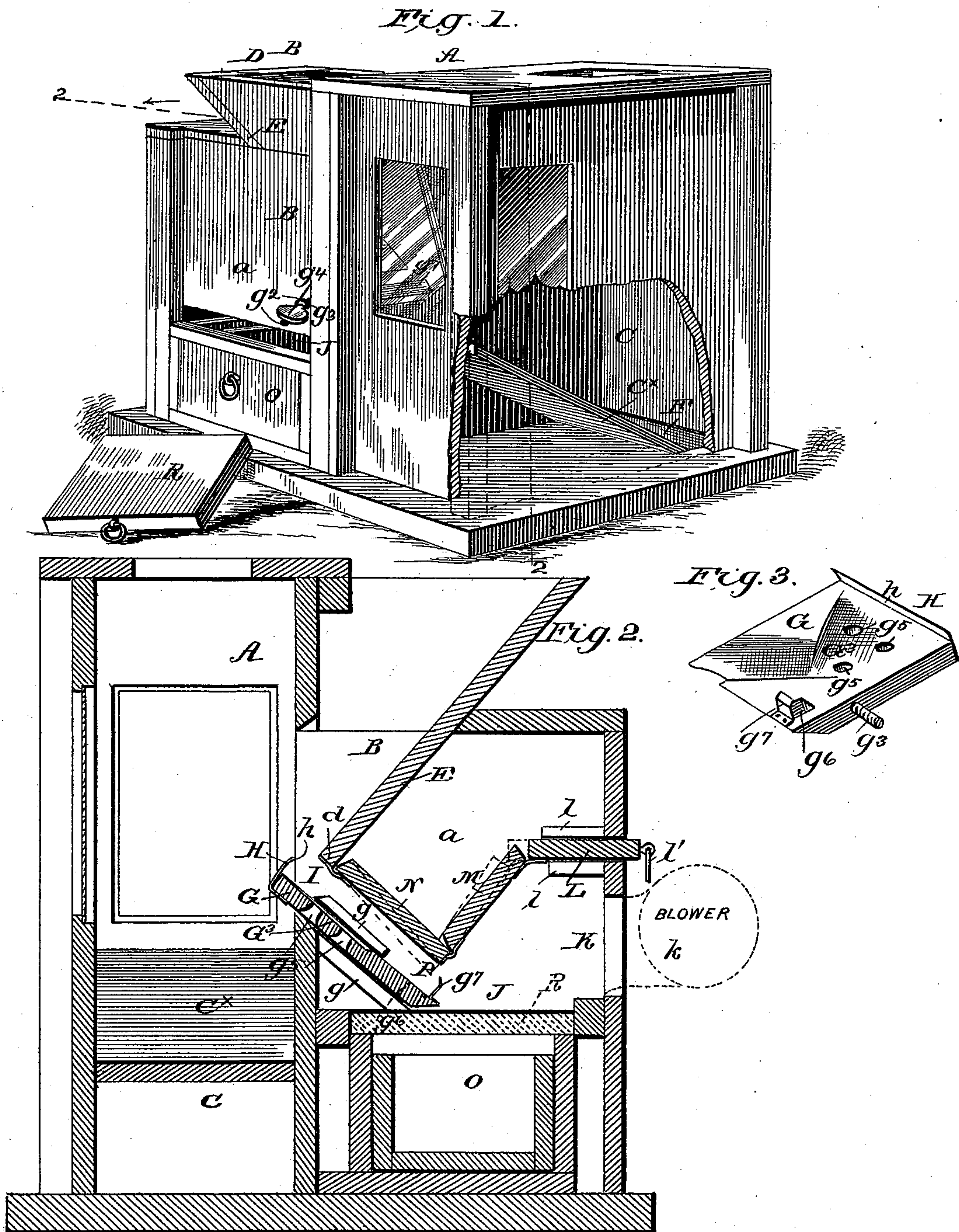


(No Model.)

J. W. SMITH.  
COTTON SEED CLEANER AND SEPARATOR.

No. 518,124.

Patented Apr. 10, 1894.



WITNESSES:  
*Fred G. Dieterich*  
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# UNITED STATES PATENT OFFICE.

JAMES W. SMITH, OF ROME, GEORGIA.

## COTTON-SEED CLEANER AND SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 518,124, dated April 10, 1894.

Application filed August 3, 1893. Serial No. 482,279. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES W. SMITH, residing at Rome, in the county of Floyd and State of Georgia, have invented certain new and useful Improvements in Cotton-Seed Cleaners and Separators, of which the following is a specification.

My invention has for its object to provide a cotton seed cleaner and separating machine, which will effectively serve to clean the seed, and separate therefrom nails, gravel, iron ore and the like, and such invention consists in the peculiar combination and novel arrangement of parts, all of which will hereinafter be first described and then particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved machine, parts being broken away and Fig. 2 is a vertical longitudinal section of the same on the line 2—2 Fig. 1. Fig. 3 is a detail view.

Referring to the accompanying drawings A, indicates the main frame or casing, formed at one side into a receiving compartment B, and at the other with a discharging chamber C.

At the top and over the front edge of the receiving compartment B, is disposed the mouth or receiving hopper D which has an inclined bottom E, and discharges into one end of compartment C, onto its inclined bottom C<sup>x</sup>, the lower end of which terminates at a discharge opening F, through which the cleaned seed is discharged, as will presently appear. It will be noticed by reference to Fig. 2, that the lower end of the incline bottom E, stops short of the upper end of a reversely inclined chute or board G, the upper edge of which has a transverse plate H, the upper edge of which extends above the upper face of the board as at *h* and forms a guard or retarding strip for a purpose hereinafter stated. It will also be noticed that the plate H, inclines in a plane parallel with the bottom E, and between such board G and the end *d* of the bottom is formed a passage or outlet I. The lower end of chute G discharges over an opening J, at the bottom of a blast chamber K with which connects at *k* a blast device of any well known construction, and to provide for an adjustment of the blast, I provide a simple valve mechanism which consists of a slide plate L held to slide

on ways *l*, its rear end having a hand hold *l'*, while its front end has a hinged cut off valve member M, which in turn is connected by a hinged member N with the bottom E as clearly shown in Fig. 2.

O indicates a drawer disposed under the opening J.

So far as described, it will be noticed, that as the seed is fed into the hopper, and passes down the inclined bottom E the heavy particles will drop through the opening I, while the seed will be blown by the blast over the guard plate onto the inclined bottom C<sup>x</sup> in chamber C, and passes out through the opening F at the bottom. The larger or heavy particles as they fall through the opening slide down the inclined board G and pass out through openings P, and J and drop into drawer O. It will be also readily seen that by providing a guard plate at the upper end of board G, such of the light foreign particles as would be blown upward by the blast, will be retarded by such guard plate and held from passing into the seed receiving compartment, and by providing an adjustable valve M arranged as shown and described, the size of the opening P and force of the blast can be regulated, by means of the slide member L.

To provide for increasing or decreasing the retarding power of board G, the plate H may be adjustably secured thereon; I prefer however, to arrange such board for longitudinal adjustment in the guides *g*, and for such purpose a diagonal slot *g*<sup>2</sup>, is formed in one of the side walls *a*, through which passes a stud *g*<sup>3</sup>, on which is fitted a set screw *g*<sup>4</sup>, which screw also forms a convenient finger piece whereby to move the board to the position desired. If desired the board G, may also be formed with a diagonally arranged groove G<sup>3</sup>, in the bottom of which are apertures as at *g*<sup>5</sup>; additional openings *g*<sup>6</sup> being also provided to the front of which are arranged deflector members *g*<sup>7</sup>; such members, openings *g*<sup>6</sup> and *g*<sup>5</sup> and the groove, serving to form eddies in the blast as it passes up the board G, and prevent the full power thereof operating against the heavier particles as they pass down the incline bottom board G.

R indicates a cut off board, which is slid in under opening J when it is desired to remove the contents of drawer O.



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

1. A seed separator and cleaner comprising  
5 a hopper, a seed receiving chamber, having as its mouth the discharge end of the hopper, a blast way projected and inclined reversely to the hopper and opening through the bottom thereof, and a blower connected there-  
10 with, said way having its upper wall formed of a member hinged at its upper end to the hopper, and adjusting devices projected to the outside of the machine, connected to the free end of the said hinged member, whereby  
15 its lower end can be set to adjust the lower opening of such blast way, all arranged substantially as described and shown.

2. In a machine for the purpose described, the combination with the seed receiving cham-  
20 ber, and the inclined hopper discharging therein, and a blast chamber, of an open way inclined reversely to the hopper, and opening through it in its discharge end, said way having a longitudinally adjustable bottom, hav-  
25 ing a retarding strip at its upper end, and a top member adjustably connected, whereby its lower end can be raised or lowered, means

for setting such member, adapted to be operated from the outside of the machine, and the blower, all substantially as shown and for the 30 purposes described.

3. In a separating machine, substantially as described, the combination with the inclined hopper bottom, the chamber C having an inclined bottom C<sup>x</sup> and exit F, and the opening 35 I between the hopper bottom and the mouth of chamber C, of the rearwardly inclined board G, having its upper end provided with a retarding plate, and projected into the opening I, of a blast chamber, a waste receiving 40 box under such chamber, and a cut off slide between such chamber and waste box all arranged substantially as shown and described.

4. The combination with the hopper, the seed receiving chamber, the opening I and the 45 blast devices, including the valve M, of the inclined board G having a retarding strip H at its upper end fitting in the opening I, and provided with an angular groove in its upper face, all substantially as shown and described. 50

JAMES W. SMITH.

Witnesses:

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W. S. CATHRAN.