COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

NOTES omitted

SHAPING

B30 PRESSES

B30B PRESSES IN GENERAL (producing ultra-high pressure or ultra-high pressure and high temperature to effect modifications of a substance, e.g. for making artificial diamonds B01J 3/00) {compressing means for refuse receptacles B65F 1/1405}

NOTE
This subclass provides for presses in general and also for those presses, for particular purposes, which are not provided for elsewhere.

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 Presses, using a press ram, characterised by the features of the drive therefor, pressure being transmitted directly, or through simple thrust or tension members only, to the press ram or platen

1/001 . by explosive charges
1/002 . by internal combustion mechanism
1/003 . by an elastic bag or diaphragm expanded by fluid pressure
1/005 . by thermal expansion or evaporation
1/006 . by a scissor or lazy-tongs mechanism
1/007 . using a fluid connection between the drive means and the press ram
1/008 . by a rod swinging between a fixed plane and the ram
1/02 . by lever mechanism (by toggle mechanism B30B 1/10)
1/04 . operated by hand or foot
1/06 . operated by cams, eccentrics, or cranks
1/08 . operated by fluid-pressure means
1/10 . by toggle mechanism
1/103 . [operated by screw means]
1/106 . [operated by another toggle mechanism]
1/12 . operated by hand or foot
1/14 . operated by cams, eccentrics, or cranks
1/16 . operated by fluid-pressure means
1/18 . by screw means (B30B 9/3064 takes precedence)
1/181 . [the screw being directly driven by an electric motor]
1/183 . [Braking mechanisms for the return movement of the press ram]
1/185 . [driven through friction roller means]
1/186 . [Control arrangements]
1/188 . [driven by a continuously rotatable flywheel with a coupling arranged between the flywheel and the screw]
1/20 . driven by hand
1/22 . driven through friction disc means
1/23 . operated by fluid-pressure means
1/24 . by rack-and-pinion means (B30B 9/3067 takes precedence)
1/26 . by cams, eccentrics, or cranks
1/261 . [cams]
1/263 . [work stroke adjustment means]
1/265 . [using a fluid connecting unit between drive shaft and press ram]
1/266 . [Drive systems for the cam, eccentric or crank axis]
1/268 . [using a toggle connection between driveshaft and press ram]
1/28 . the cam, crank, or eccentric being disposed below the lower platen or table and operating to pull down the upper platen or slide
1/30 . by the pull of chains or ropes (B30B 9/3071 takes precedence)
1/32 . by plungers under fluid pressure
1/323 . [using low pressure long stroke opening and closing means, and high pressure short stroke cylinder means]
1/326 . [operated by hand or foot, e.g. using hydraulic jacks]
1/34 . involving a plurality of plungers acting on the platen (gas operated B30B 1/38)
1/36 . having telescoping plungers (gas operated B30B 1/38)
1/38 . wherein the plungers are operated by pressure of a gas, e.g. steam, air
1/40 . by wedge means
1/42 . by magnetic means, e.g. electromagnetic

3/00 Presses characterised by the use of rotary pressing members, e.g. rollers, rings, discs

3/005 . [Roll constructions]
3/02 . co-operating with a fixed member
3/04 . co-operating with one another, e.g. with co-operating cones
3/045 . [with co-operating cones]
Presses characterised by the use of pressing means other than those mentioned in the preceding groups

5/06 . . . co-operating with another endless band
5/062 . . . [urged by directly-acting fluid pressure]
5/065 . . . [using anti-friction means for the pressing band]
5/067 . . . [using anti-friction roller means]

Presses characterised by a particular arrangement of the pressing members

7/02 . . . having several platens arranged one above the other
7/023 . . . [Feeding or discharging means]
7/026 . . . [Spacer elements; Changing means therefor]
7/04 . . . wherein pressing is effected in different directions simultaneously or in turn

Presses specially adapted for particular purposes

9/02 . . . for squeezing-out liquid from liquid-containing material, e.g. juice from fruits, oil from oil-containing material (kitchen equipment A47J; filtering, e.g. straining solids from liquids, using presses in combination with filtering elements B01D; expelling water from textile fabrics or laundry D06C; D06F; drying F26 [: clothes presses D06F 69/00, D06F 71/00])
9/04 . . . using press rams
9/042 . . . [co-operating with casings mounted on a movable carrier, e.g. turntable]
9/045 . . . [co-operating with several adjacent casings]
9/047 . . . [Control arrangements]
9/06 . . . co-operating with permeable casings or strainers
9/062 . . . [Extrusion presses]
9/065 . . . [for making briquettes, e.g. from paper]
9/067 . . . [with a retractable abutment member closing one end of the press chamber]
9/08 . . . co-operating with a rotary casing
9/10 . . . without use of a casing
9/105 . . . [using a press ram co-operating with an intermittently moved endless conveyor]
9/12 . . . using pressing worms or screws co-operating with a permeable casing
9/121 . . . [Screw constructions]
9/122 . . . [Means preventing the material from turning with the screw or returning towards the feed hopper]
9/124 . . . [using a rotatable and axially movable screw]
9/125 . . . [Control arrangements]
9/127 . . . [Feed means]
9/128 . . . [Vertical or inclined screw presses]
9/14 . . . operating with only one screw or worm
9/16 . . . operating with two or more screws or worms
9/163 . . . [working in different chambers]
9/166 . . . [the screws being coaxially disposed in the same chamber]
9/18 . . . with means for adjusting the outlet for the solid
9/20 . . . using rotary pressing members, other than worms or screws, e.g. rollers, rings, discs
9/202 . . . [with co-operating cones]
9/205 . . . [using a roller with radially arranged vanes dividing the pressing space in separate chambers]
9/207 . . . [Roller-and-ring presses]
9/22 . . . using a flexible member, e.g. diaphragm, urged by fluid pressure
9/225 . . . [the diaphragm being urged by fluid pressure]
9/24 . . . using an endless pressing band
9/241 . . . [co-operating with a drum or roller]
9/242 . . . [comprising compartments which are recurrently constricted and expanded]
9/243 . . . [The squeezing-out being performed in several stages]
9/245 . . . [the edges of the band being folded over the material]
9/246 . . . [The material being conveyed around a drum between pressing bands]
9/247 . . . [Pressing band constructions]
9/248 . . . [Means for sealing the press zone]
9/26 . . . Permeable casings or strainers
9/262 . . . [means disposed in the casing facilitating the squeezing-out of liquid]
9/265 . . . [Press cloths]
9/267 . . . [Strainer bars; Spacers]
9/28 . . . for forming shaped articles (from material in powder, granular, or paste form, e.g. briquetting presses B30B 11/00)
9/30 . . . for baling; Compression boxes therefor (bailing hay, straw, or the like A01F)
9/3003 . . . [Details]
9/3007 . . . [Control arrangements]
9/301 . . . [Feed means]
9/3014 . . . [Ejection means]
9/3017 . . . [Odor eliminating means]
9/3021 . . . [Press rams]
9/3025 . . . [Extrusion chambers with adjustable outlet opening]
9/3028 . . . [Retaining dogs]
9/3032 . . . [Press boxes]
9/3035 . . . [Means for conditioning the material to be pressed, e.g. paper shredding means]
9/3039 . . . [Fluid removing means]
9/3042 . . . [Containers provided with, or connectable to, compactor means]
9/3046 . . . [Containers with built-in compactor means]
9/305 . . . [Drive arrangements for the press ram]
9/3053 . . . [Hand- or foot-operated presses]
9/3057 . . . [Fluid-driven presses]
9/306 . . . [Mechanically-driven presses]
9/3064 . . . [by screw means]
9/3067 . . . [by rack-and-pinion means]
9/3071 . . . [by the pull of chains or ropes]
9/3075 . . . [with press boxes on a movable carrier, e.g. turntable]
9/3078 . . . [with precompression means]
9/3082 . . . [with compression means other than rams performing a rectilinear movement]
9/3085 . . . [using a stationary press ram co-operating with a movable press box]
Presses specially adapted for forming shaped articles from material in particulate or plastic state, e.g. briquetting presses, tablingt presses, (for clay or mixtures containing cement B28B; for plastics materials B29)

11/00

11/001 . . . [using a flexible element, e.g. diaphragm, urged by fluid pressure; Isostatic presses]
11/002 . . . { Isostatic press chambers; Press stands therefor }
11/003 . . . { using a roller with radially arranged vanes dividing the press space in separate chambers }
11/004 . . . { involving the use of very high pressures, (for the formation of artificial diamonds or boronitrides B01J 3/065) }
11/005 . . . { Control arrangements }
11/006 . . . { for roller presses }
11/007 . . . { using a plurality of pressing members working in different directions }
11/008 . . . { Applying a magnetic field to the material }
11/02 . . . using a ram exerting pressure on the material in a moulding space
11/022 . . . { whereby the material is subjected to vibrations }
11/025 . . . { whereby the material is transferred into the press chamber by relative movement between a ram and the press chamber }
11/027 . . . { Particular press methods or systems }
11/04 . . . co-operating with a fixed mould
11/06 . . . each charge of the material being compressed against the previously formed body
11/08 . . . co-operating with moulds carried by a turntable
11/085 . . . { for multi-layer articles }
11/10 . . . { intermittently rotated }
11/12 . . . co-operating with moulds on the circumference of a rotating drum
11/14 . . . co-operating with moulds on a movable carrier other than a turntable or a rotating drum
11/16 . . . using pocketed rollers, e.g. two co-operating pocketed rollers
11/165 . . . { Roll constructions }
11/18 . . . using profiled rollers
11/20 . . . Roller-and-ring machines, i.e. with roller disposed within a ring and co-operating with the inner surface of the ring
11/201 . . . { for extruding material }
11/202 . . . { Ring constructions }

11/204 . . . . . . { Rings with adjustable extrusion openings }
11/205 . . . . . . { using an annular series of radial die cells, especially for crop material }
11/207 . . . . . . { Feed means }
11/208 . . . . . . { Roller constructions; Mounting of the rollers }
11/22 . . . Extrusion presses; Dies therefor (extruding by the use of roller-and-ring machines B30B 11/20)
11/221 . . . { extrusion dies }
11/222 . . . { using several circumferentially spaced rollers, e.g. skewed rollers }
11/224 . . . { Extrusion chambers }
11/225 . . . . . . { with adjustable outlet opening }
11/227 . . . { Means for dividing the extruded material into briquets }
11/228 . . . { using pressing means, e.g. rollers moving over a perforated die plate }
11/24 . . . using screws or worms
11/241 . . . . . . { Drive means therefor; screw bearings }
11/243 . . . . . . { using two or more screws working in the same chamber }
11/245 . . . . . . { using two or more screws working in different chambers }
11/246 . . . . . . { Screw constructions }
11/248 . . . . . . { Means preventing the material from turning with the screw or returning towards the feed hopper }
11/26 . . . using press rams
11/265 . . . . . . { with precompression means }
11/28 . . . using perforated rollers or discs
11/30 . . . using directly-acting fluid pressure
11/34 . . . for coating articles, e.g. tablets

12/00 Presses not provided for in groups B30B 1/00 - B30B 11/00

13/00 Methods of pressing not special to the use of presses of any one of the preceding main groups

15/00 Details of, or accessories for, presses; Auxiliary measures in connection with pressing (safety devices F16P)
Press load monitoring means (B30B 15/281 takes precedence)

Dies; Inserts therefor; Mounting thereof; Moulds (extrusion dies B30B 11/22)

Moulds for compacting material in powder, granular of pasta form)

Mounting of dies, platens or press rams

Loading or unloading of dies, platens or press rams

Frames; Guides

Guides

Prestressed frames

Means preventing deflection of the frame, especially for C-frames

Mountings of press columns

C-shaped frames (with means for preventing deflection B30B 15/044)

Laminated frame structures

Platens or press rams

Cushion plates

Press plates

Press rams

Press rams

Drive connections, e.g. pivotal

Accessory tools, e.g. knives; Mountings therefor

Brakes specially adapted for presses (brakes in general F16D)

Clutches specially adapted for presses (clutches in general F16D)

Control arrangements for mechanically-driven presses

controlling the brake or the clutch

for stopping the press shaft in a predetermined angular position

for synchronising a line of presses

Electrical control arrangements

Control arrangements for fluid-driven presses (pumps per se F04; hydraulic accumulators per se F15B; valves per se F16K; control devices in general G05)

controlling the ram speed and ram pressure, e.g. fast approach speed at low pressure, low pressing speed at high pressure

for accumulator-driven presses

for pneumatically-hydraulically driven presses

Electrical control arrangements

for pneumatically driven presses (B30B 15/165 takes precedence)

controlling the reciprocating motion of the ram

Controlling the filling of the press cylinder during the approach stroke of the ram, e.g. prefill-valves

Controlling the return movement of the ram, e.g. decompression valves

controlling the speed of the ram, e.g. the speed of the approach, pressing or return strokes

controlling the degree of pressure applied by the ram during the pressing stroke

overload limiting devices (in general F16H 35/10)

using a breakage element

releasing fluid from a fluid chamber subjected to overload pressure

preventing a full press stroke if there is an obstruction in the working area

preventing unintended ram movement, e.g. using blocking devices

preventing over-run or reverse-run of the press shaft

Feeding material to presses

Feeding material in particulate or plastic state to moulding presses

[by using feed frames or shoes with relative movement with regard to the mould or moulds]

for multi-layer articles

in a continuous manner, e.g. for roller presses, screw extrusion presses

Discharging presses

Heating or cooling presses or parts thereof