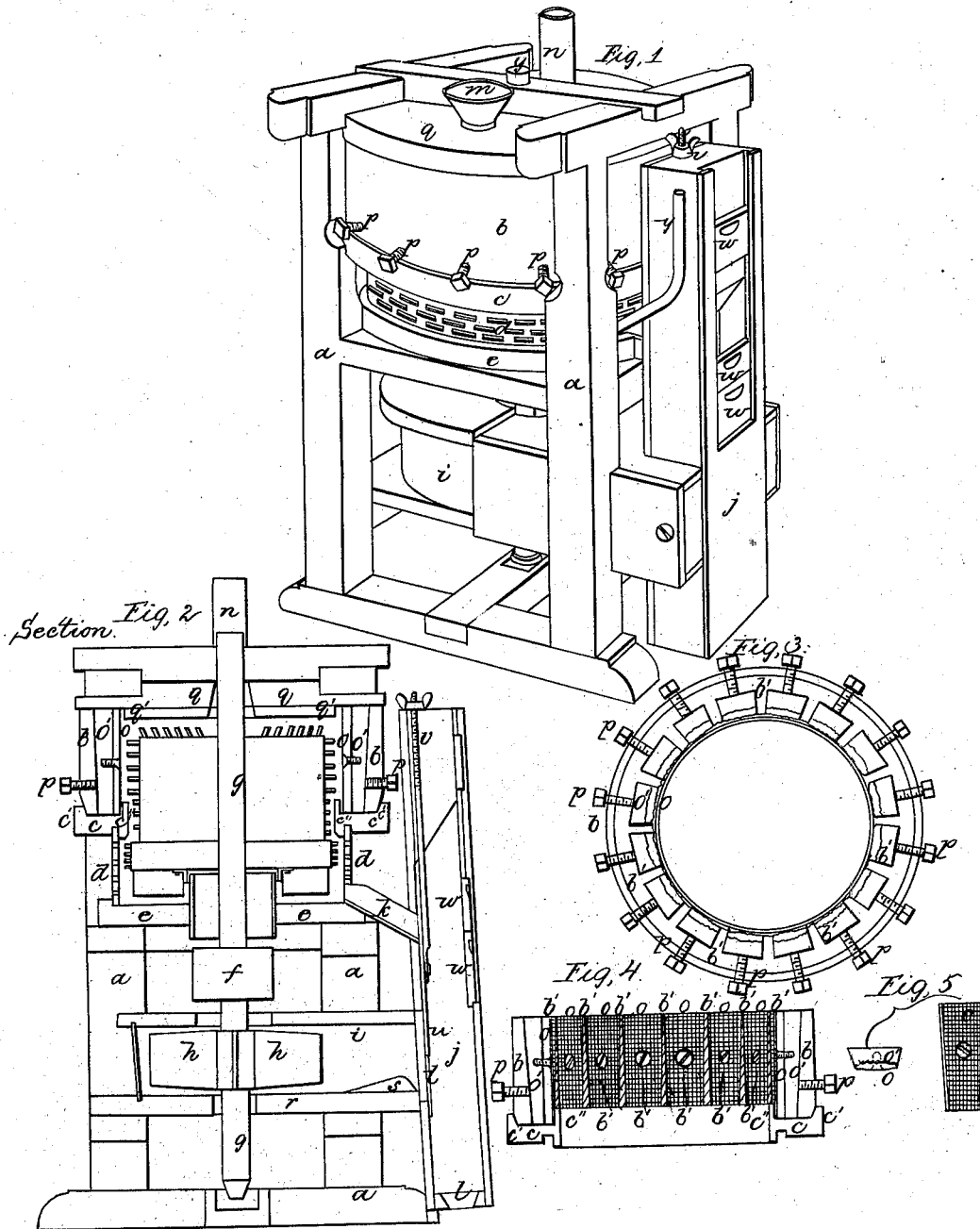


D. Utam.
Smut Mill.

N^o 7,312.

Patented Apr. 23, 1850.



UNITED STATES PATENT OFFICE.

DAVID ULAM, OF MOUNT PLEASANT, PENNSYLVANIA.

SMUT-MACHINE.

Specification of Letters Patent No. 7,312, dated April 23, 1850.

To all whom it may concern:

Be it known that I, DAVID ULAM, of Mount Pleasant, Westmoreland county, State of Pennsylvania, have invented new and useful
5 Improvements in Smut-Machines; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the annexed drawings, making a part of this specification.

One part of my invention consists in provisions for the adjustment and renewal of the concave toothed or grooved rubbing surface, which acts in conjunction with the
15 tooth covered drum rotating within it to scour the grain and separate the smut therefrom.

Another part of my invention consists in arrangements for directing and regulating
20 the issue of the blast. Also a part for carrying off the chaff, dirt, &c. from the grain. Likewise an arrangement for sustaining the rubbers in a proper position.

In the annexed drawings similar letters
25 refer to corresponding parts throughout.

Figure 1, is a perspective view. Fig. 2, is a vertical section made by a plane passing through the shaft and the winnowing trunk. Fig. 3, is a horizontal section of the
30 concave rubbers; Fig. 4, is a vertical section of the same. Fig. 5, is an end view, and a front view of one of the rubber blocks.

The frame *a*—shell or case *b*—ring *c*—screen *d*—floor *e*—driving pulley *f*—shaft
35 *g*—fan *h*—fan case *i*—winnowing trunk *j*—chute *k*—hopper *m* and dust pipe *n* not differing materially from those ordinarily in use need no particular description.

The shell or case *b* rests upon the ring *c*,
40 the rim *c'* on which ring *c* serves to retain the shell *b* to its bearings. This shell has, projecting from its concavity vertical prismatic ribs *b'*, forming around its interior a series of recesses for the reception of the
45 rubbers *o o*. These rubbers consist each of two parts, namely a face piece or plate *o*, having its front and back surface exactly counterpart, each presenting a small fraction or external segment of a cylinder and
50 both faces are similarly roughened. This face piece is attached to a block *o'* of hard wood by screws.

Set screws *p*, are tapped into the shell

b, and by these screws the rubbers *o, o'*, can be advanced toward the revolving rubber
55 and adjusted as they wear, and to suit different kinds and conditions of grain, and when the lower surfaces of the rubbers *o* begin to be worn smooth, they may be inverted, end for end; and when the entire front sur-
60 face has become worn, they can have their untouched back faces turned to the front, and also inverted.

The rim *c''* on the ring *c* and the rim *q'* on the cover *q* serve to retain the rubbers *o*
65 in their places and to prevent them from approaching too near the surface of the revolving rubber.

The floor *r* of the fan *h* has an inclined ledge *s* near its issue *t* for directing the
70 wind upward, and that issue can be widened or narrowed at pleasure by a damper *u* operated by a screw rod *v*; and there is the usual set of shutters *w* by which any desired height and measure of vent can be
75 given according to the nature of the materials and the force of the blast.

Proceeding from the screen are two or more tubes *y* of caliber sufficient to convey
80 off such particles of hull, husk, furze &c. as are too large to pass through the screen, the upward direction of the tubes at the same time preventing the escape of grain.

The rubber blocks may, if preferred, consist each of a piece of stone hammer rough-
85 ened on its faces—or of a block of wood armed with nails, or otherwise rendered jagged.

Having thus fully described the nature of my invention, what I claim therein as new,
90 and now desire to secure by Letters Patent is as follows:

The peculiar construction of the rubber pieces *o* substantially as described and represented, whereby all parts of their surfaces
95 may be successively appropriated to the rubbing action, each plate being susceptible of four changes before it becomes necessary to replace it by a fresh rubber.

In testimony whereof I have hereunto
100 signed my name before two subscribing witnesses.

DAVID ULAM.

Witnesses:

WM. P. ELLIOT,
LUND WASHINGTON.