

**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 9/30G3](#) 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 ... { 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, compacter means }
- B30B 9/3046 . . . { Containers with built-in compacter 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 . { Inclinal 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 15/16D](#) 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