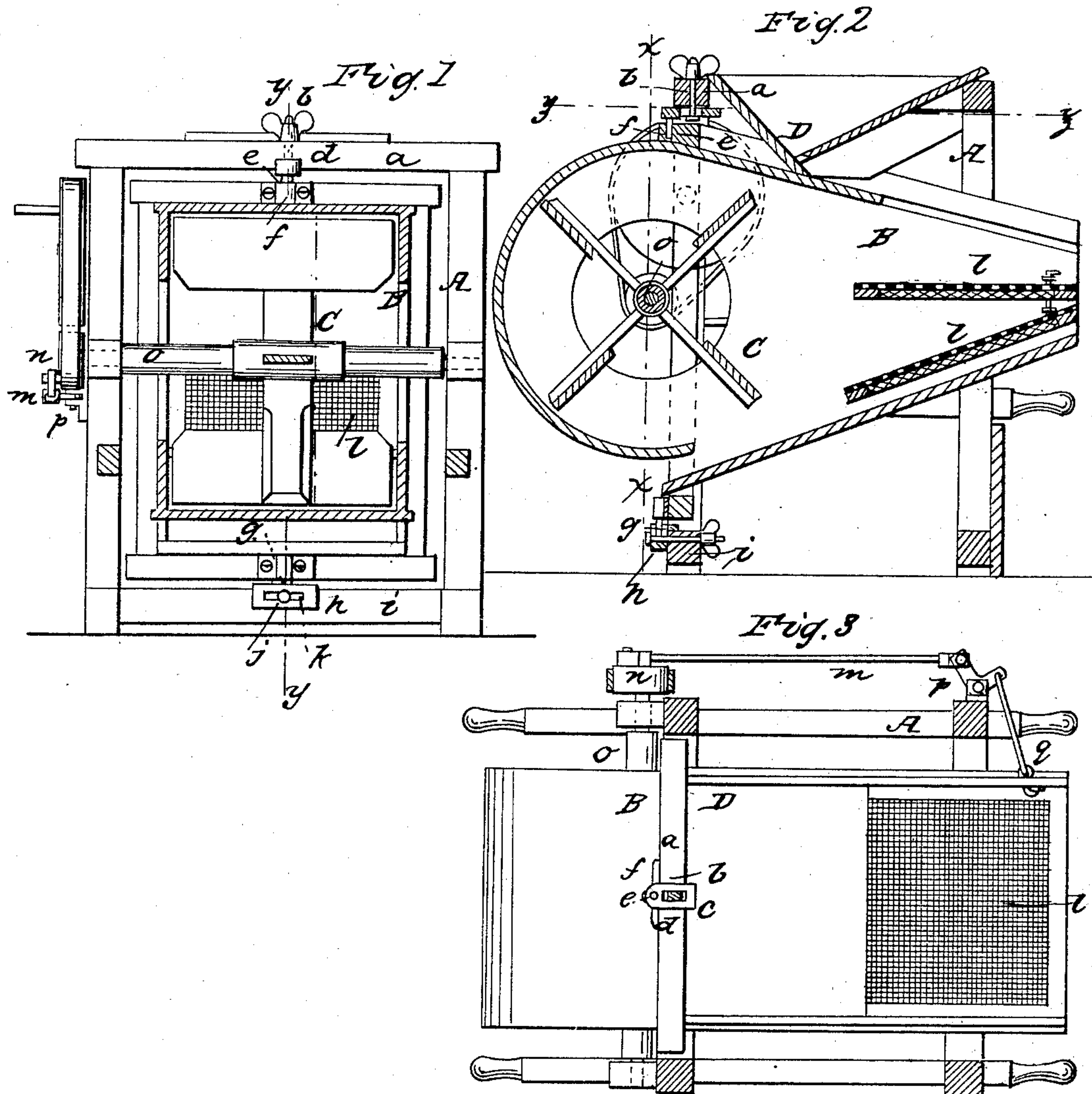


S. & O. PETTIBONE,

Grain Winnower.

No. 30,690.

Patented Nov. 20, 1860.



Witnesses
W. Coombs
A. Spencer

Inventors
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per Munroe & Co. Attys.

UNITED STATES PATENT OFFICE.

S. PETTIBONE AND O. PETTIBONE, OF CORUNNA, MICHIGAN.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 30,690, dated November 20, 1860.

To all whom it may concern:

Be it known that we, S. PETTIBONE and O. PETTIBONE, of Corunna, in the county of Shiawassee and State of Michigan, have invented a new and Improved Grain-Separator; and we 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 transverse vertical section of the invention taken in the line *x, x*, Fig. 2. Fig. 2, a longitudinal vertical section of the same taken in the line *y, y*, Fig. 1. Fig. 3, a horizontal section of the same taken in the line *z, z*, Fig. 2.

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

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

A, represents a rectangular framing which may be constructed in any proper way—and B, is a case or box which is fitted in the framing A, as follows. To a cross piece *a*, at the upper part of the framing A, there is attached by a screw bolt *b*, a plate *c*, the latter being at the under side of the cross piece *a*, and having a horizontal slot *d*, in it through which the bolt *b*, passes. To this plate *c*, a pendent pin *e*, is attached and this pin is fitted in a bearing *f*, attached to the upper part of the case or box B. To the lower part of the case or box B, and at a point in line with the plate *c*, there is attached a pin *g*, the two pins *e, g*, being in line with each other when the case or box is adjusted in a proper working position. The pin *g*, is fitted in a step or bearing *h*, which is attached to a cross-piece *i*, at the lower part of the framing by a bolt *j* said bolt passing through an oblong horizontal slot *k*, in the step or bearing to admit of a certain degree of lateral adjustment of the step. This will be fully understood by referring to Fig. 1.

The case or box B, has its front part formed similar to an ordinary shoe and its back part is rounded or is of semicircular form corresponding to an ordinary fan box, see more particularly Fig. 2. The fan box and shoe therefore are in one and the same case or box—the front part of the latter being provided with the usual screens *l*, and

the back part with a rotary fan C, which may be constructed in the ordinary way.

On the upper part of the framing A, there is placed a hopper D, from which the grain passes into the upper part of the case or box and falls on the upper screen and in its passage to and over the screens is acted upon by the blast generated by the rotation of the fan C.

The case or box B, has a shake motion given it by a connecting rod *m*, attached at one end to a crank pulley *n*, at one end of the fan shaft *o*, the opposite end of said rod being attached to a bell crank *p*, which is connected by a link *q*, to the outer end of the case or box.

In consequence of the case or box B, being hung by the pins *e, g*, in the framing the shake motion of the case or box will be perfectly horizontal and the grain will pass over the screens in an even sheet and with far greater uniformity than where the shoe vibrates in the arc of a circle on pendent rods or wires. By having the plate *c*, secured to the cross piece *a*, by the bolt *b*, passing through a longitudinal slot *d*, the plate *c*, is rendered adjustable in a longitudinal direction and the front part of the case or box and consequently the screens may be more or less inclined, as circumstances may require, and by having the step or bearing *h*, adjustable in a direction transversely with the case or box the horizontality of the latter, and consequently its screens in their transverse section may always be insured and the grain allowed to pass over the screens in a sheet extending their whole width thereby exposing the grain most favorably to the action of the blast from fan C.

By having the fan box and shoe connected and formed in one case or box, the full effective force of the blast is obtained, as there is no chance for it to escape before passing over the screens, as in the ordinary machines, and this arrangement also economizes the construction of the machine, considerable less material being required than usual, and less labor.

We would remark that one of the pins might be made adjustable in both directions for the purpose of leveling and adjusting the screens.

We do not claim giving the shoe of a separator a perfectly horizontal vibrating

movement irrespective of the mode of hanging, the same as herein shown and described, to effect such result; but

We do claim as new and desire to secure
5 by Letters Patent—

Hanging the shoe of a grain separator when connected with the fan case as herein shown and described; by means of the pins

e, g, arranged substantially as and for the purpose set forth.

S. PETTIBONE.
O. PETTIBONE.

Witnesses:

CURTIS J. GALE,
D. F. ALSDORF.