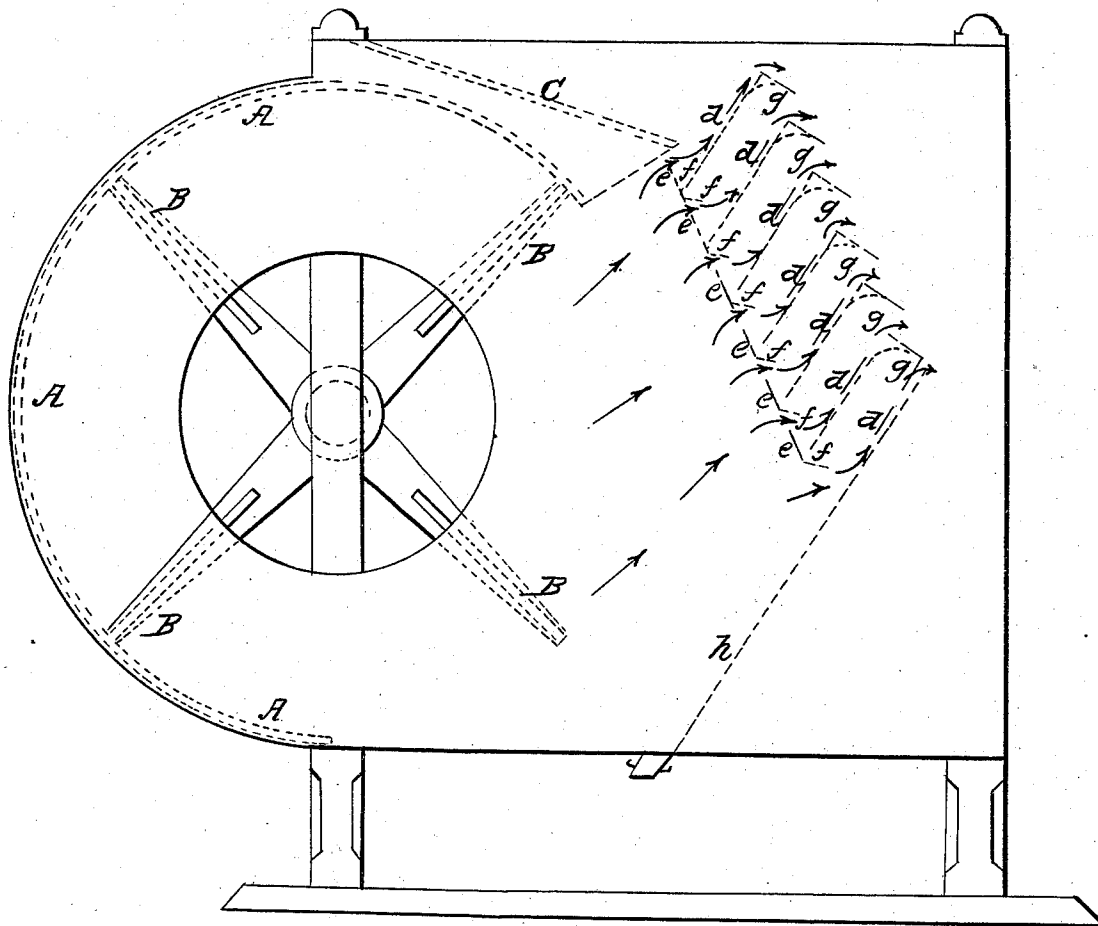


H. H. BEACH.
Grain Separator.

No. 32,508.

Patented June 11, 1861.



Witnesses
J. P. Finch
S. F. Edwards

Inventor,
H. H. Beach

UNITED STATES PATENT OFFICE.

HENRY H. BEACH, OF PHILADELPHIA, PENNSYLVANIA.

GRAIN-WINNOWER.

Specification of Letters Patent No. 32,508, dated June 11, 1861.

To all whom it may concern:

Be it known that I, HENRY H. BEACH, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Grain-Winnowers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in a combination of two series of chutes, so arranged that the grain passes readily through the winnower by its specific gravity alone, falling alternately from one series to the other, and while so passing is repeatedly and very effectually submitted to the action of the blast from the fan.

In the annexed drawing, A is the drum, B the fan, and C the delivery board which conducts the grain into the winnower.

The letters *e e* represent one of the series of chutes so arranged, one below another in the blast, and in such relation to it, that about an equal quantity of the blast passes out through each space *f* between the said chutes *e e*.

The letters *d d* represent a second series of chutes inclined reversely to the chutes *e e* each being spaced in front of one of the spaces *f* its lower edge extending a little distance below such space.

The letters *g g* represent a series of guards which serve to conduct the impurities separated from the grain by the blast over the spaces between the chutes *d d*.

The chutes *e e* and *d d* may be made of wood or any other convenient material. They extend in length from side to side of the winnower across the blast. The chutes *e e* should be made of sufficient width to

prevent the grain from passing from the chutes *d d* back into the drum. A good proportion for the width of the chutes *d d* is about four times that of the chutes *e e*. The chutes *d d* may be arranged at about an angle of 20 degrees from a perpendicular, and the chutes *e e* at such angle as that the grain will fall from them respectively onto the chutes *d d*.

I would recommend that the guards *g g* be used for more effectually preventing the impurities when once separated from the grain, from returning into it. They are not however essential to the operation of the winnower.

The operation of a winnower thus constructed is as follows:—The grain falls from the delivery board C through the blast passing out of the upper space *f* and is carried against the upper chute *d*; and the blast acts to carry the lighter substances upward over the top of the chute *d*, while the grain falls back against the upper chute *e*, and thence down through the next space *f* and against the next chute *d* and so on through the series, falling from the last chute *e* onto the board *h* which conveys it out of the winnower. Thus the grain is repeatedly and very effectually submitted to the action of the blast.

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

The two series of chutes represented by the letters *e* and *d*, when combined and arranged substantially as and for the purposes set forth.

HENRY H. BEACH.

Witnesses:

I. P. FITCH,
S. F. EDWARDS.