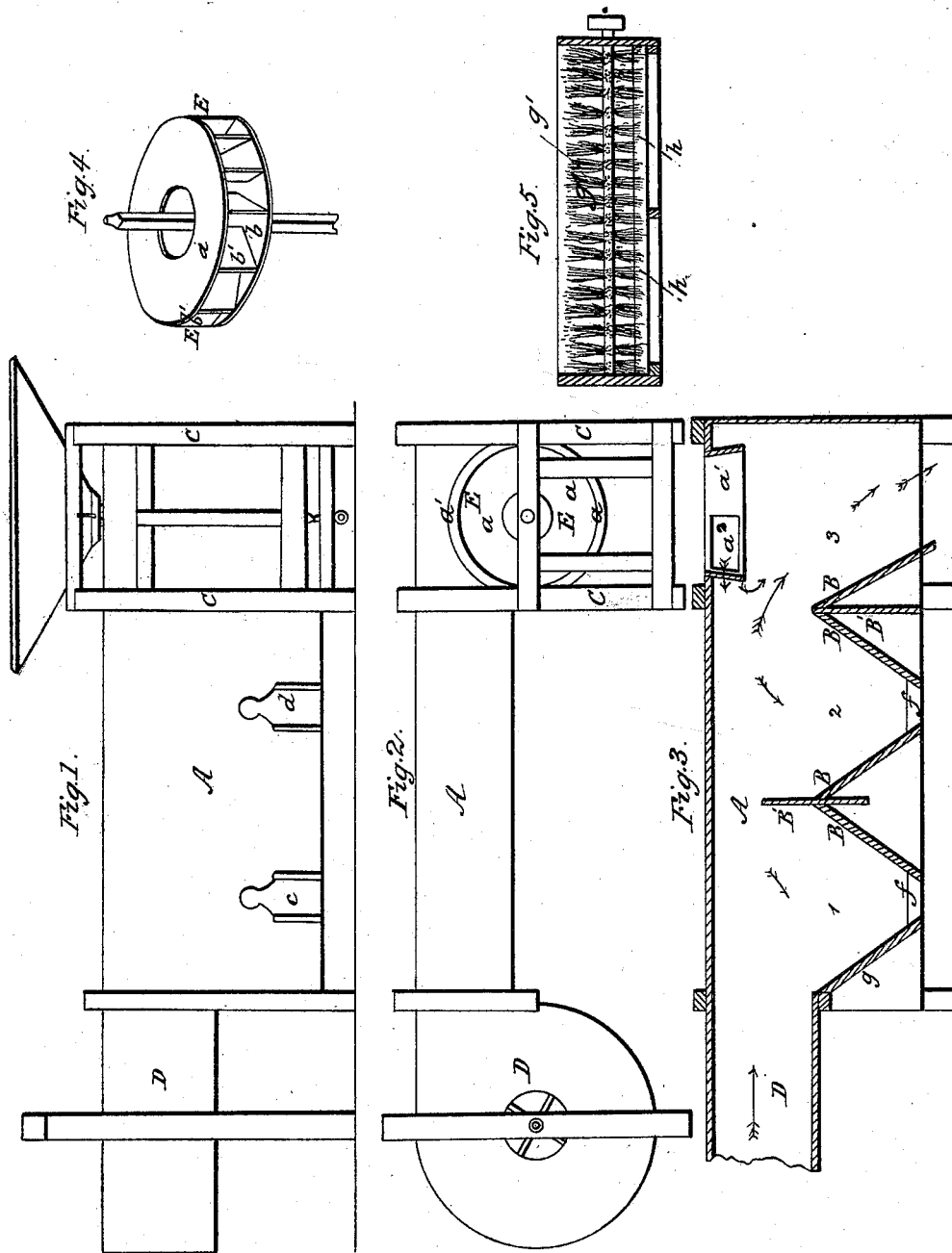


J. WILSON.  
Smut Machine.

No. 2,684.

Patented June 22, 1842.



# UNITED STATES PATENT OFFICE.

JOHN WILSON, OF GENTSVILLE, SOUTH CAROLINA.

## SMUT-MACHINE.

Specification of Letters Patent No. 2,684, dated June 22, 1842.

*To all whom it may concern:*

Be it known that I, JOHN WILSON, of Gentsville, Abbeville district, in the State of South Carolina, have invented a new and Improved Machine for Cleaning Wheat from Smut, the following being a full, clear, and exact description of said machine, reference being had to the accompanying drawing, which forms a part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, a top plan; Fig. 3, a section of the machine; Fig. 4, the grain wheel; Fig. 5, the longitudinal section of a brushing machine.

An oblong box A is made about 12 feet long, 1 foot wide and 4 feet deep; it is divided into three parts by partitions B. To within about two feet of the top these partitions are formed of two pieces of board which stand slanting toward each other at an angle of about 70°, the top edges being just far enough apart to allow a shutter to play up and down between them. This shutter B' slides vertically and is for the purpose of shutting of the draft of air more or less as desired. To the side of the box A at one end a frame C is affixed formed of four posts connected by cross ties the upper ones of which are made long enough to reach across the box and are framed into two posts. On the opposite side in this frame is placed a hopper and wheel (E); the hopper is like that of a common grist mill, having a shoe at its bottom acted on by a damsel in the common way (in Fig. 2 the hopper is removed to show the wheel which runs horizontally, near the top of the frame and just under the shoe, this wheel has a vertical shaft running from the lower cross piece to the top of the frame the part above the wheel being the damsel above named. This wheel is formed of two disks (*a* and *b*) placed as far apart as the height of the vanes (*b' b'*) combine them, these vanes are made straight and stand at an angle of about 25° from the radi of the wheel, all around its edge in the upper disk (*a*) a hole is made in the center around the shaft large enough to admit the grain from the hopper; around the periphery of this wheel

there is a hoop (*a'*) which has an opening on the side over the box (marked *a*<sup>2</sup>, Fig. 3) from which the grain is thrown lengthwise of the box, by means of the vanes in the wheel.

At the end of the box A opposite the grain wheel is placed a horizontal fan wheel inclosed in a case D, and of common construction. The upper side of this wheel is on a level with the top of the box and extends down about half of its length. These wheels are geared and driven in any of the usual ways. The compartments (1 and 2) in the box being contracted toward the bottom by the spreading partitions and the end (*g*) next the fan which also stands slanting the grain, &c., which falls into them can be easily drawn out on one side at the apertures covered by the sliding doors (*c* and *d*) the bottoms (*f, f*) being slanted forward to facilitate that operation; the compartment (3) has no bottom consequently the smut chaff, &c., are thrown out of the machine. This machine may stand on feet at any desired height from the ground.

When the machine is operated, the wheat to be cleaned is put into the hopper, and gradually runs through into the wheel E, from which it is thrown off with considerable force in the direction of the fan; at the same time the fan creates a strong current of air in the opposite direction the heavy wheat being thrown into the compartment (1) nearest and that which is lighter falling into (2); the light smut and chaff will be driven into (3) and down out of the machine under the grain wheel; the shutters B which are raised and lowered at pleasure can be made to regulate the draft of air and action of the machine as required. Should the smut be much broken, so as to stick to the grain, the wheat should be run through a machine for brushing it, a section of which is shown in Fig. 5. In an oblong box a cylindrical brush (*3'*) is placed, underneath which a wire sieve (*h*) is placed, made concave to fit the brush. This sieve is on a frame separate from the box, so that it can be raised as the brush

wears, and preserve a slight contact with it, or instead of this, a disk running on an upright shaft can be used, having a brush on the under side, acting on a sieve, in a similar manner.

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

1. The grain wheel, constructed substantially as herein before stated, in combina-

tion with the fan, in the manner, and for the purpose set forth.

2. I also claim the box A, having partitions, in combination with the fan and grain wheel, as herein specified.

JNO. WILSON.

Witnesses:

LEWIS PYLES,  
J. J. GREENOUGH.