

UNITED STATES PATENT OFFICE.

SAMUEL FAHRNEY, OF BOONSBORO, MARYLAND.

SEPARATING GARLIC FROM WHEAT.

Specification of Letters Patent No. 2,835, dated October 26, 1842.

To all whom it may concern:

Be it known that I, SAMUEL FAHRNEY, of Boonsboro, Washington county, State of Maryland, have invented a new and useful Machine for Separating Garlic, Smut, and other Impurities from Wheat, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a perspective view of the machine, Fig. 2, is a horizontal section through the spring bars &c., Fig. 3, is a vertical transverse section, Fig. 4, is a section showing the finger *o* saw plate, key, &c., Fig. 5 top view of the saw plate H, bars G, G.

Similar letters refer to corresponding parts.

The nature of this invention consists in passing the wheat and garlic over inclined yielding surfaces, which surfaces shall have a pressure, by means of springs, on the grain &c. sufficient to mash the garlic, or force it into cavities but shall yield to the wheat and allow it to pass without disfigurement, and then by means of scrapers, or fingers, distributing the two in separate boxes.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I construct on any suitable platform or floor A a box or hopper B for receiving the grain to be operated upon. This box has three sides and a bottom firmly secured together in such a manner as to form in its horizontal section an equilateral triangle with one apex taken off, thus leaving an opening at the apex of one angle. In front of this opening is arranged a vibrating timber C, which rests and vibrates horizontally, on the edge of a horizontal board *b* and in mortises, made in two vertical posts D, which posts are mortised and tenoned into the platform or floor A and arranged in a parallel line with the vibrating timber C, and a suitable distance apart. This vibrating timber to render it more durable, is lined on the face toward the triangular box with steel or iron E, and moves flush with the side timbers of the box B, to prevent the grain escaping at any other parts than through the channels F. On the steel face E is made a longitudinal channel F the full length of the steel facing, in width equal to the width of a grain of wheat and about twice the depth, in the bottom of which midway between the two sides of the channel, are secured on a

line with each other, three ribs, or iron plates G, G, H, of the same length when put together as the vibrating timber C, and in thickness equal to one third the width of the channel, and about one half the depth of said channel. The center plate, which is 6 inches in length, has a number of saw teeth formed on its front edge, and is secured by means of a key I driven on the opposite side of the vibrating timber, which key is for fastening it when pressed forward, as it wears from constant use. A horizontal oblong mortise J is made in each of the sides of the triangular box B, which extends from the outlet *o* to the inner side of the side piece *p*. Each of these mortises, is covered on the inside of the box with an oblong plate of sheet iron *a* to prevent the grain escaping through them—in each of these mortises is arranged a steel spring bar K made to fit said mortise, which bar is kept constantly against, or nearly so, the face or edge of the vibrating rib, or saw plate H by means of an elliptic, spiral, or semioval formed wire spring *s*—which is made to press against it and which is regulated in its elastic force by a slide T placed behind it and against which one of its extremities rests. A shoulder or stop *s* is formed on the side of each of the vibrating bars which rests against the front of the box L, when the spring is extended, to prevent it touching the edge of the vibrating rib or saw plate H; the end of this bar, which comes against the face or edge of the saw plate H to form with its longitudinal line an angle of about 65 degrees, is of an oblong shape, and forms a right angle with its longitudinal line. On each side of the outlet of the triangular box, and flush with the steel face of the vibrating timber is arranged an oblong box L, partitioned off longitudinally into two apartments, P, Q, the one P next the outlet for the reception of the wheat, after being separated, and the other Q for the garlic, the sides of these apartments, next the vibrating timber being entirely open. In the face of each of the partitions M that divide the apartments P, Q, is fastened a scraper or finger N, which projects in the channel sufficiently far as to almost touch the top of the bar, or saw plate H and which being of the same thickness as the channel F is wide, will prevent any grain that remains above, or outside the surface of the bar and saw teeth passing, and direct it to the before mentioned apartment P of the

box L, while the grains of garlic, which are pressed below said surface by the inclined surface of the end of the spring bar, will pass by to the next box where they will be met by fingers *o* which project from the side of the next apartment Q of the box L, and extend to almost the bottom of the channel, one on each side of the bar or saw plate and be directed to the apartment Q of said box.

10 The vibrating timber C receives its vibratory movement from a pitman rod T fastened to a crank shaft, which may be secured in any suitable frame.

15 Inside the triangular box and near the outlet thereof, is arranged a vertical shaft R turning in a step at the bottom and supported by a cross timber U at the top, extending across the top of the triangular box B and covering the tops of the boxes L L and fastened thereto. On the lower part of this shaft are formed a number of cogs for agitating the grain and drawing it toward the outlet. Near the top of this shaft is fastened a spur wheel or pinion V which works in with a rack W fastened on the top of the vibrating timber, and from which the wheel receives its motion.

20 Only one set of spring bars, fingers, one channel saw plate &c., is described but several sets may be arranged on the face of the vibrating timber &c., in a similar manner to the one described.

30 The operation of this machine is as follows: The grain to be operated upon being placed in the hopper B and a vibratory

40 movement given to the timber C—a portion of the grain will be carried in the channel F over the end surfaces of the spring bars, which bars, as before stated, will yield to the wheat, and allow it to pass without disfigurement, but will press the garlic below the surface of the saw plate, and the wheat, (which remains above the surface of said saw plate H,) will be directed, by means of the fingers or scrapers N, to the apartments P of the oblong box L, and the garlic, (which remains below said surface) will be by means of the fingers *o* directed to the apartments Q of said box L, and the vertical shaft R with the cogs formed on it, being turned by the rack W, and pinion V, will draw the grain inside the triangular box toward the outlet *o* to supply the place of the grain taken through the channel F.

55 What I claim as my invention and which I desire to secure by Letters Patent is—

The above described mode of separating garlic from wheat, by means of the saw teeth, formed on the edge of the plate H, and spring bars K for mashing the garlic, and fingers N, O, for directing the wheat into the apartments P of the boxes L and the garlic into the apartments Q of said boxes, or any other mode substantially the same, and in combination therewith, the hopper B arranged and constructed as described.

SAML. FAHRNEY.

Attest:

J. R. FORNEY,
DANIEL FAHRNEY.