W. C. LEONARD.

FEEDER FOR GRAIN SEPARATORS.

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1,067,355. Patented July 15, 1913.

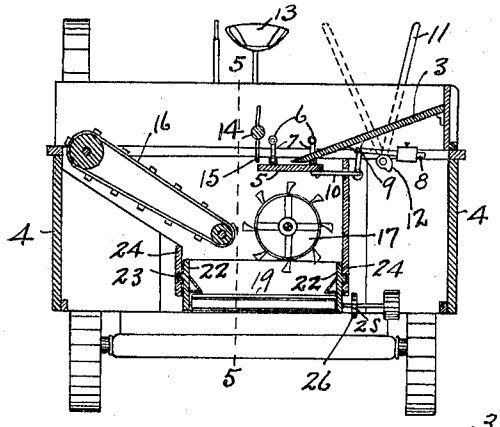


Fig. 1

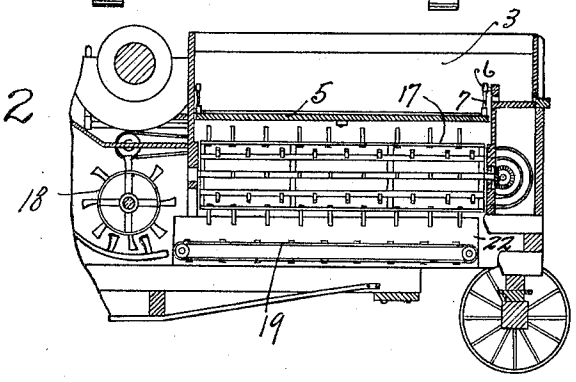


Fig. 2

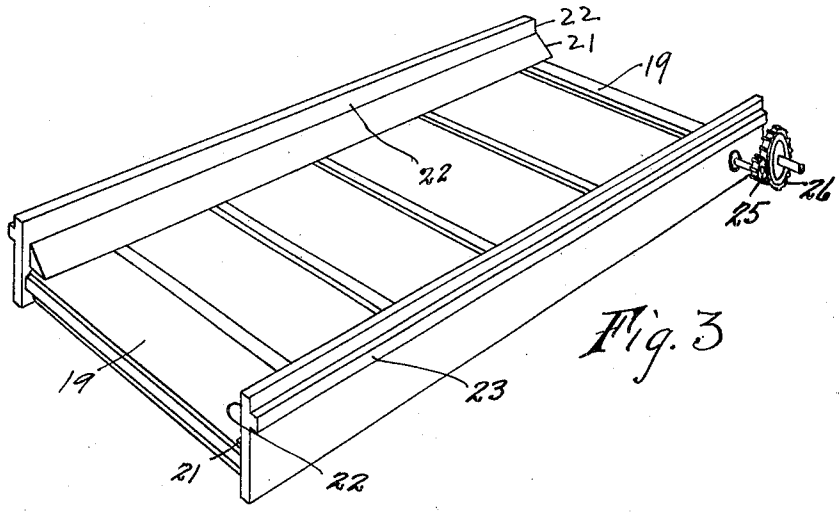


Fig. 3

WITNESSES

Harold Scantlebury.

Harry W. Smith

BY

INVENTOR

William Clyde Leonard

Herbert E. Smith

his ATTORNEY

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM CLYDE LEONARD, OF WALLA WALLA, WASHINGTON, ASSIGNOR TO INLAND AUTOMATIC THRESHER AND MACHINERY CO. LTD., OF POST FALLS, IDAHO, A CORPORATION OF IDAHO.

FEEDER FOR GRAIN-SEPARATORS.

1,067,355. Specification of Letters Patent. Patented July 15, 1913.

Application filed June 20, 1912. Serial No. 704,757.

To all whom it may concern:

Be it known that I, WILLIAM CLYDE LEONARD, a citizen of the United States, residing at Walla Walla, in the county of Walla Walla and State of Washington, have invented new and useful Improvements in Feeders for Grain-Separators, of which the following is a specification.

My invention relates to improvements in feeding apparatus for grain separators and has for its object the provision of feeding means arranged and adapted to supply the grain in uniform quantities to the main separating cylinder of the threshing machine.

A further object of my improved apparatus is to separate the grain so as to prevent the same from being fed to the main separator in bunches or bundles thereby insuring more uniform and efficient action of the usual threshing mechanism.

My invention will be more fully described in connection with the accompanying drawing and will be more particularly pointed out in and by the appended claims.

In the drawing: Figure 1 is a transverse sectional view of a threshing machine showing one embodiment of my invention in connection therewith. Fig. 2 is a longitudinal sectional view on lines 2—2 of Fig. 1. Fig. 3 is a perspective view of one of the conveying devices embodied in my invention.

Like characters of reference designate similar parts throughout the different figures of the drawings.

The device of my invention is illustrated in the accompanying drawing as built onto or in one structure with a threshing machine, and while I find this arrangement convenient and practical, still, I do not wish to be limited to the arrangement shown in the drawing as the device of my invention could be effectively utilized as a separate structural entity which could be disposed and arranged to deliver to the threshing machine.

Referring more particularly to Figs. 1 and 2, my invention as shown includes a hopper-like structure provided with converging sides formed by supporting mechanisms 3 and 16, one side thereof being provided with one set of mechanism which is adapted to co-act with another set of mechanism on the opposite side. Referring more specifically to the construction, a receiving board 3 is mounted on one of the side walls 4 and is inclined downwardly in a manner to deliver to a feed table 5. The feed table 5 may be conveniently suspended from pivots 6 by links 7 to afford proper adjustment of the table whereby the throw or feed of the material may be regulated. One manner of adjustment of this table may consist of mounting a weighted bell crank lever 8 on a pivot 9 and connecting the bell crank lever 8 by a link 10 with the feed table. A lever 11 may be provided with a cam 12 for raising or lowering the weighted end of the lever 8 to cause horizontal movement of the table 5, to the desired extent. The lever 11 is disposed in convenient reach of the operator's seat 13.

When the grain reaches the table 5 it comes within the range of a revolving picker 14, having teeth 15, and is discharged upon a conveyer 16, of any well-known construction. The grain is delivered by the conveyer 16 to a distributing cylinder 17 which divides or separates any bundles or bunches of grain so as to disperse the same prior to delivery to the threshing cylinder 18. A final conveyer 19 delivers the grain from the cylinder 17 to the threshing cylinder 18 where it is acted upon in the usual manner, my invention residing in the preliminary manipulation of the grain prior to the action thereon by the threshing cylinder 18.

The conveyer 19 may comprise the usual form of belt, with slats 20, and I preferably provide guards 21 which overhang the conveyer belt so as to prevent loss of loose grain and also to prevent clogging of the stalks at the sides of the conveyer. This conveyer is mounted upon a frame comprising side walls 22 having suitable cleats 23 adapted to fit into correspondingly shaped recess portions of the frame 24. By means of this construction the conveyer 19, as a whole, can be withdrawn in the manner of a sliding draw.

The driving connections whereby the several devices are operated do not constitute a feature of my invention and may be arranged in any manner convenient to the form of mechanism to which my invention applies. As shown, 25 is the driving pinion for the conveyer 19 and the same is adapted to mesh with a pinion 26 which may be driven in any suitable manner.

It will be seen that the grain, in stalk, may be fed to the receiving board 3 in bulk in any desired quantities, preferably in access of the normal capacity of the machine at a greater portion of the time, and that the final feed to the threshing cylinder 18 will be constant and appreciably at the maximum capacity.

It is one of the features of my invention that the grain fed in bulk on the board 3 will be advanced to the conveyer 16 whereupon its direction of feed will be reversed. When the grain in stalk reaches the conveyer 19, its direction of feed will again be changed in its passage to the threshing cylinder 18. This change in the direction of feed of the grain serves to facilitate separation thereof into a loose mass so that the action of the main separating cylinder thereon is substantially uniform at all times. In prior devices when the threshing cylinder is overfed, the resultant clogging reduces the speed of the threshing mechanism and impairs efficiency. On the other hand, where the feeding is under capacity, the threshing mechanism speeds up, because of relief of its load, temporarily, and the high speed of the parts prevents thorough separation.

With my improved apparatus it will not be necessary to depend upon expert feeding on the grain in stalk on the board 3.

I claim:—

1. In combination, a threshing cylinder, a hopper shaped apparatus adapted to receive the stalks in bulk and comprising a receiving board, a feed table in receiving proximity to said board, a revolving picker discharging the grain from said table, a distributing cylinder, a conveyer carrying the grain discharged by said picker to said distributing cylinder, and a conveyer carrying the grain from said distributing cylinder to said main separator, substantially as described.

2. In combination, a threshing cylinder, a hopper shaped structure comprising a downwardly inclined receiving board and a feed table in receiving proximity to said receiving board, means for adjusting said feed table to control the throw or point of feed of the grain therefrom, a revolving picker which discharges the grain from said table, a distributing cylinder below said table, a conveyer carrying the grain discharged from said table to said distributing cylinder inclined downwardly in opposite direction to the direction of inclination of said board, and a slidably mounted adjustable conveyer for carrying the grain from said distributing cylinder to said threshing cylinder, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM CLYDE LEONARD.

Witnesses:
S. V. DAVIES,
GEORGE W. THOMPSON.

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