

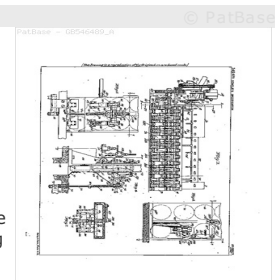
1) Family number: 20963008 (GB546489A)

IMPROVEMENTS IN OR RELATING TO THE MANUFACTURE OF SEAMLESS CONTAINERS

Abstract: Source: GB546489A [Class 117] [Also in Groups XXII, XXIV, XXV and XXXIV] Partly cupped blanks 66 roll down an inclined shoot B<SP>1</SP>, Fig. 10, opening into the side of a magazine B having a partition 68 so that two stacks of blanks accumulate. A rock shaft 82, Fig. 4, is actuated through a rod 73 and lever 59 from a cam 58, and operates fingers 85, 87 acting through guides 87 to form an escapement delivering blanks in pairs to be located by recesses 69a, Fig. 6, and a gate 70 in position to be advanced through the machine step by step by a reciprocating conveyor bar. If the lubricating device for the work is out of action a dog 90, Fig. 4, engages a shoulder 89 and prevents delivery of blanks, the spring 79 yielding when the lever 77 is thus locked. The blanks are sprayed whilst in the magazine B or alternatively or additionally at 110 on the line 2-2, Fig. 10, and by arms projecting from a pipe 116 over the drawing stations. The pipe is carried by arms 117 pivoted at 118, Fig. 27, and when the arms are raised to carry the pipe out of operative position a roller 120 on the end of it leaves a cam surface 121, Fig. 6, and permits a spring to move a lever, carrying the cam, to shut off the oil supply. At the same time cams 128, Fig. 4, are moved from rollers 130 permitting a spring 131 to rock the lever 90 and stop the blank feed mechanism. Lubricating at 110 is preferably employed in conjunction with a modified blank locating mechanism employing pins and a swinging gate. In this case the rock shaft 82 is operated by a lever mounted between friction washers to permit yield when the escapement is locked and the supply of oil to the Ushaped spray pipe is controlled by a springclosed valve opened by a tappet on the lever. Oil collects in a sump 13, Fig. 27, and is strained at 802 and recirculated by a pump 801 geared to the rear cam shaft. The blanks are received by fingers 190, Fig. 14, on the bar 134 sliding in guides in members 140, Fig. 10, carried by bell cranks 141 pivoted to the bed. The bell cranks are coupled by a rod 144 adjustably spring loaded at one end to balance the bar 134 together with the blanks and associated parts. The rod is connected at the other end, to impart a rise and fall motion to the bar, by a link 151, to a compound lever 106, 106<SP>1</SP>, Fig. 14, pivoted at 152 and carrying rollers 107, 107' engaging separate cams to ensure positive movement in each direction. The lever arms are relatively adjustable at 156. The bar 134 is linked, for the horizontal transfer movement, at 160 to a slotted lever 163 swinging about a locked shaft 164; the slot receiving a roller 57 on a crank pin 56 on a transverse cam shaft 52, Fig. 3, geared at 51 to the rear cam shaft. The slot in the lever has arcuate parts 166, 167, Fig. 14, to give dwells at the ends of the movements during which the rise and fall movements occur. In order that the mechanism may be positive in action, the arcuate portions are covered alternately by auxiliary members 168, 169 carried by levers pivoted at 170, 171, and linked at 172 to a member 174 keyed to the locked shaft 164. The position of the levers 170 is adjustable at 188. Two opposed pairs of fingers 190, Figs. 17 and 18, are provided for each blank holding station and the fingers have cam ends 199 to permit separation when engaged by the die parts of the machine. For this purpose the fingers are pivoted at 191 and are normally held with their ends 193 against stops 194 by springs 197. The blanks rest upon an opposed pair of fixed projections 202<SP>1</SP> and on a movable projection 200<SP>1</SP> carried by a finger pivoted at 201 and held against a stop 203 by a spring 203<SP>1</SP> when not cammed down by the tools at 205. These fingers are particularly designed for use at cupping stations and modified fingers are designed for use at other operative stations. In the case of a machine when the blanks are treated singly instead of in pairs a further modified form of fingers is described co-operating with supports additional support immediately prior to the projecting from the fixed die members to provide engagement of the blanks by the moving dies or punches and also at the time of disengagement. Specification 510,370, [Group XXII], is referred to.

Probable Assignee: CROWN CORK AND SEAL CO

Earliest Publication Date: 19420716



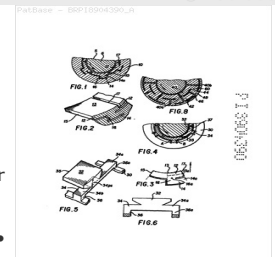
2) Family number: 33465068 (ZA8908086A)

BEARINGS HAVING BEAM MOUNTED BEARING PADS AND METHODS OF MAKING SAME

Abstract: Source: BRPI8904390A [Source: Claim 1] 1. Chumaccira hidrodinamica para suportar um oixo (5) dc rotacao cm uma pelucula fluida, compreendendo di versas almofadas (12, 32, 40) de chumaccira e uma estru tura suporte para suportar as almofadas de chumaccira, ca racterizada pelo fato de que; as almofadas do chumaccira (12, 32, 40) e a estru tu ra suporte sao unitarias c a estrutura suporte comprcen dc uma parte suporte primaria (10, 30), uma parte | supor tc secundaria (14, 34) c uma parte suporte terciaria (16), cada uma das partes suporte estando adaptadas para deflexionar uma cmr elacao a outra c a estrutura suporte suportar as almofadas de chumaccira (12, 32, 40) para mo ver com seis graus de liberdade de modo que sob carga as almofadas (12, 32, 40) deflexionam para uma posicao na qual a beirada traseira da almofada (17, 37) esta mais perto do eixo (5) que a beirada dianteira (15, 35) da almofada de modo a formar uma cunha hidrodinamica oti • • • • • # • • • • • • • • • • V # # • • • • • «I • «II • • # # • ss • ss • • • • • • • • • • III • # • # • III ma. [Source: Claim 1] 1. Chumaccira by hydrodynamic shearing to support a oixo (5) dc Rotator cm a fluid film, comprising di ss pads (12, 32, 40) of chumaccira and a struc ture support for support bearing pads, the economy characterised by the fact that ca; chumaccira pads (12, 32, 40) and the ra sao unitarias support stru c comprcen dc support structure a primary support (part 10, 30), a part... assume tc secondary (14, 34) c a part terciaria support (16), each party support being adapted to deflect a cmr elacao the other c the structure support support chumaccira pads (12, 32, 40) to mo view with six degrees of freedom so that under load the pillows (12, 32, 40) deflect to a position in which the rear edge of the pillow (17, 37) this closer to the shaft (5) to the front edge (15, 35) the cushion to form a wedge by hydrodynamic shearing oti • • • • • • • • • • V # # • • • • • «I • II • • # # • • • • • • • • • • III • • • • III ma

Probable Assignee: RUSSEL D IDE

Earliest Publication Date: 19900725



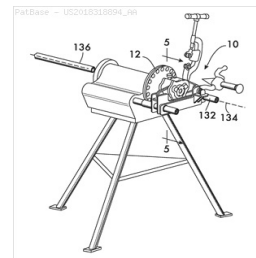
3) Family number: 71789133 (US2018318894A)

CAM GROOVING MACHINE WITH CAM STOP SURFACES

Abstract: Source: US2018318894A A device for cold working pipe elements has two or more cams, each having a gear which meshes with a pinion to turn all of the cams. Each cam has a cam surface with a region of increasing radius and may have a region of constant radius extending around a cam body. Each cam also has a traction surface extending around a cam body. A discontinuity in each cam surface is aligned with a gap in the traction surface of each cam. The discontinuities and gaps provide clearance for insertion and removal of the pipe element between the cams to form a circumferential groove when the cams are rotated. A cup adjacent the pinion is movable along the pinion axis to engage and disengage from a stop surface on one of the cams. Engagement between the cup and a stop surface prevents rotation of the cam.

Probable Assignee: VICTAULIC CO OF AMERICA

Earliest Publication Date: 20181108



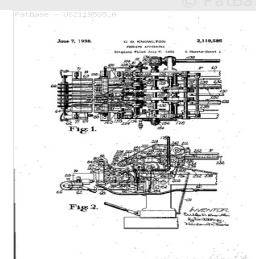
4) Family number: 21282150 (US2119585A)

FEEDING APPARATUS

Abstract: Source: US2119585A 1. In combination, means for delivering blanks, a movable conveyor upon which a series of blanks may be supported, oscillatory means for transferring blanks from the conveyor to the delivering means, and a stop situated in approximate coincidence with the axis of oscillation of the transferring means at the surface of the conveyor and against which the blanks are forced by said conveyor, said blanks being turned substantially about such axis by the transferring

Probable Assignee: HOAGUE SPRAGUE CORP

Earliest Publication Date: 19350122



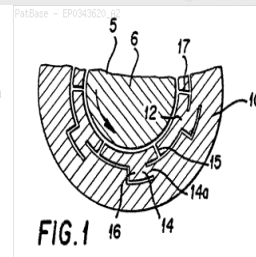
5) Family number: 33465171 (EP0343620A2)

BEARINGS HAVING BEAM MOUNTED BEARING PADS AND METHODS OF MAKING SAME.

Abstract: Source: EP0343620A2 A hydrodynamic thrust, journal or combined radial and thrust bearing and methods of manufacturing the same. The bearing includes a bearing pad structure that may change shape and move in any direction (six degrees of freedom) to optimize formation of a converging wedge for hydrodynamic operation, equalization of load on the bearing pads (12) in thrust bearings and to adjust for any shaft misalignment. The bearing pad (12) may be formed so as to contact the shaft (5) in the installed state and to deflect under fluid film pressure. The pad (12) is separated from the support member by a support structure which includes one or more beam-like members (14). The support structure preferably includes a primary support portion, a secondary support portion and a tertiary support portion. The beams (14) allow deflection of the pad (12) by either deflecting or twisting in a torsional mode. The bearing pad (12) support structure may include portions which are fluid dampened. The bearing may be made self lubricating through the provision of a lubricant absorbing and releasing material in the spaces between the bearing pads or within the support structure. The bearings may be made of a wide variety of materials including, plastics, ceramics, powdered metals, composites and metals. The bearings may be manufactured by simple molding using a two-piece camless mold, injection molding, casting, powdered metal die casting, extrusion, electric discharge or laser cutting.

Probable Assignee: IDE RUSSELL D

Earliest Publication Date: 19891129



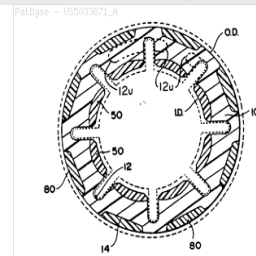
6) Family number: 31194187 (US5033871A)

EXTRUDABLE MULTI-RIGIDITY HYDRODYNAMIC BEARING AND METHOD OF MAKING THE SAME

Abstract: Source: US5033871A A hydrodynamic bearing constructed entirely of non-newtonian fluidic materials such as rubber, plastic and the like. The bearing is extrudable and includes a bearing pad support structure and a plurality of bearing pads formed with bearing pad support structure. The bearing pads may be formed of a material which is softer than the support structure. The bearing may also include a number of deflection control members fused to the bearing pads and/or the bearing pad support structure. The method of making the bearing includes the steps of extruding one or more materials to form an uncured tubular extrusion, curing the tubular extrusion, cutting the tubular extrusion into bearing segments and sizing the bearing segments by machining the individual segments to the desired inner and outer diameters.

Probable Assignee: KMC BEARINGS INC

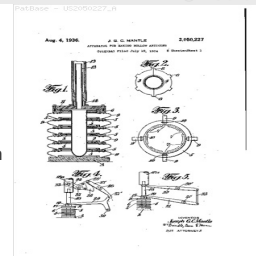
Earliest Publication Date: 19900426



7) Family number: 21347235 (US2050227A)

APPARATUS FOR MAKING HOLLOW ARTICLES

Abstract: Source: US2050227A What I claim is: 1. In an apparatus for making hollow metal articles, an external former embodying a plurality of unequally distanced members engageable externally with a hollow body, controlling means co-operable with said unequally distanced members, said controlling means being shiftable into and from engagement with said members, and a plurality of co-operable pressure devices, one acting to apply pressure directly to said hollow body in the direction of the axis thereof, and the other Operating to apply fluid pressure internally of said hollow body. 2. In an apparatus for making hollow metal articles, an external former embodying a plurality of movable members engageable externally with a hollow body, and a system of levers cooperable with said external former, said levers being controllable for engagement with and disengagement from said former members, in combination with a plurality of pressure devices, one acting to apply pressure directly to said hollow body in the direction of the axis thereof, and the other acting to supply fluid pressure internally of the hollow body. 3. In an apparatus for making hollow articles from metal shells or tubes, the combination of collapsing means for axially-collapsing the wall of the shell or tube, a plurality of individual moldparts, spaced apart and surrounding the said wall, the said mold-parts constituting an axially contractible mold, hydraulic means for outwardly-expanding a portion of the said wall into the said axially-contractible mold during its contraction, controlling means, other than the shell or tube, for mechanically and positively controlling the movement of



each of the mold-parts, relative to each other, during and throughout the contraction of the said axially-contractible mold, and shifting means for shifting said controlling means into and out of operable connection with said mold-parts. " 4. In an apparatus for making hollow articles from metal shells or tubes, the combination of collapsing means for axially-collapsing the wall of the shell or tube, a plurality of individual mold-parts, spaced apart and surrounding the wall, the said mold-parts constituting an axially-contractible mold, hydraulic means for outwardly-expanding a portion of the wall into the said axially-contractible mold during its contraction, and a system of levers directly engaging said mold-parts and which are operated by said collapsing means and which positively control the movement of each of said mold-parts, independently of each other, during and throughout the contraction of the said axially-contractible mold, the said system of levers shiftable as a unit into engagement with the said mold-parts and said collapsing means, and also shiftable as a unit out of engagement with the said mold-parts for the purpose of removing the finished article made from the shell or tube, from the apparatus. 5. An apparatus for forming hollow articles from shells or tubes including a contractible mold formed of a plurality of mold-parts, controlling means adapted to connect with one or more of said mold-parts and thereby positively control the movement each independently of the other, and also the distance apart from each other, of each of said mold-parts at the commencement of and throughout the contraction of the said contractible-mold, and manually-operated shifting means which by a movement in one direction connects the said controlling means with one or more of the said mold-parts and which by a movement in the opposite direction disconnects the said controlling means from the said mold-parts in a manner so as to permit the removal of the hollow article from the contractible-mold. 6. An apparatus for forming hollow articles from shells or tubes including a contractible mold, formed of a plurality of mold-parts, controlling means adapted to connect with one or more of said mold-parts and thereby positively control the movement and distance apart from each other of each of said mold-parts at the commencement of and throughout the contraction of said contractible-mold, and of a manually-operated shifting means which by a movement in one direction effects the movement of the controlling means towards and connects them with one or more of the said mold-parts and which by a movement in the opposite direction disconnects the controlling means from the said mold-parts and also effects the movement of the controlling means away from the said mold-parts in a manner so as to permit the removal of the hollow article from the contractible-mold. 7. An apparatus for forming hollow articles from shells or tubes including a contractible mold formed of a plurality of mold-parts and adapted to surround a hollow article supported in said contractible mold, one of said mold-parts being adapted for yieldable axial contraction, consisting of spaced-apart portions and the said spaced-apart portions being integral with each other. 8. In an apparatus for forming hollow articles from metal shells or tubes, an axially-contractible mold having a plurality of individual mold-parts for surrounding the wall of a shell or tube, hydraulic means co-acting with the said mold-parts for outwardly expanding by fluid pressure a portion of the wall between the said mold-parts, means for axially-collapsing the wall by mechanical pressure, and an operating member operating the hydraulic means and the said collapsing means in such a manner that the initial or early part of its movement operates solely said hydraulic means and a subsequent portion of its movement operates simultaneously both hydraulic means and the collapsing means. 9. In an apparatus for forming hollow articles from metal shells or tubes, an axially contractible mold having a plurality of individual mold-parts for surrounding the wall of a shell or tube, hydraulic means co-acting with the said mold-parts for outwardly expanding by fluid pressure a portion of the wall between the said mold-parts, means for axially-collapsing the wall by mechanical pressure, and an operating member by a continuous movement in one direction, operating the said hydraulic means and the said collapsing means in such a manner that the early part of its movement operates solely the hydraulic means and the following part of its movement operates, simultaneously, both the hydraulic means and the collapsing means. 10. In an apparatus for making hollow articles, a spirally disposed former contacting externally with a hollow body, in combination with a plurality of pressure devices, one operating to apply mechanical pressure directly to the hollow body in the direction of the axis thereof, and the other acting to supply fluid pressure internally of the hollow body. 11. In an apparatus for making hollow articles from metal shells or tubes, the combination of collapsing means for axially-collapsing the wall of the shell or tube, an axially-contractible mold surrounding the wall and including a spirally disposed member adapted to axially-contract during the collapsing of the wall, and hydraulic means for outwardly-expanding a portion of the wall into the said axially-contractible mold during its contraction, the wall including a portion expanded between the constituent portions of the said spirally disposed member and forming a spiral thread on the wall. 12. In an apparatus for making hollow articles from metal shells and tubes, the combination of collapsing means for axially-collapsing the wall of a shell or tube; a plurality of individual moldparts, spaced apart and surrounding the wall, said mold-parts constituting an axially-contractible mold, hydraulic means for outwardly-expanding a portion of the wall into said axially-contractible mold during its contraction, controlling means, other than the shell or tube, for mechanically controlling the movements of each of the moldparts independently of each other, during and throughout the contraction of said axially-contractible mold, said collapsing means and said hydraulic means being connected together in such a manner that the operation of one of them automatically applies the hydraulic pressure to outwardly expand the said portion of the wall, and collapses the contractible mold. 13. An apparatus for forming hollow articles from shells or tubes including a contractible mold formed of a plurality of mold-parts adapted to receive a tube or shell, a member the initial movement of which effects an internally-applied fluid pressure to a shell or tube prior to the period of the contraction of said contractible mold and the further movement of which; during a period of sustained internally-applied fluid pressure, effects the contraction of the contractible-mold. 14. Apparatus for forming hollow articles from metal shells or tubes, including, in combination, a series of partable dies having complementary shell or tube encircling recesses, a slide, a plurality of spacer members mounted upon said slide and adapted to maintain said dies in spaced relation, and means for moving said slide transversely of said partable dies to move said spacer members into and out of operative relation thereto. 15. An apparatus for forming hollow articles from metal shells or tubes, including, in combination, an axially-contractible spiral mold for surrounding the wall of a shell or tube, hydraulic means co-acting with the said mold for outwardly expanding by fluid pressure a portion of the wall into said mold, collapsing means for axially collapsing the wall by mechanical pressure, and an operating member for operating said hydraulic means and said collapsing means in such a manner that the initial or early part of its movement operates solely said hydraulic means and a subsequent portion of its movement operates simultaneously both said hydraulic means and said collapsing means. 16. In an apparatus for forming hollow articles, an external, contractible former embodying a plurality of members engageable externally with a hollow body, and a plurality of cooperating pressure devices, one of said devices including plunger means operating to initially apply fluid pressure internally of the hollow body to form a series of preliminary bulges therein, and the other pressure device operating to apply mechanical pressure directly to the hollow body in the direction of the axis thereof and collapse the hollow body. 17. In an apparatus of the character described, comprising a contractible mold having spaced mold parts adapted to surround a shell or tube, hydraulic means adapted to partially expand by fluid pressure a portion of the shell or tube between said mold parts, means for collapsing the shell or tube, and means for operating said hydraulic means in advance of said collapsing means and then for simultaneously operating both the hydraulic means and the collapsing means. 18. An apparatus of the character described, comprising a contractible mold, plunger means for creating pressure in the interior of a shell or tube placed in the contractible mold to cause the shell or tube to tightly engage the contractible mold, means for collapsing the shell or tube while maintaining the interior pressure, and means for operating said plunger means in advance of said collapsing means and then for coordinating the operation of said plunger means and said collapsing means during the collapsing operation. 19. In an apparatus of the character described, a contractible mold for surrounding a shell or tube, a plunger adapted to create an initial pressure in the interior of the shell or tube, lever means adapted to collapse the shell or tube, and means for operating said plunger in advance of the said lever means and also during the operation of said lever means. 20. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating a pressure in the interior of a shell or tube positioned in the contractible mold, lever means for collapsing said contractible mold, and means for operating said hydraulic means in advance of said lever means and also during the operation of said lever means, the hydraulic means being operated at a slower rate than the lever means during the latter part of the operation. 21. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating an initial pressure in the interior of a shell or tube, lever means for collapsing said contractible mold, and means for operating said lever means at a faster rate than said hydraulic means during the latter part of the operation. 22. In an apparatus of the character described, an external contractible mold including a plurality of resiliently mounted members engageable externally with a hollow article, and a plurality of cooperating pressure devices, means for operating one of said devices in advance of the other to initially apply fluid pressure internally of the hollow article and form a series of preliminary bulges therein, and means for operating the other of said devices to apply

hollow article and form a series of preliminary bulges therein, and means for operating the outer of said devices to apply mechanical pressure to the hollow article in the direction of the axis thereof and collapse the hollow article. 23. An apparatus of the character described, including, a contractible mold formed of a plurality of mold parts and a plurality of pressure devices, said pressure devices including plunger means adapted to initially apply fluid pressure to the interior of a hollow article to form a series of preliminary bulges therein and lever means adapted to apply mechanical pressure to the hollow article in the direction of the axis thereof. 24. In an apparatus of the character described, a contractible mold for surrounding a shell or tube, hydraulic means adapted to create an initial pressure in the interior of the shell or tube, lever means adapted to collapse the shell or tube, and means for operating said hydraulic means in advance of said lever means and also during the operation of said lever means. 25. An apparatus of the character described, including, in combination, a contractible mold, hydraulic means for creating an initial pressure in the interior of a shell or tube, means for collapsing said contractible mold, and means for operating said collapsing means at a faster rate than said hydraulic means during the latter part of the operation. 26. An apparatus of the character described, including, in combination, an external contractible mold including a plurality of members engageable externally with a hollow article, and a plurality of cooperating pressure devices, one of said pressure devices comprising mechanical means for applying fluid pressure internally of the hollow article, means for operating the pressure device comprising the mechanical means in advance of the other pressure device to initially apply fluid pressure internally of the hollow article and form a series of preliminary bulges therein, and means for operating the other pressure device to apply mechanical pressure to the hollow article in the direction of the axis thereto to collapse the hollow article. 27. Apparatus of the character described for forming corrugated tubular elements from tubular metal blanks, including two heads disposed for reception therebetween of a tubular blank to be corrugated, one of the heads having an opening therethrough into the blank and being movable toward the other head, spaced die members mounted between the heads for relative movement toward each other and disposed to extend about the blank in operative relation thereto, and a pressure applying means for initially applying fluid pressure to the interior of the blank to first prebulge the blank and then for subjecting said movable head to pressure and forcing it toward the other head, said pressure applying means including a member movable relatively to said movable head for compensating for variations in the volume of the blank during corrugating thereof. 28. Apparatus of the character described for forming corrugated tubular elements from tubular metal blanks, including a series of spaced die members movable one toward the other, means for supporting a tubular blank in operative relation to the die members with the latter extending circumferentially of the blank, means for subjecting the blank to an initial radial internal pressure for initially bulging the wall of the blank radially between the die members and then to radial internal and axial pressures for contracting the blank axially while moving the die members toward each other to shape the resulting corrugations formed in the blank, said second mentioned means including two members having relative movement one toward and away from the other and an element, said element and one of said members being relatively movable axially of the blank to compensate for variations in the volume of the blank during corrugating thereof. 29. An apparatus of the character described, including, in combination, a contractible mold, means for exerting hydraulic pressure in the interior of a shell or tube positioned in the contractible mold and for exerting axial pressure for collapsing said contractible mold, and means for operating said first named means so as to subject the interior of the shell or tube to hydraulic pressure to prebulge the shell or tube in advance of exerting a collapsing axial pressure and to subject the interior of the shell or tube to hydraulic pressure during the collapsing of the contractible mold, said pressure exerting means being operated so as to compensate for variations in the volume of the shell or tube during corrugating thereof. 30. An apparatus of the character described for forming hollow corrugated articles from metal shells or tubes, including, in combination, a contractible mold having a plurality of individual mold parts for surrounding the wall of a shell or tube, hydraulic means cooperating with said mold parts for outwardly expanding by internal fluid pressure the wall of the shell or tube between said mold parts, collapsing means for axially collapsing the wall of the shell or tube by mechanical pressure, and an operating member for operating said hydraulic means and said collapsing means so as to exert pressure interiorly of the shell or tube and an external pressure on the wall of the shell or tube to form a corrugated article and also to compensate for variations in the volume of the shell or tube during corrugation thereof. 31. In an apparatus for making hollow articles from metal shells or tubes, the combination of collapsing means for axially collapsing the wall of a shell or tube, an axially-contractible mold for surrounding the same wall and comprising a plurality of individual mold-parts, one of said mold-parts contacting with the end of the shell or tube and adapted to axially-slide within another of the said mold-parts, and hydraulic means for expanding a portion of the wall between said mold parts during the axial collapsing of the wall of the shell or tube. 32. In an apparatus of the character described, a contractible mold for surrounding a shell or tube, plunger means adapted to partially expand a portion of a shell or tube, means including a cam member for collapsing the shell or tube, and means for actuating said plunger means in advance of said collapsing means. 33. An apparatus of the character described, comprising a contractible mold, hydraulic means for expanding a portion of the wall of a shell or tube, means including a pivoted cam member and levers for collapsing said contractible mold, and means for operating said hydraulic means in advance of said collapsing means at the beginning of the operation. 34. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating a pressure in the interior of the shell or tube positioned in the contractible mold, lever means for collapsing said contractible mold, a cam member for operating said lever means, and means for operating said hydraulic means and said cam member to form a corrugated shell or tube. 35. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating a pressure in the interior of a shell or tube positioned in the contractible mold, lever means for collapsing said contractible mold, a pivoted cam member for operating said lever means, and means for operating said hydraulic means in advance of the lever means, and also during the operation of said lever means. 36. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating a pressure in the interior of a shell or tube positioned in the contractible mold, a plurality of levers for collapsing said contractible mold, a pivoted cam member, one of said levers being provided with a roller adapted to contact and follow the surface of the cam member, and means for operating said hydraulic means and said cam member and levers to form the corrugated shell or tube. 37. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating a pressure in the interior of a shell or tube positioned in a contractible mold, a member operating said hydraulic means, means pivoted adjacent said member and provided with a curved surface on one end, the other end thereof being adapted to be operated by said member, and means for collapsing said contractible mold, said last-mentioned means being controlled by the curved surface of said pivoted means. 38. An apparatus of the character described, comprising a contractible mold, hydraulic means for creating an initial pressure in the interior of a shell or tube, a plurality of levers for collapsing said contractible mold, means including a pivoted cam member for controlling the movement of said levers, and means for operating said hydraulic means and said last-named means to form a corrugated shell or tube. 39. An apparatus of the character described, comprising a contractible mold for surrounding a shell or tube, plunger means adapted to partially expand a portion of the shell or tube, and means including a cam member for collapsing the shell or tube, said cam member being so shaped as to permit differential movement of the plunger means and said second-named means. 40. An apparatus of the character described, comprising a contractible mold, hydraulic means for expanding a portion of the wall of a shell or tube, means including a pivoted cam member for collapsing said contractible mold, and a member for operating said hydraulic means in advance of said collapsing means and during the operation of said collapsing means. 41. An apparatus of the character described, comprising a contractible mold, a plunger adapted for movement to expand a portion of the wall of a shell or tube, means for collapsing said contractible mold, said means including a plurality of cooperating levers and a pivoted cam member. 42. In an apparatus of the character described, a contractible mold including a plurality of holders, removable mold inserts therein, and curved leaf springs co-operating with said holders for maintaining said holders in spaced relation. 43. In an apparatus of the character described, a contractible mold including a plurality of formers, spring for maintaining said formers in spaced relation, said springs being attached at one end to one former and the other end being removably mounted in another former. 44. An apparatus of the character described, comprising a holder formed with an annular groove and spaced notches communicating with the groove, said holder comprising mold parts provided with spaced lugs which are adapted to be positioned in said notches so that the mold parts may be positioned in the holder and by a slight twist or turn can be securely held together in the holder. 45. An apparatus of the character described, comprising a holder formed with an annular groove and comprising mold parts provided with spaced lugs, said lugs being adapted to be positioned in the groove so as to be securely held in the holder. 46. In an apparatus of the character described, a mold including a plurality of integral holders provided with complementary, separable, mold parts, and means for resiliently maintaining

said holders in spaced relation. 47. An apparatus of the character described, comprising a contractible mold including a plurality of integral holders provided with complementary, separable, mold parts, and springs for maintaining said holders in spaced relation, each of said springs being attached at one end to one holder and having the other end removably mounted in another holder. 48. An apparatus of the character described, including a contractible mold comprising a plurality of holders provided with mold parts, and springs for maintaining said holders in spaced relation, each of said springs being attached at one end to one holder and having the other end removably mounted in another holder

Probable Assignee: BRIDGEPORT THERMOSTAT COMPANY

Earliest Publication Date: 19360616

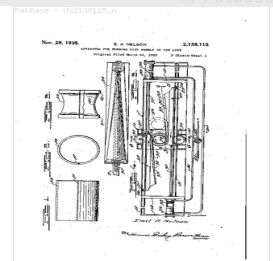
8) Family number: 21673352 (US2138115A)

APPARATUS FOR FORMING DISK WHEELS OR THE LIKE

Abstract: Source: US2138115A 1. Apparatus for simultaneously forming a pair of wheel blanks from tubular stock including a supporting structure, a pair of spaced rollers rotatively and shiftably mounted on said supporting structure for supporting said tubular stock and urging the end portions thereof toward each other, a pair of mandrels shiftably mounted on said supporting structure having portions registering with and engageable between said rollers for urging intermediate portions of said stock between said rollers, means for simultaneously shifting both of said mandrels relative to said rollers and simultaneously shifting the latter toward each other, and mechanism for positively proportioning the rate of shifting movement of said mandrels with respect to the rate of shifting movement of said rollers so as to predetermine the thickness of the portion of said blank operated upon.

Probable Assignee: NELSON EMIL A

Earliest Publication Date: 19371012



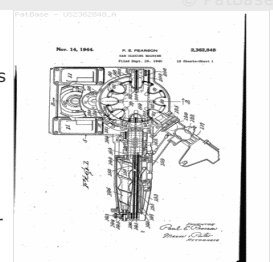
9) Family number: 22497376 (US2362848A)

CAN CLOSING MACHINE

Abstract: Source: US2362848A Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is: - 1. In a can closing machine, an indexed turret having pockets in its periphery, means for supporting can covers in the pockets of said turret, and means for feeding filled cans into the turret pockets beneath said covers and including a feed chain, equidistantly spaced feeder lugs pivotally mounted on said chain and movable into and out of effective feeding relation to the filled cans, and track members directly engaged by said lugs and normally effective for holding the lugs in position for feeding engagement with the filled cans and including lug release portions so spaced with relation to the turret as to cause the lugs to move out of feeding contact with filled cans as they become seated in the turret pockets, said lugs having apertures therein and said chain having pins projecting into the apertures and of lesser diameter than said apertures so as to be freely movable in said apertures and yet effective to limit pivotal movement of said lugs. 2. In a can closing machine, an indexed turret having pockets in its periphery, means for supporting can covers in the pockets of said turret, means for feeding filled cans into the turret pockets beneath said covers and including a feed chain, equidistantly spaced feeder lugs pivotally mounted on said chain and movable into and out of effective feeding relation to the filled cans, and track members normally effective for holding the lugs in position for feeding engagement with the filled cans and including lug release portions so spaced with relation to the turret as to cause the lugs to move out of feeding contact with filled cans as they become seated in the turret pockets, a vertically reciprocable lift pad structure for lifting filled cans into close proximity with overlying covers while said cans are being moved into the pockets by said feeder lugs, a sprocket supporting the chain at the position of the lift pad, and a shaft supporting the sprocket, said lift pad having a vertical slotway straddling said sprocket shaft. 3. In a can closing machine, a rotary pocketed turret, means for supporting can covers in the pockets of said turret, and means for feeding filled cans individually into said pockets and in close proximity to and under said covers by continuous forward and upward motion thereby to avoid abrupt direction change movements of said cans and the spilling of contents therefrom, said last named means including a continuously moving filled can engaging feed chain having projectible and retractible filled can engaging feeder lugs thereon and a lift pad for receiving each can from said chain and lifting the same while it is moving into the respective turret pocket, and means effective to hold said lugs in engagement with cans until each thereof is fully seated in a pocket and close beneath a cover supported in said pocket and then release said lugs to discontinue their effective feeding engagement with the cans and permit the chain to move on directly beneath the last fed can without imparting additional movement thereto. 4. In a can closing machine, a rotary pocketed turret, means for indexing the turret station by station, means for supporting can covers in the pockets of said turret, downwardly and inwardly bevelled diametrically oppositely disposed spring grippers for yieldably holding each cover in the pocket into which it is fed, means for feeding filled cans individually into position in said pockets -with the open top of each thereof close beneath a cover supported in the respective pocket by continuous forward and upward motion thereby to avoid abrupt direction change movements of said cans and the spilling of contents therefrom, said last named means including a lift pad for lifting infeeding filled cans toward said supported covers, and arcuate track means overlying said turret and said lift pad and of limited length for extending only a short distance over said lift pad and engageable by covers at points spaced inwardly and outwardly of the positions of said spring grippers and cooperating with said lingers in preventing displacement of the covers -by the filled cans as they are being lifted on said pad. 5. In a can closing machine, a rotary pocketed turret, means for supporting can covers in the pockets of said turret, means for feeding filled cans individually into position in said pockets with open tops thereof close beneath the covers by continuous forward and upward motion thereby to avoid abrupt direction change movements of said cans and the spilling of contents therefrom, said last named means including a continuously moving filled can engaging feed chain, equidistantly spaced feeder lugs pivotally mounted on said chain and movable into and out of effective feeding relation to the filled cans, track members normally holding the lugs in effective position and including lug release portions so spaced with relation to the turret as to cause the lugs to move out of feeding contact with filled cans as they become fully seated in the turret pockets, and a lift pad for receiving each can from said chain and lifting the same while it is being moved by the feeder lugs into the respective turret pocket. 6. In a can closing machine, a rotary pocketed turret, means for supporting can covers in the pockets of said turret, means for feeding filled cans individually into position in said pockets with open tops thereof close beneath previously placed turret supported covers by continuous forward and upward and then lateral motion, thereby to avoid abrupt direction change movements of said cans and the spilling of contents therefrom, said last named means including a continuously moving can engaging feed chain and a lift pad for receiving each can from said chain and lifting the same while it is moving into the respective turret pocket, pad lifting means, turret indexing means, and means driving said lifting means and turret indexing means in timed relation said indexing means including a cam operatively connected with the turret for effecting movement of the turret on its axis laterally of the cans and timed to cause the lateral movement of the turret to overlap the feeding movement of said cans prior to the termination of the feeding of the cans into the pockets of the turret.

Probable Assignee: CONTINENTAL CAN CO

Earliest Publication Date: 19441114



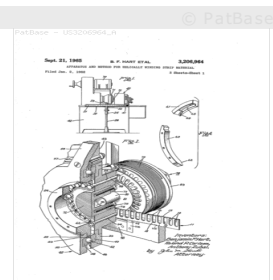
10) Family number: 22800523 (US3206964A)

APPARATUS AND METHOD FOR HELICALLY WINDING STRIP MATERIAL

Abstract: Source: US3206964A (Claim 1) 1. A method for forming a helix from an elongated relatively-thin metal strip of material having a solid portion with a plurality of spaced apart slots in communication with one edge thereof, comprising the steps: successively placing a series of movable pins into the slots in engagement with the strip, driving the strip through a confined arcuate path by concurrent angular movement of said pins, reducing the radial width transversely across of at least the solid portion of the strip thereby bending the strip into an arcuate form having a generally uniform thickness and concurrently applying a substantially constant lateral compressive force to at least the sides of the solid portion of the strip thereby preventing buckling of the material as the strip travels through said path, retracting the pins from engagement with the strip, and discontinuing the compressive force after the pins have been in engagement therewith through a predetermined angle of travel.

Probable Assignee: GEN ELECTRIC

Earliest Publication Date: 19650921



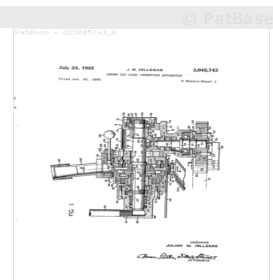
11) Family number: 22767583 (US3045743A)

CROWN CAP DISK INSERTING APPARATUS

Abstract: Source: US3045743A (Claim 1) 1. A machine for assembling bottle caps comprising a conveyor for conveying empty shells in upwardly opening positions, a cork disc reservoir, and a rotary distributor for distributing and applying cork discs from said reservoir into the shells, said rotary distributor including a base, a generally horizontal shaft, means carried by said base mounting said shaft for rotary movement, a generally vertically disposed rotor mounted on said shaft in overlying alignment with said conveyor, drive means connected to said shaft for rotating said rotor in timed relation to the movement of said conveyor, said rotor underlying said reservoir for receiving cork discs therefrom, said rotor having a plurality of radial circumferentially spaced sockets opening through the periphery thereof, a plunger positioned in each of said rotor sockets, cam means connected to said plungers for retracting and projecting said plungers as said rotor rotates, said rotor having cork disc pick-off means for removing individual cork discs from said reservoir and seating said cork discs in said sockets overlying outer ends of said plungers, cork disc retaining means connected to said plungers for retaining cork discs in engagement with said plungers as said rotor rotates and said plungers are projected from said rotor, and cork disc ejecting means cooperating with said plungers for forcibly removing cork discs from said plungers when projected from said rotor and positioning 15 cork discs in shells.

Probable Assignee: CONTINENTAL CAN CO

Earliest Publication Date: 19620724



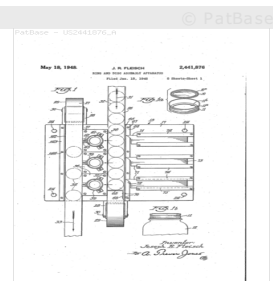
12) Family number: 22542697 (US2441876A)

RING AND DISC ASSEMBLY APPARATUS

Abstract: Source: US2441876A 1. In ring and disc assembly apparatus, the combination with ring; and disc feeding; mechanisms wherein the ring feeding mechanism is mounted in a horizontal, plane and the disc feeding mechanism is mounted in 9, vertical plane and a ring is positioned beneath and aligned with, a supply of vertically disposed discs and wherein a vacuum cup is elevated through the ring to engage the lowermost discs in said supply and cause it to drop into said ring.

Probable Assignee: FLEISCH JOSEPH R

Earliest Publication Date: 19480518



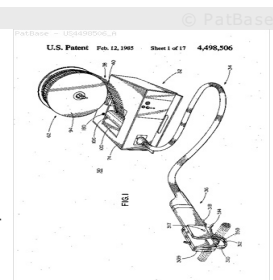
13) Family number: 9916701 (US4498506A)

TOOL FOR THE AUTOMATIC INSTALLATION OF DISCRETE CABLE TIES PROVIDED ON A CONTINUOUS RIBBON OF CABLE TIES

Abstract: Source: US4498506A An automatic cable tie installation tool for applying discrete cable ties around bundles of wires or the like where the cable ties are provided to the tool on a continuous ribbon. The automatic tool including a dispenser mechanism that accepts the ribbon of cable ties and provides discrete cable ties therefrom; a tool mechanism that positions the discrete cable tie around the bundle of wire, tensions the tie to a preselected value and severs the tail of the cable tie; and a conveyance mechanism that delivers the cable tie provided by the dispenser mechanism to the tool mechanism. The dispenser mechanism including a reel mechanism for providing the cable tie ribbon to the dispenser mechanism, a grooved cylinder that carries individual cable ties for positioning and translating the ribbon longitudinally, an index mechanism for rotating the cylinder in accurate increments, a mechanism for separating individual cable ties from the ribbon, a guide mechanism for positioning the ribbon laterally relative to the separation means and a mechanism for transferring the separated cable ties to the conveyance mechanism. The ribbon includes a strip portion extending the length of the ribbon having a plurality of cable ties connected thereto by respective connecting tabs. The strip portion having an alignment mechanism adapted to cooperate with the guide mechanism in the dispenser to accurately position the ribbon laterally in the dispenser mechanism.

Probable Assignee: PANDUIT CORP

Earliest Publication Date: 19840607



14) Family number: 65822744 (US2017151596A)

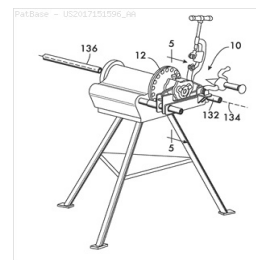
CAM GROOVING MACHINE



Abstract: Source: US2017151596A A device for cold working pipe elements has two or more cams, each having a gear which meshes with a pinion to turn all of the cams. Each cam has a cam surface with a region of increasing radius and may have a region of constant radius extending around a cam body. Each cam also has a traction surface extending around a cam body. A discontinuity in each cam surface is aligned with a gap in the traction surface of each cam. The discontinuities and gaps provide clearance for insertion and removal of the pipe element between the cams to form a circumferential groove when the cams are rotated.

Probable Assignee: VICTAULIC CO

Earliest Publication Date: 20170601



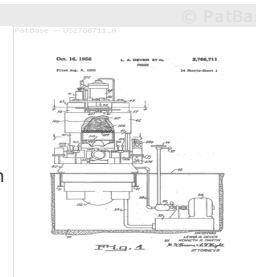
15) Family number: 22408747 (US2766711A)

PRESS

Abstract: Source: US2766711A (Claim 1) 1. A forming press including a base element and a dome element movable relative thereto, an actuator for effecting said relative movement, and means for controlling the actuator including a source of hydraulic pressure, conduit means connecting the source with the actuator and including a reversing valve, and controls for positioning the reversing valve including hydraulically actuatable centralizers, individual pilot circuit conduits connected to the respective centralizers, a shiftable control valve having grooves permanently associated with said pilot conduits, pilot pressure conduits individual to the valve grooves and couplable thereby to the centralizer connected circuit conduits in one position of the said control valve, an additional pair of control conduits, one conduit of each pair being individual to one of the grooves of the control valve and the pairs being operatively connectable with the reversing valve pilot circuit conduits by shifting of the control valve, a source of pilot pressure fluid and a selector valve shiftable alternatively to couple said source with one or the other of said additional pair of conduits, a lock to prevent actuation of the selector valve, a releasable lock for the dome, operating means for the dome lock, and a pilot circuit including a valve actuated by releasing movement of the said dome lock operating means to a position permitting flow through the circuit, and lock release means coupled to the circuit and hydraulically actuatable by flow in the circuit for disengaging the selector valve lock.

Probable Assignee: CINCINNATI MILLING MACHINE CO

Earliest Publication Date: 19561016



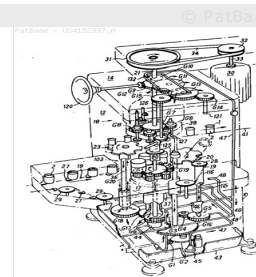
16) Family number: 30162906 (US4152997A)

CLOSING OF CONTAINERS

Abstract: Source: US4152997A The disclosure relates to can end seamers and similar apparatus, in which end closures are secured on top of successive containers by securing tools, these tools and the support means which carry the containers being rotated simultaneously by a drive common to all the working parts of the machine and derived from a level above the securing tools. A single, unpressurized, gravity/centrifugal, entirely internal lubricating system is described.

Probable Assignee: METAL BOX CO LTD

Earliest Publication Date: 19780331



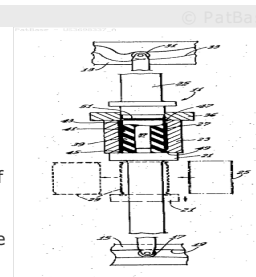
17) Family number: 448923 (US3698337A)

CAN BODIES AND METHOD AND APPARATUS FOR MANUFACTURE THEREOF

Abstract: Source: US3698337A A tubular can body comprising a radially expanded central portion, a neck at each end of the central portion, and a radially extending flange adjacent each neck at the ends of the tubular member. A tubular, elastomeric member is positioned within a die-contained can body and is pressurized to mold the can body to the shape of the die. The operation forms a radially expanded can body, necks the can body adjacent the radially expanded portion, and flanges the ends of the body in a single operation. A tapered elastomeric mandrel may be utilized in place of the tubular mandrel, obviating the necessity of lubricating the mandrel and allowing the body to be axially extended so that the material from which the can is formed is altered in cross section both radially and axially. A structural groove, suitably positioned in the mandrel surface allows flanging to be effected at the upper end of the can body without damage to the mandrel. Alternatively, an expandable member may be substituted in place of either the tubular or tapered mandrel to form the can body through use of hydraulic pressure.

Probable Assignee: SUMMER DALE E

Earliest Publication Date: 19710615



18) Family number: 33464925 (PT90671B)

CHUMACEIRAS COM ALMOFADAS DE CHUMACEIRA MONTADAS EM FEIXE E PROCESSO DE FABRICO DAS MESMAS

Abstract: Source: PT90671A Hydrodynamic bearing for supporting rotating shaft on fluid film comprises a number of bearing pads supported by an integral supporting structure. The structure comprises a primary support portion, a secondary support portion, and a tertiary support portion. Each portion is adapted to deflect relative to the others to enable the bearing pads to move with six degrees of freedom such that, under load, they deflect to positions in which their trailing edges are closer to the shaft than their leading edges and optimum hydrodynamic wedges are formed.

Probable Assignee: RUSSEL D IDE

Earliest Publication Date: 19891128

