicles, subclass 814 for a clamp, tie, or case for carrying or storage of skis, wherein the case or cover serves more than the function of protection. The ski carriers in Class 280 are those in which a ski or pole serves as the carrying handle.
- 148 Including helical spring or elastic material for engaging or supporting article:**
This subclass is indented under subclass 137. Device wherein a portion which comes into direct contact with the article to support or retain the article comprises either an elongated member formed into a helix, or a strip of material, either of which exhibits substantial resiliency along its length.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

166, for resiliently biased clamping means to secure the article to the carrier, or the carrier around the article, but wherein the spring or elastic material providing the bias does not itself contact the article.

SEE OR SEARCH CLASS:

248, Supports, subclasses 560+ for resilient supports.

149 Having flaccid receiver, support or fastener for article:

This subclass is indented under subclass 137. Device including either a portion formed of a nonself-sustaining pliant material which comes into direct contact with the article, or a member formed of such material for securing an article to the carrier.

(1) Note. The pliant member, if separable from the remainder of the carrier, must be claimed as an element of the carrier for original placement of a patent in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

170, for a handle having means at either end to retain cord used to secure a package.

171, for a handle having a cord accommodating groove or passage along the length of the handle.

SEE OR SEARCH CLASS:

269, Work Holders, subclass 131 for a work holder having flaccid loop article engaging clamp.

150 Including means to tighten flaccid member about article:

This subclass is indented under subclass 149. Device including means which provides a mechanical advantage to place the pliant member or portion under tension.

SEE OR SEARCH CLASS:

24, Buckles, Buttons and Clasps, etc., subclass 19 for bale or package ties with tighteners.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 51+ for a mechanism for tightening a belt, chain, cable, etc., about an article.

151 Including rigid, semirigid or reinforced panel:

This subclass is indented under subclass 149. Device which includes, in addition to a pliant section or member, a panel formed of either a self-sustaining material, or a pliant material combined with reinforcing members to render the panel self-sustaining.

152 Having plural handles connected by flaccid receiver or support (e.g., sling):

This subclass is indented under subclass 149. Device comprising an elongated member of pliant material having a member or portion at each end thereof adapted to be gripped by the hand.

(1) Note. The two handles may be juxtaposed to be used as one handle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

74+, for hoist-line slings.

155, for a sling having a handle at only one end thereof.

153 And rigid handle or bar:

This subclass is indented under subclass 149. Device including an elongated relatively inflexible member which either is adapted to be grasped directly by the hand to lift the carrier, or has a handle directly connected thereto.

154 Plural discrete flaccid supporting members suspended from handle or bar at spaced points:

This subclass is indented under subclass 153. Device including a plurality of individually distinct pliant members attached to the handle or bar at discrete locations for supporting or securing the article beneath the handle or bar.

155 And connected by cross-strap or brace (e.g., harness):

This subclass is indented under subclass 154. Device including an additional member intersecting and interconnecting a plurality of the suspended pliant members.

156 Single web or strap (e.g., sling):

This subclass is indented under subclass 153. Device consisting of a single elongated pliant member the ends of which are connected or are adapted to be connected to the bar or handle, and wherein the width of the pliant member, when viewed in the direction of its length, is many times its thickness.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

152, for a sling having a handle or handle portion at each end thereof.

157 Having parallel flaccid members forming article support:

This subclass is indented under subclass 149. Device including a plurality of elongated pliant members which are parallel to one another over a substantial portion of their length.

158 Carrier component positioned in aperture in article:

This subclass is indented under subclass 137. Device having a portion adapted to be inserted into a hole in the article to position or secure the article to the carrier.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

145, for a carrier having a plurality of protrusions to engage complimentary recesses in the article.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 310 for a receptacle or a mercantile package for a sound recording and having a spindle-like retainer.

269, Work Holders, subclasses 47+ for a holder that is inserted within a work aperture.

159 Having plural discrete receivers or supports for spaced articles:

This subclass is indented under subclass 137. Device including a plurality of distinct article engaging or supporting portions, each adapted to engage or support a separate article.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

87.1+, for a carrier having a plurality of bottle-gripping stations.

143, for a similar type carrier provided with means to support or mount the carrier (e.g., legs, aperture, etc.).

146, for a carrier having plural receivers or supports for diverse articles.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclasses 139+ for a portable carries for plural beverage receptacles, and subclasses 557+ for a tray-type receptacle having receivers or supports for articles.

160 Separable supports:

This subclass is indented under subclass 159. Device comprising means to facilitate the assembly and disassembly of one article-supporting portion from another.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

167, for carriers having means to facilitate the assembly or disassembly of an article-supporting portion from a handle portion.

SEE OR SEARCH CLASS:

220, Receptacles, subclass 23.4 for horizontally attached receptacle sets, wherein at least one of the receptacles is detachable from the remainder of the set.

161 Vertical array:

This subclass is indented under subclass 159. Device wherein the article-engaging or supporting portions are arranged in such a manner that one of the articles is supported either entirely above or entirely below another article.

(1) Note. The engaging and supporting portions may additionally be arranged in horizontally spaced relation.

SEE OR SEARCH CLASS:

- 206, Special Receptacle or Package, subclasses 503+ for specially configured receptacles having structural features for facilitating vertical stacking.
- 211, Supports: Racks, subclasses 128.1+ for terraced trays embodied in a surface-supported rack.
- 220, Receptacles, subclass 23.6 for horizontally attached receptacle sets with a stacking feature.

162 Having moveably mounted or separable means to retain articles:

This subclass is indented under subclass 159. Device including means to retain an article at an article-engaging or supporting portion, wherein the retaining means is either (a) assembled and disassembled to the carrier to retain or remove the article, or (b) is movable on the carrier to a first position to retain the article, and to a second position to release the article from the carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 165, for means to fasten one or more articles to a carrier, wherein the carrier does not include a discrete receiver or support for each article.

163 Common to plural receivers or supports:

This subclass is indented under subclass 162. Device wherein the means to retain an article comprises a single member for simultaneously retaining a plurality of articles at a plurality of article engaging or supporting portions.

164 Article gripping or retaining means actuated by lifting carrier:

This subclass is indented under subclass 137. Device including movable structure for holding or otherwise retaining the article on the carrier, wherein a carrying handle is interconnected with the holding or retaining means in such a manner as to move or tend to move the holding or retaining means into its operative position whenever a lifting force is applied to the handle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 28+, for a receptacle lifter having pivoted jaws which are actuated by lifting the handle.
- 87.2+, for a carrier for plural bottles and having bottle-gripping means actuated by lifting the carrier handle.
- 167, for other carriers having a movable handle.

SEE OR SEARCH CLASS:

- 206, Special Receptacle or Package, subclass 142 for a receptacle or mercantile unit for holding plural beverage containers, and which includes a pivoted handle that serves to retain the containers when the handle is lifted.

165 Including means to release article or to fasten carrier to or around article:

This subclass is indented under subclass 137. Device wherein the carrier includes either (a) manipulatable means which, when actuated, permits the article to fall free of or be removed from the carrier, (b) means to positively engage an article to secure it to the carrier, or (c) two relative movable connected portions which are manipulated to substantially enclose the article within the carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 27.1+, for means to secure a receptacle to a carrier.
- 65+, for carriers employing magnetic attraction to secure an article thereon.
- 86.4+, for grapple-type article manipulators.
- 162, for securing means on a carrier having plural article supports.
- 183, for carriers employing vacuum to secure an article thereon.

SEE OR SEARCH CLASS:

- 248, Supports, subclass 187.1 for article attaching means on stands; and subclasses 309.1+ for article attaching means on brackets.
- 269, Work Holders, appropriate subclasses for attaching means for securing a workpiece to a holder.

166 Resiliently biased:

This subclass is indented under subclass 165. Device wherein the means to release or fasten the article includes a first work-engaging portion movable relative to a second work-engaging portion, and elastically deformable structure which functions to force them either toward or away from each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

99.1+, for grapple having a spring actuated jaw.
148, for a helical spring or elastic member which directly engages the article.

SEE OR SEARCH CLASS:

269, Work Holders, subclass 162 for holders having plural resiliently biased jaw pairs; and subclasses 254+ for resiliently biased jaws.

167 Support or receiver moveably, removably, or adjustably mounted to handle or handle portion (e.g., collapsible):

This subclass is indented under subclass 137. Device having article-engaging or supporting structure and either (a) means to facilitate the assembly or disassembly of said structure from a hand-engaged portion of the carrier, or (b) means to permit relative movement between said structure and a hand-engaged portion of the carrier.

168 Having slidable sections:

This subclass is indented under subclass 167. Device including adjustable connecting means between article engaging or supporting structure and the remainder of the carrier, the connecting means comprising a first surface fastened to the engaging or supporting structure and in gliding contact with a second surface on the remainder of the carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

166, for resiliently biased sliding clamp or article enclosing structure.

169 Having pivoted sections:

This subclass is indented under subclass 167. Device comprising means swingably connecting article engaging or supporting structure with the remainder of the carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

165, for pivoted structure which functions to retain the article on the carrier.

170 Including handle having article or cord engaging means depending at each end:

This subclass is indented under subclass 137. Device comprising an elongated member adapted to be grasped and supported by the hand of the bearer and having means at or adjacent each end thereof to engage and retain an article to be carried.

SEE OR SEARCH THIS CLASS, SUBCLASS:

153, for a rigid handle or bar claimed in combination with an article-supporting strap.

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.), subclasses 422 through 430 for a detachable handle which engages structure on the article that is specially provided to cooperate with the handle.

220, Receptacles, subclasses 752+ for a bail handle for a receptacle.

171 Having cord or bail accommodating groove or passage along length of handle:

This subclass is indented under subclass 137. Device comprising an elongated member adapted to be gripped and supported by the hand and having an aperture, slot, or recess, or a combination thereof, formed along substantially the entire length of the handle, and wherein a wire bail or cord which is attached to the article to be carried is engaged in the aperture, slot, or recess to carry the package.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

149, for an article or package carrier, wherein a cord or other flaccid retaining member is claimed as part of the carrier.

SEE OR SEARCH CLASS:

383, Flexible Bags, subclasses 6+ for a bag having a handle.

172 Tray:

This subclass is indented under subclass 137. Device comprising a rigid platelike element having a horizontal article-supporting surface which is substantially longer and wider than its thickness.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

144, for a tray having legs or other means for supporting the tray on a surface or mounting it to a support.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclasses 557+ for a shallow receptacle (e.g., tray) provided with structure peculiarly adapting it for use with a specific type of article (e.g., "having a recess configured for supporting a hypodermic syringe"; however, limitation such as "a plurality of round apertures" or "circular recesses" is not considered to be peculiar to any article and those patents claiming such structure have been placed as originals in Class 294.

211, Supports: Racks, subclasses 126.1+ for tray or receptacle type racks. Trays which are claimed with carrying handles or which are disclosed only as hand-held carriers have been classified in Class 294.

229, Envelops, Wrappers, and Paperboard Boxes, subclasses 100+ for folding paper or cardboard trays.

173 LIFTER FOR REMOVING ITEM (E.G., CAKE, TURKEY, ETC.) FROM CONTAINER, ETC.):

This subclass is indented under the class definition. Handling tool for taking out objects, usually food, from a receptacle.

(1) Note. Subject matter in this subclass includes taking prepared food items from, for example, a carrying box or a baking pan.

174 FOR AN ELECTRICAL CONDUCTOR OR REGULATOR (E.G., HOT-LINE STICK OR FUSE PULLER, ETC.):

This subclass is indented under the class definition. Handling tool for a current/voltage carrying device or a current/voltage control device.

SEE OR SEARCH CLASS:

81, Tools, subclass 3.8 for devices including a pole structure provided with means for inserting or removing a fuse in a fuse block.

175 Pole mounted:

This subclass is indented under subclass 26. The generally J-shaped hand implement is attached to an elongated rigid handle.

176 Scoop:

This subclass is indented under subclass 49. The handled implement has a substantial portion of the blade in a hemispherical or bowl-like shape.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

54.5, for a snow shovel.

SEE OR SEARCH CLASS:

37, Excavating, subclass 264 and 265 for snow or ice removing or grooming by portable scoop.

177 With top cover:

This subclass is indented under subclass 176. The implement hemispherical or bowl-like portion includes a lid.

- 178 Two or more distinct handles:**
This subclass is indented under subclass 176. The implement includes at least two hand-grippable pieces.
- 179 Apertured for fluent material:**
This subclass is indented under subclass 176. The implement hemispherical or bowl-like portion has holes, openings, slots, etc., generally for handling solids of a size larger than the holes, openings, slots, etc.
- (1) Note. Classification in this subclass would include pet waste scoops.
- 180 One piece type:**
This subclass is indented under subclass 176. The implement is made from a single blank or a single material.
- 181 Pole mounted:**
This subclass is indented under subclass 49. The bladed, hand implement handle is an elongated rigid member.
- 182 Pole mounted:**
This subclass is indented under subclass 61. The tined, hand implement handle is an elongated rigid member.
- 183 UTILIZING FLUID PRESSURE (E.G., VACUUM, ETC.):**
This subclass is indented under the class definition. The load is held by the action of a force generated using a gas, usually a negative force.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 1.2, for contact lens applicator which uses a suction-type grip.
- SEE OR SEARCH CLASS:
- 4, Baths, Closets, Sinks, and Spittoons, subclass 255.11 and 255.12 for a plunger.
- 147, Coopering, subclass 4 for a barrel compressing machine.
- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 569 for vacuum pickers in combination with a laminating device.
- 248, Supports, subclass 309.3 for a bracket holding articles by suction, subclass 362 for a vacuum hold down, and subclass 363 for a vacuum support.
- 271, Sheet Feeding or Delivering, subclass 5 for a feeding and delivering pneumatic separator and conveyor, subclass 11 for a feeding pneumatic separator and conveyor, subclass 90 for a feeding pneumatic separator, and subclass 98 for sheet removal by suction.
- 279, Chucks or Sockets, subclass 3 for chucks which hold workpieces, etc. by vacuum.
- 414, Material or Article Handling, subclass 627 for hoist unloading by suction gripper, subclass 737 for vertically swinging load support suction grab, subclass 752.1 for a load carried along a horizontal linear path suction gripper, and subclass 797 for unstacking by suction.
- 184 For eggs or light bulbs:**
This subclass is indented under subclass 183. Handling tool utilizing the force, usually negative, to move a shelled embryo or illumination device.
- 185 Including diverse art structure (e.g., heater, light, sensor, vibrator, control, filter, etc.):**
This subclass is indented under subclass 183. Vacuum handling tool in which structure classified outside of this class is added to the vacuum handling tool.
- 186 Including a suction activation or deactivation device (e.g., switch, etc.):**
This subclass is indented under subclass 183. Vacuum handling tool including an on-off device for the generated force.
- 187 Mechanical-type evacuation (i.e., no pump):**
This subclass is indented under subclass 186. Vacuum handling tool in which the generated force is on or off due to a simple machine, e.g., a lever.
- 188 Having a plurality of suction ports or apertures:**
This subclass is indented under subclass 183. Vacuum handling tool having more than one hole, perforation, opening, etc. for the generated force.

- 189 Having a resilient seal or resilient sealing:**
This subclass is indented under subclass 183. Vacuum handling tool having a flexible load contacting surface.
- 190 Pole mounted:**
This subclass is indented under subclass 65.5. Magnet-handling tool attached to an elongated rigid member.
- 191 Pole mounted (e.g., boat grab, rope attacher, etc.):**
This subclass is indented under subclass 82.1. Hoist-line or grab hook handle is an elongated rigid member.
- 192 With actuating system (e.g., magnetic, piston, etc.):**
This subclass is indented under subclass 86.4. Devices in which the operation of the grapple is caused by, for example, an electrical apparatus such as a device that utilizes a bi-polar, attractive force of materials or a mechanical apparatus such as a fluid-operated, movable device, usually inside a cylinder, to convert pressure into mechanical motion.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.15, for grappling means having fluid pressure means to set the grappling means that functions in a well bore.
- SEE OR SEARCH CLASS:
37, Excavating, subclass 182 and 461 for piston-controlled grappling means specialized to excavating.
335, Electricity: Magnetically Operated Switches, Magnets, and Electromagnets, subclasses 285 through 295 for work or object holding magnetic devices.
- 193 Lewis type:**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple is inserted in holes cut in stone blocks.
- 194 Pipe collar engaging:**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple engages shoulders on tubular coupling members or
- shoulders on tubular members, usually having no gripping action on the tubular members.
- SEE OR SEARCH CLASS:
166, Wells, subclass 77.1 for well pipe handling devices.
- 195 Expanding (e.g., internal type, etc.):**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple which attains a larger overall perimeter or circumference, usually engaging the inside of a generally hollow load.
- 196 Resilient jaws:**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple having spring-armed grasping members which depend upon the material flexibility to open or close the grasping members.
- 197 Fixed and moveable jaw:**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple where one grasping member is stationary and the other grasping member is displaceable in relation to the handling terminal.
- 198 Pivoted jaws:**
This subclass is indented under subclass 192. Piston-or magnetic-actuated grapple in which the grasping members are hinged.
- 199 Automatic, including bowling pin handling:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple having an operating member that, upon contact with a load, activates the grasping members without user intervention.
- 200 Separate cable operator:**
This subclass is indented under subclass 198. Piston-or magnetic-actuated grapple in which the operation of the grasping members is caused by a supplemental wire, line, rope, etc.
- 201 Load surrounding type:**
This subclass is indented under subclass 198. Piston-or magnetic-actuated grapple in which the grasping members encircle a load.
- 202 Separate sliding operator:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple having a

- distinct member that moves along the grasping members support and is connected to the grasping members.
- 203 Cam-operated:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple in which the grasping members are moved by a generally eccentric-shaped member.
- 204 Auxiliary operating handle:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple having an additional, independent hand-gripped bar or rod.
- 205 Crossed levers:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple in which the grasping elements are on the ends of crossed bars or rods, centrally fulcrumed or pivoted.
- 206 Hayfork-shaped type:**
This subclass is indented under subclass 198. Piston- or magnetic-actuated grapple in which the opened grasping members are generally U-shaped.
- 207 Slidable jaws:**
This subclass is indented under subclass 192. Piston- or magnetic-actuated grapple in which the grasping members move along generally linear guides.
- 208 Inflatable:**
This subclass is indented under subclass 192. Piston- or magnetic-actuated grapple wherein the grasping force is produced by fluid pressure into a resilient, inflatable member.
- 209 POLE MOUNTED IMPLEMENT:**
This subclass is indented under the class definition. Devices comprising a handling implement mounted on an elongated rigid member.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86.1, for grappling devices peculiarly adapted to function in a well bore or similar earth opening.
86.4, for grappling devices not clearly specialized as handling poles.
- SEE OR SEARCH CLASS:
81, Tools, subclass 53.1 for wrenches comprising pole-like handle structures and peculiarly adapted for engaging work at a distance.
- 210 Extensible:**
This subclass is indented under subclass 209. Elongated handle implement wherein the member can be made longer.
- 211 U-shaped handler:**
This subclass is indented under subclass 209. Elongated handle implement wherein the article handling portion looks like the letter "U."
- 212 UTILIZING AN ADHESIVE CONTACT:**
This subclass is indented under the class definition. Handling device that uses a sticky surface to hold articles.
- 213 SPECIFIC END EFFECTOR FOR ROBOT ARM (E.G., ROBOT HAND, WAFER HANDLER, ETC.):**
This subclass is indented under the class definition. Handling device in which the load-handling portion is on the outermost section of a mechanical handling machine.
- 214 INCLUDING BAG HOLDER:**
This subclass is indented under the class definition. Handling device with structure for a generally flexible container.
- 215 EYE- OR U-BOLT ATTACHMENT:**
This subclass is indented under the class definition. Handling device including fastening means in the shape of a circle or the letter "U."
- 216 WITH FREEZE, THAW CAPABILITY:**
This subclass is indented under the class definition. Handling device including an apparatus to lower the handler temperature below or above 32 degrees F.
- 217 ARROW OR HOOK EXTRACTOR:**
This subclass is indented under the class definition. Handling device specialized to remove a shaft with a generally pointed head or a J-shaped structure.

218 CHOPSTICKS:
This subclass is indented under the class definition. Handling device being two hand-held generally rod-shaped members.

219 MISCELLANEOUS:
This subclass is indented under the class definition. Devices not provided for under more specific titles.

CROSS-REFERENCE ART COLLECTIONS

901 PLATE LIFTING CLAMP:
Handling devices which frictionally grip opposite planar surfaces of a plate-like element.

902 GRIPPING ELEMENT:
Grasping devices wherein significance is attributed to the structure of the element which engages the load.

903 BATTERY CARRIER:
Handling devices which are removably attached to vehicle battery.

904 VEHICLE CARRIER:
Handling devices which are removably attached to a vehicle.

905 WIRELESS REMOTE CONTROL DEVICE:
Devices which receive a signal transmitted by radiant energy to actuate a handling element.

906 ATOMIC FUEL HANDLER:
Devices peculiarly adapted to handle radioactive material in a nuclear reactor.

907 SENSOR CONTROLLED DEVICE:
Handling devices automatically controlled by pressure or position sensing means.

FOREIGN ART COLLECTIONS

The definitions below correspond to abolished subclasses from which these collections were formed. See the Foreign Art Collection schedule of this class for specific correspondences. [Note: The titles and definitions for indented art collections include all the details of the one(s) that are hierarchically superior.]

FOR 100 MISCELLANEOUS (294/1.1):

This foreign art collection is indented under the class definition. Foreign art collection for devices not provided for under more specific titles.

FOR 101 POLE MOUNTED IMPLEMENT (294/19.1):

This foreign art collection is indented under the class definition. Foreign art collection for devices comprising a handling implement mounted on an elongated handle for the handling of articles at a distance.

FOR 102 Scoop (294/55):

This foreign art collection is indented under unnumbered placeholder 294/49. Foreign art collection for implements designed to facilitate the handling of bulk material and usually provided with bowl-like load-engaging terminals or with blades having upturned side and rear edges.

FOR 103 VACUUM (294/64.1):

This foreign art collection is indented under the class definition. Foreign art collection for devices depending upon the action of a negative pressure to handle a load.

FOR 104 Magnet- or piston-controlled (294/88):

This foreign art collection is indented under unnumbered placeholder 294/86.4. Foreign art collection for devices in which the operation of the grapple is caused by magnetic means or fluid-operated pistons.

END