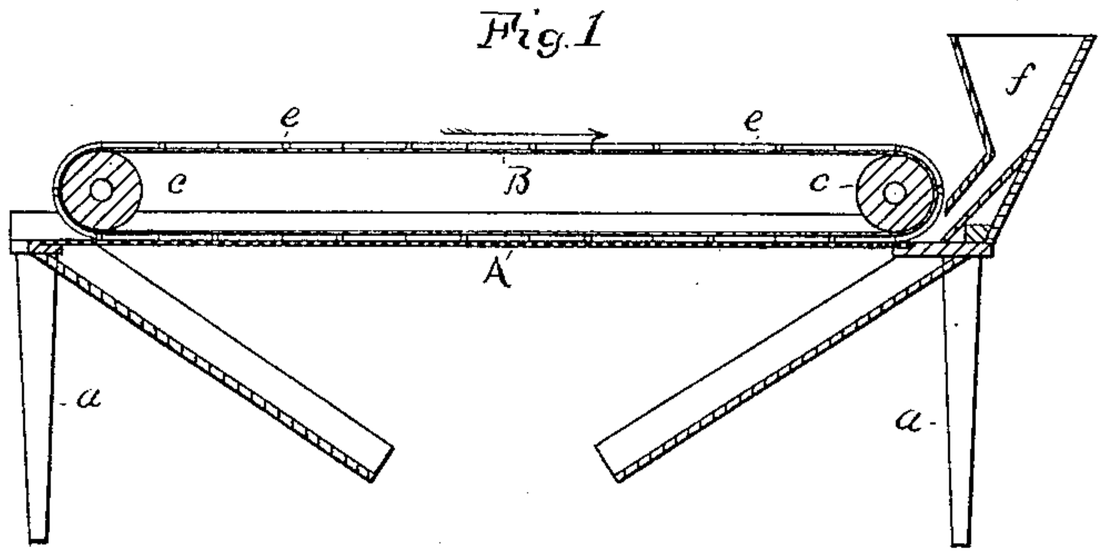
(No Model.)

M. D. BEARDSLEE.

GRAIN GRADER.

No. 353,658. Patented Dec. 7, 1886.

Fig. 1



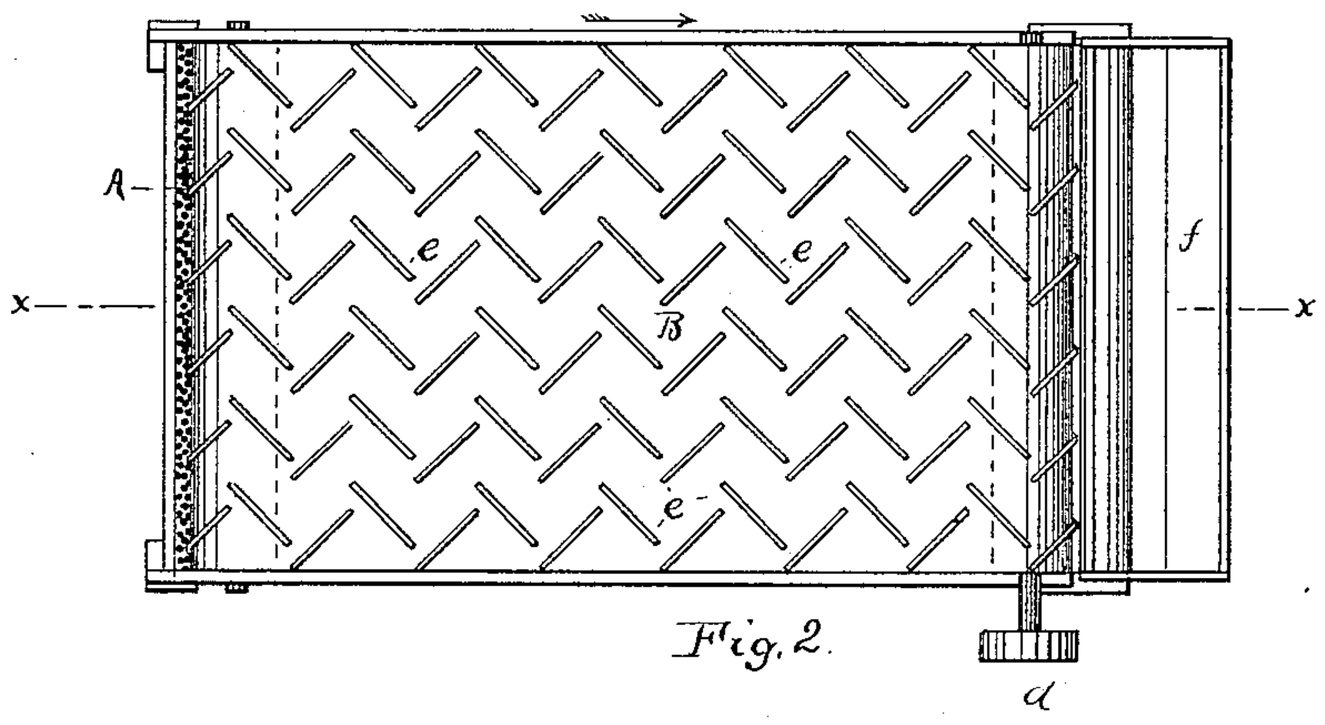


Fig. 2.

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UNITED STATES PATENT OFFICE.

MARCUS D. BEARDSLEE, OF MINNEAPOLIS, MINNESOTA.

GRAIN-GRADER.

SPECIFICATION forming part of Letters Patent No. 353,658, dated December 7, 1886.

Application filed March 17, 1886. Serial No. 195,497. (No model.)

To all whom it may concern:

Be it known that I, MARCUS D. BEARDSLEE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Grain-Graders, of which the following is a specification.

My invention relates to machines for separating and grading wheat or other grains into grades or sizes.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a vertical section of the machine on the line *x x* of Fig. 2, and Fig. 2 is a top view of the machine.

A is a grain-screen of ordinary construction, either of wire or perforated metal, held in a frame and supported on legs *a*, and in horizontal or inclined position, as desired.

B is an endless belt or apron for sweeping the screen, and is carried by rollers *c*, mounted in bearings at the sides of the frame and driven by a pulley, *d*. On the outer surface of the apron are strips *e*, of leather or other suitable material, preferably of a flexible nature, secured to the apron by rivets, or in any desirable manner; and the apron is arranged so that the lower portion will move near the screen and its strips sweep the surface of the screen. By preference the strips *e* are arranged at about right angles to each other and at angles oblique to the direction of the apron's movement, and in interlapping rows extending longitudinally along the apron, so that in sweeping the screen they will move the grain along in irregular or zigzag courses.

The grain is fed upon the screen through a hopper, *f*, and is taken by the apron-strips *e* and carried along by them over the screen. The strips being set at oblique angles to the apron's movement allow the grain to slide along the strips as it is being shoved along by them, until it passes from their ends and is caught by the next following strips set in an opposite angular position. Thus the mass of grain fed upon the screen is divided into small portions, which are carried along in zigzag courses, so that all particles of the mass may be brought in contact with the screen.

The screen may have any desirable form or size of perforations to permit grains to pass through that are of less size than the desired grade; but it is obvious that with only one screen with perforations of uniform size there would be but one division or grading of the grain, and it is likewise apparent that if further grading is desired it can be effected by successive graduated screens and aprons such as described.

What I claim, and desire to secure by Letters Patent, is—

In a grain-grader, the combination, with a screen, of an endless moving apron provided with series of strips arranged at angles oblique to the direction of the apron's movement, whereby grain on the screen is swept forward in zigzag courses, substantially as and for the purpose set forth.

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