

CPC**COOPERATIVE PATENT CLASSIFICATION****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.

B30B 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

- B30B 1/001 . {by explosive charges}
- B30B 1/002 . {by internal combustion mechanism}
- B30B 1/003 . {by an elastic bag or diaphragm expanded by fluid pressure}
- B30B 1/005 . {by thermal expansion or evaporation}
- B30B 1/006 . {by a scissor or lazy-tongs mechanism}
- B30B 1/007 . {using a fluid connection between the drive means and the press ram}
- B30B 1/008 . {by a rod swinging between a fixed plane and the ram}
- B30B 1/02 . by lever mechanism (by toggle mechanism [B30B 1/10](#))
- B30B 1/04 . . . operated by hand or foot
- B30B 1/06 . . . operated by cams, eccentrics, or cranks
- B30B 1/08 . . . operated by fluid-pressure means
- B30B 1/10 . by toggle mechanism
- B30B 1/103 . . . {operated by screw means}
- B30B 1/106 . . . {operated by another toggle mechanism}
- B30B 1/12 . . . operated by hand or foot
- B30B 1/14 . . . operated by cams, eccentrics, or cranks
- B30B 1/16 . . . operated by fluid-pressure means
- B30B 1/18 . by screw means {(B30B 9/3064 takes precedence)}
- B30B 1/181 . . . {the screw being directly driven by an electric motor}
- B30B 1/183 . . . {Braking mechanisms for the return movement of the press ram}
- B30B 1/185 . . . {driven through friction roller means}
- B30B 1/186 . . . {Control arrangements}
- B30B 1/188 . . . {driven by a continuously rotatable flywheel with a coupling arranged between the flywheel and the screw}
- B30B 1/20 . . . driven by hand
- B30B 1/22 . . . driven through friction disc means
- B30B 1/23 . . . operated by fluid-pressure means

- B30B 1/24 . by rack-and-pinion means {(B30B 9/3067 takes precedence)}
- B30B 1/26 . by cams, eccentrics, or cranks
- B30B 1/261 .. {by cams}
- B30B 1/263 .. {work stroke adjustment means}
- B30B 1/265 .. {using a fluid connecting unit between drive shaft and press ram}
- B30B 1/266 .. {Drive systems for the cam, eccentric or crank axis}
- B30B 1/268 .. {using a toggle connection between driveshaft and press ram}
- B30B 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
- B30B 1/30 . by the pull of chains or ropes {(B30B 9/3071 takes precedence)}
- B30B 1/32 . by plungers under fluid pressure
- B30B 1/323 .. {using low pressure long stroke opening and closing means, and high pressure short stroke cylinder means}
- B30B 1/326 .. {operated by hand or foot, e.g. using hydraulic jacks}
- B30B 1/34 .. involving a plurality of plungers acting on the platen (gas operated B30B 1/38)
- B30B 1/36 .. having telescoping plungers (gas operated B30B 1/38)
- B30B 1/38 .. wherein the plungers are operated by pressure of a gas, e.g. steam, air
- B30B 1/40 . by wedge means
- B30B 1/42 . by magnetic means, e.g. electro-magnetic

- B30B 3/00** **Presses characterised by the use of rotary pressing members, e.g. rollers, rings, discs**
- B30B 3/005 . {Roll constructions}
- B30B 3/02 . co-operating with a fixed member
- B30B 3/04 . co-operating with one another, e.g. with co-operating cones
- B30B 3/045 .. {with co-operating cones}
- B30B 3/06 .. arranged one within another, e.g. with a roller disposed within a rotating ring and co-operating with the inner surface thereof

- B30B 5/00** **Presses characterised by the use of pressing means other than those mentioned in the preceding groups**
- B30B 5/02 . wherein the pressing means is in the form of a flexible element, e.g. diaphragm, urged by fluid pressure
- B30B 5/04 . wherein the pressing means is in the form of an endless band
- B30B 5/06 .. co-operating with another endless band
- B30B 5/062 ... {urged by directly-acting fluid pressure}
- B30B 5/065 ... {using anti-friction means for the pressing band}
- B30B 5/067 {using anti-friction roller means}

- B30B 7/00** **Presses characterised by a particular arrangement of the pressing members**
- B30B 7/02 . having several platens arranged one above the other
- B30B 7/023 .. {Feeding or discharging means}
- B30B 7/026 .. {Spacer elements; Changing means therefor}

- B30B 7/04
 - wherein pressing is effected in different directions simultaneously or in turn
- B30B 9/00**
- B30B 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](#)}
- B30B 9/04
 - .. using press rams
- B30B 9/042
 - ... {co-operating with casings mounted on a movable carrier, e.g. turntable}
- B30B 9/045
 - ... {co-operating with several adjacent casings}
- B30B 9/047
 - ... {Control arrangements}
- B30B 9/06
 - ... co-operating with permeable casings or strainers
- B30B 9/062
 - {Extrusion presses}
- B30B 9/065
 - {for making briquettes, e.g. from paper}
- B30B 9/067
 - {with a retractable abutment member closing one end of the press chamber}
- B30B 9/08
 - ... co-operating with a rotary casing
- B30B 9/10
 - ... without use of a casing
- B30B 9/105
 - {using a press ram co-operating with an intermittently moved endless conveyer}
- B30B 9/12
 - .. using pressing worms or screws co-operating with a permeable casing
- B30B 9/121
 - ... {Screw constructions}
- B30B 9/122
 - ... {Means preventing the material from turning with the screw or returning towards the feed hopper}
- B30B 9/124
 - ... {using a rotatable and axially movable screw}
- B30B 9/125
 - ... {Control arrangements}
- B30B 9/127
 - ... {Feed means}
- B30B 9/128
 - ... {Vertical or inclined screw presses}
- B30B 9/14
 - ... operating with only one screw or worm
- B30B 9/16
 - ... operating with two or more screws or worms
- B30B 9/163
 - {working in different chambers}
- B30B 9/166
 - {the screws being coaxially disposed in the same chamber}
- B30B 9/18
 - ... with means for adjusting the outlet for the solid
- B30B 9/20
 - .. using rotary pressing members, other than worms or screws, e.g. rollers, rings, discs
- B30B 9/202
 - ... {with co-operating cones}
- B30B 9/205
 - ... {using a roller with radially arranged vanes dividing the pressing space in separate chambers}
- B30B 9/207
 - ... {Roller-and-ring presses}
- B30B 9/22
 - .. using a flexible member, e.g. diaphragm, urged by fluid pressure
- B30B 9/225
 - ... {the diaphragm being tubular}
- B30B 9/24
 - .. using an endless pressing band
- B30B 9/241
 - ... {co-operating with a drum or roller}

- B30B 9/242 ... {comprising compartments which are recurrently constricted and expanded}
- B30B 9/243 ... {The squeezing-out being performed in several stages}
- B30B 9/245 ... {the edges of the band being folded over the material}
- B30B 9/246 ... {The material being conveyed around a drum between pressing bands}
- B30B 9/247 ... {Pressing band constructions}
- B30B 9/248 ... {Means for sealing the press zone}
- B30B 9/26 .. Permeable casings or strainers
- B30B 9/262 ... {means disposed in the casing facilitating the squeezing-out of liquid}
- B30B 9/265 ... {Press cloths}
- B30B 9/267 ... {Strainer bars; Spacers}
- B30B 9/28 . for forming shaped articles (from material in powder, granular, or paste form, e.g. briquetting presses [B30B 11/00](#))
- B30B 9/30 . for baling; Compression boxes therefor (baling hay, straw, or the like [A01F](#))
- B30B 9/3003 .. {Details}
- B30B 9/3007 ... {Control arrangements}
- B30B 9/301 ... {Feed means}
- B30B 9/3014 ... {Ejection means}
- B30B 9/3017 ... {Odor eliminating means}
- B30B 9/3021 ... {Press rams}
- B30B 9/3025 ... {Extrusion chambers with adjustable outlet opening}
- B30B 9/3028 ... {Retaining dogs}
- B30B 9/3032 ... {Press boxes}
- B30B 9/3035 ... {Means for conditioning the material to be pressed, e.g. paper shredding means}
- B30B 9/3039 ... {Fluid removing means}
- B30B 9/3042 .. {Containers provided with, or connectable to, compactor means}
- B30B 9/3046 ... {Containers with built-in compactor means}
- B30B 9/305 .. {Drive arrangements for the press ram}
- B30B 9/3053 ... {Hand- or foot-operated presses}
- B30B 9/3057 .. {Fluid-driven presses}
- B30B 9/306 .. {Mechanically-driven presses}
- B30B 9/3064 ... {by screw means}
- B30B 9/3067 ... {by rack-and-pinion means}
- B30B 9/3071 ... {by the pull of chains or ropes}
- B30B 9/3075 .. {with press boxes on a movable carrier, e.g. turntable}
- B30B 9/3078 .. {with precompression means}
- B30B 9/3082 .. {with compression means other than rams performing a rectilinear movement}
- B30B 9/3085 .. {using a stationary press ram co-operating with a movable press box}
- B30B 9/3089 .. {Extrusion presses}
- B30B 9/3092 .. {with two or more stationary press boxes co-operating alternately with a press ram or simultaneously with press rams}

- B30B 9/3096 . . {the means against which, or wherein, the material is compacted being retractable}
- B30B 9/32 . for consolidating scrap metal or for compacting used cars
- B30B 9/321 . . {for consolidating empty containers, e.g. cans}
- B30B 9/322 . . . {between jaws pivoting with respect to each other}
- B30B 9/323 {operated by hand or foot}
- B30B 9/325 . . . {between rotary pressing members, e.g. rollers, discs}
- B30B 9/326 . . {provided with shearing means for the scrap metal, or adapted to co-operate with a shearing machine}
- B30B 9/327 . . {for briquetting scrap metal}
- B30B 9/328 . . {for making furnace charges}

B30B 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](#))

- B30B 11/001 . {using a flexible element, e.g. diaphragm, urged by fluid pressure; Isostatic presses}
- B30B 11/002 . . {Isostatic press chambers; Press stands therefor}
- B30B 11/003 . {using a roller with radially arranged vanes dividing the pressing space in separate chambers}
- B30B 11/004 . {involving the use of very high pressures, (for the formation of artificial diamonds or boronitrides [B01J 3/065](#))}
- B30B 11/005 . {Control arrangements}
- B30B 11/006 . . {for roller presses}
- B30B 11/007 . {using a plurality of pressing members working in different directions}
- B30B 11/008 . {Applying a magnetic field to the material}
- B30B 11/02 . using a ram exerting pressure on the material in a moulding space
- B30B 11/022 . . {whereby the material is subjected to vibrations}
- B30B 11/025 . . {whereby the material is transferred into the press chamber by relative movement between a ram and the press chamber}
- B30B 11/027 . . {Particular press methods or systems}
- B30B 11/04 . . co-operating with a fixed mould
- B30B 11/06 . . . each charge of the material being compressed against the previously formed body
- B30B 11/08 . . co-operating with moulds carried by a turntable
- B30B 11/085 . . . {for multi-layer articles}
- B30B 11/10 . . . intermittently rotated
- B30B 11/12 . . co-operating with moulds on the circumference of a rotating drum
- B30B 11/14 . . co-operating with moulds on a movable carrier other than a turntable or a rotating drum
- B30B 11/16 . using pocketed rollers, e.g. two co-operating pocketed rollers
- B30B 11/165 . . {Roll constructions}
- B30B 11/18 . using profiled rollers
- B30B 11/20 . Roller-and-ring machines, i.e. with roller disposed within a ring and co-operating with the inner surface of the ring

- B30B 11/201 .. {for extruding material}
- B30B 11/202 ... {Ring constructions}
- B30B 11/204 {Rings with adjustable extrusion openings}
- B30B 11/205 ... {using an annular series of radial die cells, especially for crop material}
- B30B 11/207 ... {Feed means}
- B30B 11/208 ... {Roller constructions; Mounting of the rollers}
- B30B 11/22 . Extrusion presses; Dies therefor ([extruding by the use of roller-and-ring machines B30B 11/20](#))
 - B30B 11/221 .. {extrusion dies}
 - B30B 11/222 .. {using several circumferentially spaced rollers, e.g. skewed rollers}
 - B30B 11/224 .. {Extrusion chambers}
 - B30B 11/225 ... {with adjustable outlet opening}
 - B30B 11/227 .. {Means for dividing the extruded material into briquets}
 - B30B 11/228 .. {using pressing means, e.g. rollers moving over a perforated die plate}
 - B30B 11/24 .. using screws or worms
 - B30B 11/241 ... Drive means therefor; screw bearings
 - B30B 11/243 ... {using two or more screws working in the same chamber}
 - B30B 11/245 ... {using two or more screws working in different chambers}
 - B30B 11/246 ... {Screw constructions}
 - B30B 11/248 ... {Means preventing the material from turning with the screw or returning towards the feed hopper}
 - B30B 11/26 .. using press rams
 - B30B 11/265 ... {with precompression means}
 - B30B 11/28 .. using perforated rollers or discs
 - B30B 11/30 .. using directly-acting fluid pressure
 - B30B 11/34 . for coating articles, e.g. tablets

B30B 12/00 Presses not provided for in groups [B30B 1/00](#) to [B30B 11/00](#)

B30B 13/00 Methods of pressing not special to the use of presses of any one of the preceding main groups

B30B 15/00 Details of, or accessories for, presses; Auxiliary measures in connection with pressing ([safety devices F16P](#))

- B30B 15/0005 . {for briquetting presses}
- B30B 15/0011 .. {lubricating means}
- B30B 15/0017 .. {Deairing means}
- B30B 15/0023 . {Drive arrangements for movable carriers, e.g. turntables}
- B30B 15/0029 . {means for adjusting the space between the press slide and the press table, i.e. the shut height}
- B30B 15/0035 .. {using an adjustable connection between the press drive means and the press slide}
- B30B 15/0041 .. {Control arrangements therefor}

- B30B 15/0047 . {releasing means for jammed presses}
- B30B 15/0052 . {for fluid driven presses}
- B30B 15/0058 . {Inclinable presses}
- B30B 15/0064 . {Counterbalancing means for movable press elements}
- B30B 15/007 . {Means for maintaining the press table, the press platen or the press ram against tilting or deflection}
- B30B 15/0076 . {Noise or vibration isolation means}
- B30B 15/0082 . {Dust eliminating means; Mould or press ram cleaning means}
- B30B 15/0088 . {Lubricating means ([B30B 15/0011](#) takes precedence)}
- B30B 15/0094 . {Press load monitoring means ([B30B 15/281](#) takes precedence)}
- B30B 15/02 . Dies; Inserts therefor; Mounting thereof; Moulds ([extrusion dies B30B 11/22](#))
- B30B 15/022 . . {Moulds for compacting material in powder, granular or pasta form}
- B30B 15/024 . . . {using elastic mould parts}
- B30B 15/026 . . {Mounting of dies, platens or press rams}
- B30B 15/028 . . {Loading or unloading of dies, platens or press rams}
- B30B 15/04 . Frames; Guides
- B30B 15/041 . . {Guides}
- B30B 15/042 . . {Prestressed frames}
- B30B 15/044 . . {Means preventing deflexion of the frame, especially for C-frames}
- B30B 15/045 . . {Mountings of press columns}
- B30B 15/047 . . {C-shaped frames ([with means for preventing deflection B30B 15/044](#))}
- B30B 15/048 . . {Laminated frame structures}
- B30B 15/06 . Platens or press rams
- B30B 15/061 . . {Cushion plates}
- B30B 15/062 . . {Press plates}
- B30B 15/064 . . . {with heating or cooling means}
- B30B 15/065 . . {Press rams}
- B30B 15/067 . . . {with means for equalizing the pressure exerted by a plurality of press rams}
- B30B 15/068 . . {Drive connections, e.g. pivotal}
- B30B 15/08 . Accessory tools, e.g. knives; mountings therefor
- B30B 15/10 . Brakes specially adapted for presses ([brakes in general F16D](#))
- B30B 15/12 . Clutches specially adapted for presses ([clutches in general F16D](#))
- B30B 15/14 . Control arrangements for mechanically-driven presses
- B30B 15/142 . . {controlling the brake or the clutch}
- B30B 15/144 . . {for stopping the press shaft in a predetermined angular position}
- B30B 15/146 . . {for synchronising a line of presses}
- B30B 15/148 . . {Electrical control arrangements}
- B30B 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](#))
- B30B 15/161 . . {controlling the ram speed and ram pressure, e.g. fast approach speed at low pressure, low pressing speed at high pressure}

- B30B 15/163 . . {for accumulator-driven presses}
- B30B 15/165 . . {for pneumatically-hydraulically driven presses}
- B30B 15/166 . . {Electrical control arrangements}
- B30B 15/168 . . {for pneumatically driven presses ([B30B 15/165](#) takes precedence)}
- B30B 15/18 . . controlling the reciprocating motion of the ram
- B30B 15/183 . . . {Controlling the filling of the press cylinder during the approach stroke of the ram, e.g. prefill-valves}
- B30B 15/186 . . . {Controlling the return movement of the ram, e.g. decompression valves}
- B30B 15/20 . . . controlling the speed of the ram, e.g. the speed of the approach, pressing or return strokes
- B30B 15/22 . . controlling the degree of pressure applied by the ram during the pressing stroke
- B30B 15/24 . . controlling the movement of a plurality of actuating members to maintain parallel movement of the platen or press beam
- B30B 15/245 . . . {using auxiliary cylinder and piston means as actuating members}
- B30B 15/26 . Programme control arrangements
- B30B 15/28 . Arrangements for preventing distortion of, or damage to, presses or parts thereof
- B30B 15/281 . . {overload limiting devices ([in general F16H 35/10](#))}
- B30B 15/282 . . . {using a breakage element}
- B30B 15/284 . . . {releasing fluid from a fluid chamber subjected to overload pressure}
- B30B 15/285 . . {preventing a full press stroke if there is an obstruction in the working area}
- B30B 15/287 . . {preventing unintended ram movement, e.g. using blocking devices}
- B30B 15/288 . . {preventing over-run or reverse-run of the press shaft}
- B30B 15/30 . Feeding material to presses
- B30B 15/302 . . {Feeding material in particulate or plastic state to moulding presses}
- B30B 15/304 . . . {by using feed frames or shoes with relative movement}with regard to the mould or moulds
- B30B 15/306 {for multi-layer articles}
- B30B 15/308 . . . {in a continuous manner, e.g. for roller presses, screw extrusion presses}
- B30B 15/32 . Discharging presses
- B30B 15/34 . Heating or cooling presses or parts thereof