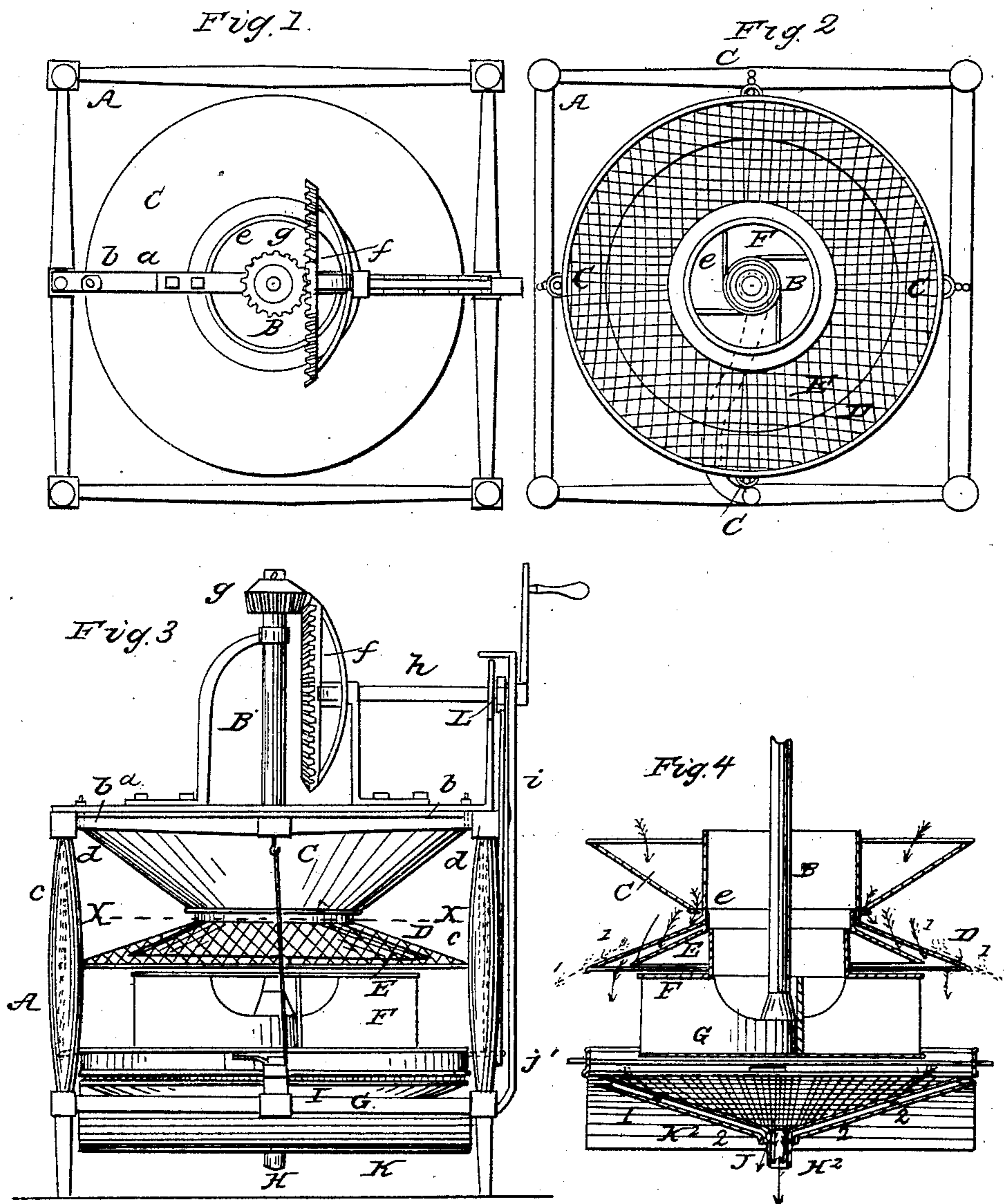


J. BARKER.
Grain Separator.

No. 11,855.

Patented Oct. 31, 1854.



UNITED STATES PATENT OFFICE.

JOSEPH BARKER, OF HONESDALE, PENNSYLVANIA.

GRAIN-WINNOWER.

Specification of Letters Patent No. 11,855, dated October 31, 1854.

To all whom it may concern:

Be it known that I, JOSEPH BARKER, of Honesdale, in the county of Wayne and State of Pennsylvania, have invented a new and Improved Grain-Separator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1, is a plan or top view of my improved separator. Fig. 2, is a horizontal section of the same, taken at the line X, X, Fig. 1. Fig. 3, is a side elevation of the same. Fig. 4, is a vertical section of the hopper and screens.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved grain separator, and consists in the combination of a conical hopper and circular inclined screens, constructed, arranged and operating as will be fully shown hereafter.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, is the frame formed of four uprights with necessary cross pieces, to support the working parts of the machine.

B, is a vertical shaft, which is placed in the center of the frame A, and supported by proper bearings.

C, is a hopper of inverted conical shape, and surrounding the shaft B, and D, is a circular screen which also surrounds the shaft B, the screen having inclined sides so as to be somewhat conical in form, as shown in Fig. 3.

The hopper C, is permanently attached to an upper cross piece (a), of the frame A, by rods (b), (b), and the screen D, is secured or suspended from the frame at its upper part by rods (c), (c), which pass or loop over hooks (d), (d), as shown by the dotted lines in Fig. 3.

E, Figs. 2, 3 and 4, is a conical chute placed directly underneath the screen D, a space being left between the screen and chute, as clearly shown in Fig. 4. The chute has a tube (e), at its center, which encompasses the shaft B, and extends upward to the extreme height of the hopper C, a space being left between the lower

end of the hopper and the screen D, to allow the grain to pass upon the screen D, around the tube (e).

F, is a fan attached to the shaft B, immediately below the chute E, the ends of the wings of the fan extending nearly to the edge of the chute, as shown in Figs. 3 and 4.

G, is a screen of inclined conical form, placed directly underneath the fan F, and having a discharge spout H, at its lower end, shown more particularly in Fig. 4.

I, is an inclined conical chute directly underneath the screen G. The chute I, has a discharge spout J, at its lower end which surrounds the discharge spout H, of the screen, G, see Fig. 4.

K, is a bottom board secured to the lower part of the frame A, and inclined downward from its center outward. A rotary motion is given the shaft B, and fan F, by means of bevel wheels (f), (g), at the upper part of the frame A.

L, is a small wiper wheel attached to a shaft (h), of the bevel wheel (f). This wiper wheel acts against the upper end of a lever (i), the lower end of the lever (i), being attached to a lever (j), through the center of which the shaft B, passes, serving as a fulcrum. The lower ends of the rods (c), (c), being attached to the ends of the lever (j), the lever (j), passing through the sides of the lever G. Two opposite sides of the frame A, may be closed or covered in any proper manner, the two remaining sides may be left open.

Operation: The grain to be separated is placed in the hopper C, and motion being communicated to the shaft B, the fan F, rotates, and a rotary vibrating motion is given the two screens, D, G, by means of the wiper wheel L, and levers (i), (j), the grain passes upon the screen (D), and spreads radially from the center or the tube (e), toward its end, and passes through the screen D, while the large superfluous articles pass off at the edge of the screen, and light impurities are blown away by the blast from the fan. The grain then falls upon the chute E, which covers the fan F, and falls off of the chute E, upon the screen G, which is sufficiently fine to retain the grain but not the dust, the grain passes through the discharge spout H, into a proper receptacle,

while the dust and other fine impurities are discharged through the spout J, of the chute I, underneath the screen G.

By the above improvement, the grain
5 passes over a great surface of screen, and spreads equally in all directions, and consequently, will be more perfectly cleansed from impurities than where the rectangular screens are employed. The above machine
10 has been practically tested, and has been found to do its work with surprising rapidity, and perfectly well.

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

The combination of the conical hopper 15 C, circular screens D, G, with inclined sides or of conical form and fan F; the above parts being constructed and arranged substantially as shown, and for the purpose as set forth.

JOSEPH BARKER.

Witnesses:

M. A. BIDWELL,
C. S. ROGERS.