

CLASS 56, HARVESTERS

SECTION I - CLASS DEFINITION

This class includes means for severing crops which grow above the surface of the ground, without disturbing the soil, and means for gathering the same from the field after they are severed. Subject matter relating to cutting crop material lying on the ground without disturbing the soil is also included.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

Cutting implements carried in the hand or by the body and capable of general application are classified in Class 30, Cutlery.

The raking devices in this class are limited to the type that are designed to gather hay, straw, grass, leaves, or the like. Intermittent loaders, which may travel over the ground and which have forks which gather a load and then swing upwardly to lift the same and dump it, are classified in Class 414, Material or Article Handling.

Beet crop harvesters, such as beet harvesters, potato-diggers, and the like, and means for uprooting and recovering stalks or weeds are classified in Class 171, Unearthing Plants or Buried Objects.

Stone gatherers which gather stones by impelling the above ground portions of partially buried stones are found in Class 171, Unearthing Plants or Buried Objects, subclasses 63+. See the Notes to this subclass for other types of gatherers.

Machines for scooping up manure are classified in Class 37, Excavating, subclasses 118+.

- (1) Note. See (19) Note of the class definition of Class 30, Cutlery.
- (2) Note. See (5) Note of the class definition of Class 294, Handling: Hand and Hoist-Line Implements.

SUBCLASSES

- 1 MISCELLANEOUS:**
This subclass is indented under the class definition. Inventions falling and not classifiable elsewhere.
- 2 CONVERTIBLE:**
This subclass is indented under the class definition. Machines which by removing, interchanging, or shifting certain parts may be converted from one type of harvester into another.

SEE OR SEARCH THIS CLASS, SUBCLASS:
400.04+, for convertible hand rakes.
- 3 Cutter and detachable conveyer:**
This subclass is indented under subclass 2. Having means to cut grain and convey it away from the point where it falls, but capable of being converted into a mower by detachment of the conveying means.
- 4 Vertical axis:**
The conveying means comprising a rake oscillating or revolving about a vertical axis.
- 5 Cutter and detachable catcher:**
This subclass is indented under subclass 2. Having means to cut grain and catch it as it falls, but capable of being converted into a mower by the detachment of the catcher.
- 6 GANG:**
This subclass is indented under the class definition. Devices comprising two or more similar cutting units each comprising a cutter and frame or mounting means, which units are connected together and operated as a single machine.

SEE OR SEARCH THIS CLASS, SUBCLASS:
13.6+, for a harvester having plural, motor-driven cutter-units.
234+, for hedge or plant row trimmers having a plurality of cutters.
238, for cutting devices which make successive cuts at different heights.
251, for rotating cutting reels having an auxiliary cutter.

7 Rotating cutting reel:

This subclass is indented under subclass 6. Each of the constituent machines having cutting-knives carried on the periphery of a rotating reel, generally adapted for mowing lawns.

8 MARINE:

This subclass is indented under the class definition. Devices used for cutting or removing marine-plant growth.

9 With conveyer:

This subclass is indented under subclass 8. Having a conveyer to convey the growth to the desired point.

10.1 MOTORIZED HARVESTER:

This subclass is indented under the class definition. Machine wherein a harvester or an operating assemblage thereof derives all or part of its motive power from a motor or engine, or from a vehicle that is driven by a motor or engine.

(1) Note. For this and indented subclasses, the terms “motor” and “vehicle” may be considered in their broadest aspects. Among terms acceptable for, or equivalent to, “motor” are: “power take-off”, “engine”, “hydraulic ram”, “drive means” (i.e., where the specification discloses a motor), these being only examples of such terms. Among terms acceptable for, or equivalent to, “vehicle” are such exemplary term as: “self-propelled machine”, “engine-driven wheeled frame”, “tractor”, “mobile frame” (i.e., where the specification discloses that the mobility of the frame is derived from a motor).

(2) Note. The term “operating assemblage” refers to that portion of a harvester that causes a change in the condition or the location of the material operated upon. Such material may be vegetation (i.e., that which is growing from the ground) or crop (i.e., that which has been separated from the ground by a harvester unit). The change in condition may be effected by such exemplary assemblages as a cutting unit, a (corn) snapping unit, a (cotton) picking unit, a (wheat) thresh-

ing unit, and the change in location may be effected by such exemplary assemblages as a gathering unit (i.e., that which directs vegetation to a cutter or picker) or a conveyer unit (i.e., that which moves crop from one location to another).

SEE OR SEARCH THIS CLASS, SUBCLASS:

328, for a motor-operated fruit and nut gatherer.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 180, 206, 210, 216, and 264 for motor operated cutlery.

172, Earth Working, subclasses 35+, for an earth working tool driven by a motor.

173, Tool Driving or Impacting, appropriate subclass for subject matter directed to driving or impacting a tool, and particularly subclasses 184+ for tool driving or impacting means mounted on a vehicle.

180, Motor Vehicles, subclasses 14.1+ for a train of two or more vehicles, at least one of them being a motor vehicle; and subclasses 53.1+ for a motor vehicle provided with means for facilitating the use of its motor for supplying power to drive another machine (e.g., power take-off).

10.2 WITH CONDITION-RESPONSIVE OPERATION:

This subclass is indented under subclass 10.1. Machine wherein the harvester includes means for: (a) sensing a characteristic of the harvester or a characteristic that is external to the harvester but related to its use, and (b) performing an action by at least one of the operating assemblages thereof, which action is a direct result of such sensing.

SEE OR SEARCH CLASS:

901, Robots, subcollection 9 for a sensor on the end of a robot arm for controlling arm movement and subcollection 32 for sensor operated gripping jaws on a robot arm.

10.3 Release or slip of drive in response to overload:

This subclass is indented under subclass 10.2. Machine wherein the action results from a load requirement that is greater than the motor can safely deliver, and the action is effected by permitting the motor to operate without transmitting its power to the load.

- (1) Note. The action may be effected by use of a frangible connection in the drive train between the motor and the load or by a disconnectable or slippable clutch in such drive train.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 10.8+, for a harvester wherein a clutch or other equivalent means in the drive train is controlled at the will of an operator.
12.7, for a harvester wherein the cutting blade thereof is resiliently or pivotally mounted on its drive shaft.

10.4 Retraction of cutter-unit in response to obstruction:

This subclass is indented under subclass 10.2. Machine wherein the action results from the sensing of an obstacle in the path of movement of a cutting assemblage on the harvester, and the action is effected by a means for withdrawing said assemblage from its normal cutting position in said path.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 15.3, for a harvester having a drive train that permits a harvester to be repositioned in a breakaway action.
15.7, for a harvester having a joint between a tractor and a cutting assemblage that permits the assemblage to breakaway.

10.5 With randomly-operative control of motor (e.g., for starting or stopping motor):

This subclass is indented under subclass 10.1. Machine wherein the operation of the motor or engine is regulated by the occurrence of an action that cannot be predicted.

- (1) Note. This subclass provides for a lawn mower having an electric motor and a

switch whereby current to the motor is turned on or off at the will of the operator, or having a gasoline motor and an auxiliary starter or a switch to cut off the ignition current of the engine at the will of the operator.

10.6 With plural sources of power:

This subclass is indented under subclass 10.1. Machine provided with two or more motors, engines or other sources of energy.

- (1) Note. For this and indented subclasses, the power is that which is applied to any mechanism of the harvester. Therefore, although in this subclass (10.6) plural cutting assemblages are disclosed, each assemblage driven by its own motor, the indented subclass (10.7) provides for a harvester wherein an operating assemblage is powered by one motor, and operating assemblage is repositioned relative to the harvester by a second motor, and the harvester is moved over the ground by a third motor (or any combination of such motor-moved devices), even though all such motors are supplied with energy from a common source of energy.

10.7 For disparate functions:

This subclass is indented under subclass 10.6. Machine wherein one of the motors drives one mechanism of the harvester and another of the motors drives a mechanism having a purpose different from that of the first-mentioned portion.

- (1) Note. For examples of types of mechanism found in this subclass, see (1) Note to subclass 10.6.

10.8 With selective control of drive means:

This subclass is indented under subclass 10.1. Machine provided with means for connecting or disconnecting or regulating the action of one or more mechanisms of the harvester or the vehicle relative to its motor, at the will of an operator.

- (1) Note. The term "mechanism" includes (a) those parts of an operating assemblage that move relative to one another or to their supporting structure for the

purpose of performing a harvesting function, (b) those parts of a harvester-supporting structure that move relative to the harvester or its vehicle for the purpose of adjusting the structure relative to the harvester or its vehicle, and (c) those parts of a vehicle that move relative to the vehicle or the ground for the purpose of transiting the vehicle over the ground.

- (2) Note. In this and indented subclasses a foot-actuated pedal is considered to be as “manual” as a hand-actuated lever.

10.9 By valve for controlling fluid-pressure motor:

This subclass is indented under subclass 10.8. Machine wherein the motor is actuated by force applied via a liquid or gaseous medium, and wherein the motor action is regulated by a device that directs the flow of said medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 11.9, for a harvester provided with a fluid-pressure motor and a conventional or not significant valve therefor.

11.1 By means for varying speed-ratio of drive:

This subclass is indented under subclass 10.8. Machine wherein the means causes a change in the proportion of motor movement relative to mechanism movement.

11.2 By means for reversing drive:

This subclass is indented under subclass 10.8. Machine wherein the means causes a change in the direction of movement of the mechanism from one direction to an opposite direction.

11.3 By brake and disengageable drive (e.g., clutch):

This subclass is indented under subclass 10.8. Machine wherein the means includes a device for stopping motion of the motor or the mechanism and a device for connecting the motor to, and disconnecting it from, the mechanism.

SEE OR SEARCH CLASS:

- 192, Clutches and Power-Stop Control, subclasses 12+ for a clutch and brake subcombination, per se.

11.4 By controlling plural drive trains:

This subclass is indented under subclass 10.8. Machine wherein the means includes two or more mechanisms and a corresponding number of series of connected parts through which motion is transmitted from a motor to said mechanisms, each of which series is provided with a device for connecting the motor to and disconnecting it from the mechanism.

- (1) Note. This and the indented subclasses provide for a harvester wherein, for example, it is desired to disconnect the cutter unit thereof while continuing drive to the transit wheels thereof from the motor.

11.5 Including clutch-assemblages:

This subclass is indented under subclass 11.4. Machine wherein each series includes a clutch-assembly.

- (1) Note. A clutch-assembly comprises all the parts that cooperate together to (a) connect a rotating “input” shaft (or a pulley, drum, flywheel, gear or other equivalent torque-transmitting member) to a rotatable “output” shaft (or hub, pulley, gear or other equivalent torque-transmitting member) that is coaxial with and driven by the input shaft, or (b) disconnect said shafts from rotational relationship, either action being performed at the will of the user of the clutch-assembly.

11.6 By means for regulating tautness of belt drive:

This subclass is indented under subclass 10.8. Machine wherein the means includes an endless band trained around pulleys on the motor and the mechanism, and wherein the connection is made by tightening the band into close engagement with the pulleys.

11.7 By clutch-assembly:

This subclass is indented under subclass 10.8. Machine wherein the means includes a clutch-assembly.

- (1) Note. The term “clutch-assembly” is defined in (1) Note to the definition of subclass 11.5 above.

11.8 Connecting motor to cutter or transit wheels:

This subclass is indented under subclass 11.7. Machine wherein the clutch-assembly connects and disconnects either the cutting unit or the driven ground-engaging wheels of the vehicle relative to the motor or engine.

11.9 Having fluid-pressure or stored-energy motor:

This subclass is indented under subclass 10.1. Machine wherein the motor is actuated by force applied via a liquid or gaseous medium, or wherein the motor is actuated by a source of potential power.

- (1) Note. The most common source of stored-energy in a harvester of this subclass is an electric battery carried on the harvester to operate the electric motor thereof. However, a spring-operated or a weight-operated motor would also be proper for this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

10.9, for a harvester provided with a fluid-pressure motor and a valve to control the operation thereof.

12.1 With means for reconditioning cutter or picker:

This subclass is indented under subclass 10.1. Machine provided with means for restoring a cutting blade or a vegetation-gathering member to its original or operative state of being.

- (1) Note. This subclass provided for a harvester having means for sharpening a cutting blade or cleaning a cutting blade or picker member (e.g., a cotton-gathering spindle), or moistening such a picker member to remove the wisps of cotton not picked up by a cotton "doffer". The cleaning means is in addition to that means which strips the bulk of the cotton, or other crop, from the gathering members.

SEE OR SEARCH THIS CLASS, SUBCLASS:

250, for a cutting-reel and a sharpening means.

12.2 With means for using heat or exhaust from engine:

This subclass is indented under subclass 10.1. Machine wherein the power source emits thermal radiation or gaseous by-products therefrom, and provided with means for utilizing such emissions during the harvesting operation.

- (1) Note. This subclass provides for a lawn mower wherein the exhaust gas is used to set up the grass to be cut evenly, or to help discharge the cut crop, or for a harvester wherein heat from the engine helps dry the crop.

12.3 With means for lubricating drive train:

This subclass is indented under subclass 10.1. Machine provided with a series of connected parts through which motion is transmitted from the motor to the mechanism, and further provided with means for applying a friction-reducing fluid to said series.

- (1) Note. The term "mechanism" is defined in (1) Note to the definition of subclass 10.8.

12.4 With drive train for imparting compound movement to finger-like elements:

This subclass is indented under subclass 10.1. Machine provided with prong members that engage and handle vegetation or crop and further provided with means for causing said members to move with more than one degree of movement.

- (1) Note. This subclass provides for a harvester wherein there is a cylinder having projecting fingers, and the fingers move generally radially in and out of the cylinder as the cylinder rotates, or for a harvester wherein prongs of a hay rake revolve with their supporting carriage and an axis parallel to the ground but maintain their orientation so their free ends point constantly toward the ground.

12.5 Rotating and orbiting elements:

This subclass is indented under subclass 12.4. Machine, each of said prong members having an axis that extends along its length, and the members all lying in substantially a common

plane, wherein each member rotates on its own axis and all the members move in an endless path lying in said plane.

- (1) Note. This subclass provides for a harvester for picking cotton wherein the picking fingers rotate to wind the cotton boll onto the fingers, and are carried on an endless chain that brings the fingers to a position whereat the cotton is stripped from the fingers.

12.6 With separable or vibration-damping drive train:

This subclass is indented under subclass 10.1. Machine provided with a series of connected parts through which motion is transmitted from the motor to the mechanism, wherein said series is mounted so as to be detachable, one part from another, or is mounted so as to prevent high-frequency impulses from being transmitted from one part of the machine to another part thereof.

- (1) Note. It is inherent in any series of connected parts that certain of the parts may be disconnected therefrom and reconnected thereto. Therefore, there should be clearly disclosed the features implicit in the title and definition of the subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

10.3, for a harvester having a connection between a motor and a mechanism driven thereby, which connection is capable of slipping under a condition of overload and is, therefore, inherently capable of absorbing vibrations that would otherwise be transmitted from one part of a machine to another part thereof.

10.8+, for a harvester having a clutch or other separable connection between a motor and a mechanism driven thereby, which connection is intended for manual control of the drive train rather than for detachment thereof.

12.7 Including cutter yieldably mounted on its drive means:

This subclass is indented under subclass 10.1. Machine provided with a cutting blade that is supported on a driving shaft by a resilient or pivotal connection.

- (1) Note. This subclass provides for a harvester wherein the cutting blade thereof is mounted so that it will move or "give" relative to its driving shaft, thereby reducing the possibility of the blade breaking, or producing a flailing action on the vegetation or crop.

SEE OR SEARCH THIS CLASS, SUBCLASS:

10.3, for a harvester wherein a drive train includes a frangible or slippable connection therein.

12.8 Including driven air-blower unit:

This subclass is indented under subclass 10.1. Machine provided with an operating assemblage comprising means for moving air under pressure or suction, whereby vegetation or crop is moved relative to the harvester under the influence of the moving air.

- (1) Note. In this subclass the air-blower cools the motor or engine or provides a force for lifting the harvester out of contact with the ground.

12.9 For drawing vegetation to harvester:

This subclass is indented under subclass 12.8. Machine wherein the air-moving assemblage sucks or directs vegetation (i.e., that which is growing from the ground) to the harvester.

SEE OR SEARCH THIS CLASS, SUBCLASS:

30+, for a pneumatic cotton-picker.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, for a pneumatic conveyor, per se.

13.1 To suction head:

This subclass is indented under subclass 12.9. Machine provided with an air duct between the vegetation and the air-moving assemblage, wherein that end of the air duct opposite the

air-moving assemblage is applied to vegetation so as to draw vegetation to the harvester.

13.2 With beater at suction head:

This subclass is indented under subclass 13.1. Machine further provided with means mounted on a driving shaft located in the air duct near the vegetation end thereof, which means imparts multitudinous impulses to the vegetation adjacent the air duct whereby to agitate the vegetation and separate one portion from another.

- (1) Note. The impulse means usually comprises a rotating shaft having bristles or loosely-mounted flail elements thereon, but may include any other means that beats the vegetation.

13.3 For discharging crop from harvester:

This subclass is indented under subclass 12.8. Machine wherein the air-moving assemblage directs crop (i.e., that which has been separated from the ground by a harvester unit) within or away from the harvester.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, for a pneumatic conveyor, per se.

13.4 By blower on cutter-driving shaft:

This subclass is indented under subclass 13.3. Machine provided with a cutting knife actuated by a motor-driven shaft, and wherein a fan of the air-blower assemblage is supported on the same shaft that actuates the knife.

13.5 Including plural operating units and drive:

This subclass is indented under subclass 10.1. Machine provided with at least two operating assemblages driven by a motor or engine.

- (1) Note. A distinction is made between the driving of harvester components for the purpose of treating or handling vegetation or crop and the driving of harvester components for the purpose of adjusting them relative to one another. For example, a harvester wherein cutting blades are driven and a crop conveyor is driven, or a harvester wherein snapping rolls are driven and husking rolls are driven would be found in this or indented subclasses because in the named instances

both units are operating assemblages. However, a harvester wherein cutting blades are driven and a structure that supports those cutting blades or a structure that supports another operating assemblage is repositioned by motor means, or a harvester wherein snapping rolls are driven and the transit wheels that move the harvester over the ground are driven by motor means will be found, for example, in subclasses 14.7+, particularly 15.1+, because the supporting structure and the transit wheels are not considered to be operating assemblages.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.4+, for a harvester wherein drive trains to plural operating assemblages are controlled by an operator.

13.6 Separately-acting cutter units:

This subclass is indented under subclass 13.5. Machine wherein the operating assemblages are cutting assemblages that act to cut vegetation or crop either in different places or ways or at different times from one another.

- (1) Note. This subclass provides for a harvester wherein one cutting assemblage cuts one swath of vegetation and a second cutting assemblage cuts a second, different swath of vegetation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6+, for a gang harvester.

60+, for a harvester having a cutter and a stalk chopper.

234+, and 251, for a harvester having plural cutter-units.

13.7 For disparate cutting operations:

This subclass is indented under subclass 13.6. Machine wherein the cutting assemblages act to cut vegetation or crop in different ways or at different times from one another.

- (1) Note. This subclass provides for a harvester wherein one cutting assemblage cuts tall grass with a reciprocating sickle cutter and another cutting assemblage cuts short grass with a rotating disk type cutter, or a harvester wherein one cutting

assemblage is disconnected from the driving train and the other cutting assemblage connected into the driving train for alternative operation of such cutting assemblages.

SEE OR SEARCH CLASS:

460, Crop Threshing or Separating, subclasses 123+, for stripping and topping mechanism, per se.

13.8 In series arrangement:

This subclass is indented under subclass 13.7. Machine wherein the cutting assemblages are spaced apart and positioned relative to one another such that the product of (i.e., the material cut by) one assemblage is work for (i.e., the material to be cut by) a succeeding assemblage.

13.9 With conveyer between units:

This subclass is indented under subclass 13.8. Machine provided with means located in the space separating two cutting assemblages for moving the product of one assemblage to the succeeding assemblage to be work therefor.

14.1 Separately-acting opposed-roller-couple units:

This subclass is indented under subclass 13.5. Machine wherein each of at least two of the operating assemblages comprises two generally cylindrical members rotating in opposite angular directions on generally parallel axes and spaced apart a distance sufficient to admit vegetation or crop between the cylindrical peripheries of said members.

- (1) Note. The roller-couple described above is called a "snapping unit" if it pulls vegetation (usually corn) from the stalk and called a "husking unit" if it removes the outer husk from an ear of corn.
- (2) Note. In some harvesters one axis is common to one roller of a snapping unit and one roller of a husking unit, and another parallel axis is common to the other roller of said snapping unit and the other roller of said husking unit. However, each unit functions without regard to the other, therefore the structure is proper for this subclass.

SEE OR SEARCH CLASS:

460, Crop Threshing or Separating, subclasses 25+ for husking mechanism, per se.

14.2 With opposed-gatherer-couple unit:

This subclass is indented under subclass 14.1. Machine further provided with an operating assemblage comprising two devices spaced from one another and having elements thereon for engaging vegetation lying between the devices, the elements of the respective devices moving orbitally in opposite angular directions such that when the elements of the respective devices are closest together they are moving toward one of the roller-couple operating assemblages, thereby to direct the vegetation engaged between the devices to the action of said roller-couple.

14.3 Gatherer unit and vegetation-cutter unit:

This subclass is indented under subclass 13.5. Machine wherein one of the operating assemblages comprises first means for engaging and actively directing vegetation to the action of the harvester and another of the operating assemblages comprises second means for cutting the vegetation directed thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

17.3, for a lawn mower wherein passive means directs vegetation to a cutting assemblage.
94, for a harvester including a gatherer and a cutter.

14.4 Horizontal-axis-reel gatherer:

This subclass is indented under subclass 14.3. Machine wherein the first means comprises a device rotatable about an axis that is generally parallel to the ground and having vegetation-engaging elements rotatable therewith about said axis, which device is rotated in an angular direction such that when the elements are closest to the ground they are moving toward the harvester.

14.5 Cutter unit and conveyer unit:

This subclass is indented under subclass 13.5. Machine wherein one of the operating units comprises first means for cutting vegetation or crop and another of the operating units com-

prises second means for moving crop to or from the first means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

153+, for a harvester including a cutter and a conveyor.

14.6 With thresher or crop-separator unit:

This subclass is indented under subclass 14.5. Machine provided with a third means for dividing one portion of the crop from another portion of the crop.

(1) Note. In this subclass the term “thresher” is considered as equivalent to a crop-separating unit, and a harvester including a cutter, a conveyor and a thresher is found herein.

SEE OR SEARCH CLASS:

460, Crop Threshing or Separating, appropriate subclasses, for a threshing mechanism, per se.

14.7 Including motorized vehicle causing transit of harvester:

This subclass is indented under subclass 10.1. Machine provided with a carriage or conveyance that derives its motive power for travelling over the ground from a motor or engine, to which carriage is connected an operating assemblage of a harvester to effect travel of said assemblage over the ground.

(1) Note. This subclass provides for a self-propelled lawn mower that is guided by a walking attendant or a self-propelled lawn mower that is steered by a riding attendant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16.7+, for a lawn mower that is driven for cutting by a motor, but is propelled and guided by a walking attendant.

14.8 With drive train to harvester powered by ground-engaging wheels:

This subclass is indented under subclass 14.7. Machine wherein the carriage has at least one wheel that is rotated solely by reason of its engagement with the ground as the carriage travels over the ground, and provided with a

series of connected parts through which motion is transmitted to the operating assemblage solely from said wheel.

14.9 With hitch permitting movement of harvester relative to vehicle:

This subclass is indented under subclass 14.7. Machine provided with a structure for supporting the operating assemblage and means for attaching said structure to the carriage, which means allows said structure to be relocated with respect to said carriage.

15.1 With drive from motor for re-positioning harvester:

This subclass is indented under subclass 14.9. Machine further provided with a series of connected parts for transmitting motion from the motor or engine to said structure for the purpose of re-locating said structure with respect to the carriage.

15.2 Cutter assemblage re-positioned:

This subclass is indented under subclass 15.1. Machine wherein the structure that is relocated is that which supports the cutting assemblage.

15.3 With flexible drive train to repositionable harvester:

This subclass is indented under subclass 14.9. Machine further provided with a series of connected parts for transmitting motion from the motor or engine to an operating assemblage on said structure, wherein the series of parts may be bent or reoriented relative to one another to maintain the motion-transmitting connection between the motor and the assemblage despite the relocation of the structure.

15.4 By means for steering harvester:

This subclass is indented under subclass 14.9. Machine wherein the structure is provided with one or more ground-engaging wheels that may be turned about a substantially vertical axis.

(1) Note. This subclass provides for a harvester wherein its propelling vehicle (e.g., tractor) has a set of steering wheels for the tractor and the operating assemblage is supported in a structure that has its own set of steering wheels separate from those of the vehicle.

- 15.5 By means for adjusting harvester laterally:**
This subclass is indented under subclass 14.9. Machine wherein the structure is relocated relative to the carriage in a direction that is transverse to the direction of movement of the carriage and parallel to the ground.
- 15.6 By hitch for separating harvester from vehicle:**
This subclass is indented under subclass 14.9. Machine wherein the means may be manipulated by an operator to cause the structure to be detached from the carriage and reattached easily.
- (1) Note. It is inherent in any structure that is attached to a machine that the structure may be detached therefrom and reattached thereto. Therefore, there should be clearly disclosed the features implicit in the title and definition of the subclass.
- 15.7 By resilient or universal-action hitch:**
This subclass is indented under subclass 14.9. Machine wherein the means includes a yieldable portion or includes an attachment permitting movement of the structure in plural directions simultaneously.
- (1) Note. This subclass provides for a harvester wherein vibrations that may be generated in one mechanism of a harvester will be damped so as not to be transmitted to another mechanism of the harvester, or for a harvester wherein an operating assemblage may be pivoted in a vertical plane extending laterally and may also be pivoted in a horizontal plane (e.g., in a “breakaway” cutter).
- SEE OR SEARCH THIS CLASS, SUBCLASS:
10.4, for a harvester having “breakaway” mechanism, wherein retraction of a cutter assemblage is a direct result of the cutter assemblage meeting an obstruction to its movement, and such retraction is permitted by a universal-action hitch.
- 15.8 For 'floating' harvester:**
This subclass is indented under subclass 15.7. Machine wherein the structure is supported by the ground over which it travels, and follows the contours of the ground regardless of irregularities therein.
- 15.9 Hitch for pivoting harvester about horizontal axis:**
This subclass is indented under subclass 14.9. Machine wherein the means includes an axle or shaft that is generally parallel to the ground and serves as a hinge on which the structure swivels.
- 16.1 Tined crop-pickup rake on transverse pivot:**
This subclass is indented under subclass 15.9. Machine wherein the operating assemblage includes elongated fingers extending generally in the direction of travel of the harvester, and wherein the attaching means includes an axle or shaft extending generally across said direction of travels, whereby the structure supporting said fingers may swivel in a vertical plane about a lateral axis.
- (1) Note. In use, the harvester of this subclass is driven over ground on which crop (i.e., vegetation that has been cut) is lying while the tines are disposed close to the ground. When a mass of crop has accumulated on the tines, the structure is lifted and the crop transported to another location in the field.
- 16.2 Longitudinally-extending axis:**
This subclass is indented under subclass 15.9. Machine wherein the axle or shaft lies along the direction of travel of the harvester.
- (1) Note. This subclass provides for a harvester wherein a cutting assemblage extends laterally out from the side of the harvester and folds up about the longitudinal pivot to reduce the lateral dimension of the harvester and facilitate travel thereof along a roadway.
- 16.3 With latchable lever means for pivoting harvester:**
This subclass is indented under subclass 15.9. Machine wherein the means includes a bar operating about a fulcrum and connected to the

structure for swiveling said structure about its hinge shaft, which bar has a detent or lock for maintaining the bar and the structure in a desired position.

16.4 Having driven means for handling or treating crop:

This subclass is indented under subclass 10.1. Machine wherein the operating assemblage changes the location or the condition of crop (i.e., that which has been separated from the ground by a harvester assemblage).

SEE OR SEARCH CLASS:

100, Presses, subclasses 1+, for binder applying methods and apparatus, not otherwise classifiable, and not involving gathering of material from the ground, and especially subclass 6 for such apparatus including means to cut or rupture the material into parts.

16.5 For separating one material from another:

This subclass is indented under subclass 16.4. Machine wherein the operating assemblage divides one portion of crop from another portion thereof, or divides unwanted material (e.g., debris or trash) from wanted crop.

16.6 Delivering to receptacle or hopper:

This subclass is indented under subclass 16.4. Machine provided with a container into which the operating assemblage disposes of the crop.

16.7 Having motor on ground-supported carrier:

This subclass is indented under subclass 10.1. Machine provided with a carriage or conveyance having one or more wheels or skids engaging the ground, on which carriage is mounted an operating assemblage of a harvester and a motor or engine for operating said assemblage.

- (1) Note. This and indented subclasses provide for a harvester, usually termed "lawn mower", that is propelled over the ground by a person, but derives its motive power for cutting from a motor.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.6, for a lawn mower similar to that found in this (16.7) and indented subclasses, in which lawn mower the drive to a

cutter and/or transit wheel is controlled by regulating the tautness of an endless belt trained over driving and driven pulleys.

- 14.7, for a lawn mower similar to that found in this (16.7) and indented subclasses, in which lawn mower a motor drives both the cutter and the vehicle that supports the cutter.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 42+, for a motor-driven earth working implement guided by a walking attendant.

16.8 With dispenser of fluent material:

This subclass is indented under subclass 16.7. Machine provided with means for discharging flowable matter therefrom.

- (1) Note. This subclass provides for a lawn mower having means to spread fertilizer or weed-killer, for example, in addition to its grass-cutting means.

16.9 Motor used for plural devices or functions:

This subclass is indented under subclass 16.7. Machine wherein the motor or engine may drive two or more mechanisms, or may be utilized to drive one mechanism for two or more different purposes.

- (1) Note. This subclass provides for a lawn mower wherein the motor may drive a cutter or a sweeper, or one wherein the motor may drive the cutter as a grass cutter or as a mulcher, these being only exemplary of machines found therein.

17.1 And cutter adjustable relative to ground:

This subclass is indented under subclass 16.7. Machine wherein the assemblage is a cutting assemblage, and provided with means for changing the location of said assemblage with respect to the ground over which the harvester travels.

17.2 By adjusting ground wheel or skid relative to carrier:

This subclass is indented under subclass 17.1. Machine wherein the ground-engaging portion (e.g., wheel or skid) of the carriage is relocated with respect to its carriage, thereby relocating

- the cutting assemblage with respect to the ground.
- 17.3 And element guiding vegetation to cutter:**
This subclass is indented under subclass 16.7. Machine provided with a passive element mounted on the carriage and located so as to deflect or direct vegetation (i.e., that which is to be cut) to the action of a cutting assemblage.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14.3+, for a harvester wherein moving means directs vegetation to the harvester assemblage.
- 17.4 And guard:**
This subclass is indented under subclass 16.7. Machine provided with means for preventing injury to either the machine or the operator thereof.
- 17.5 And rotatable blade on motor shaft:**
This subclass is indented under subclass 16.7. Machine wherein the motor or engine includes an element that is turned thereby about an axis, and the operating assemblage includes a cutting knife mounted on said element for turning therewith.
- 17.6 And drive train to reciprocating or oscillating cutter:**
This subclass is indented under subclass 16.7. Machine wherein the operating assemblage includes a cutting knife that moves to-and-fro in a straight line or an arcuate path, and provided with a series of connected parts that connects the motor or engine to said knife whereby the motor causes the knife to move.
- 27.5 TOBACCO:**
This subclass is indented under the class definition. Devices used in harvesting tobacco and not elsewhere classified.
- SEE OR SEARCH CLASS:
414, Material or Article Handling, subclass 26 for devices for stringing tobacco upon hangers or unstringing it therefrom.
- 28 COTTON:**
This subclass is indented under the class definition. Devices used in harvesting cotton not elsewhere classifiable.
- SEE OR SEARCH CLASS:
19, Textiles: Fiber Preparation, subclasses 80+, for cotton-cleaning mechanism, per se.
280, Land Vehicles, appropriate subclasses for a land vehicle of general utility. Particular attention is directed to subclasses 6.154+ wherein the land vehicle includes means, interposed between the vehicle body, chassis, or frame and the running gear thereof, for appropriately predisposing a load, load carrier, or receptacle portion to accommodate sustained travel upon an expansive inclined surface (e.g., hillside); or subclasses 400+ for an articulated vehicle or a plurality of interconnected vehicles (i.e., vehicle train).
383, Flexible Bags, for bags of general utility.
- 29 Flail or whip:**
This subclass is indented under subclass 28. Having means for beating the cotton from the plant and gathering it when it falls.
- 30 Pneumatic:**
This subclass is indented under subclass 28. Having means for detaching the cotton from the plant and conveying it to a receptacle, including a pneumatic device.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12.9+, for a motor-driven pneumatic harvester.
- SEE OR SEARCH CLASS:
406, Conveyors: Fluid Current, for pneumatic conveying means, per se.
- 31 Individually directed:**
This subclass is indented under subclass 30. Manually directed to each boll individually.

- 32 Nozzles:**
This subclass is indented under subclass 30. The invention being limited to a nozzle having means peculiarly adapted to detach the cotton from the boll.
- 33 Strippers:**
This subclass is indented under subclass 28. Having means for stripping the bolls from the plant.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
126, and 330.
- 34 Comb:**
This subclass is indented under subclass 33. Including a comb, between the teeth of which the stalks are drawn, while the teeth strip off the bolls.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
114, 115, 127, 128, 129, and 130.
- 35 Moving:**
This subclass is indented under subclass 34. The comb having motion other than the forward travel of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
116, 130 and 330.
- 36 Pickers:**
This subclass is indented under subclass 28. Having means to pick the lint from the boll, leaving the hull on the cotton plant.
- 37 Individually directed:**
This subclass is indented under subclass 36. Manually directed to each boll individually.
- 38 Endless belt:**
This subclass is indented under subclass 37. Having the picking mechanism mounted on an endless belt.
- 39 Manually operated:**
This subclass is indented under subclass 38. The entire operating mechanism driven by manual power.
- 40 Rotary or oscillating:**
This subclass is indented under subclass 36. Including a rotary picking member.
- 41 Spindle:**
This subclass is indented under subclass 40. Comprising long slender members rotating on their longitudinal axes and provided with means to engage the cotton lint and remove it from the plants.
- 42 Belt carried:**
This subclass is indented under subclass 41. Having the spindle mounted on an endless belt, by which they are carried to and from a position to engage the cotton on the plants.
- 43 Cam-track guide:**
This subclass is indented under subclass 42. Having a track or guide which engages a cam connected with the spindles in order to guide the spindles into a proper position to engage the cotton on the plants.
- 44 Rotary carrier:**
This subclass is indented under subclass 41. The rotary spindles mounted on a rotating drum or the like, by which they are carried bodily to and from a position to engage the cotton on the plants.
- 45 Flexible spindle:**
This subclass is indented under subclass 44. The spindle being flexible, so that the projecting ends of the same will bend downwardly by their own weight.
- 46 Reciprocating:**
This subclass is indented under subclass 44. The spindle reciprocating longitudinally at the same time that it is being rotated on its longitudinal axis and being carried around bodily on the rotary carrier.
- 47 Cam-track guide:**
This subclass is indented under subclass 44. Having a track or guide which engages a cam connected with the spindles in order to guide the spindles into a proper position to engage the cotton on the plants.

- 48 Drum:**
This subclass is indented under subclass 40. Comprising a drum, cylinder, or the like rotating or oscillating on its axis and having means to engage and remove the cotton lint from the plants.
- 49 Endless belt:**
This subclass is indented under subclass 36. The picking means carried by an endless belt.
- 50 Spindles:**
This subclass is indented under subclass 36. Elements of long slender form having lint-engaging means and usually rotated on their longitudinal axes to engage the lint in the boll.
- 51 CORNSTALK TYPE:**
This subclass is indented under the class definition. Devices for harvesting Indian corn or similar growth not classifiable elsewhere.
- SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 300+ for a conveyor carried by a ground vehicle, subclasses 604 and 626.1+ for opposed, load-gripping endless belt conveyors, and subclasses 506+ for a conveyor specialized for collecting a load from the ground.
- 52 Stalk breakers:**
This subclass is indented under subclass 51. Comprising means for breaking the standing stalks.
- (1) Note. This subclass includes machines for performing the operation on broom-corn known as tabling--i.e., breaking down the head and leaving it to hang top downward to dry.
- 53 Cutters:**
This subclass is indented under subclass 51. Including means for cutting standing cornstalks or other stalks of similar nature, regardless of the ultimate disposition of the cut stalks.
- SEE OR SEARCH CLASS:
30, Cutlery, for hand implements for cutting corn, particularly subclasses 297 and 309.
- 54 Broom corn:**
This subclass is indented under subclass 53. Having in combination with the stalk-cutting means, mechanism for trimming or cleaning broom-corn.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, subclasses 123+ for trimming or cleaning mechanism, per se.
- 55 Reel gatherer:**
This subclass is indented under subclass 54. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 56 Toppers with catchers:**
This subclass is indented under subclass 53. The cutters being so located as to sever the standing stalk close to the top and means for catching the top after it is cut off.
- (1) Note. These machines are more especially adapted for harvesting such crops as Kafir corn, milo maize, and feterita.
- SEE OR SEARCH CLASS:
99, Foods and Beverages: Apparatus, subclass 537 for a machine for cutting off the top from stalks which have previously been cut and subclasses 635 and 643 for cutting means that removes the tops from food.
- 57 Reel gatherer:**
This subclass is indented under subclass 56. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 58 Horizontal axis:**
This subclass is indented under subclass 57. The reel rotating about a horizontal axis.
- 59 Endless-chain gatherer:**
This subclass is indented under subclass 56. Having endless chains for gathering the standing stalks and directing them to the cutter.
- 60 With choppers:**
This subclass is indented under subclass 53. Having means for cutting the stalks up into short lengths.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
13.7+, for a harvester having motorized plural cutter-units.
- 61 With catchers:**
This subclass is indented under subclass 60. Having means for catching the short lengths of stalks after they are cut, the stalks so cut being generally used as silage.
- SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, or the comminution or cutting of material of that class (241) type which may include the cutting of silage.
- 62 With strippers:**
This subclass is indented under subclass 53. Having means for stripping off the leaves and removing the tops from the stalks as they are severed, being generally used in harvesting sugar-cane.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, subclasses 123+ for cane strippers, per se.
- 63 With toppers:**
This subclass is indented under subclass 53. Having means for removing the tops from the stalks as they are severed.
- 64 With pickers or huskers:**
This subclass is indented under subclass 53. Having, in connection with stalk-cutting mechanism, means for removing the ears from the stalks, with or without means for removing the husks from the ears.
- 65 Reel gatherer:**
This subclass is indented under subclass 64. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 66 Endless-chain gatherer:**
This subclass is indented under subclass 64. Having endless chains for gathering the standing stalks and directing them to the cutter.
- 67 Self-binders:**
This subclass is indented under subclass 53. Having automatic binding mechanism to bind the stalks into bundles after they are cut.
- 68 Upright binder:**
This subclass is indented under subclass 67. The stalks being bound into bundles while standing in upright position.
- 69 Endless-chain gatherer:**
This subclass is indented under subclass 68. Having endless chains for gathering the standing stalks and directing them to the cutter.
- 70 Binder position adjustable:**
This subclass is indented under subclass 69. Having means for adjusting the binding mechanism bodily, so that the stalks will be bound at any desired distance from, their ends.
- 71 With dischargers:**
This subclass is indented under subclass 53. Having mechanism for effecting the discharge of the cut stalks from the machine.
- 72 Crane type:**
This subclass is indented under subclass 71. The discharging means comprising a crane or similar means for lifting the bundle of stalks bodily from the harvester and lowering it to the ground.
- (1) Note. Search this class, subclass 426 for bundle forming and discharging means of this type if the invention does not include gathering or cutting.
- (2) Note. Search Class 212, Traversing Hoists, appropriate subclasses for cranes, per se.
- 73 With gatherers:**
This subclass is indented under subclass 72. Having means for gathering the standing stalks and directing them to the cutter.
- 74 Reel:**
This subclass is indented under subclass 73. The gathering means including a rotating reel.

- 75 Endless chain:**
This subclass is indented under subclass 73. The gathering means including endless sprocket-chains.
- 76 Endless apron:**
This subclass is indented under subclass 71. The discharging means including an endless apron, which receives the cut stalks and discharges them onto the ground or into a vehicle traveling alongside the harvester.
- 77 Reel gatherer:**
This subclass is indented under subclass 76. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 78 Endless-chain gatherer:**
This subclass is indented under subclass 76. Having endless chains for gathering the standing stalks and directing them to the cutter.
- 79 Horizontally moving and tilting:**
This subclass is indented under subclass 71. The stalk receptacle or platform being moved horizontally and tilted to discharge the collected stalks.
- 80 With gatherers:**
This subclass is indented under subclass 79. Having means for gathering the standing stalks and directing them to the cutter.
- 81 Reel:**
This subclass is indented under subclass 80. The gathering means including a rotating reel.
- 82 Endless chain:**
This subclass is indented under subclass 80. The gathering means including endless sprocket-chains.
- 83 Tilting:**
This subclass is indented under subclass 71. The stalk receptacle or platform being tilted to discharge the collected stalks.
- 84 With gatherers:**
This subclass is indented under subclass 83. Having means for gathering the standing stalks and directing them to the cutter.
- 85 Spiral:**
This subclass is indented under subclass 84. The gathering means including a rotating spiral.
- 86 Reel:**
This subclass is indented under subclass 84. The gathering means including a rotating reel.
- 87 Horizontal axis:**
This subclass is indented under subclass 86. The reel rotating about a horizontal axis.
- 88 Endless chain:**
This subclass is indented under subclass 84. The gathering means including endless sprocket chains.
- 89 Fixed:**
This subclass is indented under subclass 84. The gathering means being fixed relatively to the frame of the machine.
- 90 Retracting support:**
This subclass is indented under subclass 71. The platform or bottom of the stalk- receptacle being retracted to permit the discharge of the accumulated stalks.
- 91 Reel gatherer:**
This subclass is indented under subclass 90. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 92 Reel gatherer:**
This subclass is indented under subclass 71. Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 93 Endless-chain gatherer:**
This subclass is indented under subclass 71. Having endless chains for gathering the standing stalks and directing them to the cutter.
- 94 With gatherers:**
This subclass is indented under subclass 53. Having means for gathering the standing stalks and directing them to the cutter.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14.3+, for a harvester having a motorized gatherer and cutter.

- 95 Spiral:**
This subclass is indented under subclass 94. The gathering means including a rotating spiral.
- 96 Reel:**
This subclass is indented under subclass 94. The gathering means including a rotating reel.
- 97 Horizontal axis:**
This subclass is indented under subclass 96. The reel rotating about a horizontal axis.
- 98 Endless chains:**
This subclass is indented under subclass 94. The gathering means including endless sprocket-chains.
- 99 Fixed:**
This subclass is indented under subclass 94. The gathering means being fixed relatively to the frame of the machine.
- 100 Fixed cutter:**
This subclass is indented under subclass 99. The cutting means consisting of one or more knives which are fixed with respect to the frame of the machine.
- 101 Fixed cutter:**
This subclass is indented under subclass 53. The cutting means consisting of one or more knives which are fixed with respect to the frame of the machine.
- 102 Cutting members:**
This subclass is indented under subclass 53. Limited to the cutting element and those driven elements which are directly connected therewith.
- 103 Pickers or huskers:**
This subclass is indented under subclass 51. Having means for detaching the ears from the standing stalks, with or without means for subsequently removing the husks which may be left on the ears.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, sub-classes 25+ for husking mechanism, per se.
- 104 Roller:**
This subclass is indented under subclass 103. Comprising a pair of rotating rollers which pinch or snap the ear from the stalk.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, sub-classes 25+ for snapping or husking rollers, per se.
492, Roll or Roller, for a roll, per se, not elsewhere provided for, and see the notes thereunder.
- 105 Plurality of rows:**
This subclass is indented under subclass 104. Having a plurality of pairs of rollers each acting on a separate row of corn.
- 106 With endless-chain gatherers only:**
This subclass is indented under subclass 105. Having endless chains only to gather the standing stalks and direct them to the stripping-rollers.
- 107 Auxiliary ear detacher:**
This subclass is indented under subclass 104. Having means acting directly on the ear to assist the rollers in detaching the same from the stalk.
- 108 With endless-chain gatherers only:**
This subclass is indented under subclass 107. Having endless chains only to gather the standing stalks and direct them to the stripping-rollers.
- 109 Movable gatherer:**
This subclass is indented under subclass 104. Having movable means to gather the standing stalks and direct them to the stripping-rollers.
- 110 Spiral:**
This subclass is indented under subclass 109. The movable gathering means comprising a rotating spiral.
- 111 Endless chain only:**
This subclass is indented under subclass 109. The movable gathering means consisting of endless chains only.

- 112 Adjustable roller frame:**
This subclass is indented under subclass 111. Having means to adjust the position of the frame which carries the rollers with respect to the rest of the harvester-frame.
- 113 Fixed snapper:**
This subclass is indented under subclass 103. Having a fixed member on the frame, which engages the ears and detaches them from the stalks as the latter are drawn through the machine.
- 114 Comb:**
This subclass is indented under subclass 113. The snapping member consisting of a fixed bar with teeth in the form of a comb.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 34, 127, 128, 129, and 330.
- 115 With knife:**
This subclass is indented under subclass 114. Having a fixed knife on or near the comb, which assists in severing the stem of the ear.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
113,
- 116 Moving comb:**
This subclass is indented under subclass 103. Comprising a comb which has a movement relative to the machine to engage the ears and strip them from the stalks, the distance between the teeth permitting the stalks to pass between, but not the ears.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
130, and 330.
- 117 Moving knife:**
This subclass is indented under subclass 103. Comprising a relatively movable knife which severs the ear from the stalk.
- 118 On endless chain:**
This subclass is indented under subclass 117. The knife carried on a traveling endless chain.
- 119 Gatherers or guides:**
This subclass is indented under subclass 51. Limited to the means for gathering the stalks and directing them to the cutter or ear-detaching means or for guiding the stalks from the cutter to the stalk-bundling mechanism.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
14.2, for a harvester having a motorized gatherer and snapping roller-couple.
- 120 Sheaf loaders:**
This subclass is indented under subclass 51. Comprising means attached to a corn-harvesting machine peculiarly adapted to receive bundles of corn-stalks after they are cut and bound and to load the same onto a vehicle traveling alongside.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
76, 77 and 78.
- 121 Sheaf carriers:**
This subclass is indented under subclass 51. Comprising means attached to a corn-harvesting machine for receiving and carrying bundles of corn-stalks after they are cut and bound until a desired number have been accumulated.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
474, through 480, for sheaf-carriers for small grain.
- 121.4 CUTTERS WITH PLANT OR CROP CONTACTING GAUGE (E.G., BEET TOPPERS):**
This subclass is indented under the class definition. Apparatus including a carriage or mount having cutting means and having gauging means adapted to contact the crop to control the height of the cutting means.

(1) Note. The cutter generally functions to cut off the crown and foliage of root crops, such as beets, generally arranged in rows.

SEE OR SEARCH CLASS:

- 99, Foods and Beverages: Apparatus, subclasses 635+, for end cutters working on crops after removal from the ground, and subclass 491, for a cutter that is positioned by the food to be cut.
- 171, Unearthing Plants or Buried Objects, subclasses 32, 33 and 34+ for gage controlled cutter means for detachment of plant parts combined with apparatus for unearthing such plants.
- 172, Earth Working, subclasses 5+ for earth working apparatus with an automatic power control having a plant sensing means.

121.41 Laterally self-aligning gauging and cutting means:

This subclass is indented under subclass 121.4. Apparatus where the gauging and cutting means are freely supported by a carriage or the like for sidewise movement relative thereto so that the gauging and cutting means may follow the irregularities of the individual plants in the row.

121.42 With preliminary foliage arranging:

This subclass is indented under subclass 121.4. Apparatus having means to lift and arrange the foliage or to otherwise manipulate the foliage so as to present it to the gauging and cutting mechanism in an orderly predetermined fashion.

121.43 Plural cuts at successive heights and/or slitting:

This subclass is indented under subclass 121.4. Apparatus having cutting means in addition to the topping cutter which may either (1) cut at a different height or (2) make a slitting cut on the top or crown of the beet so as to divide the top into segments.

121.44 With cut top disposal:

This subclass is indented under subclass 121.4. Apparatus having means acting to move the cut tops out of the path traversed by the gauging and topping mechanism.

121.45 Movable disposing members:

This subclass is indented under subclass 121.44. Apparatus where the means moving the cut tops has motion relative to the carriage.

- (1) Note. The clearing or moving means may itself be attached to or integral with a moving cutting device, and may be disclosed merely as operating to clear the cutting device.

121.46 Gauge and cutter relatively adjustable responsive to height and/or size of plant:

This subclass is indented under subclass 121.4. Apparatus wherein the gauging means is movable with respect to the cutter for regulating the depth of the cut responsive to the height and/or diameter of the crown to thereby control the thickness of the severed crown; i.e., the higher the crown the deeper the cut.

122 CUTTING, CONVEYING AND THRESHING:

This subclass is indented under the class definition. Having means for cutting standing grain, means for threshing the same, and means for conveying the cut grain from the cutter to the thresher.

SEE OR SEARCH CLASS:

- 460, Crop Threshing or Separating, appropriate subclasses, for threshing mechanism, per se.

123 Reciprocating cutter:

This subclass is indented under subclass 122. The cutting mechanism comprising a knife which has a reciprocating motion transversely of the path of the machine.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 20,

124 Central swath, co-axial wheels:

This subclass is indented under subclass 123. The axes of each set of supporting-wheels being in alinement and the cutter centrally located with respect to the path of the machine.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 21,

125 Longitudinally hinged cutter frame:
This subclass is indented under subclass 123. The cutter-frame hinged to swing vertically with respect to the main frame of the machine about a longitudinal axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
20,

126 SEED GATHERERS OR STRIPPERS:
This subclass is indented under the class definition. Machines for gathering seed or grain from standing stalks or from the ground, including those which thresh from the standing stalks, sometimes having a grain separator in combination therewith.

(1) Note. This subclass and those indented thereunder may include machines having a knife which merely assists the stripping action.

SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, appropriate subclasses, for grain separating mechanism, per se, or for threshing mechanism which threshes the stalks after they are cut.

127 Fixed comb:
This subclass is indented under subclass 126. Comprising a fixed comb, between the teeth of which the stalks are drawn to strip the seed or grain therefrom.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 114, 115, and 330.

128 Rotary beaters:
This subclass is indented under subclass 127. Having a rotary member which beats the heads to assist the comb in removing the seed or grain therefrom.

129 Central swath, co-axial wheels:
This subclass is indented under subclass 128. The axes of each set of wheels being in alignment and the comb centrally located with respect to the path of the machine.

130 Moving comb:
This subclass is indented under subclass 126. Comprising a moving comb which moves through the grain and strips the seed or grain from the stalks the latter passing through between the teeth of the comb.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 116 and 330.

131 CUTTING, CONVEYING AND BINDING:
This subclass is indented under the class definition. Machines having means to cut grain or the like, a platform upon which the grain falls as it is cut, means for binding the grain into sheaves, and means for conveying the grain from the platform to the binder.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
22, for machines of this type having a motor for driving all or some portion of the mechanism; 432 et seq., for inventions limited to the binding mechanism, per se, and 153 and the subclasses indented thereunder for inventions relating to cutting and conveying not limited to machines which bind the grain into sheaves.

SEE OR SEARCH CLASS:
100, Presses, subclass 6 for binder applying apparatus, not otherwise provided for, and not involving gathering of material from the ground, and including some means to cut or rupture the material into parts.
198, Conveyors: Power-Driven, appropriate subclasses, for conveyors which are of general application.

132 Wire-twister type:
This subclass is indented under subclass 131. Wherein the band is of wire or similar material, the ends being twisted together to secure the band around the sheaf.

133 Straw-band type:
This subclass is indented under subclass 131. Wherein the band is of straw or similar material and is secured about the sheaf by twisting

- the ends together and tucking them into the sheaf or under some portion of the band.
- 134 Folding platform:**
This subclass is indented under subclass 131. Wherein the cutter and platform on which the grain falls may be folded to facilitate transportation from one field to another.
- 135 High outside binder:**
This subclass is indented under subclass 131. Wherein the binder is located on the stubbleward side of the main or bull wheel, the grain being conveyed from the platform where it falls over the main wheel to the binder.
- 136 Folding binder frame:**
This subclass is indented under subclass 135. The binder mechanism capable of being folded bodily on the rest of the machine for convenience in transporting the same.
- 137 Binder position adjustable:**
This subclass is indented under subclass 135. The binder adjustable longitudinally, so that the band may be tined around the sheaf at the desired distance from the end, whatever the length of the cut stalks.
- 138 Knotting:**
This subclass is indented under subclass 137. The invention including specific knot-tying mechanism.
- 139 Knotting:**
This subclass is indented under subclass 135. The invention including specific knot-tying mechanism.
- 140 Upright binder:**
This subclass is indented under subclass 131. The binding mechanism acting on the grain while the stalks are in upright position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
68, 69, and 70.
- 141 Endwise delivery:**
This subclass is indented under subclass 131. Wherein the sheaf, after being bound, is discharged from the binder in the direction of its length.
- 142 Knotting:**
This subclass is indented under subclass 141. The invention including specific knot-tying mechanism.
- 143 Low down:**
This subclass is indented under subclass 131. Wherein the grain is bound and discharged from the machine without being raised as high as the upper rim of the main or bull wheel.
- 144 Curved path:**
This subclass is indented under subclass 143. Therein the grain in passing from the platform, where it falls to the binder, is carried in a curved path.
- 145 Knotting:**
This subclass is indented under subclass 144. The invention including specific knot-tying mechanism.
- 146 Inside delivery:**
This subclass is indented under subclass 143. The sheaf being discharged onto the ground or a sheaf-carrier inside of the main or bull wheel of the machine.
- 147 Knotting:**
This subclass is indented under subclass 146. The invention including specific knot-tying mechanism.
- 148 Outside delivery:**
This subclass is indented under subclass 143. The sheaf being discharged onto the ground or a sheaf-carrier outside of the main or bull wheel of the machine.
- 149 Through bull wheel:**
This subclass is indented under subclass 148. Wherein the grain passes through the main or bull wheel to the point of discharge.
- 150 Knotting:**
This subclass is indented under subclass 148. The invention including specific knot-tying mechanism.
- 151 Knotting:**
This subclass is indented under subclass 143. The invention including specific knot-tying mechanism.

- 152 Knotting:**
This subclass is indented under subclass 131. The invention including specific knot-tying mechanism.
- 153 CUTTING AND CONVEYING:**
This subclass is indented under the class definition. Machines having means to cut grain or the like, a platform upon which the grain falls as it is cut, and means for moving the grain from the platform to a point of discharge.
- (1) Note. Search this class, subclass 14.5, for a harvester having a motorized cutter and conveyor, and 192, for cutting-machines provided with a chute or the like for directing the cut material into a window.
- (2) Note. Search Class 198, Conveyors: Power-Driven, appropriate subclasses, for conveyors which are of general application.
- 154 Endless cutter:**
This subclass is indented under subclass 153. Wherein the cutting elements travel on an endless chain or belt.
- 155 Oscillating cutter:**
This subclass is indented under subclass 153. Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger-plate to effect a shearing action.
- 156 Rotary cutting reel:**
This subclass is indented under subclass 153. The cutter comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger-plate.
- 157 Rotary cutting disk:**
This subclass is indented under subclass 153. The cutter comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk.
- 158 Reciprocating-cutter type:**
This subclass is indented under subclass 153. Therein the platform is adapted to support a reciprocating cutter.
- (1) Note. In this subclass and those indented thereunder the cutter may not be claimed or even specifically shown, but the invention is peculiarly adapted to this type of harvester--i.e., something more than a mere conveyor of general application.
- 159 Folding platform:**
This subclass is indented under subclass 158. Wherein the cutter and platform on which the grain falls may be folded to facilitate transportation from one field to another.
- 160 With binder's platform:**
This subclass is indented under subclass 158. Having a platform on which one or more persons may stand to bind the grain manually as it is carried thither by the conveyor.
- 161 Self-raking mechanism:**
This subclass is indented under subclass 160. The conveying means comprising a rake automatically operated to rake the grain from the cutter-platform to the binder's platform.
- 162 Belt-carried endless path:**
This subclass is indented under subclass 160. The rake carried by a traveling endless belt.
- 163 Hand-raking mechanism:**
This subclass is indented under subclass 158. The conveying means comprising a rake manually operated to rake the grain from the cutter-platform to the point of discharge.
- 164 Self-raking mechanism:**
This subclass is indented under subclass 158. The conveying means comprising a rake automatically operated to rake the grain from the cutter-platform to the point of discharge.
- 165 Gaveling tongs:**
This subclass is indented under subclass 164. Having tongs of grappling-arms which hold the material, after it is raked into a gravel, until it can be bound manually into a sheaf.
- 166 Dumping catcher:**
This subclass is indented under subclass 164. Having means to receive the grain as it is raked from the platform, which may be dumped to discharge the collected material.

- 167 Rotating:**
This subclass is indented under subclass 164. Apparatus wherein the rake is of the rotating type. Included are devices wherein a standing-grain gathering reel also coacts with the platform to move the fallen grain therefrom after it has been cut.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
219+, for gathering devices acting on the standing grain only.
- 168 Reciprocating head:**
This subclass is indented under subclass 167. The head of the rake reciprocating to and from its axis as it rotates.
- 169 Vertical axis:**
This subclass is indented under subclass 167. The rake rotating about a vertical axis, usually having also an irregular vertical movement to cause it to engage the grain at the proper point in its course and to rise out of the way of the operator after leaving the grain at its point of discharge.
- 170 Switch:**
This subclass is indented under subclass 169. Having a switch to control the vertical movement of the rake to cause it to rake the grain from the platform only when desired.
- 171 Automatic control:**
This subclass is indented under subclass 170. Wherein the switch is automatically operated at some predetermined time.
- 172 Auxiliary manual control:**
This subclass is indented under subclass 171. Having manually-controlled means to cause the switch to be operated sooner or later than it would be operated by the automatic means alone.
- 173 Reciprocating:**
This subclass is indented under subclass 164. Wherein the rake is moved rectilinearly to rake the grain from the platform and is returned over the same course, the rake usually having some additional movement on its return course to enable it to pass over the grain then lying on the platform.
- 174 Belt actuated:**
This subclass is indented under subclass 173. The movement of the rake controlled by a traveling endless belt or chain.
- 175 Reciprocating belt:**
This subclass is indented under subclass 174. The belt itself having a reciprocating movement.
- 176 Vertical circuit:**
This subclass is indented under subclass 164. Wherein the rake travels in a vertical circuit--that is, a given point on the rake travels substantially in a vertical plane.
- 177 Belt carried:**
This subclass is indented under subclass 176. The rake being mounted on and carried by belts or chains, frequently traveling beneath the platform, with the teeth extending up through the same to rake the grain therefrom.
- 178 Horizontal circuit:**
This subclass is indented under subclass 164. Wherein the rake travels in a horizontal circuit--that is, a given point on the rake travels substantially in a horizontal plane.
- 179 Belt carried:**
This subclass is indented under subclass 178. The rake being mounted on and carried by belts or chains.
- 180 Rake heads and arms:**
This subclass is indented under subclass 158. Raking elements peculiarly adapted for use in mechanism for raking grain from a harvester platform.
- 181 Endless carrier:**
This subclass is indented under subclass 158. Wherein an endless carrier moving over the platform receives the grain as it is cut and either by itself or in connection with other endless carriers supports the grain while it is conveyed to the point of discharge.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
177, for machines having endless belts carrying teeth which rake the grain from the platform to the point of discharge.

- 182 Deflected course:**
This subclass is indented under subclass 181. The grain in its travel being deflected forwardly or rearwardly or the direction of the stalks changed.
- 183 Intermittent:**
This subclass is indented under subclass 181. The endless carrier moving intermittently.
- 184 With discharging catcher:**
This subclass is indented under subclass 181. The endless carrier delivering the grain into a receptacle, which is discharged at intervals.
- 185 Elevated delivery:**
This subclass is indented under subclass 181. The invention including means for elevating the grain above the level of the platform to enable it to pass over the bull-wheel or onto an elevated deck.
- 186 Central cutter, co-axial wheels:**
This subclass is indented under subclass 181. Having coaxial wheels and the cutter mounted centrally of the path of the machine.
- 187 Tilting platform:**
This subclass is indented under subclass 186. Wherein the platform may be tilted to raise or lower the cutter.
- 188 Pivoted tongue:**
This subclass is indented under subclass 187. The tongue, which may be either behind or in front of the platform, having a pivotal connection therewith.
- 189 Swathing attachments:**
This subclass is indented under subclass 153. Attachments of the nature of a chute which is so disposed as to receive the material from the conveyor and deliver the same to the ground in a swath.
- 190 Windshields:**
This subclass is indented under subclass 153. Devices attached to a machine to prevent the wind from disarranging the position of the material as it is cut and conveyed to the binder-deck or to a point of discharge.
- 191 Binder's platforms:**
This subclass is indented under subclass 153. Platforms attached to the machine on which one or more persons may stand to bind the grain manually as it is delivered from the conveyor.
- 192 CUTTING AND WINDROWING:**
This subclass is indented under the class definition. Machines having means for cutting growing crops and means for catching the material as it is cut and discharging it in a windrow. Included here are windrowing attachments for the cutter-bar of a harvester.
- 193 CUTTING AND RAKING:**
This subclass is indented under the class definition. Machines having means for cutting growing crops and means for raking up the cut material after it falls on the ground.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
400.05+, for hand rakes combined with cutters.
- 194 CUTTING AND CATCHING:**
This subclass is indented under the class definition. Machines having means for cutting growing crops and means for catching the cut material as it falls.
- 195 Side cutter:**
This subclass is indented under subclass 194. Wherein the cutter projects to one side of the machine beyond the path of the supporting wheels.
- 196 Rear:**
This subclass is indented under subclass 195. The cutter located behind a line drawn transversely through the supporting wheels.
- 197 Front:**
This subclass is indented under subclass 195. The cutter located in front of a line drawn transversely through the supporting wheels.
- 198 Rotating cutting reel:**
This subclass is indented under subclass 194. The cutter comprising a rotating reel with knives located on the periphery thereof.

- 199 Catchers:**
This subclass is indented under subclass 198. The invention limited to the catcher element, with, means peculiarly adapted for attaching it to a machine of the rotary-cutting reel type.
- 200 Discharging:**
This subclass is indented under subclass 199. Having means for discharging the catcher without detaching the same or inverting the machine.
- 201 Manually propelled:**
This subclass is indented under subclass 194. Having a handle or other means adapting it to manual propulsion.
- 202 Catchers:**
This subclass is indented under subclass 194. The invention limited to the catcher element and means for attaching it to a cutter-bar.
- 203 Discharging:**
This subclass is indented under subclass 202. Having means for discharging the catcher directly.
- 204 Revolving:**
This subclass is indented under subclass 203. The catcher making a complete revolution as it is moved to discharge the load and is returned to receiving position.
- 205 Upwardly swinging rear gate:**
This subclass is indented under subclass 203. The catcher having a gate at its rear side, which may be swung upwardly to allow the contents of the catcher to be discharged.
- 206 Rearwardly dropping member:**
This subclass is indented under subclass 203. The rear wall of the catcher comprising a member which may be swung backwardly and downwardly to discharge the contents of the catcher.
- 207 SHELLED-GRAIN CATCHERS:**
This subclass is indented under the class definition. Devices peculiarly adapted to be attached to some portion of a harvester in such a position as to catch grain which is shelled out during the operation of harvesting and which would otherwise be lost.
- 208 PLATFORM ADJUSTMENTS:**
This subclass is indented under the class definition. Devices for adjusting the position with relation to the ground of the platform on which the grain falls as it is cut.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 663+ and the subclasses there noted for earth working apparatus with actuators for making various adjustments.
280, Land Vehicles, subclasses 6.15+ for a land vehicle of general utility having means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame; or subclasses 43+ for a land vehicle of general utility having vertically adjustable wheels for altering a dimension of the vehicle or a part thereof.
- 209 Side hill:**
This subclass is indented under subclass 208. Comprising means for leveling the platform when the harvester is operating on a sidehill.
- 210 Main frame:**
This subclass is indented under subclass 208. Wherein the platform is rigidly connected with the main frame of the machine and the whole is adjusted as a unit on the wheel-frame.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
218, for tongue adjustments which on a one or two wheel machine produce, in effect, a change in the position of the main frame.
- 211 Traction operated:**
This subclass is indented under subclass 210. Wherein the adjustment is effected by power derived from the traction-wheels while the machine is moving over the ground.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 402, 403+ and 407+ for earth working implements in which a wheel is adjusted vertically with respect to a frame by

power derived from its rolling movement over the ground.

212 Vertically and longitudinally tilting:

This subclass is indented under subclass 210. Having means to adjust the frame vertically and also means to tilt the frame about a transverse axis.

213 Simultaneous vertical adjustment:

This subclass is indented under subclass 212. Wherein the means for vertically adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.

214 Vertical:

This subclass is indented under subclass 210. Having means to adjust the frame vertically.

215 Segment rack and pinion:

This subclass is indented under subclass 214. Wherein the wheel-frame is pivoted to the main frame and carries a pinion, which meshes with a segment-rack on the main frame, the curvature of the segment-rack being concentric with the pivot of the wheel-frame and the pinion being rotated to raise or lower the main frame.

216 Simultaneous:

This subclass is indented under subclass 215. Wherein the means for adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.

217 Simultaneous:

This subclass is indented under subclass 214. Wherein the means for adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.

218 TONGUE ADJUSTMENTS AND SUPPORTS:

This subclass is indented under the class definition. Means peculiarly adapted to adjust or support the tongue of a harvester.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 324+ for an actuator on a trailing ground sup-

ported frame for moving a tongue means laterally or vertically.

278, Land Vehicles: Animal Draft Appliances, subclasses 86+ for tongue supports for vehicles in general.

219 STANDING-GRAIN GATHERERS:

This subclass is indented under the class definition. Devices for gathering the standing grain, directing it to the cutting mechanism, and guiding it in its fall when it is cut.

SEE OR SEARCH THIS CLASS, SUBCLASS:

164+, for gathering devices which also rake the grain from the platform.

SEE OR SEARCH CLASS:

198, Conveyors: Power-Driven, subclasses 604 and 626.1+ for opposed, load-gripping endless belt conveyors, and subclasses 506+ for a conveyor specialized for collecting a load from the ground.

220 Rotating reel, horizontal axis:

This subclass is indented under subclass 219. Comprising a reel which rotates on a horizontal axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

167, and 168.

221 Adjustable position:

This subclass is indented under subclass 220. Comprising means for adjusting the reel vertically or longitudinally to adapt it to cutters of different height or to grain of different length.

222 With driving means:

This subclass is indented under subclass 221. Wherein the means for rotating the reel are disclosed.

223 Sliding angular gear:

This subclass is indented under subclass 222. Wherein the reel is driven by angular gearing, which may slide on the driving-shaft to permit the adjustment of the reel.

- 224 Belt with adjustable tension:**
This subclass is indented under subclass 222. Wherein the reel is driven by an endless belt or chain, the tension of which may be adjusted to compensate for the adjustment of the position of the reel.
- 225 Concentric:**
This subclass is indented under subclass 222. Wherein each end of the reel axis is mounted at the end of a swinging arm or a series of such arms and the driving connections of the reel are mounted concentrically with said arms.
- 226 Supplementary bat movement:**
This subclass is indented under subclass 220. Wherein the reel-bats have a supplementary movement in addition to the rotation of the reel.
- 227 Adjustable bats:**
This subclass is indented under subclass 220. Wherein the position of the bats on the reel may be adjusted, including adjustments for the purpose of transportation.
- 228 TRANSPORTING ATTACHMENTS:**
This subclass is indented under the class definition. Devices peculiarly adapted for attachment to harvesters to facilitate transportation thereof from one field to another.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 240+ for an earth working implement with a ground support means engageable with the ground for transport only.
- 229 CUTTING:**
This subclass is indented under the class definition. Means supported on the ground and specialized to the cutting or mowing of small grain, grass and the like.
- 230 Railroad:**
This subclass is indented under subclass 229. Wherein the cutting mechanism is mounted on a railroad vehicle and is adapted to trim the grass and weeds growing alongside the track.
- 231 Rotating cutting reel:**
This subclass is indented under subclass 230. Wherein knives carried on the periphery of a rotating reel coact with a fixed ledger plate to sever the standing vegetation.
- 232 Reciprocating cutter:**
This subclass is indented under subclass 230. Wherein the knife reciprocates transversely to the path of advance to sever the standing vegetation.
- 233 Hedge or plant-row trimmers:**
This subclass is indented under subclass 229. Devices peculiarly adapted for use in trimming the top or sides of a hedge or row of plant growth.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 196+ for hand manipulated hedge trimmers. See (19) Note after the definition of Class 30.
- 234 Plurality of cutters:**
This subclass is indented under subclass 233. Having several cutters operating in planes at an angle to each other.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
13.6+, for a motorized harvester having plural cutter-units.
- 235 All rotary disk:**
This subclass is indented under subclass 234. Wherein each cutter comprises a rotary disk with a sharpened or serrated edge.
- 236 All reciprocating:**
This subclass is indented under subclass 234. Wherein each cutter comprises a reciprocating knife.
- 237 Single cutter for top or side:**
This subclass is indented under subclass 233. Having a single cutter which may be so adjusted as to trim either the top or side of a hedge or the like.

- 238 Successive cuts at different heights:**
This subclass is indented under subclass 229. Wherein one cutter cuts off the top of the vegetation and a following cutter cuts it closer to the ground.
- 239 Hand-operated cutter:**
This subclass is indented under subclass 229. Wherein the cutter is operated by hand power directly.
- SEE OR SEARCH CLASS:
30, Cutlery, appropriate subclasses, where no means is provided for guiding the cutter a definite distance from the ground. See (19) Note after the definition of Class 30.
- 240 Oscillating:**
This subclass is indented under subclass 239. Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger plate to effect a shearing action.
- 241 Single pair of shears:**
This subclass is indented under subclass 240. Having only two cutting edges, which coact like a pair of shears.
- 242 Reciprocating:**
This subclass is indented under subclass 239. Wherein the cutting element reciprocates within a finger-bar.
- 243 Hand crank:**
This subclass is indented under subclass 242. Wherein the power for driving the cutter is applied through a hand-crank.
- 244 Endless cutter:**
This subclass is indented under subclass 229. Wherein the cutting elements travel on an endless chain or belt.
- 245 Side cut:**
This subclass is indented under subclass 244. Wherein the cutting mechanism projects to one side of the machine beyond the path of the supporting wheels.
- 246 Oscillating cutter:**
This subclass is indented under subclass 229. Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger plate to effect a shearing action.
- 247 Vertical cut:**
This subclass is indented under subclass 246. The cutters operating in a vertical plane.
- 248 Side cut:**
This subclass is indented under subclass 246. The cutting mechanism projecting to one side of the machine beyond the path of the supporting wheels.
- 249 Rotating cutting-reel type:**
This subclass is indented under subclass 229. The cutter comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger plate.
- 249.5 Interchangeable cutting assembly:**
This subclass is indented under subclass 249. Cutting machines which have means permitting the ready interchange of reel or reel and cutter bar units.
- (1) Note. The ready interchange is limited to those in which the frame and/or wheels of the machine need not be disassembled.
- (2) Note. Reels or reels and cutter bar units of different type or design which may be used interchangeably are included here.
- 250 Sharpening:**
This subclass is indented under subclass 249. Wherein the invention comprises a change in the organization of the machine to facilitate the sharpening of the knives.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
12.1, for a motorized cutter and sharpening means therefor.
- SEE OR SEARCH CLASS:
76, Metal Tools and Implements, Making, subclass 82 for mere sharpening devices, which may include means for

- attachment to or adjustment on a mower.
- 451, Abrading, for a method of or apparatus for sharpening a harvester blade.
- 251 Auxiliary cutter:**
This subclass is indented under subclass 249. Having another cutter in addition to the main rotating cutting-reel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
7, 13.6+, 231, 234, and 238.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 13+ for lawn edgers which make a groove in the earth.
- 252 Cutter in front of wheel tread:**
This subclass is indented under subclass 249. Wherein the cutter extends in front of the wheel-tread, so as to cut the grass or the like before the wheel passes over the same.
- 253 Co-axial wheels central cut:**
This subclass is indented under subclass 249. Having two wheels which are coaxial and the cutter disposed centrally of the path of the machine.
- 254 Internal gear single pinion:**
This subclass is indented under subclass 253. Having a pinion on the cutting-reel axis meshing directly with an internal gear on one of the ground-wheels.
- 255 Rotating-cutting-disk type:**
This subclass is indented under subclass 229. The cutter comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk, the disk cooperating with another or with a fixed ledger-blade.
- 256 Vertical cut:**
This subclass is indented under subclass 255. The cutting-disk operating in a vertical plane.
- SEE OR SEARCH CLASS:
171, Unearthing Plants or Buried Objects, subclass 5 for vegetation cutters mounted in vertical planes.
- 172, Earth Working, subclasses 518+ for rolling earth working tools including disks operating in a vertical plane.
- 257 Reciprocating central cutter:**
This subclass is indented under subclass 229. Comprising a cutter which reciprocates in a fingerbar transversely to the direction of travel and which is located centrally of the path of the machine.
- 258 Co-axial wheels:**
This subclass is indented under subclass 257. Having two supporting-wheels whose axes are in alinement.
- 259 Double sickle:**
This subclass is indented under subclass 258. The cutter comprising two sets of knives reciprocating in the same finger-bar in opposite directions.
- 260 Pitman drive:**
This subclass is indented under subclass 258. Wherein the driving mechanism includes a pitman.
- 261 With lever:**
This subclass is indented under subclass 260. Having a lever interposed between the pitman and cutter.
- 262 Cam drive:**
This subclass is indented under subclass 258. Wherein the driving mechanism includes a rotating cam.
- 263 With lever:**
This subclass is indented under subclass 262. Having a lever interposed between the cam and cutter.
- 264 Reciprocating side cutter:**
This subclass is indented under subclass 229. Comprising a cutter reciprocating within a fingerbar which projects to one side of the path of the wheels.
- 265 Through-wheel drive:**
This subclass is indented under subclass 264. Wherein the mechanism for driving the cutter passes through one of the ground-wheels.

- 266 Reversible:**
This subclass is indented under subclass 264. Having means whereby the machine may cut when traveling in either direction.
- 267 Horizontally folding:**
This subclass is indented under subclass 264. Wherein for the purpose of transportation the cutter may be folded into a horizontal longitudinal position close to the side of the machine.
- 268 Rear cut:**
This subclass is indented under subclass 264. The cutter located behind a line drawn transversely through the supporting wheel or wheels.
- 269 Co-axial wheels:**
This subclass is indented under subclass 268. Having two supporting-wheels whose axes are in alinement.
- 270 Cam or lever drive:**
This subclass is indented under subclass 269. Wherein the mechanism for reciprocating the cutter includes a cam or lever and not merely a crank and pitman.
- 271 Front cut:**
This subclass is indented under subclass 264. The cutter located in front of a line drawn transversely through the supporting wheel or wheels.
- 272 Co-axial wheels:**
This subclass is indented under subclass 271. Having two supporting-wheels whose axes are in alinement.
- 273 Power-operated lift:**
This subclass is indented under subclass 272. Wherein the finger-bar is lifted by traction or motor power.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 452+ for apparatus comprising an actuator adapted to lift an earth working tool for transport on a wheeled frame.
- 274 Automatic clutch shipper:**
This subclass is indented under subclass 272. Means for automatically shipping the clutch when the cutter-bar is raised beyond a certain point.
- 275 Double sickle:**
This subclass is indented under subclass 272. The cutter comprising two sets of knives reciprocating in the same finger-bar in opposite directions.
- 276 Lifting and rocking cutter bar:**
This subclass is indented under subclass 272. Having means for raising the cutter-bar and means for rocking it, so as to raise or lower the points of the guard-fingers.
- 277 With foot lever:**
This subclass is indented under subclass 276. Having a foot-lever which may be used in adjusting the position of the cutter-bar.
- 278 Gag lever:**
This subclass is indented under subclass 277. The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside its pivot, to raise the outer end of the same or to maintain it at the desired elevation.
- 279 Cutter-bar mountings only:**
This subclass is indented under subclass 278. Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 280 Cutter-bar mountings only:**
This subclass is indented under subclass 277. Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 281 Gag lever:**
This subclass is indented under subclass 276. The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside its pivot, to raise the outer end of the same or to maintain it at the desired elevation.

- 282 Cutter-bar mountings only:**
This subclass is indented under subclass 276. Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 283 Lifting cutter bar:**
This subclass is indented under subclass 272. Having means for raising the cutter-bar.
- 284 Cutter-bar mountings only:**
This subclass is indented under subclass 283. Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 285 With foot lever:**
This subclass is indented under subclass 284. Having a foot-lever which may be used in raising the cutter-bar.
- 286 Gag lever:**
This subclass is indented under subclass 284. The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside the pivot, to raise the outer end of the same or to maintain it at the desired elevation.
- 287 Cutter-bar mountings only:**
This subclass is indented under subclass 272. Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 288 Alignments:**
This subclass is indented under subclass 264. Wherein the invention is limited to means for adjusting the outer end of the cutter-bar forwardly or backwardly to bring it into proper alinement with the pitman.
- 289 Cutter members:**
This subclass is indented under subclass 229. The knives and their mountings and parts directly attached thereto including means for adjusting the relation of knives to each other, but not for regulating the height of cut.
- 290 Endless:**
This subclass is indented under subclass 289. Wherein the knives are carried by an endless chain or belt.
- 291 Horizontal orbit:**
This subclass is indented under subclass 290. Wherein the path of the chain or belt which carries the knives is in a horizontal plane.
- 292 With tension adjustment:**
This subclass is indented under subclass 290. Having means for adjusting the tension of the cutter-chain.
- 293 Oscillating:**
This subclass is indented under subclass 289. Comprising knives which oscillate about pivots coacting with each other or with a fixed ledger-plate to effect a shearing action.
- 294 Rotating cutting reel:**
This subclass is indented under subclass 289. Comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger-plate.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
249+, for harvester type combinations including a rotating cutting reel.
- 295 Rotating cutting disk:**
This subclass is indented under subclass 289. Comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk.
- 296 Reciprocating:**
This subclass is indented under subclass 289. Comprising knives which have a reciprocating motion within or on a supporting member.
- 297 Double sickle:**
This subclass is indented under subclass 296. Having two sets of knives reciprocating in opposite directions.
- 298 Sickles and guard fingers and bars:**
This subclass is indented under subclass 296. Comprising improvement in both the sickle and the member within which it reciprocates or in the combination of the two.
- 299 Sickles:**
This subclass is indented under subclass 296. Wherein the invention is limited to the knives and the bar to which they are attached.

- (1) Note. If the improvement is in the knife-head; that is, the part to which the pitman is connected, it is classified in subclass 303.
- 300 Detachable sections:**
This subclass is indented under subclass 299. Wherein the knife-sections have detachable connection with the bar on which they are mounted.
- 301 Detachable from end of bar:**
This subclass is indented under subclass 300. Wherein the knife-sections can be removed only by passing them in turn over the end of the bar.
- 302 Auxiliary locking bar:**
This subclass is indented under subclass 300. Wherein an auxiliary bar is employed to lock the knife-sections in place on the knife-bar.
- 303 Shoes and knife heads:**
This subclass is indented under subclass 296. Wherein the invention is limited to the knife-head, which is connected directly to the pitman or driving-lever, and that portion of the finger-bar within which the knife-head is guided.
- 304 Antifriction devices:**
This subclass is indented under subclass 296. Comprising means for reducing the friction between the cutter and the member in which it reciprocates.
- 305 Guiding clips:**
This subclass is indented under subclass 296. Comprising clips or arms for guiding the knife-bar and maintaining it in close contact with the member on which it reciprocates.
- 306 Shock absorbers:**
This subclass is indented under subclass 296. Comprising means for reducing the shock at the end of the reciprocating stroke of the knife-bar.
- 307 Guard fingers and bars:**
This subclass is indented under subclass 296. Wherein the invention is limited to the member on or within which the knives and knife-bar reciprocates.
- 308 Modified finger:**
This subclass is indented under subclass 307. Wherein the invention includes a modification of the guard-finger.
- 309 With ledger plate:**
This subclass is indented under subclass 308. The guard-finger having a ledger-plate inserted therein which co-operates with the reciprocating cutter.
- 310 Fingers only:**
This subclass is indented under subclass 307. Wherein the invention is wholly in the guard-fingers.
- 311 With ledger plate:**
This subclass is indented under subclass 310. The guard-finger having a ledger-plate inserted therein which co-operates with the reciprocating cutter.
- 312 Supplemental lifting fingers:**
This subclass is indented under subclass 307. Supplemental fingers attached to the finger-bar or guard-fingers to raise tangled or lodged vegetation above the reciprocating cutter.
- 313 Socket for guard-finger point:**
This subclass is indented under subclass 312. Having a socket to fit over the point of the guard-finger to hold the supplemental finger in place.
- 314 Track clearers and dividers:**
This subclass is indented under subclass 229. Means for dividing the growth to be cut from the rest of the growth and for directing the same after it is cut away from the sides of the swath toward the center.
- 315 Supplemental vertical cutter:**
This subclass is indented under subclass 314. Comprising a cutter operating in a vertical plane at the end of the main cutter.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
8, and 9, for devices for cutting vegetation on the bottom and sides of a channel.

- 316 Reciprocating:**
This subclass is indented under subclass 315. The vertical cutter being of the reciprocating type.
- 317 Driven:**
This subclass is indented under subclass 314. Including driving means for imparting movement to the track-clearer as the machine moves over the ground.
- 318 With shoe-point socket:**
This subclass is indented under subclass 314. Having a socket to fit over the point of the shoe to hold the clearer or divider in place.
- 319 Foldable:**
This subclass is indented under subclass 314. Wherein the clearer or divider is so mounted that it may be folded to facilitate transportation.
- 320 Supplemental clearer:**
This subclass is indented under subclass 314. Having a supplemental clearer attached to the main divider or clearer or in front of the master-wheel.
- 320.1 Housing or guard:**
This subclass is indented under subclass 229. Device comprising structure to support or enclose the cutting blade of a harvester as the blade moves to perform its function.
- 320.2 With discharge opening:**
This subclass is indented under subclass 320.1. Housing having a passageway therein to permit crop to emerge from the housing.
- 321 ANTI-SIDE-DRAFT DEVICES:**
This subclass is indented under the class definition. Devices for overcoming or lessening the tendency of the harvester to swing sidewise owing to the resistance or drag of the cutter projecting to one side of the main supporting wheel or wheels.
- SEE OR SEARCH CLASS:
278, Land Vehicles: Animal Draft Appliances, subclasses 3 through 20, indented under Draft Equalizers, for similar devices of general application.
- 322 GRAIN WHEELS AND CASTERS:**
This subclass is indented under the class definition. Inventions which include a wheel, which supports one end of the cutter-bar, in combination with other parts essential to a harvester.
- SEE OR SEARCH CLASS:
280, Land Vehicles, subclass 78 for a land vehicle of general utility which is normally supported by a single wheel; subclasses 82+ for devices specially adapted to support and guide a draft coupling or tongue of a vehicle; or subclasses 86+ for a land vehicle of general utility including a swivel truck (i.e., caster wheel).
- 323 SEATS:**
This subclass is indented under the class definition. Inventions which include a seat in combination with some part of the harvesting mechanism, usually such as to throw the cutter out of operation when the driver leaves his seat.
- 324 GRAIN CRADLES:**
This subclass is indented under the class definition. Hand implements including a cutter, a handle for the same, and a series of fingers which constitute a cradle for catching a quantity of grain as it is cut, so that it may be laid evenly in a swath.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
324.5,
- SEE OR SEARCH CLASS:
30, Cutlery, subclass 309, for sickles and scythes.
- 324.5 Connections:**
This subclass is indented under subclass 324. Couplings peculiarly adapted for fastening the type of scythe used in grain-cradles to the snathes.
- 327.1 VEGETABLE GATHERER:**
This subclass is indented under the class definition. Device for gathering a vegetable, such as a cabbage, cucumber, onion, and the like.

SEE OR SEARCH CLASS:

171, Unearthing Plants or Buried Objects, appropriate subclasses for devices for recovering vegetables from the earth by pulling, combing through the earth, digging and separating and severing below the earth's crust; and see particularly subclass 63 for devices for gathering stones from a field or the like.

327.2 Asparagus harvester:

This subclass is indented under subclass 327.1. Device in which the vegetable has a stalk upon which the vegetable grows, and the device includes means for holding the stalk and means for cutting the vegetable from the stalk while the latter is being held.

328.1 FRUIT GATHERER:

This subclass is indented under the class definition. Device especially adapted for use in gathering a fruit or nut.

SEE OR SEARCH CLASS:

150, Purses, Wallets, and Protective Covers, subclass 2; 220, Receptacles, appropriate subclasses and 224, Package and Article Carriers, appropriate subclasses for receptacles which may be used by fruit-pickers.

171, Unearthing Plants or Buried Objects, subclasses 63+ for devices for gathering stones from a field or the like

198, Conveyors: Power-Driven, appropriate subclasses for conveyors, per se, which may be used for conveying fruit from the tree to the ground.

329 Catchers:

This subclass is indented under subclass 328.1. Comprising means to be placed under a tree or bush to catch fruit as it falls.

330 Berry strippers:

This subclass is indented under subclass 328.1. Comprising means for stripping cranberries, blueberries, gooseberries, and the like from the bushes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

114, and 127.

331 Berry clippers:

This subclass is indented under subclass 328.1. Comprising means for cutting the stems of grapes, cherries, strawberries, and the like, in combination with means for catching them as they are severed.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses for the cutter, per se; and see Note (19) after the definition of Class 30.

332 Pole supported:

This subclass is indented under subclass 328.1. Having means on the end of a pole for detaching fruit which cannot be readily reached by the hand, in combination with means for catching the fruit as it becomes detached to prevent it from falling to the ground and becoming bruised.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses, for the cutter, per se, and see Note (19) after the definition of Class 30.

294, Handling: Hand and Hoist-Line Implements, subclasses 209 through 211 for pole structures adapted for handling articles at a distance and see the search there noted.

333 Pivoted jaw:

This subclass is indented under subclass 332. Comprising two coacting jaws, one of which is pivoted to close over the fruit and detach the same.

334 Chute:

This subclass is indented under subclass 333. Having a chute leading from the jaws to the ground or to the operator.

335 Pivoted knife:

This subclass is indented under subclass 332. Comprising a pivoted knife which is operated to sever the stem of the fruit.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses for the cutter, per se, and see Note (19) after the definition of Class 30.

- 336 Chute:**
This subclass is indented under subclass 335. Having a chute which guides the fruit to the ground or to the operator after the stem is severed.
- 337 Sliding jaw:**
This subclass is indented under subclass 332. Comprising two jaws, one of which is mounted to slide toward the other and detach the fruit which is between them.
- 338 Sliding knife:**
This subclass is indented under subclass 332. Comprising a knife which is mounted to slide back and forth to sever the stem of the fruit.
- SEE OR SEARCH CLASS:
30, Cutlery, appropriate subclasses, for the cutter, per se, and see Note (19) after the definition of Class 30.
- 339 Fixed detaching member:**
This subclass is indented under subclass 332. Comprising a member fixed with relation to the pole, which is moved against the fruit or the stem to detach the fruit.
- 340 Chute:**
This subclass is indented under subclass 339. Having a chute which guides the fruit to ground or to the operator after the stem is severed.
- 340.1 Tree Shaker:**
This subclass is indented under subclass 328.1. Device in which the fruit or nut grows on a tree, and the device includes means for grasping and shaking the tree to remove the fruit or nut.
- 341 RAKING AND BUNDLING:**
This subclass is indented under the class definition. Devices for raking hay, straw, and the like and securing it in a bundle.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
346, and the subclasses indented thereunder for machines which rake the material and form it into a cock without otherwise securing it.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for binder applying methods and apparatus, not otherwise classifiable and not involving raking of material from the ground.
- 342 Hand:**
This subclass is indented under subclass 341. Wherein the device is drawn over the field and operated by hand-power.
- 343 Cord-knotter type:**
This subclass is indented under subclass 341. Wherein the bundle is secured by a cord tied around it.
- SEE OR SEARCH CLASS:
289, Knots and Knot Tying, appropriate subclasses, for the knotter mechanism, per se.
- 344 RAKING AND LOADING:**
This subclass is indented under the class definition. Machines especially adapted to travel over the ground and continuously gather hay, straw, or the like therefrom and deliver it into a receptacle.
- (1) Note. For hand rakes provided with means to receive the raked material, see this class, subclasses 400.11+.
- (2) Note. Machines having a fork or set of fingers which gather a load and are then raised to lift the load and dump it are classified in Class 414, Material or Article Handling.
- SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclass 517 for a reciprocating pusher conveyor for feeding a load from the ground to another conveyor, and subclasses 308.1 and 522 for tines feeding a load to a conveyor.
210, Liquid Purification or Separation, subclasses 158 and 159 for flume screen cleaners.

- 345 Endless carrier:**
This subclass is indented under subclass 344. Having an endless carrier for elevating the material and delivering it to the receptacle.
- (1) Note. For hand rakes having an endless raking member for delivering material into a receiver, see this class, subclasses 400.02 and 400.03.
- 346 Intermittent discharge:**
This subclass is indented under subclass 345. Wherein the receptacle may be intermittently operated to deposit the material on the ground, frequently having special structure for forming it into a symmetrical cock.
- 347 With movable feeder:**
This subclass is indented under subclass 346. Having means which are moved to carry the material within reach of the endless carrier.
- 348 Stationary rake teeth:**
This subclass is indented under subclass 347. Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- 349 Stationary rake teeth:**
This subclass is indented under subclass 346. Having relatively stationary teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 350 Rear delivery:**
This subclass is indented under subclass 345. Wherein the endless carrier delivers the material rearwardly into the receptacle.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
346,
- 351 With movable feeder:**
This subclass is indented under subclass 350. Having means which are moved to carry the material within reach of the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
347,
- 352 Stationary rake teeth:**
This subclass is indented under subclass 351. Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
348,
- 353 Stationary rake teeth:**
This subclass is indented under subclass 350. Having relatively stationary teeth which rake up the material as the machine advances and direct it to the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
349,
- 354 Side delivery:**
This subclass is indented under subclass 345. Wherein the endless carrier delivers the material into a receptacle laterally of the machine.
- 355 With movable feeder:**
This subclass is indented under subclass 354. Having means which are moved to carry the material within reach of the endless carrier.
- 356 Stationary rake teeth:**
This subclass is indented under subclass 355. Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- 357 Stationary rake teeth:**
This subclass is indented under subclass 354. Having relatively stationary rake-teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 358 With movable feeder:**
This subclass is indented under subclass 345. Having means which are moved to carry the material within reach of the endless carrier.
- 359 Stationary rake teeth:**
This subclass is indented under subclass 358. Having relatively stationary rake-teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.

- 360 Stationary rake teeth:**
This subclass is indented under subclass 345. Having relatively stationary rake-teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 361 Intermittent discharge:**
This subclass is indented under subclass 344. Wherein the receptacle may be intermittently operated to deposit the material on the ground, frequently having special structure for forming it into a symmetrical cock.
- 362 Walking rake:**
This subclass is indented under subclass 344. Wherein the material is elevated by mechanism comprising a series of bars, each bar having a series of teeth which have a pawing movement and successively engage the material and elevate it into the receptacle.
- 363 Auxiliary rake:**
This subclass is indented under subclass 362. Having an auxiliary rake which rakes the material from the ground into position to be engaged by the elevating-teeth.
- 364 Lifting reels:**
This subclass is indented under subclass 344. Comprising a series of bars revolving about a common axis parallel thereto, said bars having rake-teeth thereon which are usually retracted when near the highest point in their orbit.
- 365 COMBINED RAKES AND TEDDERS:**
This subclass is indented under the class definition. Machines which may be used either to rake hay or to kick it up or scatter it, so as to facilitate drying.
- 366 Side-delivery rake:**
This subclass is indented under subclass 365. Wherein the machine when used as a rake delivers the hay to one side of the path of the rake.
- (1) Note. This subclass includes machines having two rakes spaced apart, which deliver the hay in a windrow between them.
- 367 Revolving rake:**
This subclass is indented under subclass 365. Wherein when the machine is used as a rake a series of teeth gather the hay and revolve about a transverse axis to dump it.
- 368 Draft dumping rake:**
This subclass is indented under subclass 365. Wherein the rake is dumped by the same power which propels the machine.
- 369 Transverse tedder crank shaft:**
This subclass is indented under subclass 365. Wherein the teeth which scatter the hay are journaled on a crank-shaft which extends transversely of the machine and rotates to impart a kicking movement to the teeth.
- 370 TEDDERS:**
This subclass is indented under the class definition. Machines for scattering hay to facilitate its drying, of for turning windrows of curing hay or analogous material.
- 371 Mower attachment:**
This subclass is indented under subclass 370. Wherein the tedder is attached to a mower, so as to ted the grass as it is cut.
- 372 Rotary, transverse axis:**
This subclass is indented under subclass 370. Machines in which the teeth or other scattering or turning means rotate around an axis which extends transversely or diagonally of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
366, and 367, for similar machines convertible to rakes.
- 373 Transverse crank shaft:**
This subclass is indented under subclass 370. Wherein the teeth are journaled on a crank-shaft which extends transversely of the machine and rotates to impart a kicking movement to the teeth.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
369,

- 374 Tedder forks:**
This subclass is indented under subclass 370. Hay engaging elements especially adapted for use in tedders.
- 375 HORSE RAKES:**
This subclass is indented under the class definition. Rakes which are propelled over the field by draft-animals.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
400.01+, for hand rakes.
- SEE OR SEARCH CLASS:
171, Unearthing Plants or Buried Objects, subclass 19 for rakes which are combined with an unearthing device for the purpose of gathering the objects recovered by said unearthing device, and subclasses 84+ for soil working rakes which comb through a mass of earthy material and separate therefrom the desired objects contained therein.
- 376 Side delivery:**
This subclass is indented under subclass 375. Wherein the raked material is delivered to one side of the path of the rake.
- (1) Note. This subclass includes machines having two rakes spaced apart, which deliver the material in a windrow between them.
- 377 Rotary:**
This subclass is indented under subclass 376. Comprising a rotating member having rake-teeth on its periphery and mounted on an oblique axis.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 540+ for rolling or rotating earth working tools with tines or teeth.
- 378 Rear delivery:**
This subclass is indented under subclass 375. Wherein the raked material is delivered to the rear of the machine.
- 379 Revolving:**
This subclass is indented under subclass 378. Wherein the rake swings upwardly to discharge the raked material and moves in the same direction about its axis to return to its original position.
- (1) Note. There are usually two or more sets of rake-teeth which are successively thrown into raking position. While one set of teeth is in raking position the other remains inoperative.
- SEE OR SEARCH CLASS:
172, Earth Working, subclass 237 and the subclasses there noted, for an earth working tool swung around an axis intermittently due to draft force.
- 380 Wheels supported:**
This subclass is indented under subclass 379. Wherein the rake is supported by ground-wheels.
- 381 Fixed rake axis:**
This subclass is indented under subclass 380. The rake revolving of an axis which remains in a fixed position on the machine-frame.
- 382 Rake-tooth-engaging stop:**
This subclass is indented under subclass 380. Having a stop which engages a tooth of one set while another set of teeth is in raking position.
- 383 Rake-tooth-engaging stop:**
This subclass is indented under subclass 379. Having a stop which engages a tooth of one set while another set of teeth is in raking position.
- 384 Wheel supported:**
This subclass is indented under subclass 378. Wherein the rake is supported by ground-wheels.
- 385 Contractible:**
This subclass is indented under subclass 384. Having means for reducing the width of the rake.
- SEE OR SEARCH CLASS:
172, Earth Working, subclass 456 for contractible implement structure to facili-

tate its transport from one place to another.

386 Draft dumpers:

This subclass is indented under subclass 384. Wherein power from the draft-animals may be used to dump or to assist in dumping the rake.

387 Direct draft:

This subclass is indented under subclass 386. Wherein the draft-power is directly applied to dumping the rake, that is, without the medium of the supporting-wheels.

388 Frictional:

This subclass is indented under subclass 386. Wherein the power for dumping the rake is applied through a frictional connection with the supporting-wheels.

389 Spur gear:

This subclass is indented under subclass 386. Comprising spur gear-wheels which are brought into mesh to lock the rake to the supporting-wheels to dump it.

390 Sliding bolt or bar:

This subclass is indented under subclass 386. Comprising a sliding member which locks the rake to the supporting-wheels to dump it.

391 Pawl and ratchet:

This subclass is indented under subclass 386. Comprising a pawl and ratchet which are engaged to lock the rake to the supporting-wheels to dump it.

392 Transverse torsion rod:

This subclass is indented under subclass 391. The pawl being fixed to or integral with a transverse rod which is rocked to cause the pawl to engage the ratchet.

393 Hand lever pulled back to dump:

This subclass is indented under subclass 384. Wherein a backward pull on a hand-lever raises the rake-teeth to dump the load.

394 Hand lever concentric with rake head:

This subclass is indented under subclass 384. Wherein a hand-lever is mounted to swing forwardly on the same axis as the rake-head to dump the load.

395 Clearers:

This subclass is indented under subclass 375. Having mechanism for clearing the hay or straw from the teeth.

(1) Note. For hand rakes provided with clearing means, see this class, subclasses 400.08+.

396 Wheel supported:

This subclass is indented under subclass 375. Wherein the rake is supported by ground-wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

400.09, 400.13, 400.14, and 400.15, for hand rakes provided with ground wheels.

397 With lifting means:

This subclass is indented under subclass 396. Having means for lifting the loaded rake clear of the ground, so that the load may be more easily transported.

398 Draft operated:

This subclass is indented under subclass 397. Wherein power from the draft-animals is used for lifting the loaded rake.

399 Fenders:

This subclass is indented under subclass 375. Attachments for horse-rakes for preventing escape of the material from the sides of the rake or to prevent it from becoming entangled with the operating mechanism.

400 Rake teeth and fastenings:

This subclass is indented under subclass 375. Structure of the teeth, per se, or of the means for fastening them to the rake-head.

(1) Note. For structure of the teeth, per se, of hand rakes, see this class, subclass 400.21.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 705+ for a spring biased or formed earth working tool, and subclass 713 for an earth working tooth.

400.01 HAND RAKES:

This subclass is indented under the class definition. Rakes designed to be manipulated by hand.

- (1) Note. Compare with this class, subclasses 163 and 180.
- (2) Note. For horse-type rakes, see this class, subclasses 375+.
- (3) Note. For blanks and processes for making rakes, see Class 76, Metal Tools and Implements, Making, subclass 111.
- (4) Note. For rake handle connections, per se, Class 403, Joints and Connections, appropriate subclasses.
- (5) Note. For hand held earth working tools see Class 172, Earth Working, subclasses 371+.

SEE OR SEARCH CLASS:

294, Handling: Hand and Hoist-Line Implements, subclass 55.5 for hand forks, and subclasses 120+ for hay forks and see the searches there noted.

400.02 Rotary or endless:

This subclass is indented under subclass 400.01. Rakes wherein the tines or teeth are mounted upon a rotary or endless member.

- (1) Note. For rotary horse type rakes, see this class, subclasses 377 and 379+.
- (2) Note. For brushes with analogous mountings, etc., see Class 15, Brushing, Scrubbing, and General Cleaning, subclasses 78+.
- (3) Note. For endless conveyors provided with tines, see Class 198, Conveyors: Power-Driven, subclasses 520, 692, and 725+.

400.03 Impaling type:

This subclass is indented under subclass 400.02. Rakes wherein the teeth are peculiarly adapted to impale leaves and the like in their movement. These devices usually are provided with a material receiver and a means to clear

the impaled material from the teeth into the receiver.

400.04 Combined, convertible and attachments:

This subclass is indented under subclass 400.01. Rakes convertible into tools for other purposes or combined with other tools and not provided for elsewhere. Attachments specifically adapted for connection to a rake are also here included where not provided for elsewhere.

- (1) Note. For hand forks combined with rakes, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 52.

400.05 With cutter, scraper or spreader:

This subclass is indented under subclass 400.04. Combinations of rake and cutter, scraper or spreader. The cutting edge may be formed integral with one or more of the rake tines.

- (1) Note. Compare with this class, subclass 193.

400.06 Directed oppositely to rake:

This subclass is indented under subclass 400.05. Combinations wherein the cutter and rake are so mounted upon a common handle that their working edges are directed substantially in opposite directions.

400.07 Acting simultaneously with rake:

This subclass is indented under subclass 400.05. Combinations wherein the cutter and rake are mounted with their working edges extending in the same general direction so that they may perform work simultaneously during a stroke of the tool.

400.08 With cleaner:

This subclass is indented under subclass 400.04. Combinations of rake and means operable to remove material from the rake teeth.

- (1) Note. For horse type rakes with clearers, see this class, subclass 395.
- (2) Note. For impaling type rakes with cleaners, see this class, subclass 400.03.
- (3) Note. For forks with ejectors or strippers, see Class 30, Cutlery, subclass 129.

- (4) Note. For hand forks equipped with clearing means, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 50.

SEE OR SEARCH CLASS:

- 132, Toilet, subclass 119 for toilet comb attached to comb cleaners, and subclass 27 for other toilet comb cleaners involving structure other than a brush.
- 171, Unearthing Plants or Buried Objects, subclasses 12, 52, 89, and 90 for moving soil working and buried object recovering rakes provided with intercepting rake teeth stripper-type cleaners.

400.09 With ground support:

This subclass is indented under subclass 400.08. Combinations provided with means to support the rake upon the ground for movement thereover. The ground support may be carried by the cleaner.

- (1) Note. For other ground supported hand rakes, see this class, subclasses 400.13, 400.14 and 400.15.

400.1 With actuating linkage:

This subclass is indented under subclass 400.08. Combinations having means operable by hand or foot for actuating the rake cleaning means.

- (1) Note. Mere inertia operators which function by turning the rake over or striking it upon the ground are in this class, subclasses 400.08 and 400.09.
- (2) Note. For pivoted heads or tines, see this class, subclasses 400.19 and 400.2.

400.11 With guard or material receiver:

This subclass is indented under subclass 400.04. Combinations of rake and means (1) to receive the raked material or (2) to prevent or guard against spillage of material from the rake.

- (1) Note. Additional braces provided between the handle and head of a rake have been considered as guards for purposes of this classification.

- (2) Note. Search this class, subclasses 400.02 and 400.03 for rotary or endless rakes combined with material receivers.

- (3) Note. For cleaners and actuating means therefor which may incidentally form guards or receivers, see this class, subclasses 400.08+.

- (4) Note. Compare with this class, subclass 400.16.

- (5) Note. For fork or rake type scoops, see Class 37, Excavating, subclasses 316 and 405.

400.12 Grappling type:

This subclass is indented under subclass 400.11. Combinations wherein the guard or receiver comprises means which coact with the tines or teeth to grip the raked material.

- (1) Note. For grapples in general, see Class 294, Handling: Hand and Hoist-Line Implements, appropriate subclasses.

400.13 With ground support:

This subclass is indented under subclass 400.11. Rake combinations provided with means to support the rake upon the ground for movement thereover.

- (1) Note. For other hand rakes having ground supports, search this class, subclasses 400.09, 400.14 and 400.15

400.14 With ground support:

This subclass is indented under subclass 400.04. Combinations of rake and means to support the rake upon the ground for movement thereover.

- (1) Note. Search also this class, subclasses 400.09 and 400.13.

- (2) Note. For ground supported rakes of the rotary or endless type, see this class, subclasses 400.02 and 400.03.

- (3) Note. For wheel supported horse type rakes, see this class, subclasses 380, 384, and 396 and their indented subclasses.

400.15 Skid or runner type:

This subclass is indented under subclass 400.14. Combinations wherein the ground support is of the skid or runner type.

400.16 With plural sets of tines:

This subclass is indented under subclass 400.01. Rakes provided with more than one set of tines which may be used simultaneously or alternatively.

- (1) Note. For rakes with sectional heads mounted so as to be movable with respect to each other, see this class, subclasses 400.19 and 400.2.

400.17 Broom type:

This subclass is indented under subclass 400.01. Rakes peculiarly adapted to be used in the manner of a broom. The handle and tine fastenings for this type of rake are also classified here.

- (1) Note. Compare with this class, subclasses 400.11+.
- (2) Note. For brooms in general, see Class 15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses, particularly subclasses 159.1+.

400.18 Adjustable or expandible:

This subclass is indented under subclass 400.17. Broom type rakes having means whereby the parts are adjusted, usually to fan out or vary the spacing of the tines.

- (1) Note. For adjustable or folding rakes of other types, see this class, subclass 400.19.
- (2) Note. For adjustable fork or shovel heads, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 53.5 and the search Notes appended thereto.

400.19 Adjustable, folding or take down:

This subclass is indented under subclass 400.01. Rakes so constructed that (1) they may be collapsed or folded or (2) the parts may be adjusted with respect to each other.

- (1) Note. For hand rakes provided with ground supports and means to adjust the distance between the teeth and the ground, see this class, subclasses 400.09, 400.13, 400.14, and 400.15.

- (2) Note. For adjustable broom type rakes, see this class, subclass 400.18.

- (3) Note. For rakes having means adjustable with respect thereto to grapple the raked material, see this class, subclass 400.12.

- (4) Note. For rakes having means adjustable to clean the rake teeth, see this class, subclasses 400.08+.

400.2 Biased pivoted head or tines:

This subclass is indented under subclass 400.19. Rakes wherein the head or tines are pivotally mounted to yield in one direction against the action of a biasing means. This construction is usually for the purpose of assisting cleaning or to avoid breakage.

400.21 Tines or teeth:

This subclass is indented under subclass 400.01. Improvements in the rake tines or teeth, per se.

- (1) Note. For teeth of the type which provide plural sets of tines, see this class, subclass 400.16.

- (2) Note. For tines or teeth for horse type rakes, see this class, subclass 400.

- (3) Note. For teeth for broom type hand rakes, see this class, subclasses 400.17 and 400.18.

401 SHOCKERS:

This subclass is indented under the class definition. Devices for forming sheaves, gavels, or loose stalks into large bundles or shocks, with the butts all pointing in the same direction, and positioning the same in upright position, with the butts on the ground.

SEE OR SEARCH CLASS:

- 100, Presses, subclasses 1+ for compressing and binding material, and appro-

priate subclasses for compressing, not elsewhere provided for.

- 402 Automatic feed:**
This subclass is indented under subclass 401. Having means for receiving sheaves or gavels directly from the harvesting mechanism and transferring to the shock-former without manual assistance.
- 403 Self-binding:**
This subclass is indented under subclass 402. Having means for automatically binding the sheaves or gavels together in the shock.
- 404 Vertical position:**
This subclass is indented under subclass 403. Wherein the sheaves or gavels stand on their butts in substantially vertical position while being formed into a shock.
- 405 Automatic shock-delivery trip:**
This subclass is indented under subclass 404. Wherein the shock binding and delivery mechanism is normally tripped without assistance.
- 406 Oscillating sheaf-delivery member:**
This subclass is indented under subclass 405. Having an oscillating member which receives sheaves as they are discharged from the sheaf-binding mechanism and delivers them to the shock-former.
- 407 Sheaf turned end for end:**
This subclass is indented under subclass 403. Wherein each sheaf in passing from the sheaf-binder to the shocker is turned end for end, so that the butts point toward the rear.
- 408 Forwardly tilting shock:**
This subclass is indented under subclass 403. Wherein the shock is tilted forwardly from a reclining position to an upright position on the ground.
- 409 Automatic shock-delivery trip:**
This subclass is indented under subclass 408. Wherein the shock binding and delivery mechanism is normally tripped without manual assistance.
- 410 Vertical position:**
This subclass is indented under subclass 402. Wherein the sheaves or gavels stand on their butts in substantially vertical position while being formed into a shock.
- 411 Rotary, vertical axis:**
This subclass is indented under subclass 410. Wherein the shock is rotated on its vertical axis as sheaves are successively placed thereon.
- 412 Automatic shock-delivery trip:**
This subclass is indented under subclass 411. Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 413 Oscillating sheaf-delivery member:**
This subclass is indented under subclass 412. Having an oscillating member which receives sheaves as they are discharged from the binding mechanism and delivers them to the shock-former.
- 414 Automatic shock-delivery trip:**
This subclass is indented under subclass 410. Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 415 Alternating sheaf delivery:**
This subclass is indented under subclass 414. Having a sheaf-delivery member which receives sheaves as they are discharged from the binder and delivers them alternately to either side of the shock-former, the latter usually having a central partition.
- 416 Alternating sheaf delivery:**
This subclass is indented under subclass 410. Having a sheaf-delivery member which receives sheaves as they are discharged from the binder and delivers them alternately to either side of the shock-former, the latter usually having a central partition.
- 417 Sheaf turned end for end:**
This subclass is indented under subclass 402. Wherein each sheaf in passing from the sheaf-binder to the shocker is turned end for end, so that the butts point toward the rear.

- 418 Automatic shock-delivery trip:**
This subclass is indented under subclass 417. Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 419 Forwardly tilting shock:**
This subclass is indented under subclass 402. Wherein the shock is tilted forwardly from a reclining position to an upright position on the ground.
- 420 Automatic shock-delivery trip:**
This subclass is indented under subclass 419. Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 421 Number:**
This subclass is indented under subclass 420. Wherein the shock-delivery mechanism is normally tripped when a predetermined number of sheaves has been delivered to the shock-former.
- 422 Feed stopped during shock delivery:**
This subclass is indented under subclass 419. Wherein the feeding of sheaves to the shocker is automatically discontinued while the shock is being discharged.
- 423 Rearwardly opening former:**
This subclass is indented under subclass 419. Wherein after the shock-former is swung to upright position to set the shock on the ground the rear side opens to allow the machine to pass on without disturbing the shock.
- 424 Shock turned end for end:**
This subclass is indented under subclass 402. Wherein after the shock is formed it is turned end for end, so as to bring the butts to the rear before it is discharged from the machine.
- 425 Vertical position:**
This subclass is indented under subclass 401. Wherein the stalks stand on their butts in substantially vertical position while being formed into a shock.
- 426 Rotary, vertical axis:**
This subclass is indented under subclass 425. Wherein the shock is rotated on its vertical axis as sheaves or gavels are successively placed thereon.
- 427 Direct drop:**
This subclass is indented under subclass 425. Wherein when the shock is formed it is allowed to drop directly to the ground.
- 428 Divided former:**
This subclass is indented under subclass 401. Having means in the shock-former to divide the butts of the stalks, leaving an air-space through the central part of the base of the shock.
- 429 Self-binding:**
This subclass is indented under subclass 401. Having means for automatically binding the sheaves or gavels together in the shock, no feed mechanism being shown.
- 430 With compressor:**
This subclass is indented under subclass 401. Having means for pressing the stalks or sheaves together into a compact shock, in combination with means for setting the shock on the ground.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for compressing and binding material, and appropriate subclasses for compressing, not elsewhere provided for.
- 431 Props:**
This subclass is indented under subclass 401. Means against which the stalks or sheaves rest while a shock is being formed directly on the ground.
- (1) Note. See Class 211, Supports: Racks, subclass 29 for racks which support shocks of grain ordinarily in the field.
- 432 COMPRESSING AND BINDING:**
This subclass is indented under the class definition. Means mounted on a harvester and operatively connected therewith for forming compact bundles of stalks and binding them as the harvester travels through the field.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for binder applying methods and apparatus, not elsewhere classifiable.

- 433 Cord knotter type:**
This subclass is indented under subclass 432. Wherein a band is passed around the bundle and the ends of the band knotted together.
- SEE OR SEARCH CLASS:
289, Knots and Knot Tying, appropriate subclasses, for inventions in the knotting mechanism, per se.
- 434 Adjustable position:**
This subclass is indented under subclass 433. Comprising means for adjusting the binding mechanism longitudinally to adapt it to grain of different lengths.
- 435 Knotting:**
This subclass is indented under subclass 434. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 436 Pressure tripped:**
This subclass is indented under subclass 433. Wherein the pressure of the grain trips the mechanism which carries the cord around the bundle.
- SEE OR SEARCH CLASS:
100, Presses, subclass 4 for binder applying apparatus, not otherwise provided for, and including automatic or material triggered control.
- 437 Upstanding compressor control:**
This subclass is indented under subclass 436. Wherein the trip is actuated through the medium of an abutting arm which projects up through the deck and against which the grain is packed.
- 438 Packing:**
This subclass is indented under subclass 437. Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 439 Knotting:**
This subclass is indented under subclass 438. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 440 Packing:**
This subclass is indented under subclass 436. Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 441 Knotting:**
This subclass is indented under subclass 440. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 442 Knotting:**
This subclass is indented under subclass 436. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 443 Packing:**
This subclass is indented under subclass 433. Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 444 Knotting:**
This subclass is indented under subclass 443. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 445 Knotting:**
This subclass is indented under subclass 433. Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 446 Packers:**
This subclass is indented under subclass 433. The invention residing wholly in the means for packing the grain into a bundle preparatory to passing the cord around it.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
185, and 471.
- 447 Auxiliary manual trip:**
This subclass is indented under subclass 433. Having means for tripping the binding mechanism into action manually in addition to automatic tripping means.

- 448 Needle cleaners and guards:**
This subclass is indented under subclass 433. Devices for cleaning straw from the needle or binder-arm or for preventing the straw from becoming entangled with it.
- 449 Ejectors and discharge gates:**
This subclass is indented under subclass 433. Devices for facilitating the discharge of the bound bundle from the binding mechanism.
- SEE OR SEARCH CLASS:
100, Presses, subclass 17 for binder applying apparatus, not otherwise provided for, and including material depositing or discharging means.
- 450 Tension and take-up devices:**
This subclass is indented under subclass 433. Devices, in combination with the bundle forming or binding mechanism, for tensioning the cord with which the bundle is bound or for taking up the slack in the cord.
- SEE OR SEARCH CLASS:
100, Presses, subclass 32 for apparatus, not otherwise provided for, by which a binder which is encircling material is tensioned to increase its tightness about the material.
242, Winding, Tensioning, or Guiding, subclasses 410+, for tension or take-up devices of general application.
- 451 Wire twister type:**
This subclass is indented under subclass 432. Wherein the bundle is encircled by wire or the like and the ends of the wire twisted together.
- SEE OR SEARCH CLASS:
100, Presses, subclass 31 for apparatus, not otherwise provided for, for tensioning a binder about material by intertwisting the local spaced portions of the binder, such twisting being employed for joining the binder portions together.
140, Wireworking, subclass 93.
- 452 Single wire:**
This subclass is indented under subclass 451. Wherein only one wire is used.
- 453 Curved binder arm:**
This subclass is indented under subclass 452. Wherein a curved arm carries the wire around the bundle.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 19+ for binder applying apparatus, not otherwise provided for, and including threader means crossing a path along which material moves for carrying the binder around the material.
- 454 Laterally mounted:**
This subclass is indented under subclass 453. Wherein the binder-arm is mounted to one side of the path of the grain which is being delivered to the bundle-forming mechanism.
- 455 Forked end:**
This subclass is indented under subclass 453. Wherein the binder-arm has a forked end, which carries the wire into the binder-head.
- 456 Twister on binder arm:**
This subclass is indented under subclass 453. Wherein the twister element is carried on the end of the binder-arm.
- 457 Twisters:**
This subclass is indented under subclass 451. Wherein the invention is limited to the twisting element, per se.
- SEE OR SEARCH CLASS:
140, Wireworking, subclass 115.
- 458 Band-tucker type:**
This subclass is indented under subclass 432. Wherein the ends of the band which encircles the bundle are twisted together and subsequently tucked into the bundle or under the band to prevent them from slipping apart.
- 459 Straw band:**
This subclass is indented under subclass 458. Wherein the band is of straw.
- 460 Band forming:**
This subclass is indented under subclass 459. Comprising means for forming the band from straw in combination with means for applying the band to the bundle.

- 461 Rotating bundle:**
This subclass is indented under subclass 460. Wherein the bundle is rotated while the band is placed in position around the same.
- 462 Band formers:**
This subclass is indented under subclass 459. Wherein the invention resides in the band-forming mechanism, per se.
- (1) Note. For machines and processes for forming twisted or spirally wrapped strands of hair, grass and the like, see Class 57, Textiles: Spinning, Twisting, and Twining, subclasses 4, 28, 29, 30, and 362+.
- 463 Prepared band:**
This subclass is indented under subclass 432. Wherein a band previously prepared and cut is used to bind the bundle.
- 464 Cord band and clip:**
This subclass is indented under subclass 432. Wherein a cord band is used, the ends of which are clamped together by a clip.
- SEE OR SEARCH CLASS:
- 29, Metal Working, subclasses 505+ for a process including deformably applying a band around work, and subclasses 33.5+ and 243.57+ for means for doing the same.
- 100, Presses, subclass 30 for apparatus, not otherwise provided for, by which a binder is tightened around material and portions of the binder secured together by the deformation of a sleeve or clamp element.
- 140, Wireworking, subclass 93.
- 465 Flat metal clip:**
This subclass is indented under subclass 464. Wherein the band is formed from a strip of flat metal.
- 466 GRAIN ADJUSTERS:**
This subclass is indented under the class definition. Devices for adjusting and maintaining the stalks in parallel relation, with even butts, preparatory to binding them into a bundle.
- 467 On deck:**
This subclass is indented under subclass 466. Wherein the adjusting mechanism acts on the grain as it is passing down the deck, where it is bound.
- 468 Head or butt evener:**
This subclass is indented under subclass 467. Wherein the adjuster acts directly against the heads or butts of the grain to even them.
- 469 Oscillating:**
This subclass is indented under subclass 468. Comprising an oscillating member with a flat surface, which strikes against the ends of the stalks as the member oscillates.
- 470 Endless apron:**
This subclass is indented under subclass 468. Comprising an endless apron which travels in the same general direction as the grain, while its flat surface bears against the ends of the stalks.
- 471 Feeders:**
This subclass is indented under subclass 467. Comprising devices for urging the grain toward the binder and arranging it with the stalks perpendicular to the plane of the binder-arm.
- 472 Retarding arms:**
This subclass is indented under subclass 467. Comprising devices for retarding the grain and preventing one end of the stalks from sliding down the deck ahead of the other.
- 473 Longitudinally moving straightening finger:**
This subclass is indented under subclass 466. Comprising a finger which moves longitudinally of the stalks to comb or straighten out any grain which may be in tangled condition.
- 473.5 CARRIERS:**
This subclass is indented under the class definition. Devices comprising a storage type receiver mounted on a harvesting machine or partially supported at the side of such machine by a mobile support in proper position for receiving harvested crop from the harvester as it travels over the ground.
- (1) Note. This subclass is directed primarily to a specific subcombination of a har-

vesting machine and should include the harvester by name only. Patents claiming structural features of the harvester are classified on the basis of such structural features.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

202+, for catchers attached to a cutter bar.
344+, for catchers combined with continuously gathering means.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 400+ for articulated vehicles in which a drawn vehicle may track at the side or rear of a drawing vehicle. Trailing vehicles in the vehicle subclasses are, for the most part, adaptable for use with any drawing vehicle, and are not designed for use with a specific type machine. See particularly subclasses 411.1+ for multiple tractor-towed vehicles which by disclosure may be a harvester and receiver or wagon.

414, Material or Article Handling, subclasses 334+ for a moving, wheeled, load-transporting type vehicle and a loading or unloading device therefor, which device is supported at least in part independently of the vehicle and travels with the vehicle during the transfer of a load from the device to the vehicle or vice versa.

474 SHEAF OR BUNDLE DISCHARGING CARRIERS:

This subclass is indented under the class definition. Devices comprising means attached to a binder or baler traveling over a field for receiving a sheaf, bundle or bale from said binder or baler and handling the sheaf, bundle or bale to deposit it on the field.

- (1) Note. A single sheaf, bundle or bale may be deposited on the field at one time or a group of sheaves, bundles or bales may be collected for depositing on the field at the same time.
- (2) Note. The handling device attached to the binder or baler may be of a trailing vehicle type.

- (3) Note. This subclass comprises an art collection. The binder or baler should be claimed by name only or without any detail of the binding or baling mechanism.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

67+, for corn stalk cutters with means for binding cut stalks.
120, for devices attached to corn harvesters for loading corn stalks bundles onto a vehicle.
121, for devices attached to corn harvesters for carrying bundles of corn stalks.
131+, for devices for cutting, conveying and binding grain or the like.
341+, for devices for raking and bundling hay or straw.
401+, for shocking devices. 432+, for devices mounted on a harvester for binding stalks. 473.5, for storage type receivers attached to a harvester for receiving crops from the harvester.

SEE OR SEARCH CLASS:

100, Presses, appropriate subclasses for binder or baler structure combined with means for depositing sheaves, bundles or bales on the ground.
193, Conveyors, Chutes, Skids, Guides, and Ways, appropriate subclasses, especially subclasses 4+ for sheaf, bundle or bale depositing devices comprising no more than a mere trough chute or guideway for depositing sheaves, bundles or bales on the ground.
198, Conveyors: Power-Driven, for power-driven devices for moving sheaves, bales or bundles along a path; see subclasses 717+ for a conveyor having means for changing the attitude of the conveyed load relative to the conveying direction.
414, Material or Article Handling, subclass 789.7 for discharging from a vehicle-carried bale accumulator, subclass 111 for a vehicle-carried bale accumulator, and subclasses 334+ as explained in subclass 473.5 for this class (56).

- 475 Automatic discharge:**
This subclass is indented under subclass 474. Devices having means to trip automatically the mechanism for discharging the sheaf, bundle or bale.
- 476 Directly tilting:**
This subclass is indented under subclass 475. Devices wherein the carrier swings about a fixed horizontal axis to discharge the sheaf, bundle or bale.
- 477 Endless carrier:**
This subclass is indented under subclass 474. Devices wherein the sheaf, bundle or bale rests on an endless carrier which is normally motionless, but may be thrown into gear to discharge the sheaf, bundle or bale.
- 478 Folding tines:**
This subclass is indented under subclass 474. Devices having a series of tines which normally project transversely to the line of travel, but may be folded about approximately vertical axes to discharge the sheaf, bundle or bale.
- 479 Opening bottom:**
This subclass is indented under subclass 474. Devices having a receptacle with a bottom which is opened to discharge the sheaf, bundle or bale.
- 480 Directly tilting:**
This subclass is indented under subclass 474. Device wherein the carrier swings about a fixed horizontal axis to discharge the sheaf, bundle or bale.
- 500 STALK CHOPPERS:**
This subclass is indented under the class definition. Devices in which a means is provided for cutting dead crop material into a plurality of small pieces.
- (1) Note. This definition includes devices for chopping up leaves, brush, plant stalks and stubble. While the stalks are generally broken down or already severed from their roots and lying on the ground, they may be stalks which are still standing but from which the ears or the like have been picked.
- SEE OR SEARCH CLASS:
172, Earth Working, especially subclasses 35+ and 518+ for stalk choppers which chop the stalks into small pieces by shearing the same between a cutting member and the earth's surface. Generally the cutting member is a blade on a drum which rolls or is driven along the ground in such fashion that the ground acts as a back up means against which the cutter member bears as it shears through the stalks, the ground surface being at the same time either intentionally or merely incidentally stirred or agitated.
- 501 Gathering by air current:**
This subclass is indented under subclass 500. Devices in which there are means for causing a current of air to gather or feed crop material to the means for cutting the same into a plurality of small pieces.
- 502 With driven pickup:**
This subclass is indented under subclass 500. Devices in which a separate gatherer is provided for picking up the crop material which is to be cut into a plurality of small pieces by the crop cutting means and said gatherer is driven so as to have a regular cyclical motion with respect to its mounting frame.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
1, for devices for picking up hay and chopping the same into small pieces for subsequent delivery to a truck, storage bin or like receptacle.
- 503 Rotating on vertical axis:**
This subclass is indented under subclass 500. Devices in which the crop cutting means rotates about an axis which is perpendicularly disposed relative to the ground.
- 504 Rotating on horizontal transverse axis:**
This subclass is indented under subclass 500. Devices in which the crop cutting means rotates about an axis which is perpendicular to the line of draft and which lies in a plane which is parallel to the ground.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 501, and 502, for the combination of air current or driven stalk gathering or pick up means with stalk chopping means, which latter means is generally disposed to rotate about a horizontal transverse axis.
- 505, Devices under subclass 504 in which a fixed, elongated, transversely disposed blade or plate is so associated with the rotary crop cutting means that during rotation of the latter the crop material will be sheared off between the blade or plate and a cooperating shearing surface or element of the rotary cutting means.

END