CPC  COOPERATIVE PATENT CLASSIFICATION

B  PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

SEPARATING; MIXING

B02  CRUSHING, PULVERISING, OR DISINTEGRATING; PREPARATORY TREATMENT

OF GRAIN FOR MILLING

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 B2C 5/04); obtaining metallic powder by crushing, grinding or milling B2F 9/04; {recovery of plastics by disintegrating 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 disintegrating devices F25C 5/02})

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  Crushing or disintegrating by reciprocating members

1/005  .  [hydraulically or pneumatically operated]
1/02  .  Jaw crushers or pulverisers
1/025  .  {Jaw clearance or overload control}
1/04  .  .  with single-acting jaws
1/043  .  .  {with cooperating single acting jaws}
1/046  .  .  {of the plural stage type}
1/06  .  .  with double-acting jaws
1/08  .  .  with jaws coacting with rotating roller
1/10  .  .  Shape or construction of jaws
1/12  .  .  Mills with non-rotating spiked members
1/14  .  .  Stamping mills

2/00  Crushing or disintegrating by gyratory or cone crushers ((with non-coaxial discs with intersecting axes B02C 7/005))

2002/002  .  .  {the bowl being a driven element for providing a crushing effect}
2/005  .  .  {Lining}
2/007  .  {Feeding devices}
2/02  .  .  eccentrically moved
2/04  .  .  with vertical axis
2/042  .  .  {Moved by an eccentric weight}
2/045  .  .  {and with bowl adjusting or controlling mechanisms (B02C 2/042, B02C 2/06 take precedence)}
2/047  .  .  {and with head adjusting or controlling mechanisms (B02C 2/042, B02C 2/06 take precedence)}
2/06  .  .  and with top bearing {(B02C 2/042 takes precedence)}
2/08  .  .  with horizontal axis

2/10  .  concentrically moved; Bell crushers

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)

4/02  .  .  with two or more rollers
4/04  .  .  specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
4/06  .  .  specially adapted for milling grain
4/08  .  .  with co-operating corrugated or toothed crushing-rollers
4/10  .  .  with a roller co-operating with a stationary member
4/12  .  .  in the form of a plate
4/14  .  .  .  specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
4/16  .  .  .  specially adapted for milling grain
4/18  .  .  .  in the form of a bar
4/20  .  .  .  wherein the roller is corrugated or toothed
4/22  .  .  .  specially adapted for milling paste-like material, e.g. paint, chocolate, colloids
4/24  .  .  .  specially adapted for milling grain
4/26  .  .  .  in the form of a grid or grating
4/28  .  .  .  Details
4/283  .  .  .  {Lateral sealing shields}
4/286  .  .  {Feeding devices}
4/30  .  .  .  Shape or construction of rollers
4/305  .  .  .  {Wear resistant rollers}
4/32  .  .  .  Adjusting, applying pressure to, or controlling the distance between, milling members
4/34  .  .  .  in mills wherein a roller co-operates with a stationary member
Disintegrating by mills having rotary beater elements [; Hammer mills]

- with horizontal rotor shaft (with axial flow B02C 13/10)
- with beaters hinged to the rotor; Hammer mills
- with beaters rigidly connected to the rotor
- and acting as a fan
- and throwing the material against an anvil or impact plate ([with vertical axis B02C 13/1807])
- [with an adjustable anvil or impact plate]
Disintegrating by milling members in the form of rollers or balls co-operating with rings or discs

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)

17/002

[with rotary cutting or beating elements]

17/005

[the charge being turned over by magnetic forces]

17/007

[specially adapted for disintegrating refuse]

17/02

[with perforated container]

17/04

[with unperforated container]

17/06

[with several compartments]

2017/065

[with several compartments in the form of multowell blocks]
2018/0015 . . . [for disintegrating CDs, DVDs and/or credit cards]
2018/0023 . . . [Switching devices]
2018/003 . . . [Removing clips, pins or staples before disintegrating]
2018/0038 . . . [Motor drives]
2018/0046 . . . [Shape or construction of frames, housings or casings]
2018/0053 . . . [hand-operated]
2018/0061 . . . [with compacting devices for the disintegrated material]
2018/0069 . . . [with stripping devices]
18/0076 . . . [with cutting or tearing members fixed on endless flexible members (without cutting or tearing members B02C 19/0006)]
18/0084 . . . [specially adapted for disintegrating garbage, waste or sewage]
18/0092 . . . [for waste water or for garbage]
18/02 . . . [with reciprocating knives]
18/04 . . . [Details]
18/06 . . . [with rotating knives]
18/062 . . . [with rotor elements extending axially in close radial proximity of a concentrically arranged slotted or perforated ring]
18/065 . . . [within rotatable bowls, e.g. meat cutters]
18/067 . . . [Tub-grinders]
18/08 . . . [within vertical containers (B02C 18/062, B02C 18/065 take precedence)]
18/083 . . . [with a disc rotor having generally radially extending slots or openings bordered with cutting knives]
18/086 . . . [specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)]
18/10 . . . [with drive arranged above container (B02C 18/083 takes precedence)]
18/12 . . . [with drive arranged below container (B02C 18/083 takes precedence)]
18/14 . . . [within horizontal containers (B02C 18/062, B02C 18/065 take precedence)]
18/141 . . . [with axial flow]
18/142 . . . [with two or more inter-engaging rotatable cutter assemblies]
18/143 . . . [with a disc rotor having generally radially extending slots or openings bordered with cutting knives]
18/144 . . . [with axially elongated knives]
18/145 . . . [with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit]
18/146 . . . [with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element]
2018/147 . . . [of the plural stage type]
2018/148 . . . [specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)]
18/16 . . . [Details]
2018/162 . . . [Shape or inner surface of shredder-housings]
2018/164 . . . [Prevention of jamming and/or overload]
2018/166 . . . [Lubricating the knives of the cutting mechanisms]

2018/168 . . . [User safety devices or measures in shredders]
18/18 . . . [Knives; Mountings thereof]
18/182 . . . [Disc-shaped knives]
18/184 . . . [with peripherally arranged demountable cutting tips or elements]
18/186 . . . [Axially elongated knives]
2018/188 . . . [Stationary counter-knives; Mountings thereof]
18/20 . . . [Sickle-shaped knives]
18/22 . . . [Feed or discharge means]
2018/2208 . . . [for weblike material]
18/2216 . . . [Discharge means]
18/2225 . . . [Feed means]
18/223 . . . [of ram or pusher type]
18/2241 . . . [of conveyor belt type (B02C 18/225 takes precedence)]
18/225 . . . [of conveyor belt and cooperating roller type]
18/2258 . . . [of screw type]
18/2266 . . . [of revolving drum type]
18/2275 . . . [using a rotating arm]
18/2283 . . . [using rollers (B02C 18/225 takes precedence)]
18/2291 . . . [Feed chute arrangements]
18/24 . . . [Drives]
18/26 . . . [with knives which both reciprocate and rotate]
18/28 . . . [with spiked cylinders]
18/30 . . . [Mincing machines with perforated discs and feeding worms]
18/301 . . . [with horizontal axis]
18/302 . . . [with a knife-perforated disc unit]
18/304 . . . [with several axially aligned knife-perforated disc units]
18/305 . . . [Details]
2018/307 . . . [Cooling arrangements in mincing machines]
2018/308 . . . [with separating devices for hard material, e.g. bone]
18/32 . . . [with sharpening devices]
18/34 . . . [with means for cleaning the perforated discs]
18/36 . . . [Knives or perforated discs]
18/362 . . . [Knives]
18/365 . . . [Perforated discs]
2018/367 . . . [Resiliently mounted knives or discs]
18/38 . . . [Drives]

19/00 Other disintegrating devices or methods (for grain B02C 9/00)
19/0006 . . . [Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)]
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)]
19/0018 . . . [using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807)]
19/0025 . . . [by means of a rotor with radially extending channels]
19/0031 . . . [by means of an open top rotor]
19/0037 . . . [with concentrically arranged open top rotors]
Codes relating to disintegrating devices adapted for specific materials

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

Codes relating to different types of disintegrating devices

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