A0F

COOPERATIVE PATENT CLASSIFICATION

A HUMAN NECESSITIES

AGRICULTURE

A01 AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING

A01F PROCESSING OF HARVESTED PRODUCE; HAY OR STRAW PRESSES; DEVICES FOR STORING AGRICULTURAL OR HORTICULTURAL PRODUCE (devices for topping or skinning onions or flower bulbs A23N 15/08)

WARNING In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00 Stationary apparatus or hand tools for forming or binding straw, hay or the like into bundles (baling apparatus or presses A01F 13/00, A01F 15/00; mobile binders for use in the field A01D 37/00, A01D 39/00)

1/02 . Hand-operated tools

1/04 . Fastening or tying devices

1/06 . Ties for bundles

3/00 Hand-operated implements for cutting-up straw, hay or the like (mechanically-driven straw cutters A01F 29/00)

Threshing

5/00 Hand-operated implements for threshing

7/00 Threshing apparatus

7/02 . with rotating tools (threshing cylinders or concaves A01F 12/18)

7/04 . with axes transverse to the feeding direction

7/06 . with axes in line with the feeding direction { Axial threshing machines }

7/062 . [with a rotating cage]

7/065 . [with cage sweep mechanisms]

7/067 . [with material-flow influencing means]

7/70 . with flails

2009/00 Threshing machines with flails; Threshing devices with flails for combines

11/00 Threshing apparatus specially adapted for maize; Threshing apparatus specially adapted for particular crops other than cereals

11/02 . for flax

11/04 . for clover or like seeds, e.g. lucerne

11/06 . for maize, e.g. removing kernels from cobs

11/08 . for palm fruit, e.g. releasing the fruit from the stalk

12/00 Parts or details of threshing apparatus (devices, other than safety devices for feeders, for protecting human beings A01D 75/20, A01F 21/00)

12/10 . Feeders

12/12 . without band-cutters

12/14 . with band-cutters

12/16 . Safety devices

12/18 . Threshing devices

12/181 . [Adjustable threshing mechanisms]

12/182 . [Stripper beaters after the threshing drum]

12/184 . [Cleaning means]

12/185 . [Mounting means]

12/187 . [Vibratory threshing mechanisms]

2012/188 . [Rethreshing devices]

12/20 . Threshing cylinders with ribs

12/22 . Threshing cylinders with teeth

12/24 . One-part threshing concaves

12/26 . Multi-part threshing concaves

12/28 . Devices for adjusting the concaves

12/30 . Straw separators {, i.e. straw walkers, for separating residual grain from the straw (grain cleaning A01F 12/44)}

12/305 . [combined with additional grain extracting means]

12/32 . with shaker screens or sieves

12/34 . . . Sieve elements; Linings for shakers

12/36 . . . Sieve elements specially adapted for handling short straw

12/38 . . with juxtaposed and independently-moved shaker bars or the like

12/385 . . with endless straw-conveying surface

12/39 . . with straw carriers in the form of rotors or drums

12/395 . . Conical or cylindrical straw separators with internal working surface

12/40 . Arrangements of straw crushers or cutters

12/42 . Apparatus for removing awns from the grain

12/44 . Grain cleaners; Grain separators

12/442 . { Rotary cleaners }

12/444 . { Fanning means }

12/446 . { Sieving means }

12/448 . . . [Sieve adjusting means]

12/46 . Mechanical grain conveyors

12/48 . Air conduits or blowers for grain

12/50 . Sack-filling devices; Counting or weighing devices

12/52 . Arrangements for returning unthreshed grain to the threshing device

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Baling straw or the like (baling presses in general, briquetting presses B30B)

Hand-operated baling apparatus

Baling presses for straw, hay or the like

Rotobalers, i.e. machines for forming cylindrical bales by winding and pressing

Arrangements for continuous operation

Wrapping devices (tying devices A01F 15/141)

Wrapping the bale in the press chamber before opening said chamber

Braking means for the film roll in balers which wrap the bale before opening the press chamber in order to stretch the film while wrapping

Film dispensers for film rollers in a satellite type wrapper, e.g. holding and tensioning means for the film roller (the rotating arm itself A01F 2015/073)

Features related to the horizontal rotating arm of a wrapping device of the satellite type (features of film dispensers A01F 2015/0725)

Combined machines that include a press bale and a wrapping device in a further step, e.g. turning table, not in the same closed pressing chamber

Mechanisms for discharging a bale from the wrapping machine

Special features of the wrapping material for wrapping the bale

Opening the pressing chamber before wrapping, and then wrapping by rotating the bale without displacing it out of the open pressing chamber

Configuration of support surfaces which can move in order to rotate a bale around at least one axis while wrapping

Wrapping device incorporating sensors

Rolling bales on the ground

Pressing chamber formed by belts and rollers

Pressing chambers with fix volume

Pressing chamber formed exclusively by flexible elements, e.g. belts

Latching or locking means for the tailgate of the rotobaler

Sledge for rollers of the pressing chamber

Pressing chamber with variable volume

Details

Balers incorporate an inclinometer

Devices for dispensing chemicals in bales during formation

Regulating or controlling density or shape of the bale

(for round balers)

Drives for balers

(for round balers)

(for the tying devices or needles)

Clutching means for the knotting process; Bale length measuring means for triggering the clutching mean

Discharge devices

(for round balers)

Weighing the finished bale before falling to ground

Feeding devices for the crop material (e.g. precompression devices)

Feeding at right angles to the compression stroke (A01F 15/106 takes precedence)

(the pressing chamber is fed from the bottom side)

(the pressing chamber is fed from a lateral side)

(the pressing chamber is fed from the top side)

(for round balers)

(Means for withdrawing knives, rotor or walls of the feeding chamber in case of plugging or congestion)

Cutting devices comprising cutter and counter-cutter

Feeding devices for the ties

Tying devices specially adapted for baling presses

(for round balers (wrapping devices A01F 15/071))

(Guiding fingers for twines in order to avoid the slippage of twines to the sides of the bale when tying it)

Twine knotters

Wire twisters

Monitoring the tying, e.g. mistie detectors

Division blocks

Endless belts, rolls or the like

Constructional details of belts of the press chamber

Constructional details of rollers or the bearings of the rollers of the press chamber

Accessories for threshing machines or baling presses (loaders for sheaves, stacks or bales A01D 87/12; trailers B62D 63/06)

Straw conveyors for threshing machines or baling presses

Mechanical conveyors

Pneumatic conveyors

Devices for securing threshing machines or baling presses to the ground, e.g. for compensating for unevenness of the ground

Devices for protecting human beings for threshing machines or baling presses (in combines A01D 75/20; for feeders for threshing apparatus A01F 12/16)
25/00 Storing agricultural or horticultural produce; Hanging-up harvested fruit (maturing fruit A23N 15/06; arrangements in barns for preparatory treatment of tobacco A24B 1/02; packing or storing hops C12C 3/04)

25/02 . Clamps; Pits
25/04 . Stacks, ricks or the like
25/045 . . . [Distributing arrangements in haystacks]
25/08 . . . Ventilating means
25/10 . . . Shelters (; Open sheds or similar structures)
25/12 . . . Racks for drying purposes
25/125 . . . [Transport devices for hay racks]
25/13 . Coverings (A01F 25/14 takes precedence)
25/14 . . . Containers specially adapted for storing
2025/142 . . . . [Machinery for making sausage-like groups of bales by wrapping or bagging (for bagging of loose material A01F 2025/145)]
2025/145 . . . . [Bagging machines for loose materials making some kind of "sausage" on the field (making sausage-like groups of bales A01F 2025/142)]
2025/147 . . . . [the containers are specially adapted for storing or drying the products in vacuum]
25/16 . . . Arrangements in forage silos
25/163 . . . . [in tower silos]
25/166 . . . . [in trench silos]
25/18 . . . Loading or distributing arrangements
25/183 . . . . [Loading arrangements]
25/186 . . . . . [Distributing arrangements (for haystacks A01F 25/045)]
25/20 . . . Unloading arrangements
25/209 . . . . . [Top unloading units for tower silos]
25/2018 . . . . . [Bottom unloading units for tower silos]
25/2027 . . . . . [for trench silos]
25/2036 . . . . . . [Cutting or handling arrangements for silage blocks]
2025/2045 . . . . . . [Unloading arrangements including a conveyor belt for transferring the material to a hopper]
2025/2054 . . . . . . [Machinery for cutting successive parallel layers of material in a trench silo (for shredding A01F 2025/2063)]
2025/2063 . . . . . . [Machinery for shredding successive parallel layers of material in a trench silo]
2025/2072 . . . . . . [Scoops with an extracting tool mounted inside or in the vicinity of said scoop]
2025/2081 . . . . . . [Hydraulic features of the trench silos unloading devices, e.g. hydraulic circuits]
2025/209 . . . . . . [Manual portable tools for unloading a silo, e.g. for cutting out a block]
25/22 . . . Ventilating arrangements

29/00 Cutting apparatus specially adapted for cutting hay, straw or the like (mowers combined with means for cutting up the mown crop A01D 43/08)

29/005 . . . . [for disintegrating and cutting up bales of hay, straw or fodder (for unrolling round bales A01D 87/127)]
29/01 . . . . specially adapted for being mounted on or drawn by a tractor, e.g. field choppers
29/02 . . . . having rotating knives with their cutting edges in a plane perpendicular to their rotational axis
29/025 . . . . [with feeding direction parallel to axis]
29/04 . . . . with feeding direction transverse to axis