COOPERATIVE PATENT CLASSIFICATION

PERFORMING OPERATIONS; TRANSPORTING

SHAPING

PRESSES

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 . [by 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 pulley 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]
3/002 . co-operating with a fixed member
3/004 . 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

5/00

- wherein the pressing means is in the form of a flexible element, e.g. diaphragm, urged by fluid pressure
- wherein the pressing means is in the form of an endless band
- co-operating with another endless band
- [urged by directly-acting fluid pressure]
- [using anti-friction means for the pressing band]
- [using anti-friction roller means]

Presses characterised by a particular arrangement of the pressing members

7/00

- having several platens arranged one above the other
- [Feeding or discharging means]
- [Spacer elements; Changing means therefor]
- wherein pressing is effected in different directions simultaneously or in turn

Presses specially adapted for particular purposes

9/00

- for squeezing-out liquid from liquid-containing material, e.g. juice from fruits, oil from oil-containing material (kitchen equipment A47I; 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))
- using press rams
- [co-operating with casings mounted on a movable carrier, e.g. turntable]
- [co-operating with several adjacent casings]
- [Control arrangements]
- co-operating with permeable casings or strainers
- [Extrusion presses]
- [for making briquettes, e.g. from paper]
- [with a retractable abutment member closing one end of the press chamber]
- co-operating with a rotary casing
- without use of a casing
- [using a press ram co-operating with an intermittently moved endless conveyor]
- using pressing worms or screws co-operating with a permeable casing
- [Screw constructions]
- [Means preventing the material from turning with the screw or returning towards the feed hopper]
- [using a rotatable and axially movable screw]
- [Control arrangements]
- [Feed means]
- [Vertical or inclined screw presses]
- operating with only one screw or worm
- operating with two or more screws or worms
- [working in different chambers]
- [the screws being coaxially disposed in the same chamber]
- with means for adjusting the outlet for the solid
- using rotary pressing members, other than worms or screws, e.g. rollers, rings, discs
- [with co-operating cones]
- [using a roller with radially arranged vanes dividing the pressing space in separate chambers]
- [Roller-and-ring presses]
- using a flexible member, e.g. diaphragm, urged by fluid pressure
- [the diaphragm being tubular]
- using an endless pressing band
- [co-operating with a drum or roller]
- [comprising compartments which are recurrently constricted and expanded]
- [The squeezing-out being performed in several stages]
- [the edges of the band being folded over the material]
- [The material being conveyed around a drum between pressing bands]
- [Pressing band constructions]
- [Means for sealing the press zone]
- Permeable casings or strainers
- [means disposed in the casing facilitating the squeezing-out of liquid]
- [Press cloths]
- [Strainer bars; Spacers]
- for forming shaped articles (from material in powder, granular, or paste form, e.g. briquetting presses B30B 11/00)
- for baling; Compression boxes therefor (baling hay, straw, or the like A01F)
- [Details]
- [Control arrangements]
- [Feed means]
- [Ejection means]
- [Odor eliminating means]
- [Press rams]
- [Extrusion chambers with adjustable outlet opening]
- [Retaining dogs]
- [Press boxes]
- [Means for conditioning the material to be pressed, e.g. paper shredding means]
- [Fluid removing means]
- [Containers provided with, or connectable to, compactor means]
- [Containers with built-in compactor means]
- [Drive arrangements for the press ram]
- [Hand- or foot-operated presses]
- [Fluid-driven presses]
- [Mechanically-driven presses]
- [by screw means]
- [by rack-and-pinion means]
- [by the pull of chains or ropes]
- [with press boxes on a movable carrier, e.g. turntable]
- [with precompression means]
- [with compression means other than rams performing a rectilinear movement]
- [using a stationary press ram co-operating with a movable press box]
11/00  Presses specially adapted for forming shaped articles from material in particulate or plastic state, e.g., briquetting presses, tabletting 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 roll 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   {Inclinateable 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 . Programme 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