(No Model.)

G. A. ROBERTS.

CONCAVE FOR THRASHING MACHINES.

No. 320,700. Patented June 23, 1885.

Fig. 1

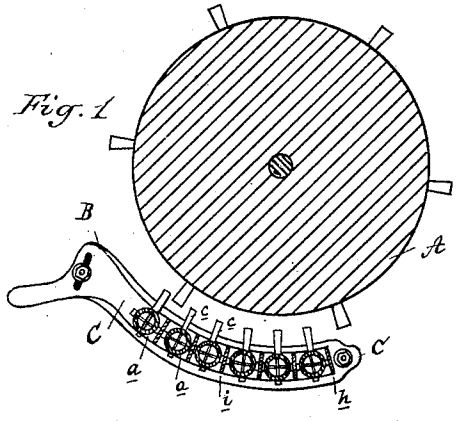


Fig. 2

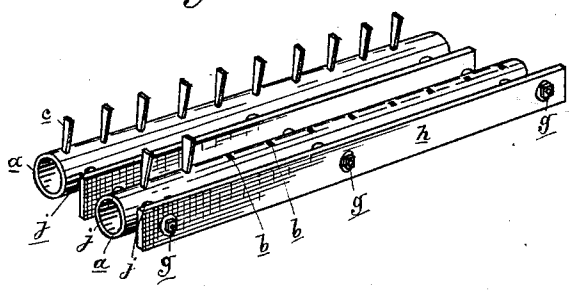
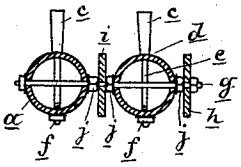


Fig. 3



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UNITED STATES PATENT OFFICE.

GEORGE A. ROBERTS, OF THREE RIVERS, MICHIGAN.

CONCAVE FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 320,700, dated June 23, 1885.

Application filed November 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. ROBERTS, of Three Rivers, in the county of St. Joseph and State of Michigan, having invented new and useful Improvements in Concaves for Thrashing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of what are ordinarly termed "concaves" for thrashing-machines, by means of which great facilities are offered for discharging the grain which has separated from the straw by the immediate action of the cylinder through throats or discharges formed in such concave adapted to discharge such grain into the separating-pan below.

The invention consists in the peculiar construction of the concave, whereby as much as possible of the wheat is separated from the straw immediately upon the thrashing operation, so as to lessen the work of the straw-shaker, and the quantity of grain wasted by being passed over to the stacker, all as hereinafter more fully described and claimed.

Figure 1 is a cross-section through the concave and its cylinder. Fig. 2 is an enlarged perspective detail of a section of the concave. Fig. 3 is an end elevation of the same.

In the accompanying drawings, which form a part of this specification, A represents the cylinder, and B the concave. This concave is composed of a series of hollow tubes, *a*, provided with apertures *b*, which are coincident with like apertures immediately opposite in the other side of the tubes. *c* are the teeth, having a service projection terminating in shoulders *d* to rest against the face of the cylinder, and also having a bolt, *e*, which passes through both the coincident apertures described, and is secured upon its free end by means of a nut, *f*. These tubes are arranged side by side, as shown in Fig. 1, in heads C, there being one of the latter at each end of the tubes, this head is curved to conform at least partially to the shape of the cylinder A. The tubes are secured together by a series of bolts passing through them and through the end plates, *h*, and the dividing-plates *i*. One or more of such dividing-plates are placed between each pair of such tubular bars. In order to maintain a proper space between each two of these tubular bars, and between each of the tubular bars and the dividing-plates, collars *j* are interposed upon the bolts between the parts, as shown in Figs. 1, 2, and 3, these spaces or openings forming throats through which the grain which is ejected from the hulls by the direct action of the cylinder may pass to the separating-pans below without being carried, as has heretofore been the case, over the rear end of the concave to the separating mechanism in the separating-chamber of the machine. Where but one dividing-plate is used the space between the periphery of the tubular bar, on a line with the top of said plate, is wider than it is half-way down the plate, thereby forming above a throat to receive the kernels of grain, and below the center a spout to discharge the same. Where two or more of these plates are interposed between the tubular bars carrying teeth, they are separated from each other by similar collars, J, and the upper edges of these bars, when so interposed between said bars, would form additional points of resistance to the action of the teeth of the cylinder.

I am aware of the Patent No. 247,962, and make no claim to the construction shown therein as forming part of my invention.

What I claim as my invention is—

A concave for thrashing-machines, comprising a series of hollow cylindrical bars, each carrying teeth on the apex or highest point of its surface, in combination with the dividing-plates *i* and collars *j*, interposed between said plates and the points of nearest approach of the bars thereto, and the tension-bolts *g*, passing through said bars, collars, and plates, substantially as and for the purpose specified.

GEORGE A. ROBERTS.

Witnesses:

F. J. FRENCH,

J. D. SALSIG.