

M. B. GREEN.
COMPRESSION BOX.

APPLICATION FILED JUNE 16, 1912.

1,061,837.

Patented May 13, 1913.

2 SHEETS—SHEET 1.

Fig. 2.

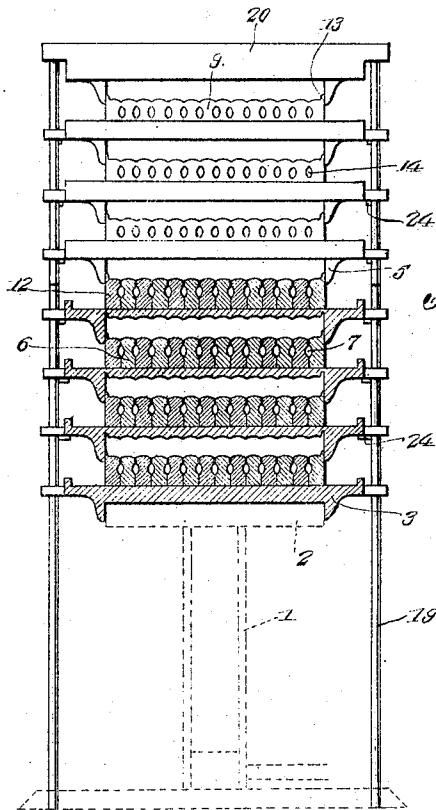
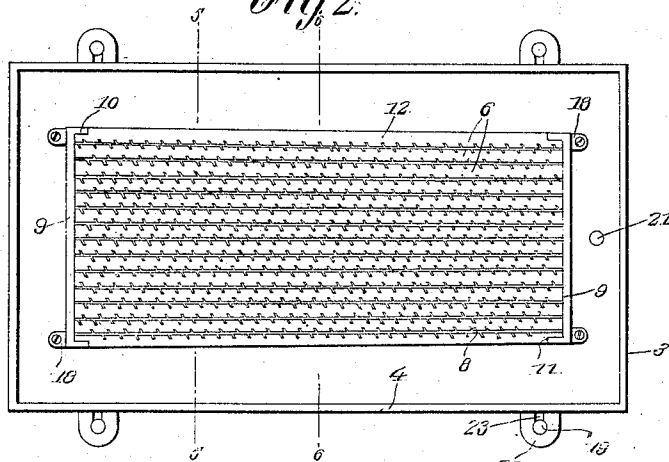


Fig. 3.

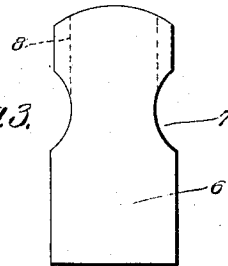
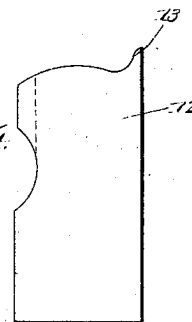


Fig. 4.



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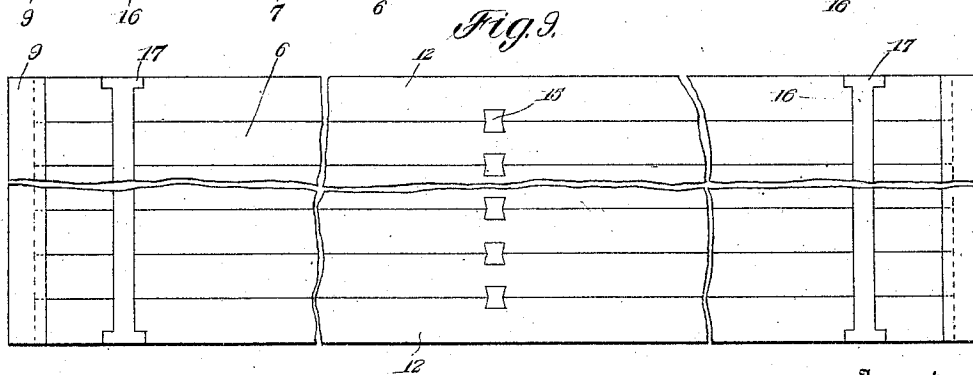
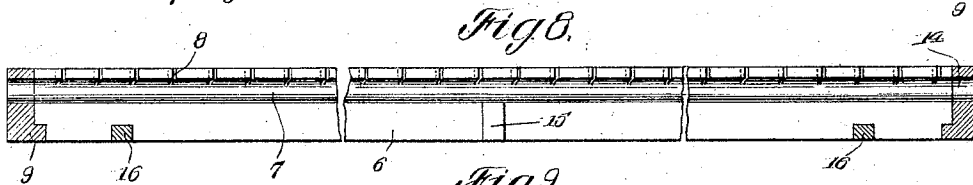
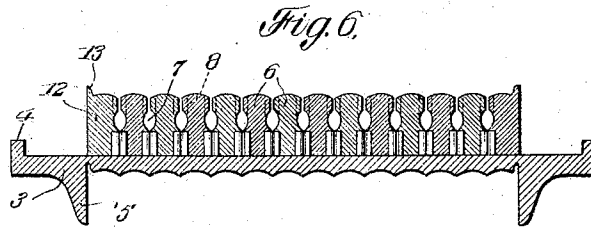
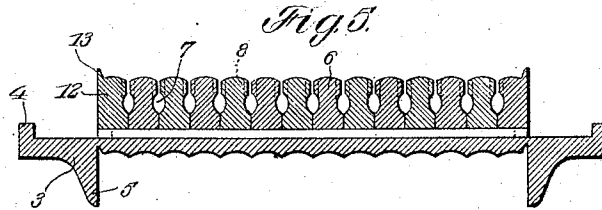
Attorney

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UNITED STATES PATENT OFFICE.

MICHAEL B. GREEN, OF MEMPHIS, TENNESSEE.

COMPRESSION-BOX.

1,061,837.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed June 15, 1912. Serial No. 703,869.

To all whom it may concern:

Be it known that I, MICHAEL B. GREEN, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented new and useful Improvements in Compression-Boxes, of which the following is a specification.

This invention relates to compression boxes and more particularly to that type which are specifically adapted for use in connection with cotton seed processes.

The principal object of the invention is to obviate the difficulties encountered in the use of the present perforated plate and to obtain a quantity of oil from the cake in excess of that obtained through the use of said plate. While the antiquated hair mat was the ideal base for compression boxes, the process was extremely slow and can not be used at the present day owing to the slowness of operation and to the almost prohibitive expense in producing these mats.

It is the object of this invention, therefore, to secure the effectiveness or the producing qualities of the hair mat with the speed of the perforated plate and to obviate the difficulties encountered with the latter, such as lack of porosity and inability to stand the strain.

Further objects of this invention will appear as the following specific description is read in connection with the accompanying drawing, which forms a part of this application, and in which:—

Figure 1 is a side elevation showing the box mounted on an ordinary compression ram. Fig. 2 is a top plan view with the abutting plate removed. Fig. 3 is a detail end elevation of one of the intermediate bars. Fig. 4 is a similar view of an end bar. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 2. Fig. 6 is a similar view on the line 6—6 of Fig. 2. Fig. 7 is an enlarged detail plan view of a plurality of bars. Fig. 8 is a longitudinal sectional view through the mat. Fig. 9 is a bottom plan view of the mat.

Referring more particularly to the drawings, 1 represents a ram of ordinary construction to the plunger of which is secured a head 2 having mounted thereon a mat receiving platform or box 3 which has formed thereon an upstanding flange 4 extending entirely around the same and depending flanges 5 arranged at the sides thereof. This box is also provided with an outlet

pipe, through which the oil passes to a suitable receptacle. Mounted upon this box are a plurality of bars 6, each having substantially semi-circular longitudinal grooves 7 in opposite sides thereof which have communicating therewith vertical slots 8 extending inwardly from the sides and from the grooves to the top of the bars. The slots extend inwardly on diagonal lines and are adapted to alternate with the slots of adjoining bars, as shown. The grooves 7 are adapted to register with those of the adjoining bars and all of the bars are connected together by end pieces 9 which have inwardly turned ends 10 to seat in recesses 11 formed in the side bars. The intermediate bars 6 are preferably curved transversely on their upper faces, as shown, and the side bars 17 are provided with longitudinally extending lips 13 arranged at the sides thereof and projecting vertically. The end pieces are preferably shrunk on after all of the bars have been connected together, as will be hereinafter described and are provided with openings 14 which register with the channels between the bars produced by the groove 7. Each bar is connected to its adjoining bar by double key-stone locks 15 which are arranged in the longitudinal center of the mat and the bars are also connected together adjacent their ends by key rods 16 which are seated in grooves in the bottom of the bars and have heads 17 arranged in recesses in the side bars. The end pieces 9 are provided with suitable ears 18 which are adapted to receive fastening bolts for securing the mat to the platform or supporting box 3.

Extending up from the base of the machine are four separate columns or rods 19 connected together at their upper ends by an abutment plate 20 and slidably mounted upon these rods are a plurality of boxes, all of which carry mats similar to the one just described. These boxes are provided with the flanges 4 and 5 and each is provided with an opening 21 through which the oil drains to the box below. The under surface of the boxes is preferably conformed to the outline of the upper surface of the mat, as shown, and when the meal cake is removed, it has the form of the mat and the under surface of the box stamped therein. The ears 22, which slidably receive the rods or columns 19, are also slotted, as shown at 23, so as to permit the passage of supporting

lugs or projections 24. These projections or lugs 24 are graduated in size, as shown in Fig. 1, the largest being arranged at the bottom and gradually decreasing in size and in length from the bottom to the top so that the bottom mat will have the longest slot and be permitted to pass all other lugs or projections above the same. The boxes in descending will, therefore, engage and be supported upon the proper length of lug so as to be held in spaced relation when the plunger of the ram is at its lowermost position, thereby giving sufficient room for the insertion of the meal cake between the mat and the under side of the box above.

It will be noticed that the upper portion of the bars 6 and 12 above the groove 7 is not as wide as the lower portion of the bars so that when the bars are joined together by the keys and end pieces in the form of a mat, there will be a plurality of longitudinal slots extending the full length of the mat and communicating with the slots 8 in the bars. It will also be noticed that the bars are slightly tapered from one end to the other so that the mat is at least a half an inch wider at one end than at the other, the wide end being the end for the insertion of the meal cake.

What is claimed is:—

1. A mat for oil presses comprising a plurality of bars having longitudinal substantially semi-circular channels in opposite sides thereof, intermediate their height, and diagonally arranged slots extending inwardly from the sides of the bars and vertically from the top of the bars to the grooves, said slots in the bars alternating with those of the adjoining bars, and means

to connect the bars together at their ends, and keys for connecting the bars together intermediate their ends.

2. A mat for oil presses which comprises elongated bars having longitudinally extending substantially semi-circular channels in opposite sides thereof adapted to register with the channels in adjoining bars, said bars being narrower above the channels than below the same and having lateral slots extending inwardly on diagonal lines from the top to the channels, which slots alternate with those of adjoining bars, end pieces for connecting the ends of the bars together, and means passing through the end pieces for securing the bars to a box.

3. A mat for oil presses which comprises elongated bars having longitudinally extending substantially semi-circular channels in opposite sides thereof adapted to register with the channels in adjoining bars, said bars being narrower above the channels than below the same and having lateral slots extending inwardly on diagonal lines from the top to the channels, which slots alternate with those of adjoining bars, end pieces for connecting the ends of the bars together, transverse keys for connecting the bars together adjacent their ends, and intermediate vertically extending dovetail keys for connecting the bars intermediate their length.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL B. GREEN.

Witnesses:

E. EDMONSTON, Jr.,
M. FROTHINGHAM.