

(No Model.)

C. CLOSZ.

GRAIN SEPARATING SCREEN FOR THRASHING MACHINES.

No. 532,947.

Patented Jan. 22, 1895.

Fig. 1.

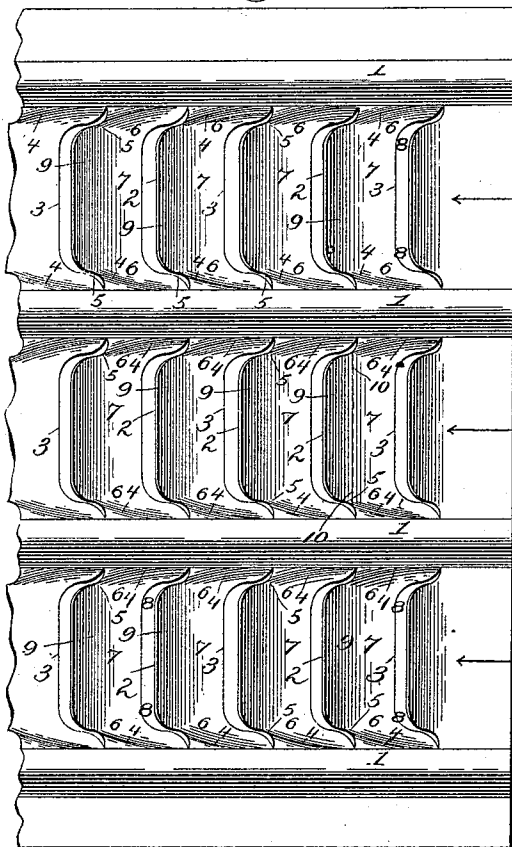
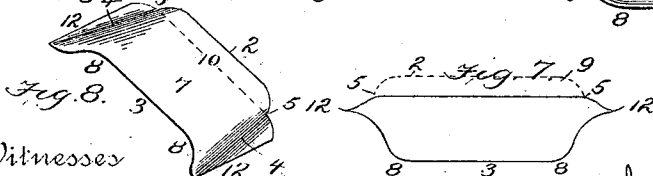
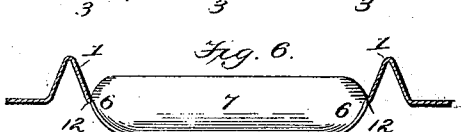
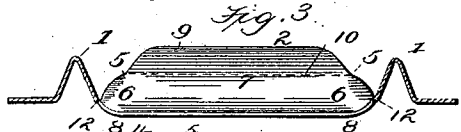
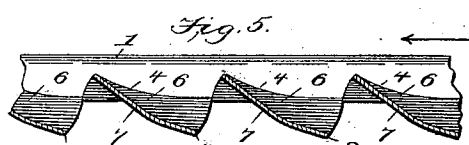
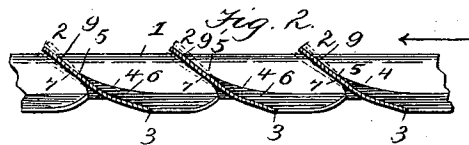
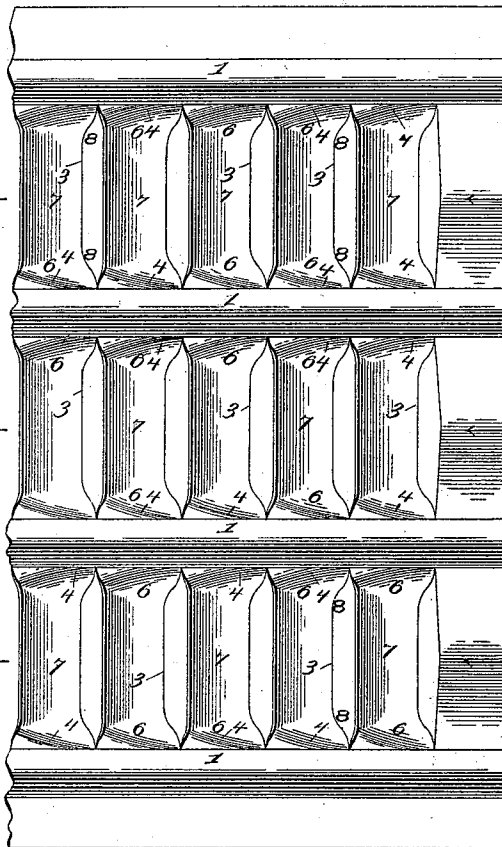


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GRAIN-SEPARATING SCREEN FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 532,947, dated January 22, 1895.

Application filed May 5, 1894. Serial No. 510,163. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CLOSZ, a citizen of the United States, residing at Webster City, in the county of Hamilton and State of Iowa, have invented a new and useful Improvement in Grain-Separating Screens for Thrashing-Machines, of which the following is a specification.

My invention relates to screens which are used for separating the chaff and fine short straws from the grain and also for separating the grain and chaff from the straw in the straw-rack or separating pan, as the thrashed grain and straw passes from the thrashing cylinder.

The separating platform or screen which I have improved is of the lipped type and I have devised a new construction of lipped surface and openings whereby to facilitate the separation and to prevent the choking of the screen and in these particulars I will specifically state my improvements in the claims concluding this specification.

It will be understood by those skilled in the art that my screen when used as a carrier for separating the grain and chaff from the straw, is suitably mounted to receive the thrashed grain and straw from the thrashing cylinder and connected to have an endwise vibrating movement to carry the straw over it and separate and discharge the grain and chaff as it is carried through and out of the machine.

If the screen is to be used for separating the chaff and fine straw from the grain, it is suitably mounted in or immediately above the separating shoe in the thrashing machine, where an air-blast is provided to lift and separate the chaff and fine straw from the grain as it passes upward through the screen toward the delivery end, while the grain passes freely through the openings.

Referring to the accompanying drawings: in Figure 1 the construction embraces a form of lips at the openings adapted for adjustment to suit different kinds of work and shows a portion of the carrier or screen in top view. Fig. 2 is a vertical longitudinal section of the same and Fig. 3 is a transverse section. In Fig. 4 the screen or carrier in part is shown in top view without the adjust-

able feature of the lips; Fig. 5 being a vertical section and Fig. 6 a transverse section of the same. Fig. 7 shows a diagram of the lipped opening. Fig. 8 shows one of the lipped scoop surfaces and its oblique ridges.

Referring to the construction shown in Figs. 1, 2 and 3 the carrier or screen is produced from a sheet of metal with parallel struck-up corrugations 1, 1, the distance between which may be from one and a half to two and a half inches, and the number of corrugations will be governed according to the desired width of the carrier. Between the corrugations parallel transverse openings are formed by cuts approximating the form or shape of a bow and between these cuts the metal is shaped to form a curved scoop, like surface, the highest edge 2 of which is horizontal and stands toward the delivery end of the carrier and about on a level with or slightly below the top or upper edges of the corrugations. The lowest edge 3 of the surface stands below the base plane of the corrugations so that one edge at the cut is raised and the other end is depressed. Contiguous to the corrugations a ridge 4 extends obliquely inward from the base line of the corrugations and terminates at the forward raised edge at 5 so as to form the curved sides 6, 7, of the scoop-surface the lowest edge 3 of which forms a straight horizontal line between the points 8, 8 and below and between the oblique ridges 4 4. I prefer the construction which forms the openings by bow shaped cuts, for separating the chaff from the grain, because it gives the advantage of the lipped extension 9 of the scoop surface, which lip rises from the points 5 5, at which the oblique ridges terminate, as shown by the dotted line 10, Figs. 1 and 3. This lip extension overhangs the opening and can be adjusted to set it higher or lower by bending it along the dotted line.

In Fig. 2 the dotted lines show the adjustment of the lips both above and below their normal positions and such adjustment can be made after the carrier is produced to increase or to diminish the discharge capacity and to direct the air-blast through the openings toward the delivery end of the screen. A construction of the carrier without the adjustable lips, is formed by straight cuts as shown in

Figs. 4, 5 and 6, wherein and whereby is produced the scoop surface formed between the lowest edge 3, the oblique ridges 4, 4 and the dotted line 10. Seen in Fig. 1. In both constructions the openings extend from the base-line of one to the base-line of the other corrugation and gives a large capacity for the free discharge of the grain from the straw and causes or allows the straw to pass over the carrier with the least possible obstruction or the least tendency to clog or lodge in the openings or any part of the carrier. Such construction also forms a very stiff and durable platform. The oblique ridges serve to stiffen the scoop surface and to give a free passage for the straw along the corrugations and they serve, in connection with the latter, to give stiffness and strength to the carrier at the connection of the scoop-surfaces with the corrugations.

The scoop construction of the carrier surface prevents the loading or banking of straw thereon, gives a uniform feed or moving action to the straw, serves to open and loosen it and direct the grain freely down the walls of the scoop-surfaces and the sides of the oblique ridges to the openings.

It is important to notice that in bending the lips to positions above or below their normal positions does not affect the contour of the construction below the dotted line 10, or at the sides adjoining the corrugations.

Referring to Fig. 7 it will be seen that the metal at the cut is opened, one edge being raised above and the other depressed below the base line 12 of the corrugations and that these edges are straight and parallel for a distance corresponding to that between the points 5, 5 at which the oblique edges join the raised edges and from these points the

openings contract to the ends of the cuts, so that the straw is moved with regularity over the straight edges.

I claim as my improvement—

1. A sheet metal grain separating platform or screen having parallel corrugations and between them rows of transverse openings, one edge of which is raised directly above the other, the surfaces between the openings forming a sloping concave bounded at each end by an inward standing oblique ridge making a scoop-like depression within said edges and ridges, substantially as described.

2. A sheet metal platform or screen for separating grain, having parallel corrugations and between them rows of transverse openings, one edge of which is raised directly above the other, the surfaces between the openings forming a scoop-like depression sloping to the rear and terminating at the upper edge in a lip extension adapted for adjustment to raise or to lower its upper edge in relation to and without changing the contour of the scoop-like surface, substantially as described.

3. A corrugated sheet metal platform or screen for separating grain, having rows of transverse openings, between the corrugations, one edge of each opening being directly above the other, ridges between the openings extending from the ends of one opening obliquely inward terminating at the raised edge, the surface having a scoop-like depression between the ridges sloping to the rear and having a lip extension rising from the upper ends of said oblique ridges, for the purpose stated.

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Witnesses:

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