

CPC**COOPERATIVE PATENT CLASSIFICATION****A01D**

HARVESTING; MOWING(parts, details or accessories of agricultural machines or implements in general [A01B 51/00](#) to [A01B 75/00](#))}

NOTE

This subclass covers the shredding or pulverising of stubble, e.g. for the purpose of producing mulch, but does not cover other mechanical destruction of unwanted vegetation, which is covered by group [A01M 21/02](#)

In this subclass, in groups [A01D 34/00](#) , [A01D 42/00](#) , [A01D 43/00](#) , [A01D 57/00](#) , [A01D 67/00](#) , [A01D 69/00](#) and [A01D 75/00](#) , it is desirable to add the indexing code of group [A01D 2101/00](#)

Guidance heading: **Hand implements**(devices for picking apples or like fruit [A01D 46/24](#) ; soil-working implements not specially adapted for harvesting [A01B 1/00](#))

A01D 1/00

Hand-cutting implements for harvesting(hedge trimming means [A01G 3/04](#) ; { hand-cutting in general [B26](#) ; making from sheet metal [B21D 53/72](#) ; making by rolling [B21H 7/10](#) })

- [A01D 1/02](#) . Scythes
- [A01D 1/04](#) . Sickles
- [A01D 1/06](#) . Knives
- [A01D 1/08](#) . Attaching means for blades
- [A01D 1/10](#) . . with fastening by means of eccentric levers
- [A01D 1/12](#) . . with blades adjustable in several ways
- [A01D 1/14](#) . Handles; Accessories, e.g. scythe baskets, safety devices

A01D 3/00

Non-abrasive sharpening devices for scythes, sickles or the like([abrasive or similar sharpening devices](#) [B24D 15/06](#))

- [A01D 3/02](#) . with percussive tools
- [A01D 3/04](#) . with pressing jaws
- [A01D 3/06](#) . with pressing rollers or pressing discs
- [A01D 3/08](#) . Details, e.g. scythe anvils, scythe guides

A01D 5/00

Containers for whetstones for use during harvesting([whetting implements](#) [B24D 15/00](#))

A01D 7/00

Rakes(mowers convertible to rakes or capable of raking [A01D 42/02](#) ; mowers combined with rakes [A01D 43/02](#) ; haymakers, crop conditioners [A01D 76/00](#) to [A01D 84/00](#) ; { making rakes from sheet metal [B21D 53/68](#) ; making rakes by rolling [B21H 7/08](#) })

- [A01D 7/02](#) . with tines rigidly connected to the rake-bar
- [A01D 7/04](#) . with adjustable rake-bar
- [A01D 7/06](#) . with tines specially shaped or attached

A01D 7/08	<ul style="list-style-type: none"> with exchangeable tines
A01D 7/10	<ul style="list-style-type: none"> combined with strippers, grippers or the like
A01D 9/00	Forks {(making forks from sheet metal B21D 53/68 ; making forks by rolling B21H 7/08)}
A01D 9/02	<ul style="list-style-type: none"> with tines rigidly connected to the handle
A01D 9/04	<ul style="list-style-type: none"> with exchangeable tines
A01D 9/06	<ul style="list-style-type: none"> combined with strippers, grippers or the like
A01D 11/00	Other hand implements {(for maize A01D 45/026 , for cotton A01D 46/087)}
A01D 11/02	<ul style="list-style-type: none"> for lifting or cropping beet, potatoes or other root crops
A01D 11/025	<ul style="list-style-type: none"> .. {Knives for topping beets}
A01D 11/04	<ul style="list-style-type: none"> for handling root crops, e.g. shovels, fork-like shovels
A01D 11/06	<ul style="list-style-type: none"> Combined implements, e.g. fork and rake
Guidance heading:	<u>Machines for harvesting root crops</u>
A01D 13/00	Diggers, e.g. potato ploughs
A01D 15/00	Digging machines with sieve graters but without conveying mechanisms
A01D 15/02	<ul style="list-style-type: none"> with rigid graters
A01D 15/04	<ul style="list-style-type: none"> with moving or vibrating graters
A01D 17/00	Digging machines with sieving and conveying mechanisms
A01D 17/02	<ul style="list-style-type: none"> with conveyers arranged above the sieving device
A01D 17/04	<ul style="list-style-type: none"> with conveyers arranged below the sieving device
A01D 17/06	<ul style="list-style-type: none"> with rollers or disc screens
A01D 17/08	<ul style="list-style-type: none"> with shaker type screens
A01D 17/10	<ul style="list-style-type: none"> with smooth conveyer belts, lath bands or rake bands
A01D 17/101	<ul style="list-style-type: none"> .. {with two superposed conveyer belts}
A01D 2017/103	<ul style="list-style-type: none"> .. {Constructional details of conveyor belts}
A01D 2017/105	<ul style="list-style-type: none"> .. {Driving means for the belt.}
A01D 2017/106	<ul style="list-style-type: none"> .. {Belts with fingers mounted on them.}
A01D 2017/108	<ul style="list-style-type: none"> .. {Belts with paddles mounted on them.}
A01D 17/12	<ul style="list-style-type: none"> with bucket conveyers
A01D 17/14	<ul style="list-style-type: none"> with cylindrical screens
A01D 17/16	<ul style="list-style-type: none"> .. with a conveyer spiral
A01D 17/18	<ul style="list-style-type: none"> .. without a conveyer spiral
A01D 17/20	<ul style="list-style-type: none"> .. with several co-operating screens
A01D 17/22	<ul style="list-style-type: none"> .. with several co-operating sifter bands
A01D 19/00	Digging machines with centrifugal wheels, drums or spinners

A01D 19/02	<ul style="list-style-type: none"> with working tools rotating around a horizontal axis arranged transverse to the direction of travel
A01D 19/04	<ul style="list-style-type: none"> with working tools rotating around a horizontal axis arranged parallel to the direction of travel
A01D 19/06	<ul style="list-style-type: none"> with scoop wheels or drums
A01D 19/08	<ul style="list-style-type: none"> with scoop tine chains
A01D 19/10	<ul style="list-style-type: none"> with receiving screens; Implements for depositing the root crops
A01D 19/12	<ul style="list-style-type: none"> with working tools arranged on an approximately vertical axis
A01D 19/14	<ul style="list-style-type: none"> with one screening wheel
A01D 19/16	<ul style="list-style-type: none"> with several screening wheels
A01D 19/18	<ul style="list-style-type: none"> with screen tine chains
A01D 21/00	Digging machines with potato-picking implements
A01D 21/02	<ul style="list-style-type: none"> with picking tools moved up-and-down
A01D 21/04	<ul style="list-style-type: none"> with rotating picking tools
A01D 23/00	Topping machines
A01D 23/02	<ul style="list-style-type: none"> cutting the tops before being lifted
A01D 2023/022	<ul style="list-style-type: none"> {Rotatable cleaning devices, e.g. brushes, for removing the rests of vegetal material on the root-crops not yet harvested(with cutters A01D 2023/026)}
A01D 2023/024	<ul style="list-style-type: none"> {Devices with fix blades for topping.}
A01D 2023/026	<ul style="list-style-type: none"> {Devices with movable knives for topping, e.g. rotatable cutting disks.}
A01D 2023/028	<ul style="list-style-type: none"> {Cutters rotating around a shaft forming a cutting rotor.}
A01D 23/04	<ul style="list-style-type: none"> cutting the tops after being lifted(processing of harvested produce in bulk A01F 29/00 , A23N)
A01D 23/06	<ul style="list-style-type: none"> with collecting and depositing devices for the tops; Devices for protecting the tops against damage
A01D 25/00	Lifters for beet or like crops
A01D 25/005	<ul style="list-style-type: none"> {Auxiliary devices for the lifters}
A01D 25/02	<ul style="list-style-type: none"> Machines with rigid tools
A01D 25/04	<ul style="list-style-type: none"> Machines with moving or rotating tools
A01D 25/042	<ul style="list-style-type: none"> {with driven tools}
A01D 25/044	<ul style="list-style-type: none"> {with driven rotating tools}
A01D 25/046	<ul style="list-style-type: none"> {with oscillating tools}
A01D 25/048	<ul style="list-style-type: none"> {with endless chains}
A01D 27/00	Machines with both topping and lifting mechanisms
A01D 27/02	<ul style="list-style-type: none"> with rigid tools
A01D 27/04	<ul style="list-style-type: none"> with moving or rotating tools
A01D 29/00	Harvesters for peanuts
A01D 31/00	Other digging harvesters {(for harvesting asparagus A01D 45/007)}

- A01D 31/02 . combined with other agricultural machines, e.g. drilling, planting, hay-harvesting machines

A01D 33/00**Accessories for digging harvesters**

- A01D 2033/005 . {Yield crop determination mechanisms for root-crop harvesters.}
- A01D 33/02 . Foliage-separating mechanisms
- A01D 33/04 . Stone-separating mechanisms
- A01D 33/06 . Haulm-cutting mechanisms
- A01D 33/08 . Special sorting and cleaning mechanisms
- A01D 33/10 . Crop collecting devices, with or without weighing apparatus
- A01D 33/105 .. {Devices for gathering the crop in a row}
- A01D 33/12 . Driving mechanisms, with or without motor
- A01D 33/14 . Lifting or lowering mechanisms for the tools

Guidance heading: **Harvesters or mowers for grass, cereals, or other crops**(component parts thereof [A01D 57/00](#) to [A01D 69/00](#) ; accessories therefor [A01D 75/00](#))

A01D 34/00

Mowers(combined with apparatus performing additional operations while mowing [A01D 37/00](#) to [A01D 41/00](#) , [A01D 43/00](#) ; convertible to apparatus for purposes other than mowing or capable of performing operations other than mowing [A01D 42/00](#));
Mowing apparatus of harvesters

- A01D 34/001 . {Accessories not otherwise provided for}
- A01D 34/003 .. {Means for cleaning the machine}
- A01D 34/005 .. {Mulching means}
- A01D 34/006 . {Control or measuring arrangements}
- A01D 34/008 .. {for automated or remotely controlled operation}
- A01D 34/01 . characterised by features relating to the type of cutting apparatus
- A01D 34/015 .. {Cutting mechanisms not covered by another group}
- A01D 34/02 .. having reciprocating cutters
- A01D 34/03 ... mounted on a vehicle, e.g. a tractor, or drawn by an animal or a vehicle
- A01D 34/032 {drawn by an animal or a vehicle}
- A01D 34/035 {with cutter bars driven by a power take-off from the vehicle}
- A01D 34/037 {with additional power-supply}
- A01D 34/04 with cutters at the front
- A01D 34/043 {for cutting at the side}
- A01D 34/046 {drawn by an animal or a vehicle}
- A01D 34/06 with cutters at the side
- A01D 34/065 {drawn by an animal or a vehicle}
- A01D 34/07 with cutters at the back
- A01D 34/08 ... hand-guided by a walking operator
- A01D 34/10 with motor driven cutters or wheels

A01D 34/125	...	with means for discharging mown material(A01D 57/26 to A01D 57/30 take precedence ; combined with means for gathering or loading mown material A01D 43/06)
A01D 34/13	...	Cutting apparatus
A01D 34/135	....	having oppositely movable cooperating knife-bars
A01D 34/14	....	Knife-bars
A01D 34/145	.....	{Devices for connecting the knife-bars to the driving mechanism}
A01D 34/16	....	Guides for the knife-bar in the ledger-plate
A01D 34/17	....	Holding-down devices for the knife
A01D 34/18	....	Guard fingers; Ledger-plates
A01D 34/20	....	Ledger-plate bars
A01D 34/22	.....	Shoes therefor
A01D 34/23	....	with additional vertical cutter-bar
A01D 34/24	...	Lifting devices for the cutter-bar
A01D 34/243	....	{Mechanical lifting devices(A01D 34/26 takes precedence)}
A01D 34/246	....	{Hydraulic lifting devices}
A01D 34/26	....	manually actuated
A01D 34/27	....	Devices for disengaging the knife-driving mechanisms during the lifting of the cutter-bar
A01D 34/28	...	Adjusting devices for the cutter-bar
A01D 34/283	....	{Adjustment of the cutter bar in a vertical plane, i.e. to adjust the angle between the cutter bar and the soil}
A01D 34/286	....	{Adjustment of the cutter bar on a horizontal plane, i.e. to adjust the angle between the cutter bar and the tractor}
A01D 34/30	...	Driving mechanisms for the cutters
A01D 34/305	....	{Balancing}
A01D 34/32	....	Connecting-rods for knife-driving mechanisms
A01D 34/33	.....	Devices for connecting the rod to the knife-bar
A01D 34/34	.....	Devices for connecting the rod to the crank-pin of the driving mechanism
A01D 34/36	....	actuated by advance of the machine
A01D 34/37	....	electric
A01D 34/38	....	fluid
A01D 34/40	...	Other details
A01D 34/404	..	having cutters driven to oscillate in a horizontal plane
A01D 34/408	...	and cooperating with counter-cutters
A01D 34/412	..	having rotating cutters
A01D 34/416	...	Flexible line cutters
A01D 34/4161	....	{Means for feeding cutter line}
A01D 34/4162	.....	{automatically}
A01D 34/4163	.....	{by triggered line feedout, e.g. bump-feeding}
A01D 34/4165	....	{Mounting of the cutter head}

A01D 34/4166	....	{Mounting or replacement of the lines}
A01D 34/4167	....	{Protection devices}
A01D 34/4168	....	{Constructional details of the flexible lines}
A01D 34/42	...	having cutters rotating about a horizontal axis, e.g. cutting-cylinders
A01D 34/43	....	mounted on a vehicle, e.g. a tractor, or drawn by an animal or a vehicle
A01D 34/435	.....	{Flail harvesters or mowers(cutting flails A01D 34/535)}
A01D 34/44	.....	with two or more cutters
A01D 34/46	....	hand-guided by a walking operator(A01D 34/43 takes precedence)
A01D 34/47	.....	with motor driven cutters or wheels
A01D 34/475	.....	{Driving mechanisms(for the cutters A01D 34/56)}
A01D 34/49	....	with means for discharging mown material(A01D 57/26 to A01D 57/30 take precedence; combined with means for gathering or loading mown material A01D 43/06)
A01D 34/52	....	Cutting apparatus
A01D 34/53	.....	Helically shaped cutting members
A01D 34/535	.....	with cutting members pivotally attached to the rotating axle, e.g. flails
A01D 34/54	....	Cutting-height adjustment
A01D 34/56	....	Driving mechanisms for the cutters
A01D 34/57	.....	actuated by advance of the machine
A01D 34/58	.....	electric
A01D 34/60	.....	fluid
A01D 34/62	....	Other details
A01D 34/63	...	having cutters rotating about a vertical axis
A01D 34/64	....	mounted on a vehicle, e.g. a tractor, or drawn by an animal or a vehicle(A01D 34/695 takes precedence)
A01D 2034/645	.....	{Lifting means for the cutter of the lawnmower mounted at the front of the vehicle for inspection and maintenance}
A01D 34/66	.....	with two or more cutters
A01D 34/661	.....	{Mounting means}
A01D 34/662	.....	{to the front of the vehicle}
A01D 34/664	.....	{Disc cutter bars}
A01D 34/665	.....	{modular}
A01D 34/667	.....	{Means for directing the cut crop}
A01D 34/668	.....	{rotating}
A01D 34/67	....	hand-guided by a walking operator
A01D 34/68	.....	with motor driven cutters or wheels
A01D 34/6806	.....	{Driving mechanisms(for the cutters A01D 34/76)}
A01D 34/6812	.....	{Braking or clutching mechanisms}
A01D 34/6818	.....	{Motor starting mechanisms}
A01D 2034/6825	.....	{being tire driven}
A01D 2034/6831	.....	{being fluid driven}

A01D 2034/6837	.....	{Drive connections}
A01D 2034/6843	.....	{Control levers on the handle of the mower}
A01D 34/685	.....	with two or more cutters
A01D 34/69	.....	with motor driven wheels
A01D 34/695	....	supported by an air cushion
A01D 34/71	....	with means for discharging mown material(A01D 57/26 to A01D 57/30 take precedence; combined with means for gathering or loading mown material A01D 43/06)
A01D 34/73	....	Cutting apparatus
A01D 34/733	.....	{Cutting-blade mounting means}
A01D 34/736	.....	{Flail type}
A01D 34/74	....	Cutting-height adjustment
A01D 34/76	....	Driving mechanisms for the cutters
A01D 34/77	.....	actuated by advance of the machine
A01D 34/78	.....	electric
A01D 34/80	.....	fluid
A01D 34/81	....	Casings; Housings(A01D 34/71 takes precedence)
A01D 34/82	....	Other details
A01D 34/822	.....	{Devices for guiding or supporting cables}
A01D 34/824	.....	{Handle arrangements}
A01D 34/826	.....	{Noise reduction means}
A01D 34/828	.....	{Safety devices}
A01D 34/83	..	having cutting members on endless belts or sprocket chains
A01D 34/831	...	{with blades on endless belts}
A01D 34/833	...	{with blades on endless sprocket chains}
A01D 34/835	.	specially adapted for particular purposes
A01D 34/8355	..	{for cutting up or crushing remaining standing stalks, e.g. stubble(mowers combined with means for cutting up, crushing or bruising, the mown crop A01D 43/08 , A01D 43/10 ; apparatus for crushing or bruising mown stalks A01D 82/00 ; apparatus for cutting up the mown crop A01F 29/00)}
A01D 34/84	..	for edges of lawns or fields, e.g. for mowing close to trees or walls({ for embankments A01D 34/86 takes precedence; })(hand-held edge trimmers A01G 3/06)
A01D 34/86	..	for use on sloping ground, e.g. on embankments{or in ditches}{ undercarriages or frames specially adapted for harvesters or mowers A01D 67/00 ; control mechanisms for harvesters or mowers when moving on slopes A01D 75/28)
A01D 34/863	...	{and for mowing around obstacles, e.g. posts, trees, fences or the like(A01D 34/866 takes precedence)}
A01D 34/866	...	{Mounting means}
A01D 34/90	..	for carrying by the operator
A01D 34/902	...	{Ergonomic provisions}
A01D 34/905	...	{Vibration dampening means}
A01D 2034/907	...	{Control levers for portable mowing machines}

A01D 37/00	Reaper-binders (features relating to mowing only A01D 34/00 , to binding only A01D 39/00 ; equipment thereon for binding harvested produce, e.g. knotters, A01D 59/00 ; { bundling articles B65B 13/00 })
A01D 37/02	. with receiving platform and binding apparatus but without elevating canvases{(knotting D04G)}
A01D 37/04	. conveying the stalks in vertical position{(delivering devices for standing stalks A01D 57/22)}
A01D 37/06	. binding with stalks or straw bands{(implements for laying-out bands for sheaves A01D 75/16)}
A01D 39/00	Independent binders, e.g. for hay; Binders attachable to mowers (equipment thereon for binding harvested produce, e.g. knotters, A01D 59/00 ; stationary apparatus or hand tools for forming or binding hay or straw into bundles A01F 1/00 ; { bundling articles B65B 13/00 ; knotting D04G })
A01D 39/005	. { Binders combined with devices for picking-up the harvest }
A01D 41/00	Combines, i.e. harvesters or mowers combined with threshing devices (threshing devices for combines A01F 7/00 to A01F 12/00)
A01D 41/02	. Self-propelled combines
A01D 41/04	. Tractor-driven combines
A01D 41/06	. Combines with headers
A01D 41/08	. Combines with thresh before the stalk is cut
A01D 41/10	. Field threshers with windrow pick-up apparatus
A01D 41/12	. Details of combines
A01D 41/1208	.. { Tanks for grain or chaff(for threshing machines A01F 12/60)}
A01D 41/1217	... { Unloading mechanisms }
A01D 41/1226	... { Extension mechanisms }
A01D 41/1235	.. { Platforms for sacking }
A01D 41/1243	.. { Devices for laying-out or distributing the straw }
A01D 41/1252	.. { Anti-dust devices }
A01D 41/1261	.. { Access devices for personnel }
A01D 41/127	.. Control or measuring arrangements specially adapted for combines
A01D 41/1271	... { for measuring crop flow }
A01D 41/1272	.... {for measuring grain flow }
A01D 41/1273	..... {for measuring grain loss }
A01D 41/1274	... { for drives }
A01D 41/1275	... { for the level of grain in grain tanks }
A01D 41/1276	... { for cleaning mechanisms }
A01D 41/1277	... { for measuring grain quality }
A01D 41/1278	... { for automatic steering }
A01D 41/133	.. Drying devices
A01D 41/14	.. Mowing tables
A01D 41/141	... { Automatic header control }

A01D 41/142	...	{Header drives}
A01D 41/144	...	{Foldable headers}
A01D 41/145	...	{Header lifting devices}
A01D 41/147	...	{Sunflower header attachments}
A01D 41/148	...	{Telescopic headers}
A01D 41/16	...	Devices for coupling mowing tables to conveyers
A01D 42/00	Mowers convertible to apparatus for purposes other than mowing; Mowers capable of performing operations other than mowing(mowers combined with apparatus performing additional operations while mowing A01D 43/00)	
A01D 42/005	.	{ Mulching(shredders or like cutting implements for comminuting plant waste per se A01G 3/002) }
A01D 42/02	.	Raking
A01D 42/04	.	Soil working
A01D 42/06	.	Sweeping or cleaning lawns or other surfaces(sweeping apparatus for lawns per se A01G 1/125) }
A01D 42/08	..	Sweeping snow
A01D 43/00	Mowers combined with apparatus performing additional operations while mowing(A01D 37/00 , A01D 39/00 , A01D 41/00 , take precedence)	
A01D 43/003	.	{with devices for drying or burning}
A01D 43/006	.	{with devices for pressing or compacting}
A01D 43/02	.	with rakes
A01D 43/04	.	with haymakers, e.g. tedders
A01D 43/06	.	with means for collecting, gathering or loading mown material(A01D 43/086 takes precedence; for hay or the like A01D 87/00) }
A01D 43/063	..	in or into a container carried by the mower; Containers therefor(A01D 43/077 takes precedence)
A01D 43/0631	...	{Control devices specially adapted therefor}
A01D 43/0633	...	{with compacting means}
A01D 43/0635	...	{with emptying means}
A01D 43/0636	...	{Flexible containers}
A01D 43/0638	...	{Rigid containers}
A01D 43/07	..	in or into a trailer(A01D 43/077 takes precedence)
A01D 43/073	...	with controllable discharge spout
A01D 43/077	..	with auxiliary means, e.g. fans, for transporting the mown crop
A01D 43/0775	...	{for airborne lawn-mowers}
A01D 43/08	.	with means for cutting up the mown crop,{e.g. forage harvesters(threshing machines having chaff-cutters A01F 12/40 ; cutting apparatus of chaff-cutters or of apparatus for cutting up mown crop A01F 29/00) }
A01D 43/081	..	{specially adapted for ensilage of maize}
A01D 43/082	...	{Gathering units}
A01D 43/083	....	{with belts or chains}

A01D 43/085	.. {Control or measuring arrangements specially adapted therefor}
A01D 43/086	.. {and means for collecting, gathering or loading mown material}
A01D 43/087	... {with controllable discharge spout}
A01D 43/088	.. {Mounting means}
A01D 43/10	. with means for crushing or bruising the mown crop{(stalk crushers or bruisers per se for standing stalks or stubbles A01D 34/8355 , for mown crop A01D 82/00 , for straw A01F 12/40)}
A01D 43/102	.. {Bruising control devices}
A01D 43/105	.. {Driving mechanisms}
A01D 43/107	.. {Mounting means}
A01D 43/12	. with soil-working implements, e.g. ploughs
A01D 43/14	. with dispensing apparatus, e.g. for fertilisers, herbicides or preservatives
A01D 43/16	. with lawn edgers
A01D 44/00	Harvesting of underwater plants, e.g. harvesting of seaweed
A01D 44/02	. of laver
A01D 45/00	Harvesting of standing crops(A01D 44/00 takes precedence; threshing machines adapted for special crops, threshing devices for combines adapted for special crops A01F 11/00)
A01D 45/001	. {with arrangements for transport of personnel}
A01D 45/002	. {of pineapples}
A01D 45/003	. {of millet, sorghum}
A01D 45/005	. {of mushrooms}
A01D 45/006	. {of tomatoes}
A01D 45/007	. {of asparagus}
A01D 45/008	. {of cucumbers}
A01D 45/02	. of maize{, i.e. kernel harvesting(for ensilage maize A01D 43/081)}
A01D 45/021	.. {Cornheaders}
A01D 45/023	... {Gathering chains of belts}
A01D 45/025	... {Snapping rolls}
A01D 45/026	.. {Hand implements}
A01D 45/028	.. {Harvesting devices mounted to a vehicle}
A01D 45/04	. of rice
A01D 45/06	. of flax{or similar fibrous plants}
A01D 45/065	.. {of fibrous plants other than flax, e.g. ramie, sisal, hemp, jute, Spanish grass, raffia}
A01D 45/10	. of sugar cane{(for digging sugar cane A01D 31/00)}
A01D 45/16	. of tobacco
A01D 45/22	. of beans
A01D 45/24	. of peas
A01D 45/26	. of cabbage or lettuce
A01D 45/263	.. {of lettuce}

- A01D 45/266 . . {of Brussels sprouts}
- A01D 45/28 . of spinach
- A01D 45/30 . of grass-seeds or like seeds

A01D 46/00 Picking of fruits, vegetables, hops, or the like; Devices for shaking trees or shrubs

NOTE

In this group, group [A01D 46/30](#) takes precedence over groups [A01D 46/02](#) to [A01D 46/28](#)

- A01D 46/005 . {picking or shaking pneumatically(of cotton [A01D 46/10](#))}
- A01D 46/02 . of hops
- A01D 46/04 . of tea
- A01D 46/06 . of coffee
- A01D 46/08 . of cotton
- A01D 46/081 . . {with harvesters characterised by transversally adjustable row units}
- A01D 46/082 . . {with harvesters characterised by basket means}
- A01D 46/084 . . . {with compacting means}
- A01D 46/085 . . {Control or measuring arrangements specially adapted for cotton harvesters}
- A01D 46/087 . . {Hand implements}
- A01D 46/088 . . {with harvesters characterised by the lubricant distribution systems}
- A01D 46/10 . . pneumatically{([A01D 46/081](#) to [A01D 46/088](#) take precedence)}
- A01D 46/12 . . using boll-from-plant strippers
- A01D 46/14 . . using lint-from-plant pickers
- A01D 46/16 . . . using rotary or oscillating spindles
- A01D 46/18 mounted on rotary carrier
- A01D 46/20 . Platforms with lifting and lowering devices
- A01D 46/22 . Baskets or bags attachable to the picker
- A01D 46/24 . Devices for picking apples or like fruit([A01D 46/28](#) { and [A01D 46/005](#) }takes precedence)
- A01D 46/243 . . {Accessories specially adapted for manual picking, e.g. ladders, carts}
- A01D 46/247 . . Manually operated fruit-picking tools([A01D 46/26](#) takes precedence)
- A01D 46/253 . . Portable motorised fruit pickers
- A01D 46/26 . Devices for shaking trees or shrubs; Fruit catching devices to be used therewith([A01D 46/28](#) takes precedence)
- A01D 2046/262 . . {Collecting surfaces extended around a tree in order to catch the fruit}
- A01D 46/264 . . Devices for beating or vibrating the foliage; Fruit catching devices to be used therewith
- A01D 2046/266 . . {Portable devices to shake branches}
- A01D 2046/268 . . {Devices to shake the branches pneumatically powered}
- A01D 46/28 . Vintaging machines, i.e. grape harvesting machines

A01D 46/285 . . {with means for separating leaves and grapes, e.g. pneumatical means like blowing or aspirating devices}

A01D 46/30 . Robotic devices for individually picking crops

A01D 47/00 Headers{for topping of plants, e.g. stalks with ears}

A01D 51/00 Apparatus for gathering together crops spread on the soil, e.g. apples, beets, nuts, potatoes,{cotton, cane sugar}

A01D 51/002 . {for apples or nuts}

A01D 51/005 . {Loaders for beets, beetleaf or potatoes}

A01D 51/007 . {for grains}

Guidance heading: Components of harvesters or mowers for grass or cereals([mowing apparatus A01D 34/00](#) ; [wheels B60B](#) ; [wheel scrapers B60S 1/68](#))

A01D 57/00 Delivering mechanisms for harvesters or mowers

A01D 57/01 . Devices for leading crops to the mowing apparatus

A01D 57/02 . . using reels

A01D 57/025 . . . {with synchronised driving means}

A01D 57/03 . . . with supplementary controlled movement of the crop-engaging members, e.g. of the tines{([A01D 57/025 takes precedence](#))}

A01D 57/04 . . . Arrangements for changing the position of the reels

A01D 57/05 . . . Detachable reels for converting a mower into a harvester

A01D 57/06 . . using endless conveyers

A01D 57/08 . . using swinging rakes

A01D 57/10 . . using fans

A01D 57/12 . Rotating rakes

A01D 57/14 . Single-platform rakes

A01D 57/16 . Tilting tables

A01D 57/18 . Bunching devices, e.g. with tipping bars

A01D 57/20 . with conveyer belts

A01D 57/22 . for standing stalks

A01D 57/24 . Grass-boards

A01D 57/26 . Plates arranged behind the cutter-bar for guiding the cut grass or straw

A01D 57/28 . Windrower attachments with tines

A01D 57/30 . Rotating attachments for forming windrows

A01D 59/00 Equipment for binding harvested produce([specially adapted for baling presses A01F 15/14](#) ; [bundling articles for packaging in general B65B 13/00](#))

A01D 59/02 . Packers

A01D 59/04 . Knotters

A01D 59/06 . Needles

A01D 59/08 . Discharge arms

A01D 59/10	. Devices for separating cohering sheaves
A01D 59/12	. Containers for the twine(twine balls or their manufacture B65H)
A01D 59/14	. Sheaf counters
A01D 61/00	Elevators or conveyers for binders or combines (conveying in general B65G ; hoisting, lifting in general B66)
A01D 61/002	. {transversal conveying devices}
A01D 61/004	. . {with cylindrical tools}
A01D 61/006	. . {with rollers, e.g. adjustable}
A01D 61/008	. {for longitudinal conveying, especially for combines}
A01D 61/02	. Endless belts
A01D 61/04	. Chains
A01D 63/00	Outside dividers
A01D 63/02	. Rotating dividers
A01D 63/04	. Non-rotating dividers
A01D 65/00	Grain-crop lifters
A01D 65/02	. Lifting fingers
A01D 65/04	. with revolving staffs
A01D 65/06	. Lifting devices arranged on the inner side of the cutter-bar
A01D 65/08	. Guard attachments for the wheels
A01D 67/00	Undercarriages or frames specially adapted for harvesters or mowers (coupling arrangements between animal or tractor and harvester or mower A01B 59/00); Mechanisms for adjusting the frame (adjusting devices for the cutter-bar A01D 34/28); Platforms
A01D 67/005	. {Arrangements of coupling devices}
A01D 67/02	. Protection against weather
A01D 67/04	. Seats
A01D 69/00	Driving mechanisms or parts thereof for harvesters or mowers (driving mechanisms for the cutters of mowers or harvesters A01D 34/00)
A01D 69/002	. {driven by power take-off}
A01D 69/005	. {Non electric hybrid systems, e.g. comprising mechanical and/or hydraulic and/or pneumatic drives}
A01D 69/007	. with separate hand drive for cutting tools
A01D 69/02	. electric
A01D 69/025	. . {Electric hybrid systems}
A01D 69/03	. fluid
A01D 69/06	. Gearings
A01D 69/08	. Clutches
A01D 69/10	. Brakes
A01D 69/12	. Lubrication

A01D 75/00**Accessories for harvesters or mowers**

- A01D 75/002 . {Carriers for the transport of harvesters or mowers}
- A01D 75/004 .. {for mowers}
- A01D 75/006 .. {for lawn-mowers}
- A01D 75/008 . {Tool-carrying means}
- A01D 75/02 . Implements for collecting grain crop
- A01D 75/04 . Sheaf carriers
- A01D 75/06 . Sheaf shockers or stokers
- A01D 75/065 .. {hand-operated}
- A01D 75/08 . Sharpening apparatus fixed to the harvester or mower(sharpening machines or devices per se [B24B](#) , [B24D](#))
- A01D 75/10 . Devices for reconditioning the knife-bar e.g. removing the knife from its backing
- A01D 75/12 . Instruments for removing the knife-bar from the cutter
- A01D 75/16 . Implements for laying-out bands for sheaves
- A01D 75/18 . Safety devices for parts of the machines(safety devices in general [F16P](#))
- A01D 75/182 .. {Avoiding overload}
- A01D 75/185 .. {Avoiding collisions with obstacles}
- A01D 75/187 .. {Removing foreign objects}
- A01D 75/20 . Devices for protecting men or animals(safety devices in general [F16P](#))
- A01D 2075/203 .. {by stopping driving when lifting frames, e.g. for haymakers}
- A01D 75/206 .. {for mowers carried by operator}
- A01D 75/24 . Special devices for harvesters or mowers drawn by animals
- A01D 75/243 .. {Poles}
- A01D 75/246 .. {Devices for harnessing}
- A01D 75/26 . Front trucks; Axle-pivot steering of front trucks
- A01D 75/265 .. {Support wheels for poles or supporting devices}
- A01D 75/28 . Control mechanisms for harvesters or mowers when moving on slopes; Devices preventing lateral pull
- A01D 75/282 .. {acting on the grain cleaning and separating device(grain cleaners, separators per se [A01F 12/44](#))}
- A01D 75/285 .. {with arrangements for holding the harvesting or mowing apparatus in a horizontal position}
- A01D 75/287 .. {acting on the mowing table([A01D 75/285](#) takes precedence)}
- A01D 75/30 . Arrangements for trailing two or more mowers
- A01D 75/303 .. {for mowers positioned one behind the other or side by side}
- A01D 75/306 .. {for lawn mowers positioned one behind the other or side by side}

Guidance heading: **Haymakers**(combined with mowers [A01D 43/04](#)); **Crop Conditioners**

NOTE

In groups [A01D 76/00](#) to [A01D 87/00](#) , the following terms are used with the meanings indicated:

- "hay" includes all mowed forage crop in a dry or partially dry state;
- "haymakers" covers all apparatus working on mowed forage crop lying on the ground with the intention to make hay, with the exception of "rakes" which are covered by group [A01D 7/00](#)

A01D 76/00

Haymakers with tines that are stationary with respect to the machine during operation but that may be liftable for dumping

[A01D 76/003](#)

- . {Hand-operated wheeled rakes(hand-operated rakes [A01D 7/00](#))}

[A01D 76/006](#)

- . {Hay-sweeps(rakes for making stacks [A01D 85/001](#) ; sweep rakes [A01D 87/08](#))}

A01D 78/00

Haymakers with tines moving with respect to the machine

[A01D 78/001](#)

- . {Side-delivery rakes([A01D 78/04](#) takes precedence)}

[A01D 78/002](#)

- .. {Drum-turner-tedders with lateral discharge}

[A01D 78/003](#)

- .. {Drum-turner-tedders with throwing wheel}

[A01D 78/005](#)

- . {Turners; Tedders}

[A01D 78/006](#)

- .. {Rotating turners}

[A01D 78/007](#)

- ... {Control mechanisms therefor}

[A01D 78/008](#)

- .. {with forks}

[A01D 78/02](#)

- . with tine-carrying bars or equivalent members which interconnect heads rotating about horizontal axes, e.g. of rotary-drum type

[A01D 78/04](#)

- .. the tine-carrying members moving obliquely or at right angles to the direction of travel of the machine

[A01D 78/06](#)

- . with tine-carrying endless chains or belts

[A01D 78/08](#)

- . with tine-carrying rotary heads or wheels

[A01D 78/10](#)

- .. the tines rotating about a substantially vertical axis

[A01D 78/1007](#)

- ... {Arrangements to facilitate transportation specially adapted therefor([A01D 78/1021](#) takes precedence; for other agricultural machines or implements [A01B 73/00](#) ; carriers [A01D 80/005](#))}

[A01D 78/1014](#)

- {Folding frames}

[A01D 78/1021](#)

- ... {Telescopic frames}

[A01D 78/1028](#)

- ... {Pivotable rotor support arms([A01D 78/1007](#) takes precedence)}

[A01D 78/1035](#)

- {pivotable by orientation of the support wheels}

[A01D 78/1042](#)

- ... {Steering devices}

[A01D 78/105](#)

- ... {Ground support for rotors}

[A01D 78/1057](#)

- ... {Drive mechanisms}

[A01D 78/1064](#)

- ... {Arrangements of tines([A01D 78/1007](#) takes precedence)}

[A01D 78/1071](#)

- ... {Having only one rotor}

- A01D 78/1078 . . . {Having only one row of rotors arranged on the same horizontal line perpendicular to the advance direction of the machine}
- A01D 78/1085 . . . {Having two rows of rotors on two different horizontal lines perpendicular to the advance direction of the machine}
- A01D 78/1092 . . . {Having more than two rows of rotors on more than two different horizontal lines perpendicular to the advance direction of the machine}
- A01D 78/12 . . . the tines having an additional movement superimposed upon their rotary movement
- A01D 78/125 {by a guiding track}
- A01D 78/14 . . the tines rotating about a substantially horizontal axis
- A01D 78/142 . . . {Arrangements for transport by movement of the heads carrying rake arms}
- A01D 78/144 {in a vertical plane}
- A01D 78/146 {in a horizontal plane}
- A01D 78/148 . . . {Rakes having only one heads carrying arm}
- A01D 78/16 . . . with positive drive of the heads or wheels
- A01D 78/18 . of the reciprocating tine type
- A01D 78/20 . . the tines reciprocating in a direction parallel to the direction of travel of the machine

- A01D 80/00** **Parts or details of{, or accessories for,}haymakers(parts or details specific for one type of machine, see the relevant groups for these machines)**
- A01D 80/005 . {Carriers for the transport of haymakers(Arrangements of the haymaker to facilitate transportation [A01D 78/1007](#))}
- A01D 80/02 . Tines; Attachment of tines

- A01D 82/00** **Crop conditioners, i.e. machines for crushing or bruising stalks(combined with harvesters [A01D 43/10](#))**
- A01D 82/02 . Rollers for crop conditioners

- A01D 84/00** **Haymakers not provided for in a single one of groups [A01D 76/00](#) to [A01D 82/00](#)**
- A01D 84/02 . with flexible tools

- A01D 85/00** **Arrangements for making or setting stacks**
- A01D 85/001 . {making or setting stacks of cereals or grass, e.g. rack formers, fixed haystacks(rakes for making windrows, haysweeps [A01D 76/006](#) ; drying racks [A01F 25/12](#))}
- A01D 85/002 . . {with binding equipment, e.g. binding groups of bales}
- A01D 85/004 . . {with pressing equipment, e.g. vehicles for forming stacks}
- A01D 85/005 . {Forming groups of bales, e.g. bale sledges(loaders for bales [A01D 87/12](#) ; vehicles for loading bales [A01D 90/08](#))}
- A01D 2085/007 . . {Machines directly attached to a baler}
- A01D 2085/008 . . {Making groups of bales just at horizontal level for leaving them on the field.}

- A01D 87/00** **Loaders for hay or like field crops(combined with mowers [A01D 43/06](#) ; { loading in forage silos [A01F 25/18](#) ; } ; loading in general [B65G](#) , [B66](#))**

- A01D 87/0007 . {with chopping devices(harvesters with loaders [A01D 43/06](#) ; forage harvesters [A01D 43/08](#) ; special adaptations of cutting machines for hay, straw or fodder [A01F 29/00](#))}
- A01D 87/0015 . {Arrangements for making a strand(forming round bales [A01F 15/07](#))}
- A01D 87/0023 . {Coupling arrangements between tractors, loaders or vehicles(for harvesters [A01D 67/005](#))}
- A01D 87/003 . {with gripping or clamping devices(manure loaders [A01C 3/04](#))}
- A01D 87/0038 . {Dumpboxes or metering devices for loading or unloading}
- A01D 87/0046 . {Distributing devices at the delivery side of loaders}
- A01D 87/0053 . {Tractor-mounted loaders(buck-rakes, transporting rakes [A01D 87/08](#) ; manure loaders [A01C 3/04](#) ; fork loaders, fork lifts [B66F](#) ; earth-moving machines [E02F](#))}
- A01D 87/0061 . . {mounted on the three-point lifting system of the tractor}
- A01D 87/0069 . . {mounted on the tractor but having their own lifting device}
- A01D 87/0076 . . . {Front loaders}
- A01D 87/0084 . . . {Rear loaders}
- A01D 87/0092 . . {Accessories}
- A01D 87/02 . with conveyer belts{or conveyer chains, with or without pick-up means}
- A01D 87/04 . . with rakes feeding crop to the conveyor
- A01D 87/06 . with oscillating or reciprocating rake-bars
- A01D 87/08 . with sweep rakes,{i.e. buck-rakes, e.g. transporting rakes(gripping or clamping devices [A01D 87/003](#) ; fork loaders [A01D 87/0053](#))}
- A01D 87/10 . with blowers{(blowing and conveying [B65G 53/00](#) ; loading or distributing arrangements in forage silos [A01F 25/18](#))}
- A01D 87/12 . Loaders for sheaves, stacks or bales
- A01D 87/121 . . {for sheaves, stacks}
- A01D 87/122 . . {for bales on the ground(vehicles for loading [A01D 90/08](#))}
- A01D 2087/123 . . . {Manual trolleys for bales.}
- A01D 87/125 . . {mounted on the press without laying down the bales}
- A01D 87/126 . . {Loaders for stacks or groups of bales}
- A01D 87/127 . . {Apparatus for handling, loading or unrolling round bales}
- A01D 2087/128 . . . {Devices for unrolling or breaking round bales.}
- A01D 89/00** **Pick-ups for loaders, chaff-cutters, balers, field-threshers, or the like**{i.e. attachments for picking-up hay or the like field crops(field threshers with windrow pick-up apparatus [A01D 41/10](#))}
- A01D 89/001 . {Pick-up systems}
- A01D 89/002 . . {Rotors}
- A01D 89/003 . . {Endless belts}
- A01D 89/004 . {Mountings, e.g. height adjustment, wheels, lifting devices}
- A01D 89/005 . {Drives}
- A01D 89/006 . {Accessories(feeding devices for baling presses [A01F 15/10](#) ; for cutting machines [A01F 29/10](#))}
- A01D 89/007 . . {Devices for preparing the picking-up of the window}

A01D 89/008	. . {Devices cooperating with the pick-up}
A01D 90/00	Vehicles for carrying harvested crops with means for self-loading or unloading (combined with mowers A01D 43/06 ; load transporting vehicles modified to facilitate loading in general B60P ; bucket cars, i.e having scraper bowls E02F 3/64)
A01D 2090/005	. {Vehicles for transporting bunches of bananas}
A01D 90/02	. Loading means{(loaders A01D 87/00 ; pick-ups A01D 89/00)}
A01D 90/04	. . with additional cutting means
A01D 90/06	. . . with chaff cutters,{i.e. choppers }used as loading and cutting means(A01D 43/08 takes precedence)
A01D 90/08	. . with bale-forming means additionally used for loading; with means for picking-up bales and transporting them into the vehicle
A01D 90/083	. . . {Round-bale trailers(trailers in general B62D)}
A01D 2090/086	. . . {Taking loose material, i.e. before having been baled, into the vehicle}
A01D 90/10	. Unloading means{(manure distributors A01C 3/06)}
A01D 90/105	. . {Automatic side-emptying forage wagons}
A01D 90/12	. with additional devices or implements(arrangements of coupling devices A01B 59/00)
A01D 90/14	. Adaptations of gearing for driving, loading or unloading means
A01D 90/16	. self-propelled
A01D 91/00	Methods for harvesting agricultural products (essentially requiring the use of particular machines, see the relevant groups for the machines)
A01D 91/02	. Products growing in the soil
A01D 91/04	. Products growing above the soil(fruit, hops A01D 46/00)
A01D 93/00	Harvesting apparatus not provided for in other groups of this subclass
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A01D 2101/00	Lawn-mowers