(Model.)

W. KRUTZSCH.

OIL PRESS MAT.

No. 266,372. Patented Oct. 24, 1882.

Fig. 1.

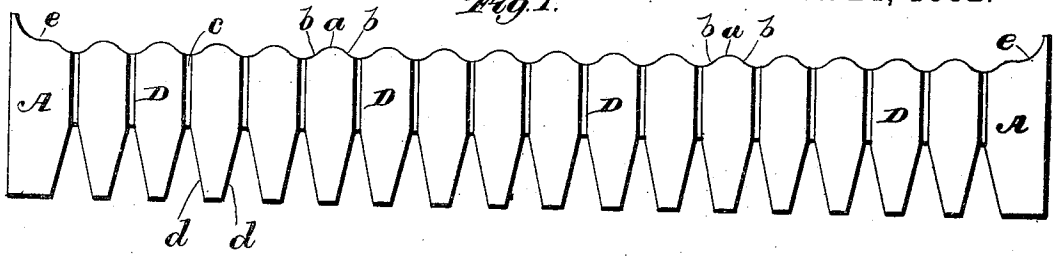


Fig. 2.

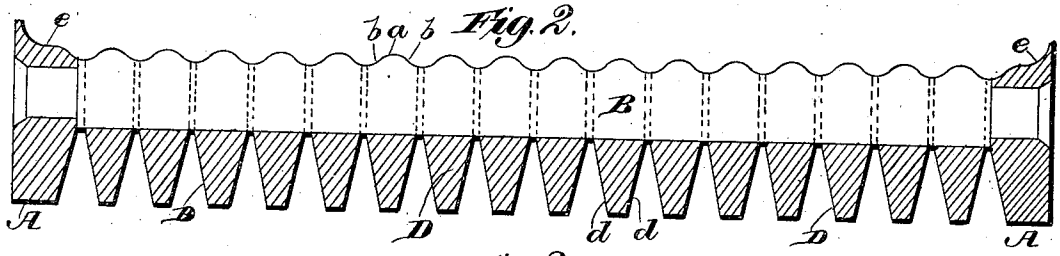


Fig. 3.

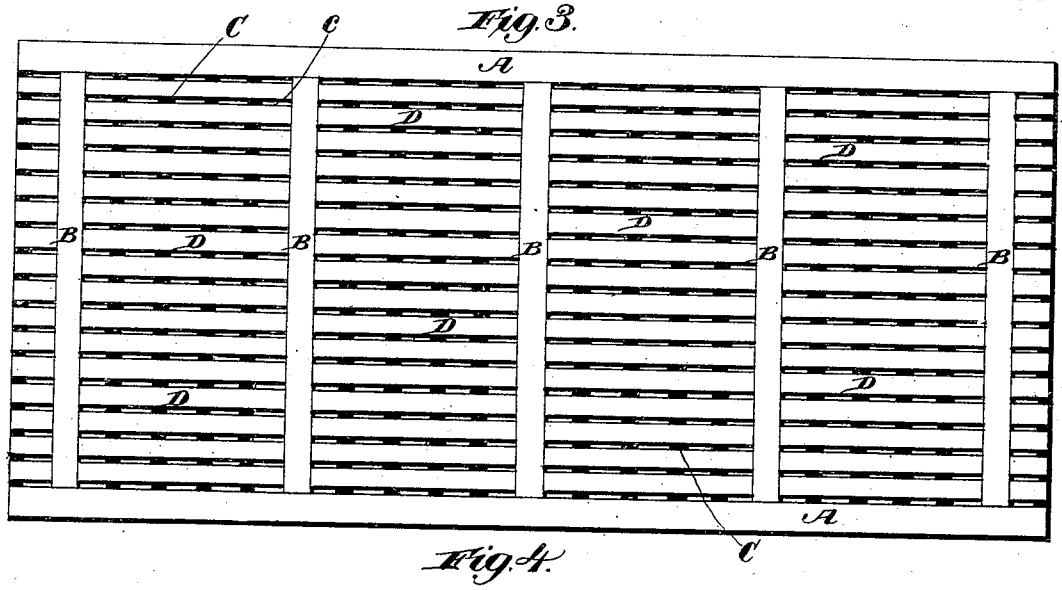


Fig. 4.

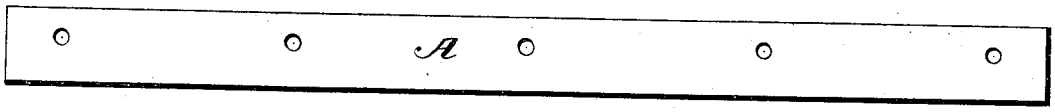
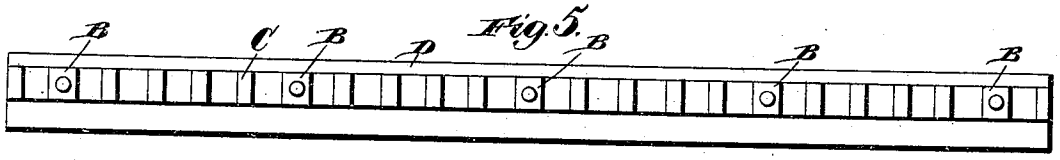


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM KRUTZSCH, OF DAYTON, OHIO, ASSIGNOR TO THE BUCKEYE IRON AND BRASS WORKS, OF SAME PLACE.

OIL-PRESS MAT.

SPECIFICATION forming part of Letters Patent No. 266,372, dated October 24, 1882.

Application filed September 14, 1882. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM KRUTZSCH, a citizen of the United States, residing at Dayton, Montgomery county, Ohio, have invented new and useful Improvements in Oil-Press Mats, of which the following is a specification.

This invention relates to improvements in oil-press mats of that character wherein a series of narrow strips having parallel sides and edges are arranged together, with spacing-blocks interposed between them and all united and held together by transverse tie-rods extending through perforations in the strips and the blocks, and provided at their ends with screw-nuts for clamping all together.

The objects of my invention are to provide an oil-press mat wherein a series of strips are arranged parallel to each other, and so constructed and united together as to present on their upper sides a uniform undulatory surface, all in such manner that every facility is afforded for the free escape of the expressed oil, while the meal or seed cake has imparted to its surfaces an undulatory or wavy character, so that when a large number of such cakes are placed one upon the other ample provision is present for the free circulation of air between the several layers of cakes, whereby they are prevented from overheating and thereby becoming moldy during transportation or otherwise. An oil-press mat which combines in its structure simplicity, strength, and ample provision for the escape of the expressed oil down through the body of the mat itself, combined with means for producing in the surfaces of the mat the undulations or waves mentioned, is of considerable importance in the extensive extraction of cotton-seed oil and the after use of the refuse meal or seed.

I have found that my invention meets every requirement of the trade; and in order that others may make and use the same, I will now proceed to specifically describe its construction and mode of operation, reference being had to the accompanying drawings, in which—

Figure 1 represents an end view of the mat; Fig. 2, a transverse sectional view showing one of the cross-bars used to tie and retain the longitudinal strips in position; Fig. 3, a plan view; Fig. 4, a side elevation; and Fig. 5 a view similar to Fig. 4, with one of the side bars removed,

Similar letters of reference indicate corresponding parts in the several figures.

The letters D indicate a series of narrow strips which are arranged parallel side by side and are spaced by thin washers C, suitably secured in place between the respective strips; but these washers, being simply spacing-blocks, can be formed as a part of the strips. These strips are transversely grooved or recessed at suitable distances along their length to receive transverse rods B, which set into such grooves or recesses of the strips, flush with the upper surfaces thereof, the ends of the rods passing through perforations in the vertical bars A, which constitute the side walls of the mat. The projecting ends of the rods B are upset or riveted, or otherwise secured, in order to tie all the parts firmly and substantially together, and yet permit the mat to yield and adjust itself when subjected to heat and the presser-box, and thereby conform itself to the contour of the mass or cake of cotton or other seed or meal from which the oil is to be extracted. The strips D are each provided at the center of its upper edge with a longitudinal convex ridge, *a*, which uniformly vanishes at or toward each side of the strip in a longitudinal concavity or curvilinear groove or furrow, *b*, so that when a series of such strips are brought together, united, and spaced by the interposed washers C the upper surface of the mat will present alternating grooves or furrows and convex ridges. The strips being slightly separated along their sides by the interposed washers C, it will be obvious that longitudinal slits *c* are provided at the bases of the grooves or furrows for the free escape of the expressed oil. The lower sides of each strip D are beveled or inclined along their length, as at *d*, to approximate a V shape, thereby creating widened longitudinal channels along the under side of the mat, which form a continuation of the slits *c*. The slits created by the spacing-washers are of such narrow width as to preserve the uniformity of the undulatory top surface, and the arrangement and construction is such that when the meal or seed is placed in position between two

mats and subjected to the action of the press not only is the meal or seed cake so formed or fashioned that its surfaces present undulations, waves, or corrugations, but the compressed oil can freely flow downward through the slits *c* in the body of the mat into the wider channels on the under side of the mat.

It will be obvious that by this novel form of the parts every facility is afforded for the free escape of the oil through the mat.

It should be stated that the cross-bars B are fluted, corrugated, or waved on their upper surfaces (see Fig. 2) for the purpose of corresponding to the alternating grooves or furrows and convex ridges provided at the top edges of the strips D, thereby preserving the continuity of the grooves and ridges along the entire length of the mat, as well as preserving the uniform undulatory character of the top surface of the mat in a transverse direction.

The side walls, A, are extended above the plane of the mat proper, and are preferably grooved, as at *e*, so as to retain the meal or seed cake in proper position.

The mat may be heated when in operation by a surrounding hot-water, steam, or air jacket, or otherwise, and is designed to be used in connection with any desired oil press or box, in which it is arranged as a platen—such, for example, as in the press-box forming the subject-matter of a separate application for Letters Patent filed of even date herewith.

In use the meal-cake or crushed seed will be placed in a bag or between two sheets of suitable fabric, and such package is then placed on the upper surface of the mat; but the manner of using this class of devices is so well known and obvious that further explanation is not deemed essential.

The mat described and shown is simple and substantial in structure, it provides every facility for the escape of the expressed oil through its body portion, and it has ample provision for so shaping or fashioning the cake of meal or seed that its surfaces are provided with undulations, waves, or corrugations, so that when a large number of the cakes are placed one upon the other, for transportation or other purposes, a series of air-passages are provided for the free circulation of air, thereby preventing the cakes from overheating and becoming moldy.

What I claim is—

1. An oil-press mat composed of a series of parallel strips transversely grooved or recessed at intervals and having their upper edges constructed to present an alternately grooved and ridged surface, combined with a cross bar or bars arranged in the transverse grooves or recesses, and having their upper edges fluted or fashioned to conform to the longitudinal grooves or furrows and the ridges of the strips, substantially as described.

2. An oil-press mat composed of a series of parallel strips having their upper edges constructed to present an alternately grooved or furrowed and ridged surface, combined with side walls, and cross-bars tying the strips together and secured to the side walls, substantially as described.

3. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening longitudinal slits, and having their upper edges constructed to present an alternately grooved and ridged surface, substantially as described.

4. An oil-press mat composed of a series of parallel strips having their lower sides beveled or inclined to create widened intervening channels, and their upper edges constructed to present an alternately grooved and ridged surface to the mat, substantially as described.

5. An oil-press mat composed of a series of strips arranged parallel to each other, with intervening slits, and their lower sides beveled or inclined, and their upper edges constructed to present alternating grooves or furrows and ridges, substantially as described.

6. An oil-press mat composed of the parallel strips having beveled lower sides and their upper edges constructed to present an alternately grooved and ridged surface, said strips being spaced by washers to form narrow longitudinal slits, combined with the side walls, and the fluted or corrugated cross-bars arranged flush with the upper surfaces of the parallel strips, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

W. KRUTZSCH.

Witnesses:
JAMES L. NORRIS,
JAMES A. RUTHERFORD.