J. VAUGHN.

CORN SHELLER AND SEPARATOR.

No. 23,965. Patented May 10, 1859.

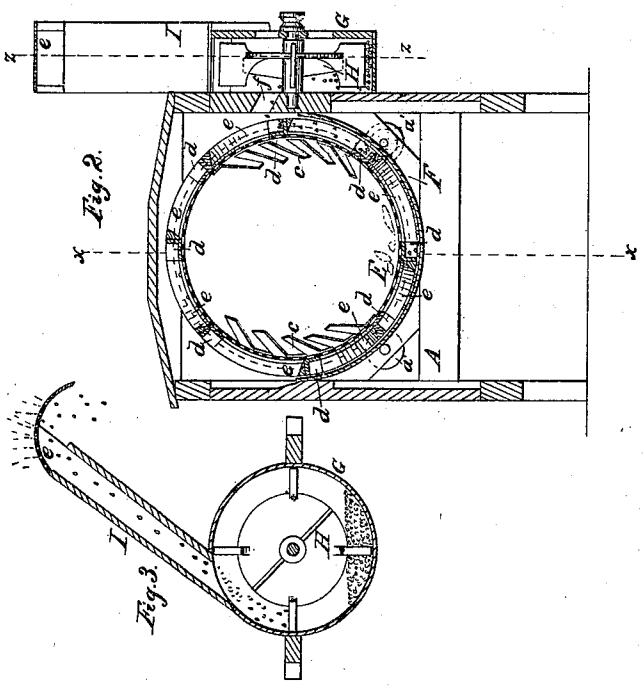


Fig. 2.

Fig. 3.

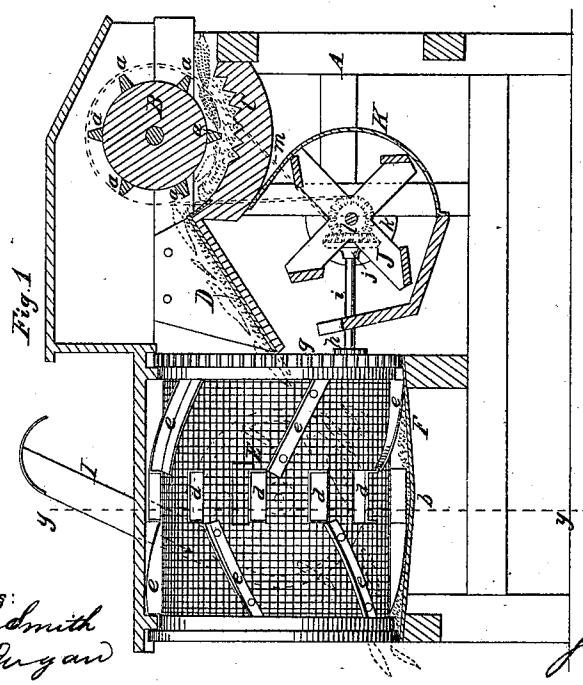


Fig. 1.

Witnesses:
Samuel H. Smith
Nelson Dugard

Inventor:
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UNITED STATES PATENT OFFICE.

JAMES VAUGHN, OF MAGNOLIA, ILLINOIS.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 23,965, dated May 10, 1859.

To all whom it may concern:

Be it known that I, JAMES VAUGHN, of Magnolia, in the county of Putnam and State of Illinois, have invented a new and Improved Corn Shelling and Separating Device; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical section of my invention taken in the line *x*, *x*, Fig. 2. Fig. 2, is a transverse vertical section of do taken in the line *y*, *y*, Fig. 1. Fig. 3, is a detached side sectional view of the elevator, taken in the line *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a rectangular framing which is inclosed so as to form a box containing the working parts of the device.

B, is a cylinder which is placed transversely on the upper part of the frame A, at one end and has ribs or beaters *a*, attached longitudinally to its periphery, the ribs or beaters extending the whole length of the cylinder.

C, is a concave which is placed in the framing A, below the cylinder B, and is corrugated or fluted or grooved longitudinally and consequently parallelly with the ribs or beaters *a*. The ribbed cylinder B, and concave C, form a shelling device which is well known and used in various machines for shelling corn.

D, is an inclined spout or trough which leads from the concave C, to the inner end of a rotating wire screen E, which is fitted on friction rollers *a'*, the screen rotating on said rollers instead of an axis. The screen E, is sufficiently coarse to allow the grains of corn to pass through but it retains the cobs. The screen is placed directly over a semi-cylindrical hopper F, which is concentric with the periphery of the screen but is made slightly concave, that is to say, its center is somewhat depressed as shown at *b*, Fig. 1. To the inner surface of the screen E, two or more spiral plates are attached, and to the outer side of the screen at its center a series of buckets *d*, are attached at equal distances apart, the buckets being in line with the depressed part or hollow of the hopper F, as shown clearly in Fig. 1. To the outer side of the screen E, a series of scrapers *e*, are attached. These scrapers are plates attached obliquely to the screen, those on one side of the buckets being in a reverse position to those at the opposite side, and the scrapers at one side of the buckets being connected to every alternate bucket while those at the opposite side are connected with the intermediate buckets, see Fig. 1. The scrapers and buckets nearly touch the hopper F.

To one side of the box or case of the machine and at a point in line with the buckets *d* of the screen E, a fan box G, is placed and H, is the fan placed therein. To the box G, an inclined spout I, is attached, the upper end of the spout being curved and perforated as shown at *e*, Figs. 2 and 3. The fan box G, communicates with the interior of the case of the machine by an opening *f*, which is directly in line with the buckets *d*.

To the inner end of the screen E, a geared rim *g*, is attached and a pinion *h*, meshes therein. The pinion *h*, is on a shaft *i*, which has a bevel toothed wheel *j*, placed on it, said wheel *j*, gearing into a corresponding wheel *k*, on the shaft *l*, of a fan J, which is placed in a suitable box K, below the concave C, as shown clearly in Fig. 1. Motion is communicated to the fan J, from the cylinder B by means of a belt *m*.

The operation is as follows:—Power is applied to the cylinder B, in any proper way, and the ears of corn are fed in between the cylinder B, and concave C. The corn is shelled from the cob as the ears pass between the cylinder and concave and the cob and corn pass down the inclined spout D, into the screen E, which is rotated from the cylinder B, by means of the gearing *g*, *h*, *j*, *k*, and the belt *m*. As the screen E, rotates the corn passes through it into the hopper F, while the cobs are fed along within the screen by the spiral plates *c*, *c*, and are discharged at the outer end of the screen, the fan J, creating a blast which passes through the screen and forces out light foreign substances with the cobs. The shelled corn in the hopper F, is taken up by the buckets *d*, and discharged thereby through the opening *f*, into the fan box G, the oblique plates or scrapers *e*, pushing the corn into the concave *b*, and into the path

of the buckets *d*. As the corn is dropped into the fan box G, the fan H, by its rotation forces the corn up through the spout I, dust and small foreign substances passing through the perforated portion *e*, of the spout, and the corn falling in a clean state from the upper end of spout I.

I am aware that the shelling cylinder B, and concave C, have been used and also a rotating screen E, and also a rotating screen encompassed by a cylinder provided with buckets arranged to elevate the shelled corn, the latter device being patented by I. Van Horne September 4th, 1835. My device however differs essentially from the latter as the external cylinder is dispensed with and the arrangement of parts is entirely different. I am also aware that the elevator formed of the fan H, and inclined spout I, has been used. I do not claim therefore the cylinder B, and concave C, nor the revolving screen E, neither do I claim the elevator formed of the fan and inclined spout; but,

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

The arrangement and combination of the semi-cylindrical hopper F, having a depression (*b*) in its center, with the screen E, buckets (*d*), spout D, fan J, and spout I, as and for the purpose herein shown and described.

JAMES VAUGHN.

Witnesses:
SAMUEL H. SMITH,
NELSON DUGAN.