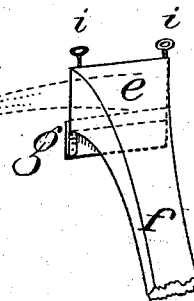
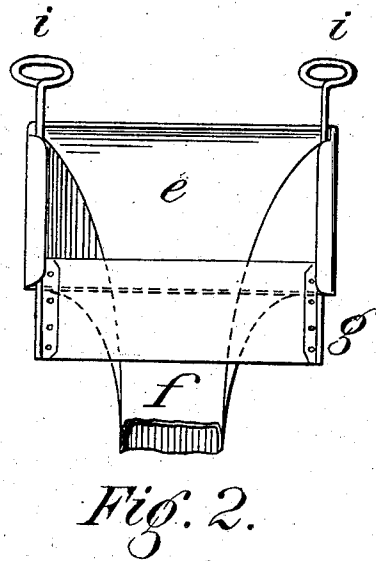
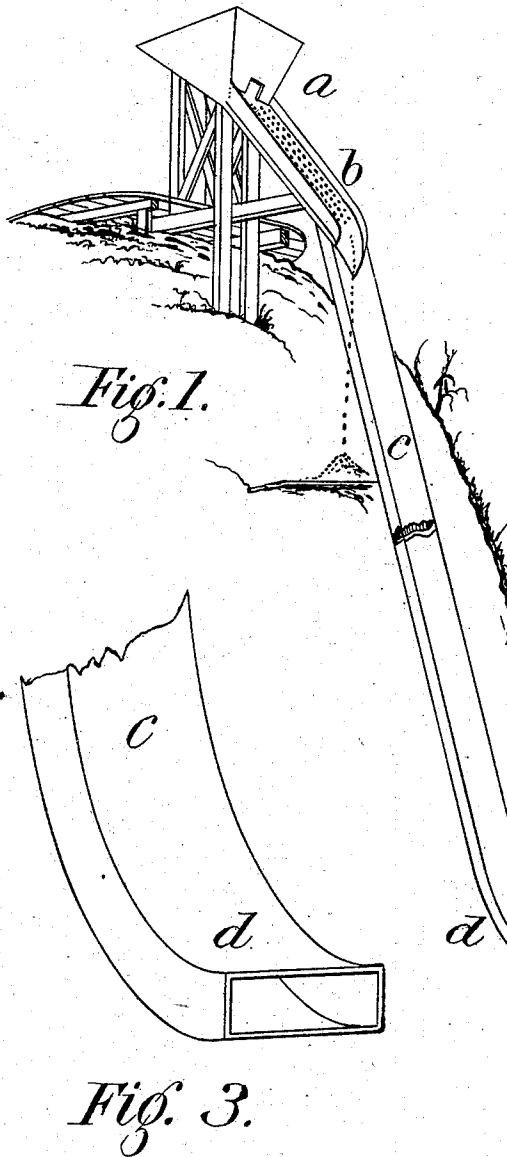


(No Model.)

S. TRUAX.
Cleaning and Separating Grain.

No. 239,994.

Patented April 12, 1881.



Attest.
C. B. Talbot.
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Inventor,
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UNITED STATES PATENT OFFICE.

SEWALL TRUAX, OF WALLA WALLA, WASHINGTON TERRITORY.

CLEANING AND SEPARATING GRAIN.

SPECIFICATION forming part of Letters Patent No. 239,994, dated April 12, 1881.

Application filed August 5, 1880. (No model.)

To all whom it may concern:

Be it known that I, SEWALL TRUAX, of the town of Walla Walla and Territory of Washington, have invented certain new and useful Improvements in Cleaning and Separating Grain, of which the following is a specification.

The object of my invention is to furnish an improved method and means of cleansing grain and separating the impurities therefrom, which is hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of so much of the apparatus employed as is necessary to illustrate my invention. Figs. 2 and 3 are detail views of portions of the apparatus.

Into a hopper, *a*, the grain is first thrown, and thence passes over a screen or sieve, *b*, differing from others in its unusual length—twelve or fourteen feet. It may, if desired, be agitated by means of the falling grain. The grain passes from the screen into the upper end of a steeply-inclined pipe, *c*, which it rapidly descends by the force of gravity, being scoured by its friction upon the internal surface of said chute as well as the mutual attrition of the berries. The lower end, *d*, is bent or curved outward or upward, preferably in an arc of a cycloidal curve, (to afford as little interruption as possible to the movement of the grain,) in such a manner as to discharge the grain and commingled impurities in a direction different from that of the action of gravity. The inertia of the air through which the mass is projected causes the stoppage of the lighter particles—such as dust, smut, and light, imperfect, or broken grains—which, not possessing the same momentum, tend to fall short of the good wheat. At a suitable distance, which is varied according to circumstances—such as the inclination of the discharge *d* and the projectile force of the descending grain—is a second steeply-inclined pipe, *f*, having at its upper end a receiving-mouth, *e*, which is brought into proper position to intercept the grain from chute *c* by the curvature or bending of the upper end of pipe *f* toward the discharge *d*. This mouth *e* is also flared vertically and laterally, as shown, to insure the reception of the grain, which has a greater or less tendency to scatter like shot from a gun.

At the lower edge of the opening *e* is a gate or divider, *g*, which is adjusted vertically in grooves or other suitable supports by means of rods *i*, for the purpose of stopping the lighter portions of the mass—such as smut, broken or split grains, &c.—which cannot acquire the same impetus as the good grain.

The number of pipes may be indefinitely increased according to the requirements of the particular case. Three pipes are usually sufficient to remove all the impurities. Giving the grain a fall of from forty to sixty feet will usually be found sufficient. It has, however, been employed upon a hill-side giving a fall of from one thousand to fifteen hundred feet for the double purpose of transportation and cleaning.

The method and means herein described may be successfully applied to any grain-elevator in a mill or warehouse. The means used may be varied to some extent without departing from the spirit of my invention.

What I claim as novel and as of my invention is—

1. The within-described method of cleansing grain and separating the impurities therefrom, consisting, essentially, in permitting it to descend, by force of its own gravity, one or more chutes or inclines, and by means of the impetus so acquired discharging said grain and the impurities commingled therewith outwardly through the air in a direction other than that of the action of gravity, substantially as hereinbefore set forth.

2. A chute or pipe arranged at an incline for the conveyance and cleansing of grain by the force of gravity, said chute or pipe having its lower or discharging end curved or bent outward or upward, substantially as described.

3. The combination of an inclined pipe or chute having its lower end curved or bent outwardly with a second pipe or chute similarly arranged, and having its upper or receiving end arranged to receive the material (or so much thereof as is desired) projected from the discharging end of the first chute or pipe aforesaid, substantially as described.

4. The combination of a chute or inclined pipe having an outwardly bent or curved discharging end with a second inclined pipe or chute arranged to receive the material pro-

jected from the first, the receiving-aperture of said second pipe or chute being regulated as to size by means of an adjustable valve or door, substantially as described.

5 5. The combination of an inclined chute or pipe, a second inclined chute or pipe having its receiving end arranged at a distance from the discharging end of the first chute or pipe, and an adjustable valve forming the lower
10 edge of the receiving-opening of said pipe and arranged to move vertically, so as to regulate at will the height of said lower edge of said receiving-mouth, substantially as described.

6. The combination, with inclined pipe or chute *d*, of the second inclined pipe or chute *f*, arranged to receive material projected from pipe *d*, said pipe having the flaring receiving-mouth *e*, bent or curved toward the discharge end of pipe *d*, substantially as described. 15

SEWALL TRUAX.

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