No. 824,720. PATENTED JULY 3, 1906.

C. HUNNICUTT.

CORN GRADER.

APPLICATION FILED JULY 28, 1905.

Fig. 1.

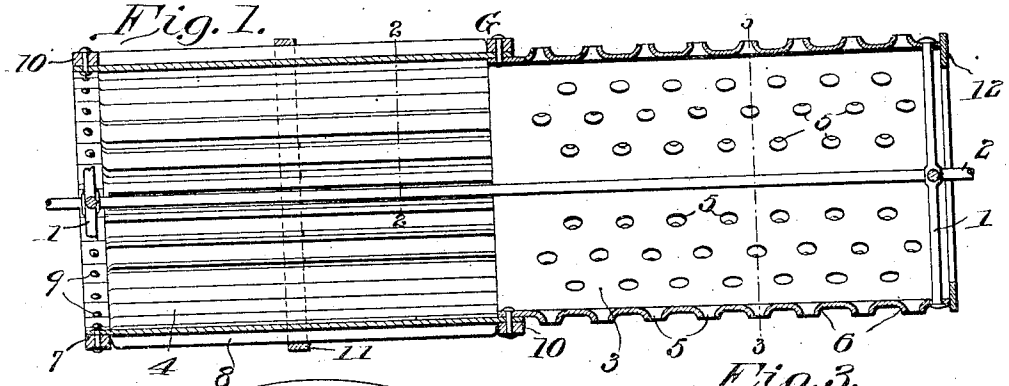


Fig. 2.

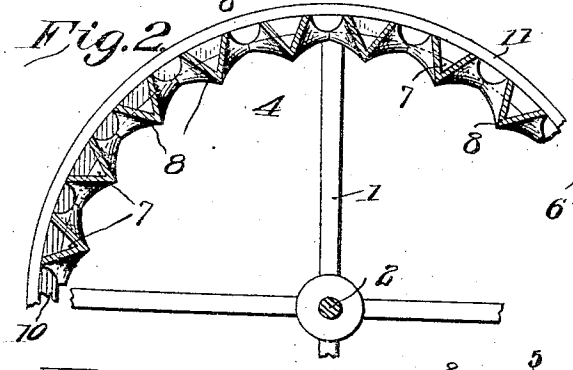


Fig. 3.

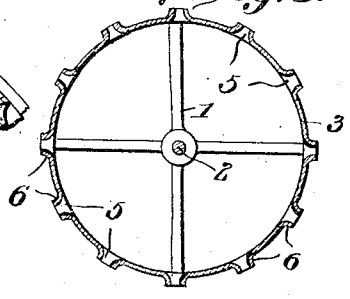
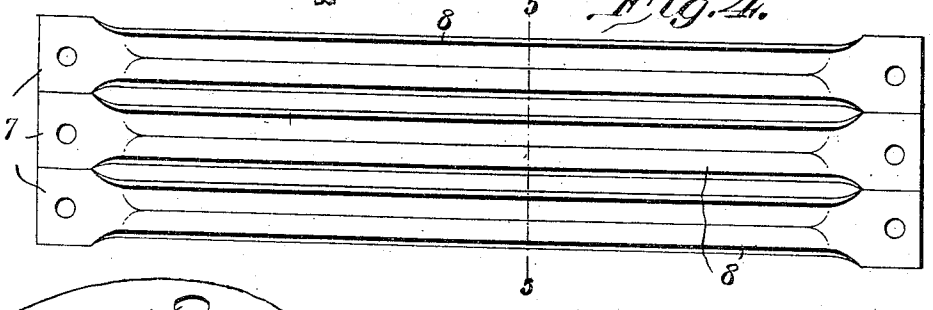


Fig. 4.



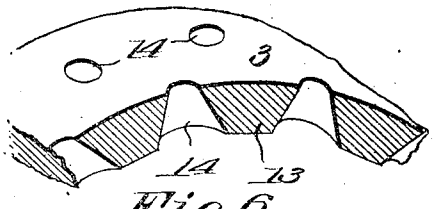


Fig. 6.

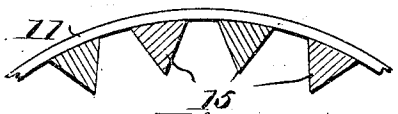


Fig. 7.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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CORN-GRADER.

No. 824,720. Specification of Letters Patent. Patented July 3, 1906.

Application filed July 28, 1905. Serial No. 271,674.

To all whom it may concern:

Be it known that I, CHARLES HUNNICUTT, a citizen of the United States, residing at Wilmington, in the county of Clinton and State of Ohio, have invented a new and useful Corn-Grader, of which the following is a specification.

This invention relates to devices for grading corn with a view of obtaining those grains which by reason of their size and shape are specially adapted to be used as seed-corn, said grains being separated not only from the grains which are rejected on account of lacking in size, but also from such grains as are considered defective on account of uneven and irregular shape, although their size may not be objectionable.

The object of the invention is to present a grading-screen whereby the objects above referred to may be attained and which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a longitudinal sectional view of a grading-screen constructed in accordance with the principles of the invention. Fig. 2 is a transverse sectional view taken on the plane indicated by the line 2 2 in Fig. 1. Fig. 3 is a transverse sectional view taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a detail plan view showing several of the ribs of the lower part of the grading-screen enlarged. Fig. 5 is a sectional detail view taken on the plane indicated by the line 5 5 in Fig. 4. Figs. 6 and 7 are detail views illustrating modifications.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The improved grading-screen is preferably cylindrical in shape, and it is supported, by means of spiders 1, upon a shaft 2, which is in practice suitably mounted for rotation in a slightly-inclined position, as indicated in Fig. 1 of the drawings, the bearings for the shaft having, however, been omitted.

The grading-screen G is composed of two separate members, which will be designated as the "sieve" 3 and the "grader" 4. Under the preferred construction (illustrated in Fig. 1) the sieve consists of a sheet-metal cylinder provided with a plurality of apertures 5, which are struck up in an outward direction by proper tools or dies, whereby said apertures shall be formed of regular size and each surrounded by a tapering or funnel-shaped annular wall 6, the outer extremity of which determines the size of the largest seed that shall be permitted to pass through. The struck-up apertures may thus be described as being outwardly beveled or tapering, so as to form funnels that will guide the smaller seeds through said apertures, the larger seeds being retained within the sieve and permitted to pass from the latter into the next or grading compartment of the device.

The grading-compartment is made up of a plurality of sheet-metal strips bent to approximate V shape, and the extremities of said strips being flattened, as will be clearly seen at 7 in Fig. 4 of the drawings, where the individual strips have been designated 8. The flattened end portions 7 serve to space the individual ribs apart, and a plurality of said ribs may be assembled and connected in any desired manner, as by means of rivets 9, to hoops or bands 10 10, the flattened ends of the ribs being preferably secured upon the inner sides of said hoops and the ridges of the ribs being faced in the direction of the shaft or axis of the cylinder. The edges of the ribs are spaced apart a distance suitable to the size of corn to be graded, so that flat grains of regular shape or contour may escape through the outwardly-tapering slots existing between the edges of said ribs. Coarse and irregular-shaped grains will escape over the discharge end of the grader.

The ribs constituting the grading portion 4 of the device may be reinforced, as by an annular band 11. Rivets, bolts, or other fastening means may be employed to connect the grading member 4 with the sieve 3, which latter is introduced into the upper end of the grader, as will be clearly seen in Fig. 1 of the drawings.

The sieve is provided at its upper end, which constitutes the feed or receiving end of the device, with an annular flange 12. The discharge end at the lower end of the grader is unobstructed.

The operation of this device will be readily understood. The corn which is to be graded is introduced at the upper end of the sieve 3, and the device is then rotated, thus permitting the small and round seeds to escape through the apertures 5. The larger grains will pass into the grader-compartment 4, where the smooth, flat, and regular-shaped grains will escape between the ribs 8 to be saved for seed-corn, while the grains of irregular shape, which tail over the end of the grader, will be discarded for seeding purposes.

In the operation of the device such seeds as prove to be too large to pass through the respective openings will be in little danger of settling in and obstructing said openings, but will readily drop back into the screen as the rotation of the latter progresses.

Instead of constructing the device of sheet metal, as in Figs. 1 to 5, inclusive, the sieve portion of the screen may be constructed of wood or other suitable material and having walls of proper thickness, as indicated at 13 in Fig. 6, said walls being provided with tapering or funnel-shaped perforations 14. When this construction is resorted to, the grader portion of the device may be formed of solid triangular ribs, as indicated at 15 in Fig. 7. These modifications have been introduced merely to emphasize the fact that I do not regard myself as limited to the precise construction illustrated in Figs. 1 to 5, and I desire it to be understood that various other changes may be made within the scope of the invention.

By the use of this improved device superior seed-corn may be readily selected from the average run of corn which is found upon every ear. The device, as will be seen, is extremely simple and may be successfully operated by any farmer who desires to profit by the selection of seed.

Instead of being cylindrical, as herein described, the improved grading device may be square or polygonal in cross-section. It is also to be understood that instead of forming and mounting it as a cylinder it may be in the nature of a trough supported for oscillation.

Having thus described the invention, what is claimed is—

1. A corn-grading device consisting of a cylindrical drum supported for rotation in a slightly-inclined position; the upper portion of said drum being provided with outwardly-tapering apertures and the lower portion of said drum comprising a plurality of approximately V-shaped spaced slats.

2. In a corn-grader, a cylindrical sieve having outwardly-tapering apertures and a cylindrical grading-screen comprising a plurality of approximately V-shaped spaced ribs assembled and connected within hoops disposed exteriorly at the ends of the ribs; said cylindrical sieve being introduced into and secured within the upper end of the cylindrical rib portion.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHAS. HUNNICUTT.

Witnesses:
THOS. L. COOKSEY,
JOSEPH NOON.