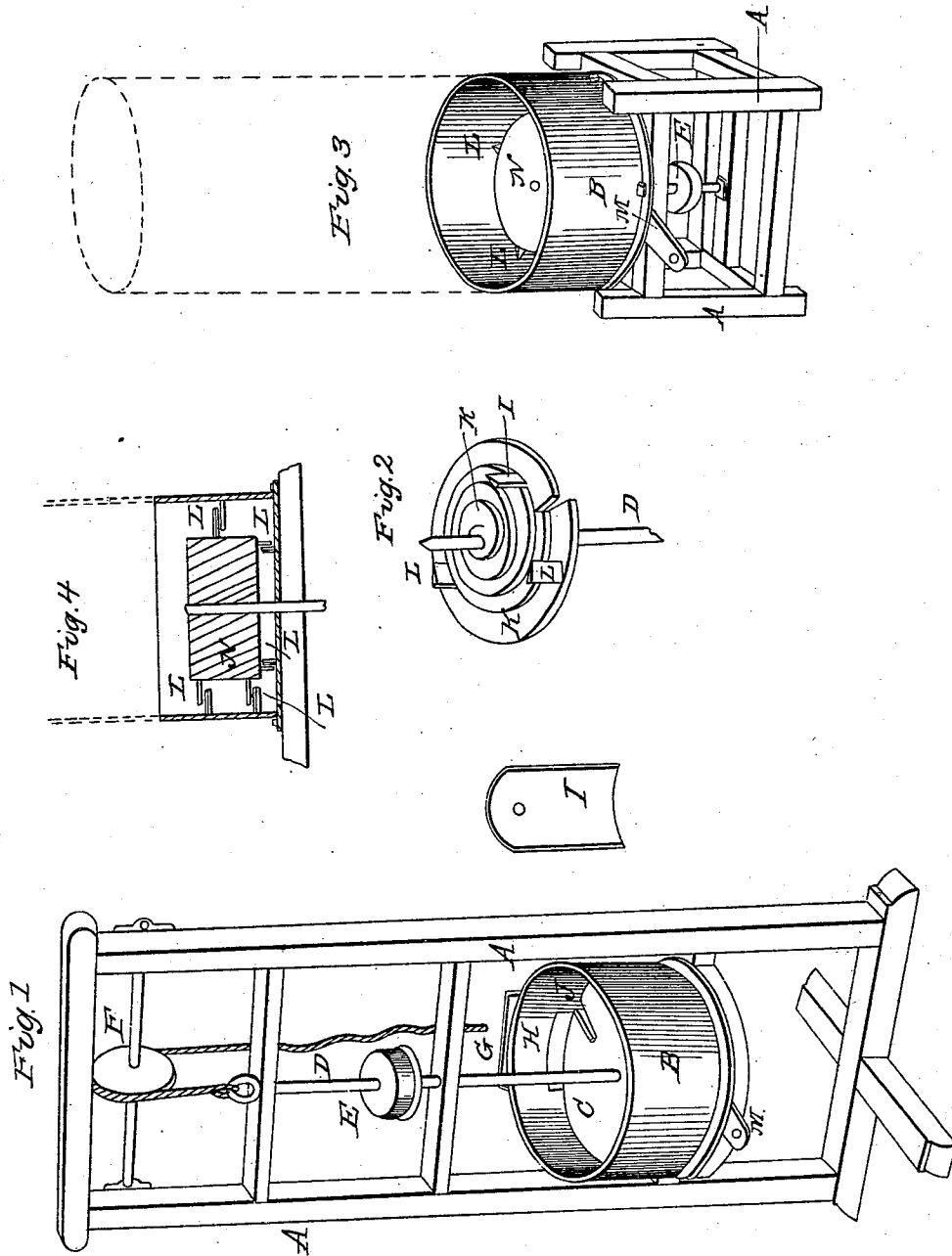


J. F. BARRETT.
Separating Garlic from Grain.

No. 1,845.

Patented Oct. 31, 1840.



UNITED STATES PATENT OFFICE.

JONATHAN F. BARRETT, OF NORTH GRANVILLE, NEW YORK.

MACHINE FOR SEPARATING GARLIC FROM WHEAT.

Specification of Letters Patent No. 1,845, dated October 31, 1840.

To all whom it may concern:

Be it known that I, JONATHAN F. BARRETT, of North Granville, in the county of Washington and State of New York, have
5 invented a new and useful Machine for Separating Garlic, Smut, and other Foreign Substances from Wheat and other Grain; and I do hereby declare that the following is a full and exact description thereof.

10 It is well known to those conversant with the cleaning of wheat, and other grain, that when such grain contains garlic this injurious article cannot be separated from it by sifting, or by any of the other modes of
15 cleaning ordinarily resorted to; it is known, also, that the garlic is much softer than the grain, and various attempts have been made to take advantage of this circumstance to effect its separation, but the means hitherto
20 adopted have failed to produce the desired result. In my machine the separation is effected by taking advantage of this difference in the hardness of the grain and of the
25 garlic, but in a manner altogether different from the plans heretofore essayed.

The principle upon which my machine operates is that of pressure, and of the friction of the grains against each other. The two being combined in such a manner as to
30 produce the crushing of the garlic, smut, white caps, and other foreign matter by their attrition against the grain, and not by being rubbed against anything of the nature of graters, points, or other asperities, on the
35 interior of the machine in which the agitation is effected. The pressure may be made in various ways, as by a high column of the grain contained in a cylinder, or shaft, above the agitators, and pressing upon that
40 portion which is subjected to friction by the agitators, or the grain may be pressed upon by a revolving, or a stationary, plate resting upon its surface; a plate of this description, and of peculiar construction is described in the first modification of my
45 machine.

The grain to be cleaned is fed into a cylindrical vessel, within which it is subjected to pressure under, and by means of, a revolving
50 plate, or disk, of weight sufficient to cause the garlic, and all other substances less hard than the grain itself, to be crushed by their attrition against the grain, which is kept in motion by means of projecting
55 pieces which I call agitators, affixed to the

bottom of the cylindrical vessel, and to the under side of the revolving plate, or disk.

Figure 1, in the accompanying drawing, is a perspective view of my machine furnished with a revolving plate. A, A, is the
60 frame-work, which may be variously constructed. B, is the cylindrical vessel into which the grain is to be fed; C, is the plate, or disk, which fits as closely as may be to, and revolves within, the cylinder. D, is a
65 shaft, having on it a whirl E, by means of which the disk is made to revolve, and this it should do with a velocity of about four hundred turns in a minute; this plate may be of cast-iron, and it must be of sufficient
70 weight, or so loaded, as to exert the required pressure upon the grain. This pressure may be regulated at pleasure, and the disk may be raised out of the cylinder by the aid of a rope passing over a pulley F, and attached to a swivel at the upper end of the shaft. The grain in this modification of my machine, is to be fed in on one side of the cylinder through a conductor G, at the lower end of which there is an opening H,
80 into the cylinder, which opening is to be governed by a sliding shutter I. The grain passes on to the top of the disk C, and gets under it through an opening J, near its periphery. The disk is not actually flat on its
85 surface near its periphery, but constitutes one turn of a volute screw, or spiral plane, which is continued on its under side, as shown in Fig. 2; which figure represents the lower side of the plate, or disk. J, is the
90 opening through the plate, by which the grain is allowed to pass below it; and K, K, is a continuation of the spiral, or volute, of which the periphery of the disk forms the first turn. There are also on this under
95 side, projecting pieces L, L, which I denominate agitators, and these serve to move, or agitate, the grain, while it is also agitated by the volute, and pressed by it, and by the weight of the disk. There are agitators, likewise, on the bottom of the cylindrical vessel, similar to those marked L, L,
100 on the disk, cooperating with them in keeping the grain in continued motion; they may vary in number and form, these particulars not being matters of importance. The volute, or spiral, may be varied in form, and it may consist of a double, or of a single, thread, and the grain may pass in under the
105 plate through more than one opening. Agi- 110

tators may also be placed on the sides of the cylinder, and on the shaft, instead of on the bottom of the plate, and the bottom of the cylinder. The rubbed grain passes out through a hole in the bottom of the cylinder, which hole is governed by a sliding shutter M, Fig. 1, in the ordinary way.

Fig. 3, shows a modification of my machine in which the pressure is obtained by the weight of a column of the grain, which column may be of any height required to produce the desired effect. In this modification, instead of using the plate C, as in that first described, I place my agitators around a revolving drum N, Fig. 3, which is contained in a cylindrical case B, similar to that shown in Fig. 1; this drum is to be five, six, or more, inches smaller than the cylinder, and around its sides there are to be set several agitators L, L, standing with their planes obliquely to the plane of revolution, so that they may tend to press the grain downward. There are similar stationary agitators on the sides of the cylinder; and they may also be set on the lower side of the drum, and on the bottom of the cylinder, as in my first modification, and as shown in section in Fig. 4. The cylinder B, may be made of any required height, extending, if necessary, from one floor of a mill to that next above it. In this case the feeding at the side, as in Fig. 1, is dispensed with, there being, under this modification, no use in a device of this kind.

The drum N, is represented as sustained on a shaft below the cylinder, but said shaft may extend up through the column of grain, and be driven from above. When the grain has been rubbed in this machine, and the garlic and other foreign matters broken up by the pressure and attrition, it may be cleaned by the ordinary fan.

Having thus, fully described the nature of my improvement, and shown the manner in which I carry the same into operation, what I claim as constituting my invention, and desire to secure by Letters Patent, is—

The acting upon the grain by compression and attrition combined, with a force sufficient to crush the garlic and other foreign matter, without breaking the grain itself, the same being effected in the manner herein set forth; that is to say, by making pressure upon the grain subjected to attrition, either by means of a plate constructed as herein described, and revolving above it, and carrying agitators which coöperate with fixed agitators, as set forth; or by making the pressure by means of a column of the grain of sufficient height to effect the purpose, when combined with its agitation, by means of revolving and fixed agitators, arranged and operating substantially as herein set forth.

JONATHAN F. BARRETT.

Witnesses:

THOS. P. JONES,
THOMAS VARNEY.