J. L. BOOTH.

Grain Separator.

No. 24,714. Patented July 12, 1859.

Fig. 1

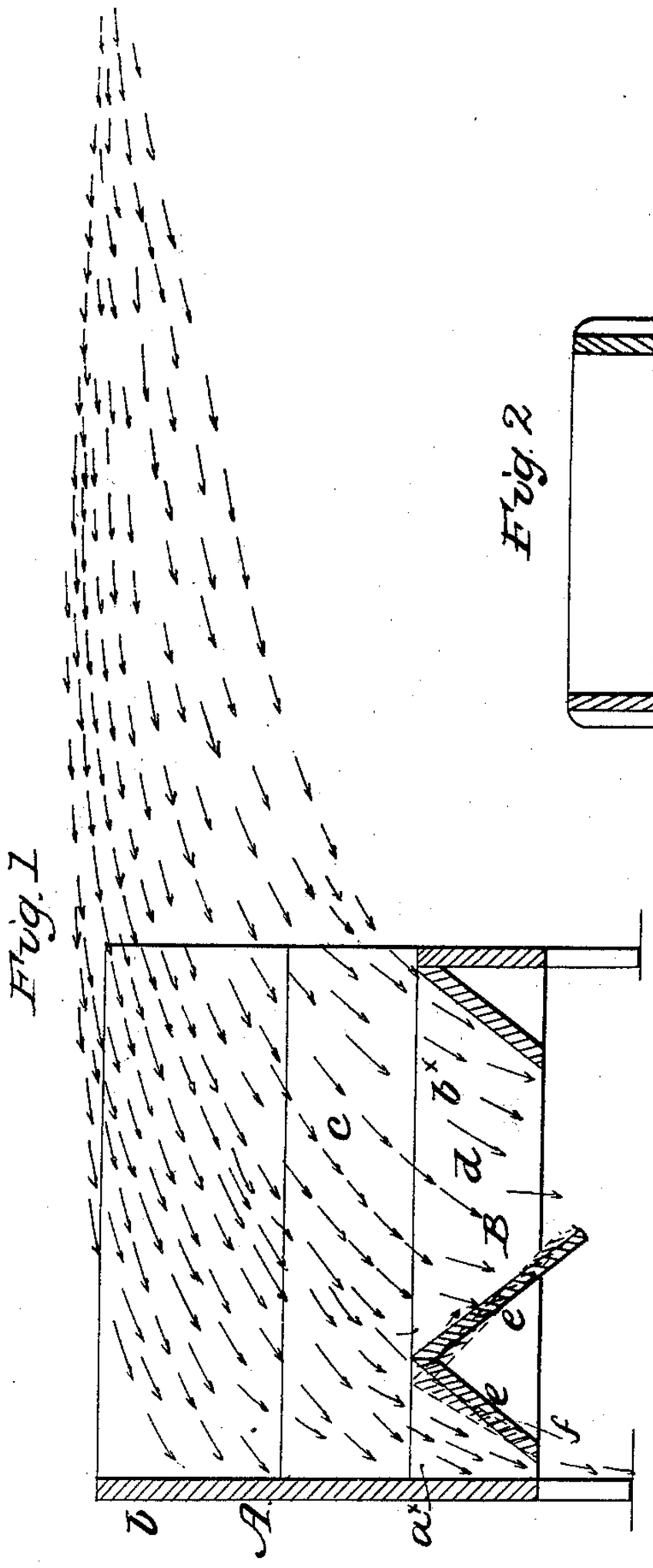


Fig. 2

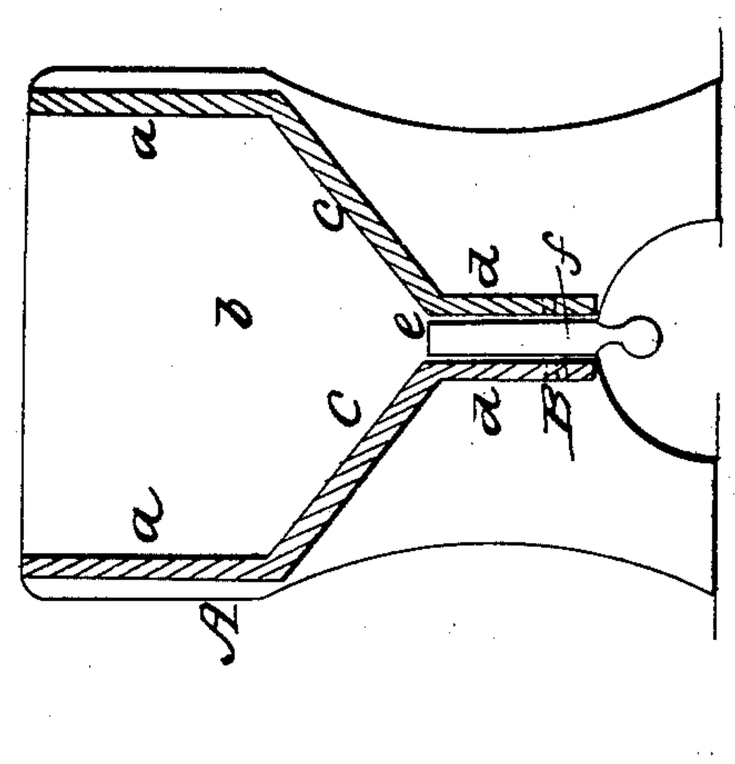
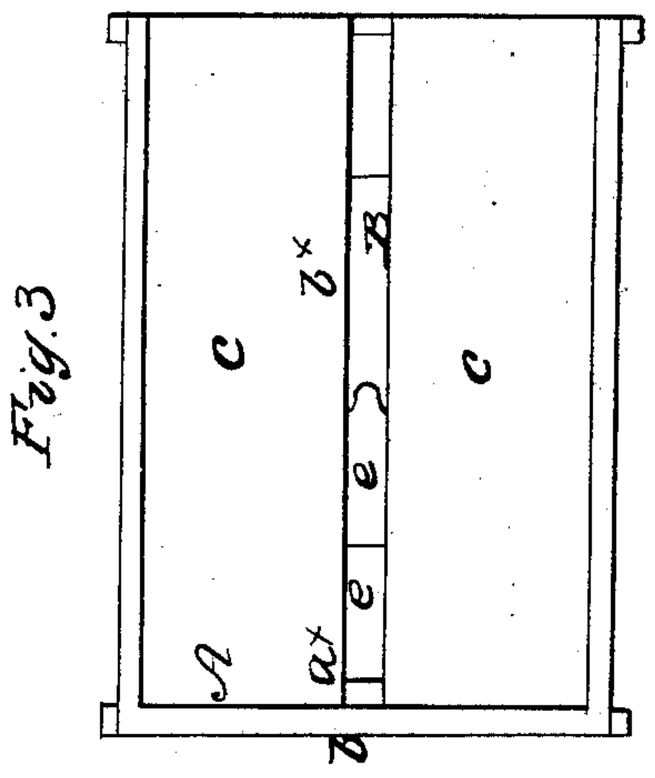


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

J. L. BOOTH, OF CUYAHOGA FALLS, OHIO.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 24,714, dated July 12, 1859.

To all whom it may concern:

Be it known that I, J. L. BOOTH, of Cuyahoga Falls, in the county of Summit and State of Ohio, have invented a new and useful Grain-Separating Device; 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 longitudinal vertical and central section of my invention. Fig. 2, is a transverse vertical section of ditto. Fig. 3, is a plan or top view of ditto.

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

This invention relates to an auxiliary device to be applied to grain separators that separate grain by projecting it against the air, and is more especially designed to be used in connection with a grain separator that was patented by me March 8th, 1859. In this patented machine the sound grain is separated from the light inferior grain in consequence of projecting it, by certain mechanism, forcibly against the air, the sound grain on account of its superior gravity being projected farther than the light.

The object of the within described invention is to receive the grain, both the sound and the light portions, as it is projected from the machine, and to more fully separate and collect the same into distinct parts, and to graduate the separation as may be required.

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

A, represents a box which is formed of two parallel sides *a*, *a*, and one end piece *b*, the opposite end of the box being open. The bottom of the box is formed of two inclined parts *c*, *c*, the lower ends of which are connected to two parallel pieces *d*, *d*, which form a narrow spout B, the whole length of the box. Within this spout B, two strips *e*, *e*, are secured by pivots *f*, at their lower parts. These strips *e*, *e*, divide the spout B, into two compartments $a^{\times}$, $b^{\times}$, the relative length of which may be varied as occasion may require by adjusting said strips *e*, *e*, see Fig. 1, in which two positions of the strips are shown, one position being in red lines.

The box A, may be constructed wholly of wood, and of any desired length as may be required. The box B, is placed at such a distance from the machine as to receive the grain and the sound portion being projected farther than the other and lighter portion will fall into the compartment $a^{\times}$, of the spout, while the light portion will fall into the compartment $b^{\times}$.—The grain is collected or made to pass into the spout B, in consequence of the inclined bottom pieces *c*, *c*. The red arrows in Fig. 1, indicate the sound and the black arrows indicate the light grain.

From the above description it will be seen that by adjusting the strips *e*, *e*, the separating of the grain may be graduated as desired, that is to say, by adjusting the strips *e*, *e*, so as to contract the compartment $a^{\times}$, and correspondently enlarge the compartment $b^{\times}$, the very best grain only will enter the compartment $a^{\times}$. If a very particular or nice separation is not required the strips *e*, *e*, may be adjusted so as to enlarge the compartment $a^{\times}$, and diminish $b^{\times}$, and the best portions of the light grain will be mixed with the sound. The spout B, may be placed directly over proper receptacles to receive the grain.

By means of this invention the grain is perfectly separated and it will prove a great acquisition especially when applied to my patented separator, for if the grain is allowed to fall on a floor the two portions spread considerably and are liable to become mixed to some extent and besides there is no way of graduating the separation.

In separating grain in this manner, to wit, by projecting it forcibly against the air, the separation is due in a measure to the rolling of the sound plump grain on the floor, the light imperfect grain remaining in the place where it strikes or not rolling on account of its irregular form. In having the grain fall therefore on a level floor as hitherto the rolling of the sound grain is prevented as soon as the floor becomes covered and hence the separation will not be as perfect as it otherwise would be. By my invention it will be seen that the bottom of the box A, is always kept clean, the grain rolling therefrom directly into the spout B,—this feature in connection with the adjustable strips or valves *e*, *e*, effect fully the desired object.

I do not confine myself to the precise form

or disposition of the parts as herein shown, for the same result may be obtained by varying the arrangement, but it is essential that an inclined bottom or flooring be used on which the grain may fall in order to keep the floor clean or from grain to insure the rolling process or feature. The valves *e*, or their equivalent are also essential in order that the separation may be graudated as desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

The box A, provided with an inclined bottom or flooring and adjustable strips or valves arranged to operate substantially as and for the purpose set forth.

J. L. BOOTH.

Witnesses:
C. W. WETMORE,
F. S. HEATH.