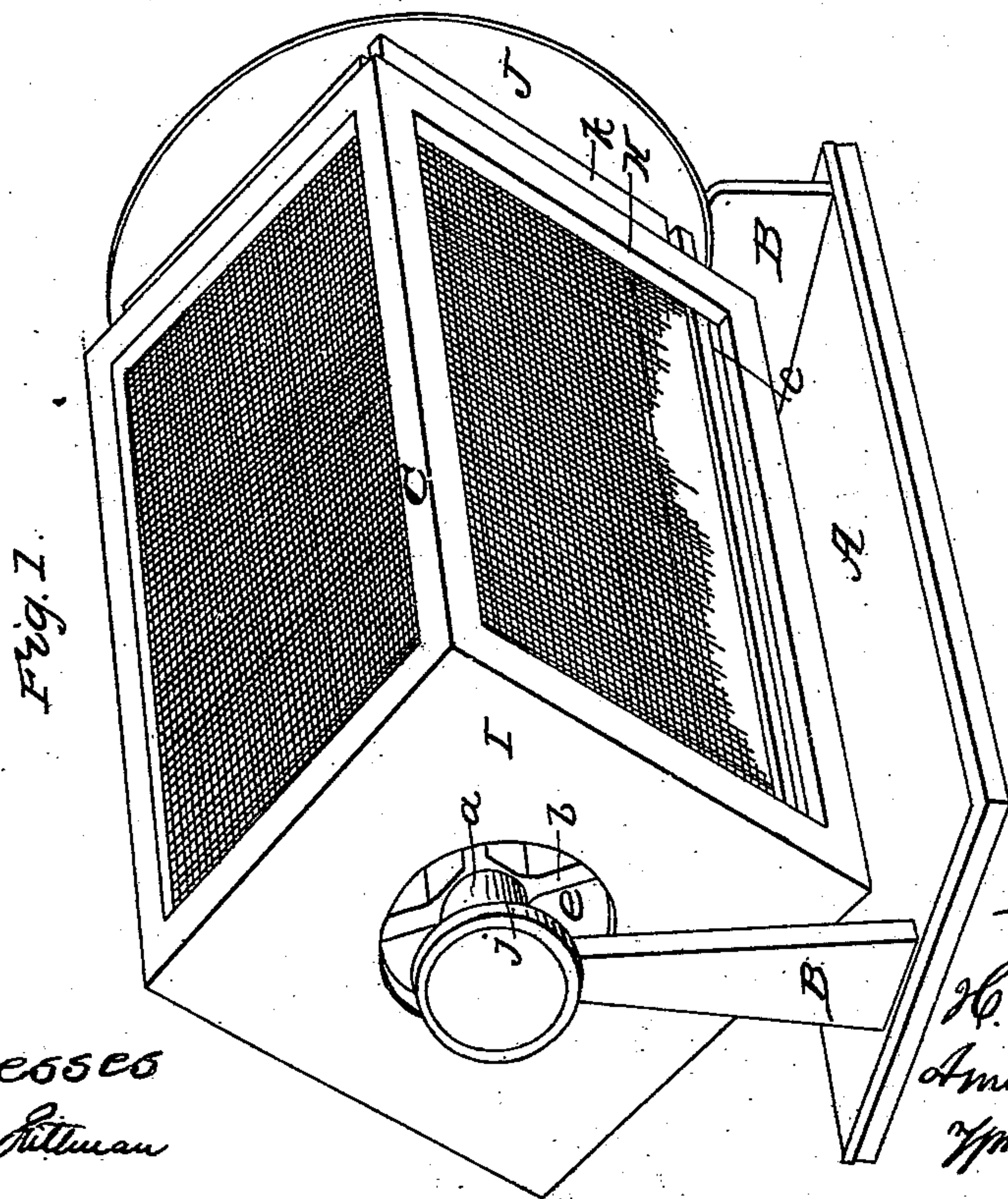
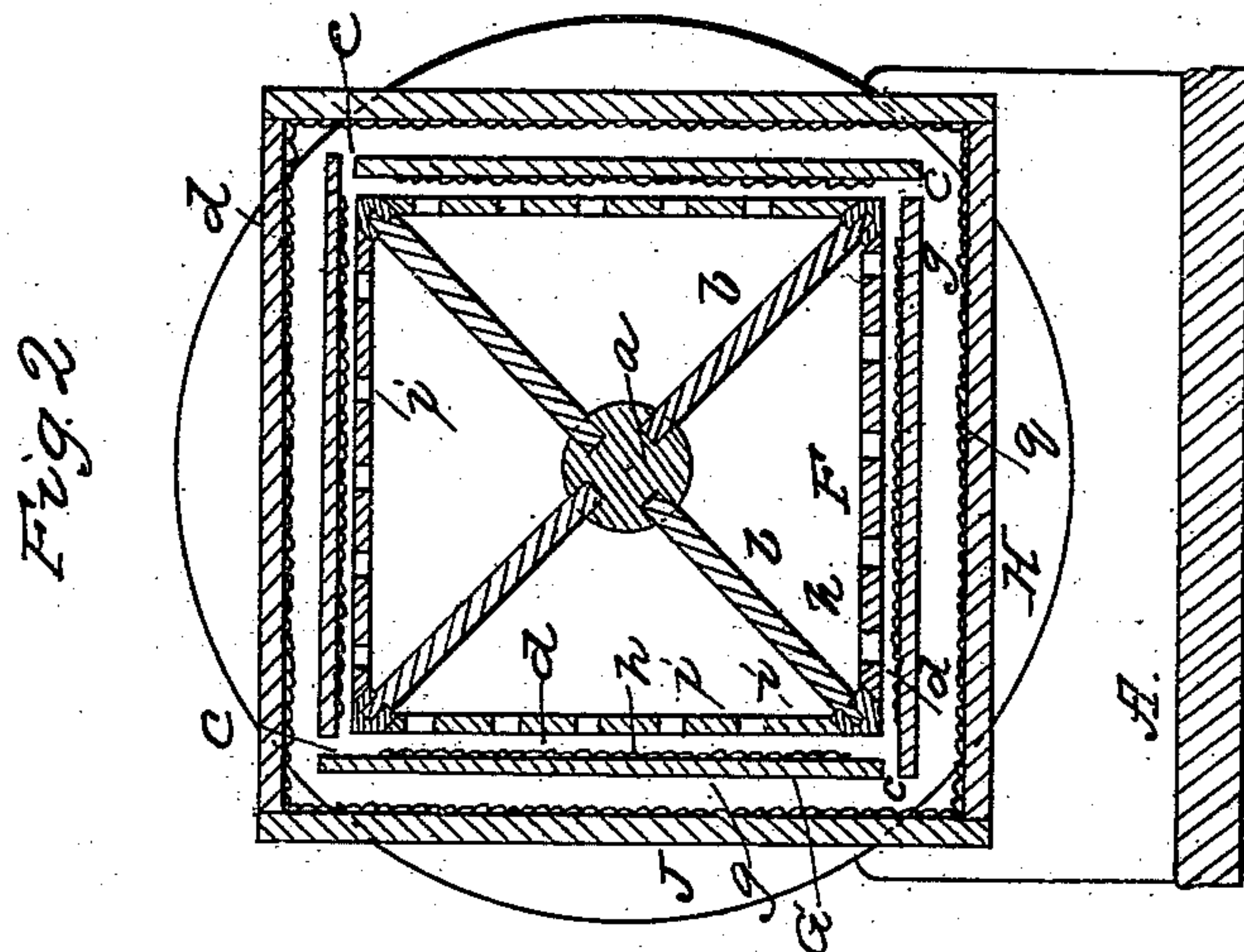


H. B. THOMAS.
Grain Separator.

No. 39,262.

Patented July 14, 1863.



Witnesses
George K. Pittman
H. Wengeman

Inventor
H. B. Thomas By
Amiear Patent Co. Atty
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Solicitor

UNITED STATES PATENT OFFICE.

HENRY B. THOMAS, OF CASCADE, IOWA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. 39,262, dated July 14, 1863.

To all whom it may concern:

Be it known that I, HENRY B. THOMAS, of Cascade, Dubuque county, Iowa, have invented a new and useful Improvement in Grain-Separators; and I do hereby declare the following to be a full, clear, and exact description of the same, the annexed drawings forming a part hereof.

Figure 1 is a perspective view of the separator. Fig. 2 is a transverse sectional elevation of the same.

Like letters of reference indicate like parts in the two figures.

The object of my invention is to separate oats from wheat or other short grain; also, to remove cockle broken grains, and other foreign matter from the pure grain; and it consists in the peculiar construction and arrangement of the parts, as hereinafter described.

A is the base of the apparatus. B B are uprights which support in appropriate bearings the square revolving separator C. The separator consists of a central shaft, *a*, having journals resting in uprights B, and two sets of radial arms, *b*, which terminate in the corners of the square inner case, F. This inner case is four-square and its sides are perforated throughout with numerous small holes *i*, about one-fourth of an inch in diameter. Surrounding the inner case, F, a second case, G, is formed, leaving a space, *h*, of about one-fourth of an inch on all sides between the sides of F and G. The case G is not perforated, but is constructed with longitudinal openings *c* at each of the four corners, as shown. It is, moreover, lined with fine wire-cloth *d*, as represented, for a purpose to be explained. Surrounding the case G, and at any convenient short distance therefrom, an outer frame, H, is formed. This is an open frame and supports panels of fine wire-cloth sufficiently close to retain the full grains of wheat, but open enough to allow cockle and imperfect grain to escape through the meshes.

One end of the apparatus is closed by the head I, with the exception of an opening, *e*, into the central area. The opposite end of the apparatus is open, except the space *h*, between the case F and G, which is closed by the end piece, J. The outer frame or screen,

H, does not extend to the end piece, J, but an opening, *k*, is afforded by which clean grain escapes from within the screen into an appropriate receptacle. The central shaft carries a pulley, *j*, by which motion is communicated to the separator.

The apparatus when in use is mounted in an inclined position, so that the grain received at one end gradually works toward the other.

The motion is slow, and the operation of the apparatus is as follows: The grain to be separated is admitted into the central area through the opening *e*. As the apparatus revolves slowly, causing the grain to slide or shift from one corner of the central space to another by its own gravity, a portion enters the apertures *i* endwise. The short grain—such as wheat—passes entirely through the apertures, and falls into the space *h*, between the cases F and G, but the long grain—such as oats—being arrested by the inner face of G—cannot penetrate far enough to fall into the space, but is held in the apertures until the separator revolves half-around, when it falls back into the central space toward the discharge end of the apparatus. If the grains again enter the apertures, they are again held as before, and when carried around fall back into the central area, still nearer the discharge end, until they finally escape therefrom. The wire-cloth lining *d* serves to hold the long grains, whose ends are thrust into its meshes, from sliding down obliquely from the apertures into the intermediate space *h*. The wheat, together with cockle and other impurities, is discharged from space *h* through the longitudinal apertures *c* into the space *g*, inclosed by the outer case or screen, H. Here the small seeds and imperfect grains of wheat pass through the meshes of the screen and escape, while the pure wheat passes on by the inclination of the screen, and is finally discharged through the openings *k* into an appropriate receptacle.

Having fully described my invention and its mode of operation, what I claim as new, and desire to secure by Letters Patent, is the following:

I do not claim the use of one perforate cylinder within another for cleaning and separat-

ing different grains from each other; nor do I claim, nor use cylinders for cleaning grain; but

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

Two or more concentric cubical vessels or boxes, the inner one perforates and the outer covered with wire-gauze or its equivalent, for

separating different grains, substantially in the manner and for the purpose herein set forth.

H. B. THOMAS.

Witnesses:

W. S. HALL,
A. C. THOMAS.