June 9, 1936. J. BECH 2,043,366

BACON PRESS

Filed June 6, 1932 3 Sheets-Sheet 1

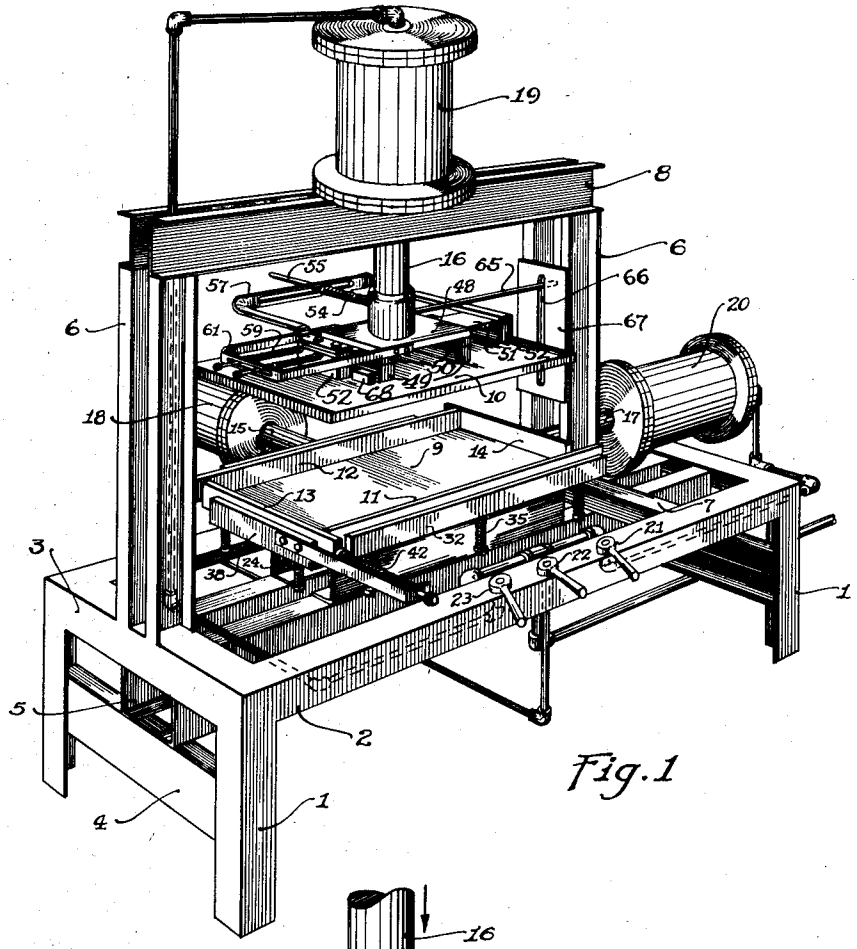


Fig. 1

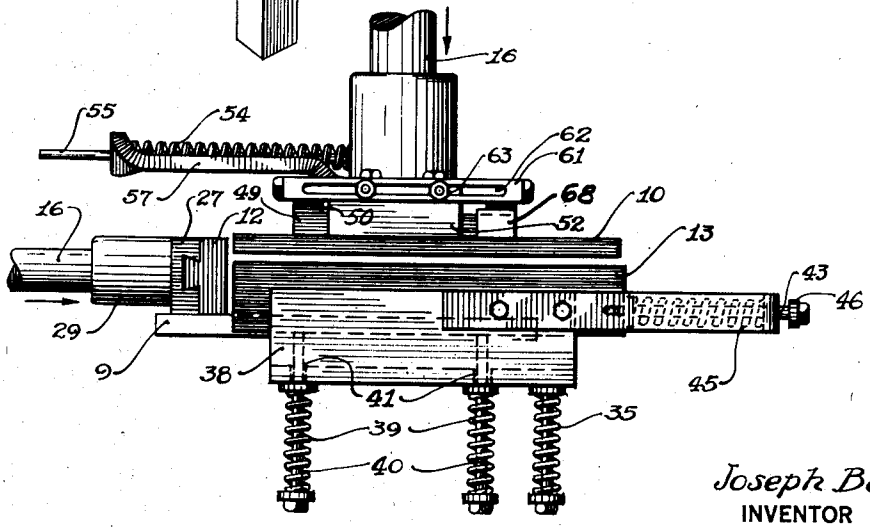


Fig. 6

WITNESS
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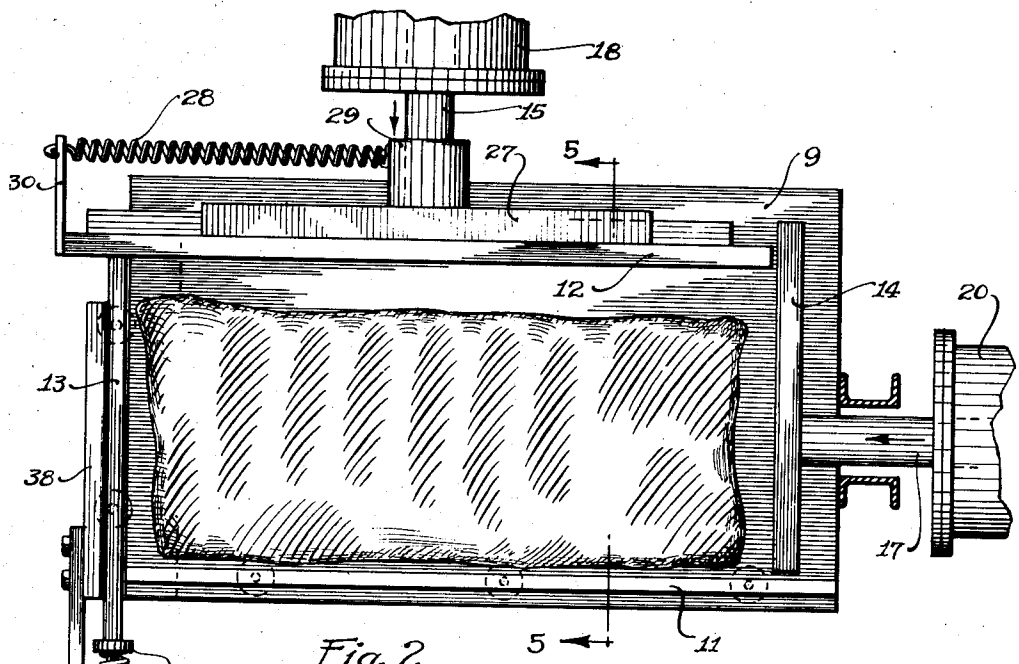


Fig. 2

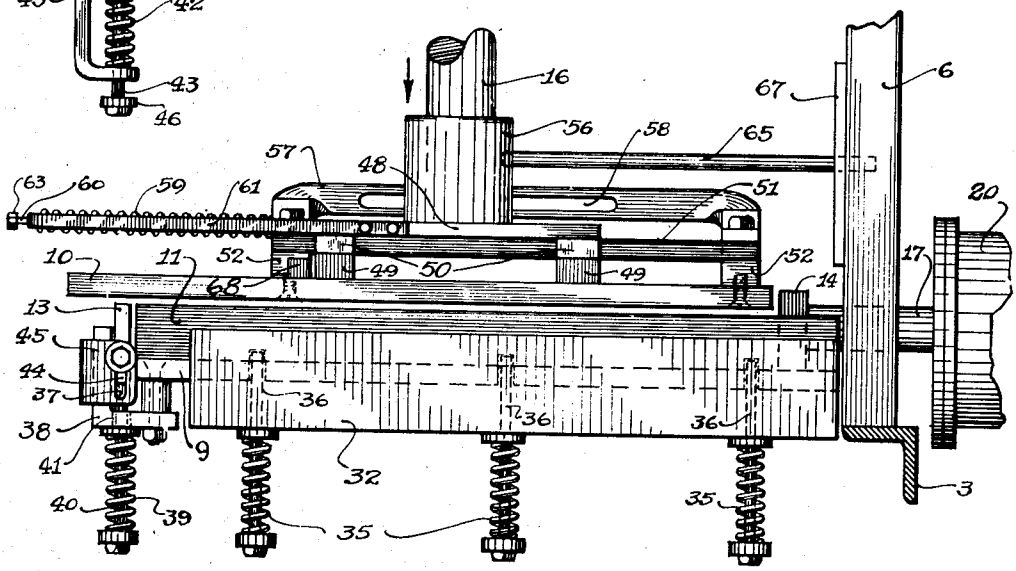


Fig. 3

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Filed June 6, 1932 3 Sheets-Sheet 3

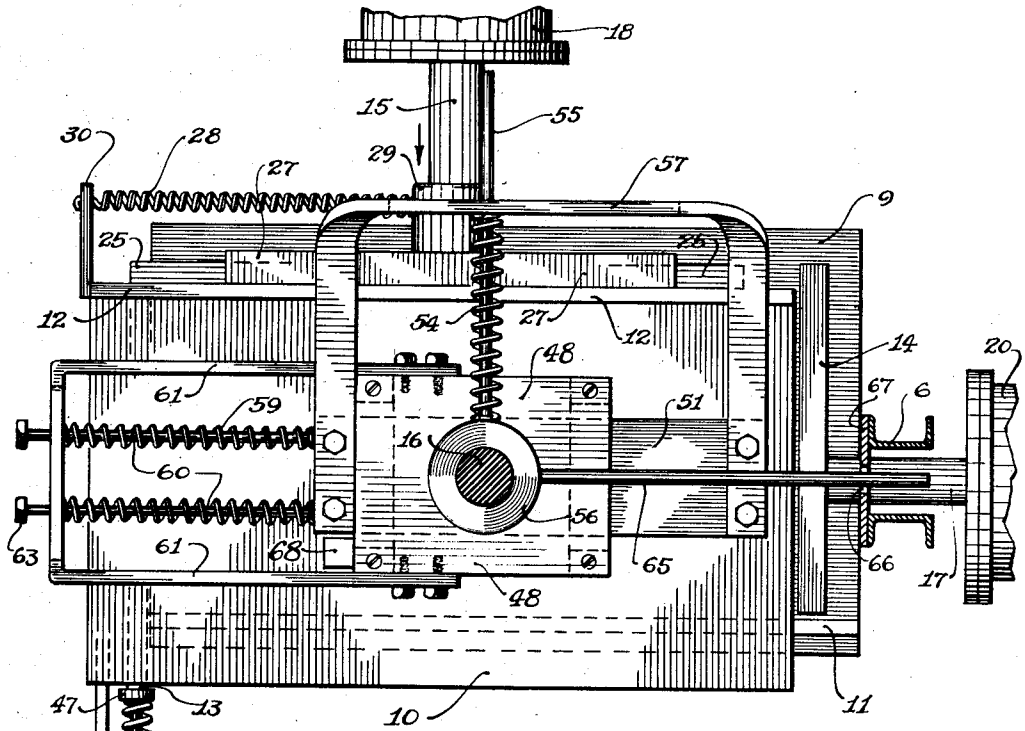


Fig. 4

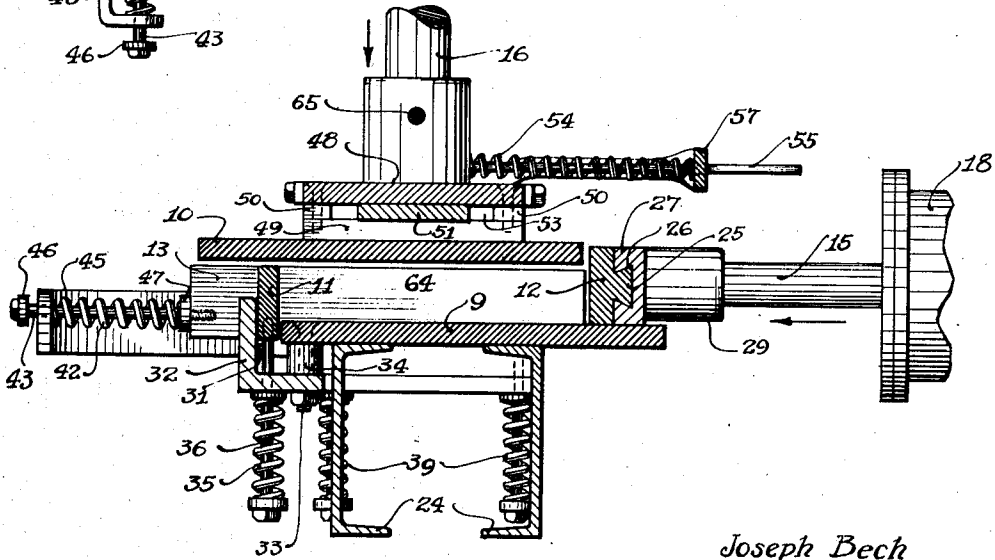


Fig. 5

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UNITED STATES PATENT OFFICE

2,043,366

BACON PRESS

Joseph Bech, Chicago, Ill., assignor, by mesne assignments, to Industrial Patents Corporation, Chicago, Ill., a corporation of Delaware

Application June 6, 1932, Serial No. 615,595

32 Claims. (Cl. 100—57)

The invention relates to a press for compressing bacon.

The object of the present invention is to provide a simple, practical and efficient bacon belly press of strong, durable and comparatively inexpensive construction, capable of easy operation and adapted to apply pressure both to flatten the bacon bellies and also to positively square the side and ends so that the bacon bellies will be perfectly flat and the sides and ends straight when the bacon bellies are removed from the press.

A further object of the invention is to provide a bacon belly press of this character adapted to effectually remove the curl from bacon bellies and capable also of shaping the same to a uniform width and length so that there will be no waste in slicing the slabs of bacon and a corresponding decrease in the amount of scrap.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—

Figure 1 is a perspective view of a bacon press constructed in accordance with this invention.

Fig. 2 is an enlarged plan view of the die elements with the top die plate removed.

Fig. 3 is a side elevational view of the die elements illustrating the top die plate in position.

Fig. 4 is a plan view of the die elements showing the top die plate and its actuating mechanism in position.

Fig. 5 is a transverse sectional view taken substantially on the line 5—5 of Fig. 2.

Fig. 6 is an end view of the die elements.

The bacon press illustrated in the accompanying drawings comprises in its construction a supporting frame of substantially oblong form preferably constructed of angle iron and channel members. The supporting frame is provided with corner posts 1 connected at the top by longitudinal side bars 2 and at the ends by the upper and lower cross bars 3 and 4. The cross bars 3 and 4, preferably consisting of channel iron, are located intermediate of the ends of the corner posts and serve to support longitudinal frame members 5 of channel iron.

The frame members 5 which are spaced apart are mounted at their ends upon the said lower cross pieces 4 and are fitted between the same and the angle iron top cross pieces 3. The main frame is also provided with pairs of uprights 6 constructed of channel iron or other suitable material and mounted respectively upon one of the top cross bars 3 and an intermediate cross bar 7 spaced from the other top cross bar, as clearly illustrated in Fig. 1 of the drawings. The members of the pairs of uprights are spaced apart and they are connected at their upper ends by horizontal channel bars 8 which are also spaced apart. Any other suitable material may, however, be employed in the construction of the supporting frame.

The press box comprises in its construction a fixed or stationary bottom die plate 9, a vertically movable top die plate 10, vertical side plates 11 and 12 and vertical end plates 13 and 14. The top plate 10, the side plate 12 and the end plate 14 are respectively power actuated by pistons 16, 15 and 17 of air cylinders 19, 18 and 20, and the other sides and end plates 11 and 13 are held against movement laterally of such plates to cooperate with the power actuated side plates in squaring the bacon bellies and are also automatically adjustable or slidable as hereinafter fully described, to permit the power actuated dies or plates to advance and compress the bacon bellies to flatten and square the same. The press box is collapsible vertically, and also horizontally in both endwise and sidewise directions, in order to apply the necessary pressure to flatten and square bacon bellies of different lengths and widths and the press box is automatically expansible by the means hereinafter described when the pressure is released from the cylinders.

In practice the cylinders which are controlled by valves 21, 22 and 23, will be of the ordinary construction and are equipped with springs for retracting the pistons when the pressure is released, the pressure of the compressed air operating the pistons to force the respective die plates in a pressing movement and the springs operating to return the pistons to their normal position by which the respective die plates will be withdrawn to their outermost non-pressing position.

The bottom die plate of the press box is rigidly secured to channel supports 24 and it forms a horizontally extending support for the power actuated side plate 12 and the power actuated end plate 14 which rest upon the upper face of the bottom die plate 9. The channel supports 24 are mounted upon the channel members 5 of the sup-

porting frame, as clearly illustrated in Fig. 1 of the drawings. The power actuated end plate 14 is rigidly secured to the piston 17. The power operated side plate 12 has one end abutting against the power actuated end plate 14 and is provided with a dove tail rib 25 which is slidable in a dove tail groove 26 in a cross head 27 of the piston 15. This slidable connection between the power actuated side plate 12 and the piston 15 permits the side plate 12 to move longitudinally and accommodate itself to the inward and outward movement of the power actuated end plate 14. The longitudinally slidable side plate 12 is maintained in contact with the power actuated end plate by means of a coiled spring 28 extending longitudinally of the press box in rear of the same and connected at its inner end to an enlargement 29 of the piston 15 and at its outer end to a horizontal arm 30 fixed to and extending rearwardly from the power actuated side bar 12, as clearly illustrated in Figs. 2 and 4 of the drawings.

The spring 28 longitudinally urges the slidable power actuated side plate 12 in abutting contact with the power actuated end bar 14 and when the latter moves inwardly it carries with it the side plate 12. This movement of the side plate 12 distends the spring 28 which will automatically move the said side bar 12 longitudinally in contact with the power actuated end plate 14 when the end plate 14 is returned to its non-pressing position by the spring of the cylinder 20 when the piston thereof is relieved of air pressure.

One end of the power actuated end plate 14 fits against the inner face of the side plate 11 which is mounted for vertical movement in a groove 31 located to one side of the press box and preferably formed by an angle bar 32 arranged in spaced relation with the adjacent side edge of the bottom die plate and secured to the same by bolts 33 and spacing members 34, as clearly illustrated in Fig. 5 of the drawings. The side plate 11 which is vertically slidable to accommodate itself to the upward and downward movement of the top die plate 10 is yieldably maintained in an elevated position by a plurality of coiled springs 35 located below the angle bar 32 and disposed on guide rods 36 secured to and depending from the side bar 11. The springs are connected with the angle bar 32 and with the lower ends of the guide rods 36 and are distended when the side plate 11 is moved downwardly with the top die plate 10. When the top die plate 10 is moved upwardly the springs will raise the side plate 11 to the uppermost limit of its vertical movement.

The end plate 13 which is opposed to the power actuated end plate 14 is vertically movable in a groove 37 formed by an angle bar 38 similar to the groove 31 and maintained normally in an elevated position by coiled springs 39 disposed on vertical rods 40. Springs 39 are secured at their upper ends to the angle bar 38. Rods 40 pass through apertures 41 in angle bar 38 and touch the bottom edge of end plate 13. The springs 39 are connected with the rods 40 at the lower ends thereof and permit the end plate to move downwardly with the top die plate. The end plate 13 is adapted to slide longitudinally of the angle bar 38 or transversely of the press when the power actuated side plate 12 is moved inwardly to accommodate itself to the movement of the side plate 12 and when the side plate 12 moves outwardly viz., transversely of the press, the end plate 13 is maintained in engagement with the said side plate 12 by means of a coiled spring 42 disposed on a rod 43 extending horizontally from the outer end of the end plate 13 and passing through a slot 44 of a bracket 45 of approximately L-shape having its long arm secured to the vertical flange of the angle bar 38. The short arm of the bracket 45 is provided with the said vertical slot 44. The rod 43 is provided at its outer end with a suitable stop 46 and the coiled spring 42 is interposed between the front arm of the bracket 45 and a collar 47 mounted on the rod 43 at the inner end thereof.

The coiled spring 42 longitudinally urges the end plate 13 yieldably in contact with the power actuated side plate 12. The top die plate has one of its end edges fitted against the power actuated end plate 14 and one of its side edges fitted against the power actuated side plate 12 and the said top plate which is carried upwardly and downwardly with the piston 16 is slidably connected with the same to permit longitudinal sliding movement to accommodate itself to the inward and outward movements of the power actuated end plate 14 and transverse sliding movement to accommodate itself to the inward and outward movements of the power actuated side plate 12. The top die plate 10 is slidably connected with the piston 16 in such a manner that the longitudinal and transverse positions thereof may be altered in variable relationship according to the movements of the power actuated end and side plates 14 and 12. The piston 16 has rigidly secured to it a horizontal plate 48 of rectangular form and provided at its lower face with transverse guides located at the ends of the plate 48 and consisting of straight bars 49 spaced from the lower face of the plate 48 by blocks or shims 50 and suitably secured to the plate 48 by bolts or other suitable fastening devices which pass through the bars 49 and the blocks or shims 50. The guides of the plate 48 are arranged in parallelism and are provided with transverse openings to receive a longitudinal slide 51 of the top die plate 10. The slide 51 is spaced from the upper face of the top die plate by means of bars or shims 52 and the said slide 51 which is of a width less than the length of the openings 53 of the transverse guides of the plate 48 is adapted to slide both longitudinally and transversely in the said openings 53 to permit horizontal movement of the top die plate to enable the latter to conform to the movements of the power actuated side plate 12 and end plate 14.

Stop 68, rigidly secured to plate 10 determines the limit of movement of die plate 10 in the direction in which plate 10 is urged by springs 59.

The top die plate is yieldably maintained in engagement with the side plate 12 by means of a coiled spring 54 disposed on a guide rod 55 and interposed between a hub or enlargement 56 of the piston 16 and a yoke 57 carried by the slide 51. The yoke is approximately U-shaped and is composed of spaced sides and a connecting portion which is provided with a slot 58 to receive the spring supporting rod 55 and permit movement of the same along the connecting portion of the yoke. The yoke extends rearwardly from the slide and the slotted connecting portion is disposed longitudinally of the press.

The top die plate is yieldably maintained in engagement with the power actuated end plate 14 by means of coiled springs 59 disposed on rods 60 and interposed between the plate 48 and a longitudinally disposed yoke 61. The longitudinally disposed yoke which is located at one end portion of the press box consists of spaced parallel sides

and an outer connecting portion. The sides are secured to the plate **48** at the side edges thereof and the outer connecting portion is provided with a slot **62**. The inner ends of the rods are secured to the slide **51** and the outer ends of the said rods **60** are adapted to slide in the slot of the connecting portion of the yoke both longitudinally and transversely. The rods **60** are provided at their outer ends with suitable stops **63** which may be in the form of nuts or any other suitable means which limit the movement of the slide in a direction toward end plate **14**.

One end of rod **65** is rigidly affixed to hub **56**, and the other end of rod **65** is slidably mounted in slot **66** in plate **67**, which permits vertical movement and prevents rotational movement of the top plate assembly about the axis of piston rod **16**.

When the power actuated side plate **12** and end plate **14** are at the limit of their outward movement there is a slight clearance between the same and the adjacent edges of the top die plate sufficient to permit the top die plate to be raised and lowered without interference or friction from the said side and end plates **12** and **14** and the top plate is adapted to be elevated to afford access to the chamber **64** within the press box to permit the beacon bellies to be placed therein and removed therefrom and to apply pressure at the top of the same. In practice the admission of air pressure to the cylinders may be controlled by the independent valves **21**, **22** and **23**, illustrated in the accompanying drawings or an independent valve may be employed for controlling the admission of compressed air to the top vertical cylinder and a single valve for controlling the admission of air to the horizontal cylinders. The inwardly collapsing press box will enable bacon bellies to be flattened and the curl entirely removed from the same and will also enable the bacon bellies to be shaped into true rectangular form so that in the slicing of the slabs of bacon there will be no waste and a corresponding increase in the percentage of slices.

What is claimed is:

1. A bacon press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, guideways located at one side and one end of the bottom die plate, vertically slidable side and end wall plates operating in said guideways, power actuated side and end wall plates supported upon the bottom die plate at the other side and end thereof, and a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and adapted to engage the vertically slidable side and end wall plates.

2. A bacon press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, guideways located at one side and one end of the bottom die plate, vertically slidable side and end wall plates operating in said guideways, power actuated side and end wall plates supported upon the bottom die plate at the other side and end thereof, rods depending from the vertically slidable side and end wall plates, springs disposed on the rods and yieldably supporting the said vertically slidable wall plates, and a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and adapted to engage the vertically slidable side and end wall plates.

3. A bacon press including a collapsible and extensible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, guideways located at one side and one end of the bottom die plate, vertically slidable side and end wall plates operating in the said guideways, power actuated side and end wall plates supported upon the bottom die plate at the other side and end thereof, the power actuated side wall plate being slidably connected with its power actuating means for endwise sliding movement and having one end arranged in abutting relation to the power actuated end wall plate, a spring connected with the power actuated side wall plate at the other end thereof for maintaining the power actuated side wall plate in contact with the power actuated end wall plate, a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and engaging the vertically slidable side and end wall plates and mounted so that it can shift horizontally according to requirements as the pressing operation proceeds, and power actuating means for imparting horizontal inward movement to the power actuated side wall plate, horizontal inward movement to the power actuated end wall plate and downward movement to the top die plate.

4. A bacon press including a collapsible and extensible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, guideways located at one side and one end of the bottom die plate, vertically slidable side and end wall plates operating in the said guideways, power actuated side and end wall plates supported upon the bottom die plate at the other side and end thereof, the power actuated side wall plate being slidably connected with its power actuating means for endwise sliding movement and having one end arranged in abutting relation to the power actuated end wall plate, a spring connected with the power actuated side wall plate at the other end thereof for maintaining the power actuated side wall plate in contact with the power actuated end wall plate, a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and engaging the vertically slidable side and end wall plates and mounted so that it can shift horizontally according to requirements during a pressing operation, the vertically slidable end wall plate having one end arranged in abutting relation with the power actuated side wall plate, a spring connected with the vertically movable end wall plate for maintaining the latter in contact with the power actuated side wall plate, and power actuating means for imparting downward movement to the top die plate, for imparting horizontal transverse movement to the power actuated side wall plate and for imparting horizontal longitudinal movement to the power actuated end wall plate.

5. A bacon press including a collapsible and extensible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, guideways located at one side and one end of the bottom die plate, vertically slidable side and end wall plates operating in the said guideways, power actuated side and end wall plates supported upon the bottom die plate at the other side and end thereof, the power actuated side wall plate being slidably connected with its power actuating means for endwise sliding movement and having one end arranged in abutting relation to the power actuated end wall

plate, a spring connected with the power actuated side wall plate at the other end thereof for maintaining the power actuated side wall plate in contact with the power actuated end wall plate, a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and engaging the vertically slidable side and end wall plates and mounted so that it can shift horizontally according to requirements during a pressing operation, the vertically slidable end wall plate having one end arranged in abutting relation with the power actuated side wall plate, a horizontal rod extending from the other end of the vertically slidable end wall plate, a stationary bracket having a vertical slot receiving the said rod, a spring disposed on the rod and interposed between the bracket and the vertically slidable end wall plate for maintaining the latter in engagement with the power actuated side wall plate and power actuating means for imparting downward movement to the top die plate, for imparting horizontal transverse movement to the power actuated side wall plate and for imparting horizontal longitudinal movement to the power actuated end wall plate.

6. A bacon press having power-actuating means therefor, said press including a collapsible and extensible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertically slidable side and end wall plates respectively located at one side of and at one end of the bottom die plate, power actuated side and end wall plates supported upon the bottom die plate, a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and adapted to engage the vertically slidable side and end wall plates, and means for slidably connecting the top die plate with its power actuating means for permitting horizontal sliding movement of the top die plate.

7. A bacon press having power-actuating means therefor, said press including a collapsible and extensible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertically slidable side and end wall plates respectively located at one side of and at one end of the bottom die plate, power actuated side and end wall plates supported upon the bottom die plate, a power actuated top die plate fitting within the power actuated side and end wall plates and extending over and adapted to engage the vertically slidable side and end wall plates, and means for slidably connecting the top die plate with the power actuating means for permitting horizontal sliding movement of the top die plate longitudinally and transversely of the press.

8. A bacon press having power-actuating means therefor, said press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertical wall plates and a power actuated vertically movable top die plate, and means for slidably connecting the top die plate with the power actuating means comprising a guide carried by the power actuated means, and a slide connected with and supporting the top die plate and slidable in the guide of the power actuated means.

9. A bacon press having power-actuating means therefor, said press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertical wall plates and a power actuated vertically movable top die plate, and means for slidably connecting the top die plate with the power actuating means comprising spaced parallel guides carried by the power actuating means and disposed transversely of the bacon press, and a longitudinal slide connected with the top die plate and arranged in the said transverse guides and movable both longitudinally and transversely therein.

10. A bacon press having power-actuating means therefor, said press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertical wall plates and a power actuated vertically movable top die plate, and means for slidably connecting the top die plate with the power actuating means comprising a horizontal plate fixed to the power actuating means and provided with depending spaced guides, a slide connected with the top die plate and arranged in the said guides for longitudinal and transverse sliding movement, and yieldable means for maintaining the slide at the limit of its longitudinal movement in one direction and also at the limit of its transverse movement in one direction.

11. A bacon press having power-actuating means therefor, said press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of a stationary horizontal bottom die plate, vertical wall plates and a power actuated vertically movable top die plate, means for slidably connecting the top die plate with the power actuating means comprising a horizontal plate fixed to the power actuating means and provided with depending spaced guides, a slide connected with the top die plate and arranged in the said guides for longitudinal and transverse sliding movement, yokes secured respectively to the said plate and to the slide and provided with slots, rods slidable in the slots and connected respectively with the slide and the plate and operating in the said slots, and springs disposed on the rods and bearing against the yokes and adapted to maintain the slide at the limit of its longitudinal movement in one direction and at the limit of its transverse movement in one direction.

12. A bacon press including a press box collapsible and expansible in all directions and having a chamber to receive bacon bellies and composed of horizontal top and bottom die plates, vertical side wall plates and vertical end wall plates, means for mounting the top die plate for vertical movement and for horizontal shifting during a pressing operation, power actuating means for and connected with the top die plate, for and connected with one of the side wall plates, and for and connected with one of the end wall plates for applying pressure downwardly and also horizontally at right angles to the bacon bellies, means slidably connecting one of said power actuated wall plates to its power actuated means to permit said slidably connected wall plate to be moved endwise by the other power actuated wall plate, means for mounting the other end wall plate and the other side wall plate for vertical sliding movement to permit the same to be moved downwardly by the top die plate as it moves downwardly, and yieldable means connected with the slidable power actuated wall plate for maintaining it in contact with the other power actuated end wall plate.

13. A bacon press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of horizontal top and bottom die plates and vertical side and end wall plates, means mounting one of said die plates for horizontally shiftable movement during a pressing operation, power actuating means connected with the top die plate, with one of the side wall plates and with one of the end wall plates for applying pressure downwardly and also horizontally at right angles to the bacon bellies, means for slidably connecting the power actuated side wall plate to its power actuating means to permit said power actuated side wall plate to be moved endwise by the power actuated end wall plate, means for mounting the other end and side wall plates for vertical movement to permit the same to be pressed downwardly by the top die plate as it moves downwardly for effecting a pressing operation, and means for yieldably supporting the said depressible side and end wall plates to maintain the same in contact with the top die plate during the pressing operation.

14. A bacon press including a collapsible and expansible press box having a chamber to receive bacon bellies and composed of horizontal top and bottom die plates, the top die plate being mounted so that it is vertically movable and horizontally shiftable during a pressing operation, and vertical side and end wall plates, power actuating means connected with one of the side wall plates, with one of the end wall plates, and with the top die plate for applying pressure horizontally at right angles and also downwardly to the bacon bellies, means for slidably connecting one of such power actuated wall plates to its power actuating means to permit it to be moved endwise by the other power actuated wall plate, means for slidably mounting the other end wall plate and the other side wall plate to permit the same to be moved downwardly by the top die plate, yieldable means connected with the slidable power actuated wall plate for maintaining it in contact with the other power actuated wall plate and yieldable means for supporting the vertically slidable side and end wall plates to maintain the same in contact with the top die plate during the pressing operation.

15. In a press having an expansible and contractible die that comprises certain power operated pressing elements, power operated means for actuating the power operated elements of the die, in which press the pressing elements of the die are mounted so that said pressing elements will be positioned as hereinafter defined and so that certain of the pressing elements can move and shift according to the requirements incident to the contracting of the die during a pressing operation as carried out in and by the press, said die being contractible in all directions and comprising in associated relationship a relatively fixed lower pressing element, a continuous wall provided by a plurality of wall pressing elements some of which are power operated pressing elements that move over and in close association with the top surface of the lower pressing element while others of which wall pressing elements move along and in close association with corresponding edge portions of said lower pressing element, certain of said wall pressing elements being vertically depressible, and a power actuated top pressing element movable downwardly along said power operated wall elements and engageable with the other wall elements to depress them as the pressing operation proceeds, each of the pressing elements being maintained in close association with all the pressing elements adjacent thereto whereby the die provides a confining space that decreases in all directions and which is completely enclosed by said associated pressing element during all periods of the pressing operation.

16. In a press, a material receiving chamber comprising a supporting plate, a vertically depressible longitudinally extending side-resisting plate, a vertically depressible transversely extending and transversely shiftable end-resisting plate, a longitudinally movable transversely extending end-pressing plate, a longitudinally extending transversely movable and longitudinally shiftable side-pressing plate, and a vertically movable longitudinally and transversely shiftable top-pressing plate, means for mounting the side and end-resisting plates on the bottom plate for movement with relation to one another and the bottom plate to contract the material chamber, and means for actuating said shiftable side and end plates to place the side and end plates in cooperative relation for pressing purposes upon operation of the top pressing plate.

17. A bacon press including a press box which is collapsible and expansible and having a chamber to receive bacon bellies and composed of horizontal top and bottom die plates, one of which is mounted for vertical and horizontal shiftable movement during the pressing operation, a pair of vertical side wall plates, a pair of vertical end wall plates, means for yieldably supporting one wall plate of each pair of said wall plates for vertical movement, power actuating means connected with the vertically and horizontally movable die plate, power means connected with the side wall plate opposite the vertically movable side wall plate, power actuating means connected with the end wall plate opposite the vertically movable end wall plate so as to apply pressure to the bacon bellies, means for slidably connecting the power actuated side wall plate to its power actuating means to permit it to move horizontally relatively to the latter, said vertically movable wall plates being operable to move vertically under the influence of movement of the top die plate to operative position during the pressing operation.

18. A collapsible and extensible bacon press comprising a bottom die plate, a continuous side wall composed of side and end sections movably arranged together with relation to the bottom die plate, a plurality of the side wall sections being vertically movable and a plurality of the side wall sections being horizontally movable over the bottom die plate for compression relation with the vertically movable wall sections to provide a chamber, means for maintaining the vertically movable wall sections normally against downward movement, means for maintaining the wall sections in operative relation to maintain a continuous walled chamber and to collapse or extend the sectional wall of the press, and a top die plate operative for cooperation with the wall sections to completely close the press chamber and to move the vertically movable wall sections downwardly against the aforesaid means for maintaining the vertically movable sections normally against downward movement, and means for operating said top die plate.

19. In a press of the character described, a bottom die plate, a continuous side wall composed of sections cooperatively arranged to-

gether, a plurality of said sections being vertically mounted with relation to the bottom die plate, means yieldably supporting the latter sections against downward vertical movement and normally forcing them to their uppermost positions, the remaining side walls being slidable bodily over the top die plate into cooperative compressing relation with the said plurality of vertically slidable side wall sections, means for sliding said remaining sections over the bottom die plate, a top die plate operable vertically for engagement with the aforesaid vertically slidable wall sections to force same downwardly and to cooperate with all of the wall sections for compression purposes, means for operating said top die section, and a connection between the top die section operating means and the top die plate to permit of a horizontal movement of the top die section transversely of the vertical movement of the latter as the latter cooperates with the side wall sections.

20. In a press box construction, a stationary horizontal bottom-supporting plate, a vertically-depressible longitudinally-extending and vertically-slidable side-resisting plate, a vertically-depressible slidable transversely-extending end-resisting plate, means for mounting said end-resisting plate to shift in a transverse direction during a pressing operation in cooperative association with the adjacent end portion of the side-resisting plate, a longitudinally-movable transversely-extending end-pressing plate, means for mounting the end-pressing plate for cooperative association with the side-resisting plate as said end-pressing plate is moved longitudinally during a pressing operation, a longitudinally-extending transversely-movable side-pressing plate coacting with the transversely-extending end-pressing plate as said side-pressing plate is moved transversely during a pressing operation, means mounting said side-pressing plate for movement in a longitudinal direction during a pressing operation, a vertically movable top-pressing plate, means mounting the top-pressing plate so that it can shift horizontally in both a longitudinal and a transverse direction during a pressing operation with one end portion and one side portion thereof respectively cooperating with the end-pressing plate and the side-pressing plate so as to move vertically, downwardly along the pressing surfaces of said end and side-pressing plates during a pressing operation, and means for moving the said top-pressing plate downwardly during the pressing operation to engage and depress the said side and end-resisting plates.

21. In a press box construction, a stationary supporting plate, a vertically-depressible, longitudinally-extending side-resisting plate, a vertically-depressible, transversely-extending and transversely-shiftable end-resisting plate, a longitudinally-movable transversely-extending power-operated end-pressing plate positioned on and movable along the supporting plate, a longitudinally-extending, transversely-movable and longitudinally-shiftable, side-pressing plate positioned on and movable upon the supporting plate, a vertically-movable, power-operated top-pressing plate for horizontal shifting movement in both a longitudinal and a transverse direction, respectively, by engagement of one end and one side edge thereof with the pressing surfaces of said end and said side-pressing plates during movement of the latter in operation, and means for moving the top-pressing-plate downwardly in operation so that its lower pressing surface engages the top of said vertically-depressible side and end-resisting plates whereby to depress the latter during such movement and leave the top-pressing plate free for horizontal shifting movement.

22. A bacon press including a press box collapsible and extensible in all directions and providing a compressing chamber adapted to receive bacon bellies, which press box comprises horizontal top and bottom die plates, means for mounting one of said plates for vertical movement relative to the other, means for mounting one plate for horizontal shifting movement relative to the other, vertical wall plates, means for mounting certain of said wall plates for horizontal movement relative to each other, means for mounting certain of said wall plates for vertical yielding movement under actuation of said top die plate, said several plates coacting with one another during their movement whereby the compressing chamber of the die box is completely closed at all times during such movement and operation, power-actuated means associated with certain of said plates to apply pressure vertically and horizontally, and means for mounting certain of the plates to slide with respect to one another without releasing the pressure on the bacon as the pressing operation progresses.

23. A bacon press including an extensible press box having a chamber to receive the bacon and composed of horizontal top and bottom die plates, means for mounting one of said die plates for vertical movement and for horizontal shifting movement relative to the other during a pressing operation, vertical wall plates, means for mounting some of said wall plates in horizontally movable relation to the others, means for mounting the other wall plates for vertical shifting movement by said top die plate, power actuated means connected with the top die plate and with the horizontally movable wall plates to apply pressure vertically and horizontally to the bacon, and means for mounting certain of said wall plates to slide in the direction of the lengths thereof with respect to other of the wall plates, and means for mounting one of the horizontal die plates to shift relatively to each of the vertically shiftable wall plates during a pressing operation, all without releasing the pressure on the bacon during such operation.

24. A bacon press including a press box collapsible and extensible in all directions and having a chamber adapted to receive the bacon and composed of horizontal top and bottom die plates and vertical wall plates, means mounting one of said die plates for vertical pressure movement and horizontal adjustable movement in operation, power actuating means connected with the top die plate for applying pressure vertically to the bacon and to two of the vertical wall plates for applying horizontal pressure at right angles to the bacon, means mounting certain of said vertical wall plates to slide vertically, yieldable means to movably hold the latter plates against such sliding movement, and means mounting certain of the vertical plates to slide horizontally with respect to one another without releasing the pressure on the bacon.

25. A bacon press including a press box collapsible and expansible in all directions and providing a chamber adapted to receive the bacon, said press box being composed of vertically-spaced horizontal top and bottom die plates and vertical side and end wall plates, power actuating

means connected with one of the side wall plates and with one of the end wall plates for applying pressure horizontally at right angles to the bacon, and with one of the horizontal die plates for applying pressure vertically to the bacon, and means for slidably connecting the power-actuated die plate with the power actuating means therefor, permitting shifting movement of said die plate horizontally in two directions relative to the power actuating means, according to the requirements of, and during, the pressing operation and while the several plates are in mutually engaged relation, whereby there will be no release of pressure on the bacon during the pressing operation.

26. A bacon press including a bottom die plate, pressure-resisting walls at two sides of said die plate, means for mounting said walls to yield vertically, a top die plate, pressing means for moving the top die plate downwardly toward the bottom die plate and to engage and depress said resisting walls, means for mounting said top die plate to shift horizontally across the top edges of said yieldable resisting walls, pressure-applying walls at the other two sides of the bottom die plate, engaging the corresponding sides of the top die plate when the latter is lowered onto the resisting walls, means for mounting said pressure walls for pressure movement toward the resisting walls and for shifting the top die plate horizontally therewith, pressure means for actuating the pressure-applying walls, and means mounting one of said pressure-resisting walls and one of said pressure-applying walls for sliding movement in the direction of their lengths during a pressing operation.

27. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement and means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement.

28. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement and means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement, said slidable means comprising a guide carried by said actuating means and a slide secured to said die plate and slidably mounted in said guide.

29. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement and means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement, said slidable means comprising spaced parallel guides carried by said actuating means and a slide secured to said die plate, said slide being slidably mounted in said guides in an endwise and sidewise relationship to said die plate.

30. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement and means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement comprising a plate secured to said actuating means and provided with depending spaced guides, a slide secured to said die plate and slidably mounted in said guides for endwise and sidewise movement relation to said guides and yieldable means for maintaining said slide at the limit of its endwise movement in one direction and at the limit of its sidewise movement in one direction.

31. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement and means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement comprising a plate secured to said actuating means and provided with depending spaced guides, a slide secured to said die plate and slidably mounted in said guides for endwise and sidewise movement relative to said guides, yokes provided with slots and secured respectively to said plate and said slide, rods slidable in said slots and connected respectively with said slide and said plate, and springs disposed on said rods bearing against said yokes and adapted to maintain said slide at the limit of its endwise movement in one direction and at the limit of its sidewise movement in one direction.

32. In a press of the class described, a die plate, means for actuating said die plate in a pressing movement, means for slidably connecting said die plate to said actuating means whereby the endwise and sidewise positions of the die plate may be altered in variable relationship during the pressing movement and means in association with said actuating means and said die plate for maintaining said die plate at the limit of its endwise movement in one direction and at the limit of its sidewise movement in one direction.

JOSEPH BECH.

CERTIFICATE OF CORRECTION.

Patent No.2,043,366. June 9, 1936.

JOSEPH BECH.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, first column, line 9, for the word "side" read sides; and second column, line 24, for "sides" read side; page 3, first column, line 28, for "beacon" read bacon; page 6, second column, line 47, claim 23, for "relatively" read relative; page 7, second column, line 20, claim 30, for "relation" read relative; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 1st day of September, A. D. 1936.

(Seal)

Leslie Frazer
Acting Commissioner of Patents.