J. F. DOUTHAT & S. J. ELLIS.

COMPRESSION BOX.

APPLICATION FILED FEB. 14, 1917.

1,247,941.

Patented Nov. 27, 1917.

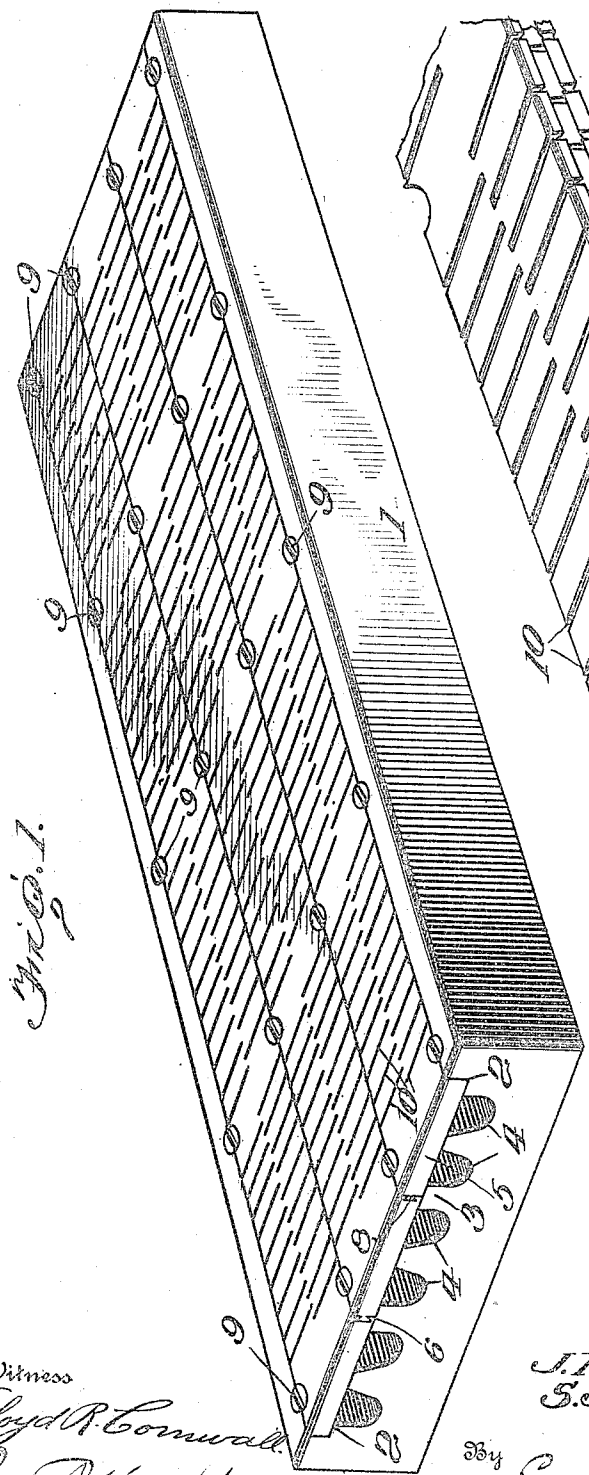


Fig. 1.

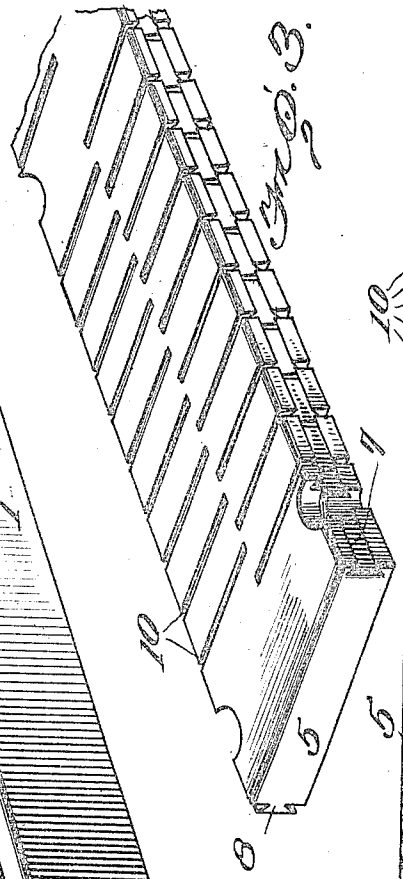


Fig. 3.

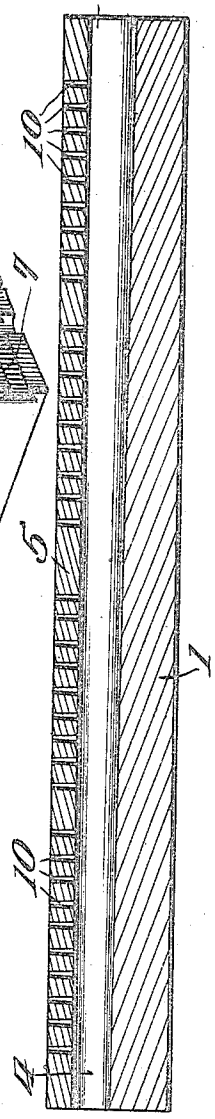


Fig. 2.

Witness

Floyd R. Cornwall.

Inventors

J. F. Douthat and S. J. Ellis.

By E. B. Stocking

Attorney

UNITED STATES PATENT OFFICE.

JOHN F. DOUTHAT AND SAMUEL J. ELLIS, OF MEMPHIS, TENNESSEE; SAID DOUTHAT ASSIGNOR TO SAID ELLIS.

COMPRESSION-BOX.

1,247,941. Specification of Letters Patent. Patented Nov. 27, 1917.

Application filed February 14, 1917. Serial No. 148,671.

To all whom it may concern:

Be it known that we, JOHN F. DOUTHAT and SAMUEL J. ELLIS, citizens of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Compression-Boxes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in compression boxes used in cotton seed oil mills for extracting the oil from the oil meal after it has been properly prepared, the object being to provide a compression box with a series of mat plates provided with slots for allowing a free exit of the oil into the drain ducts of the box so as to eliminate the forming of a vacuum so as to prevent oil from being drawn back into the cake after the pressure is removed and to allow the cake to be readily removed from the box.

Another object of our invention is to provide a compression box which is so constructed that the mat plates are supported on the box in such a manner that the plates are prevented from spreading under pressure and are supported upon a perfect foundation so as to withstand the necessary pressure required for extracting the oil therefrom.

Another object of our invention is to provide a compression box which is exceedingly simple and cheap in construction and one in which the mat plates can be quickly placed in position or removed from the box so as to enable the plate to be repaired if necessary.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings,

Figure 1 is a perspective view of our improved construction of compression box;

Fig. 2 is a longitudinal vertical section through the same; and

Fig. 3 is a detail perspective view of a portion of one of the mat plates.

Like numerals of reference refer to like parts in the several figures of the drawing.

In carrying out our invention we employ a rectangular box 1 which is preferably formed of a solid block of metal or any other suitable material having its upper face reduced to form shoulders 2, the intermediate portion being longitudinally grooved forming parallel ribs 3, the grooves being formed with inclined bottoms to provide parallel drain ducts 4 so as to allow the oil to readily drain from the box as will be hereinafter fully described.

Mounted on the box are a series of longitudinally disposed mat plates 5 herein shown three in number, which have their abutting edges locked together by a dovetail joint as shown at 6, the intermediate plate resting on the ribs and the marginal plates on the ribs and shoulders 2 which prevents the plates from spreading when under pressure. In locking the plates together by a dovetail joint as herein shown, the intermediate or central plate is provided with a longitudinally disposed dovetail groove 7, along one of its edges, and a longitudinally disposed dovetail shaped tongue 8 along its opposite edges which are adapted to receive and fit within the longitudinally disposed tongues and grooves formed along the inner edges of the marginal plates so as to securely lock the mat plates together. The plates are preferably secured in position within the box by screws 9 as clearly shown in Fig. 1, the screws passing through openings formed by notching the edges of the mat plates and the longitudinally disposed side edges of the plate above the shoulders, whereby the marginal edges of the plates are held in set position within the box.

The mat plates 5 are provided with staggeredly arranged slits 10 which extend toward the longitudinal center of the plate from the opposite edges thereof, said slits having their opposing side walls beveled to form tapering slits which terminate at the face of the plate so as to form passages for the oil which prevents the oil from accumulating within the slits and allows a free exit of the oil into the drain grooves which prevents a vacuum from being formed therein.

From the foregoing description it will be seen that we have provided a compression box constructed in such a manner that an exceedingly thin box is provided which increases the capacity of extracting the oil in any press in which it is used, whereby we are able to obtain better results than with prior constructions of boxes used in connection with oil presses.

We claim:

1. A compression box, comprising a body

portion having its upper face reduced to form longitudinal ribs, said reduced portions being provided with longitudinally disposed drain ducts, and a series of interlocking mat plates arranged over said ducts having staggeredly arranged slits.

2. A compression box, comprising a body portion having its upper face reduced to form longitudinally disposed marginal ribs, said reduced portion being provided with longitudinally disposed drain ducts, a series of mat plates arranged over said drain ducts, the edges of said mat plates being interlocked together.

3. A compression box, comprising a body portion having its upper face reduced to form longitudinally disposed marginal ribs, a series of grooves formed in said reduced portion, and a series of mat plates arranged in the reduced portion of said body having their edges interlocked together, said mat plates having staggeredly arranged slits.

4. A compression box, comprising a body portion having its upper face reduced to form longitudinally disposed marginal ribs, a series of parallel drain ducts formed in said reduced portion, a plurality of mat plates arranged in said reduced portions over said drain ducts having slits, said mat plates being provided with dovetail tongue and groove edges interlocked together, and means securing said mat plates in position on said box.

5. A compression box, comprising a body portion having a series of drain ducts formed therein and a series of mat plates arranged on said body portion having staggeredly arranged tapering slits, and means for interlocking the edges of said plates together.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

JOHN F. DOUTHAT.
SAMUEL J. ELLIS.

Witnesses:
H. H. KRONZ,
L. C. RUTLAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."