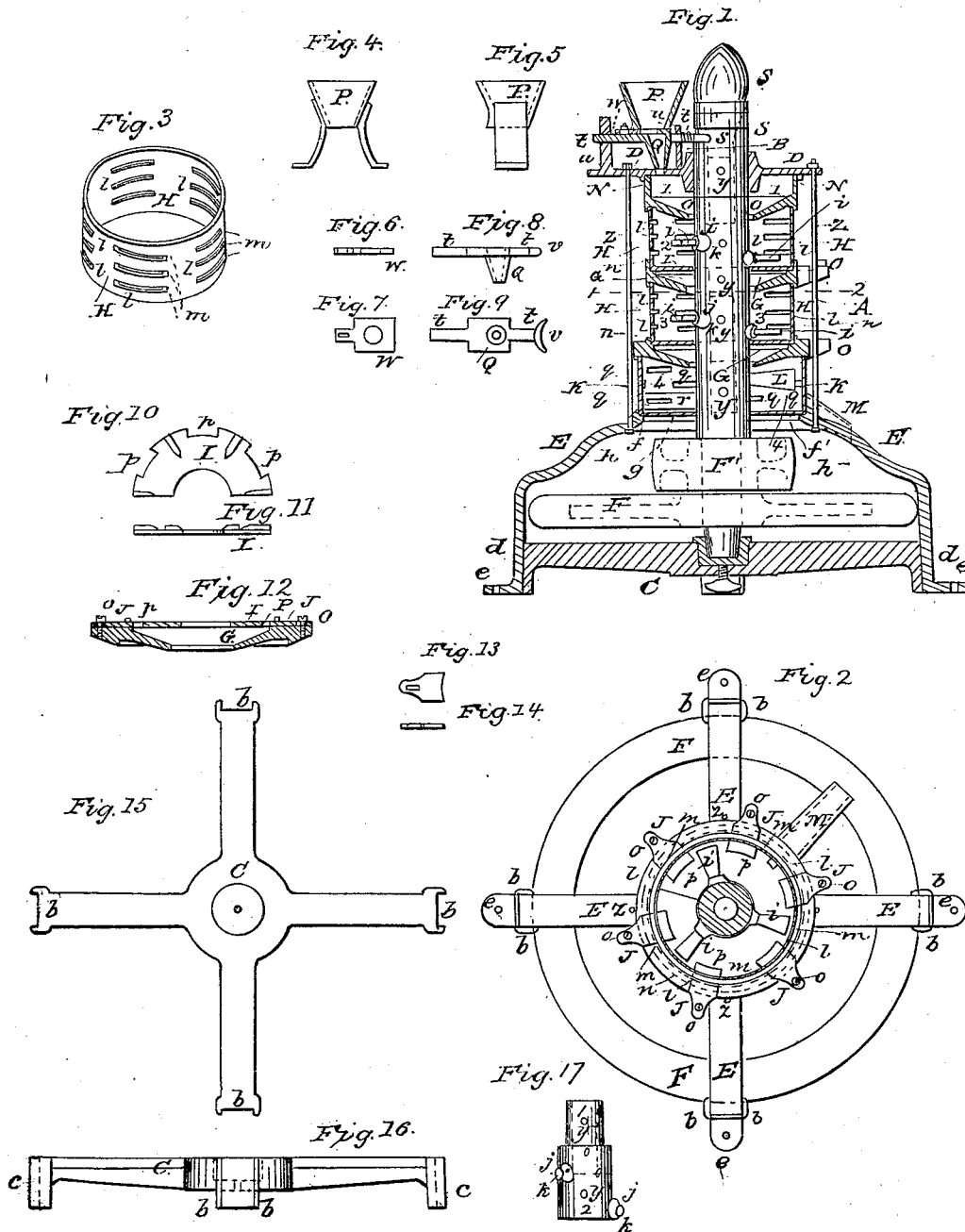


J. HAYDEN.
Hominy Machine.

No. 53,611.

Patented April 3, 1866.



WITNESSES
Edwin Smith
Alfred Taylor

INVENTOR
James Hayden

UNITED STATES PATENT OFFICE.

JAMES HAYDEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HOMINY-MILLS.

Specification forming part of Letters Patent No. 53,611, dated April 3, 1866.

To all whom it may concern:

Be it known that I, JAMES HAYDEN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Hominy-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical section of the machine. Fig. 2 is a horizontal section at the red line 1 2 of Fig. 1. Fig. 3 is a perspective view of one of the sheet-iron cylindrical pieces H. Figs. 4 and 5 are side views, at right angles with each other, of the hopper P. Figs. 6 and 7 are an edge and face view of the shaker-slide *w*. Fig. 8 is an elevation of the shaker Q. Fig. 9 is a top view of the same. Fig. 10 is a view from beneath of one of the half-plates I. Fig. 11 is an edge view of the same. Fig. 12 is a vertical section of one of the conical plates G, one of the flat plates I, and two of the slides J in connection. Figs. 13 and 14 are a face and edge view of one of the slides J. Fig. 15 is a top view of the bridge-frame C. Fig. 16 is a side elevation of the same. Fig. 17 is an elevation of one of the sections of the central shaft, B.

Like letters in all the figures indicate the same parts.

The nature of my invention and improvement will be understood by the following description.

A is a cylindrical-shaped case, into which the corn is fed to be hulled, being made in sections, as hereinafter described, to facilitate putting the machine together.

B is a central shaft, which is provided with the moving parts for manufacturing the hominy. It is supported at its lower end by the step *a* in the bridge-frame C, and at its upper end by a central bearing in the cap-piece D of the case A. The said bridge-frame is combined with the frame E, there being lips *b* on the legs *c* of the bridge-frame, which fit over the edges of the legs *d* of the frame E, and the legs of each frame are a little inclined, so that when the outer frame, E, is fastened down to the floor by means of screws through its feet *e* the legs *d* bear against the legs *c* and hold the bridge-frame C securely in its central position. The bridge-frame C is shown in detail in Figs. 15 and 16.

On the interior of the rim of the frame E there is an annular lip, *f*, which supports the plate *g* that forms the bottom of the case A.

Between the said bottom *f* and the bridge C there is a space, *h*, in which the fly-wheel F and driving-pulley F' revolve.

I have represented the central shaft, B, as formed in sections, one of which is represented in Fig. 17. The sections are lessened in size at the end 1 and have a corresponding opening in the end 2, so that the whole may be readily put together. They are confined by means of the screws on the inner ends of the beaters *i*, which pass through the ring end of one and the tenon end of the adjacent one, respectively, to hold the sections together. The beaters are prevented from turning by the reaction of the corn by means of the pins *j*, which pass through the bosses *k* on the shaft alongside of the screws or through the same.

There are conical plates G, which connect sheet-iron cylindrical pieces H to form different compartments to the case A. The said pieces H have slots *l*, through which the hulls, or a portion of the same, are forced out by the action of the beaters. On their front edges there are cutters *m*, as seen in Figs. 2 and 3, which remove a portion of the hulls from the corn.

There are flat plates I, which are combined with the said plates G, the two being in halves, so that they may readily be put in position. The central openings in the plates I are just large enough to permit the shaft B to revolve freely without touching it; but the openings in the plates G are sufficiently large to form a space around the shaft for the discharge of the corn. Instead of the openings just described being made large, they may be of the same size as in the plates I and the corn discharged by means of a series of holes near the shaft.

There are slides J, which fit in corresponding openings in the rim *n* of the conical plates G and flat plates I, as represented in Figs. 1, 2, and 12, for the purpose of regulating the discharge of the corn from an upper into a lower compartment, the said slide being adjustable by means of the set-screw *o*, so as to enlarge or contract the openings *p*, as may be required, to let a larger or smaller quantity of corn pass through from one compartment to another. As the corn passes through said openings it slides down the conical plates G toward the shaft B and falls through the cen-

tral openings of said plates, and is acted upon by the beaters *i* and forced to the periphery of the compartments.

The connection of one of the conical plates G, a flat plate, I, and slides J is shown in detail in Fig. 12. There is a cylindrical piece, K, which connects the lower conical plate G with the bottom plate, *g*, of the case A, to form the compartment 4, into which the corn falls after it leaves the compartment 3, in which the hulling is completed. The said piece K has slots *g*, through which the hulls are blown by the fan L, connected with the central shaft, B, and the corn is forced into the chute M by means of the scraper *r* and falls into a proper receptacle.

Between the upper cylindrical piece H and the cap-piece D there is a rim, N, which has a conical plate, O, down which the corn falls and through its central opening as it is fed through the hopper P.

Q is a shaker beneath the hopper. It receives a vibratory motion by means of the eccentric *s*, which is formed on the upper end of the central shaft, B. The stems *t* of the shaker slide in openings in the uprights *u u* of the cap-piece D.

R is a cylindrical spring on the inner stem, *t*, of the shaker, whose ends bear against the inner upright, *u*, and the segmental head *v* of the stem, to bear the latter at all times against the eccentrics *s*.

The shaker is provided with a slide, *w*, for regulating the supply of corn from the hopper. It has a screw, *x*, for securing it in place when adjusted.

The hopper P is shown in detail in Figs. 4 and 5, the slide *w* in Figs. 6 and 7, and the shaker in Figs. 8 and 9.

For the purpose of ventilating the compartments 2, 3, and 4 to prevent the grain from heating, the central shaft, D, is constructed with a central opening as far down as the bottom of compartment 4, as represented in Fig. 1, and there are radial holes *y*, which communicate therewith. The air is forced down said central opening and through the holes *y* into the compartments by means of the ventilator S, which is confined in the upper end of the shaft and revolves with it.

The plates I are kept from turning by the action of the beaters upon the corn by means of the outer ends of the strengthening-ribs on their under side, which are represented in Figs. 10 and 11 fitting in recesses in the plates G.

The different parts of the case A are held together by means of the vertical rods *z*, as represented in Fig. 1.

The operation is as follows: As the shaft B and its connections turn in the direction of the arrow the corn passes from the hopper P and through the shaker Q into the chamber 1 and down the plate O into the compart-

ment 2, so as to keep the same full of corn, which is acted upon to remove the hulls by the beaters *i* in the revolutions of the shaft. The action of the beaters causes the corn to gradually incline toward the circumference of the compartment, and as it is forced around against the inner periphery of the sheet-iron cylindrical piece H the cutters *m* of the slots *b* remove portions of the hulls from the grains and they fall through the openings *p* on the conical plate G and down it into the compartment 3, where they are operated upon in like manner as in compartment 2, and from the compartment 3 they are conveyed by the conical plate G into the compartment 4, and by the action of the scraper *r* are rapidly forced into the chute M, through which they pass into a receptacle. As the corn falls into the compartment 4 it is winnowed by means of the fan N, which blows the hulls through the slots *g*.

In the revolutions of the shaft B the ventilator S supplies the compartments 2, 3, and 4 with cool air, as above described, to prevent the heating of the corn.

I have represented but two compartments in which the corn is hulled, but contemplate in practice having additional numbers of them.

Having thus fully described my improvement in hominy-machines, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the adjustable slide *w* with the shaker Q, for regulating the supply of corn from the hopper, the said slide being arranged and operating substantially as described.

2. The combination of the adjustable slides J with the plates I, for regulating the discharge of the corn through the openings *p*, substantially in the manner described.

3. Constructing the slots *l* of the cylindrical pieces H with cutting-edges *m*, for removing a portion of the hulls from the corn, substantially as described.

4. The combination of the beaters *i* and sections of the central shaft, B, by means of the screws on the inner ends of the former and the pins *j*, the several parts being constructed and arranged in relation to each other substantially as described, and for the purposes specified.

5. The combination and arrangement of the ventilator S with the central shaft, B, for creating a current of air through the grain-compartments, substantially in the manner described, and for the purpose set forth.

In testimony that the above is my invention, I have hereunto set my hand and affixed my seal this 13th day of January, 1866.

JAMES HAYDEN. [L. s.]

Witnesses:

STEPHEN USTICK,
JOHN WHITE.