

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 9/30GG3 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 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**
Presses specially adapted for particular purposes
- 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
 - ... [N. 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 5/16D 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