

E. J. O'BRIEN & H. FRANCK.
Machine for Separating and Cleaning Cotton Seed Meal.

No. 241,560.

Patented May 17, 1881.

FIG. 1.

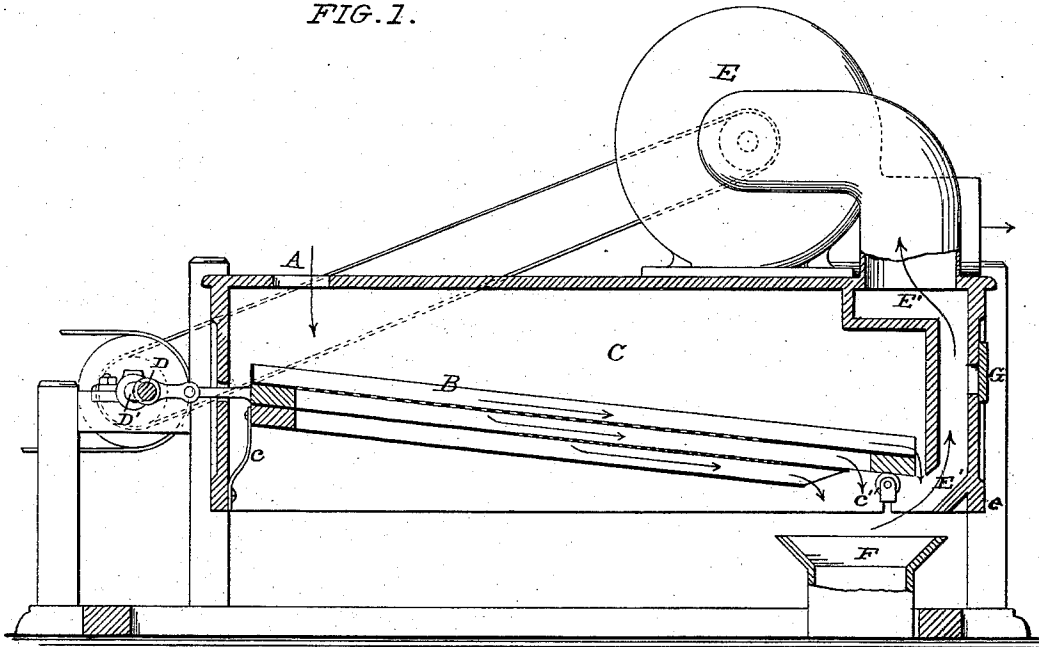
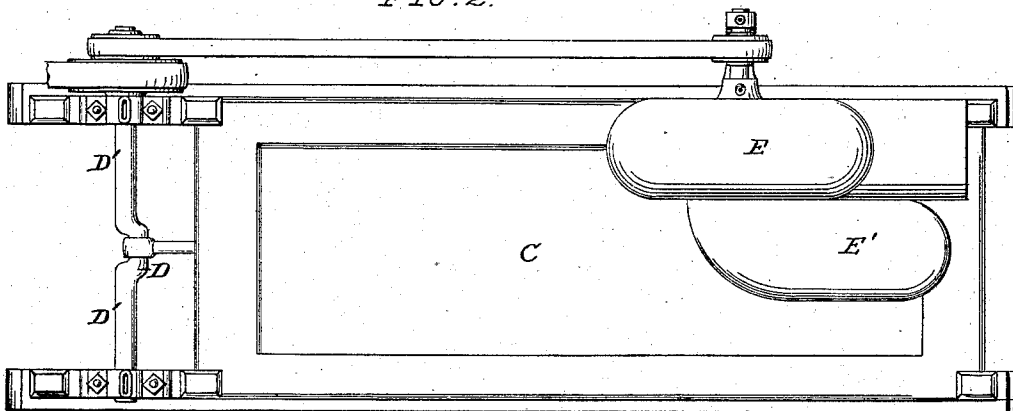


FIG. 2.



ATTEST:

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EDWARD J. O'BRIEN AND HENRY FRANCK, OF ST. LOUIS, MISSOURI; SAID
FRANCK ASSIGNOR TO DENNIS J. O'KEEFE, OF SAME PLACE.

MACHINE FOR SEPARATING AND CLEANING COTTON-SEED MEAL.

SPECIFICATION forming part of Letters Patent No. 241,560, dated May 17, 1881.

Application filed January 26, 1880.

To all whom it may concern:

Be it known that we, EDWARD J. O'BRIEN and HENRY FRANCK, of the city of St. Louis, in the State of Missouri, have invented a certain Improvement in Machines for Separating and Cleaning Cotton-Seed Meal, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to clean the cotton-seed meal after it has passed through the huller, and remove the fuzzy matter or "lint" and "black speck" from the same before it is crushed and submitted to pressure to extract its oil.

In this machine the cotton-seed meal is fed onto a series of grading-screens arranged adjustably in a slightly-inclined position. These screens grade and separate the finer from the coarser particles of the meal before it passes over the tails of the screens, where the tailings are exposed to a current of air drawn across the ends of the screens by means of a fan having a suction-opening on or below the line of the upper one of the screens, as will hereinafter more fully appear.

In the drawings, Figure 1 is a longitudinal section. Fig. 2 is a top plan.

The cotton-seed meal, as it comes from the revolving screens, is fed into the separator through opening A of the casing and falls onto the upper end of the vibrating screens or shakers B, which are arranged in a slightly-inclined position, as shown. The two upper screens are perforated with different-sized perforations, so as to grade and separate the finer from the coarser particles of the meal; and the lower one of the screens is formed without perforations, so as to conduct the particles of meal from the next screen above into a proper position to be acted upon by the air-current. In use the greater portion of the fuzzy matter or lint and black speck will be retained by the uppermost screen and caused to pass over the tail of the same, so as to be exposed to a stronger current of air than the meal that passes over the tails of the lower screens. Consequently said lint and black speck will be more effectually removed.

The screens or shakers B are supported in an inclined position within the casing C by means of a strap or spring, *c*, and an adjustable friction-roller, *c'*. A vibratory motion is communicated to the screens by means of a crank or eccentric, D, on the driving-shaft D'. The ends or tails of the different screens discharge at an increasing distance from the opening of the air trunk or flue E', that of the upper screen being nearest and that of the lower one farthest, the object being to expose the tailings from the top screen to a more intense air-draft than the tailings from the other screens, as the tailings from the upper screens will contain the greater part of the black speck and other impurities, and, being of a larger size, will require a more intense draft to purify the same.

E is the fan for producing the air current across the tails of the screens or shakers through the air-flue E', the air-supply of which is at or a slight distance below the tail of the upper screen, as clearly indicated in Fig. 1. The air-flue E' is provided at its lower end with an inclined deflecting-plate, *e*, the action of which is to cause the air-current to be drawn in an inclined direction across the tails of the screens. This fan may be driven in any suitable manner. In the drawings it is shown as driven by a pulley on the driving-shaft D' of the machine.

F is a receiving-hopper to receive the purified meal as it drops from the tails of the screens or shakers. If desired, this hopper can be divided so as to receive the tailings separately from the different screens or shakers. G is an adjustable damper for regulating the velocity of the air-current to different qualities of meal.

Having thus fully described our said invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the shaker or screen B, of the air-trunk E', having the deflecting-plate *e* at its rear side, substantially as and for the purpose set forth.

2. The combination, with the shaker B, having the screens and bottom chute made of decreasing length, as described, of the air-trunk E', provided with the deflecting-plate *e*, and arranged at the rear end of said shaker, and

projecting below the points of discharge of the material from said shaker, substantially as and for the purpose set forth.

5 3. The combination of the air-trunk E', arranged at and projecting below the rear end of the shaker B, and the shaker B, having its rear end adjustable vertically with respect to said air-trunk, substantially as described, and for the purpose set forth.

In testimony whereof we have hereunto set our hands.

EDWARD J. O'BRIEN.
HENRY FRANCK.

In presence of—

FRANCIS NOHL,
ROBERT BURNS.