

[54] **FOOD PRESS**

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**Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 878,439, Nov. 20, 1969.

[52] U.S. Cl. .... **100/232, 100/269 R, 100/272, 100/DIG. 10**

[51] Int. Cl. .... **B30b 7/04**

[58] Field of Search.....100/42, 218, 232, 269, 295, 100/DIG. 10, 272, 286, 214, 269 R; 18/16 M, 16.5; 99/349

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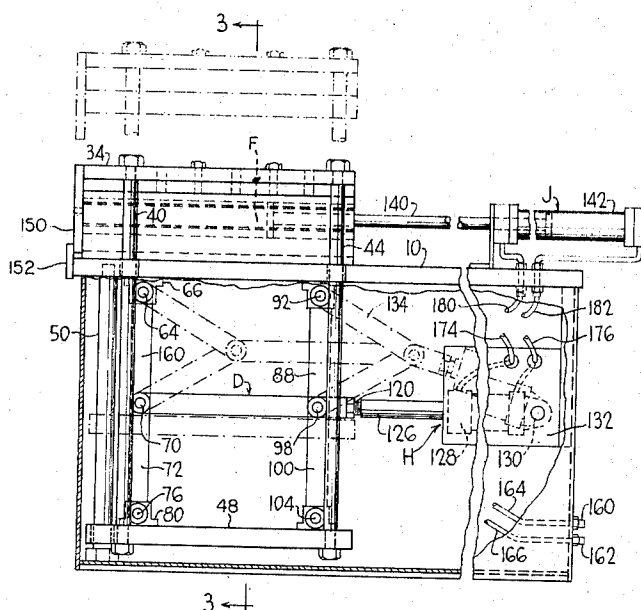
*Primary Examiner*—Billy J. Wilhite

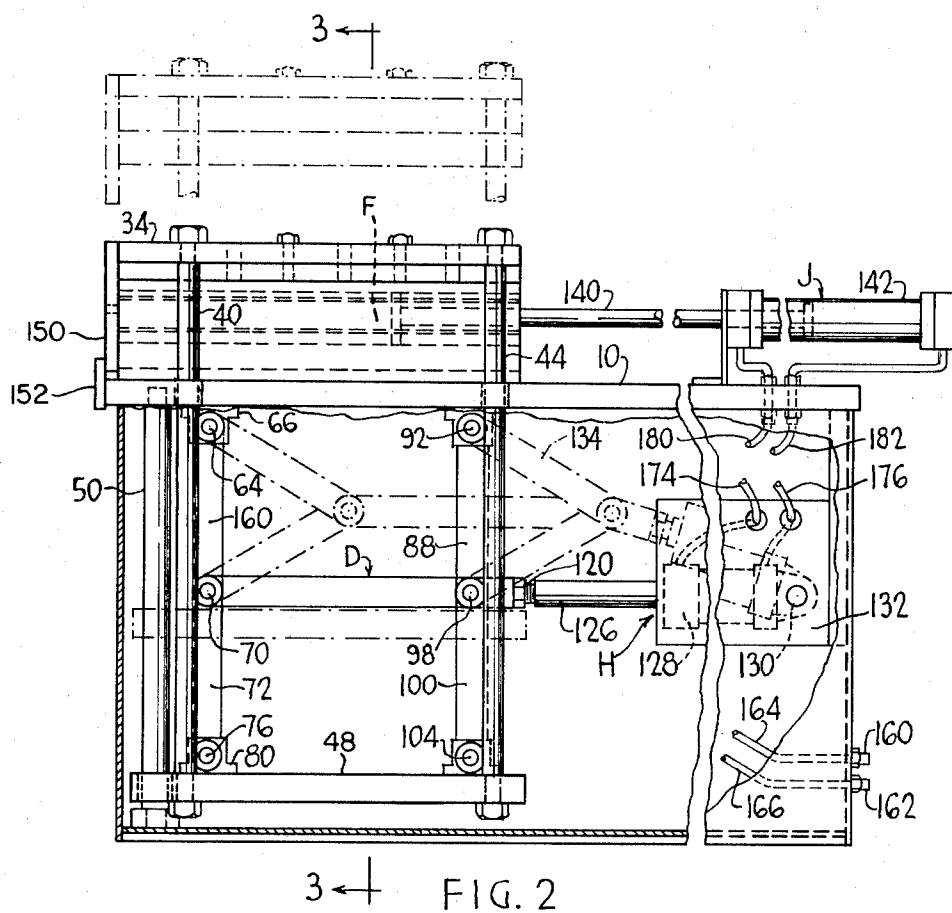
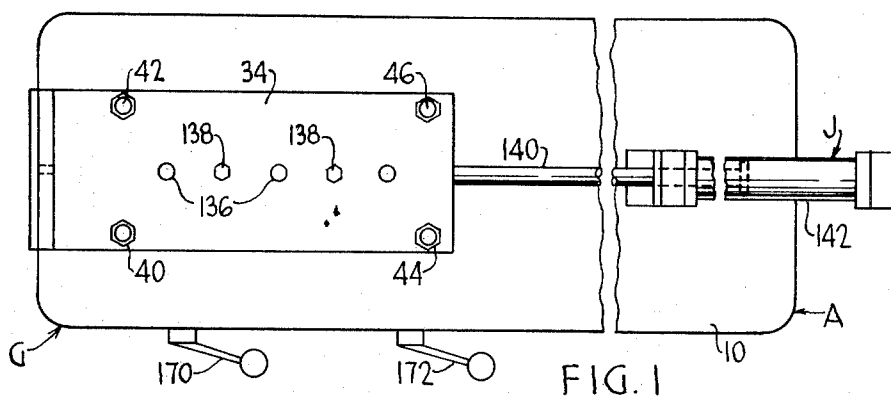
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[57] **ABSTRACT**

A press for shaping comestible products, such as meat and the like, in a tubular die aperture or cavity of uniform cross section by a ram reciprocable therein and connected to the piston rod of a cylinder and piston-type fluid actuator constructed so that the portion of the piston rod that extends into the die aperture is not retracted into the cylinder of the fluid actuator. The die aperture is formed by a channel-shaped stationary die means carried by a plate-like support detachably connected to and exclusively carried by a cabinet-type base, and a channel-shaped movable die means at least partially receivable, when the die means are closed, in the stationary die means, each die means being preferably shaped or oriented to maximize opposed forming or pressing areas. The movable die means is guided by the support for the stationary die means and is moved by a toggle link mechanism and a cylinder and piston-type fluid actuator located below the support for the stationary die means. A supplementary guide means is provided below the support for the stationary die means to assist the support for the stationary die means in guiding the movable die means. Travel or movement of the movable die means into the stationary die means is limited to prevent engagement of the die means at the periphery of the die cavities therein. Clearance is provided between the die means for the escape of air entrapped in the die aperture when a product is compressed therein.

**6 Claims, 9 Drawing Figures**





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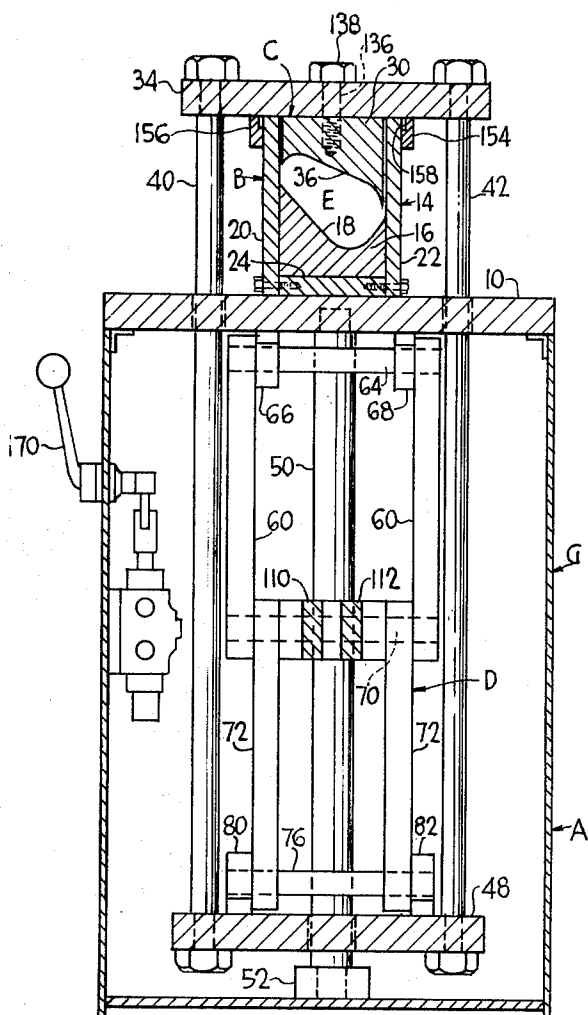


FIG. 3

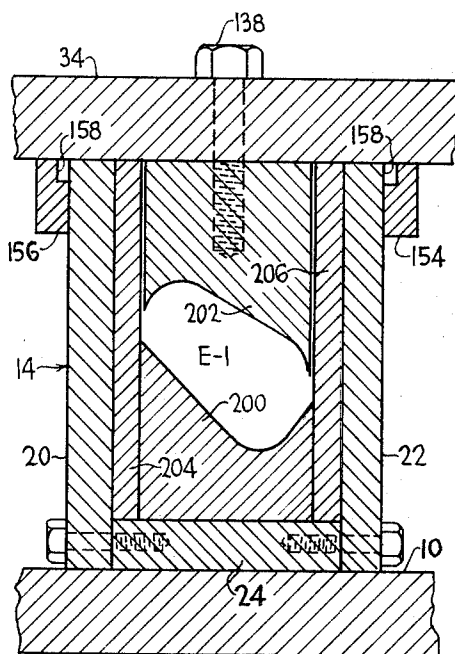


FIG. 5

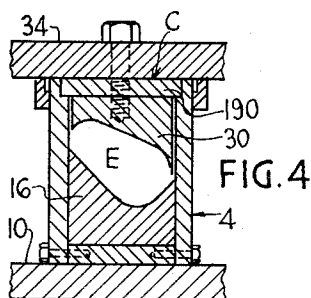


FIG. 4

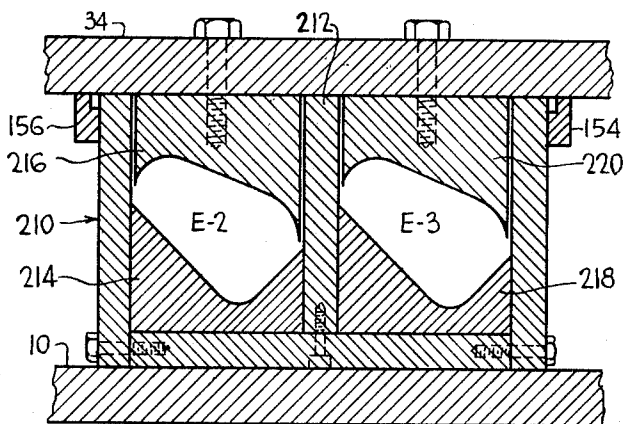


FIG. 6

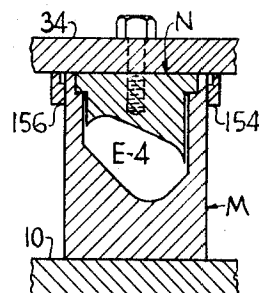
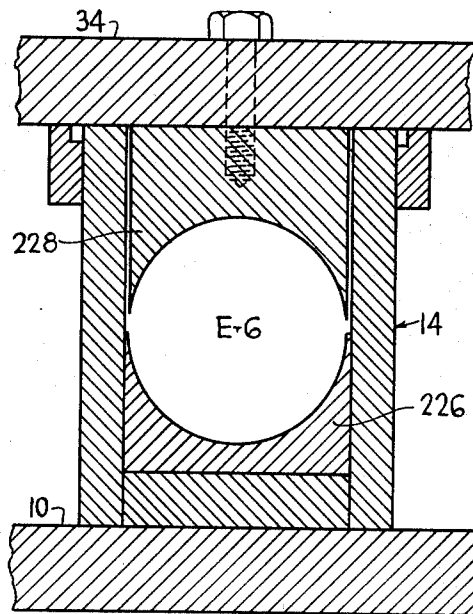
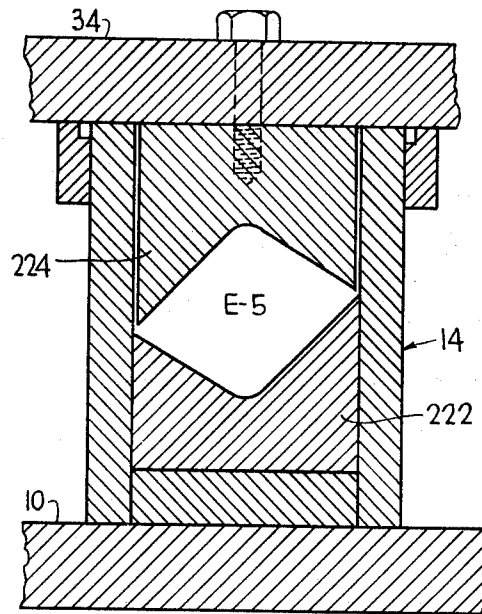


FIG. 7

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## FOOD PRESS

## RELATED CASES

This application is a continuation-in-part of my co-  
pending application, Ser. No. 878,439, filed Nov. 20,  
1969, the disclosure of which is incorporated herein by  
reference.

## FIELD OF INVENTION

This invention relates to apparatus for compressing  
and shaping comestible products.

## PRIOR ART

Food products, especially meat products, such as  
ground meat, steaks, knuckles and the like, are often  
pressed into blocks or loaves of desired density and  
shape, typically while frozen or semi-frozen, for sub-  
sequent slicing into pieces of generally uniform size,  
shape and weight. Presses for this purpose have utilized  
relatively movable opposed die members constructed  
to form a tight tubular aperture when abutted in face-  
to-face relationship within which the product is com-  
pressed by a reciprocable ram. Such prior art devices,  
however, have not been entirely satisfactory. In many  
instances the die members did not close properly, the  
ram operating mechanism tended to contaminate the  
product being compressed, voids were left in the com-  
pressed product, etc.

## SUMMARY OF INVENTION

The present invention provides a novel and improved  
food press, particularly adapted for the pressing of  
comestible products, especially meat and the like, into  
predetermined form, which press comprises relatively  
movable die means which when closed form a die aper-  
ture or cavity within which a ram is reciprocated to  
compress a product therein. The relative movement  
between the die members is effected by a toggle linkage  
mechanism which assures the closing of the die mem-  
bers to a predetermined position. The die members are  
so constructed that there are no abutting planar areas  
at the periphery of the die cavities and that there is  
clearance for the escape of air entrapped in the die  
aperture during pressing of a product therein by move-  
ment of the ram.

The invention also provides a novel and improved  
food press, particularly adapted for the pressing of  
comestible products, especially meat and the like, into  
predetermined form, comprising relatively movable die  
means which when closed form an elongated die aper-  
ture or cavity within which a ram is reciprocated to  
compress a product therein, and in which the stationary  
die means is supported on a plate-like member on a  
cabinet base, the movable die member is carried by a  
member extending through the plate-like member and  
actuated by toggle linkage mechanism at the side of the  
plate-like member opposite the die means and further  
guided by a guide member at the toggle mechanism  
side of the plate-like member.

The invention further provides a novel and improved  
food press, particularly adapted for the pressing of  
comestible products, especially meat and the like, into  
predetermined form, which press comprises relatively  
movable die means which when closed form a die aper-

ture or cavity within which a ram is reciprocated to  
compress a product therein and a cabinet-type base  
provided with a removable platelike cover wherein the  
die means, ram and operating mechanism therefore are  
exclusively carried by the removable cover.

The invention will be better understood and further  
advantages, as well as objects, thereof will become ap-  
parent from the accompanying drawings and the ensu-  
ing description of the preferred embodiments of the in-  
vention.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a food press embodying the  
present invention;

FIG. 2 is a side elevation with portions broken away  
of the press shown in FIG. 3;

FIG. 3 is a sectional view approximately on the line  
3—3 of FIG. 2; and

FIGS. 4 to 9 are transverse sectional views similar to  
a part of FIG. 3 illustrating modified die assemblies.

## DESCRIPTION OF PREFERRED EMBODIMENT

The preferred apparatus embodying the invention is  
a food press, designated generally as A, comprising two  
die means or die assemblies, B, C, at least one of which  
is movable toward and from the other by means includ-  
ing toggle linkage mechanism D which assures  
predetermined travel of the die means or members  
toward and from one another. When the dies are closed  
they form a tubular die aperture or cavity E of uniform  
cross section within which the product being processed  
is compressed by a reciprocating ram F. All of the  
operating mechanism of the press is carried by a plate  
10 detachably connected to and closing a frame or base  
which is in the form of a cabinet G enclosing the  
operating mechanism of the press. The plate 10 and the  
operating mechanism can be readily removed as a unit  
from the cabinet to facilitate maintenance, etc. of the  
press.

The die means or assembly B is stationary and com-  
prises a channel-shaped die box 14 having a removable  
die insert 16 detachably connected thereto and pro-  
vided with a die cavity 18 of uniform cross-sectional  
shape extending from end to end. The cavity 18 is in  
the bottom of the channel-shaped die assembly and in  
the side of the die insert farthest from the plate 10 and  
extends essentially the full width of the insert with its  
peripheral side edges reaching to or essentially to or  
terminating at the lateral sides of the die insert and the  
planar sides of the die box facing one another. The die  
box 14 is detachably secured to the outer side of the  
plate 10 of the press proper and comprises two side  
plates 20, 22 fixed to a bottom plate 24, but may be  
made in one piece, if desired. The die insert 16 is  
removably secured in the die box in a suitable manner  
as by bolts, screws and/or dowel pins.

The die means or assembly C is movable and com-  
prises a die or die insert 30 detachably connected to the  
side of a movable plate or platen 34 facing the outer  
side of the plate 10. The member 30 has a die cavity 36  
in its side opposite the side connected in the platen 34.  
The cavity 36 is of uniform cross-sectional shape from  
end to end of the insert and its peripheral side edges es-  
sentially extending to or terminating at the lateral sides  
of the member 30.

The platen 34 is connected to the ends of four rods or draw bars 40, 42, 44, 46 projecting outwardly from the cabinet G through suitable apertures in the plate 10. The other ends of the draw bars 40, 42, 44, 46 are connected to a platen 48 located within the cabinet or housing G of the press and adapted to be reciprocated towards and from the plate 10 to open and close the die assemblies by the toggle linkage mechanism D. The platen 48 is provided with a guide in the form of a bar 50 projecting through a suitable aperture in the left-hand end of the platen, as viewed in FIG. 2, and having its upper end fixedly secured in the plate 10 and its lower end slidably received in an aperture in a member 52 fixed, as by welding, to the wall of the housing or cabinet G opposite to the plate 10.

The toggle linkage mechanism D for reciprocating the platen 48 and in turn the movable die means C comprises two sets of toggle links connected to the side of the platen 48 facing the plate 10 adjacent to opposite ends thereof, as viewed in FIG. 2, and to the adjacent side of the plate 10. The first set of toggle links comprise two links 60 having their one ends pivotally connected to opposite ends of a shaft 64 carried by a pair of brackets 66, 68, fixedly secured to the side of the table 10, facing the platen 48, as by bolts, welding, etc. The opposite ends of the links 60 are pivotally connected to opposite ends of a shaft 70 to which shaft the one ends of the links 72 of the toggle mechanism are also pivoted. The other ends of the links 72 are pivotally connected to a shaft 76 carried by brackets 80, 82 fixedly connected as by bolts, welding, etc., to the side of the platen 48 facing the plate 10. The two shafts 64, 76 are in the same plane normal to the outer surface of the plate 10 and parallel with the length of the rods or drawbars 40, 42.

The second or right-hand set of toggle links comprise two links 88, similar to the links 60 of the first set and like the links of the first set, pivotally connected to opposite ends of a shaft 92 carried by brackets fixedly connected to the side of the plate 10 facing the platen 48. The other ends of the links 88 are pivotally connected to opposite ends of a shaft 98 to which shaft the one ends of a pair of links 100 of the second set of toggle links are also pivotally connected. The other ends of the links 100 are connected to a shaft 104 carried by brackets fixedly connected to the side of the platen 48 facing the plate 10. The shafts 92, 104 lie in the same plane normal to the outer surface of the plate 10 and parallel to the length of the rods or drawbars 44, 46.

The two sets of toggle links are connected together by links 110, 112 opposite ends of which are pivotally connected to the shafts 70, 98. The links 110, 112 are spaced from one another and from the other links on the shafts 70, 98, by suitable spacers. The right-hand end of the links 110 and 112, as viewed in FIG. 2, extend a short distance to the right of the shaft 98 and are connected by a cross member 120 to which is connected the left-hand end of a piston rod 126 of a reciprocating-type, double acting hydraulic actuator H, including the cylinder assembly 128. The right-hand end of the cylinder assembly 128 of the hydraulic actuator H is pivotally connected to a shaft 130 extending between oppositely projecting sides of a heavy metal channel member 132 which in turn is connected to the underside of a heavy metal, rectangular, tubular

member 134, fixedly connected to the side of the plate 10 facing the interior of the cabinet G. The piston rod of the actuator H is in line with the guide member 50 so that the thrust of the actuator is taken by the guide member 50 rather than the draw bars which connect the members 34, 48.

The engagement of the platen 34 with the projecting sides 20, 22 of the die box 14 of the stationary die assembly limit the travel of the movable die assembly in the direction to close the dies, and the toggle linkage mechanism D is so constructed that when the dies are closed the links thereof are at or approximately at dead center thus assuring closing the dies to a predetermined relative position upon each actuation of the press. Alternatively the toggle linkage mechanism can be employed to limit or determine the extent that the dies close upon each operation of the press with the movable die means being held out of engagement with or slightly spaced from the stationary die means, if desired.

The aperture or cavity E formed by the dies or die assemblies, B, C, when the press is closed, is irregular in transverse cross-sectional shape, has a major and a minor dimension with the major dimension inclined to the direction of movement of the movable die, and may be similar to that of a commercially available meat product, for example, a slab of bacon, a ham, or a loin. The recesses or cavities 18 and 36, in the respective die inserts blend with the adjacent side walls of the die box, have opposed relatively flat portions inclined to the direction of the relative movement therebetween, and are oriented such that the long transverse dimension is askew to the path of movement of the movable die and such as to maximize the size of their openings. The forces applied to a product being compressed is applied in two directions, one of which is transversely of the direction of relative movement between the die means upon the closing of the press. Employing die means having large cavity openings is further advantageous if the product to be compressed is initially distorted so as to make its entrance into the die cavities difficult, such as, being curved with reference to its length.

The die insert 36 is of slightly less width than the distance between the side members 20, 22 of the die box 14 of the stationary die means with the result that a conduit or clearance is provided between the die insert 30 and the sides of the die box through which air, and the like, entrapped in a product being compacted or compressed can escape. The clearance between the stationary and movable dies B, C, is preferably very small, only sufficient to provide an adequate path for escaped air and the like, but not large enough to allow product being compressed to be forced therethrough. Clearances on the order of about 0.015 inch i.e. 0.0075 inch per side, have been found satisfactory. The facing sides of the die inserts 16, 30, preferably do not touch one another at any place although the side edges thereof closely approach each other. This, together with the fact that the cavities 18 and 36 in the dies 16 and 30 extend to, or substantially to, and blend into the sides of the stationary die avoids any possibility of the dies not properly closing because of the presence of product entrapped between opposed flat planar surfaces about the periphery of the die cavities. When the die inserts 16, 30 do not touch one another along their

adjacent side edges portions of the inner planar sides of the members 20, 22 of the die box cooperate with the cavities 18, 36 to form the die aperture E. The die insert or member 30 is detachably connected to the platen 34 by machine screws 136 and dowels 138. The dowels 138 are employed to assure proper location of the member 30 equally between the sides of the die box.

The ram F, as previously mentioned, conforms to the aperture or cavity E between the die means when the press is closed and is adapted to be reciprocated in the aperture E by a reciprocating-type, double acting hydraulic actuator J including a piston rod 140 to which the ram F is attached and a cylinder assembly 142. The cylinder assembly 142 is supported by a suitable bracket on the outer side of the plate 10 and is located a distance from the right-hand side of the fixed die means B, a distance such that the portion of the piston rod 140 which moves within the cavity E is never retracted into the cylinder assembly 142 thereby avoiding possible contamination of products being compressed by material adhering to the piston rod 140 incident to its movement into and out of the stuffing box at the left-hand end of the cylinder assembly. The stroke of the actuator J and the distance of the cylinder assembly 142 from the dies is preferably not less than the length of the die aperture E, and such that the ram F can be used to eject a compressed product through the left-hand end of the lower die, if desired.

When the press is closed, the left-hand end of the aperture or cavity E is closed by a plate 150 bolted or otherwise suitably fixed to the left-hand end of the platen 34. The plate 150 projects over the end of the cavity E when the press is closed with its free end engaged between the left-hand end of the fixed die assembly and a plate 152 bolted or otherwise suitably fixed to the left-hand end of the plate 10. The plate 152 acts as a support or backup for the free end of the plate 150. A small clearance may be provided between the end of the die means, B, C, and the plate for the escape of air from the end of the die aperture E, if necessary. Alternatively one or more small apertures extending through the plate 150 may be provided. In order to prevent any possible spreading of the upper ends of the side members 20, 22, of the die box, one or more abutment or stop members 154, 156 can be connected to the platen 34 in a position such that they are adjacent to the outside sides of the top of the die box when the press is closed. The inner upper corners of the members 154, 156 are preferably broken or relieved as indicated at 158 to allow the escape of any product material that may be entrapped between the upper ends of the die box 14 and the platen 34. The apertures 158 preferably increase in cross section from about their midpoint to their ends.

Fluid pressure, preferably liquid, for operating the actuators H, J, can be supplied in any convenient manner, such as, by the provision of a motor driven fluid pump within the cabinet G. The actuators are preferably hydraulically-operated and the pressure liquid for operating the same is preferably obtained from a source outside of the cabinet connected to supply and return conduits or fittings 160, 162 at the right-hand side of the cabinet which fittings are in turn connected to conduits 164, 166 connected to suitable

three-way valves 170, 172, at the near side of the cabinet, as viewed in FIGS. 1 and 2. The valves 170, 172 are in turn connected to the actuators H, J, respectively, by suitable lines or conduits. The conduits 174, 176, connecting valve 170 with the actuator H, preferably comprises quick disconnect fittings fixed to the member 132 so that when it is desired to remove the plate 10 and the parts carried thereby the hydraulic lines to the valve 170 can be readily disconnected. Similar quick disconnect fittings are employed in the lines 180, 182, connecting the valve 172 with the actuator J. These fittings may be carried on the side of the plate 10 which faces the interior of the cabinet.

The stationary die assembly B, shown in the preferred embodiment, comprises the die box and the insert. This facilitates changing the dies as it is merely necessary, with the construction shown, to replace one set of inserts by another set having desired different cavities therein. Handling of the die assemblies may be facilitated by attaching the movable die insert to a plate-like member adapted to rest upon the top of or on an outwardly facing surface of the die box as illustrated in FIG. 4, where a die insert 30', in all essential respects similar to the die 30, is carried by a plate 190 which plate is in turn detachably connected to the platen 34. The plate 190 is slightly wider than the die 30' and the projecting edges extend into apertures in the projecting ends of the adjacent side walls of the die box 14. When the die assembly C is so constructed the die assemblies may be handled as a unit and be readily installed in the press by first placing the stationary die assembly adjacent to, or in the case of a vertical press, on the plate 10 and securing it thereto as by machine screws extending through the plate 10 and having threaded engagement in suitably trapped holes in the cross plate 24 of the die box and, if desired, the insert 16. The movable die means or assembly C can thereafter be placed against or on the stationary die assembly B with the flanges provided by the projecting edges of the plate 190 engaging and/or resting upon the top of the die box or ledges provided by apertures in the projecting ends of the side walls of the die box. With the platen 34 positioned closely adjacent to the plate 190 the movable die assembly can be readily attached to the platen 34 by machine screws and dowels extending through the platen 34 and engaged in suitable apertures in the plate 190 and, if desired, the insert 30'.

Die inserts of different size, such as, inserts 200, 202, shown in FIG. 5 can be readily employed by using filler members, such as, the plates 204, 206 in die box 14. When filler plates such as the plates 204, 206 of FIG. 5 are employed in a die box of given size, it will be apparent that die inserts will be of less width than the width of the die box without the filler members and will form a smaller product aperture E-1. As a further alternative construction, dies having multiple product apertures E-2, E-3 rather than the single aperture E, of the preferred embodiment, can be provided as illustrated in FIG. 6. This, however, usually requires a die box 210 of greater width than the die box shown in the preferred embodiment and one having a central partition, such as the partition 212. The two sets of die inserts are designated 214, 216 and 218, 220.

As a further suggested alternative construction, the die assemblies shown can be made integral or in one piece, as illustrated in FIG. 7, rather than consisting of two or more parts. In FIG. 7 the stationary and movable die members are designated M, N, respectively, and the product aperture therebetween E-4. The aperture E-4 is a duplicate of the aperture E and the product apertures E-1, E-2, E-3 are generally similar to E, but smaller. It is also to be understood that the configuration of the product aperture may be of any desired shape. Suggested alternate shapes to that shown in the preferred embodiment are illustrated in FIGS. 8 and 9. The aperture E-5, shown in FIG. 8, is essentially oval with the long axis thereof being inclined to the direction of movement of the movable die assembly and the aperture E-6, shown in FIG. 9, is essentially cylindrical. The stationary and movable die inserts shown in FIG. 8 are designated 222, 224, respectively, and the corresponding die inserts in FIG. 9, 226, 228. The other parts of the press shown are similar to the corresponding parts of the preferred embodiment and are designated by the same reference characters.

From the foregoing it will be apparent that the objects and advantages heretofore enumerated have been accomplished and that there has been provided a novel and improved press of the character described for compressing comestible products which is simple in construction, reliable in operation and which will produce a product of predetermined shape and density without contamination of the product by engagement with parts of the press liable to contain oil or other undesirable product contaminating material.

While the preferred embodiment of the invention has been described in considerable detail, it is to be understood that the invention is not limited to the particular construction shown and referred to and it is the intention to hereby cover all adaptations and modifications thereof which come within the practice of those skilled in the art to which the invention relates and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A press for shaping comestible products, such as meat or the like having: a cabinet-like base; a stationary die support exclusively carried by and detachably connected to said base; a channel-shaped first die exclusively carried by said stationary die support and having an elongated cavity of the same cross-sectional shape throughout its length in the side thereof opposite to said support and open at at least one end; a movable die support exclusively carried by said stationary die support; a second die exclusively carried by said movable die support and having a portion receivable in the channel of said first die having a second elongated cavity of the same cross-sectional shape throughout its length; a ram conforming to the cross-sectional shape of said tubular aperture formed by said first and second dies when closed; fluid pressure actuated mechanism exclusively carried by said stationary die support for reciprocating said ram; and means for detachably connecting said fluid pressure actuated mechanisms to and from a source of fluid pressure.

2. A press for shaping comestible products, such as meat or the like having: a stationary die support; a first die connected to said stationary support and having a channel in one side thereof and a cavity of uniform

cross-sectional shape in the bottom of the channel opening into one end of said die and extending the full width of the bottom of the channel; a movable die support; a second die connected to said movable die support and having a portion receivable in the channel of said first die with a small clearance thereabout and having a second cavity of uniform cross-sectional shape in the side thereof opposite to said one side of said first die and extending the full width thereof; toggle mechanism for moving said second die to and from a position adjacent to said first die and in which said cavities in said dies form a tubular aperture of uniform cross-sectional shape; a ram conforming to the cross-sectional shape of said aperture formed by said first and second dies when closed; and mechanism for reciprocating said ram.

3. A press for shaping comestible products, such as meat or the like having: a plate-like stationary die support; a channel-shaped first die connected to one side of said plate-like stationary die support and having an elongated cavity of the same cross-sectional shape throughout its length in the side thereof opposite to said support and open at at least one end; a movable die support at said one side of said stationary die support; a second die connected to the side of said movable die support facing said one side of said stationary die support and having a portion receivable in the channel of said first die having a second elongated cavity of the same cross-sectional shape throughout its length in the side thereof opposite to said movable support; a movable member at the side of said stationary die support opposite to said one side thereof; a plurality of first members fixedly connected to said movable die support and said movable member and extending through and slidably engaging said stationary die support; a second member fixed to said stationary die support and engaged by said movable member for guiding said movable member; a toggle mechanism including pivoted links connected to said stationary die support and to said movable member for moving said movable die support to and from a position adjacent to said stationary die support and in which said cavities in said dies form a tubular aperture of uniform cross-sectional shape; fluid pressure actuated mechanism for operating said toggle mechanism; a ram conforming to the cross-sectional shape of said aperture formed by said first and second dies when closed; and mechanism for reciprocating said ram.

4. A press for shaping comestible products, such as meat or the like having: a cabinet-like base; a plate-like stationary die support detachably and exclusively carried by said base; a channel-shaped first die exclusively carried by said stationary die support at one side of said stationary die support and having an elongated cavity of uniform cross-sectional shape in the side thereof opposite to said support and opening into one end of said die; a movable die support at said one side of said stationary die support; a second die exclusively carried by said movable die support at the side of said movable die support facing said one side of said stationary die support and having a portion receivable in the channel of said first die and a cavity of uniform cross-sectional shape in the side thereof opposite to said movable die support; a movable member at the side of said stationary die support opposite to said one side thereof; a plu-

rality of first members extending through and slidably  
 engaging said stationary die support and fixedly con-  
 nected to said movable die support and said movable  
 member; a second member fixed to said stationary die  
 support and engaged by said movable member for guid-  
 ing said movable member; toggle mechanism including  
 pivoted links connected to said stationary die support  
 and to said movable member for moving said movable  
 die support to and from a position adjacent to said sta-  
 tionary die support and in which said cavities in said  
 dies form a tubular aperture of uniform cross-sectional  
 shape; fluid pressure actuated mechanism for operating  
 said toggle mechanism; a ram conforming to the cross-  
 sectional shape of said aperture formed by said first and  
 second dies when closed; fluid pressure actuated  
 mechanism connected to said stationary die support for  
 reciprocating said ram; said movable die support, said  
 movable member, said first and second members, said  
 toggle mechanism, said ram and said fluid pressure ac-  
 tuated mechanisms being exclusively carried by said  
 stationary die support, and means for detachably con-  
 necting said fluid pressure actuated mechanism to and  
 from a source of fluid pressure.

5. A press for shaping comestible products, such as  
 meat or the like having: a stationary die support; a first  
 die connected to one side of said stationary die support  
 with a channel in the side thereof opposite to said sup-  
 port and having a cavity of uniform cross-sectional  
 shape in the side thereof opposite to said support open-  
 ing into one end of said die and extending the full width  
 of the bottom of the channel; a movable said movable  
 support at said one side of said stationary die support; a  
 second die connected to the side of said movable die  
 support facing said one side of said fixed die support  
 and having a portion receivable in the channel of said  
 first die with a small clearance thereabout and having a  
 second cavity of uniform cross-sectional shape and ex-  
 tending the full width thereof in the side thereof op-  
 posite to said movable support; a movable member at  
 the side of said stationary die support opposite to said

one side thereof; a member extending through said sta-  
 tionary die support and fixedly connected to said mova-  
 ble die support and said movable member; toggle  
 mechanism connected to said stationary die support  
 and to said movable member for moving said movable  
 die support to and from a position adjacent to said sta-  
 tionary die support and in which said cavities in said  
 dies form a tubular aperture of uniform cross-sectional  
 shape; a ram conforming to the cross-sectional shape of  
 said aperture formed by said first and second dies when  
 closed; and mechanism for reciprocating said ram.

6. A press for shaping comestible products, such as  
 meat or the like having: a base; a stationary die support  
 detachably connected to said base; a channel-shaped  
 first die connected to one side of said stationary die  
 support and having a cavity of uniform cross-sectional  
 shape in the side thereof opposite to said support open-  
 ing into one end of said die; a movable die support at  
 said one side of said stationary die support, a second  
 die connected to the side of said movable die support  
 facing said one side of said fixed die support and having  
 a portion receivable in the channel of said first die with  
 a small clearance thereabout and having a second cavi-  
 ty of uniform cross-sectional shape in the side thereof  
 opposite to said movable support; a movable member at  
 the side of said stationary die support opposite to  
 said one side thereof; a member extending through said  
 stationary die support and fixedly connected to said  
 movable die support and said movable member; toggle  
 mechanism connected to said stationary die support  
 and to said movable member for moving said movable  
 die support to and from a position adjacent to said sta-  
 tionary die support and in which said cavities in said  
 dies form a tubular aperture of uniform cross-sectional  
 shape; a hydraulic motor carried by said stationary die  
 support for operating said toggle mechanism; a ram  
 conforming to the cross-sectional shape of said aper-  
 ture formed by said first and second dies when closed;  
 and mechanism connected to said stationary die sup-  
 port for reciprocating said ram.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 3,683,797

Dated August 15, 1972

Inventor(s) LOUIS A. BETTCHER

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 9, line 31, "said movable" should  
be --die--.

Signed and sealed this 6th day of February 1973.

(SEAL)  
Attest:

EDWARD M. FLETCHER, JR.  
Attesting Officer

ROBERT GOTTSCHALK  
Commissioner of Patents