

Feb. 13, 1940.

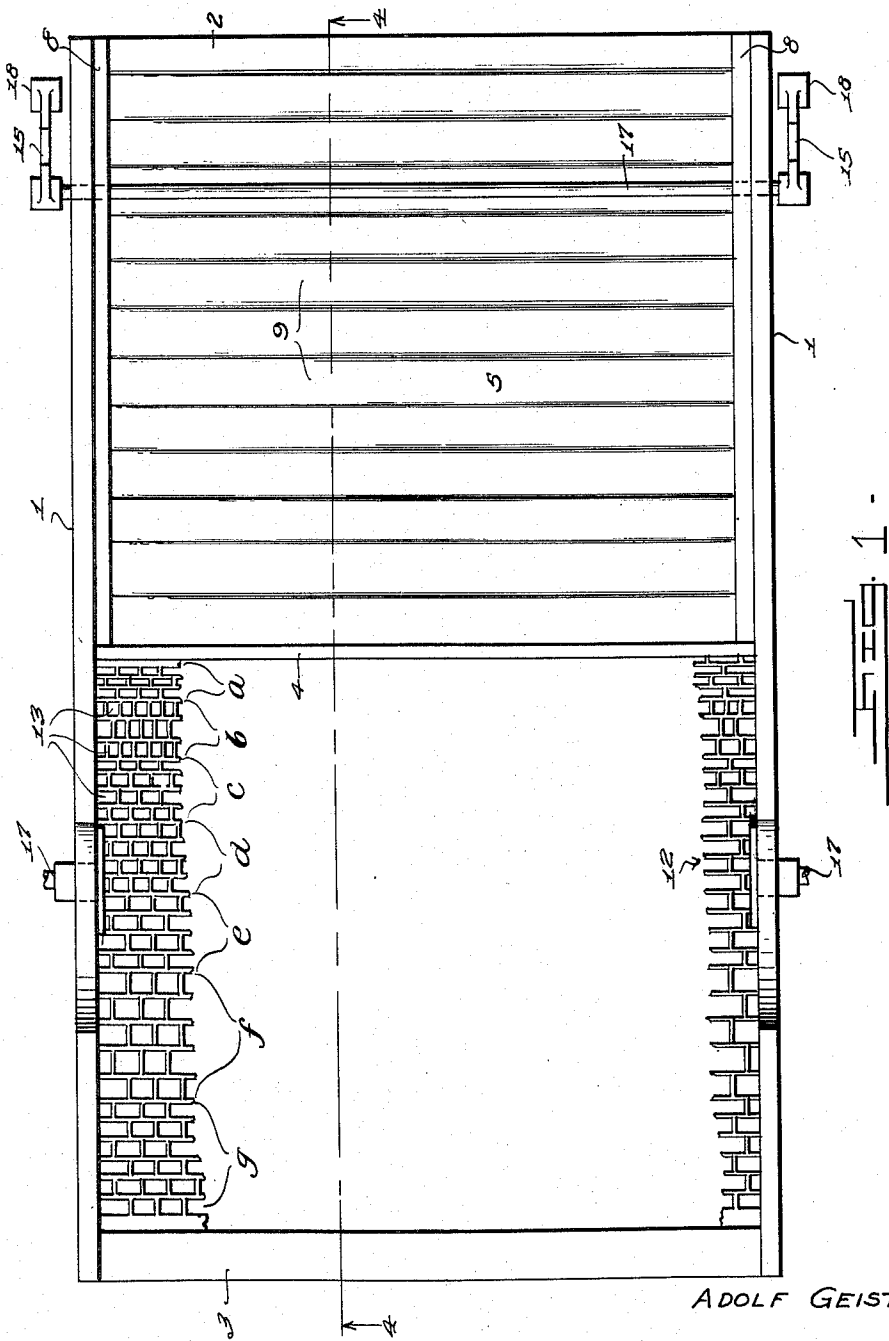
A. GEIST

2,190,262

SHAKER PAN

Filed March 17, 1939

3 Sheets-Sheet 1



Inventor

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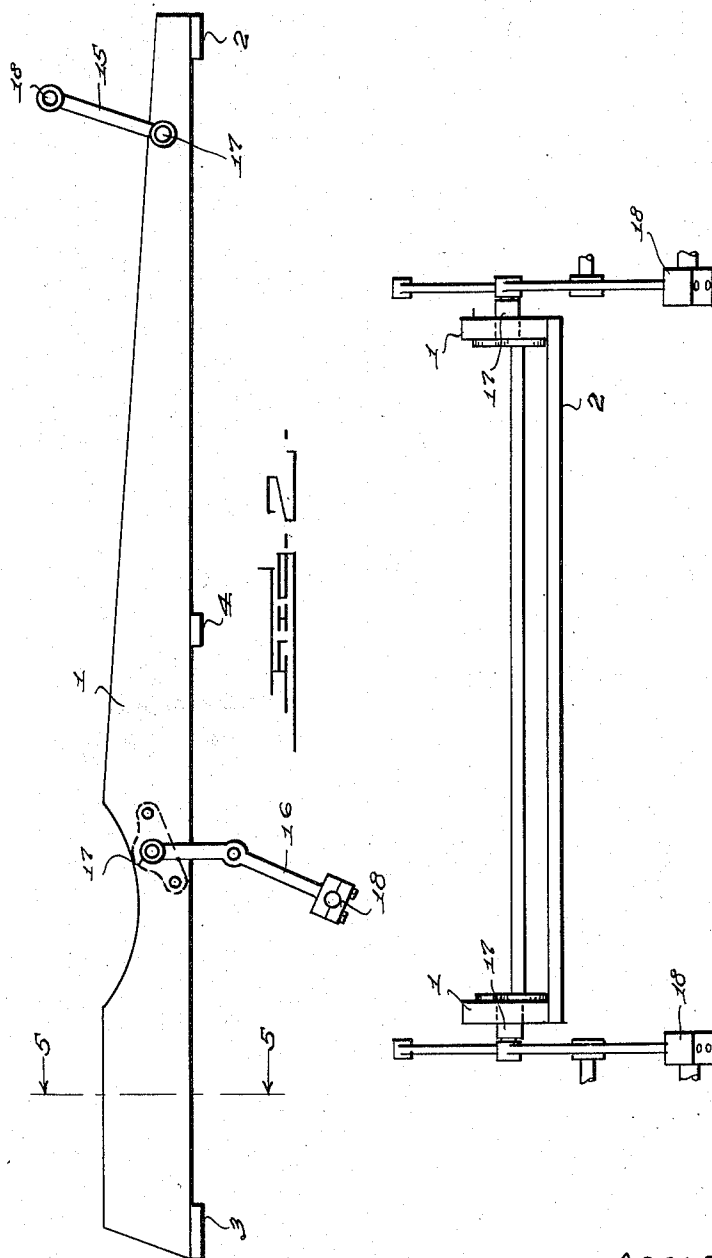
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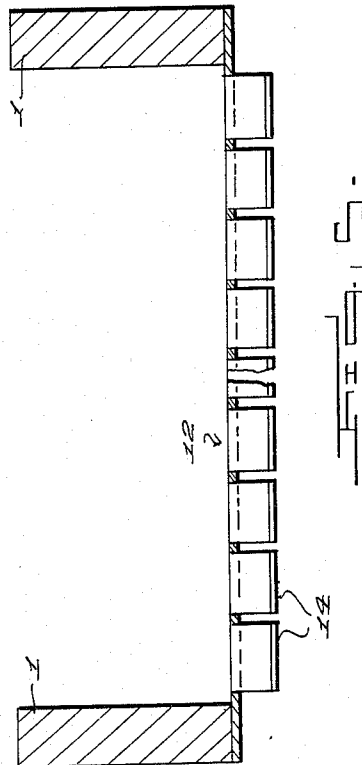
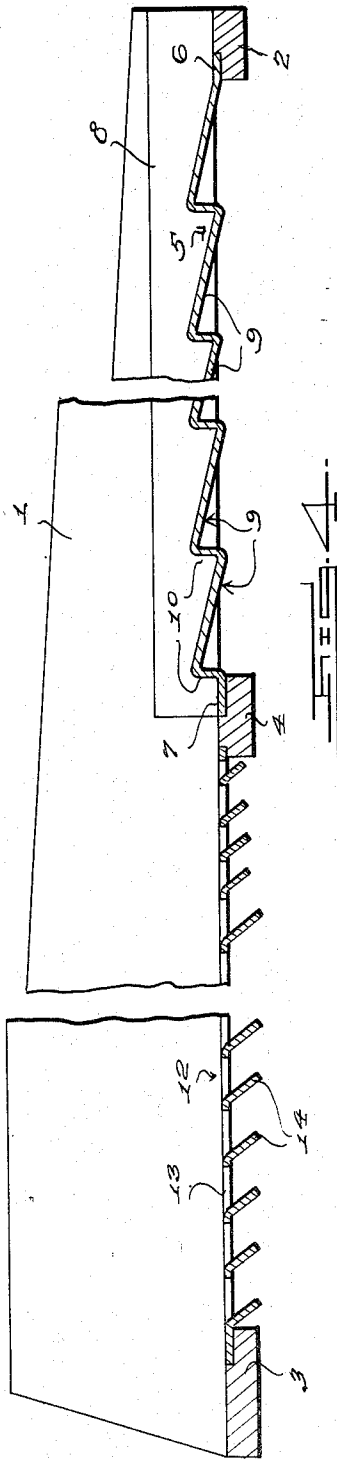
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UNITED STATES PATENT OFFICE

2,190,262

SHAKER PAN

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Application March 17, 1939, Serial No. 262,530

1 Claim. (CL 130—24)

My invention relates to improvements in shaker pans for threshing machines.

The principal object of the invention is to provide an efficient device of the character indicated for use in lieu of the usual return pan of threshing machines beneath the rear end of the usual straw rack to catch grain that falls through said rack together with chaff, separate said grain from the chaff, feed the grain to the grain pan and the chaff to the wind stacker.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawings, set forth in detail in the succeeding description, and defined in the claim appended hereto.

In said drawings:

Figure 1 is a view in top plan of my improved shaker pan in its preferred embodiment.

Figure 2 is a view in side elevation.

Figure 3 is a view in front elevation.

Figure 4 is a view in longitudinal section, partially broken away, and taken on the line 4—4 of Figure 1, and

Figure 5 is a view in transverse section taken on the line 5—5 of Figure 2 looking in the direction indicated by the arrows.

Referring to the drawings by numerals, the shaker pan of my invention includes a rectangular frame structure comprising a pair of side rails 1 connected together by a pair of front and rear end cross bars 2 and 3 and an intermediate cross bar 4 each suitably secured to the under edges of the side rails 1. The rails 1 and bars 2, 3, 4, are preferably formed of wood. The top edges of the side rails 1 preferably slant downwardly from the front to the rear of the frame thereby making the latter higher at the front end than at the rear.

Front and intermediate bars 2, 4 support a plate-like transversely corrugated section 5 of sheet metal having front and rear edges 6 and 7 set into and suitably secured to the tops of said bars and also having side flanges 8 set into the inner sides of the side rails 1. Corrugations of the section 5 are constructed to provide between said bars 2 and 4 ribs 9 on said section of acute angle form in cross section and having short vertical rear walls 10 and oblique webs 11 therebetween.

The rear and intermediate bars 3 and 4 support a plate-like sheet metal riddle, or screen, section 12 punched out to provide transversely extending rows of elongated rectangular apertures 13 closely spaced in each row, the aper-

tures in alternate rows being staggered relative to those in intermediate rows. The rows of apertures 13 may be said to be arranged in successive series there being seven series illustrated and designated from front to rear of the section A, B, C, D, E, F, G, the apertures being graduated in size as regards width in the series and extending lengthwise in some series transversely of said section and lengthwise longitudinally of the section in others and all of said apertures being of the requisite length to permit the heads of the grain to fall therethrough. Preferably the apertures increase in size from the front end of said section 5 to a maximum size, as in series F, and then decrease in size. The described arrangement and variation in size of the apertures 13 facilitates separation of the grain from the chaff and straw. The portions 14 punched from the section 12 to provide the apertures 13 are bent to extend downwardly and forwardly from the rear edges of said apertures, as best shown in Figure 4.

The described shaker pan is provided with front and rear pairs of hangers 15, 16, pivoted, as at 17, to the side rails 1 and having upper bearing ends 18 whereby said hangers may be pivotally mounted, in any desired manner, in the usual threshing machine for oscillation endwise beneath the usual straw rack and by any suitable driving mechanism. Preferably the described shaker pan is of a length to extend beneath the major part of the straw rack.

In the operation of the described pan, the wheat and short straw and chaff, falls from the straw rack onto the section 5, the wheat kernels being fed under oscillation of the pan forwardly to the section 12, whereas, the short straw and chaff are fed forwardly under such oscillation to the wind stacker. Thus the grain is separated primarily on the section 5 from the chaff and short straw. A second separating operation is effected on the section 12, under oscillation of the shaker, the grain falling through the apertures 13 and the apertures 13 of smaller size functioning to sift and separate the grain and chaff, the latter being drawn by suction of the usual stacker into the latter.

Since threshing machines of the type embodying straw racks are well understood in the art, it has not been deemed essential to a clear understanding of the invention to illustrate the screen as applied to such a machine.

The foregoing will, it is believed, suffice to impart a clear understanding of the invention without further explanation.

Manifestly my invention, as described, is susceptible of modification without departing from the inventive concept and right is herein reserved to such modifications as fall within the scope of the subjoined claim.

What I claim is:

A shaker pan for use in threshing machines comprising a rectangular frame having a bottom, hangers on said frame for mounting the same in said machine for endwise oscillation therein, said bottom comprising a plate-like section provided with transversely extending closely spaced series of rows of rectangular elongated apertures therein, long and narrow in some rows and wider in other rows and all of sufficient length to permit the passage of the heads of the grain there-

through, said apertures being disposed lengthwise transversely of the frame in rows in some series and longitudinally of the frame in rows in other series to permit the heads lying crosswise and lengthwise of the section to pass there- through, said rows being arranged to provide multiple row zones or series having apertures therein staggered in the adjacent rows thereof, increasing in width in successive zones through a plurality of zones from a point adjacent the front of the screen to a maximum in one zone, and decreasing in width toward the rear of the screen in successive zones from said zone of maximum size to facilitate separation of the chaff and straw.

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