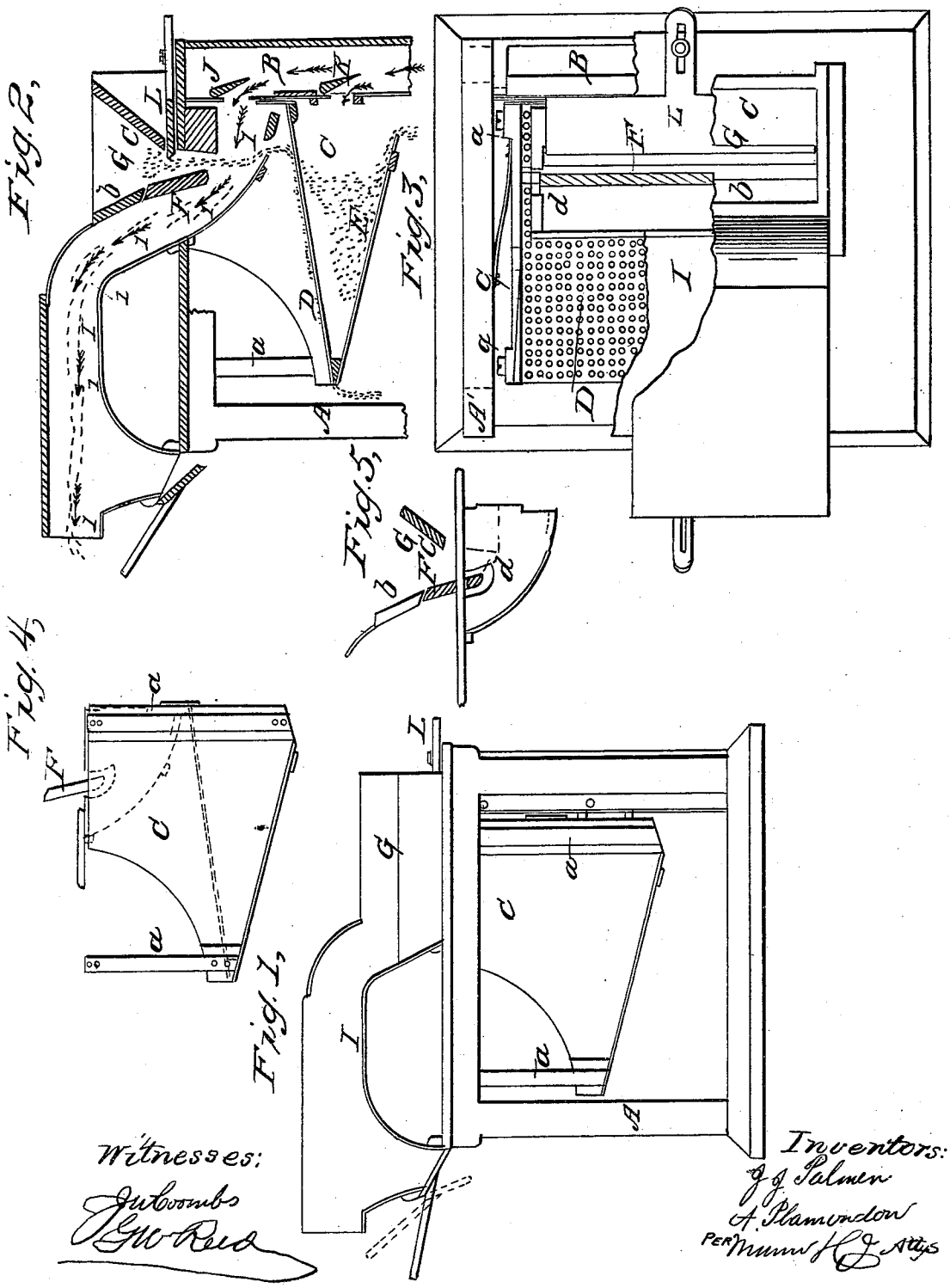
PALMER & PLAMONDON.

Grain Separator.

No. 39,063. Patented June 30, 1863.



Witnesses:
Jno Coombs
Geo Reed

Inventors:
J. J. Palmer
A. Plamondon
Per Munn & Co Attys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN J. PALMER AND A. PLAMONDON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **39,063**, dated June 30, 1863.

To all whom it may concern:

Be it known that we, J. J. PALMER and A. PLAMONDON, both of Chicago, in the county of Cook and State of Illinois, 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of our invention; Fig. 2, a vertical central section of the same; Fig. 3, a plan or top view of the same, partly in section; Fig. 4, a detached side view of a shoe pertaining to the same; Fig. 5, a detached transverse section of the hopper and part of the blast-spout.

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

The invention consists in the employment or use of a vibrating throat placed in the hopper, but connected to the shoe and arranged in such a manner as to effectually prevent the hopper from becoming choked or clogged.

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

A represents a framing, which may be of rectangular form, and having at one side of it a blast-spout, B, which extends upward from a fan-box, the latter not being shown.

C is a shoe or box, which is suspended within the framing A by straps *a*, of metal, which are sufficiently elastic to admit of the shoe or box having a suitable lateral shake motion. In the shoe or box C there is placed a screen, D, somewhat inclined, and directly below said screen there is placed an inclined chute or board, E, the inclination of the latter being reverse to that of the screen, as shown in Fig. 2. The shoe or box C has an inclined board, F, attached to its upper part in a transverse position, said board F extending entirely across the shoe or box and extending some distance above it, as shown in Figs. 2 and 5.

G represents a hopper, which is of V form in its transverse section, and is secured transversely on the framing A, or rather on a platform, H, thereon. To this hopper a spout, I, is attached, which forms a continuation of the spout B and extends down into the upper shoe or box to within a short distance of the screen D, as shown in Fig. 2. At the junction of the spout I with the spout B there is a valve, J, (see Fig. 2,) and a similar valve, K, is in spout B just below the screen D. The transverse board F, it will be seen by referring to Fig. 2, forms a continuation of the inner side, *b*, of the hopper G, the board F extending down some distance below the opposite side, *c*, of the hopper. The sides of the lower part of the spout I are notched, as shown at *d* in Fig. 5, to admit of the board F working through them. This notching of the sides of the spout I is necessary, as the lower end of said spout extends down within the shoe or box C, and the board F is longer than the width of the shoe or box. (See Fig. 3.)

L is a slide, which is fitted horizontally in the lower part of the hopper G. By adjusting this slide the discharge-orifice of the hopper may be varied in capacity, and the flow of the grain therefrom regulated as desired.

From the above description it will be seen that when the machine is in operation the wheat in passing down upon the screen D will be subjected to a blast of air in the lower part of the spout I, and all dust and light foreign substances will be expelled from the wheat before the latter falls on the screen. The direction of this blast is indicated by the arrows 1 in Fig. 1. The wheat, therefore, while on the screen D will only contain heavy foreign substances—such as oats, &c.—which cannot be removed by the blast in I, and the screen D will readily separate the latter-named substances from the wheat. The blast which passes through the lower valve, K, underneath the screen, serves to expel any light foreign substance which may be detached from the grain, by attrition or otherwise, in its passage over the screen.

The shoe or box C, during the operation of the machine, is subjected to a lateral shake motion by any proper means, and as the board F, which is attached to the shoe or box C, will have the same motion it will be seen that the discharge-orifice of the hopper cannot become choked or clogged, as the board F projects both above and below the bottom of the opposite fixed side, *c*, of the hopper and causes the wheat in the hopper to settle down and be discharged uniformly from the hopper.

We are aware that hoppers for grain-separators have been provided with vibrating throats; but, so far as we are aware, they have

been arranged entirely different from that herein shown and described. We do not claim broadly, therefore, a vibrating throat applied to the hopper of a grain-separator; but

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

The board F, attached to the shoe or box C, and arranged relatively with or applied to the hopper G so as to form a continuation of the inner side, *b*, thereof, to operate as and for the purpose herein specified.

JOHN J. PALMER.
A. PLAMONDON.

Witnesses:
W. M. TAYLOR,
THOMAS PORTER.