

[54] HAM PRESS OPERATOR

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 [22] Filed: **Nov. 11, 1971**
 [21] Appl. No.: **197,695**

- [52] U.S. Cl. **100/194**, 99/349, 100/215,
 100/219, 100/229 R, 211/113
 [51] Int. Cl. **B30b 7/02**
 [58] Field of Search. 17/44.2; 99/261,
 99/249; 100/215, 194, 195, 100, 229, 199,
 219, 295; 211/113, 117

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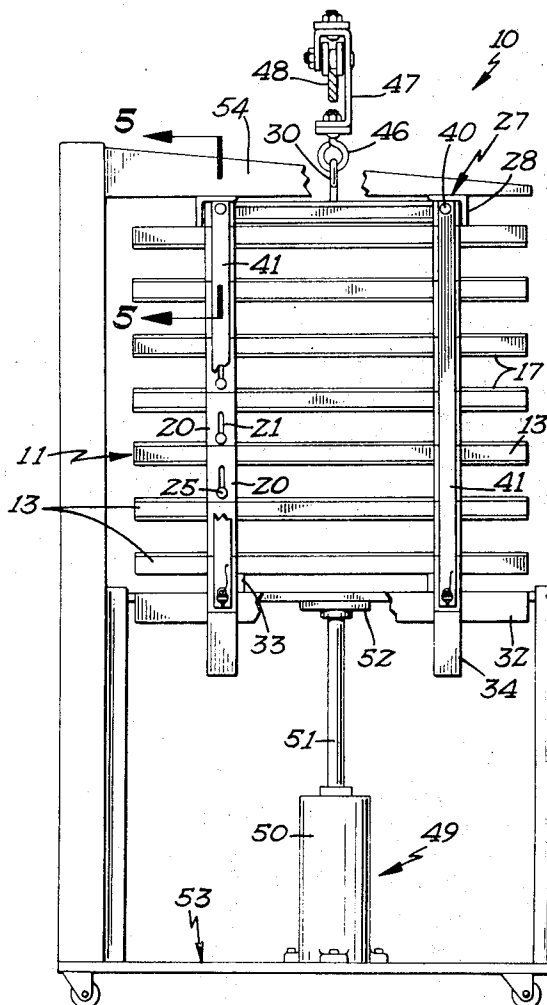
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[57] ABSTRACT

A ham press for compressing hams during the cooking and smoking thereof comprises a plurality of similar racks interconnected together by pins and slotted coupling elements. The racks are shiftable between an open position and a closed pressing position wherein the hams are compressed between adjacent racks. Each rack includes a frame having perforated upper and lower press members which engage the hams to be pressed. Smoke may freely circulate between the upper and lower press members while the racks are in pressing condition thereby permitting smoking and heating while the hams are being pressed. The diamond shaped configuration of perforations in the press members of each rack impart the desirable surface ornamentation to the hams being pressed.

3 Claims, 6 Drawing Figures



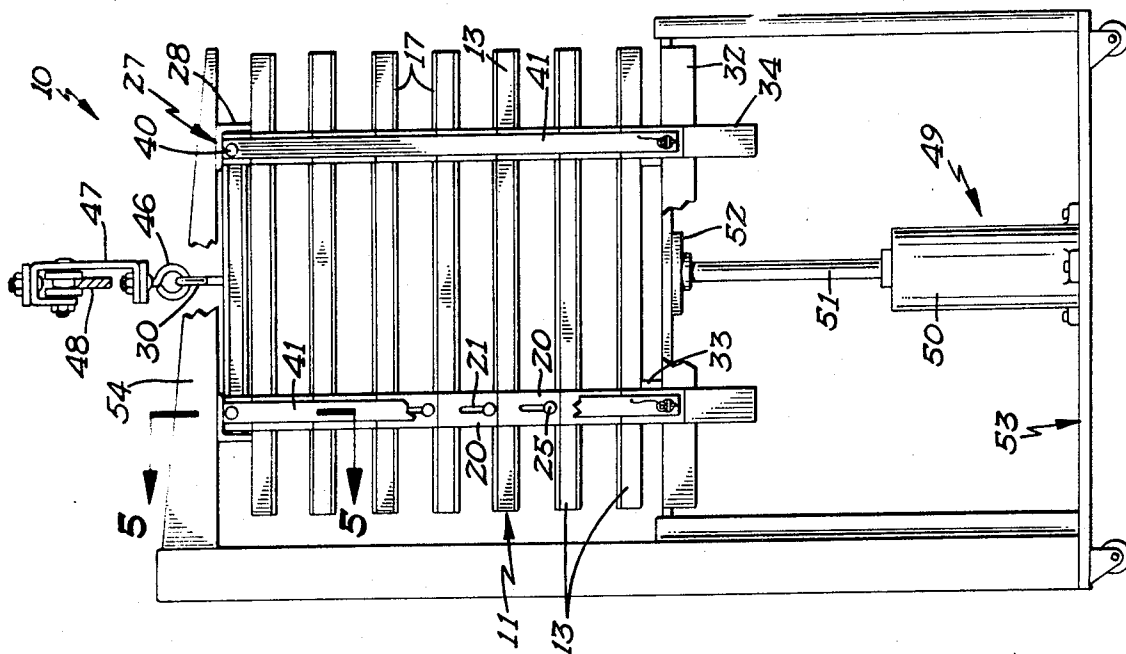


Fig. 1

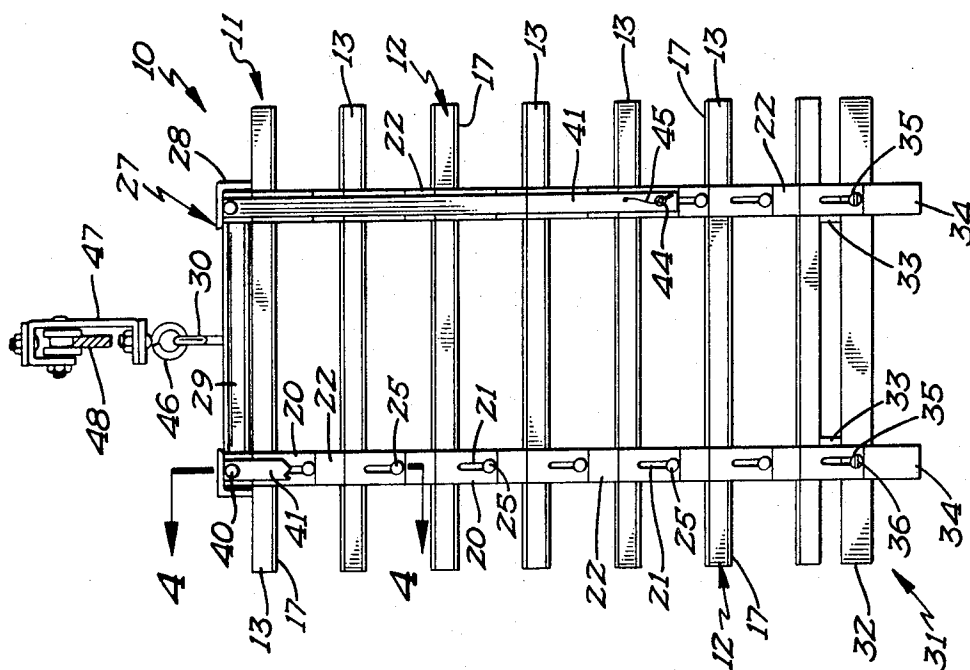


Fig. 2

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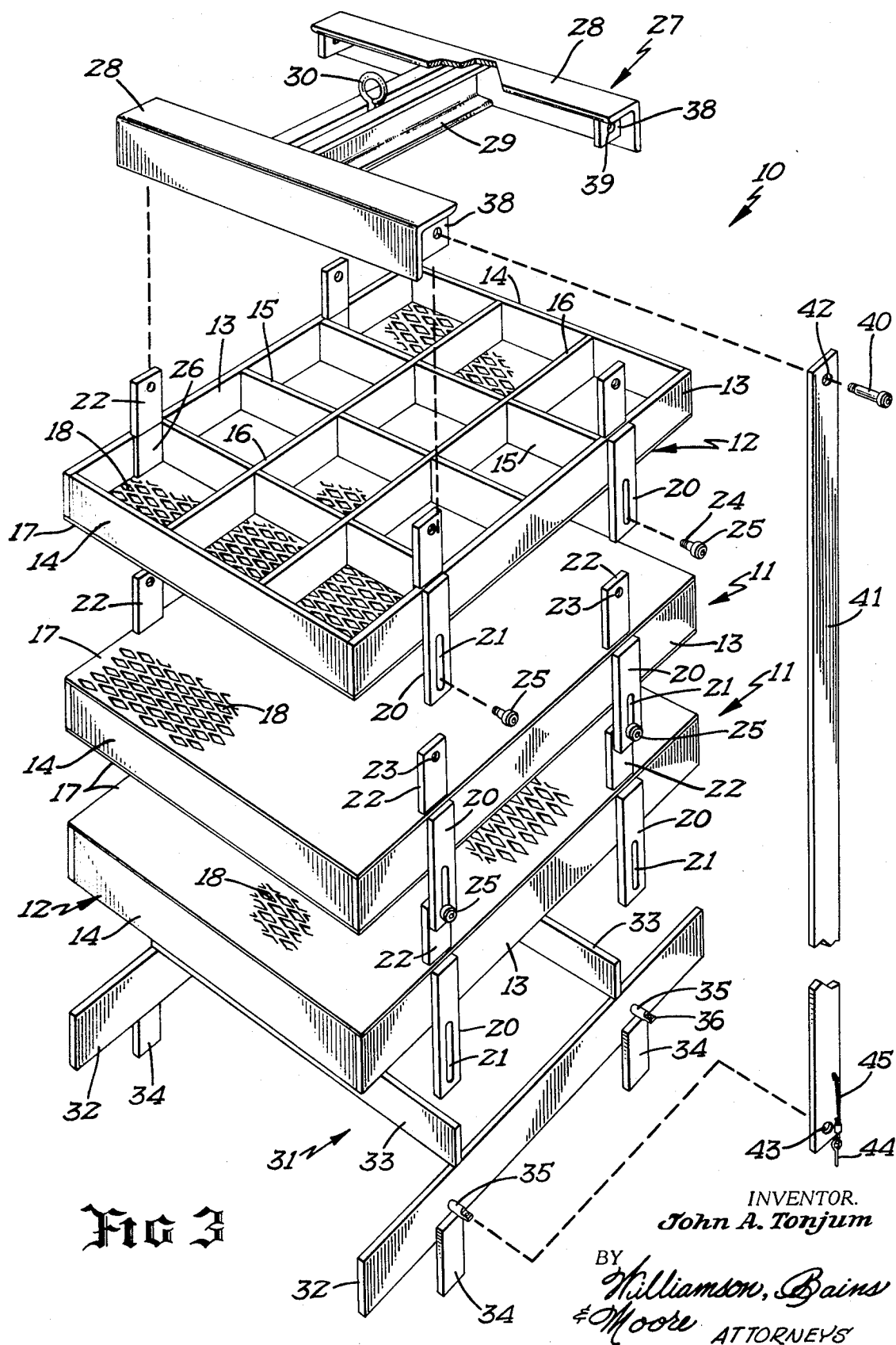


FIG 3

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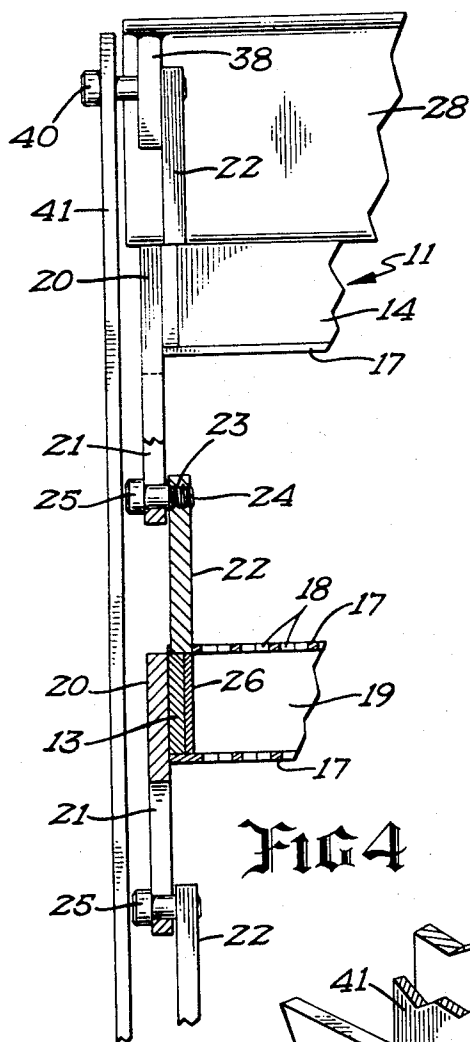


FIG 4

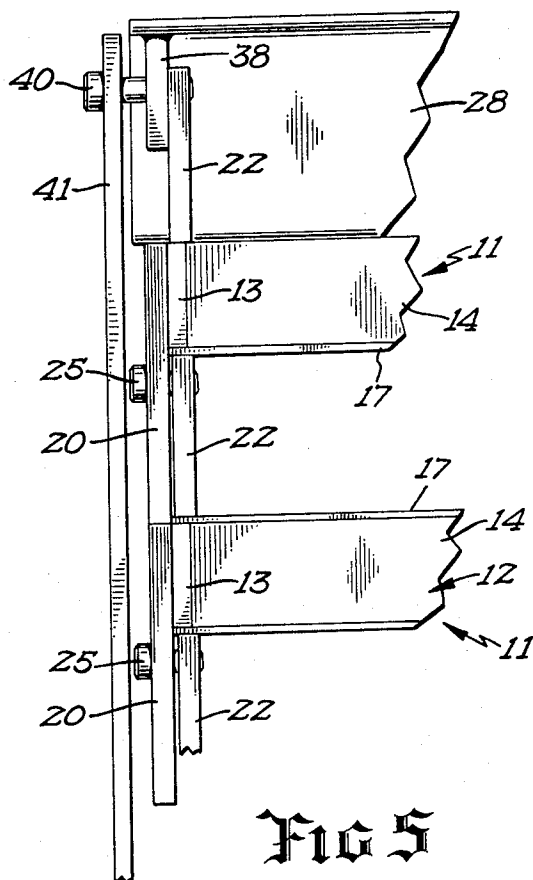


FIG 5

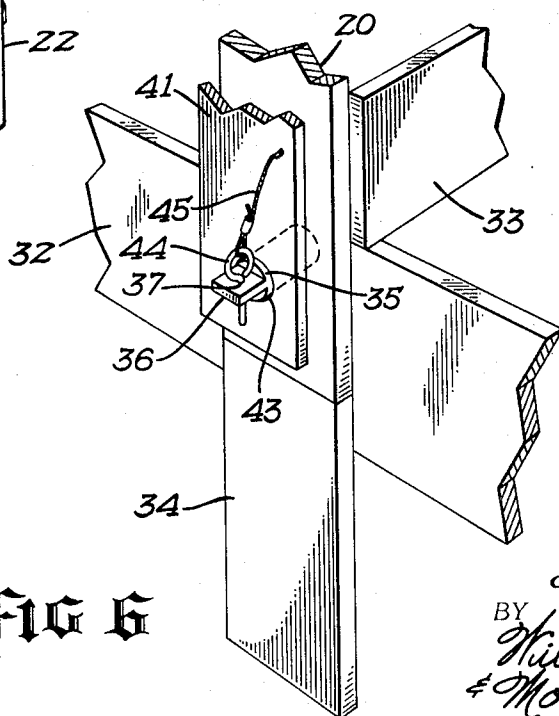


FIG 6

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SUMMARY OF THE INVENTION

The various types of ham presses now being used in packing plants for pressing hams are not capable of pressing hams which have substantially flat upper and lower surfaces. These conventional ham presses are also not arranged and constructed to permit smoking and cooking of the hams while the press is in the contracted pressing condition. Therefore, in the conventional ham presses, these presses are loaded with hams and then shifted to the contracted pressing condition, and the hams are pressed for several days. Thereafter, the presses are expanded and suspended from the trolley and are moved through the smokehouse for smoking and curing. It is therefore a general object of this invention to provide a novel and improved ham press which is arranged and constructed to not only accommodate hams having substantially flat upper and lower surfaces but also to permit smoking and cooking of the hams while the press is in the clamped contracted condition. In this regard, the novel press includes a plurality of ham racks each comprised of a frame to which is attached perforated upper and lower press members. The racks are interconnected together for vertical movement between a releasably locked pressing condition and an opened condition. Smoke may circulate through the space defined between the upper and lower press members of each rack even when the ham press is in the contracted pressing condition thereby permitting pressing of the ham simultaneously during smoking and curing thereof.

These and other objects and advantages of this invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to the same or similar parts throughout the several views.

BRIEF DESCRIPTION OF THE FIGURES OF THE DRAWINGS

FIG. 1 is a side elevational view of the novel ham press suspended from a trolley and disposed in an open or expanded condition;

FIG. 2 is a side elevational view of the novel ham press illustrating the press in a closed condition;

FIG. 3 is an exploded perspective view of the ham press illustrating various details of construction thereof and with certain parts broken away for clarity;

FIG. 4 is a cross-sectional view taken approximately along line 4—4 of FIG. 1 and looking in the direction of the arrows;

FIG. 5 is a cross-sectional view similar to FIG. 4 but taken approximately along line 5—5 of FIG. 2 and looking in the direction of the arrows; and

FIG. 6 is an enlarged fragmentary perspective view illustrating details of construction of one of the locking bars.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings and more specifically to FIGS. 1, 2 and 3, it will be seen that one embodiment of the novel ham press, designated generally by the reference numeral 10, is there shown. The ham press is adapted to contain a plurality of hams and is operable to press the hams while the hams are being smoked and cooked.

The ham press 10 includes a plurality of similar horizontally oriented racks 22 each comprised of a generally rectangular frame 12 as best seen in FIG. 3. Each frame 12 includes spaced apart substantially parallel longitudinal frame members 13 rigidly affixed to a pair of end frame members 14. The outermost longitudinal frame members 13 actually constitute side frame members. The longitudinal frame members 13 are rigidly interconnected by transverse frame members 15. It will be noted that the longitudinal end and transverse frame members are actually formed from flat substantially straight bar stock each being of substantially the same width and being oriented so that the width of each bar is disposed vertically. With this arrangement, these frame members present upwardly and downwardly disposed longitudinal edges 16 which are relatively narrow as best seen in FIG. 3.

Each rack 11 also includes substantially identical generally rectangular shaped upper and lower press members 17 which are secured to the upper and lower longitudinal edges 16 of the frame, these press members being of perforate construction. In this regard, it will be noted that the press members have diamond shaped apertures or openings 18 therein. A space 19 is defined between the upper and lower perforate members which is important in the proper functioning of the ham press and permits smoke to freely circulate there-through, even though the ham press is in a contracted pressing condition.

Each rack 11 has a plurality of depending substantially straight flat coupling elements or plates 20 secured thereto. In the embodiment shown, a pair of depending coupling plates 20 are rigidly secured to outer surface of each of the side frame members 13 of each frame. Each of these coupling plates has an elongate vertical slot 21 therein. Each rack 11 also has a pair of upstanding plates or brackets 22 rigidly affixed to each longitudinal frame member 13, as best seen in FIGS. 3, 4 and 5. Each of these plates 22 has a threaded aperture 23 in the upper end thereof for accommodating the threaded end of a bolt 24, the latter having a head 25 at its outer end thereof. It will be noted that each bolt 24 projects through the slot 21 of one of the depending coupling plates 20 on the adjacent rack positioned thereabove. It will also be noted that the upstanding plates 22 are mounted on the upper edge of each side frame member and that each plate 22 is slightly thicker than the associated side frame member 13. Therefore, a small support plate is welded to the inner surface of each side frame member to provide a bearing surface for each plate 22. With this arrangement, all of the racks are interconnected together for limited vertical movement between a contracted pressing position and an expanded open condition.

The ham press is adapted to be suspended from an overhead trolley and to this end, an upper suspension frame 27 is provided which is comprised of a pair of spaced apart angle end frame members 28 rigidly secured to the ends of a pair of substantially identical channel shaped central frame members 29. It will be noted that the central frame members are positioned in closely spaced relation with respect to each other and the shank of an eye member 30 is positioned between and engaged by the web portions of the central frame members.

The ham press 10 is also adapted to be positioned upon a supported surface for storage, maintenance and

the like and includes a lower support frame 31 comprised of a pair of spaced apart substantially parallel longitudinal frame members 32. A pair of elongate substantially flat transverse members 33 are rigidly affixed to and extend between the longitudinal frame members 32 and are rigidly affixed to the lowermost rack 11. The transverse frame members are secured at their lower edges to the upper edges of the longitudinal frame members and each longitudinal frame member 32 has a pair of depending legs 34 affixed thereto as best seen in FIG. 3. Each longitudinal frame member 32 also has a pair of pins 35 secured thereto and projecting outwardly therefrom. Each pin 35 has a flattened outer end 36 provided with a vertically disposed opening 37 therethrough.

Means are provided for releasably locking the racks of the ham press in a contracted pressing condition and to this end, it will be seen that each of the end frame members 28 of the suspension frame 27 has a pair of rectangular mounting plates 38 rigidly affixed to opposite ends thereof. These mounting plates 38 have threaded openings 39 therein and each threaded opening 39 accommodates the threaded end of a pivot pin 40 therethrough upon which is pivoted a locking bar 41. It will also be noted that each pivot pin 40 not only projects through an opening 42 in the associated locking bar but also projects through an opening in the up-standing plate 22 of the uppermost ham rack 11. Thus it will be seen that four locking bars 41 are provided, each being of a length to extend below the lowermost ham rack when the ham press is in the contracted position.

The lower end of each locking bar 41 has an opening 43 therein of a size to receive one of the outwardly projecting pins 35 therethrough. Each locking bar is also provided with a locking pin 44 which is secured to one end of a flexible retaining element 45 secured to the lower end portion of the associated locking bar. This locking pin is adapted to project through the opening in the flattened outer end of each pin 35 when each locking bar is positioned to receive the end of the pin therethrough.

The eye 30 of the suspension frame of the ham rack is secured to an eye 46 of a trolley 47 which is mounted on an overhead track 48. The track 48 extends into the smokehouse where the pressing and smoking operation takes place.

Means are also provided for shifting the ham press from the open position as illustrated in FIG. 1 to the closed position where the racks are in pressing clamping relation with respect to the hams positioned on each rack. To this end, a hydraulic ram unit 49 is provided including a hydraulic cylinder 50 accommodating a piston therein to which is secured a piston rod 51. The upper end of the piston rod 51 is provided with a plate 52 which engages the support frame 31 of the ham press. The hydraulic unit is mounted on a wheeled chassis 53 which permits the unit to be moved from location to location.

When it is desirable to shift the ham press to the contracted pressing, the hydraulic ram unit will be positioned below the ham press which is loaded with a plurality of hams to be pressed and smoked, and the hydraulic ram unit will be actuated to extend the piston rod 51. The ham press will be suspended from the overhead track 48 by the associated trolley 47. The piston rod 51 will engage the support frame which is secured

to the lowermost rack and will move the racks upwardly to the contracted pressing position against an overhead support 54 located in the smokehouse. The locking bars may then be shifted to position the apertured lower end over the associated pin 35 and the locking pins 44 may be secured in place to lock the racks in the pressing condition. The hams will remain in the pressing condition until the smoking and curing is completed which, in the embodiment shown, requires approximately 1 day or 24 hours. This operation sharply distinguishes from the use of the conventional ham presses which require pressing without smoking and cooking. The smoking and cooking involves a separate step in the conventional operation and the total procedure involves a period of several days.

In the present embodiment, the upper and lower press members of each rack engage the upper and lower surfaces of the hams to be pressed so that the hams to be pressed are not only clamped between adjacent racks but the diamond shaped apertures also impart a desirable surface ornamentation to the upper and lower surfaces of the hams being pressed and smoked. Smoking can occur simultaneously with the pressing operation since smoke and heated air are allowed to circulate freely between the upper and lower press members of each ham rack. This arrangement permits thorough and effective smoking and cooking of the hams during the pressing operation. The particular structural arrangement of each ham rack also permits even uniform pressing of each ham during the smoking and curing operation. When the pressing and smoking operation is completed, it is merely necessary to remove the locking pins 44 from their engagement with the associated apertured pins 35 and then, shift the locking bars out of engaging relation with the pins thus permitting expansion of the ham press to the open position as a result of gravity.

Thus the present ham press not only permits simultaneous pressing with the smoking operation but the press is capable of pressing uniformly and evenly hams having substantially flat upper and lower surfaces. The present ham press also imparts the desirable surface configuration to the hams as a result of the pressing and curing operation, and the entire curing and pressing process may be accomplished in a very short time. There are currently no known ham presses capable of performing these improved functions.

Thus it will be seen that I have provided a novel ham press which not only permits pressing during the smoking and curing operation, but the present ham press operates in a more efficient manner than any heretofore known comparable ham press.

What is claimed is:

1. A multi-rack ham press comprising

a plurality of similar horizontally oriented racks each including a generally rectangular frame comprising a plurality of spaced apart substantially parallel longitudinal frame members, a pair of elongate end frame members each extending between and being rigidly affixed to the adjacent ends of said longitudinal frame members, the outermost of said longitudinal frame members constituting side frame members, a plurality of transverse frame members extending between adjacent longitudinal frame members and being disposed in substantially parallel relation with said end frame members,

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each rack having a pair of similar substantially flat rectangular shaped perforated press members, one being fixedly secured and covering the upper surface of a rack frame and the other press member being fixedly secured to and covering the lower surface of a rack frame, the perforations in each press member being of diamond shaped configuration and being disposed substantially uniformly throughout the entire area of the press members, each rack having a plurality of vertically disposed slotted coupling elements secured to the side frame members thereof and each longitudinal side frame member of each rack also having a plurality of coupling pins secured thereto and projecting outwardly therefrom, one coupling pin on one rack projecting through and engaging a slotted coupling pin on the other rack member and permitting limited vertical movement of the racks relative to each other between a ham pressing position and an expanded open position, said racks when in the pressing position compressing a plurality of hams between the upper press member of one rack and lower press member of the adjacent rack, and said racks in the expanded open position being disposed in maximum spaced relation with respect to adjacent racks,

a plurality of elongate vertically disposed locking bars each being pivotally connected at its upper end with the uppermost rack, said bars being of a length to extend below the lowermost rack when the press is in the contracted pressing position, and

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each bar having an aperture in the lower end thereof,

a support frame fixedly connected to the lowermost rack projecting downwardly therefrom, a plurality of bar engaging elements connected with said lowermost rack and each releasably engaging the lower end of one of said bars when the press is in the contracted position to releasably hold the racks in said contracted position and power means engaging one of said racks and being operable when actuated to shift the racks from the expanded open portion to said contracted pressing portion.

2. The ham press as defined in claim 1 wherein said longitudinal end and transverse frame members of each rack are comprised of substantially flat straight bars, each being disposed to orient their width dimension vertically to present upwardly and downwardly relatively narrow longitudinal edges, and defining a chamber between the associated upper and lower press members for each rack through which smoke may freely circulate whereby the hams may be smoked during the pressing operation.

3. The ham press as defined in claim 1 wherein said bar engaging elements are on said support frame and comprise a plurality of pins affixed to and projecting outwardly from said support frame, each pin engaging in an apertured lower end of the associated locking bar to releasably lock the bars and racks in the compressing position.

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