

CPC 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.

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|-------------|---|-------------|--|
| 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 | 1/24 | . by rack-and-pinion means {(B30B 9/3067 takes precedence)} |
| 1/001 | . {by explosive charges} | 1/26 | . by cams, eccentrics, or cranks |
| 1/002 | . {by internal combustion mechanism} | 1/261 | . . {by cams} |
| 1/003 | . {by an elastic bag or diaphragm expanded by fluid pressure} | 1/263 | . . {work stroke adjustment means} |
| 1/005 | . {by thermal expansion or evaporation} | 1/265 | . . {using a fluid connecting unit between drive shaft and press ram} |
| 1/006 | . {by a scissor or lazy-tongs mechanism} | 1/266 | . . {Drive systems for the cam, eccentric or crank axis} |
| 1/007 | . {using a fluid connection between the drive means and the press ram} | 1/268 | . . {using a toggle connection between driveshaft and press ram} |
| 1/008 | . {by a rod swinging between a fixed plane and the 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 |
| 1/02 | . by lever mechanism (by toggle mechanism B30B 1/10) | 1/30 | . by the pull of chains or ropes {(B30B 9/3071 takes precedence)} |
| 1/04 | . . operated by hand or foot | 1/32 | . by plungers under fluid pressure |
| 1/06 | . . operated by cams, eccentrics, or cranks | 1/323 | . . {using low pressure long stroke opening and closing means, and high pressure short stroke cylinder means} |
| 1/08 | . . operated by fluid-pressure means | 1/326 | . . {operated by hand or foot, e.g. using hydraulic jacks} |
| 1/10 | . by toggle mechanism | 1/34 | . . involving a plurality of plungers acting on the platen (gas operated B30B 1/38) |
| 1/103 | . . {operated by screw means} | 1/36 | . . having telescoping plungers (gas operated B30B 1/38) |
| 1/106 | . . {operated by another toggle mechanism} | 1/38 | . . wherein the plungers are operated by pressure of a gas, e.g. steam, air |
| 1/12 | . . operated by hand or foot | 1/40 | . by wedge means |
| 1/14 | . . operated by cams, eccentrics, or cranks | 1/42 | . by magnetic means, e.g. electromagnetic |
| 1/16 | . . operated by fluid-pressure means | 3/00 | Presses characterised by the use of rotary pressing members, e.g. rollers, rings, discs |
| 1/18 | . by screw means {(B30B 9/3064 takes precedence)} | 3/005 | . {Roll constructions} |
| 1/181 | . . {the screw being directly driven by an electric motor} | 3/02 | . co-operating with a fixed member |
| 1/183 | . . {Braking mechanisms for the return movement of the press ram} | 3/04 | . co-operating with one another, e.g. with co-operating cones |
| 1/185 | . . {driven through friction roller means} | 3/045 | . . {with co-operating cones} |
| 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 | | |

- 3/06 . . . arranged one within another, e.g. with a roller disposed within a rotating ring and co-operating with the inner surface thereof
- 5/00 Presses characterised by the use of pressing means other than those mentioned in the preceding groups**
- 5/02 . . wherein the pressing means is in the form of a flexible element, e.g. diaphragm, urged by fluid pressure
- 5/04 . . wherein the pressing means is in the form of an endless band
- 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}
- 7/00 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
- 9/00 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 tubular}
- 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 ([baling 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}

- 9/3089 . . {Extrusion presses}
- 9/3092 . . {with two or more stationary press boxes co-operating alternately with a press ram or simultaneously with press rams}
- 9/3096 . . {the means against which, or wherein, the material is compacted being retractable}
- 9/32 . . for consolidating scrap metal or for compacting used cars
- 9/321 . . {for consolidating empty containers, e.g. cans}
- 9/322 . . . {between jaws pivoting with respect to each other}
- 9/323 {operated by hand or foot}
- 9/325 . . . {between rotary pressing members, e.g. rollers, discs}
- 9/326 . . {provided with shearing means for the scrap metal, or adapted to co-operate with a shearing machine}
- 9/327 . . {for briquetting scrap metal}
- 9/328 . . {for making furnace charges}
- 11/00** **Presses specially adapted for forming shaped articles from material in particulate or plastic state, e.g. briquetting presses, tableting presses (for clay or mixtures containing cement [B28B](#); for plastics materials [B29](#))**
- 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 pressing 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](#))**
- 15/0005 . . {for briquetting presses}
- 15/0011 . . {lubricating means}
- 15/0017 . . {Deairing means}
- 15/0023 . . {Drive arrangements for movable carriers, e.g. turntables}
- 15/0029 . . {means for adjusting the space between the press slide and the press table, i.e. the shut height}
- 15/0035 . . {using an adjustable connection between the press drive means and the press slide}
- 15/0041 . . {Control arrangements therefor}
- 15/0047 . . {releasing means for jammed presses}
- 15/0052 . . {for fluid driven presses}
- 15/0058 . . {Inclinable presses}
- 15/0064 . . {Counterbalancing means for movable press elements}
- 15/007 . . {Means for maintaining the press table, the press platen or the press ram against tilting or deflection}
- 15/0076 . . {Noise or vibration isolation means}
- 15/0082 . . {Dust eliminating means; Mould or press ram cleaning means}
- 15/0088 . . {Lubricating means ([B30B 15/0011](#) takes precedence)}

- 15/0094 . {Press load monitoring means ([B30B 15/281](#) takes precedence)}
- 15/02 . Dies; Inserts therefor; Mounting thereof; Moulds ([extrusion dies B30B 11/22](#))
- 15/022 . . {Moulds for compacting material in powder, granular of pasta form}
- 15/024 . . . {using elastic mould parts}
- 15/026 . . {Mounting of dies, platens or press rams}
- 15/028 . . {Loading or unloading of dies, platens or press rams}
- 15/04 . Frames; Guides
- 15/041 . . {Guides}
- 15/042 . . {Prestressed frames}
- 15/044 . . {Means preventing deflection of the frame, especially for C-frames}
- 15/045 . . {Mountings of press columns}
- 15/047 . . {C-shaped frames ([with means for preventing deflection B30B 15/044](#))}
- 15/048 . . {Laminated frame structures}
- 15/06 . Platens or press rams
- 15/061 . . {Cushion plates}
- 15/062 . . {Press plates}
- 15/064 . . . {with heating or cooling means}
- 15/065 . . {Press rams}
- 15/067 . . . {with means for equalizing the pressure exerted by a plurality of press rams}
- 15/068 . . {Drive connections, e.g. pivotal}
- 15/08 . Accessory tools, e.g. knives; Mountings therefor
- 15/10 . Brakes specially adapted for presses ([brakes in general F16D](#))
- 15/12 . Clutches specially adapted for presses ([clutches in general F16D](#))
- 15/14 . Control arrangements for mechanically-driven presses
- 15/142 . . {controlling the brake or the clutch}
- 15/144 . . {for stopping the press shaft in a predetermined angular position}
- 15/146 . . {for synchronising a line of presses}
- 15/148 . . {Electrical control arrangements}
- 15/16 . Control arrangements for fluid-driven presses ([pumps per se F04](#); [hydraulic accumulators per se F15B](#); [valves per se F16K](#); [control devices in general G05](#))
- 15/161 . . {controlling the ram speed and ram pressure, e.g. fast approach speed at low pressure, low pressing speed at high pressure}
- 15/163 . . {for accumulator-driven presses}
- 15/165 . . {for pneumatically-hydraulically driven presses}
- 15/166 . . {Electrical control arrangements}
- 15/168 . . {for pneumatically driven presses ([B30B 15/165](#) takes precedence)}
- 15/18 . . controlling the reciprocating motion of the ram
- 15/183 . . . {Controlling the filling of the press cylinder during the approach stroke of the ram, e.g. prefill-valves}
- 15/186 . . . {Controlling the return movement of the ram, e.g. decompression valves}
- 15/20 . . . controlling the speed of the ram, e.g. the speed of the approach, pressing or return strokes
- 15/22 . . controlling the degree of pressure applied by the ram during the pressing stroke
- 15/24 . . controlling the movement of a plurality of actuating members to maintain parallel movement of the platen or press beam
- 15/245 . . . {using auxiliary cylinder and piston means as actuating members}
- 15/26 . Program-control arrangements
- 15/28 . Arrangements for preventing distortion of, or damage to, presses or parts thereof
- 15/281 . . {overload limiting devices ([in general F16H 35/10](#))}
- 15/282 . . . {using a breakage element}
- 15/284 . . . {releasing fluid from a fluid chamber subjected to overload pressure}
- 15/285 . . {preventing a full press stroke if there is an obstruction in the working area}
- 15/287 . . {preventing unintended ram movement, e.g. using blocking devices}
- 15/288 . . {preventing over-run or reverse-run of the press shaft}
- 15/30 . Feeding material to presses
- 15/302 . . {Feeding material in particulate or plastic state to moulding presses}
- 15/304 . . . {by using feed frames or shoes with relative movement with regard to the mould or moulds}
- 15/306 {for multi-layer articles}
- 15/308 . . . {in a continuous manner, e.g. for roller presses, screw extrusion presses}
- 15/32 . Discharging presses
- 15/34 . Heating or cooling presses or parts thereof