

CLASS 144, WOODWORKING**SECTION I - CLASS DEFINITION**

This class includes any machine or process for working in wood not classified elsewhere under a more specific title.

SECTION II - REFERENCES TO OTHER CLASSES**SEE OR SEARCH CLASS:**

- 12, Boot and Shoe Making, for cutting, shaping, or grooving a wooden heel where means is provided to hold or position the work, which means is configured or modified to engage a particular heel structure.
- 29, Metal Working, subclasses 428+ and 700+ for an assembly method or apparatus respectively not more specifically provided for elsewhere.
- 173, Tool Driving or Impacting, for subject matter directed to driving or impacting a tool, when such subject matter includes combined features peculiar to tool driving, but which does not include features limiting the subject matter to a specific tool art, such as the specific shape of the work-contacting portion of a tool, related tools, or an opposed work support.
- 175, Boring or Penetrating the Earth, for a process or apparatus for boring a hole in the Earth.
- 227, Elongated-Member-Driving Apparatus, for applying a member (e.g., dowel).
- 241, Solid Material Comminution or Disintegration, especially subclass 28 for a processor apparatus for performing a nonshaping comminuting operation on wood; see section 4 of the class definition of Class 241 for the line.
- 269, Work Holders, for a device for clamping, supporting, or holding an article (or articles) in position to be operated on or treated. See notes thereunder for other related loci.
- 483, Tool Changing, generally for a process or apparatus including a tool transfer means combined with either a tool support or storage means.

SECTION III - GLOSSARY**BARK**

The peripheral natural covering of a tree*.

GRAIN

Fibers of wood* that extend along the length of a tree*.

LOG

A longitudinal section cut from a tree*, generally cut normal thereto at both ends.

LUMBER

Building material cut from a tree*, generally cut from a log*, generally without bark*.

SLAB

A portion of a log* comprising a longitudinally extending section cut from the side of a log*, similar to lumber*, but with the bark* side uncut.

TREE

A plant large enough to serve as a source of lumber*.

WOOD

The fibrous material of a tree*.

SUBCLASSES**1.1 COMBINED MACHINE:**

This subclass is indented under the class definition. Apparatus including a first structure for performing an operation of this class on a workpiece, and including a second structure for performing a second, distinct, operation on the same or a second workpiece.

- (1) Note. The first operation under this definition must be woodworking, the second must be distinct from the first and may comprise a woodworking operation or a nonwoodworking operation. Also, the "second" operation may be simultaneous with the first, in sequence thereto, or completely independent thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 2.1+, for a machine for making a particular article and not readily adaptable to general use.

2.1 SPECIAL-WORK MACHINE:

This subclass is indented under the class definition. Machine adapted to perform some particular operation or make some particular article and which, unless modified to a considerable degree, would not be useful for a general woodworking operation.

SEE OR SEARCH CLASS:

409, Gear Cutting, Milling, or Planing, subclasses 1+ for a method or apparatus for cutting a gear, including cutting a gear of wood.

3.1 Combined:

This subclass is indented under subclass 2.1. Special-work machine including a first structure for performing an operation of this class on a workpiece and including a second structure for performing a second, distinct, operation on the same or a second workpiece.

- (1) Note. The first operation under this definition must be woodworking, the second must be distinct from the first and may comprise a woodworking operation or a nonwoodworking operation. Also, the "second" operation may be simultaneous with the first, in sequence thereto, or completely independent thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.1+, for a combined machine under the class definition, generally.

3.5 Wheel facing or hub boring:

This subclass is indented under subclass 3.1. Special work machine particularly adapted to (a) cut a planar surface on a wheel normal to its axis or (b) cut a cylindrical passage along the axis of the wheel.

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 894+ for a method of making a wheel other than of wood.

157, Wheelwright Machines, for means to treat a wheel, particularly subclass 2 for a rim tightener and subclasses 3+ for a spoke setter.

301, Land Vehicles: Wheels and Axles, for a wheel made by the apparatus of this subclass.

4 Circular section:

This subclass is indented under subclass 3.1. Machine particularly adapted to work on spindles, balusters, and similar work which is circular in cross-section.

SEE OR SEARCH CLASS:

142, Wood Turning, for the cutting of a rotating workpiece or of a nonrotating workpiece by a cutter that orbits thereabout with movement of the cutter other than axially with respect to the workpiece.

408, Cutting by Use of Rotating, Axially Moving Tool, for cutting by relative rotation of a tool and workpiece with only axial movement therebetween.

4.1 Timber cutting and handling:

This subclass is indented under subclass 3.1. Special work machine particularly adapted to (a) bring a tree down and manipulate a portion, (b) remove and manipulate the branches from a trunk of a tree, (c) remove and manipulate the bark from a tree or log without substantial shaping, or (d) treat a tree or product incidental to any of the above and manipulate a component thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

34.1, for a tree felling means, generally.

335+, for a method of tree harvesting or processing.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 165+ for a cutting tool which may be capable of severing a tree from the ground, but without limitation that would limit it to timber harvesting or processing (e.g., without means to push the trunk of a tree as it is severed from the stump. More particularly, search subclasses 90.1+ for means for cutting a tree by a constricting band, search subclasses 166.3+ of Class 30 for a saw capable of cutting timber, still more specifically, search subclasses 381+ for a chain saw and subclasses 388+ for a rotary saw.

4.2 Assembly-line type:

This subclass is indented under subclass 3.1. Special work machine including a first working station and a distinct, second working station and including means to transport the work from the first station to the second station.

4.3 Pivoted travelling:

This subclass is indented under subclass 3.1. Special work machine adapted to perform more than a single operation including support means for a tool comprising an arm on which at least one tool is supported for sliding movement therealong, wherein that arm is, in turn, supported for movement about an axis.

(1) Note. A “radial-arm” saw is a “pivoted travelling” woodworking machine.

4.4 Tie gaining and boring:

This subclass is indented under subclass 3.1. Special work machine including structure particularly adapted to cutting a groove in a workpiece of lumber at substantially right angles to the grain combined with structure particularly adapted to forming or enlarging an opening within the workpiece; wherein the workpiece comprises a rail supporting tie to be used on a railroad.

SEE OR SEARCH THIS CLASS, SUBCLASS:

133.1, for gaining a railroad tie, generally; see the notes thereunder for a discussion of “gaining.”

4.5 Carried by tract car:

This subclass is indented under subclass 3.1. Special work machine adapted to perform more than a single operation, which machine is supported to ride on a vehicle that, in turn, is guided to move along a rail.

4.6 Splitting:

This subclass is indented under subclass 3.1. Special work machine adapted to perform more than a single operation, including a member having a sharp edge and two sides tapering therefrom, which sharp edge is intended to be forced between the grains of a wood workpiece such that the tapering sides force one grain from the other thereby separating one portion

of the workpiece from another in the direction of the grain of the wood.

4.7 Assembling connector to wood strip for subsequent assembly with another wood strip:

This subclass is indented under subclass 3.1. Special work machine adapted to perform more than a single operation, including means to bring together or secure together a wood member with a member intended to hold the wood member to an adjacent, similar, wood member.

(1) Note. Included herein is means for making a parquet flooring subassembly.

4.8 Printing or marking:

This subclass is indented under subclass 3.1. Special work machine wherein the second structure is particularly adapted to placing an identifying coating on a workpiece, which coating may comprise recognizable indicia.

SEE OR SEARCH CLASS:

101, Printing, for a process of or apparatus for placing a recognizable indicia on a workpiece, generally. Generally speaking, the recording of intelligence by cutting is proper subject matter for Class 101, Printing. More particularly, individual cases of cutting machines or method may be tested for aptness to Class 101 by reference to the following statements: (a) A patent for a machine or process for cutting on or adjacent the printed or written matter on a document to prevent unauthorized or fraudulent alteration of such matter due to the proximity of the cut surfaces to the printed or written matter (e.g., check protecting) will be placed originally in Class 101, subclasses 3.1+; (b) A patent for a machine or process for cutting work in the form of a character, a design, or a pattern which will impart information to an observer is proper for Class 101, subclasses 3.1+, if a cut is disclosed as extending only part way through the thickness of the work (e.g., embossing). If all of the cuts forming such character, design, or pattern are disclosed as extending all the way through the thickness of the work, and the work is of wood, the

patent will be found in Class 144; (c) If in addition to a cutting machine or process of this class 144 there is claimed a means or step peculiar to Class 101 (e.g., the application of ink to the cutting tool to additionally outline or mark an aperture made by the punch), such an addition has been considered sufficient to place a patent directed to such combination in Class 101, subclasses 3.1+. This is in accordance with the general rule that a patent for a combination of cutting with another treatment of the work will be placed in the class of the other treatment; (d) An original patent claiming both the process and apparatus for the manufacture of stencils by cutting, or only such process, will be found in Class 101, subclass 128.4.

- 118, Coating Apparatus, for means to place a coating on a workpiece.
401, Coating Implements With Material Supply, for a pencil which may be used to mark a wood workpiece.

4.9 **Slabbing-off, log squaring:**

This subclass is indented under subclass 3.1. Special work machine including (a) means for slicing off a side wall (i.e., parallel to the grain) of a log to make a planar surface and including means for performing a second operation or (b) means for slicing off a side wall (also parallel to the grain) normal to the surface of a previously sliced off side wall.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 703+ for cutting a rectilinearly reciprocating workpiece by making plural passes of a diminishing workpiece through a work station (e.g., for cutting lumber out a log).

5 **Blind or sash cutting:**

This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the making of a wood component of a window covering which (a) blocks out light or (b) which includes a transparent component which transmits light.

- (1) Note. A machine for performing a single operation in the manufacture of a win-

dow blind or sash -- such as planing, tenoning, shaping, etc.-- is classified under these various headings with a general operation machine.

6 **Relishing:**

This subclass is indented under subclass 5. Machine adapted to the frame of a blind or sash by more than a single operation.

6.5 **Box making:**

This subclass is indented under subclass 3.1. Special work machine particularly adapted to assemble the components of a container of wood or to perform more than a single operation in fabricating such a container.

- (1) Note. Assembling plus another operation of fabricating a container is included herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 24.03, for means for making a box of wood, generally.
25, for a box hooping means.
135, for a box trimming means.

SEE OR SEARCH CLASS:

- 147, Coopering, for assembling the components or fabricating a wood barrel or bucket, generally.

7 **Box blank making:**

This subclass is indented under subclass 3.1. Machine adapted by more than one operation to cut a planar member to later be formed into a box.

- (1) Note. A machine for performing a single operation in the production of box-blanks is classified with the general machine performing such respective operations.

8 **Chair-round trimming and tenoning:**

This subclass is indented under subclass 3.1. Machine adapted to cut off the end of a chair frame structure intended to extend from one chair leg to the other and form a tenon at the end of such frame structure.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
205, for a machine which makes a tenon by turning.
- SEE OR SEARCH CLASS:
142, Wood Turning, for cutting a rotating wood workpiece, generally.
- 9 Clothespin making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of a clip member intended to hold fabric to a suspending strand or bar.
- 10 Conveyor flight making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of a conveyor flight.
- 11 Handle making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of a handle for use on any of various implements.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
196+, for a device for punching a hand hole in a handle.
- 12 Pin making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of wooden pins.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
30, for pin making by a single operation.
196, for woodworking by a punching cutter.
- 13 Shingle making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of shingles.
- (1) Note. A “shingle” in this subclass comprises a thin, oblong (usually rectangular) sheet of wood intended to be laid in overlapping rows to cover the roof or side of a house.
- (2) Note. The art of this subclass includes making: a “shingle” which is sometimes limited to such member that is sawn on top and bottom to taper from one end to the other, a “shake” which is split on the top edge and sawn on the bottom edge, and a “board” which is split on both the top and bottom edge.
- 14 Spool making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in the manufacture of a wood member intended to have strand material wrapped thereabout.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
24.07, for a woodworking machine for making a bobbin, generally.
- 15 Wheel spoke tenoning and hub or felly boring:**
This subclass is indented under subclass 3.1. Machine adapted to form a tenon on the end of wheel spoke and bore a hole in the wheel hub or felly to receive that tenon.
- (1) Note. A conventional wood wheel consists of a hub, the portion nearest the axle which receives either the “web” or the “spokes,” depending on the type wheel. The spokes extend to the outer periphery of the wheel where they are received by the “felly,” a wood band having sockets for the ends of the spokes. An iron band called a “tire” holds the components of the felly against radial movement and acts as the surface of the wheel to engage the ground.
- 16 Wheel hub making:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations in making a wheel hub.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
15, (1) Note, for a discussion of the components of a wheel.

- 18 Wheel spoke trimming and tenoning:**
This subclass is indented under subclass 3.1. Machine adapted to perform two or more operations to cut a wheel spoke to a desired length and form a tenon at the end thereof.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
205, for a machine which makes a tenon by turning.
- SEE OR SEARCH CLASS:
142, Wood Turning, for cutting a rotating wood workpiece, generally.
- 19 Window-stile-pocket cutting:**
This subclass is indented under subclass 3.1. Machine adapted to cut a mortise in the frame of a window for receipt of a tenon by means of two or more operations.
- 20 Disk cutting and boring:**
This subclass is indented under subclass 2.1. Machine particularly adapted to perform two or more operations to cut out a cylindrical blank and to cut the interior thereof to form or enlarge an opening therein.
- 21 Disk cutting:**
This subclass is indented under subclass 2.1. Machine adapted to cut out or otherwise shape a very short cylinder.
- (1) Note. The machine of this subclass is commonly used to make a cork, bung, etc.
- 23 By rotary tubular cutter:**
This subclass is indented under subclass 21. Machine for cutting a disk by means of a cylindrical cutter which is rotated about its central axis as the end thereof is brought into contact with the work in order to obtain a shearing cut.
- (1) Note. The workpiece of this subclass may be cork.
- SEE OR SEARCH CLASS:
142, Wood Turning, subclasses 32+ for wood turning by a tool having a hollow cutting head.
- 408, Cutting by Use of Rotating, Axially Moving Tool, for cutting a workpiece by a tool that moves axially with respect to the workpiece without additional relative motion; particularly subclasses 229+ for a cutting tool of that class having an axially extending relief channel.
- 24 By sweep cutter:**
This subclass is indented under subclass 21. Machine having a cutting blade mounted in a rotating block adapted to turn about an axis through the block, such that the blade penetrates the workpiece, then, by rotation of the block, is orbited about a path to cut a circle of product away from the remaining work.
- (1) Note. In most cases, the device of this subclass has means for setting the blade at varying distances from the center and may have means for setting the blade at an angle in order to cut a tapering cork or bung.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 310+ for a sweep cutter of general utility.
- 24.02 Core or panel machine:**
This subclass is indented under subclass 2.1. Machine particularly adapted to making a member to be enclosed by another member or a planar member to be encircled by a casing.
- 24.03 Box making:**
This subclass is indented under subclass 2.1. Machine particularly adapted to manufacture a container of wood.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
6.5, for combined machines for making a box of wood.
25, for a box hooping machine.
135, for a box trimming means.
- 24.04 Box hinging:**
This subclass is indented under subclass 24.03. Machine particularly adapted to preparing a container for receipt of a hinge to be assembled therewith or for assembly of such a hinge and container.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 6.5, for a combined machine for making a box.
 7, for a combined machine for making a box blank.
 27, for a machine for cutting the seat for a hinge, including the seat for a box hinge.
- 24.05 Block surfacing:**
 This subclass is indented under subclass 2.1. Machine particularly adapted to smooth an outer surface of a six-sided member the sides of which meet, generally, at right angles.
- 24.06 Stopper making:**
 This subclass is indented under subclass 2.1. Machine intended to form a member intended to be used to plug a hole in a container.
- 24.07 Bobbin making:**
 This subclass is indented under subclass 2.1. Machine intended to form a member intended to be used to form a spoollike device for storing thread for use in a textile manufacturing operation.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 14, for a combined machine for making a spool.
- 24.08 Bowling pin making:**
 This subclass is indented under subclass 2.1. Machine intended to form a member intended to be used as one of the targets in a game of "bowling."
- 24.09 Bowling ball making:**
 This subclass is indented under subclass 2.1. Machine intended to form a spherical member intended to be used as the rolling projectile in a game of "bowling."
- SEE OR SEARCH CLASS:
 408, Cutting by Use of Rotating Axially Moving Tool, subclass 16 for means for drilling a finger hole in a bowling ball, including gauge means to establish the angle and direction of the hole.
- 24.1 Log punching:**
 This subclass is indented under subclass 2.1. Machine intended to pierce radially through a log*.
- 24.11 And expanding:**
 This subclass is indented under subclass 24.1. Machine intended to also force the grain of the wood apart in the area pierced.
- 24.12 Stump removing:**
 This subclass is indented under subclass 24.1. Machine intended to in situ destroy the portion of a tree remaining in the earth after the trunk has been removed.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 334, for a method of removing a stump.
- SEE OR SEARCH CLASS:
 37, Excavating, for digging a stump out of the ground, generally; particularly subclass 195 for such a process.
- 24.13 Tree delimiting:**
 This subclass is indented under subclass 2.1. Machine adapted to remove the branches from a standing tree intended to be felled or from a felled tree at the site of felling.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 34.1+, for tree felling means combined with delimiting means.
 208.1+, for a debarking means combined with a delimiting means.
 343, for a method of tree delimiting.
- SEE OR SEARCH CLASS:
 30, Cutlery, for a randomly manipulated implement for pruning, generally; particularly subclasses 166.3+ for a saw, with or without a drive motor, for cutting the limbs off any plant; and subclasses 173+ for a tool having plural blades with or without a drive motor. More particularly, search subclasses 175+ for a nipper, especially subclass 180 for motorized nipper; and subclasses 194+ for a shear, especially subclass 228 for a motorized shear.

- 47, Plant Husbandry, subclass 1.01 for pruning the branches off a particular variety of plant (e.g., off a palm).
- 24.14 Lumber deknottng:**
This subclass is indented under subclass 2.1. Machine intended to remove irregularities from lumber.
- 24.15 Ring jointing:**
This subclass is indented under subclass 2.1. Machine intended to connect a first wood member to an overlying second wood member by grooving the first generally annularly, and grooving the second such that an intermediate annular flange will prevent relative lateral motion therebetween.
- (1) Note. Commonly a bolt will secure the wood members from movement away from each other.
- 24.16 Patch cutting:**
This subclass is indented under subclass 2.1. Machine intended to either (a) remove undesired material from lumber or other wood in anticipation of insertion of replacement material or (b) cut such replacement material.
- 24.17 Using rattan:**
This subclass is indented under subclass 2.1. Machine intended to work with material from a vine or climbing Asian palm.
- (1) Note. Making of wickerwork is included herein.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
333, for a process of making a product of rattan.
- 24.18 Ladder making:**
This subclass is indented under subclass 2.1. Machine intended to construct a portable member intended to be climbed.
- 24.19 Rack or grid making:**
This subclass is indented under subclass 2.1. Machine intended to construct a compartmented support or framework.
- 24.20 Staglike handle making:**
This subclass is indented under subclass 2.1. Machine intended to carve a handle of wood in a manner to cause the handle to appear as if it is of the horn of a deer or similar animal.
- 24.21 Oil cake trimming:**
This subclass is indented under subclass 2.1. Machine intended to remove surplus material from the edge of a wood block, which wood block is used as a filler in a press which expresses oil from an oil bearing product (e.g., from cotton seed).
- 24.22 Wood shoe or wood shoe last making:**
This subclass is indented under subclass 2.1. Machine intended to construct, of wood, a member intended to be worn on the foot of a man; or to make, of wood, a member to become a foot underlying, stiffening part of a member intended to be worn on the foot of a man.
- (1) Note. A wood shoe may be called a sabot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
134.2, for a shaping machine of general utility especially adapted to making a wooden shoe or wood last.
- 24.23 Garment hanger making:**
This subclass is indented under subclass 2.1. Machine intended to construct a removable member intended to strongly support an article of apparel.
- 24.24 Golf club making:**
This subclass is indented under subclass 2.1. Machine intended to construct an implement intended to propel a ball in the game of golf.
- 24.25 Lifter:**
This subclass is indented under subclass 2.1. Machine comprising means to raise a work-piece against gravity in the performance of a woodworking operation.
- SEE OR SEARCH CLASS:
254, Implements or Apparatus for Applying Pushing or Pulling Force, for a lifting device, generally.

25 Box hooping:

This subclass is indented under subclass 2.1. Machine adapted to apply a band around a small box, wherein the band is usually made of wire.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 6.5, for a combined machine for making a box.
- 24.03, for box making, generally.

SEE OR SEARCH CLASS:

- 147, Coopering, subclasses 7 through 12 for a machine for assembling a hoop on a wood barrel or bucket and subclasses 43 through 46 for means related to making the hoop.

26 Comb-teeth cutting:

This subclass is indented under subclass 2.1. Machine adapted to cut comb-teeth in the manufacture of combs.

SEE OR SEARCH CLASS:

- 119, Animal Husbandry, subclasses 86+ for a currycomb.
- 132, Toilet, subclasses 219+ for a toilet comb.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, for a means to shape the teeth of a comb from plastic material.

27 Hinge-seat cutting:

This subclass is indented under subclass 2.1. Machine adapted to cut the mortise or bed in the wood in which a hinge is to be placed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 6.5, for a combined machine for making a box, which may include cutting the seat for a hinge.
- 24.04, for means for performing an operation for hinging a box, other than hinge seat cutting.

28 Pencil-wood making:

This subclass is indented under subclass 2.1. Machine adapted to perform such operations in the manufacture of pencil-wood as are not elsewhere specifically classified.

- (1) Note. A machine for performing one of such operations as splitting, slicing, sawing, planing, turning, etc., is placed in the respective class of a machine of general utility.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 41, for a combined machine for shaping and dividing, generally.

28.1 Pencil sharpening:

This subclass is indented under subclass 2.1. A machine including (a) a holder or guide for a workpiece, which workpiece consists of or includes a piece of attritable marking material and (b) either a cutting tool, or a cutting tool and means engaging the tool to retain it on the machine, said tool being movable with respect to the work holder or guide, or to the tool-engaging means, for removing a portion of the material from the end of the workpiece to form a point or beveled edge thereon.

- (1) Note. A patent to a guide and tool sub-combination disclosed only as being used in a machine, or to a disclosed combination of this class in which a "sharpen" is claimed broadly, will be placed in this, or an indented, subclass rather than in the Cutlery class.

- (2) Note. This subclass, rather than any subclass indented hereunder, is the locus of patents to devices wherein the tool and tool support are stationary relative to a support for the machine so that the workpiece must be manually carried to and associated with the machine for the material-removing operation, and wherein the tool (generally of the face type) as defined in Class 30, subclass 462, is stationary relative to the tool-engaging means so that the work holder or guide must be movable relative thereto for material-removing contact of the workpiece with the tool.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 30, for a machine for pointing a wooden workpiece other than a pencil.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 451+ for a pencil-sharpening implement (i.e., one having a static work holder or guide and a static tool, including indented subclass 462, wherein the tool is of the face type).

142, Wood Turning, subclasses 4 through 57 for cutting a circular section of a rotating workpiece or of a stationary workpiece by an orbiting tool, generally.

28.11 Hand manipulable:

This subclass is indented under subclass 28.1. Machine in which the tool, along with any additional structure movable therewith, and the remaining structure of the machine which is movable relative to the tool for the material-removing operation, are manually supported and controlled in the hands of the user for said operation.

(1) Note. The remaining structure may be manually supported through the workpiece.

28.2 Including elongated work holder or guide for edge-beveling:

This subclass is indented under subclass 28.1. Machine in which one tool-confronting dimension of the holder or guide is substantially greater than another such dimension in order to present a correspondingly long edge portion of a workpiece to the tool for an edge-tapering operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124, through 127, for a planing machine adapted to produce a bevel on work.

28.3 Movable tool:

This subclass is indented under subclass 28.1. Machine including means to move, or to guide the movement of, the tool relative to the workpiece and to the tool-retaining means, for the material-removing operation.

SEE OR SEARCH CLASS:

82, Turning, subclass 101 for means to hold, maintain, or revolve a workpiece in a turning machine.

142, Wood Turning, subclasses 4 through 57 for cutting a circular section of a rotating workpiece or of a stationary workpiece by an orbiting tool, generally, including cutting by use of a moving tool.

28.4 Work actuated tool drive:

This subclass is indented under subclass 28.3. Machine wherein force applied directly to the workpiece while in the machine puts the workpiece in motion and thereby supplies the energy for operating said means to move the tool.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28.7, for an orbiting pencil-sharpener cutter that is rotated about its own axis directly by engagement with the work.

28.5 Work controlled switch for tool drive:

This subclass is indented under subclass 28.3. Machine including means to connect the means for moving the tool to, and to disconnect it from, a source of energy, and wherein the means to connect and disconnect is actuated by movement of the workpiece.

28.6 Rotatable or revolvable:

This subclass is indented under subclass 28.3. Machine wherein the movement of the tool is through an arc of at least 360 degrees about an axis extending therethrough or spaced therefrom.

28.7 Planetary:

This subclass is indented under subclass 28.6. Machine including means to rotate the tool on its own axis and simultaneously to revolve it about another axis through the workpiece so as to maintain it in material-removing contact with the workpiece.

28.71 Plural tools:

This subclass is indented under subclass 28.7. Machine including more than one planetary cutting tool, each of which rotates about its own axis.

28.72 Including orbital or electric motor drive:

This subclass is indented under subclass 28.6. Machine including means for rotating the tool, which means either (a) includes a pair of rotatable elements having peripheral surfaces in continuous engagement with, and movable relative to, one another for transfer of motive force between said elements or (b) is powered by electrical energy.

28.8 Work holder or guide also rotary:

This subclass is indented under subclass 28.6. Machine wherein the work holder or guide is movable about its own internal axis and relative to the tool during the material-removing operation.

SEE OR SEARCH CLASS:

- 82, Turning, subclass 101 for means to revolve work in a turning machine.
142, Wood Turning, subclass 57 for a socket work holder of a wood-turning machine.

28.9 Rotary work holder or guide:

This subclass is indented under subclass 28.3. Machine wherein the work holder or guide is movable about its own internal axis and relative to the tool during the material-removing operation.

SEE OR SEARCH CLASS:

- 82, Turning, subclass 101 for means to revolve work in a turning machine.
142, Wood Turning, subclass 57 for a socket work holder of a wood-turning machine.

29 Piano-hammer felting:

This subclass is indented under subclass 2.1. Machine adapted to fold glue-covered felt about and secure it by pressure to a piano-hammer.

SEE OR SEARCH CLASS:

- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 349+ for surface laminating apparatus, in general.

30 Pin pointing:

This subclass is indented under subclass 2.1. Machine adapted to sharpen the end of a wood stick.

- (1) Note. Included herein is the placement of a point on a fence-picket, skewer, shoe-peg, hop-pole, dowel-pin, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 28.1+, for a pencil-sharpening machine (i.e., including a dynamically related cutter and work holder or work guide element).

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 451+ for a pencil-sharpening implement including a statically related cutter and work holder or work guide element.
142, Wood Turning, subclass 27, 28, 29, 30, and 32 for a hollow cutter chisel which could be used to sharpen a stick.
168, Farriery, subclass 46 for a device to sharpen the calk of a horseshoe, except by a grinding operation.
451, Abrading, subclass 346 for a device to sharpen the calk of a horseshoe by grinding.

33 Tray making:

This subclass is indented under subclass 2.1. Machine for cutting out a veneer dish, or a wooden bowl or tray of greater thickness than veneer.

SEE OR SEARCH CLASS:

- 147, Coopering, subclass 36 and indented subclasses for miscellaneous barrel-head making.

34.1 Tree felling:

This subclass is indented under subclass 2.1. Various apparatus for cutting down a tree.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 4.1, for a special work machine "particularly" adapted to both timber cutting and handling.

- 193, for a device for splitting a stump in situ, (i.e., in the earth).
 335+, for a method of tree harvesting or processing.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 95+ for a work-supported, strand encircling, contractile cutter; subclasses 166.3+ for a saw, generally, that is randomly manipulated, particularly subclass 379 for a vehicle-mounted saw wherein the saw support and vehicle are moved together randomly with respect to the work during cutting, subclass 379.5 for a vehicle-mounted saw wherein the saw support structure moves relative to the vehicle and randomly relative to the work during cutting, and subclasses 381+ for a chainsaw. Note the cutter device of Class 30 may be used to cut a tree, but the combination of a Class 30 cutter with additional structure to direct the fall of a tree is to be found in Class 144.
- 56, Harvesters, subclasses 229+ for a harvesting device supported on the ground and specialized to the cutting or mowing of small grain, grass, and the like.
- 83, Cutting, cross-reference art collection 928 for an art collection of cutting machines, each of which includes a work support mounted on a vehicle.

34.2 Tree puller or pusher:

This subclass is indented under subclass 34.1. Tree felling means including means to draw or shove the tree away from the standing position.

34.3 Antisplit clamp:

This subclass is indented under subclass 34.1. Tree felling with means to grip the trunk of the tree or stump to prevent longitudinal subdividing thereof.

34.4 Burning or charring means:

This subclass is indented under subclass 34.1. Tree felling means including means to consume a portion of the tree or bark by fire.

34.5 Shear:

This subclass is indented under subclass 34.1. Tree felling means including a pair of blades adapted to slide past each other; one blade approaching the wood of the tree from one side, the other blade engaging the tree from the other side to sever the wood therebetween.

34.6 Single blade and pass means:

This subclass is indented under subclass 34.1. Tree felling means including a cutting member and additional structure to cause that member to pass through the trunk of a tree in a single encounter.

- (1) Note. The blade of this subclass is commonly attached to the blade of a bulldozer and serves to slice through the trunk of a tree just above the ground. Normally this would be done at a single pass; however, it is noted that if the tree is too large or the device carrying the blade is too small, the action may take more than a single encounter.

35.1 Boring and sawing:

This subclass is indented under subclass 1.1. Combined machine including apparatus to cut a workpiece by relative rotary plus axially moving tool and including apparatus to subdivide a workpiece by a planar, toothed cutter that moves parallel to the plane to cut .

35.2 Attachment for converting one tool to other:

This subclass is indented under subclass 35.1. Boring and sawing machine comprising structure that allows the same cutter to perform both boring and sawing.

36 Planing and matching:

This subclass is indented under subclass 2.1. Machine for surfacing the edges of lumber, comprising means for forming a tongue on one edge and a tongue receiving groove on the other edge.

SEE OR SEARCH THIS CLASS, SUBCLASS:

117.1+, for a rotary cylindrical cutter, the type commonly used by the device of this subclass.

- 37 **Planing, matching, and dividing:**
This subclass is indented under subclass 1.1. Machine for surfacing wide boards, dividing them longitudinally into two or more strips, and tonguing and grooving each strip.
- 38 **Planing and polishing:**
This subclass is indented under subclass 1.1. Machine adapted to plane lumber and then further smooth it by means of a polisher.
- SEE OR SEARCH CLASS:
451, Abrading, for polishing or grinding by use of abrasive material.
- 39 **Planing and sawing:**
This subclass is indented under subclass 1.1. Machine adapted to dress flat-surface lumber and to use a saw to cut the lumber to length.
- 40 **Riving and shaving:**
This subclass is indented under subclass 1.1. Machine for controlled splitting and scraping away the surface of rattan, hoop-poles, or the like in one operation.
- 41 **Shaping and dividing:**
This subclass is indented under subclass 1.1. Machine for giving some predetermined contour to several parallel pieces of work and simultaneously dividing them from a common piece of stock and from each other.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
136.1+, for grooving a wood workpiece.
- 42 **Slicing and scoring:**
This subclass is indented under subclass 1.1. Slicing machine which has a device for scoring the face of the bolt from which the slices are cut.
- 43 **Slicing and shaving:**
This subclass is indented under subclass 1.1. Machine which cuts slices from a block of wood and then shaves the surfaces smooth.
- 44 **Converging knives:**
This subclass is indented under subclass 43. Combined slicing and shaving machine in which the severed slice is simultaneously shaved and beveled by a pair of converging knives.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
126, for a bevelling planer that uses a longitudinal, shifting cutter.
- 46 **Turning and boring:**
This subclass is indented under subclass 1.1. Combined machine including a lathe and a boring machine.
- 47 **Turning and polishing:**
This subclass is indented under subclass 1.1. Combined machine including a lathe and a polishing machine.
- 48 **Turning and sawing:**
This subclass is indented under subclass 1.1. Combined machine including a lathe and a sawing machine.
- 48.1 **Turret tools:**
This subclass is indented under subclass 1.1. Combined machine including plural tools for distinct purposes mounted in a single tool support that is pivotable to implement each tool.
- 48.2 **Coaxial tools, different work levels:**
This subclass is indented under subclass 1.1. Combined machine including plural tools for distinct purposes, mounted to turn about the same axis, but spaced along that axis.
- 48.3 **Tippable frame:**
This subclass is indented under subclass 1.1. Combined machine including underlying structure intended to be repositioned about an axis to present the tool to the work from a different direction.
- 48.4 **Combined band-saw:**
This subclass is indented under subclass 1.1. Combined machine wherein one of the tools is in the form of a single band of material connected to itself as an endless loop.
- 48.5 **Hand-held:**
This subclass is indented under subclass 1.1. Combined machine intended to be supported by the hand of an operative, when in use.

- 48.6 Attachments to hand-held:**
This subclass is indented under subclass 48.6. Combined machine including a component that is readily secured thereto and serves to augment the use of the machine or to allow use of the machine in a distinct way.
- 48.7 Different motor positions:**
This subclass is indented under subclass 1.1. Combined machine wherein the woodworking tool is intended to be caused to move by a prime mover, which machine further includes distinct locations intended to supportingly receive that prime mover.
- 49 MISCELLANEOUS SINGLE-OPERATION:**
This subclass is indented under the class definition. Machine performing only one operation, as distinguished from a combined machine, and not otherwise specifically classified.
- 50 MATCH MAKER:**
This subclass is indented under the class definition. Machine which severs splints and then carries them through one or more of the processes necessary for the production of matches or which takes the splints already severed and passes them through one or more of the operations involved in the conversion of the splints into matches.
- (1) Note. A machine for boxing the finished matches is also included in this subclass.
- SEE OR SEARCH CLASS:
53, Package Making, for a method of or apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting, or unit handling the goods or materials; search particularly subclasses 394+ for making matchbooks.
- 51 Wax or paper:**
This subclass is indented under subclass 50. Machine for the manufacture of matches from paperboard or waxed cord instead of wooden splints.
- (1) Note. This is an exception to the work-piece of this class is of wood. The wax or paper art is collected here because the operation is so similar to that of making a match of wood.
- SEE OR SEARCH CLASS:
53, Package Making, subclasses 394+ for a method of or apparatus for making matchbooks.
- 52 Cutting, framing, and dipping:**
This subclass is indented under subclass 50. Machine which severs splints from blocks or veneers and carries them through all the operations necessary for the production of the finished matches.
- 53 Die punch:**
This subclass is indented under subclass 52. Cutting, framing, and dipping machine in which the cutting of the splints is done by a reciprocating die-punch which carries the severed splints to and inserts them into the dipping-frames.
- 54 Cutting and framing:**
This subclass is indented under subclass 50. Machine which cuts the match-splints from veneers or blocks and mounts the splints in frames or conveyors for dipping.
- 55 Die punch:**
This subclass is indented under subclass 54. Cutting and framing machine which severs the splints from the block by means of reciprocating die-punches which carry the splints to the frames and inserts them therein.
- 56 Fixed die punch:**
This subclass is indented under subclass 55. Cutting and framing machine including use of a punch that is fixed in position and the block is fed to it, the splints being severed at each movement, forcing out of the punch those cut at a preceding stroke.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
197, for a punching-cutter in which the wood is forced down upon a fixed die.

- 57 Cutting and coiling:**
This subclass is indented under subclass 50. Machine which severs the splints from blocks or veneers and winds them into coils for dipping.
- 58 Framing and dipping:**
This subclass is indented under subclass 50. Machine which inserts the severed splints or splint-blocks into a dipping-frame or conveyor and dips the splints into the baths necessary to form the heads.
- (1) Note. In most of these machines the splints are fed from a hopper to some form of conveyor.
- 59 Coiling:**
This subclass is indented under subclass 50. Machine wherein the match-splints are fed from a hopper or some other holding means to a device which coils the splints into bunches by means of tapes or cords.
- 60 Dipping:**
This subclass is indented under subclass 50. Machine which forms the head upon the framed or coiled match-splints, but which does not insert the splints into frames or conveyors.
- (1) Note. Features of conveyor construction are sometimes shown on the devices found herein.
- 61 Box filling:**
This subclass is indented under subclass 50. Machine for boxing matches or other small splints and not including a mechanism for performing any of the operations involved in the manufacture of the matches or the boxes.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
191, for a receiving and handling device used in slivering.
- SEE OR SEARCH CLASS:
53, Package Making, for a method of or apparatus for encompassing or encasing goods or materials with a separate cover or band which serves as means for identifying, protecting, or unit
- handling the goods or materials; especially subclasses 558+ for apparatus to form or partly form a receptacle and to subsequently fill the same and subclass 236 for depositing long, slender articles (e.g., matches) in a pre-formed receptacle.
- 62 Emptying:**
This subclass is indented under subclass 65. Machine which expels the matches from a dipping-frame or conveyor after the completion of the dipping process.
- 63 Filling:**
This subclass is indented under subclass 65. Machine for inserting match-splints into a dipping-frame or conveyor or interweaving them with cords, wires, or tapes which serve in lieu of a frame.
- 64 Hopper feed:**
This subclass is indented under subclass 63. Machine for filling a dipping-frame in which the splints are fed from a hopper to the inserting device.
- 65 Dipping frame:**
This subclass is indented under subclass 50. Machine for holding a match-splint during the operation of dipping and methods of interweaving match-splints with cords, wires, or tapes to serve in lieu of frames.
- (1) Note. A subcombination of a dipping frame for use with a machine of subclass 50 is included herein.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
52+, for match making including cutting, framing, and dipping.
58+, for match making including framing and dipping.
60, for match making including dipping.
- 66 Splint feed mechanism:**
This subclass is indented under subclass 50. Device for feeding the match-splints to the machines of ... which convert them into finished matches, including a hopper, a conveyor belt, and means for communicating motion to the belt.

- SEE OR SEARCH CLASS:
221, Article Dispensing, for article dispensers (feeders) not otherwise provided for; see the class definition of Class 221 for a statement of the class lines and for the disposition of related disclosures of article and strip feeding processes and apparatus.
- 67 Multiple chisel:**
This subclass is indented under subclass 75. Chisel mortising machine in which there are several chisels with means for operating them.
- 68 Portable:**
This subclass is indented under subclass 67. Multiple-chisel mortiser adapted to be moved about or placed upon the work, generally clamped thereto, and driven by a hand-crank.
- (1) Note. The cutter-carriage is usually fed along instead of feeding the work as in stationary machines.
- 69 Auger cutter:**
This subclass is indented under subclass 82. Mortising machine including a rotary cutter having side and end cutting edges adapted to first bore into the wood workpiece and then move sideways to cut any width of mortise desired.
- 70 Portable:**
This subclass is indented under subclass 69. Auger-cutter mortiser adapted to be moved about and placed upon the work, generally clamped thereto, and driven by a hand-crank.
- (1) Note. In the machine of this subclass, the cutter-carriage is usually fed into the work instead of the work being fed as in a stationary machine.
- 71 Automatic step feed:**
This subclass is indented under subclass 69. Auger-cutter mortiser having a step-feed, and also a diagonal feed, by which a succession of inclined mortises are formed in a blind-stile to take the ends of the slats.
- 72 MORTISING MACHINE HAVING CHAIN-TYPE CUTTER:**
This subclass is indented under the class definition. Machine adapted to cut a mortise by means of series of chisel-cutters carried by a moving endless chain, supported on a frame by pulleys, which is presented to the work at the pulley end.
- 73 Portable:**
This subclass is indented under subclass 72. Chain mortising machine adapted to be moved about and placed upon the work, generally clamped thereto and driven by a hand-crank.
- (1) Note. In the machine of this subclass, the cutter-carriage is usually fed into the work instead of the work being fed as in a stationary machine.
- 74 Boring cutter and mortising chisel cutter:**
This subclass is indented under subclass 82. Mortising machine including a rotary, boring cutter combined with an elongated cutter having a sharp, leading cutting edge.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
78, for a square cross-section mortising chisel with an auger passing through its center.
- 75 MORTISING MACHINE HAVING CHISEL:**
This subclass is indented under the class definition. Machine which cuts a groove for receipt of a cooperating portion of another member by means of an elongated cutter having a sharp leading cutting edge.
- SEE OR SEARCH CLASS:
83, Cutting, for grooving, other than in woodworking.
409, Gear Cutting, Milling, or Planing, subclasses 326+ for a planing machine having a reciprocating cutter infeed.
- 76 Portable:**
This subclass is indented under subclass 75. Chisel mortising machine which is adapted to be moved about and placed upon the work, generally clamped thereto.

- (1) Note. The cutter-carriage is usually fed along instead of feeding the work, as in a stationary machine.
- 77 Chisel reverser:**
This subclass is indented under subclass 75. Mortising machine having means for reversing the chisel in order to square the mortise at each end.
- 78 Hollow chisel and bit:**
This subclass is indented under subclass 75. Mortising-machine having a hollow square chisel with a boring-bit operating inside thereof.
- 79 Portable:**
This subclass is indented under subclass 78. Hollow-chisel and bit machine adapted to be moved about and placed upon the work, generally clamped thereto.
- (1) Note. The cutter-carriage is usually fed along instead of feeding the work, as in a stationary machine.
- 80 Oscillating chisel:**
This subclass is indented under subclass 75. Machine which has a bar upon the end of which is a pivoted chisel having its edge at right angles to the bar and which is oscillated and cuts its way into the wood to form a mortise.
- 81 Portable:**
This subclass is indented under subclass 75. Oscillating-chisel mortiser which is adapted to be moved about and placed upon the work, generally clamped thereto.
- (1) Note. The cutter-carriage is usually fed along instead of feeding the work, as in a stationary machine.
- 82 MORTISING MACHINE HAVING ROTARY CUTTER:**
This subclass is indented under the class definition. Machine adapted to for cut a groove for receipt of a cooperating portion of another member by means of a tool that turns about its central axis.
- 83 Portable:**
This subclass is indented under subclass 82. Rotary cutter mortiser under subclass adapted to be moved about and placed upon the work, generally clamped thereto, and driven by a hand-crank.
- (1) Note. In the machine of this subclass, the cutter-carriage is usually fed into the work, instead of the work being fed as in a stationary machine.
- 84 WORK SUPPORT FOR MORTISING MACHINE:**
This subclass is indented under the class definition. Clamp for holding the work, device for elevating and feeding the carriage, or a stop or gauge for locating a groove for receipt of a cooperating portion of another member, wherein it forms part of the machine structure.
- (1) Note. A gauge which is a mere tool is classified as a measuring instrument.
- SEE OR SEARCH CLASS:
33, Geometrical Instruments, for a gauge which is a mere tool.
- 85 DOVETAILING MACHINE:**
This subclass is indented under the class definition. Machine specialized for forming an undercut groove, not otherwise classifiable.
- 86 Consecutive cutters:**
This subclass is indented under subclass 85. Machine in which the dovetailed groove is formed by the successive action of two or more dissimilar cutters.
- 87 Frusto-conical bit:**
This subclass is indented under subclass 85. Machine in which the undercut groove is formed by the relative lateral movement of a bit broader at the point than at the shank.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
86, for consecutive cutters used to form an undercut groove.

- 88 Inclined chisel:**
This subclass is indented under subclass 85. Machine having pairs or sets of chisels reciprocating at an angle to each other and the work to produce undercut recesses.
- 89 Inclined rotary disk:**
This subclass is indented under subclass 85. Machine producing undercut-grooves by means of toothed disks having an inclination to each other or to the work-support, which is less than a right angle.
- 90.1 MATCHING MACHINE:**
This subclass is indented under the class definition. Machine for producing a tongue along one edge and a tongue receiving groove along the other edge of a piece of lumber.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
36, for a machine for planing and matching lumber.
37, for a machine for planing, matching, and dividing lumber.
- 91 End:**
This subclass is indented under subclass 91.1. Machine for producing a tongue across one end of a piece of lumber and a groove across the other end of a piece of lumber.
- (1) Note. The lumber finished by the machine of this subclass may comprise flooring material, etc.
- 91.2 Matching cutter:**
This subclass is indented under subclass 90.1. Machine including particular limitations in the cutter bit.
- SEE OR SEARCH CLASS:
407, Cutters, for Shaping, subclasses 34+ for a rotary cutting tool for a face or end mill which may be capable of cutting a tongue or a groove in a workpiece, generally.
- 92 BORING MACHINE:**
This subclass is indented under the class definition. Machine for cutting to form or to enlarge an opening particularly in a wood workpiece.
- (1) Note. Boring a felly or tenoning a spoke is included herein. Note that boring and mortising are in this class under their various subclass titles.
- (2) Note. The tool used in the machine of this subclass rotates with respect to the workpiece and may move radially or axially with respect thereto.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
97+, indented hereunder for means for boring a wheel hub.
- SEE OR SEARCH CLASS:
175, Boring or Penetrating the Earth, subclass 162 and the search there noted for an earth boring device provided with means to feed the tool, and subclasses 70+ for a tool drive prime mover or mechanical motion converting drive means for an earth boring device.
408, Cutting by Use of Rotating Axially Moving Tool, for boring (or other cutting) of wood (or other material) by a tool which turns about an axis and moves along that axis relative to a workpiece, wherein no additional motion is imported to the tool during operation.
- 93.1 Special work:**
This subclass is indented under subclass 92. Machine, not otherwise classified, designed to work on some special article (e.g., to bore a chair-seat, spool, or shoe-lasts) and not adapted, without modification, for a general boring purpose.
- 93.2 Last:**
This subclass is indented under subclass 93.1. Machine particularly adapted to support a member, which member is intended to be used as a form on which a shoe for use by a human is to be built.
- 96 Tilting work holder for brush:**
This subclass is indented under subclass 92. Machine in which a more or less flat brush-block is successively tilted to the various angles desired for the holes to be bored so that

- the bristles when inserted will have the proper flare.
- 97 Wheel hub:**
This subclass is indented under subclass 92. Machine adapted to bore spoke-holes in the hub.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
15, for a combined special work machine for wheel tenoning and boring.
- 98 Axially using stationary bitstock:**
This subclass is indented under subclass 97. Machine in which the work is rotated while the bit-stock remains stationary.
- 99 Axially using stationary workholder:**
This subclass is indented under subclass 97. Machine in which the work is stationary and the bit is made to rotate.
- 100 Inclined bitstock:**
This subclass is indented under subclass 99. Machine in which the bit-stock is adapted to work, in reaming out the hub, at an angle to the hub-axis.
- 103 Swinging:**
This subclass is indented under subclass 92. Machine pivoted, usually overhead, and adapted to be freely swung to any operative position within their radius.
- (1) Note. The bit-stock is usually also free to be moved to any angle.
- SEE OR SEARCH CLASS:
83, Cutting, subclass 490 for a rotating or oscillating tool carrier for a cutting machine.
451, Abrading, subclass 139, 174+, 236, 280, and 310 for an abrading machine in which the tool is mounted in a swinging carrier permitting its application to and removal from the work as desired.
- 104 Handheld portable:**
This subclass is indented under subclass 92. Hand-machine for general use adapted to be carried from place to place by the operator.
- 106 Angularly adjustable:**
This subclass is indented under subclass 104. Machine which can be adjusted to bore at any desired angle with respect to the surface of the work.
- 108 Hand-operated step feed of long work:**
This subclass is indented under subclass 92. Machine in which the work-carriage is adapted to be moved, from one position for boring to the next, by manually operating some catch or other holding device.
- (1) Note. The carriage usually has notches or other gauge upon it to indicate how far it is to be moved, and the catch falls successively into the notches.
- 114.1 PLANER:**
This subclass is indented under the class definition. Machine having a cutter for smoothing the surface of lumber.
- (1) Note. A machine for producing a planar surface on rough lumber is included herein, and may simply comprise a machine made into a "planar" by the mere substitution of a straight knife for one of irregular outline.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
36, for a machine for planing and matching.
134.1+, for a machine for the miscellaneous shaping of wood.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 475+ for a hand-manipulable powered planer.
83, Cutting, for a machine for subdividing work by a sharp cutting edge, generally.
125, Stone Working, subclass 9 for a planer for smoothing the surface of stone.
409, Gear Cutting, Milling, or Planing, subclasses 288+ for a planer of general utility.

115 Scraper:

This subclass is indented under subclass 114.1. Machine or device in which the face of the knife is nearly at right angles to the work while acting, so that there is no true cutting action.

116 Double surfacer:

This subclass is indented under subclass 117.1. Machine of the rotary-cylinder type adapted to plan both sides of the work simultaneously.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

36, for a machine for planing and matching.

117.1 Rotary cylindrical cutter

This subclass is indented under subclass 114.1. Machine in which the knife-edges describe a cylindrical surface in contact with the rectilinearly moving work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

36, for combined planing and matching.
37, for combined planing, matching, and dividing.

117.2 Inclined:

This subclass is indented under subclass 117.1. Machine including a work support or work carriage having a generally planar upper surface on which a workpiece is intended to rest; and including a cutter positionable to cut a planar surface on the opposite side of the workpiece such that the cut surface is sloped with respect to the planar surface of the support or carriage.

117.3 Edge trimmer:

This subclass is indented under subclass 117.1. Machine particularly adapted to plane the narrow, longitudinally extending side of lumber.

117.4 Traveling:

This subclass is indented under subclass 117.1. Machine particularly adapted to move with respect to stationary work during the planing operation.

118 Rotary disk cutter:

This subclass is indented under subclass 117.1. Machine including a cutting knife set in the face of a disk which describes a circular path in contact with the work.

SEE OR SEARCH CLASS:

30, Cutlery, subclass 477 for a hand-manipulable, powered, planing device with a rotary cutter axis perpendicular to the work.

451, Abrading, for finishing the surface of a workpiece by a tool comprised of naturally occurring crystals, particularly subclasses 259+ for such a machine which uses a rotary disc tool.

119.1 Traveling:

This subclass is indented under subclass 118. Disk machine in which the disk has motions of both rotation and translation laterally of its axis with respect to the work.

SEE OR SEARCH CLASS:

451, Abrading, subclasses 259+ for an abrading machine that uses a rotary disk.

119.2 Bowling alley:

This subclass is indented under subclass 119.1. Disk machine particularly adapted to plane the surface of a wood lane used in the game of "bowling."

SEE OR SEARCH CLASS:

451, Abrading, subclass 353 for a machine intended to polish or grind the surface of a floor with a disc-shaped abrading tool.

120 Stationary cutter:

This subclass is indented under subclass 114.1. Machine in which a knife of the general bench plane type is fixed and the work forced past it.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

155, for a fixed knife shaver.

SEE OR SEARCH CLASS:

125, Stone Working, subclass 9 for planing of stone.

- 409, Gear Cutting, Milling, or Planing, subclasses 321+ for a planing machine, generally, with a reciprocating cutter infeed.
- 121 Reciprocating cutter:**
This subclass is indented under subclass 114.1. Machine in which the work is held stationary or slowly fed while the cutter cyclically starts from a point, then moves over the work, returns along generally the same path to a point near the starting point, only to then advance progressively further along the work .
- SEE OR SEARCH THIS CLASS, SUBCLASS:
147, for a wood shaping machine that uses a reciprocating cutter.
- SEE OR SEARCH CLASS:
409, Gear-Cutting, Milling, or Planing, subclasses 288+ for planing that is not restricted to work on a workpiece of wood.
451, Abrading, subclasses 162+ for finishing the surface of a workpiece by a tool comprised of naturally occurring crystals, particularly subclasses 162+ for such machine which uses a reciprocating tool.
- 122 Laterally reciprocating:**
This subclass is indented under subclass 121. Machine in which the cutter reciprocates at right angles to the direction of progression.
- 123 Endless cutter carrier:**
This subclass is indented under subclass 114.1. Machine in which a series of cutters are connected to each other to form a continuous loop and pass the work always in one direction and return out of contact with the work.
- 124 Laterally beveling:**
This subclass is indented under subclass 114.1. Machine for surfacing work one side of which is thicker than the other (i.e., for beveling work in a plane at right-angles to the direction of feed).
- 125 Longitudinally beveling, inclined work pocket:**
This subclass is indented under subclass 114.1. Machine which bevels in the direction of the grain or feed, the work meanwhile resting in a recess deeper at one end than at the other.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
43, for a woodworking machine which both slices and shaves.
- SEE OR SEARCH CLASS:
69, Leather Manufactures, subclasses 9+ for a machine for splitting or beveling leather.
- 126 Longitudinally beveling, shifting cutter:**
This subclass is indented under subclass 114.1. Machine surfacing work thicker at one end than at the other by moving the cutter in a path substantially at right angles to that of the travel of the work.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
44, for a woodworking machine which both slices and shaves by use of converging knives.
- 127.1 Longitudinally beveling, shifting work support:**
This subclass is indented under subclass 114.1. Machine for surfacing work thicker at one end than at the other by moving the work holder or guide with reference to the cutter at substantially a right angle to the path of travel of the work.
- 127.2 Shingle planer:**
This subclass is indented under subclass 127.1. Machine particularly adapted to form a tapered surface on a roofing board.
- 128 Endless work carrier:**
This subclass is indented under subclass 114.1. Machine in which the work is carried past the cutter by chain feed or by connected or disconnected sections continually returned to the front of the machine-frame.

- 129 Adjustable work support:**
This subclass is indented under subclass 114.1. Device for varying the position of the work-supporting bed with reference to the machine-frame and cutter.
- 130 Adjustable cutter:**
This subclass is indented under subclass 114.1. Means for varying the position of the cutter with reference to the path of the work or to the machine-frame.
- 130.2 Planer sharpener:**
This subclass is indented under subclass 114.1. Machine combined with means to restore the sharp cutting edge of the cutter.
- SEE OR SEARCH CLASS:
76, Metal Tools and Implements, Making, subclasses 81 through 89.2 for making and then sharpening a tool.
451, Abrading, for a tool sharpener of general utility.
- 131 Bearings:**
This subclass is indented under subclass 117.1. Machine including specific reference to the journal-bearing which supports the cylindrical cutter of a wood-planer.
- 132 Bit adjustment:**
This subclass is indented under subclass 120. Means for varying the position of the knife of a stationary cutter with reference to the holding-stock or to the work.
- 133.1 GAINING MACHINE:**
This subclass is indented under the class definition. Machine for cutting a groove in lumber at substantially right angles to the grain.
- (1) Note. Gaining is, broadly, the cutting of a notch in a board to receive another part. However, more specifically, it is a technique for using lumber of irregular thickness by notching it more deeply at the thicker joints with connecting members. For example, a machine for notching the bottoms of irregular thickness flooring joists where they rest on the sill so that the tops of all joists are level with each other is included herein.
- (2) Note. Gaining, of this subclass, is usually by means of a rotary cutter.
- 133.2 Tie gaining, ties (skepers) pass through machine:**
This subclass is indented under subclass 133.1. Machine for gaining a wood member intended to rest on railway ballast and support a railway rail by allowing the wood member to move relative to the gaining tool and relative to the support structure thereof.
- 133.3 Traveling on railway track:**
This subclass is indented under subclass 133.1. Machine supported and transported by wheels adapted to roll along a railroad.
- 134.1 SHAPING MACHINE:**
This subclass is indented under the class definition. Machine for producing product of predetermined shape or outline in which the depth of the cut is not limited, and in which structural modification other than a mere change of cutter outline is necessary to adapt the device for finishing plane surfaces.
- (1) Note. The product of this subclass is usually of irregular shape or pattern.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
203+, for tenoning by use of a rotary, gaining cutter, particularly subclass 204 for cutting multiple tenons.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 42+ for a heel machine under that class, particularly subclass 46 for seal cutting, subclasses 47+ for breasting, and subclasses 85+ for a sole or heel edge trimming machine.
30, Cutlery, subclasses 131+ for a hand-manipulated shear for cutting the end of a bamboo phonograph needle at a definite angle.
- 134.2 Wooden shoe or wood shoe last making:**
This subclass is indented under subclass 134.1. Machine intended to construct, of wood, a member intended to be worn on the foot of a man; or to make, of wood, a member to become a foot underlying, stiffening part of a

member intended to be worn on the foot of a man.

- (1) Note. A wood shoe may be called a sabot.

SEE OR SEARCH THIS CLASS, SUBCLASS:
24.22, for a special work machine for making a wooden shoe or wood last.

134.3 Heel forming:

This subclass is indented under subclass 134.1. Machine particularly adapted to shaping the exposed underlayment at the rear of a shoe to be worn by a human being.

135 Box trimming:

This subclass is indented under subclass 134.1. Machine for planing a side or trimming the cover of a small container.

SEE OR SEARCH THIS CLASS, SUBCLASS:
6.5, 7 and 24.03+, for a special work machine for making a box.

135.2 Vertical spindle:

This subclass is indented under subclass 134.1. Machine including a supporting base having a tool support that turns about an axis that extends up and down.

135.3 Overhanging cutter:

This subclass is indented under subclass 134.1. Machine including a work support and including a tool support, wherein the tool support is configured to suspend the tool above the workpiece.

135.4 Overhanging, horizontal swinging cutter:

This subclass is indented under subclass 134.1. Machine wherein the tool support is further constructed to allow the tool to move with respect to the work during performance of the shaping operation.

136.1 Grooving machine:

This subclass is indented under subclass 134.1. Machine for longitudinally scoring or corrugating a wooden work surface.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 875+ for grooving, generally (i.e., when not particularly adapted to grooving of wood).

136.2 Grooving gunstock:

This subclass is indented under subclass 136.1. Machine intended to shape the wood portion of a manually supported firearm intended to support the firearm against gravity or recoil.

136.3 Grooving battery spacer:

This subclass is indented under subclass 136.1. Machine particularly adapted to scoring a member intended to isolate a plate of an electricity storing electric cell.

136.4 Grooving umbrella stick:

This subclass is indented under subclass 136.1. Machine particularly adapted to scoring the wooden central support of an umbrella.

136.5 Grooving core box:

This subclass is indented under subclass 136.1. Machine particularly adapted to score a container intended to receive the green sand to be used in a casting operation.

136.6 Grooving stairway stringer:

This subclass is indented under subclass 136.1. Machine particularly adapted to score a structural member of a building stairway.

136.7 Grooving log:

This subclass is indented under subclass 136.1. Machine particularly adapted to score a generally straight section of wood, as cut off the trunk of a tree.

136.8 Forming hand hold:

This subclass is indented under subclass 136.1. Machine adapted make a member adapted to be manually supported during operation.

136.9 Forming corner groove:

This subclass is indented under subclass 136.1. Machine particularly adapted to scoring the juncture of intersecting grooves in a wood workpiece.

- 136.95 Hand tool means:**
This subclass is indented under subclass 136.1. Machine intended to be supported or manipulated by an operative during use.
- 137 Pattern:**
This subclass is indented under subclass 134.1. Machine for working to pattern or for producing predetermined figures and not otherwise classifiable.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclass 85 and indented subclasses for a shoe sole or heel edge trimming machine.
- 138 Polygonal form, indexed work:**
This subclass is indented under subclass 137. Machine for forming work of regular polygonal cross-section (e.g., a baluster) by a cutter or by a plurality of cutters acting successively on the sides of the work, the work being turned through equal angles by the supporting mechanism to present each side in turn to the cutters and then held stationary during the action of the cutter.
- 139 Rotating table, shifting cutter:**
This subclass is indented under subclass 137. Machine in which definitely-recurring figures are produced by the combined movements of a rotating worktable and a guided cutter.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
154, for a wood shaping machine including a rotary work carrier.
- 140 Gear-guided cutter:**
This subclass is indented under subclass 137. Machine which the shaping cutter moves transversely and is controlled by a gear-train or system of change-gears.
- SEE OR SEARCH CLASS:
147, Coopering, subclass 45 for a barrel hoop making machine which unites the ends of the hoop by lapping and pointing and subclass 46 for a barrel hoop making machine which unites the ends of the hoop by lock cutting.
- 141 Crank-guided cutter:**
This subclass is indented under subclass 137. Machine for producing recurring figures in which the transverse cutter motion is controlled by a crank.
- 142 Cutter guiding cam:**
This subclass is indented under subclass 137. Machine for producing definitely-recurring figures by the combined motion of the work and cutter, the latter being given its motion of a translation by a cam.
- 143 Work guiding cam:**
This subclass is indented under subclass 137. Machine similar to the last preceding except that the cam shifts the work transversely with reference to the cutter.
- 144.1 Cutter guiding templet:**
This subclass is indented under subclass 137. Machine particularly adapted for following a guide form for directing the machine to cause the cutter to move and produce a defined figure.
- 144.2 Shaping stringed musical instrument :**
This subclass is indented under subclass 144.1. Machine particularly adapted to shape a component of a readily transportable device having strings under tension intended to produce musical tones when vibrated.
- (1) Note. Included herein is shaping a wood component of a violin, guitar, mandolin, etc., but not shaping a component of a piano.
- 144.3 Shaping propeller:**
This subclass is indented under subclass 144.1. Machine particularly adapted to shape a member intended to turn in a fluid or gas to develop driving force by reaction therewith.
- 144.4 Shaping oar:**
This subclass is indented under subclass 144.1. Machine particularly adapted to shape a member intended to be manually maneuvered in a fluid to develop driving force by reaction therewith.

144.41 Horizontally swingable tool support:

This subclass is indented under subclass 144.1. Machine including a member which holds the cutter against gravity and turns about an axis that extends vertically.

144.51 Templet, per se:

This subclass is indented under subclass 144.1. A templet for use in the machine of

144.52 Guide track:

This subclass is indented under subclass 144.51. Templet including a slot or a rail used to direct the operation of a woodworking machine.

145.1 Work guiding templet:

This subclass is indented under subclass 137. Machine particularly adapted for following a guide form for directing the machine to cause the work to move and produce a defined figure.

145.2 Vertical spindle cutter:

This subclass is indented under subclass 145.1. Machine including a cutter that turns about an axis that extends up and down.

145.3 Including work engaging, antifriction collar:

This subclass is indented under subclass 145.2. Machine including a work engaging member riding on the cutter spindle, which member is rotatable with respect to the spindle, wherein the member is intended to rollingly engage the workpiece and guide the cutter relative to the workpiece.

145.4 Shaping last:

This subclass is indented under subclass 145.1. Machine particularly adapted to shape a form on which a shoe for a human being is to be made.

146 Oscillating knife:

This subclass is indented under subclass 134.1. Machine for shaping work by means of a pivoted knife-arm.

147 Reciprocating knife:

This subclass is indented under subclass 134.1. Machine in which a straight or pattern knife is reciprocated along a straight line.

148 Plural reversible cutters:

This subclass is indented under subclass 134.1. Machine having double cutters, one idle while the other is cutting, and means for reversing both the position of the cutters and their direction or rotation with reference to the feed as may be required by the character of the work.

149 Pattern knife, swinging frame:

This subclass is indented under subclass 134.1. Machine in which an outlined or pattern knife is mounted after the manner of a swinging saw.

150 Rotary disk cutter, end thrust:

This subclass is indented under subclass 134.1. Machine having rotary cutter of the disk type, usually with pattern knives, and arranged to give relative movement between cutter and work in the direction of the axis of the cutter.

SEE OR SEARCH CLASS:

408, Cutting by Use of Rotating Axially Moving Tool, for a drilling machine in which a rotating drill is fed along the axis of rotation of the drill relative to the work.

151 Universally jointed cutter shaft:

This subclass is indented under subclass 134.1. Machine in which the cutter-shaft is so mounted as to allow the rotary cutter to have movement of translation in more than one plane.

152 Shaping of curved-work guide:

This subclass is indented under subclass 151. Machine having such arrangement of guide-rollers or outline of guides as permits the shaping of circular and similar curves.

153 Curved-bar work support:

This subclass is indented under subclass 134.1. Machine usually of the vertical-spindle type, having a curve-topped work supporting bar instead of a work supporting table, permitting work to be swung in more than one plane.

154 Rotary work carrier:

This subclass is indented under subclass 134.1. Machine having a work-support capable of carrying a workpiece in a circular path past one or more cutting-tools.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
139, for a shaping machine including a rotating table and a pattern controlled shifting cutter.
- 154.5 Hand tool:**
This subclass is indented under subclass 134.1. Machine adapted to be randomly manipulated during operation by the hand of the operative.
- 155 FIXED KNIFE SHAVER:**
This subclass is indented under the class definition. Machine for producing a smooth surface on wood, cane, or rattan and at the same time gaging the thickness of the dressed piece by forcing the material under a fixed knife.
- (1) Note. Somewhat similar machines may be found in this class, subclass 120, in which subclass is classified a machine otherwise resembling a shaving-machine, but having several plane bits mounted in blocks in order to remove the surface material by several successive shallow cuts.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
120, for a planer having a stationary cutter.
175, for a slicer having a fixed knife.
184, for a riving machine having a fixed knife.
- 156 Circular knife block rattan shaver:**
This subclass is indented under subclass 155. Machine for shaving rattan which has knives set radially in a circular knife-block, through which the rattan is forced.
- SEE OR SEARCH CLASS:
142, Wood Turning, subclass 29 for means for cutting a rotating workpiece by a cutter chisel and subclass 31 for such a device wherein the cutter chisel is radially movable.
- 157 Drum feed:**
This subclass is indented under subclass 155. Shaving machine in which the work is caught by a gripping device on the surface of a drum and drawn under the knife.
- 158 Roller feed:**
This subclass is indented under subclass 155. Shaving machine in which feed-rolls are employed as means to convey the work to the knife.
- 159 KNIFE PAIR SHAVER:**
This subclass is indented under the class definition. Shaving machine provided with a pair of fixed knives, between which the work is fed by various means.
- 160 Gripper:**
This subclass is indented under subclass 159. Machine in which the end of the work is clamped by a gripping mechanism and drawn between the shaving-knives.
- 161 Roller feed:**
This subclass is indented under subclass 159. Shaving machine in which feed-rolls force the work between the pair of fixed knives.
- 162.1 SLICER:**
This subclass is indented under the class definition. Machine for cutting up wood by knife action without following the grain.
- (1) Note. Included herein is dividing of lumber into boards, blocks, or strips.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
182+, for a riving machine.
192, for a splitting and bundling machine.
193+, for a splitting machine, especially subclasses 194+ for a self-feeding splitting machine.
- SEE OR SEARCH CLASS:
69, Leather Manufactures, subclasses 9+ for a machine for splitting or beveling leather.
241, Solid Material Comminution or Disintegration, for apparatus for reducing wood to nonshaped particles. See the line stated in section 4 of the main class definition of Class 241.
- 163 Re-slicer:**
This subclass is indented under subclass 162.1. Machine which severs a slice from a block and then divides the slice into smaller pieces.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
195, for a self-feeding splitting machine that uses a roller or belt.
- 164 Strip cutting by converging knives:**
This subclass is indented under subclass 162.1. Machine whereby strips are severed from a log by knives whose edges are set approximately at right angles.
- (1) Note. No special form of knife and no special kind of feed is required for the machine of this subclass.
- 165 Lathe feed:**
This subclass is indented under subclass 164. Slicing machine including means for supporting a workpiece comprising a log which is centered between chucks and rotated, wherein one knife cuts tangentially and another radially, the former knife cutting continuously during the rotation of the log and the latter knife cutting only at intervals to divide the veneer severed from the log by the former knife.
- 166 Strip cutting by lathe feed:**
This subclass is indented under subclass 162.1. Slicing machine including means for supporting a workpiece comprising a log which is mounted between a pair of chucks and rotated step by step by ratchet mechanism, the strips being cut by knives mounted in a block which reciprocates longitudinally of the log.
- 167 Arc cut:**
This subclass is indented under subclass 162.1. Slicing machine wherein the work rests upon a fixed table and is sliced by an oscillating knife, or the work rests upon an oscillating table which forces the work against a fixed knife.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, for a machine for making a tray.
146, for a shaping machine which uses an oscillating knife.
177, for a slicer with an oscillating log stay.
- 168 Beveling machine having means for alternate end feed:**
This subclass is indented under subclass 162.1. Slicing machine wherein the block to be sliced is fed to a reciprocating knife by a mechanism which causes each end to be alternately advanced farther than the other so that the slices severed by the knife shall be thicker at one end than the other.
- 169 Beveling machine having shifting, knife guide:**
This subclass is indented under subclass 162.1. Slicing machine wherein the inclination of the knife-guard to the work-supporting table is changed at each stroke of the knife in order to impart a bevel to the slice cut off.
- 170 Beveling machine having tilting gauge:**
This subclass is indented under subclass 162.1. Slicing machine wherein the thickness of the slice severed is determined by a tilting gauge against which the block is pressed before each cut.
- 171 Beveling machine having tilting table:**
This subclass is indented under subclass 162.1. Slicing machine wherein the bevel is imparted to the slice by tilting the worktable at each stroke of the knife to change the inclination of the table to the plane of the knife.
- 172 Cylindrical cutter:**
This subclass is indented under subclass 162.1. Slicing machine wherein the slicing-knives are mounted upon the curved surface of a rotating cylinder and the work is fed to the knife in any way desired.
- SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 91 and 93 for a similar device adapted for comminution.
- 173 Grooving:**
This subclass is indented under subclass 172. Machine having a cutting mechanism consisting of one or more cylinders provided with circumferential ribs which divide a sheet of veneer passed under or between them.

- 174 With radial knife:**
This subclass is indented under subclass 172. Machine including a rotating cylinder having radial knives divides a veneer into strips, or scores the surface of a log preparatory to the action of a veneer-shaving knife.
- 175 Fixed knife:**
This subclass is indented under subclass 162.1. Slicing machine wherein the block is cut into slices by being forced by hand or otherwise forced against a fixed knife.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
120, 155, 184, for other woodworking by a fixed knife.
178, for a machine in which the work is clamped upon a reciprocating carriage which carries it over a knife.
- SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 95 for a similar device adapted for comminution.
- 176 Rotary disk:**
This subclass is indented under subclass 162.1. Slicing machine wherein the cutting-knives are set in an approximately radial position upon a rotary disk and cut in a plane parallel with that of the disk.
- SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, subclass 92 for a similar device adapted for comminution.
- 177 Oscillating log stay:**
This subclass is indented under subclass 162.1. Slicing machine wherein the work is clamped by a stay-log which oscillates over or in front of a fixed knife.
- (1) Note. Either the knife block or stay-log may be fed forward by any desired means.
- 178 Reciprocating log stay:**
This subclass is indented under subclass 162.1. Slicing machine wherein the stay-log is caused to reciprocate above or in front of a fixed knife.
- (1) Note. Either the knife block or stay-log may be fed forward by any desired means.
- 179 Screw fed log stay:**
This subclass is indented under subclass 162.1. Slicing machine wherein a reciprocating knife severs the slices from a block held by a stay-log which is fed forward by a screw mechanism.
- 180 Hopper feed:**
This subclass is indented under subclass 162.1. Slicing machine wherein a slicing-knife reciprocating beneath a hopper in which the block to be sliced is placed.
- (1) Note. The block may be fed downward by its own weight, or pressure may be employed to force it down.
- 181 Roller feed:**
This subclass is indented under subclass 162.1. Slicing machine wherein the work is fed to the cutting mechanism by rollers which also gauge the thickness of the slice.
- 181.2 Bottom cutting:**
This subclass is indented under subclass 162.1. Slicing machine wherein the support structure for the cutting means is physically located below the work.
- 181.3 Tapered product:**
This subclass is indented under subclass 162.1. Slicing machine for making a product that is wider at one end than at the other.
- 182 RIVING MACHINE:**
This subclass is indented under the class definition. Machine which divides lumber into approximately equal pieces by means of a knife which cuts with the grain.
- (1) Note. The machine of this subclass differs from a splitting-machine in that it actually cuts the material instead of rending it by wedge action, as is done in splitting.

- 183 Beveling machine:**
This subclass is indented under subclass 182. Riving machine in which the knife may be shifted with relation to the work-guide so as to divide the stock into tapered pieces.
- 184 Fixed knife:**
This subclass is indented under subclass 182. Machine for dividing wood work (e.g., rattan, hoop-poles, whalebone, or the like) by forcing the work against a fixed knife.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
155, and 175, for other woodworking by a fixed knife.
- 185 SLIVERING MACHINE:**
This subclass is indented under the class definition. Machine for cutting wood to form a thin, strip product (e.g., excelsior, a match-splint, or toothpick).
- (1) Note. The component of a slivering machine is included herein, even in the absence of a claimed cutter for forming a sliver. For example, a subcombinational structure for receiving or handling the product of the operation of this subclass (e.g., without claiming the cutter) may be found here if there are sufficient limitations to place such a device in this class.
- (2) Note. The product of this subclass may be called, for example, a sliver or a splint.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
50+, for match making for the operation of this class combined with an additional operation (e.g., forming a match head) in the formation of an ignitable match.
196, and 197, for woodworking by a punching cutter.
- 186 Scoring plane:**
This subclass is indented under subclass 185. Slivering machine wherein the cutting mechanism consists of a block provided with two sets of cutters, one for scoring the surface and one for severing the slivers from the block.
- 187 On endless belt:**
This subclass is indented under subclass 186. Slivering machine wherein the scoring-plane is attached to an endless belt or chain which carried it forward, the block being held stationary.
- 188 Rotary:**
This subclass is indented under subclass 186. Slivering machine wherein the scoring-planes are fixed upon a rotating disk or platform, the block being held stationary.
- 189 Gang saw:**
This subclass is indented under subclass 185. Machine including a gang of saws.
- (1) Note. Included herein is dividing match cards, cutting wooden pins, etc.
- (2) Note. The saws of this subclass may be circular or reciprocating.
- 190 Plunger and fixed knife:**
This subclass is indented under subclass 185. Slivering machine wherein the cutting mechanism consists of a fixed knife or pair of knives over which a sheet of veneer is fed and a reciprocating plunger which severs the slivers by driving the veneer down upon the knives.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
197, for a punching cutter including a fixed die.
- 191 Receiving and handling device:**
This subclass is indented under subclass 185. Slivering machine including a chute or other device for attachment to a slivering-machine to receive, straighten, or assemble slivers for packing.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
50+, for match making generally and subclass 61 indented thereunder for matchbox filling.

- 192 SPLITTING AND BUNDLING MACHINE:**
This subclass is indented under the class definition. Machine which split a block of wood along the grain and also binds the split pieces into bundles.
- (1) Note. Included herein is splitting of wood by hand or other power.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
182+, for riving
- SEE OR SEARCH CLASS:
81, Tools, subclasses 463+ and see the notes thereto for other impact tools.
- 193.1 SPLITTING MACHINE:**
This subclass is indented under the class definition. Machine for splitting a block of wood whether operated by hand or other power.
- SEE OR SEARCH CLASS:
81, Tools, subclasses 463+; see the notes thereto for other impact tools.
- 193.2 Tapered or wedge shaped product:**
This subclass is indented under subclass 193.1. Machine intended to form a product that is progressively thicker at one end than at the other.
- 194 Self-feeding:**
This subclass is indented under subclass 193.1. Splitting machine provided with a mechanism for feeding a block to the blades.
- 195 Roller or belt:**
Splitting machines having a roller or endless belt to feed the block to the splitting-blades.
- 195.1 To be driven by fluid pressure:**
This subclass is indented under subclass 193.1. Splitting machine including a member that is hydraulically caused to approach a coating member to split a wood workpiece therebetween, wherein one of the members is a tapered splitting implement or wherein one is a movable pushing member intended to move a wood workpiece toward a tapered splitting implement.
- 195.2 Drop type:**
This subclass is indented under subclass 193.1. Splitting machine including means to lift the wood workpiece and allow it to fall on a surface to subdivide the workpiece.
- 195.3 Splitting gun:**
This subclass is indented under subclass 193.1. Splitting machine adapted to use explosive material to directly effect the splitting, wherein the machine is supported manually or by the work during use.
- 195.4 Hand-operated fixed splitting machine:**
This subclass is indented under subclass 193.1. Splitting machine that is base mounted for support, wherein splitting is effected by energy input thereto by the operative.
- 195.5 Hand tool:**
This subclass is indented under subclass 193.1. Splitting machine intended to be supported or manipulated manually when in use.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
195.8+, for a wedge used for splitting or lifting a component of wood.
- 195.6 With adjustable work support:**
This subclass is indented under subclass 193.1. Splitting machine including means to maintain the workpiece against gravity during operation, which means is repositionable with respect to the splitting means.
- 195.7 To be driven by impacting member:**
This subclass is indented under subclass 195.8. Splitting machine wherein the splitting member is moved by a freely swung hammer during use.
- 195.8 Wedge:**
This subclass is indented under subclass 193.1. Splitting machine including a specifically recited splitting member comprised of a leading sharp edge and an attached cam surface intended to penetrate a wood workpiece and shove one portion thereof from another portion.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
195.5, for a wedge including a handle for manual support or manipulation thereof.
- 195.9 Anvil, chopping, or splitting block:**
This subclass is indented under subclass 193.1. Splitting machine including specific details of a horizontal reaction member, a vertical reaction member, or of the structure intended to effect splitting.
- 196 PUNCHING CUTTER:**
This subclass is indented under the class definition. Machine including a cutter for cutting out pieces or simply cutting holes by mere punching action.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
53, and 55, for making matches by use of a die punch.
- SEE OR SEARCH CLASS:
83, Cutting, relating to blanking out products from or punching holes in solid material, generally.
- 197 Fixed die:**
This subclass is indented under subclass 196. Punching-cutter in which the wood is forced upon a fixed die.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
56, and 190, for other cutting by a fixed die.
- 198.1 TENONING MACHINE:**
This subclass is indented under the class definition. Machine for making a tenon at the end of a piece of wood.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6, for relishing in blind and sash cutting. 133.1+, for gaining.
- 199 Blind slat:**
This subclass is indented under subclass 198.1. Machine adapted to tenon blind-slats.
- 200 Machine having rotary cutter:**
This subclass is indented under subclass 198.1. Machine adapted to form a tenon by some sort of a rotary cutter.
- 201 Rotary gaining cutter:**
This subclass is indented under subclass 200. Machine for forming a tenon by a rotary gaining-cutter.
- 202 Chisel pair:**
This subclass is indented under subclass 198.1. Machine with oppositely-placed chisel-cutters which simultaneously cut both shoulders of the tenon.
- 203 Rotary gaining cutter:**
This subclass is indented under subclass 198.1. Machine which is adapted to cut a tenon by a rotary gaining cutter.
- SEE OR SEARCH CLASS:
83, Cutting, subclasses 870+ for a process of or apparatus for cutting a tenon cut by grooving apparatus.
- 204 Multiple tenon:**
This subclass is indented under subclass 203. Machine adapted to simultaneously gain two or more tenons.
- 204.2 Attachment to a table saw:**
This subclass is indented under subclass 198.1. Tenoning machine comprising subcombination of elements intended to be physically and functionally secured to a conventional base-mounted wood sawing machine.
- SEE OR SEARCH CLASS:
83, Cutting, for a base-mounted sawing machine of general utility, particularly subclasses 438+ for a table saw with means to guide moving work and subclasses 469+ for a "radial arm saw."
- 205 TENON TURNING MACHINE:**
This subclass is indented under the class definition. Machine adapted to make a tenon by turning.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
199, for means for making a tenon in a slat of a window blind.
- SEE OR SEARCH CLASS:
82, Turning, for cutting a workpiece which rotates and moves radially with respect to a cutter, generally.
408, Cutting by Use of Rotating Axially Moving Tool, for cutting a workpiece by a tool that rotates with respect thereto without radial movement between the tool and the workpiece.
- 206 Wheel spoke:**
This subclass is indented under subclass 205. Machine for turning a spoke-tenon.
- 207 OSIER PEELER:**
This subclass is indented under the class definition. Machine for removing the bark from a wither or osier by scraping or rubbing.
- (1) Note. A “wither or osier” comprises a branch (or “slender trunk” of any of several willow trees.) The product of this subclass is commonly used in basket making.
- (2) Note. Included here is a device for extracting source material for the manufacture of aspirin.
- 208.1 BARK ROSSER:**
This subclass is indented under the class definition. Machine for cutting the bark from a workpiece comprising a log, slab, or tree.
- (1) Note. Included herein is a machine which leaves the bark in sheets, as well as a machine which cuts the bark up into small bits.
- SEE OR SEARCH CLASS:
30, Cutlery, subclass 121 for a hand manipulated tree hack for rossing bark.
- 208.2 Tree climber:**
This subclass is indented under subclass 208.1. Rosser particularly to engage a standing tree and move up the tree as it cuts the bark therefrom.
- 208.3 Hydraulically driven cutter or hydraulic jet:**
This subclass is indented under subclass 208.1. Rosser wherein (a) a cutter is caused to move and perform the cutting operation by the action of fluid pressure or (b) cutting is performed by the direct engagement of a fluid blast.
- (1) Note. The hydraulic jet of this subclass may (a) coact with an opposing cutting edge, (b) coact with an opposing fluid blast, or (c) act directly without any deliberate application of opposing force to the workpiece.
- SEE OR SEARCH CLASS:
83, Cutting, subclass 177 for cutting a workpiece by use of a fluid blast where there is a reactive surface or a reactive blast, generally.
- 208.4 Including means to simultaneously rotate and advance log:**
This subclass is indented under subclass 208.1. Rosser wherein the work comprises a log, including a log supporting member adapted to transport the log and, at the same time, cause that log to turn about its longitudinal axis as it is engaged by a rossing cutter.
- 208.5 Including means to sequentially advance work:**
This subclass is indented under subclass 208.1. Rosser including a log, slab, or tree engaging member which serves to move the log, slab, or tree step-by-step with respect to the rossing cutter.
- 208.6 Nontraveling work:**
This subclass is indented under subclass 208.1. Rosser wherein, during rossing the work is not being transported.
- 208.7 Tethered percussive tool (e.g., chain, cable, flail, hammer):**
This subclass is indented under subclass 208.1. Rosser including means for cutting the bark from a workpiece is loosely secured, either

- directly or by an intermediate member, to the periphery of a rotary driver.
- 208.8 Hollow head cutter:**
This subclass is indented under subclass 208.1. Rosser including means for cutting the bark from a workpiece is cylindrical and has a peripheral axially extending cutting edge.
- 208.9 Drum or tank:**
This subclass is indented under subclass 208.1. Machine including means for cutting the bark from a workpiece comprising a cylindrical member having a cutting edge extending therealong, and exposed for cutting engagement with the workpiece either radially outwardly or radially inwardly.
- 208.91 Disk knife:**
This subclass is indented under subclass 208.1. Machine including means for cutting the bark from a workpiece comprising a platelike, circular member with a sharp peripheral edge.
- 208.92 Handtool:**
This subclass is indented under subclass 208.1. Rosser adapted to be supported during use by the hand of an operative.
- SEE OR SEARCH CLASS:
30, Cutlery, subclass 121 for a hand-manipulated tree hack for rossing bark.
- 209.1 VENEER LATHE:**
This subclass is indented under the class definition. Machine for shaving a thin layer of wood from the surface of a log which is centered between chucks and rotated against a knife.
- 210 Convertible:**
This subclass is indented under subclass 209.1. Veneer-lathe including a stay-log which may be given a reciprocating or oscillatory instead of a rotary motion.
- 211 Inclined knife:**
This subclass is indented under subclass 209.1. Lathe in which the cutting-knives are set at an angle to the axis of the rotating log.
- 212 Knife or knife block:**
This subclass is indented under subclass 209.1. Lathe including a knife of peculiar form or mechanism for supporting and shifting the knife while cutting the veneer.
- 213 Presser bar or roll:**
This subclass is indented under subclass 209.1. Lathe including a device for gaging the thickness of the veneer cut from the log and for preventing the checking or splintering of the veneer under the action of the knife.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
243, for a presser bar, for use in wood-working, generally.
- SEE OR SEARCH CLASS:
82, Turning, subclasses 142+ for a lathe headstock of generally utility.
- 214 Log stay:**
This subclass is indented under subclass 209.1. Means for supporting the log in the lathe.
- (1) Note. A support means extending the length of a wood workpiece (e.g., log, cant, or billet) as veneer is cut therefrom is included in this subclass.
- 215 Strip-cutting attachment:**
This subclass is indented under subclass 209.1. Means including a device to be attached to the lathe for dividing the sheet of veneer into strips as it is severed from the log.
- (1) Note. This does not include rollers with radial knives which score the log before the veneer is cut off. Such devices are classified in this class, subclass 174.
- 215.2 Log loading or centering:**
This subclass is indented under subclass 209.1. Veneer lathe including means to assist in positioning the log in the lathe or including means to locate the log to be equidistant from the ends of the lathe.
- 215.3 Eccentric curved cut:**
This subclass is indented under subclass 209.1. Veneer lathe wherein the cutting blade is caused to follow an arc with respect to the

work that is other than about the center of the work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

214, for a support means extending the length of a wood workpiece (e.g., log, cant, or billet) as veneer is cut therefrom.

215.4 Diagonal cut by curved cutting edge:

This subclass is indented under subclass 209.1. Veneer lathe including means to cause the cutter to travel in an arcuate path along the log.

216 MITER CUTTER:

This subclass is indented under the class definition. Machine for cutting a miter by means of a knife.

SEE OR SEARCH CLASS:

83, Cutting, subclass 749 for a miter saw, generally, combined with a tool of another type.

217 Angle knife:

This subclass is indented under subclass 216. Machine for cutting a miter by means of an angular knife which is forced against the material.

218 ROTARY CUTTER:

This subclass is indented under the class definition. Device directed to a cutter-head for wood adapted to turn about an axis during operation, not elsewhere classifiable.

SEE OR SEARCH CLASS:

407, Cutters, for Shaping, subclasses 30+ for a rotary cutter not limited to cutting of wood.

219 End thrust:

This subclass is indented under subclass 218. Rotary cutter to which pressure is applied in the direction of its axis of rotation and having cutting parts for its face.

(1) Note. The cutter of this subclass may have also a side-cutting edge so that after boring its way in by end pressure it can then be moved sideways to enlarge the cut.

(2) This class includes principally carving and routing cutters.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

69, for a mortising machine having a rotary auger-type cutter.

SEE OR SEARCH CLASS:

407, Cutters, for Shaping, subclasses 30+ for a rotary cutter not limited to the cutting of wood.

433, Dentistry, subclass 165 for a rotary dental cutter.

220 Frusto-conical:

This subclass is indented under subclass 218. Rotary cutter in the form of an inverted cone.

(1) Note. The cutter of this subclass may be used for cutting a dovetail in the edge of a board.

221 Cylindrical cutter having spiral bit:

This subclass is indented under subclass 218. Rotary cutter formed by twisting a long blade spirally, with or without a core-piece.

222 Double saw having intermediate cutter:

This subclass is indented under subclass 218. Rotary cutter comprising two or more saws spaced apart on a common arbor and having the intermediate space filled by a cutter which removes the material between the saw-kerfs.

(1) Note. In this class a disk with a saw-section secured at its edge is considered a saw.

223 Single saw with side cutter:

This subclass is indented under subclass 218. Rotary cutter comprising a saw having at one side a cutter which removes the material to make a wider cut than the thickness of the saw-blade.

(1) Note. In this class a disk with a saw-section secured at its edge is considered a saw.

- 224 Polygonal rotary cutter having T-slot bit clamp:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which the bits are secured by clamps sliding in T-slots formed in the faces of a head of polygonal cross-section.
- (1) Note. On the cutter of this subclass, a number of bits are frequently used to produce a pattern.
- 225 Polygonal rotary cutter having plane bit seat:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which bits are clamped upon the plane faces of a head of polygonal cross-section.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 91+ for a shoe sole or heel edge trimming machine which includes a rotary cutting head.
- 226 Polygonal rotary cutter having convex bit seat:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which the bits are curved and are secured on a convex face of a head having a polygonal cross-section.
- 227 Polygonal rotary cutter having concave bit seat:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which the bits are curved in transverse section and are secured in concave recesses formed in a head of polygonal cross-section.
- 228 Plane bit seat in radial arm of cutter:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter to which the bits are secured upon plane faces formed on radial arms of a head which is secured to an arbor.
- 229 Slotted bit seat in radial arm of cutter:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which the bits are secured in slots cut in radial arms of a head which is secured to an arbor.
- 230 Having slotted bit seat:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter formed by inserting blades into longitudinal slots in the periphery of a cylindrical head.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 94+ for a shoe sole or heel edge trimming machine which includes a rotary cutting head which uses inserted cutters.
407, Cutters, for Shaping, subclasses 33+ for a rotary cutter including inserted cutting teeth and subclasses 66+ for a cutter, generally, including inserted cutting teeth, wherein the cutter is not limited to the cutting of wood.
- 231 Disk cutter including multiple clamping disks, tangential bit:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which the bits are clamped edgewise between two or more disks carried on a shaft and are placed in a tangential or chordal relation to the cylinder of rotations.
- 232 Disk cutter including multiple clamping disks, pivoted bit:**
This subclass is indented under subclass 218. Rotary cutter comprising a bit clamped between two disks in such a manner that it may be moved about an axis eccentric to that of the cutter-shaft for the purpose of adjusting its edge toward and from the cutter-axis.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
226, for a polygonal rotary woodworking cutter having a concave bit seat.
- 233 Disk cutter including multiple clamping disks, shank bit:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter-head in which bits have shanks formed thereon and are clamped between disks which are strung on an arbor.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
232, for a rotary woodworking cutter having a pivoted bit.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 94+ for a shoe sole or heel edge trimming machine which includes a rotary cutting head which uses inserted cutters.
407, Cutters, for Shaping, subclasses 33+ for a rotary cutter including inserted cutting teeth and subclasses 66+ for a cutter, generally, including inserted cutting teeth, wherein the cutter is not limited to the cutting of wood.
- 234 Disk cutter including eccentric segmental bit:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which an annular segmental bit is clamped between two disks near the periphery thereof or bolted in the same location on the side of a single disk.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 94+ for a shoe sole or heel edge trimming machine which uses inserted cutters.
- 235 Disk cutter including side attached, edge cutting bit:**
This subclass is indented under subclass 218. Rotary cutter comprising a built-up cutter in which bits having shanks are bolted on the side of a disk, extend beyond the periphery, and cut with their projecting ends.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 94+ for a shoe sole or heel edge trimming machine which includes a rotary cutting head which uses inserted cutters.
- 236 Arranged in a pattern:**
This subclass is indented under subclass 217. Rotary cutter comprising a gang of toothed disks of various diameter strung on a shaft in close proximity to each other so that their teeth will present an irregular longitudinal contour corresponding to a predetermined pattern.
- 237 Gang of disk cutters:**
This subclass is indented under subclass 218. Rotary cutter comprising a gang of cutter-disks clamped on a shaft.
- (1) Note. Included herein is a gang of disks which may be beveled and used to cut out beveled slats from a plank by operating first on one side and then on the other. Also included herein is a grooving-cutter.
- 238 Wobble saw:**
This subclass is indented under subclass 218. Rotary cutter comprising a saw secured on a shaft in such a manner that it lies in a plane which cuts the axis of the shaft at an angle other than a right angle.
- (1) Note. The saw of this subclass is used for cutting a groove wider than the thickness of the saw-blade and, also, for cutting a dovetail notch.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
201, for a chisel pair used for tenoning.
- 239 Distorted saw:**
This subclass is indented under subclass 218. Rotary cutter comprising a saw in which a portion of the periphery is twisted out of its original plane so that it stands at an angle thereto and in rotating cuts a groove of a width greater than the thickness of the saw-plate.
- 240 Solid:**
This subclass is indented under subclass 218. Rotary cutter comprising single integral cutters, not including saws which are intended merely for severing, and including saws for cutting beveled grooves.
- SEE OR SEARCH CLASS:
12, Boot and Shoe Making, subclasses 91+ for a shoe sole or heel edge trimming machine which includes a rotary cutting head.

- 407, Cutters, for Shaping, subclasses 30+ for a rotary cutter not limited to cutting of wood.
- 241 Bit:**
This subclass is indented under subclass 240. Rotary cutter comprising a blade to be secured to a rotary head.
- (1) Note. The combination of a cutter bit with a feed or presser mechanism therefor is included herein. For example, a device for moving work to a cutter or for holding it against spring or vibration.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
188, for a rotary bit for cutting excelsior.
- 242.1 FEEDER OR PRESSER:**
This subclass is indented under the class definition. Mechanism including means for moving the work to the cutting-tool and for holding it to the machine-bed, not otherwise classifiable.
- 243 Presser bar or chip breaker:**
This subclass is indented under subclass 242.1. Mechanism comprising a fixed bar which, like a presser-roll, holds down work while being acted on by the cutter or extends under the cutter to prevent the wood from slivering into the uncut portion.
- 244 Sectional:**
This subclass is indented under subclass 243. Presser-bar or chip-breaker divided transversely into several parts to allow lumber of irregular thickness or several pieces of varying thickness to pass thereunder.
- 245.1 Blank feeder:**
This subclass is indented under subclass 242.1. Mechanism including means for successively feeding small similar detached workpieces thereto.
- SEE OR SEARCH CLASS:
57, Textiles: Spinning, Twisting, and Twining, subclasses 268+ for a carriage for doffing or donning, under that class definition.
86, Ammunition and Explosive-Charge Making, subclasses 23+ for ammunition loading.
- 101, Printing, subclasses 35+ for a machine for printing on a special article.
112, Sewing, subclasses 104+ for sewing, including attaching an article.
142, Wood Turning, subclass 20 for an automatic spindle wood turning lathe with a chute feed.
- 245.2 Endless:**
This subclass is indented under subclass 245.1. Mechanism wherein portions of the feeder are connected to each other, such that each travels along an continuous loop during operation.
- 245.3 With work clamp:**
This subclass is indented under subclass 245.2. Mechanism combined with means to grip-ingly secure the work to the feeder.
- 245.4 Intermittent feed chain drive:**
This subclass is indented under subclass 245.2. Mechanism comprised of a band of rigid, concatenated members pivotally connected to each other, to follow each other around the continuous loop, which mechanism is intended to feed work part of the time and be stationary part of the time.
- 245.5 Stacker or unstacker:**
This subclass is indented under subclass 245.1. Mechanism intended to place one product of the operation on top of the previous procedure thereof or to remove one workpiece of the operation from the top of another such work-piece.
- 245.6 Pusher having retractable dog:**
This subclass is indented under subclass 245.1. Mechanism comprised of a member intended to propel a first workpiece from behind, then drop down for return to the starting position to then propel a second workpiece.
- 245.7 Feed from top of stack:**
This subclass is indented under subclass 245.5. Mechanism intended to lift the uppermost workpiece from a vertical column of succeeding workpieces.

246.1 Feed roll:

This subclass is indented under subclass 242.1. Mechanism including as a significant component thereof, a positively-driven work-moving roller.

- (1) Note. Included herein as a “significant component” are structural details of a roll, arrangement of a roll, gear connections, etc.

SEE OR SEARCH CLASS:

492, Roll or Roller, for a roll, per se, not provided for elsewhere; see the notes thereunder.

246.2 With feeler or presensing device:

This subclass is indented under subclass 246.1. Feed roll combined with a detector device intended to detect a physical or other condition.

247 Spring pressed:

This subclass is indented under subclass 246.1. Feed-roll held to the work by means of resilient support structure.

248 Weighted:

This subclass is indented under subclass 246.1. Feed-roll pressed upon the work by a weighted lever.

248.2 With oblique means urging work laterally:

This subclass is indented under subclass 246.1. Feed roll combined with an inclined guide means intended to direct the work to one side.

248.3 Resilient feed roll:

This subclass is indented under subclass 246.1. Feed roll which is intended to yield within its elastic limit during use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

247, for a feed roll that is mounted on a resilient support member.

248.4 On overhanging arm:

This subclass is indented under subclass 246.1. Feed roll supported on a beam suspended over the work being engaged thereby.

248.5 Work centering and feeding:

This subclass is indented under subclass 246.1. Feed roll intended, in addition to advance the work, to cause the work to follow a prescribed path.

248.6 Roll feeds in direction of cut:

This subclass is indented under subclass 246.1. Feed roll intended to cause the work to move along a path, which path is parallel to the path cut by a cutter.

248.7 Special shaped roll:

This subclass is indented under subclass 246.1. Feed roll of a particular, claimed physical configuration.

250.1 Sectional roll:

This subclass is indented under subclass 242.1. Feed or presser roll made up of independently yielding parts to accommodate work irregular in cross-section.

250.11 Rigid assembly:

This subclass is indented under subclass 250.11. Feed or pressure roll comprised of plural components secured together so that there is no relative movement therebetween during operation.

250.12 Nonfeeding presser:

This subclass is indented under subclass 242.1. Means intended to hold the work against a work support or feeder without causing the work to be advanced.

250.13 Presser roll:

This subclass is indented under subclass 250.12. Roll which serves only to hold the work from springing, lifting, or vibrating and which have no feeding action.

SEE OR SEARCH CLASS:

492, Roll or Roller, for a roll, per se, not provided for elsewhere; see the notes thereunder.

250.14 Urged by variable fluid pressure:

This subclass is indented under subclass 250.13. Pressure roll having means to move the roll toward the work by hydraulic force, wherein the hydraulic force can be changed.

250.15 Laterally acting:

This subclass is indented under subclass 250.13. Pressure roll intended to engage the workpiece from the side.

250.16 Roll:

This subclass is indented under subclass 250.13. Pressure roll including structural details of the rolling device.

250.17 Chain:

This subclass is indented under subclass 250.12. Presser comprised of a series of links of material joined together to form a strand intended to rest on the work.

250.18 Foot:

This subclass is indented under subclass 250.12. Means wherein the member engaging the work and holding it, extends from above; engaging the work with a generally planar surface thereof of limited extent.

250.19 Four motion foot:

This subclass is indented under subclass 250.18. Means wherein the foot member is intended to move forwardly and backwardly and laterally to and fro.

250.2 Laterally acting:

This subclass is indented under subclass 250.12. Means intended to engage the workpiece from the side.

250.21 With reverse feeder:

This subclass is indented under subclass 242.1. Means combined with means to cause the work to move opposite to the direction of infeed.

250.22 Reverse feed starter:

This subclass is indented under subclass 250.21. Means wherein the means to reverse infeed serves to effect the beginning of reverse movement.

250.23 L-feed:

This subclass is indented under subclass 242.1. Means wherein the work is advanced in a first direction, then in another direction normal to the first direction.

250.24 Turnover:

This subclass is indented under subclass 242.1. Means comprising means to invert the workpiece.

250.25 Lifter:

This subclass is indented under subclass 242.1. Means comprising means to raise the workpiece of a work support or carrier.

250.26 Fluid pressure driven:

This subclass is indented under subclass 242.1. Means having means to move the work by hydraulic force

251.1 CUTTER GUARD:

This subclass is indented under the class definition. Structure for preventing injury to the workman from contact with the cutter of a machine.

SEE OR SEARCH CLASS:

83, Cutting, subclass 440.2, 544+, and 814+ for tool guard means.

251.2 Vertical spindle:

This subclass is indented under subclass 251.1. Cutter guards particularly adapted to prevent injury to a workman from contact with a cutter that turns about an axis that extends up and down.

251.3 Laterally urged:

This subclass is indented under subclass 251.1. Cutter guard intended to be moved to one side for access to the cutter.

252.1 CUTTER HOOD OR DUST CONVEYOR:

This subclass is indented under the class definition. Device for catching and confining the flying shavings or dust from a cutting-machine and for conveying them away from the machine.

SEE OR SEARCH CLASS:

51, Abrasive Tool Making Process, Material, or Composition, subclasses 300+ for a device for clearing dust from an abrading machine.

57, Textiles: Spinning, Twisting, and Twining, subclasses 300+ for a spinning, twisting, or twining machine

combined with a device for catching or clearing away lint.

252.2 With sifter, sorter, or separator:

This subclass is indented under subclass 252.1. Device combined with (a) means to prevent passage of large material through the hood or conveyor, (b) means to segregate material passing therethrough, or (c) means to collect desired material from undesired material.

253.1 WORK GUIDE:

This subclass is indented under the class definition. Machine including means to be engaged by the work, to define the path of work movement to approach a woodworking station.

253.2 Vertical spindle:

This subclass is indented under subclass 253.1. Work guide intended for use with a woodworking machine having a tool that turns about an axis extending up and down.

253.3 Roll or collar coaxial with cutter:

This subclass is indented under subclass 253.1. Work guide intended to move the work toward the woodworking cutter along the axis of that cutter, which work guide is annular in shape and allows therethrough.

253.4 Work held by corner or diagonal work:

This subclass is indented under subclass 253.1. Work guide wherein (a) the work has an edge formed by the intersection of two side walls approximately normal to each other gripped by the work guide or (b) the work is guidingly supported by a pair of intersecting, inclined supports.

253.5 Simultaneous adjustments along length:

This subclass is indented under subclass 253.6. Work guide of elongated configuration with means to reposition the guide member at all points along its longitudinal extent at the same time.

253.6 Work urged laterally:

This subclass is indented under subclass 253.1. Work guide including means to forcefully engage the work from the side thereof to direct the work to the woodworking station.

253.7 Centering:

This subclass is indented under subclass 253.6. Work guide intended to align the work from both sides as it approaches the woodworking station.

253.8 Adjustable inclined work-engaging face:

This subclass is indented under subclass 253.1. Work guide comprising a sloping surface intended to engage the work, which surface is repositionable.

253.9 Side or edge evener:

This subclass is indented under subclass 253.6. Work guide intended to align the edge of the work with a portion of the woodworking machine or with an additional workpiece.

253.91 Knife edge:

This subclass is indented under subclass 253.1. Work guide comprising a thin, bladelike member.

254 With dryer:

This subclass is indented under subclass 256.1. Wood-bending machine including means to stress the work to change its shape and including a heating device for drying the wood in its stressed shape.

SEE OR SEARCH CLASS:

100, Presses, subclasses 92+ for a press not elsewhere provided for, combined with means for heating the material.

255 Including bending roller:

This subclass is indented under subclass 254. Machine comprising a rotating roller which forces the wood against a yielding or an unyielding reaction member (e.g., another roller, a belt, or a shoe) to crimp the wood without securing it to a former.

SEE OR SEARCH CLASS:

100, Presses, subclass 153 for a press of the concurrent pressing and conveying type having a roll cooperating with an endless conveyor and subclasses 155+ for a roll-type concurrent, conveying, and pressing press, particularly subclass 156 for a press in which the roll cooperates with a non-rotary pressing surface.

256.1 WOOD BENDING PRESS:

This subclass is indented under the class definition. Apparatus including two opposing work engaging surfaces and means whereby one surface may be forced toward the other surface, whereby a wooden part located between said surfaces is forced into, or from, a curved and angular shape.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

381, for a method of bending wood.

SEE OR SEARCH CLASS:

100, Presses, for a generic press, particularly subclass 211 for a press having a flexible or deformable pressure surface and subclasses 92+ for a press having heating, cooling, or drying means.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 580+ for a bonding press or press platen structure, per se.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 411 for a generic shaping press having opposed shaping surfaces for shaping plastic material.

256.2 End compressor:

This subclass is indented under subclass 256.1. Apparatus wherein the two opposing work engaging surfaces are arranged to engage the wooden part at either end to force it into a curved or angular shape.

256.3 Having opposed contoured rigid platens:

This subclass is indented under subclass 256.1. Apparatus wherein the two opposing work engaging surfaces have a nonplanar profile and are formed of a material which does not yield during the bending operation, wherein the nonplanar profile is imparted to the wooden part.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclasses 412+ for a press having nonplanar pressing surfaces.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 581 for a surface bonding press having configured pressing faces.

256.4 Three contoured rigid platens:

This subclass is indented under subclass 256.3. Apparatus including a third discrete work-engaging surface having a nonplanar profile and formed of a material which does not yield during the bending operation, wherein the nonplanar profile is imparted to a wooden part.

(1) Note. The third work-engaging surface may operate either simultaneously, or sequentially with the first and second surfaces, and may work on the same, or a different wooden part.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclass 381 and 394+ for metal bending apparatus having three or more relatively movable coating work engaging surfaces.

258 WITH HOOP GAUGE:

This subclass is indented under the class definition. Machine for stretching a previously-formed hoop to a desired size by means of an expansible former.

259 FIXED WOOD BENDING FORM:

This subclass is indented under the class definition. Device including a fixed former about which the wood is bent and secured until set.

(1) Note. The wood is usually bent around the former by hand.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclasses 127+ for a method or machine for wrapping an elongated metal workpiece around a form or core (e.g., to produce a helical coil). For a form, per se, refer to subclasses 462+.

147, Coopering, subclass 48 for basket-forming.

260 Collapsible form:

This subclass is indented under subclass 259. Device including a knockdown form about which the wood is bent and secured until set.

261 End thrust:

This subclass is indented under subclass 259. Device in which sticks of wood are thrust by endwise pressure into the form and kept there until the wood has taken a permanent set.

262 With sweep arm and roller:

This subclass is indented under subclass 259. Device in which the form is fixed combined with a concentrically-arranged swinging beam carries a roller about the form to force the wood workpiece into engagement with the form.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclass 217 for a sweep-arm bender provided with a work-contacting roller.

263 Strap moved by windlass:

This subclass is indented under subclass 266. Device having a windlass or equivalent device connected with an end of the strap to draw the strap against the wood workpiece and force it against the form.

SEE OR SEARCH CLASS:

100, Presses, subclass 211 for presses with a flexible pressure surface, not elsewhere provided for.

264 Strap moved by lever:

This subclass is indented under subclass 266. Device having a bar intended to urge the strap against the wood workpiece to, in turn, urge the workpiece against the form.

265 Strap moved by screw:

This subclass is indented under subclass 266. Device having a helically ribbed drive member intended to urge the strap against the wood workpiece to, in turn, urge the workpiece against the form.

266 And cooperating strap:

This subclass is indented under subclass 259. Device wherein the wood workpiece is held to the form by means of a strap.

- (1) Note. The strap prevents the wood from splintering opposite the convex portions of the form.

267 PIVOTAL WOOD BENDING FORM:

This subclass is indented under the class definition. Device including a pivotal form which when rotated draws the wood there-around.

- (1) Note. This subclass includes a device for bending wood workpiece which comprises a lever provided at one end with a form, to which one end of the workpiece is secured, and in which the form rests upon the workpiece, acting as the fulcrum as the lever is turned to draw the workpiece closely against the form.

SEE OR SEARCH CLASS:

72, Metal Deforming, subclasses 127+ for shaping of metal work by deflecting, including drawing the work about a rotating form.

268 Coiling:

This subclass is indented under subclass 267. Device for bending wood which comprises a revolving form, to which one end of the wood to be bent is secured and which, as the form is rotated, draws the wood workpiece closely there-around.

- (1) Note. The machine may include a flexible apron which presses the wood workpiece firmly against the cylinder or former.

SEE OR SEARCH CLASS:

100, Presses, subclass 211 for a press having a flexible or deformable pressure surface, not elsewhere provided for.

269 WOOD BENDING CLAMP:

This subclass is indented under the class definition. Device for securing wood in its bent form until it is dried and set.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., for a clamp of general utility.

270 WOOD BENDING, BENDER:

This subclass is indented under the class definition. Device comprising structure adapted to engage a wood workpiece and exert force thereagainst to stress the workpiece beyond its elastic limit, without any severing thereof.

271 WOOD BENDING STEAMER:

This subclass is indented under the class definition. Steam chamber or retort especially designed for steaming wood to soften it preparatory to bending.

278.1 MACHINE WORK CLAMP:

This subclass is indented under the class definition. Device for gripping work upon a moving bed or while operated upon by a traveling cutter.

SEE OR SEARCH CLASS:

- 76, Metal Tools and Implements, Making, subclass 19 for a presser for holding a file blank upon the bed of a file cutting machine and subclass 20 for a bed for supporting a file blank for cutting and for a clamp for securing said blank to the bed.
- 83, Cutting, subclasses 401+ for a cutting machine with a work feed gripper and subclasses 451+ for a cutting machine with a work immobilizer.
- 269, Work Holders, for a device for clamping, supporting, or holding an article (or articles) in position to be operated on or treated. See notes thereunder for other related loci.

278.2 Last or heel:

This subclass is indented under subclass 273.1. Work clamp particularly adapted to engage the form on which a shoe is to be shaped or adapted to engage the ground engaging the rearmost part of a shoe.

278.3 Vacuum operated:

This subclass is indented under subclass 273.1. Work clamp including means utilizing negative atmospheric pressure to cause the clamp to grip the workpiece.

284 CORK (OR BUNG) PRESS:

This subclass is indented under the class definition. Apparatus for compressing the end of a cork or bung to make it tapered, so as to be more readily inserted.

SEE OR SEARCH CLASS:

- 100, Presses, for a press not elsewhere provided for.

285 COMBINED WORKBENCH AND TOOL CHEST:

This subclass is indented under the class definition. Device comprising a tool chest modified to also serve as a workbench; also, a cover for a school desk which adapts it to be used as a workbench.

- (1) Note. The desk cover of this subclass may be provided with a receptacle for a tool.

SEE OR SEARCH CLASS:

- 206, Special Receptacle or Package, subclasses 349+ for a container for a tool or appliance; see the notes thereunder for the loci of other similar tool holders.
- 312, Supports: Cabinet Structure, for a tool chest, per se.

286.1 WORKBENCH:

This subclass is indented under the class definition. Device comprising a work underlying support.

- (1) Note. A carpenter's workbench or sawhorse is included herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 28.2, for a pencil sharpening machine with an elongated work holder or guide for edge beveling.
- 28.8, and 28.9, for a pencil sharpening machine having a movable tool and a rotary work holder or guide.
- 96, for a tilting work holder used with a brush boring machine.
- 99, for a work support for use with a wheel hub boring machine.

286.5 Of special shape or structure:

This subclass is indented under subclass 286.1. Workbench of a particular physical shape or configuration to perform a prescribed, limited function.

287 Having adjustable stock rest:

This subclass is indented under subclass 286.1. Workbench having an adjustable device applied thereto support one end of a workpiece.

- (1) Note. The other end of the workpiece is generally held in the ordinary bench vise.
- 288.5 LATH HOLDER:**
This subclass is indented under the class definition. Device for holding or spacing a lath in position to be secured.
- 306 BENCH DOG:**
This subclass is indented under the class definition. Device comprising a stop set in a workbench to oppose the end-wise movement in one direction of a workpiece (e.g., a board or other article) which is being operated upon.
- 307 Clamping:**
This subclass is indented under subclass 306. Bench dog adapted to grip the work which rests upon a workbench between two opposing jaws.
- (1) Note. One of the gripping jaws may comprise an ordinary bench stop.
- 308 Removable:**
This subclass is indented under subclass 306. Bench dog which is a removable device provided with sharp spurs.
- (1) Note. The bench dog of this subclass may be set in the desired position and secured by driving the spurs into the bench.
- 329 PROCESS:**
This subclass is indented under the class definition. Process of working with wood.
- SEE OR SEARCH CLASS:
- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, for wood dyeing and bleaching.
- 12, Boot and Shoe Making, subclass 146 for a process of making a wooden last or last blank and subclass 147 for a process of making a wooden heel or heel blank. (The corresponding apparatus is classified elsewhere in Class 144 without regard to the article produced.).
- 34, Drying and Gas or Vapor Contact With Solids, for a process of treating wood by gas, or vapor, or for drying in any way.
- 49, Movable or Removable Closures, subclass 506 for a method of assembling a closure on a portal frame.
- 100, Presses, subclasses 35+ for a method of pressing not elsewhere provided for.
- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for a process or apparatus for laminating, per se. Class 144 takes patents, claiming the combination of laminating with significant physical deforming of wood by cutting, forming, bending, or compressing.
- 201, Distillation: Processes, Thermolytic, for a process of destructive distillation of wood.
- 427, Coating Processes, for a coating process of general application.
- 530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, subclass 202 for extraction of resins from cut wood.
- 330 Repairing or reconstructing:**
This subclass is indented under subclass 329. Process for restoring an article after use has caused wear, or for correcting imperfections and including (a) reshaping the article or a portion thereof; (b) substituting or adding a preformed part or piece; or (c) adding supplemental or original material in a plastic or moldable state so as to fill out or otherwise alter the form of the article.
- SEE OR SEARCH CLASS:
- 12, Boot and Shoe Making, subclass 146 for a process of repairing a shoe last.
- 29, Metal Working, subclasses 402.01+ for a generic or residual method of repairing not elsewhere provided for.
- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, for a process or apparatus for laminating in general and especially see subclasses 94+ for a process for repairing an article involving laminating.

331 Bowling pin:

This subclass is indented under subclass 330. Process wherein the article being restored comprises a wooden target used in the game of bowling.

332 Plywood, veneer, or board:

This subclass is indented under subclass 330. Process wherein the article being restored comprises either (a) several sheets of wood glued or cemented together with the grains of adjacent layers arranged at right angles, (b) a thin sheet of wood, or (c) a piece of finished dressed lumber.

333 Rattan or bamboo working:

This subclass is indented under subclass 329. Process of working with the wood of a rattan palm or of bamboo.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 2.1+, for a special machine for working bamboo.
- 24.17, for a special machine for working rattan.

334 Stump removing:

This subclass is indented under subclass 329. Process for removing from the earth the part of a plant attached to the root after the trunk has been removed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 24.12, for a stump removing machine.

SEE OR SEARCH CLASS:

- 37, Excavating, subclass 195 for a process for digging a stump out of the ground.
- 241, Solid Material Comminution or Disintegration, for a process or apparatus for grinding or tearing material into bits, generally, particularly subclasses 101.71+ for a machine of that type combined with a support vehicle allowing the machine to be moved about.

335 Timber harvesting or processing:

This subclass is indented under subclass 329. Process including (a) bringing a tree down, (b) removing the branches from the trunk of a tree, (c) removing the bark from a tree or log without substantial shaping, or (d) treatment or handling incidental to any of the above.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 4.1, for apparatus for timber harvesting or processing.
- 363+, for a method of shaping a felled tree or log with incidental bark removal.

336 Tree felling:

This subclass is indented under subclass 335. Process including bringing down a tree.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 4.1, for apparatus particularly adapted to both cutting and handling timber.
- 34.1, for tree felling apparatus, generally.

SEE OR SEARCH CLASS:

- 30, Cutlery, subclasses 165+ for a cutting tool which may be capable of severing the trunk of a tree from the ground, but without limitation that would limit it to timber harvesting or processing (e.g., without means to push the trunk of a tree as it is severed from the stump). More particularly, search subclasses 90.1+ for means for cutting a tree by a constricting band. Search subclasses 166.3+ of Class 30 for a saw capable of cutting timber; still more specifically, search subclasses 381+ for a chain saw and subclasses 388+ for a rotary saw.
- 56, Harvesters, for apparatus for cutting down plants other than trees.
- 83, Cutting, subclasses 13+ for a method of cutting, generally, including cutting a tree with a saw; also search Class 83 for apparatus for cutting, generally, with a base mounted machine, especially subclasses 835+ for a saw blade, per se, or the component parts thereof. Note that Class 83 does not include a limitation of the operation to

timber harvesting, such as cutting combined with pushing a tree over.

337 And chipping:

This subclass is indented under subclass 336. Process which further includes reducing the felled tree to a multitude of small pieces.

SEE OR SEARCH CLASS:

241, Solid Material Comminution or Disintegration, for a process or apparatus for grinding or tearing material into bits, generally.

338 And delimiting and cutting trunk to length:

This subclass is indented under subclass 336. Process combined with removing the branches from a trunk and subdividing the trunk of the tree by severing it transversely.

SEE OR SEARCH CLASS:

83, Cutting, for a process of or apparatus for transversely subdividing a tree or board without felling.

339 By shearing:

This subclass is indented under subclass 336. Process wherein the tree is brought down by a cutting apparatus having opposed cutting edges, or a cutting edge and opposing work engager, which approach the trunk from opposite directions.

SEE OR SEARCH CLASS:

30, Cutlery, particularly subclasses 165+ for a randomly manipulated cutting device, generally.
83, Cutting, subclasses 13+ for a process of shearing, generally, including cutting a tree trunk from a stump, without additional limitations to felling.

340 Debarking:

This subclass is indented under subclass 335. Process including separating from a tree its external rind or outer sheath.

(1) Note. The separation may include the cambium layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

207, for an osier peeler.
208.1+, for apparatus for rossing bark.

341 Mechanically (e.g., by engaging a friction, impact, or cutting member):

This subclass is indented under subclass 340. Process wherein the external rind or outer sheath is separated by physically contacting the tree or log with an instrument.

342 With pretreatment:

This subclass is indented under subclass 341. Process combined with subjecting the rind or sheath to the action of an agent, environment, or organism to facilitate its removal by the bark-removing instrument.

343 Delimiting:

Process under Class 335 including removing the branches from the trunk of a tree.

344 Securing:

This subclass is indented under subclass 329. Process which includes (a) fastening one work part to another or (b) fastening one portion of a work part to another portion of the same part.

(1) Note. Excluded from this subclass are processes for joining parts by a metal working operation, and processes for joining a wooden part to a nonwooden part and working the latter.

(2) Note. At least one work part being secured is made of wood or woodlike material (e.g., made from a composition of wood chips).

SEE OR SEARCH CLASS:

29, Metal Working, subclasses 428+ for an assembly or joining method involving metal working, subclasses 592+ for assembly combined with working of a nonwooden part, and subclasses 700+ for apparatus for securing two distinct elements together.

345 And cutting or shaping:

This subclass is indented under subclass 344. Process combined with physically penetrating a wooden part without substantial material flow, producing a change in dimension or contour of a wooden part.

- (1) Note. The cutting or shaping may occur before, during, or after fastening.
- SEE OR SEARCH CLASS:
29, Metal Working, subclasses 592+ for a process of assembling two work parts (one of which may be wood) and working the nonwooden part.
- 346 Surface bonding:**
This subclass is indented under subclass 345. Process wherein the work parts are fastened by cement, glue, or other adhesive, or by use of cohesive characteristics of the work parts to effect an autogenous bond.
- SEE OR SEARCH CLASS:
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 250+ for a process of laminating nonwooden parts combined with cutting, or a process of laminating wooden parts combined with nominal cutting, wherein the process is not peculiar to wood working.
- 347 Of interengaging work parts (e.g., dovetail):**
This subclass is indented under subclass 346. Process wherein a portion of a first work part is configured to fit within a portion of a second work part.
- 348 Including heat applying:**
This subclass is indented under subclass 346. Process wherein heat is applied to a bonding agent or a wood part.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
364, for a wood cutting process including heating the wood.
380, for a wood shaping operation including heating the wood.
- 349 With bending concurrent or subsequent to bonding:**
This subclass is indented under subclass 346. Process combined with forcing the work parts into or from a curved or angular shape while the adhesive is setting or after the adhesive has set.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
381, for a method of bending wood, per se.
- 350 Cutting or shaping subsequent to bonding:**
This subclass is indented under subclass 346. Process wherein physically penetrating or producing a change in dimension or contour of a wooden part or portion occurs after the parts have been fastened by adhesive.
- 351 Followed by additional bonding:**
This subclass is indented under subclass 350. Process wherein physically penetrating or producing a change in dimension or contour of the bonded work parts is followed by fastening two work parts, at least one of which is a product of the shaping or cutting operation, using cement, glue, or other adhesive, or by use of cohesive characteristics of the work parts that effect an autogenous bond.
- 352 Including pressure applying:**
This subclass is indented under subclass 346. Process wherein the bond between the work parts is fixed or stabilized by subjecting the area of the bond to compressive force.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
349, for a process including applying pressure to bend the bonded wood parts (the adhesive need not be dried before application of the bending pressure).
- 353 By separate mechanical fastener:**
This subclass is indented under subclass 345. Process wherein the work parts or portions thereof are fixed in relative position by a discrete securing element.
- SEE OR SEARCH CLASS:
29, Metal Working, subclasses 428+ for an assembling or joining method not involving woodworking and not otherwise provided for.
- 354 Interengaging work parts:**
This subclass is indented under subclass 345. Process wherein a portion of a first work part is configured to fit within a portion of a second work part.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 67+, for a mortising machine.
75, for a dovetailing machine.

355 Shaping by cutting:

This subclass is indented under subclass 345. Process wherein a dimension or the contour of a wood part is altered by physically penetrating and removing a portion or section of the wood part.

356 Including monitoring of operation:

This subclass is indented under subclass 329. Process wherein either the process or an indicator is controlled by means which senses a condition or occurrence in a work part, product, machine, or environment.

- (1) Note. A process performed by a cyclically operating machine is not classified in this subclass on that basis.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 72+ for a generic cutting apparatus having means to monitor and control the operation and subclasses 360+ for a generic cutting apparatus having its operation controlled by detector means responsive to the work. See subclasses 13+ for a generic cutting process involving monitoring and control.
250, Radiant Energy, subclasses 200+ for a photocell circuit or apparatus.
356, Optics: Measuring and Testing, for an optical system, per se, for measuring or determining a particular dimension or condition of the work or product.
700, Data Processing: Generic Control Systems or Specific Applications, subclasses 1 through 89 for generically claimed electrical data processing control apparatus, and subclasses 90-306 for particular data processing applications.

357 By means which determines dimension of work:

This subclass is indented under subclass 356. Process wherein the process, or indicator is controlled by means which measures the size of the work part along a particular direction.

- (1) Note. A specific dimension must be determined for placement in this subclass. Therefore, processes employing static means which allow only those pieces over or under a particular size to pass are excluded.

SEE OR SEARCH CLASS:

- 356, Optics: Measuring and Testing, for an optical system, per se, for measuring a particular dimension of the work or product.

358 Embossing or imprinting:

This subclass is indented under subclass 329. Process on impressing, indenting, or otherwise relieving a wood surface for ornamentation.

SEE OR SEARCH CLASS:

- 101, Printing, subclass 32 for a process of forming characters or designs by embossing.

359 Mechanical cutting or shaping:

This subclass is indented under subclass 329. Process for physically penetrating, without substantial material flow, or producing a change in dimension or contour of a wooden part, with or without material removal, by relative movement of a tool and workpiece.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 592+ for a process of mechanically shaping material other than wood, not otherwise provided for.

360 Combined cutting and shaping:

This subclass is indented under subclass 359. Process including physically penetrating the material to effect a change in dimension or contour of a wooden part, and including an operation which effects a change in dimension or contour of the wooden part without material removal.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 1+, for a machine for cutting and forming wood.

361 Fiber working or reorienting:

This subclass is indented under subclass 359. Process including subjecting the wooden part to a force which, as claimed, acts in a specific relation to the fiber or fiber structure within the wooden part or causes relative motion between the fibers in the wooden part.

- (1) Note. For placement in this subclass, a claim should contain a limitation such as crushing, mashing, tearing, or separating the fibers.

362 Roller movement parallel to grain:

This subclass is indented under subclass 361. Process wherein the wooden part is subjected to a fiber reorienting force through rolling contact with a rotating annular or cylindrical element which translates relative to the wooden part in the same direction as the fibers are originally oriented in the wooden part.

363 Cutting:

This subclass is indented under subclass 359. Process for physically penetrating a wooden part without substantial material flow.

364 Including heating, cooling, or fluid applying:

This subclass is indented under subclass 363. Process including removing or applying heat to the tool or wooden part, or of contacting the tool or wooden part with a liquid or gas.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 348, for a method of bonding wooden parts combined with cutting, or shaping, and heating.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 14+ for a generic cutting method including a preparatory, or simultaneous treating the work.

365 Turning, boring, or drilling:

This subclass is indented under subclass 363. Process wherein the material is removed by (a) reducing the diameter of the wooden part by engaging the periphery thereof with a tool and rotating the work, or circumrotating the tool about the work or (b) enlarging the cross-section of an existing hole by a relatively rotating cutter or (c) producing a hole by a relatively rotating cutter.

tion of an existing hole by a relatively rotating cutter or (c) producing a hole by a relatively rotating cutter.

366 Including splitting:

This subclass is indented under subclass 363. Process wherein the wood is penetrated by a nontoothed tool which is forced into the wood and forces two portions apart.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 193+, for splitting apparatus.

367 Plural discrete diverse cutting operations:

This subclass is indented under subclass 363. Process including two different and individually distinct operations or steps for penetrating a wooden part.

- (1) Note. A method of chipping using a rotating tool having plural diverse cutting edges (e.g., a first set of cutting edges for scoring alternately arranged with a second set of cutting edges for slicing) whereby each chip is formed by two successive cuts is not considered to represent individually distinct cutting operations.

- (2) Note. The operations must be accomplished by different cutters or cutter combinations, or if similar cutters are employed, they must shape the wood differently.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.1+, for combined woodworking.

368 Including grooving:

This subclass is indented under subclass 367. Process including removing material from the wooden part to form a channel of limited depth along the surface.

- (1) Note. Cutting a "V" notch in a log prior to sawing the log into one or more boards is not considered to be "grooving" as defined above.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 370, for a method including chipping a “V” notch in the surface of a log prior to sawing boards therefrom.
 371, for a method of grooving, per se.
- SEE OR SEARCH CLASS:
 83, Cutting, subclass 880 for a generic grooving process.
- 369 Including slicing, slitting, chipping, or planing:**
 This subclass is indented under subclass 367. Process wherein one of the discrete operations involves (a) severing a thin flat portion from the wooden part by forcing a knife through the wood, (b) forming a long narrow cut or opening by forcing a cutting edge through the wood, (c) reducing the wooden part or a portion thereof to a multitude of small pieces, or (d) smoothing or shaping the wooden part by shaving a surface thereof.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 363, for a process of slicing or slitting, per se.
- 370 Chipping:**
 This subclass is indented under subclass 369. Process wherein one of the discrete operations comprises reducing the wooden part or a portion thereof to a multitude of small pieces.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 337, for a method of felling a tree and reducing it to chips.
- 371 Routing or grooving:**
 This subclass is indented under subclass 363. Process including relieving a surface of a wooden part by traversing parallel to the surface a rotating cutter which has a cutting edge formed on its periphery, or of forming a channel of limited depth across a surface of the wooden part.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 136, for grooving apparatus.
- 368, for a woodworking method including plural discrete diverse cutting operations, one of which is grooving.
- SEE OR SEARCH CLASS:
 83, Cutting, subclass 880 for a generic grooving process.
- 372 Using template or pattern:**
 This subclass is indented under subclass 363. Process wherein a gauge or form is used which corresponds in shape to the desired profile of a product and along which a cutter or an element attached to the cutter is translated.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 144+, for a woodworking machine employing a template or pattern.
- 373 Chipping or planing:**
 This subclass is indented under subclass 363. Process including either (a) reducing the wooden part or a portion thereof to a multitude of small pieces or (b) smoothing or shaping the wooden part by shaving the surface.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 114.1+, for a wood planer generally.
 337, for a tree felling method including chipping the felled tree.
 370, for a woodworking method including two discrete, diverse cutting operations, at least one of which employs a chipper.
- 374 Using ganged cutting discs:**
 This subclass is indented under subclass 373. Process wherein the work is reduced to a multitude of small pieces, or is smoothed or shaped using a plurality of discs, each of which is provided with a cutting edge on its periphery, and which are arranged axially side by side along a rotating shaft.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 237, for a woodworking cutter comprising ganged discs.

375 Using cylindrical tool:

This subclass is indented under subclass 373. Process wherein the work is reduced to a multitude of pieces, or is smoothed or shaped by a cutter whose periphery defines a cylinder having at least one cutting edge formed or located thereon.

376 Longitudinal sawing:

This subclass is indented under subclass 363. Process wherein the wooden part is penetrated by relative movement between the wooden part and a thin cutting tool in the direction of the length of the work, wherein the thin cutting tool is of the type provided with a plurality of teeth along its edge which are caused to successively engage the wood to form a kerf as the tool progresses along the wooden part.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 13+ for a generically claimed sawing process (i.e., not specifically for sawing wood), especially subclasses 44+ for longitudinally sawing combined with transverse sawing.

377 Longitudinally tapered work or product:

This subclass is indented under subclass 376. Process wherein the width or thickness of the wooden part varies linearly along the length of the wooden part either before or after the sawing operation.

378 Log or cant sawing:

This subclass is indented under subclass 376. Process wherein the wood part comprises an unshaped length of timber or an arc segment thereof.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 703+ for a cutting machine with means to sequentially convey a workpiece there past such that the workpiece is progressively diminished.

379 Transverse sawing:

This subclass is indented under subclass 363. Process wherein the wooden part is penetrated by relative movement between the wooden part and a thin cutting tool in the direction of the work, wherein the thin cutting tool is of the

type provided with a plurality of teeth along its edge which are caused to successively engage the wood to form a kerf as the tool progresses across the wooden part.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 166.3+ for a randomly manipulated saw of general utility.
83, Cutting, subclasses 13+ for a generically claimed sawing process (i.e., not specifically for sawing wood), especially subclass 42 for a method including repetitive transverse sawing.

380 Including heating, cooling, or fluid applying:

This subclass is indented under subclass 359. Process including removing or applying heat to the tool or wooden part, or contacting the tool or wooden part with a liquid or gas.

SEE OR SEARCH THIS CLASS, SUBCLASS:

342, for a method of pretreating bark prior to its removal.
364, for a method including cutting combined with heating, cooling, or fluid treatment.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 14+ for a generic cutting method including a preparatory or simultaneous step of treating the work.

381 Bending:

This subclass is indented under subclass 359. Process including forcing the wooden part into or from a curved or angular shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:

254+, for wood bending apparatus.

382 WITH USE OF CONTROL MEANS ENERGIZED IN RESPONSE TO ACTIVATOR STIMULATED BY CONDITION SENSOR:

This subclass is indented under the class definition. Subject matter including means, or a step of using means, for (a) detecting any of the following characteristics: a state or property, a

change in a state or property, or the occurrence of a predetermined event, in any of the following: the work*, the product of a machine, the machine itself, any part of the machine, or the environment of the machine affecting the operation thereof; (b) initiating (as a direct result of such detection) a force or impulse other than that generated or transmitted by the detecting means; and (c) regulating or modifying (as a direct result of such initiation) the operation of said machine.

- (1) Note. This definition requires a patent to claim at least four instrumentalities (or the use thereof) for original placement herein. One of these must be a woodworking machine or a device (e.g., work feeder, work heater, product handler) necessary to the proximate function of woodworking. The other three are (a) a sensor (e.g., photocell system, trip lever, pressure diaphragm) to detect a condition as stated in (a) of the definition, (b) an activator (e.g., an element to make or break an electric circuit, a clutch, a valve) to cause a release of energy more than, or different from, that accounted for by mere change in condition (e.g., position or movement) of the sensor while it is functioning, and (c) a controller (e.g., a motor or driver for said machine or device) to change or cause the operation of said machine or device. Therefore, a cam follower (or sensor) directly linked to a controller, whereby follower movement directly effects controller movement, is not proper subject matter for this subclass due to lack of an activator as defined. On the other hand, disclosure of a cam follower that makes and breaks an electrical circuit that energizes a motor may be placed herein.
- (2) Note. A voluntary act of the person operating the machine is not proper subject matter for this subclass. For example, disclosure of an on/off switch on a woodworking machine manipulated by an operative to start and/or stop the machine (even though the switch initiates a release of energy), should be considered for subclass 1, but is not classified herein.

- (3) Note. The machine that is regulated by the control means is not limited to a woodworking machine of this class. It can be another machine associated with the woodworker if the claim reciting the other machine and woodworker is acceptable for original placement into Class 72.
- (4) Note. The control system disclosed in the patents of this and indented subclasses are similar in concept to control systems of other classes, particularly Class 226, Advancing Material of Indeterminate Length, and Class 83, Cutting. The total operations and the claimed combinations are, of course, different, but the control systems, per se, found in Classes 226 and 83 are usually analogous to those herein, and may be applicable to the machines of Class 72. In the "SEARCH CLASS" notes for the subclasses indented hereunder, reference to the (4) Note indicated that the other class and subclass should be considered because the control system, per se, of a patent in the other class may be similar to a control system, per se, of Class 72. The notes to Class 83, subclass 399, summarize all the subclasses in Class 83 pertaining to "control" subclasses therein.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 72+ for a cutting machine with means to monitor and control that machine.
- 226, Advancing Material of Indeterminate Length, see (4) Note above.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 135+ for apparatus to shape or reshape nonmetals combined with control means responsive to, or actuated by, means sensing or detecting a condition; see the search notes thereunder.
- 700, Data Processing: Generic Control Systems or Specific Applications, subclasses 159 through 195 for a control system for a machining device. Note that the combination of a

woodworking machine with a control system is to be found in Class 144.

383 Including use of sensor responsive to information carried by removable auxiliary record (e.g., recording disk, tape, or card):

This subclass is indented under subclass 382. Subject matter including using a separate device inserted into, attached to, or applied to, the machine, and detecting physical characteristics of the device to control the operation of the machine.

SEE OR SEARCH CLASS:

- 66, Textiles: Knitting, subclasses 215+ for knitting by use of a pattern-responsive control means which may be removable from a knitting device.
- 83, Cutting, subclasses 76.1+ for cutting with use of a control means responsive to a replaceable information program. Also, see the (4) Note under the definition of Class 72, subclass 382.
- 139, Textiles: Weaving, subclasses 317+ for pattern-responsive control means.
- 226, Advancing Material of Indeterminate Length, subclass 9; see the (4) Note under the definition of Class 72, subclass 382.

384 Including plural sensors or sensor responsive to comparison between plural conditions:

This subclass is indented under subclass 383. Subject matter including using (a) multiple detecting means to discern a corresponding number of characteristics or (b) a single detecting means to discern multiple characteristics; in either case, then comparing the characteristics and generating a resultant impulse representing the similarities or differences between the detected characteristics, whereby the regulating means governs the machine in accordance with the resultant impulse to correct incipient errors in the machine or to maintain operation of the machine.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 391, for other woodworking including multiple sensing with comparison of impulses from the sensors.
- 403+, 423 and 425, for woodworking including multiple sensing but with-

out comparison of impulses from the sensors.

SEE OR SEARCH CLASS:

- 83, Cutting, subclasses 72+ for “self-regulating” or “feedback” control means; see the (4) Note under the definition of Class 72, subclass 382.

385 Utilizing “memory” to store information on tool or tool-linked part:

This subclass is indented under subclass 384. Subject matter including use of structure having an impressible media capable of holding data which is part of the instrumentality for engaging the work for woodworking or is fixedly attached thereto.

386 Sensing “pattern”:

This subclass is indented under subclass 384. Subject matter including using a contoured guide engaged by a traversing follower connected to a woodworking tool such that the tool follows a path identical to the contours of the guide as the tool engages the wood for working thereof.

- (1) Note. The term “pattern” (in the title) refers to a model or prototype insertable into and removable from the machine and having a shape or configuration exactly similar or proportional to the shape or configuration of the desired product. A cam or eccentric or other object which is distorted with respect to the desired product is not considered to be a pattern, and control disclosures of such objects may be found in other subclasses appropriate to the woodworker.

387 Sensing work or product (e.g., by X-ray):

This subclass is indented under subclass 384. Subject matter including detecting a characteristic of the work* for, or the product* of, the machine.

- (1) Note. Sensing a “Blank Holder”* or a work* holder is included herein.
- (2) Note. A woodworking tool* is not considered to be a “detector”; therefore, detecting a tool* in direct engagement with the work is not considered to be

detecting the “work or product” for placement in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

392+, and 402+, for other control by sensing of work or product.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 79+, 211, 286+, 358+, and 360+ for a control system responsive to work for, or product of, a cutting machine; see the (4) Note under the definition of Class 72, subclass 382.

226, Advancing Material of Indeterminate Length, subclasses 10+ for a control system responsive to work for feeding the work; see the (4) Note under the definition of Class 72, subclass 382.

388 Sensing lead end or tail end:

This subclass is indented under subclass 387. Subject matter including detecting the forward edge or the trailing edge of moving work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

397, 407 and 414, for other sensing of the lead end or tail end of work or product.

389 Sensing cross sectional dimension:

This subclass is indented under subclass 387. Subject matter including moving the work in a given direction and detecting the extent of the work at right angles to such direction.

- (1) Note. This subclass includes patents disclosing the measurement of work thickness by electrostatic, magnetic, or radiant energy (e.g., “X-ray”) detecting means.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

398+, 408+ and 416+, for other sensing of cross sectional dimension of work or product.

391 Including plural sensors or sensor responsive to comparison between plural conditions:

This subclass is indented under subclass 382. Subject matter including using (a) multiple detecting means to discern a corresponding number of characteristics or (b) a single detecting means to discern multiple characteristics; in either case, then comparing the characteristics and generating a resultant impulse representing the similarities or differences between the detected characteristics, whereby the regulating means governs the machine in accordance with the resultant impulse to correct incipient errors in the machine or to maintain operation of the machine.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

384+, for woodworking including multiple sensing with comparison of impulses from the sensors.

403+, 423 and 425, for woodworking including multiple sensing but without comparison of impulses from the sensors.

392 Sensing work or product (e.g., X-ray):

This subclass is indented under subclass 391. Subject matter including detecting a characteristic of the work* for, or the product* of, the machine.

- (1) Note. Sensing a “Blank Holder”* or a work* holder is included herein.

- (2) Note. A woodworking tool* is not considered to be a “detector”; therefore, detecting a tool* in direct engagement with the work is not considered to be detecting the “work or product” for placement in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

387+, and 402+, for other control by the sensing of work or product.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 79+, 211, 286+, 358+, and 360+ for a control system responsive to work for, or product of, a cutting machine; see the (4) Note

- under the definition of Class 72, subclass 382.
- 226, Advancing Material of Indeterminate Length, subclasses 10+ for a control system responsive to work for feeding the work; see the (4) Note under the definition of Class 72, subclass 382.
- 393 Sensing performance of work or product:**
This subclass is indented under subclass 392. Subject matter comprising use of detecting means responsive to the capability of the work* or product* when subjected to its intended use.
- (1) Note. Included herein is a woodworking device for shaping an aircraft wing wherein air is passed over the wing to determine turbulence generated thereby and wherein the woodworking device is modified accordingly.
- 394 Work and product:**
This subclass is indented under subclass 392. Subject matter including detecting a characteristic of the work* for the machine and detecting a characteristic of the product* of the same machine.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
404, for other sensing of both work and product.
- 395 Sensing temperature:**
This subclass is indented under subclass 392. Subject matter including detecting the degree of heat content in the work* or the product*.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
405, and 412, for other sensing of temperature.
- 396 Sensing slack or tension (e.g., by use of dancer):**
This subclass is indented under subclass 392. Subject matter including (a) detecting the lateral movement of a flexible portion of an elongated workpiece or (b) detecting the degree of tautness in an elongated workpiece.
- (1) Note. A typical disclosure found in this subclass comprises a system including two woodworking mills through which the work passes sequentially. In the space between the woodworking mills, the work is engaged by a detecting means urged against the work along a line substantially at right angles to the direction of work movement. The position of said means along that line indicates the tautness of the work passing between the mills, and this position is used to control the tautness.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
406, and 413, for other sensing of slack or tension in work or product.
- SEE OR SEARCH CLASS:
226, Advancing Material of Indeterminate Length, subclass 44 for a “dancer” controlling feed of material; see the (4) Note under the definition of Class 72, subclass 382.
- 397 Sensing lead end or tail end:**
This subclass is indented under subclass 392. Subject matter including detecting the forward edge or the trailing edge of moving work.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
388, 407 and 414, for other sensing of the lead end or tail end of work or product.
- 398 Sensing cross sectional dimension:**
This subclass is indented under subclass 392. Subject matter including moving the work in a given direction and detecting the extent of the work at right angles to such direction.
- (1) Note. This subclass includes patents disclosing the measurement of work thickness by electrostatic, magnetic, or radiant energy (e.g., “X-ray”) detecting means.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
388, 408+ and 416+, for other sensing of cross sectional dimension of work or product.

399 Sensing thickness:

This subclass is indented under subclass 398. Subject matter wherein the work includes a greater and a lesser lateral dimension and wherein the detecting discerns the extent of the lesser dimension.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

410, for other sensing of work thickness to control a metal woodworking machine.

400 Sensing tool or tool-linked part:

This subclass is indented under subclass 392. Subject matter including detecting a condition of a tool* or of a machine element connected to the tool for movement therewith.

- (1) Note. Original placement of a patent in this or a subclass indented hereunder requires that the machine element partakes of tool movement, either directly or proportionately, whether the element is fixed to the tool or connected thereto by a linkage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

401, 411, and 420+, for other sensing of a tool or tool-linked part.

401 Sensing tool or tool-linked part:

This subclass is indented under subclass 391. Subject matter including detecting a condition of a tool* or of a machine element connected to the tool for movement therewith.

- (1) Note. Original placement of a patent in this or a subclass indented hereunder requires that the machine element partakes of tool movement, either directly or proportionately, whether the element is fixed to the tool or connected thereto by a linkage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

400, 411 and 420+, for other sensing of a tool or tool-linked part.

402 Sensing work or product (e.g., by X-ray):

This subclass is indented under subclass 382. Subject matter including detecting a characteristic of the work* for, or the product* of, the machine.

- (1) Note. Sensing a “Blank Holder”* or a work* holder is included herein.

- (2) Note. A woodworking tool* is not considered to be a “detector”; therefore, detecting a tool* in direct engagement with the work is not considered to be detecting the “work or product” for placement in this subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

387+, and 392+, for other control by sensing of work or product.

SEE OR SEARCH CLASS:

83, Cutting, subclasses 79+, 211, 286+, 358+, and 360+ for a control system responsive to work for, or product of, a cutting machine; see the (4) Note under the definition of Class 72, subclass 382.

226, Advancing Material of Indeterminate Length, subclasses 10+ for a control system responsive to work for feeding the work; see the (4) Note under the definition of Class 72, subclass 382.

403 Including plural sensors or sensor responsive to plural conditions:

This subclass is indented under subclass 402. Subject matter including using (a) multiple detecting means to discern a corresponding number of characteristics or (b) a single detecting means to discern multiple characteristics.

- (1) Note. The detecting means fitting part (a) of this definition differ from those of subclass 8.1 in that those of this subclass are not necessarily related, nor is a comparison made between the impulses generated thereby. The detecting means fitting part (b) of this definition may, for example, detect the leading and the trailing edges of a workplace, or detect the presence and the temperature of a workplace.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

384+, and 391+, for woodworking including multiple detecting but with comparing of the impulses received.

423, and 425, for woodworking including multiple sensing without comparison of impulses from the sensors.

404 Work and product:

This subclass is indented under subclass 403. Subject matter including detecting a characteristic of the work* for the machine and detecting a characteristic of the product* of the same machine.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

394, for other sensing of both work and product.

405 Sensing temperature:

This subclass is indented under subclass 403. Subject matter including detecting the degree of heat content in the work* or the product*.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

395, 412, for other sensing of temperature.

406 Sensing slack or tension (e.g., by use of dancer):

This subclass is indented under subclass 403. Subject matter including (a) detecting the lateral movement of a flexible portion of an elongated workpiece or (b) detecting the degree of tautness in an elongated workpiece.

- (1) Note. A typical disclosure found in this subclass comprises a system including two woodworking mills through which the work passes sequentially. In the space between the mills, the work is engaged by a detecting means urged against the work along a line substantially at right angles to the direction of work movement. The position of said means along that line indicates the tautness of the work passing between the mills, and this position is used to control the tautness.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

396, and 413, for other sensing of slack or tension in work or product.

SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, subclass 44 for a “dancer” controlling feed of material; see the (4) Note under the definition of Class 72, subclass 382.

407 Sensing lead end or tail end:

This subclass is indented under subclass 403. Subject matter including detecting the forward edge or the trailing edge of moving work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

388, 397 and 414, for other sensing of the lead end or tail end of work or product.

408 Sensing cross sectional dimension:

This subclass is indented under subclass 403. Subject matter including moving the work in a given direction, and detecting the extent of the work at right angles to such direction.

- (1) Note. This subclass includes patents disclosing the measurement of work thickness by electrostatic, magnetic, or radiant energy (e.g., “X-ray”) detecting means.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

388, 398+ and 416+, for other sensing of cross sectional dimension of work or product.

409 Sensing flatness (e.g., crown):

This subclass is indented under subclass 408. Subject matter wherein the work includes a greater and a lesser lateral dimension and wherein the detecting discerns the planar characteristic of one of the greater surfaces.

410 Sensing thickness:

This subclass is indented under subclass 408. Subject matter wherein the work includes a greater and a lesser lateral dimension and

wherein the detecting discerns the extent of the lesser dimension.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

399, for other sensing of work thickness to control a woodworking machine.

411 Sensing tool or tool-linked part:

This subclass is indented under subclass 403. Subject matter including detecting a condition of a tool* or of a machine element connected to the tool for movement therewith.

- (1) Note. Original placement of a patent in this or a subclass indented hereunder requires that the machine element partakes of tool movement, either directly or proportionately, whether the element is fixed to the tool or connected thereto by a linkage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

400, 401 and 420+, for other sensing of a tool or tool-linked part.

412 Sensing temperature:

This subclass is indented under subclass 402. Subject matter including detecting the degree of heat content in the work* or the product*.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

395, and 405, for other sensing of temperature.

413 Sensing slack or tension (e.g., by use of dancer):

This subclass is indented under subclass 402. Subject matter including (a) detecting the lateral movement of a flexible portion of an elongated workpiece or (b) detecting the degree of tautness in an elongated workpiece.

- (1) Note. A typical disclosure found in this subclass comprises a system including two woodworking mills through which the work passes sequentially. In the space between the mills, the work is engaged by a detecting means urged against the work along a line substantially at right angles to the direction of work movement. The position of said

means along that line indicates the tautness of the work passing between the mills, and this position is used to control the tautness.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

396, and 406, for other sensing of slack or tension in work or product.

SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, subclass 44 for a "dancer" controlling feed of material; see the (4) Note under the definition of Class 72, subclass 382.

414 Sensing lead end or tail end:

This subclass is indented under subclass 402. Subject matter including detecting the forward edge or the trailing edge of moving work.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

388, 397 and 407, for other sensing of the lead end or tail end of work or product.

415 Including sensor responsive to infeed or outpuller:

This subclass is indented under subclass 402. Subject matter wherein the detector senses the device for causing material to move into or away from the woodworking device.

416 Sensing cross sectional dimension:

This subclass is indented under subclass 402. Subject matter including moving the work in a given direction and detecting the extent of the work at right angles to such direction.

- (1) Note. This subclass includes patents disclosing the measurement of work thickness by electrostatic, magnetic, or radiant energy (e.g., "X-ray") detecting means.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

388, 398+ and 408+, for other sensing of cross sectional dimension of work or product.

417 To control operation of deformer directly by sensor:

This subclass is indented under subclass 416. Subject matter including use of a detector means, an initiator, and a regulator which governs or causes the operation of the woodworking device as the immediate result of detecting the lateral extent of the work.

418 Including use of sensor responsive to energy input to tool or tool driver:

This subclass is indented under subclass 382. Subject matter including detecting a variation in the power required to drive a woodworking tool*.

419 Sensing pressure of tool actuating fluid:

This subclass is indented under subclass 418. Subject matter wherein the tool is driven by a pneumatic or hydraulic system including detecting the force per unit of area in that system.

420 Sensing tool or tool-linked part:

This subclass is indented under subclass 382. Subject matter including detecting a condition of a tool* or of a machine element connected to the tool for movement.

- (1) Note. Original placement of a patent in this or a subclass indented hereunder requires that the machine element partakes of tool movement, either directly or proportionately, whether the element is fixed to the tool or is connected thereto by a linkage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

400, 401 and 411, for other sensing of a tool or tool-linked part.

421 To control predetermined sequence of operating movements (e.g., of one tool operating on work):

This subclass is indented under subclass 420. Subject matter including regulating the succession of function or movement of one or more operating assemblages.

- (1) Note. The term "operating assemblage" is intended to include a tool, or any element or group of elements, acting

together, which performs an action or produces an effect upon the work or product; or which causes a tool movement necessary to working of the work; or which is ancillary to a woodworking instrumentality.

- (2) Note. This subclass is the locus of patents disclosing control of a sequence of operations or movements of a single operating assemblage. For example, a disclosure wherein a tool advances toward and retracts from the work, under control of switches positioned at the limits of travel of the tool, would be placed herein. See subclasses below for control of different mechanisms.

422 Of different operating assemblages:

This subclass is indented under subclass 421. Subject matter including regulating the functioning of at least two disparate operating assemblages.

- (1) Note. See the (1) Note under subclass 421 for an explanation of "operating assemblage."

(2) Note. This subclass is the locus of patents disclosing control of a sequence of operations performed by different operating assemblages responsive to a tool. For example, a device wherein a woodworking tool strikes a limit switch causing a cutter to cut the product of the tool, and/or causing a handler to discharge the product from the machine, would be found in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

429, for woodworking generally wherein the operation of a plurality of operating assemblages is responsive to a device other than a woodworking tool.

423 Including plural sensors or sensor responsive to plural conditions:

This subclass is indented under subclass 422. Subject matter including using (a) multiple detecting means to discern a corresponding number of characteristics or (b) a single detecting means to discern multiple characteristics.

(1) Note. The detecting means fitting part (a) of this definition differ from those of subclass 8.1 in that those of this subclass are not necessarily related, nor is a comparison made between the impulses generated thereby. The detecting means fitting part (b) of this definition may, for example, detect the leading and the trailing edges of a workplace, or detect the presence and the temperature of a workplace.

(1) Note. The detecting means fitting part (a) of this definition differ from those of subclass 391 in that those of this subclass are not necessarily related, nor is a comparison made between the impulses generated thereby. The detecting means fitting part (b) of this definition may, for example, detect the leading and the trailing edges of a workplace, or detect the presence of, and the temperature of, a workplace.

SEE OR SEARCH THIS CLASS, SUBCLASS:

384+, for woodworking including multiple detecting but with comparing of the impulses received; see the (1) Note above.

403+, and 425, for woodworking including multiple sensing without comparison of impulses from the sensors.

424 Including work handling or product handling:

This subclass is indented under subclass 422. Subject matter including regulating an operating assemblage which moves, guides, or affects the motion of work* or product*.

425 Including plural sensors or sensor responsive to plural conditions:

This subclass is indented under subclass 420. Subject matter including using (a) multiple detecting means to discern a corresponding number of characteristics or (b) a single detecting means to discern multiple characteristics.

(1) Note. The detecting means fitting part (a) of this definition differ from those of subclass 8.1 in that those of this subclass are not necessarily related, nor is a com-

parison made between the impulses generated thereby. The detecting means fitting part (b) of this definition may, for example, detect the leading and the trailing edges of a workplace, or detect the presence and the temperature of a workplace.

SEE OR SEARCH THIS CLASS, SUBCLASS:

384+, for woodworking including multiple detecting but with comparison of the impulses received.

403+, 423, 425, for woodworking including multiple sensing without comparison of impulses from the sensors.

426 To control operation of interlock:

This subclass is indented under subclass 420. Subject matter provided with a mechanism to prevent movement of an element or a portion of a machine, and further provided with a device for disabling the movement-preventing mechanism comprising regulating the disabling device.

427 To stop machine:

This subclass is indented under subclass 420. Subject matter comprising terminating or tending to terminate the operation in response to a predetermined position of a tool.

(1) Note. This subclass is not intended to include, for original placement, a patent claiming an operation wherein a cam surface (on or linked to a tool) directly causes movement of a clutch element to disengage a tool from its drive. Such a patent lacks the teaching of an initiating means and will be placed on the basis of the woodworking structure and found in this subclass (427) only as a cross-reference.

428 Sensing force on tool:

This subclass is indented under subclass 420. Subject matter including detecting the pressure applied to the tool or tool-linked part.

429 By sensing hydraulic pressure:

This subclass is indented under subclass 428. Subject matter including detecting the pressure on the tool by a detector responsive to liquid head.

430 To control different operating assemblages:
This subclass is indented under subclass 382. Subject matter provided with a plurality of diverse operating assemblages wherein the regulating means governs the functioning of the various operating assemblages.

- (1) Note. The term “operating assemblage” is intended to include a tool, or any element or group of elements, acting together, which performs an action or produces an effect upon the work or product; or which causes a tool movement necessary to work the wood; or which is ancillary to a woodworking instrumentality.
- (2) Note. This subclass is the locus of woodworking including control of a sequence of operations performed by different operating assemblages except those responsive to tool movement (for which see the search note below).

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 422, for woodworking including control of a sequence of operations performed by different operating assemblages including those responsive to tool movement; see the (2) Note above.

END