

CPC**COOPERATIVE PATENT CLASSIFICATION****B02C**

CRUSHING, PULVERISING, OR DISINTEGRATING IN GENERAL; MILLING GRAIN ({household tools and machines for pulverising foodstuffs, e.g. coffee and spice mills [A47J 42/00](#); pharmaceutical mortars [A61J 3/02](#); mechanical processing of refuse and garbage [B03B 9/06](#); dressing mould materials by grinding [B22C 5/04](#)}; obtaining metallic powder by crushing, grinding or milling [B22F 9/04](#); {recovery of plastics by desintegration [B29B 17/00](#); crushing raw materials in starch making [C08B 30/02](#); beaters for papermaking [D21D 1/02](#); crushing devices specially for transport in mines [E21F 13/002](#); slag crushing devices [F23J 1/00](#); fuel milling devices in combustion apparatus [F23K 1/00](#); household devices for crushing coal [F24B 15/02](#); ice desintegrating devices [F25C 5/02](#)})

B02C 1/00**Crushing or disintegrating by reciprocating members**

B02C 1/005

- {hydraulically or pneumatically operated}

B02C 1/02

- Jaw crushers or pulverisers

B02C 1/025

- • {Jaw clearance or overload control}

B02C 1/04

- • with single-acting jaws

B02C 1/043

- • • {with cooperating single acting jaws}

B02C 1/046

- • • {of the plural stage type}

B02C 1/06

- • with double-acting jaws

B02C 1/08

- • with jaws coacting with rotating roller

B02C 1/10

- • Shape or construction of jaws

B02C 1/12

- Mills with non-rotating spiked members

B02C 1/14

- Stamping mills

B02C 2/00**Crushing or disintegrating by gyratory or cone crushers** {(with non-coaxial discs with intersecting axes [B02C 7/005](#))}

B02C 2002/002

- {the bowl being a driven element for providing a crushing effect}

B02C 2/005

- {Lining}

B02C 2/007

- {Feeding devices}

B02C 2/02

- eccentrically moved

B02C 2/04

- • with vertical axis

B02C 2/042

- • • {Moved by an eccentric weight}

B02C 2/045

- • • {and with bowl adjusting or controlling mechanisms ([B02C 2/042](#), [B02C 2/06](#) take precedence)}

B02C 2/047

- • • {and with head adjusting or controlling mechanisms ([B02C 2/042](#), [B02C 2/06](#) take precedence)}

B02C 2/06

- • • and with top bearing {([B02C 2/042](#) takes precedence)}

B02C 2/08

- • with horizontal axis

B02C 2/10

- concentrically moved; Bell crushers

B02C 4/00	Crushing or disintegrating by roller mills (with milling members in the form of rollers or balls co-operating with rings or discs B02C 15/00 ; roller mills or roll refiners exclusively for chocolate A23G 1/10 , A23G 1/12)
B02C 4/02	<ul style="list-style-type: none"> with two or more rollers
B02C 4/04	<ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
B02C 4/06	<ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling grain
B02C 4/08	<ul style="list-style-type: none"> <ul style="list-style-type: none"> with co-operating corrugated or toothed crushing-rollers
B02C 4/10	<ul style="list-style-type: none"> with a roller co-operating with a stationary member
B02C 4/12	<ul style="list-style-type: none"> <ul style="list-style-type: none"> in the form of a plate
B02C 4/14	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
B02C 4/16	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling grain
B02C 4/18	<ul style="list-style-type: none"> <ul style="list-style-type: none"> in the form of a bar
B02C 4/20	<ul style="list-style-type: none"> <ul style="list-style-type: none"> wherein the roller is corrugated or toothed
B02C 4/22	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
B02C 4/24	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> specially adapted for milling grain
B02C 4/26	<ul style="list-style-type: none"> <ul style="list-style-type: none"> in the form of a grid or grating
B02C 4/28	<ul style="list-style-type: none"> Details
B02C 4/283	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Lateral sealing shields}
B02C 4/286	<ul style="list-style-type: none"> <ul style="list-style-type: none"> {Feeding devices}
B02C 4/30	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Shape or construction of rollers
B02C 4/305	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Wear resistant rollers}
B02C 4/32	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Adjusting, applying pressure to, or controlling the distance between, milling members
B02C 4/34	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> in mills wherein a roller co-operates with a stationary member
B02C 4/36	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> in mills specially adapted for paste-like materials
B02C 4/38	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> in grain mills
B02C 4/40	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Detachers, e.g. scrapers
B02C 4/42	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Driving mechanisms; Roller speed control
B02C 4/423	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {with vibrating or oscillating mechanisms}
B02C 4/426	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> {Torque counterbalancing mechanisms}
B02C 4/44	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Cooling or heating rollers or bars
B02C 7/00	Crushing or disintegrating by disc mills (apparatus specially adapted for manufacture or treatment of cocoa or cocoa products exclusively A23G 1/04)
B02C 7/005	<ul style="list-style-type: none"> {Crushers with non-coaxial toothed discs with intersecting axes}
B02C 7/02	<ul style="list-style-type: none"> with coaxial discs
B02C 7/04	<ul style="list-style-type: none"> <ul style="list-style-type: none"> with concentric circles of intermeshing teeth
B02C 7/06	<ul style="list-style-type: none"> <ul style="list-style-type: none"> with horizontal axis (B02C 7/04 takes precedence)
B02C 7/08	<ul style="list-style-type: none"> <ul style="list-style-type: none"> with vertical axis (B02C 7/04 takes precedence)

- B02C 7/10
 - with eccentric discs
- B02C 7/11
 - Details
- B02C 7/12
 - . Shape or construction of discs
- B02C 7/13
 - . . for grain mills
- B02C 7/14
 - . Adjusting, applying pressure to, or controlling distance between, discs
- B02C 7/16
 - . Driving mechanisms
- B02C 7/17
 - . Cooling or heating of discs
- B02C 7/175
 - Disc mills specially adapted for paste-like material, e.g. paint, chocolate, colloids
- B02C 7/18
 - Disc mills specially adapted for grain
- B02C 7/182
 - . {with horizontal axis}
- B02C 7/184
 - . {with vertical axis}
- B02C 7/186
 - . {Adjusting, applying pressure to, or controlling distance between, discs}
- B02C 7/188
 - . {Driving mechanisms}
- B02C 9/00**
 - Other milling methods or mills specially adapted for grain**
- B02C 9/02
 - Cutting or splitting grain
- B02C 9/04
 - Systems or sequences of operations; Plant
- B02C 11/00**
 - Other auxiliary devices or accessories specially adapted for grain mills**
- B02C 11/02
 - Breaking up amassed particles, e.g. flakes
- B02C 11/04
 - Feeding devices
- B02C 11/06
 - Arrangements for preventing fire or explosion ([methods for preventing or extinguishing fires, devices therefor A62C](#))
- B02C 11/08
 - Cooling, heating, ventilating, conditioning with respect to temperature or water content ([conditioning grain before milling B02B 1/08](#); [air-conditioning or ventilating in general F24F](#))
- B02C 13/00**
 - Disintegrating by mills having rotary beater elements; {Hammer mills}**
- B02C 13/02
 - with horizontal rotor shaft ([with axial flow B02C 13/10](#))
- B02C 13/04
 - . with beaters hinged to the rotor; Hammer mills
- B02C 13/06
 - . with beaters rigidly connected to the rotor
- B02C 13/08
 - . . and acting as a fan
- B02C 13/09
 - . . and throwing the material against an anvil or impact plate ({[with vertical axis B02C 13/1807](#)})
- B02C 13/095
 - . . . {with an adjustable anvil or impact plate}
- B02C 13/10
 - with horizontal rotor shaft and axial flow
- B02C 13/12
 - . with vortex chamber
- B02C 13/13
 - with horizontal rotor shaft and combined with sifting devices, e.g. for making powdered fuel
- B02C 13/14
 - with vertical rotor shaft, e.g. combined with sifting devices
- B02C 2013/145
 - . {with fast rotating vanes generating vortices effecting material on material impact}

B02C 13/16	. . with beaters hinged to the rotor
B02C 13/18	. . with beaters rigidly connected to the rotor
B02C 13/1807	. . . {the material to be crushed being thrown against an anvil or impact plate (with horizontal axis B02C 13/09 ; centrifugal acceleration of material through radially extending channels B02C 19/0025 ; centrifugal acceleration of material by means of an open top rotor B02C 19/0031)}
B02C 13/1814	. . . . {by means of beater or impeller elements fixed on top of a disc type rotor}
B02C 13/1821	. . . . . {the beater or impeller elements being rotatably fixed around their own axis}
B02C 13/1828	. . . . . {with dead bed protected beater or impeller elements}
B02C 13/1835	. . . . {by means of beater or impeller elements fixed in between an upper and lower rotor disc}
B02C 13/1842	. . . . . {with dead bed protected beater or impeller elements}
B02C 13/185	. . . . {Construction or shape of anvil or impact plate}
B02C 2013/1857	. . . . {rotating coaxially around the rotor shaft}
B02C 2013/1864	. . . . {rotatable around its own axis}
B02C 2013/1871	. . . . {vertically adjustable}
B02C 2013/1878	. . . . {radially adjustable}
B02C 2013/1885	. . . . {of dead bed type}
B02C 2013/1892	. . . . {cooled or heated}
B02C 13/20	. with two or more co-operating rotors
B02C 13/205	. . {arranged concentrically}
B02C 13/22	. with intermeshing pins; {Pin Disk Mills}
B02C 13/24	. . arranged around a vertical axis
B02C 13/26	. Details
B02C 13/28	. . Shape or construction of beater elements
B02C 13/2804	. . . {the beater elements being rigidly connected to the rotor}
B02C 2013/2808	. . . {the beater elements are attached to disks mounted on a shaft}
B02C 2013/2812	. . . {the beater elements are attached to a hollow cylindrical rotor}
B02C 2013/2816	. . . {of chain, rope or cable type}
B02C 13/282	. . Shape or inner surface of mill-housings
B02C 2013/2825	. . . {with fastening means for fixing lining members to the inner surface of mill-housings}
B02C 13/284	. . . Built-in screens
B02C 13/286	. . Feeding or discharge
B02C 2013/28609	. . . {Discharge means}
B02C 2013/28618	. . . {Feeding means}
B02C 2013/28627	. . . . {of ram or pusher type}
B02C 2013/28636	. . . . {of conveyor belt type}
B02C 2013/28645	. . . . {of conveyor belt and cooperating roller type}
B02C 2013/28654	. . . . {of screw type}

- B02C 2013/28663 {using rollers}
- B02C 2013/28672 {Feed chute arrangements}
- B02C 2013/28681 {Feed distributor plate for vertical mill}
- B02C 2013/2869 . . . {Arrangements of feed and discharge means in relation to each other}
- B02C 13/288 . . Ventilating, or influencing air circulation
- B02C 2013/29 . . {devices for manipulating beater elements}
- B02C 13/30 . . Driving mechanisms
- B02C 13/31 . . Safety devices or measures

B02C 15/00 Disintegrating by milling members in the form of rollers or balls co-operating with rings or discs {(high-speed drum mills [B02C 19/11](#))}

- B02C 15/001 . {Air flow directing means positioned on the periphery of the horizontally rotating milling surface}
- B02C 2015/002 . {combined with a classifier}
- B02C 15/003 . {Shape or construction of discs or rings}
- B02C 15/004 . {Shape or construction of rollers or balls}
- B02C 15/005 . . {Rollers or balls of composite construction}
- B02C 15/006 . {Ring or disc drive gear arrangement}
- B02C 15/007 . {Mills with rollers pressed against a rotary horizontal disc (with pendularly mounted rollers [B02C 15/04](#))}
- B02C 2015/008 . {Roller drive arrangements}
- B02C 15/02 . Centrifugal pendulum-type mills
- B02C 15/04 . Mills with pressed pendularly-mounted rollers, e.g. spring pressed
- B02C 15/045 . . {pressed against the interior of a ring rotating in a vertical plane}
- B02C 15/06 . Mills with rollers forced against the interior of a rotary ring, e.g. under spring action ([B02C 15/04 takes precedence](#))
- B02C 15/08 . Mills with balls or rollers centrifugally forced against the inner surface of a ring, the balls or rollers of which are driven by a centrally arranged member ([B02C 15/02 takes precedence](#))
- B02C 15/10 . Mills with balls or rollers centrifugally forced against the inner surface of a ring, the balls or rollers of which are driven by other means than a centrally-arranged member
- B02C 15/12 . Mills with at least two discs {or rings} and interposed balls or rollers mounted like ball or roller bearings
- B02C 15/123 . . {with rings and interposed rollers}
- B02C 2015/126 . . {of the plural stage type}
- B02C 15/14 . Edge runners, e.g. Chile mills
- B02C 2015/143 . . {each runner pivot carrying more than one runner}
- B02C 2015/146 . . {Step-shaped runners}
- B02C 15/16 . with milling members essentially having different peripheral speeds and in the form of a hollow cylinder or cone and an internal roller or cone

B02C 17/00	Disintegrating by tumbling mills, i.e. mills having a container charged with the material to be disintegrated with or without special disintegrating members such as pebbles or balls (high-speed drum mills B02C 19/11; {drums for polishing or grinding B24B})
B02C 17/002	. {with rotary cutting or beating elements}
B02C 17/005	. {the charge being turned over by magnetic forces}
B02C 17/007	. {specially adapted for disintegrating refuse}
B02C 17/02	. with perforated container
B02C 17/04	. with unperforated container
B02C 17/06	. . with several compartments
B02C 2017/065	. . . {with several compartments in the form of multiwell blocks}
B02C 17/07	. . . in radial arrangement
B02C 17/08	. . with containers performing a planetary movement
B02C 17/10	. with one or a few disintegrating members arranged in the container
B02C 17/14	. Mills in which the charge to be ground is turned over by movements of the container other than by rotating, e.g. by swinging, vibrating, tilting {(mills provided with vibrators in general B02C 19/16)}
B02C 17/16	. Mills in which a fixed container houses stirring means tumbling the charge
B02C 17/161	. . {Arrangements for separating milling media and ground material}
B02C 17/163	. . {Stirring means}
B02C 2017/165	. . {with stirring means comprising more than one agitator}
B02C 17/166	. . {of the annular gap type}
B02C 17/168	. . {with a basket media milling device arranged in or on the container, involving therein a circulatory flow of the material to be milled}
B02C 17/18	. Details
B02C 17/1805	. . {Monitoring devices for tumbling mills}
B02C 17/181	. . {Bearings specially adapted for tumbling mills}
B02C 17/1815	. . {Cooling or heating devices}
B02C 17/182	. . {Lids}
B02C 17/1825	. . {Lifting devices (lifting devices associated with the lining for containers B02C 17/22)}
B02C 17/183	. . {Feeding or discharging devices}
B02C 17/1835	. . . {Discharging devices combined with sorting or separating of material (B02C 17/186 takes precedence)}
B02C 17/184	. . . . {with separator arranged in discharge path of crushing zone}
B02C 17/1845	. . . . . {with return of oversize material to crushing zone}
B02C 17/185	. . . . {with more than one separator}
B02C 17/1855	. . . . {with separator defining termination of crushing zone, e.g. screen denying egress of oversize material}
B02C 17/186	. . . {Adding fluid, other than for crushing by fluid energy}
B02C 17/1865	. . . . {after crushing}
B02C 17/187	. . . . . {with recirculation of material to crushing zone}

- B02C 17/1875 {passing gas through crushing zone}
- B02C 17/188 {characterised by point of gas entry or exit or by gas flow path}
- B02C 17/1885 {the applied gas acting to effect material separation ([B02C 17/1895](#) takes precedence)}
- B02C 17/189 {with return of oversize material to crushing zone ([B02C 17/1895](#) takes precedence)}
- B02C 17/1895 {gas being recirculated to crushing zone}
- B02C 17/20 . . Disintegrating members
- B02C 17/205 . . . {Adding disintegrating members to the tumbling mill}
- B02C 17/22 . . Lining for containers
- B02C 17/225 . . . {using rubber or elastomeric material}
- B02C 17/24 . . Driving mechanisms

- B02C 18/00** **Disintegrating by knives or other cutting or tearing members which chop material into fragments {(tree stump comminutors [A01G 23/067](#))}**
- B02C 18/0007 . {specially adapted for disintegrating documents}
- B02C 18/0015 . . {for disintegrating CDs, DVDs and/or credit cards}
- B02C 18/0023 . . {Switching devices}
- B02C 18/003 . . {Removing clips, pins or staples before disintegrating}
- B02C 18/0038 . . {Motor drives}
- B02C 18/0046 . . {Shape or construction of frames, housings or casings}
- B02C 18/0053 . . {hand-operated}
- B02C 18/0061 . . {with compacting devices for the disintegrated material}
- B02C 18/0069 . . {with stripping devices}
- B02C 18/0076 . {with cutting or tearing members fixed on endless flexible members (without cutting or tearing members [B02C 19/0006](#))}
- B02C 18/0084 . {specially adapted for disintegrating garbage, waste or sewage}
- B02C 18/0092 . . {for waste water or for garbage}
- B02C 18/02 . with reciprocating knives
- B02C 18/04 . . Details
- B02C 18/06 . with rotating knives
- B02C 18/062 . . {with rotor elements extending axially in close radial proximity of a concentrically arranged slotted or perforated ring}
- B02C 18/065 . . {within rotatable bowls, e.g. meat cutters}
- B02C 18/067 . . {Tub-grinders}
- B02C 18/08 . . within vertical containers {([B02C 18/062](#), [B02C 18/065](#) take precedence)}
- B02C 18/083 . . . {with a disc rotor having generally radially extending slots or openings bordered with cutting knives}
- B02C 18/086 . . . {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles [B02C 19/0093](#), disintegrating plastics [B29B 17/00](#))}
- B02C 18/10 . . . with drive arranged above container {([B02C 18/083](#) takes precedence)}
- B02C 18/12 . . . with drive arranged below container {([B02C 18/083](#) takes precedence)}

- B02C 18/14 . . within horizontal containers [{\(B02C 18/062, B02C 18/065 take precedence\)}](#)
- B02C 18/141 . . . {with axial flow}
- B02C 18/142 . . . {with two or more inter-engaging rotatable cutter assemblies}
- B02C 18/143 . . . {with a disc rotor having generally radially extending slots or openings bordered with cutting knives}
- B02C 18/144 . . . {with axially elongated knives}
- B02C 18/145 . . . {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit}
- B02C 18/146 . . . {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element}
- B02C 2018/147 . . . {of the plural stage type}
- B02C 18/148 . . . {specially adapted for disintegrating plastics, e.g. cinematographic films [\(for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00\)}](#)}
- B02C 18/16 . . Details
- B02C 2018/162 . . . {Shape or inner surface of shredder-housings}
- B02C 2018/164 . . . {Prevention of jamming and/or overload}
- B02C 2018/166 . . . {Lubricating the knives of the cutting mechanisms}
- B02C 2018/168 . . . {User safety devices or measures in shredders}
- B02C 18/18 . . . Knives; Mountings thereof
- B02C 18/182 {Disc-shaped knives}
- B02C 18/184 {with peripherally arranged demountable cutting tips or elements}
- B02C 18/186 {Axially elongated knives}
- B02C 2018/188 {Stationary counter-knives; Mountings thereof}
- B02C 18/20 Sickle-shaped knives
- B02C 18/22 . . . Feed or discharge means
- B02C 2018/2208 {for weblike material}
- B02C 18/2216 {Discharge means}
- B02C 18/2225 {Feed means}
- B02C 18/2233 {of ram or pusher type}
- B02C 18/2241 {of conveyor belt type [\(B02C 18/225 takes precedence\)}](#)}
- B02C 18/225 {of conveyor belt and cooperating roller type}
- B02C 18/2258 {of screw type}
- B02C 18/2266 {of revolving drum type}
- B02C 18/2275 {using a rotating arm}
- B02C 18/2283 {using rollers [\(B02C 18/225 takes precedence\)}](#)}
- B02C 18/2291 {Feed chute arrangements}
- B02C 18/24 . . . Drives
- B02C 18/26 . with knives which both reciprocate and rotate
- B02C 18/28 . with spiked cylinders
- B02C 18/30 . Mincing machines with perforated discs and feeding worms
- B02C 18/301 . . {with horizontal axis}

B02C 18/302	. . . {with a knife-perforated disc unit}
B02C 18/304	. . . {with several axially aligned knife-perforated disc units}
B02C 18/305	. . {Details}
B02C 2018/307	. . . {Cooling arrangements in mincing machines}
B02C 2018/308	. . {with separating devices for hard material, e.g. bone}
B02C 18/32	. . with sharpening devices
B02C 18/34	. . with means for cleaning the perforated discs
B02C 18/36	. . Knives or perforated discs
B02C 18/362	. . . {Knives}
B02C 18/365	. . . {Perforated discs}
B02C 2018/367	. . . {Resiliently mounted knives or discs}
B02C 18/38	. . Drives
B02C 19/00	Other disintegrating devices or methods (for grain B02C 9/00)
B02C 19/0006	. {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)}
B02C 19/0012	. {Devices for disintegrating materials by collision of these materials against a breaking surface or breaking body and/or by friction between the material particles (also for grain)}
B02C 19/0018	. . {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09 , B02C 13/1807)}
B02C 19/0025	. . . {by means of a rotor with radially extending channels}
B02C 19/0031	. . . {by means of an open top rotor}
B02C 19/0037	. . . . {with concentrically arranged open top rotors}
B02C 19/0043	. . {the materials to be pulverised being projected against a breaking surface or breaking body by a pressurised fluid (jet mills B02C 19/06)}
B02C 19/005	. . {the materials to be pulverised being disintegrated by collision of, or friction between, the material particles (jet mills B02C 19/06)}
B02C 19/0056	. {specially adapted for specific materials not otherwise provided for}
B02C 19/0062	. . {specially adapted for shredding scrap metal, e.g. automobile bodies}
B02C 19/0068	. . {specially adapted for breaking-up fluorescent tubes}
B02C 19/0075	. . {specially adapted for desintegrating medical waste (disposal of medical waste B09B 3/0075 , sterilisation of refuse A61L 11/00)}
B02C 19/0081	. . {specially adapted for breaking-up bottles}
B02C 19/0087	. . . {for glass bottles}
B02C 19/0093	. . . {for plastic bottles}
B02C 19/06	. Jet mills
B02C 19/061	. . {of the cylindrical type (B02C 19/068 takes precedence)}
B02C 19/063	. . {of the toroidal type (B02C 19/068 takes precedence)}
B02C 19/065	. . {of the opposed-jet type (B02C 19/068 takes precedence)}
B02C 19/066	. . {of the jet-anvil type (B02C 19/068 takes precedence)}
B02C 19/068	. . {of the fluidised-bed type}

- B02C 19/08 . Pestle and mortar
- B02C 19/10 . Mills in which a friction block is towed along the surface of a cylindrical or annular member
- B02C 19/11 . High-speed drum mills (for separating [B04B](#))
- B02C 19/16 . Mills provided with vibrators ({roller mills [B02C 4/423](#); tumbling mills [B02C 17/14](#))
- B02C 19/18 . Use of auxiliary physical effects, e.g. ultrasonics, irradiation, for disintegrating
- B02C 2019/183 . . {Crushing by discharge of high electrical energy}
- B02C 19/186 . . {Use of cold or heat for disintegrating ([B02C 4/44](#), [B02C 7/17](#), [B02C 11/08](#) take precedence)}
- B02C 19/20 . Disintegrating by grating {(domestic food grating devices [A47J 43/25](#))}
- B02C 19/22 . Crushing mills with screw-shaped crushing means

- B02C 21/00** **Disintegrating plant with or without drying of the material (for grain [B02C 9/04](#))**
- B02C 21/002 . {using a combination of a roller mill and a drum mill}
- B02C 21/005 . . {the roller mill having cooperating rollers}
- B02C 21/007 . {using a combination of two or more drum or tube mills}
- B02C 21/02 . Transportable disintegrating plant
- B02C 2021/023 . . {for disintegrating material on the surface of the ground}
- B02C 21/026 . . {self-propelled}

- B02C 23/00** **Auxiliary methods or auxiliary devices or accessories specially adapted for crushing or disintegrating not provided for in preceding groups or not specially adapted to apparatus covered by a single preceding group ({specially adapted for grain mills [B02C 11/00](#);} separating or sorting in general [B03](#), [B04](#), [B07](#))**
- B02C 23/02 . Feeding devices ({for grain mills [B02C 11/04](#); for roller mills [B02C 4/286](#); transport devices in general [B65G](#))
- B02C 23/04 . Safety devices (in general [F16P](#); {for rotary mills [B02C 13/31](#)})
- B02C 23/06 . Selection or use of additives to aid disintegrating
- B02C 23/08 . Separating or sorting of material, associated with crushing or disintegrating ([B02C 23/18](#) takes precedence; {beater mills combined with sifting devices [B02C 13/13](#), [B02C 13/14](#); for tumbling mills [B02C 17/1835](#)})
- B02C 23/10 . . with separator arranged in discharge path of crushing or disintegrating zone
- B02C 23/12 . . . with return of oversize material to crushing or disintegrating zone
- B02C 23/14 . . with more than one separator
- B02C 23/16 . . with separator defining termination of crushing or disintegrating zone, e.g. screen denying egress of oversize material
- B02C 2023/165 . . . {Screen denying egress of oversize material}
- B02C 23/18 . Adding fluid, other than for crushing or disintegrating by fluid energy ({for tumbling mills [B02C 17/186](#);} feeding devices [B02C 23/02](#))
- B02C 23/20 . . after crushing or disintegrating
- B02C 23/22 . . . with recirculation of material to crushing or disintegrating zone

- B02C 23/24
 - . . Passing gas through crushing or disintegrating zone ([B02C 15/001](#), [B02C 23/38](#), [B02C 23/40](#) take precedence)
- B02C 23/26
 - . . . characterised by point of gas entry or exit or by gas flow path
- B02C 23/28
 - . . . gas moving means being integral with, or attached to, crushing or disintegrating element
- B02C 23/30
 - . . . the applied gas acting to effect material separation ([B02C 23/34](#) takes precedence)
- B02C 23/32
 - . . . with return of oversize material to crushing or disintegrating zone ([B02C 23/34](#) takes precedence)
- B02C 23/34
 - . . . gas being recirculated to crushing or disintegrating zone
- B02C 23/36
 - . . the crushing or disintegrating zone being submerged in liquid
- B02C 23/38
 - . . in apparatus having multiple crushing or disintegrating zones
- B02C 23/40
 - . . with more than one means for adding fluid to the material being crushed or disintegrated

B02C 25/00 Control arrangements specially adapted for crushing or disintegrating

B02C 2201/00 Codes relating to disintegrating devices adapted for specific materials

- B02C 2201/02
 - . for reinforced concrete
- B02C 2201/04
 - . for used tyres
- B02C 2201/06
 - . for garbage, waste or sewage
- B02C 2201/063
 - . . for waste water or sewage
- B02C 2201/066
 - . . for garden waste

B02C 2210/00 Codes relating to different types of disintegrating devices

- B02C 2210/01
 - . Indication of wear on beaters, knives, rollers, anvils, linings and the like
- B02C 2210/02
 - . Features for generally used wear parts on beaters, knives, rollers, anvils, linings and the like