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 B22C 5/04}; obtaining metallic powder by crushing, grinding or milling B22F 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	2/10	• concentrically moved; Bell crushers
1/005	• {hydraulically or pneumatically operated}	4/00	Crushing or disintegrating by roller mills (with
1/02	Jaw crushers or pulverisers		milling members in the form of rollers or balls co-
1/025	• • {Jaw clearance or overload control}		operating with rings or discs <u>B02C 15/00</u> ; roller mills
1/04	• • with single-acting jaws		or roll refiners exclusively for chocolate A23G 1/10, A23G 1/12)
1/043	• • { with cooperating single acting jaws}	4/02	• with two or more rollers
1/046	• • { of the plural stage type}	4/02	 with two of infore rollers specially adapted for milling paste-like material,
1/06	with double-acting jaws	4/04	e.g. paint, chocolate, colloids
1/08	with jaws coacting with rotating roller	4/06	specially adapted for milling grain
1/10	Shape or construction of jaws	4/08	with co-operating corrugated or toothed crushing-
1/12	 Mills with non-rotating spiked members 	., 00	rollers
1/14	Stamping mills	4/10	• with a roller co-operating with a stationary member
2/00	Crushing or disintegrating by gyratory or cone	4/12	in the form of a plate
2/00	crushers {(with non-coaxial discs with intersecting	4/14	specially adapted for milling paste-like
	axes B02C 7/005)}		material, e.g. paint, chocolate, colloids
2002/002	• {the bowl being a driven element for providing a	4/16	• • • specially adapted for milling grain
	crushing effect}	4/18	• in the form of a bar
2/005	• {Lining}	4/20	• • • wherein the roller is corrugated or toothed
2/007	• {Feeding devices}	4/22	• • • specially adapted for milling paste-like
2/02	eccentrically moved		material, e.g. paint, chocolate, colloids
2/04	• • with vertical axis	4/24	specially adapted for milling grain
2/042	• • • {Moved by an eccentric weight}	4/26	• in the form of a grid or grating
2/045	• • • {and with bowl adjusting or controlling	4/28	. Details
	mechanisms (<u>B02C 2/042</u> , <u>B02C 2/06</u> take	4/283	• • {Lateral sealing shields}
	precedence)}	4/286	• • {Feeding devices}
2/047	• • • { and with head adjusting or controlling	4/30	Shape or construction of rollers
	mechanisms (<u>B02C 2/042</u> , <u>B02C 2/06</u> take	4/305	• • {Wear resistant rollers}
2/06	precedence)}	4/32	. Adjusting, applying pressure to, or controlling the
2/06	and with top bearing {(B02C 2/042 takes precedence)}	4/24	distance between, milling members
2/08	*	4/34	in mills wherein a roller co-operates with a stationary member
2/08	• • with horizontal axis		stationary member

CPC - 2025.08

4/36	in mills specially adapted for paste-like	13/12 with vortex chamber
4/30	materials	13/13 • with vortex chamber 13/13 • with horizontal rotor shaft and combined with
4/38	in grain mills	sifting devices, e.g. for making powdered fuel
4/40	Detachers, e.g. scrapers	13/14 • with vertical rotor shaft, e.g. combined with sifting
4/42	. Driving mechanisms; Roller speed control	devices
4/423	• • { with vibrating or oscillating mechanisms }	2013/145 {with fast rotating vanes generating vortexes
4/426	{Torque counterbalancing mechanisms}	effecting material on material impact}
4/44	Cooling or heating rollers or bars	13/16 with beaters hinged to the rotor
= /0.0	•	13/18 with beaters rigidly connected to the rotor
7/00	Crushing or disintegrating by disc mills (apparatus specially adapted for manufacture or treatment of	13/1807 {the material to be crushed being thrown against an anvil or impact plate (with horizontal
7/005	 cocoa or cocoa products exclusively <u>A23G 1/04</u>) {Crushers with non-coaxial toothed discs with intersecting axes} 	axis <u>B02C 13/09</u> ; centrifugal acceleration of material through radially extending channels <u>B02C 19/0025</u> ; centrifugal acceleration
7/02	 with coaxial discs 	of material by means of an open top rotor
7/04	with concentric circles of intermeshing teeth	B02C 19/0031)}
7/06	• • with horizontal axis (<u>B02C 7/04</u> takes precedence)	13/1814 {by means of beater or impeller elements fixed on top of a disc type rotor}
7/08	• with vertical axis (B02C 7/04 takes precedence)	13/1821 {the beater or impeller elements being
7/10	 with eccentric discs 	rotatably fixed around their own axis}
7/11	• Details	13/1828 • • • • • { with dead bed protected beater or
7/12	 Shape or construction of discs 	impeller elements}
7/13	• • • for grain mills	13/1835 {by means of beater or impeller elements
7/14	 Adjusting, applying pressure to, or controlling distance between, discs 	fixed in between an upper and lower rotor disc}
7/16	Driving mechanisms	13/1842 {with dead bed protected beater or
7/17	 Cooling or heating of discs 	impeller elements}
7/175	• Disc mills specially adapted for paste-like material, e.g. paint, chocolate, colloids	13/185 {Construction or shape of anvil or impact plate}
7/18	 Disc mills specially adapted for grain 	2013/1857 {rotating coaxially around the rotor shaft}
7/182	• • {with horizontal axis}	2013/1864 {rotatable around its own axis}
7/184	• • {with vertical axis}	2013/1871 {vertically adjustable}
7/186	• • {Adjusting, applying pressure to, or controlling	2013/1878 {radially adjustable}
	distance between, discs}	2013/1885 {of dead bed type}
7/188	• • {Driving mechanisms}	2013/1892 {cooled or heated}
9/00	Other milling methods or mills specially adapted	13/20 • with two or more co-operating rotors
2700	for grain	13/205 • • {arranged concentrically}
9/02	Cutting or splitting grain	13/22 • with intermeshing pins {; Pin Disk Mills}
9/04	• Systems or sequences of operations; Plant	13/24 . arranged around a vertical axis 13/26 . Details
11/00	Other auxiliary devices or accessories specially	13/28 Shape or construction of beater elements
11/00	adapted for grain mills	13/2804 • • • {the beater elements being rigidly connected to the rotor}
11/02	Breaking up amassed particles, e.g. flakes	2013/2808 • • • {the beater elements are attached to disks
11/04	• Feeding devices	mounted on a shaft}
11/06	 Arrangements for preventing fire or explosion (methods for preventing or extinguishing fires, devices therefor <u>A62C</u>) 	2013/2812 {the beater elements are attached to a hollow cylindrical rotor}
11/08	• Cooling, heating, ventilating, conditioning	2013/2816 {of chain, rope or cable type}
11,00	with respect to temperature or water content	13/282 Shape or inner surface of mill-housings
	(conditioning grain before milling <u>B02B 1/08</u> ; air-	2013/2825 { with fastening means for fixing lining
	conditioning or ventilating in general <u>F24F</u>)	members to the inner surface of mill-housings}
12/00		13/284 Built-in screens
13/00	Disintegrating by mills having rotary beater	13/286 Feeding or discharge
12/02	elements {; Hammer mills}	2013/28609 {Discharge means}
13/02	with horizontal rotor shaft (with axial flow B02C 13/10)	2013/28618 {Feeding means}
13/04	• with beaters hinged to the rotor; Hammer mills	2013/28627 {of ram or pusher type}
13/04	with beaters rigidly connected to the rotor	2013/28636 {of conveyor belt type}
13/08	and acting as a fan	2013/28645 {of conveyor belt and cooperating roller
13/08	and acting as a ran and throwing the material against an	type}
13/07	anvil or impact plate {(with vertical axis	2013/28654 {of screw type}
	B02C 13/1807)}	2013/28663 {using rollers}
13/095	• • • { with an adjustable anvil or impact plate }	2013/28672 {Feed chute arrangements}
13/10	with horizontal rotor shaft and axial flow	2013/28681 {Feed distributor plate for vertical mill}

CPC - 2025.08

2013/2869	{Arrangements of feed and discharge means in	17/07	in radial arrangement
2012/2009	relation to each other}	17/08	with containers performing a planetary movement
13/288	Ventilating, or influencing air circulation	17/10	• with one or a few disintegrating members arranged
2013/29	{devices for manipulating beater elements}		in the container
13/30	Driving mechanisms	17/14	. Mills in which the charge to be ground is turned
13/31	Safety devices or measures		over by movements of the container other than by
15/00			rotating, e.g. by swinging, vibrating, tilting {(mills
15/00	Disintegrating by milling members in the form of		provided with vibrators in general <u>B02C 19/16</u>)}
	rollers or balls co-operating with rings or discs {(high-speed drum mills <u>B02C 19/11)</u> }	17/16	 Mills in which a fixed container houses stirring
15/001	• {Air flow directing means positioned on the		means tumbling the charge
13/001	periphery of the horizontally rotating milling	17/161	• • {Arrangements for separating milling media and
	surface}		ground material}
2015/002	• {combined with a classifier}	17/163	• • {Stirring means}
15/003	• {Shape or construction of discs or rings}	2017/165	• • {with stirring means comprising more than one
15/004	• {Shape or construction of rollers or balls}	17/166	agitator}
15/005	• {Rollers or balls of composite construction}	17/166	• • {of the annular gap type}
15/006	• {Ring or disc drive gear arrangement}	17/168	with a basket media milling device arranged in or on the container, involving therein a
15/007	• {Mills with rollers pressed against a rotary		circulatory flow of the material to be milled}
	horizontal disc (with pendularly mounted rollers	17/18	• Details
	B02C 15/04)}	17/1805	. {Monitoring devices for tumbling mills}
2015/008	• {Roller drive arrangements}	17/1803	. {Bearings specially adapted for tumbling mills}
15/02	Centrifugal pendulum-type mills	17/1815	. {Bearings specially adapted for tullibring films}. {Cooling or heating devices}
15/04	• Mills with pressed pendularly-mounted rollers, e.g.	17/1813	. {Lids}
	spring pressed	17/1825	Lifting devices (lifting devices associated with
15/045	• • {pressed against the interior of a ring rotating in a	17/1623	the lining for containers <u>B02C 17/22</u>)}
	vertical plane}	17/183	• • {Feeding or discharging devices}
15/06	. Mills with rollers forced against the interior of a	17/1835	{Discharging devices combined with sorting
	rotary ring, e.g. under spring action (B02C 15/04	17/1033	or separating of material (B02C 17/186 takes
	takes precedence)		precedence)}
15/08	 Mills with balls or rollers centrifugally forced 	17/184	• • • { with separator arranged in discharge path of
	against the inner surface of a ring, the balls or	1,,10.	crushing zone}
	rollers of which are driven by a centrally arranged	17/1845	{ with return of oversize material to
15/10	member (<u>B02C 15/02</u> takes precedence)		crushing zone}
15/10	• Mills with balls or rollers centrifugally forced	17/185	• • • { with more than one separator }
	against the inner surface of a ring, the balls or rollers of which are driven by other means than a	17/1855	• • • { with separator defining termination of
	centrally-arranged member		crushing zone, e.g. screen denying egress of
15/12	• Mills with at least two discs {or rings} and		oversize material}
13/12	interposed balls or rollers mounted like ball or roller	17/186	• • • {Adding fluid, other than for crushing by fluid
	bearings		energy}
15/123	• • {with rings and interposed rollers}	17/1865	• • • {after crushing}
2015/126	• • {of the plural stage type}	17/187	• • • • { with recirculation of material to crushing
15/14	• Edge runners, e.g. Chile mills		zone}
2015/143	• • {each runner pivot carrying more than one	17/1875	• • • { passing gas through crushing zone }
	runner}	17/188	• • • • {characterised by point of gas entry or exit
2015/146	{Step-shaped runners}	4=400=	or by gas flow path}
15/16	 with milling members essentially having different 	17/1885	• • • • {the applied gas acting to effect material
	peripheral speeds and in the form of a hollow		separation (<u>B02C 17/1895</u> takes
	cylinder or cone and an internal roller or cone	17/190	precedence)}
17/00	Disintegrating by tumbling mills i.e. mills having	17/189	• • • • {with return of oversize material to crushing zone (<u>B02C 17/1895</u> takes
17/00	Disintegrating by tumbling mills, i.e. mills having a container charged with the material to be		precedence)}
	disintegrated with or without special disintegrating	17/1895	• • • {gas being recirculated to crushing zone}
	members such as pebbles or balls (high-speed drum	17/20	Disintegrating members
	mills <u>B02C 19/11</u> {; drums for polishing or grinding	17/205	{Adding disintegrating members to the
	<u>B24B})</u>	17/203	tumbling mill}
17/002	• {with rotary cutting or beating elements}	17/22	Lining for containers
17/005	• {the charge being turned over by magnetic forces}	17/225	• • • {using rubber or elastomeric material}
17/007	• {specially adapted for disintegrating refuse}	17/24	Driving mechanisms
17/02	with perforated container		-
17/04	with unperforated container	18/00	Disintegrating by knives or other cutting or
17/06	with several compartments		tearing members which chop material into
2017/065	• • • { with several compartments in the form of	10/0007	fragments {(tree stump comminutors A01G 23/067)}
	multiwell blocks}	18/0007	• {specially adapted for disintegrating documents}

CPC - 2025.08

2010/0013	• • {for disintegrating CDs, DVDs and/or credit	2018/168	{User safety devices or measures in shredders}
	cards}	18/18	Knives; Mountings thereof
	• • {Switching devices}	18/182	• • • {Disc-shaped knives}
2018/003	 • {Removing clips, pins or staples before disintegrating} 	18/184	• • • • { with peripherally arranged demountable cutting tips or elements }
2018/0038	• • {Motor drives}	18/186	• • • {Axially elongated knives}
2018/0046	{Shape or construction of frames, housings or	2018/188	{Stationary counter-knives; Mountings
	casings}		thereof}
2018/0053	• • {hand-operated}	18/20	Sickle-shaped knives
2018/0061	• • {with compacting devices for the disintegrated	18/22	Feed or discharge means
	material}	2018/2208	{for weblike material}
2018/0069	• • {with stripping devices}	18/2216	· · · · {Discharge means}
18/0076	• {with cutting or tearing members fixed on endless	18/2225	· · · {Feed means}
	flexible members (without cutting or tearing	18/2233	{of ram or pusher type}
	members <u>B02C 19/0006</u>)}	18/2241	{of conveyor belt type (B02C 18/225 takes
18/0084	• {specially adapted for disintegrating garbage, waste	10/2241	precedence)}
	or sewage}	19/225	
18/0092	• • {for waste water or for garbage}	18/225	{of conveyor belt and cooperating roller
18/02	 with reciprocating knives 	10/2250	type}
18/04	. Details	18/2258	· · · · · {of screw type}
18/04	with rotating knives	18/2266	• • • • {of revolving drum type}
	with rotor elements extending axially in close	18/2275	• • • • {using a rotating arm}
18/062	radial proximity of a concentrically arranged	18/2283	• • • • • {using rollers (<u>B02C 18/225</u> takes
	slotted or perforated ring}		precedence)}
18/065		18/2291	• • • • {Feed chute arrangements}
	• { within rotatable bowls, e.g. meat cutters }	18/24	Drives
18/067	{Tub-grinders}	18/26	 with knives which both reciprocate and rotate
18/08	• within vertical containers {(B02C 18/062,	18/28	 with spiked cylinders
10/002	B02C 18/065 take precedence)}	18/30	. Mincing machines with perforated discs and feeding
18/083	• • • { with a disc rotor having generally radially		worms
	extending slots or openings bordered with	18/301	• • {with horizontal axis}
10/00	cutting knives}	18/302	• • • {with a knife-perforated disc unit}
18/086	• • • {specially adapted for disintegrating plastics,	18/304	• • • {with several axially aligned knife-perforated
	e.g. cinematographic films (for plastic		disc units}
	bottles <u>B02C 19/0093</u> , disintegrating plastics	18/305	• • {Details}
10/10	<u>B29B 17/00</u>)}	2018/307	• • • {Cooling arrangements in mincing machines}
18/10			· · · (cooling urrangements in innering inactions)
	with drive arranged above container		with separating devices for hard material e.g.
10/10	$\{(\underline{B02C \ 18/083} \ \text{takes precedence})\}$	2018/308	• • {with separating devices for hard material, e.g. bone}
18/12	{(B02C 18/083 takes precedence)} with drive arranged below container	2018/308	bone}
	{(<u>B02C 18/083</u> takes precedence)} with drive arranged below container {(<u>B02C 18/083</u> takes precedence)}	2018/308	bone} with sharpening devices
18/12 18/14	{(B02C 18/083) takes precedence)} • • with drive arranged below container {(B02C 18/083) takes precedence)} • within horizontal containers {(B02C 18/062,	2018/308 18/32 18/34	bone}with sharpening deviceswith means for cleaning the perforated discs
18/14	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)}	2018/308 18/32 18/34 18/36	bone}with sharpening deviceswith means for cleaning the perforated discsKnives or perforated discs
18/14 18/141	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow}	2018/308 18/32 18/34 18/36 18/362	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives}
18/14	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable}	2018/308 18/32 18/34 18/36 18/362 18/365	 bone} with sharpening devices with means for cleaning the perforated discs Knives or perforated discs {Knives} {Perforated discs}
18/14 18/141 18/142	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies}	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs}
18/14 18/141	{(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} . within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with two or more inter-engaging rotatable cutter assemblies} {with a disc rotor having generally radially	2018/308 18/32 18/34 18/36 18/362 18/365	 bone} with sharpening devices with means for cleaning the perforated discs Knives or perforated discs {Knives} {Perforated discs}
18/14 18/141 18/142	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies} • {with a disc rotor having generally radially extending slots or openings bordered with	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} . Drives
18/14 18/141 18/142 18/143	{(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} . within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with two or more inter-engaging rotatable cutter assemblies} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives}	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} . Drives Other disintegrating devices or methods (for grain
18/14 18/141 18/142 18/143	{(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} . within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with two or more inter-engaging rotatable cutter assemblies} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives}	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} . Drives Other disintegrating devices or methods (for grain B02C 9/00)
18/14 18/141 18/142 18/143	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies} • {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} • {with axially elongated knives} • {with knives spaced axially and	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} . Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with
18/14 18/141 18/142 18/143	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies} • {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} • {with axially elongated knives} • {with knives spaced axially and circumferentially on the periphery of a	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} . Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)}
18/14 18/141 18/142 18/143 18/144 18/145	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies} • {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} • {with axially elongated knives} • {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit}	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} . {Devices for disintegrating materials by collision
18/14 18/141 18/142 18/143	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with two or more inter-engaging rotatable cutter assemblies} • {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} • {with axially elongated knives} • {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} • {with a rotor comprising a plurality of axially	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} . {Devices for disintegrating materials by collision of these materials against a breaking surface or
18/14 18/141 18/142 18/143 18/144 18/145	 {(B02C 18/083) takes precedence)} with drive arranged below container {(B02C 18/083) takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065) take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} . {Devices for disintegrating materials by collision of these materials against a breaking surface or breaking body and/or by friction between the
18/14 18/141 18/142 18/143 18/144 18/145 18/146	 {(B02C 18/083) takes precedence)} with drive arranged below container {(B02C 18/083) takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065) take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} • with sharpening devices • with means for cleaning the perforated discs • Knives or perforated discs • {Knives} • {Perforated discs} • {Resiliently mounted knives or discs} • Drives Other disintegrating devices or methods (for grain B02C 9/00) • {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} • {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)}
18/14 18/141 18/142 18/143 18/144 18/145 18/146	 {(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} . {Devices for disintegrating materials by collision of these materials against a breaking surface or breaking body and/or by friction between the
18/14 18/141 18/142 18/143 18/144 18/145 18/146	{(B02C 18/083 takes precedence)} • with drive arranged below container {(B02C 18/083 takes precedence)} • within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} • {with axial flow} • {with axial flow} • {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} • {with axially elongated knives} • {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} • {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} • {of the plural stage type} • {specially adapted for disintegrating plastics,	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} • with sharpening devices • with means for cleaning the perforated discs • Knives or perforated discs • {Knives} • {Perforated discs} • {Resiliently mounted knives or discs} • Drives Other disintegrating devices or methods (for grain B02C 9/00) • {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} • {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)} • {using a rotor accelerating the materials
18/14 18/141 18/142 18/143 18/144 18/145 18/146	 {(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} • with sharpening devices • with means for cleaning the perforated discs • Knives or perforated discs • {Knives} • {Perforated discs} • {Resiliently mounted knives or discs} • Drives Other disintegrating devices or methods (for grain B02C 9/00) • {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} • {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)} • {using a rotor accelerating the materials centrifugally against a circumferential breaking
18/14 18/141 18/142 18/143 18/144 18/145 18/146	 {(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with axially elongated knives} {with arially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006	bone} • with sharpening devices • with means for cleaning the perforated discs • Knives or perforated discs • {Knives} • {Perforated discs} • {Resiliently mounted knives or discs} • Drives Other disintegrating devices or methods (for grain B02C 9/00) • {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} • {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)} • {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09,
18/14 18/141 18/142 18/143 18/144 18/145 18/146 2018/147 18/148	 {(B02C 18/083 takes precedence)} with drive arranged below container {(B02C 18/083 takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065 take precedence)} {with axial flow} {with two or more inter-engaging rotatable cutter assemblies} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with axially elongated knives} {with arially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)} 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006 19/0012	bone} . with sharpening devices . with means for cleaning the perforated discs . Knives or perforated discs . {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} . {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)} . {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807)}
18/14 18/141 18/142 18/143 18/144 18/145 18/146 2018/147 18/148	 {(B02C 18/083) takes precedence)} with drive arranged below container {(B02C 18/083) takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065) take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)} Details 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006 19/0012	 bone} with sharpening devices with means for cleaning the perforated discs Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} {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)} {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807)} {by means of a rotor with radially extending
18/14 18/141 18/142 18/143 18/144 18/145 18/146 2018/147 18/148	 {(B02C 18/083) takes precedence)} with drive arranged below container {(B02C 18/083) takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065) take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)} Details {Shape or inner surface of shredder-housings} 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006 19/0012	 bone} with sharpening devices with means for cleaning the perforated discs Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} {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)} {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807)} {by means of a rotor with radially extending channels}
18/14 18/141 18/142 18/143 18/144 18/145 18/146 2018/147 18/148	 {(B02C 18/083) takes precedence)} with drive arranged below container {(B02C 18/083) takes precedence)} within horizontal containers {(B02C 18/062, B02C 18/065) take precedence)} {with axial flow} {with axial flow} {with a disc rotor having generally radially extending slots or openings bordered with cutting knives} {with axially elongated knives} {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit} {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element} {of the plural stage type} {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00)} Details 	2018/308 18/32 18/34 18/36 18/362 18/365 2018/367 18/38 19/00 19/0006 19/0012 19/0018	 bone} with sharpening devices with means for cleaning the perforated discs Knives or perforated discs {Knives} {Perforated discs} {Resiliently mounted knives or discs} Drives Other disintegrating devices or methods (for grain B02C 9/00) {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076)} {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)} {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807)} {by means of a rotor with radially extending channels} {by means of an open top rotor}

CPC - 2025.08

mechanisms}

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)}	23/02	• Feeding devices ({for grain mills <u>B02C 11/04</u> ; for roller mills <u>B02C 4/286</u> }; transport devices in general <u>B65G</u>)
19/005	• • {the materials to be pulverised being disintegrated by collision of, or friction between, the material	23/04	• Safety devices (in general F16P {; for rotary mills B02C 13/31})
	particles (jet mills <u>B02C 19/06</u>)}	23/06	 Selection or use of additives to aid disintegrating
19/0056	 {specially adapted for specific materials not otherwise provided for} 	23/08	 Separating or sorting of material, associated with crushing or disintegrating (<u>B02C 23/18</u> takes
19/0062	 {specially adapted for shredding scrap metal, e.g. automobile bodies} 		precedence {; beater mills combined with sifting devices <u>B02C 13/13</u> , <u>B02C 13/14</u> ; for tumbling
19/0068	• {specially adapted for breaking-up fluorescent tubes}	23/10	mills <u>B02C 17/1835</u> }) • with separator arranged in discharge path of
19/0075	 {specially adapted for disintegrating medical 		crushing or disintegrating zone
	waste (sterilisation of refuse <u>A61L 11/00;</u> disposal of medical waste <u>B09B 3/00</u>)}	23/12	• • • with return of oversize material to crushing or disintegrating zone
19/0081	 {specially adapted for breaking-up bottles} 	23/14	• • with more than one separator
19/0087	• • • {for glass bottles}	23/16	• • with separator defining termination of crushing or
19/0093	• • • {for plastic bottles}		disintegrating zone, e.g. screen denying egress of
19/06	• Jet mills		oversize material
19/061	• • {of the cylindrical type (B02C 19/068 takes	2023/165	{Screen denying egress of oversize material}
	precedence)}	23/18	Adding fluid, other than for crushing or
19/063	• • {of the toroidal type (<u>B02C 19/068</u> takes precedence)}		disintegrating by fluid energy ({for tumbling mills <u>B02C 17/186;</u> } feeding devices <u>B02C 23/02</u>)
19/065	• • {of the opposed-jet type (<u>B02C 19/068</u> takes	23/20	after crushing or disintegrating
	precedence)}	23/22	with recirculation of material to crushing or
19/066	• • {of the jet-anvil type (<u>B02C 19/068</u> takes		disintegrating zone
	precedence)}	23/24	Passing gas through crushing or disintegrating
19/068	• • {of the fluidised-bed type}		zone ({B02C 15/001}, B02C 23/38, B02C 23/40
19/08	Pestle and mortar	22/24	take precedence)
19/10	 Mills in which a friction block is towed along the surface of a cylindrical or annular member 	23/26	• • • characterised by point of gas entry or exit or by gas flow path
19/11	• High-speed drum mills (for separating <u>B04B</u>)	23/28	gas moving means being integral with, or
19/16	• Mills provided with vibrators ({roller mills <u>B02C 4/423</u> }; tumbling mills <u>B02C 17/14</u>)	23/30	attached to, crushing or disintegrating element the applied gas acting to effect material
19/18	 Use of auxiliary physical effects, e.g. ultrasonics, irradiation, for disintegrating 	23/32	 separation (<u>B02C 23/34</u> takes precedence) with return of oversize material to crushing or disintegrating zone (<u>B02C 23/34</u> takes
2019/183	• • {Crushing by discharge of high electrical energy}		precedence)
19/186	• • {Use of cold or heat for disintegrating (B02C 4/44, B02C 7/17, B02C 11/08 take	23/34	gas being recirculated to crushing or disintegrating zone
19/20	precedence)} Disintegrating by grating {(domestic food grating)	23/36	the crushing or disintegrating zone being submerged in liquid
19/22	devices <u>A47J 43/25</u>)}Crushing mills with screw-shaped crushing means	23/38	in apparatus having multiple crushing or disintegrating zones
21/00	Disintegrating plant with or without drying of the material (for grain B02C 9/04)	23/40	• • with more than one means for adding fluid to the material being crushed or disintegrated
21/002	• {using a combination of a roller mill and a drum	25/00	
	mill}	25/00	Control arrangements specially adapted for
21/005	• • {the roller mill having cooperating rollers}		crushing or disintegrating
21/007	• {using a combination of two or more drum or tube	2201/00	Codes relating to disintegrating devices adapted
	mills}	2201/00	for specific materials
21/02	Transportable disintegrating plant	2201/02	for reinforced concrete
2021/023	• • {for disintegrating material on the surface of the	2201/02	for used tyres
	ground}	2201/04	for dised tyresfor garbage, waste or sewage
21/026	• • {self-propelled}	2201/06	
22/00		2201/063	for waste water or sewage
23/00	Auxiliary methods or auxiliary devices or	2201/000	for garden waste
	accessories specially adapted for crushing or disintegrating not provided for in preceding	2210/00	Codes relating to different types of disintegrating
	groups or not specially adapted to apparatus		devices
	covered by a single preceding group ({specially	2210/01	. Indication of wear on beaters, knives, rollers, anvils,
	adapted for grain mills <u>B02C 11/00</u> ;} separating or		linings and the like
	sorting in general <u>B03</u> , <u>B04</u> , <u>B07</u>)	2210/02	• Features for generally used wear parts on beaters,
	= 0 0 0 = 0		knives, rollers, anvils, linings and the like

CPC - 2025.08 5