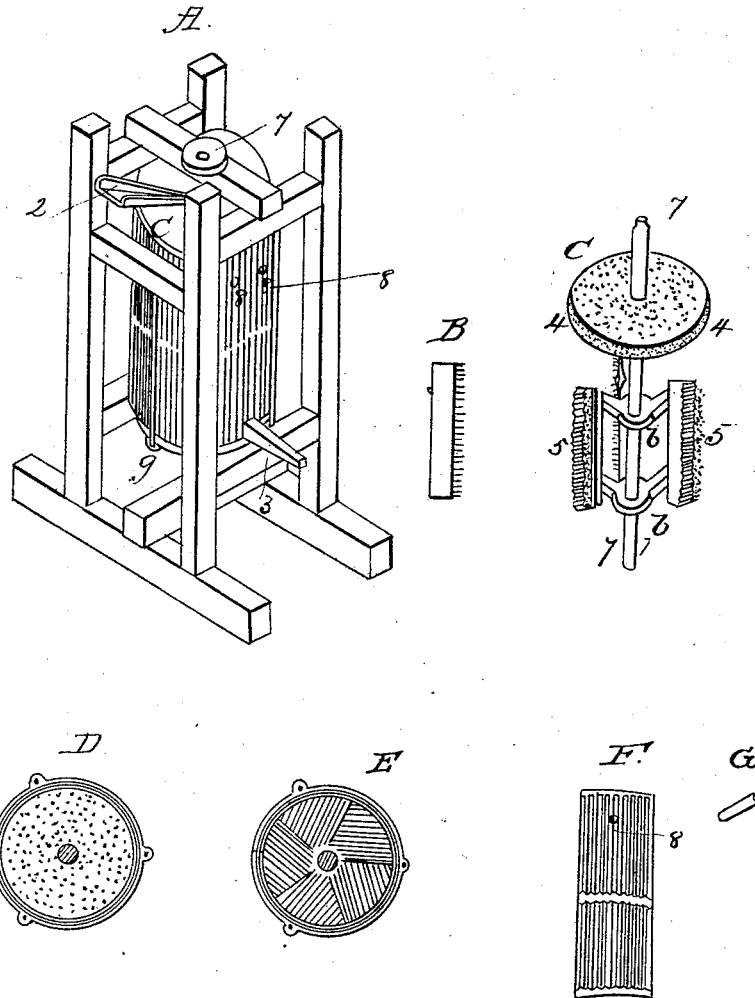


G. MANN, Jr.

Smut Machine.

No. 1,211.

Patented June 29, 1839.



Witnesses.

Wm. C. C. C.  
H. Ferguson

Inventor:

George Mann

# UNITED STATES PATENT OFFICE.

GEORGE MANN, JR., OF LOCKPORT, NEW YORK.

## MACHINE FOR CLEANING GRAIN.

Specification of Letters Patent No. 1,211, dated June 29, 1839.

*To all whom it may concern:*

Be it known that I, GEORGE MANN, JR., of Lockport, in the county of Niagara and State of New York, have invented a new and useful Machine for Cleaning Wheat, called a "Smut-Machine;" and I do hereby declare the following a full and exact description thereof.

1. *Representation of said machine and its different parts as exhibited in the annexed drawings.*

Letter "A" represents a view in perspective of the whole machine when put up for use, having all the parts combined.

Letter "B," represents the brush by itself.

Letter "C" represents the central shaft with a circular rubber attached thereto; and also the perpendicular rubber and brush attached to the shaft below.

Letter "D" represents the top rubber or head of the machine, for the circular rubber to rub against, with a rim and ears for the side rods of the cylinder to pass through and which secures the top and bottom. In the outside edge is a groove for the ends of the staves of the cylinder which keeps the staves in their places. The hole in the center of "D" is where the upper end of the shaft passes through, and is also the point where the wheat is conducted or passes into the machine.

Letter "E" represents the bottom plate of the machine, divided into five sections or parts, with a groove in the outside edge for the cylinder staves to stand in. It has three ears on the outside for the outside rods to pass through. These rods have a nut and screw on the top to secure them together. This bottom plate has a hole in the center for the lower end of the shaft to pass through, with a steel point to run on.

Letter "F" represents one of the cylinder staves with the openings for the dirt to pass through. It has a hole in the center near the top in which is to be inserted a tin or sheet iron tube. This tube is used to conduct air into the cylinder.

Letter "G" represents the tin or sheet iron tube, which is to be inserted in the staves of the cylinder.

Figure "1" in drawing "A" represents the pulley to drive the inside of the machine and is on the top of the shaft. Fig. "2" in drawing "A" is the spout through which the wheat enters the machine. Fig.

"3" in drawing "A" represents the spout through which the wheat is discharged at the bottom of the machine. Fig. "4" in drawing "C" represents the circular rubber when attached to the shaft. Fig. "5" in drawing "C" represents the perpendicular brush and perpendicular rubber united and joined to the shaft by arms. Fig. "6" in drawing "C" represents the arms which unite the perpendicular brush and rubbers to the shaft. Fig. "7" in drawing "C" represents the shaft to which the rubbers and the brush are united. To this shaft the pulley is united as in Fig. "1" drawing "A." Fig. "8" in drawings "A" and "F" are the holes in the staves of the cylinder through which the air tube "G" is inserted in the machine. Fig. "9" in drawing "A" represents the rods which fasten and secure the top and bottom of the machine together.

### *2. The nature and uses of the machine.*

This machine is invented and used to facilitate the cleaning of wheat and other grains. This is done with the application of a less power than is required to propel other machines now in use for that purpose. It is of a simpler combination, more durable, and less liable to get out of repair. By my machine grains are cleaned in a better manner and with greater speed, than is done with any other machine, while the friction is less. Another advantage is in the small space required for its erection and operation.

### *3. The construction and operation of the machine.*

The cylinder is a perpendicular case, made of cast iron, made in staves eight or more in number, which represent rods  $\frac{3}{4}$ ths or  $\frac{1}{2}$  inch square, with openings between each rod to let out the smut and dirt. The staves that form the cylinder (drawing letter "F") are so made as to leave the sharp corner of each rod in the stave on the inside of the cylinder to cut off the smut ball and fringe end of the wheat when passing between the edges of these rods and the perpendicular fluted rubbers that are fastened to the arms from the shaft. (Letter "C" Fig. "5.")

The top or head of the cylinder (drawing letter "D") is made of wood or cast iron; if made of wood, it is fitted on to a circular

rim of cast iron sufficiently thick and wide, which surrounds the top of the cylinder staves, having a groove in it to hold the top of the staves. It has also three ears for outside bolts to pass through. These bolts (Fig. "9" letter "A" in drawing) extend from the bottom plate "E" through the top or head "D" and are fastened with a nut and screw on the top of each bolt at the head of the cylinder. The under side of the top head "D" is covered with sheet iron, punched full of holes, which raises a bur on the iron. This forms the first circular grating or rubbing surface as is represented by letter "D" in the drawings.

The revolving circular rubber (Fig. 4, letter "C") of hard wood sufficiently thick to nail on a plate of sheet iron. This is punched full of holes to raise a bur, the same as the under side of "D". The plate of sheet iron is nailed on the upper side of this circular rubber, and presents a grating surface. The circular rubber is fastened on to the shaft (Fig. "7," letter "C") by a circular flange of cast iron, screwed on the under side of the rubber and keyed to the shaft in the usual way of fastening iron to iron. This circular grating rubber revolves within  $\frac{3}{4}$ ths of an inch of the top or head of the machine "D" and leaves so much vacancy for the wheat to scour between them. The wheat comes in on the top of the machine (Fig. "2," drawing "A") around the shaft, and passes between the circular rubber and the head "D." The circular revolving rubber (Fig. "4," letter "C") does not fill the diameter cylinder within an inch all around, which leaves room for the wheat to drop over the edge outside, after passing between head "D" and the rubber; the wheat then passes on to the three perpendicular fluted rubbers attached to the shaft by arms (see Fig. "5," letter "C"). These perpendicular rubbers are two or  $2\frac{1}{2}$  inches below the circular Fig. "4," letter "C." The space between them is left for the tin or sheet iron tubes "G" to be inserted into the cylinder; air is drawn in through this tube and feeds the machine with wind, and is forced out by the fluted rubbers through the openings in the staves of the cylinder. By this process the staves ("F") are kept from choking and filling with dirt.

The fluted perpendicular rubbers (Fig. "5," letter "C") are of cast iron. The wheat passes between the flutes of this rubber, and against the corners of the cylinder

staves "F," as it passes down. These fluted rubbers are represented (in drawing "C," Fig. "5") suspended to the shaft directly under the circular rubber. The brush (drawing letter "B") is bolted to these fluted rubbers at the top and bottom.

The fluted perpendicular rubbers Fig. 5, letter "C," are of cast iron, and are attached to shaft directly under the circular rubber. The brush, (drawing letter "B") is bolted to these fluted rubbers at the top and bottom through the arms, as represented in Fig. 6, letter "C" in drawings.

The tubes "9" are made of tin or sheet iron and admit air into the machine. They are inserted through each stave in the center, near the top as represented in Fig. 8, in drawings "F" and "A". They are made tapering and run in nearly to the shaft, as in Fig. 7, in drawing "C".

The following is a description of the proportions of the machine as now used by me. The proportions can be enlarged or diminished to any size necessary: Cylinder 2 feet 6 inches long by 20 inches diameter; diameter of circular revolving rubber 18 inches and  $1\frac{1}{2}$  inches thick; length of fluted rubbers and brushes 20 inches, the fluted part of said rubbers 3 inches wide on the face; width of the same back of the fluted rubbers  $2\frac{1}{2}$  inches. Brushes are bolted to the fluted rubbers through the arms at top and bottom with small rivets. The shaft is 3 feet 4 inches long by  $2\frac{1}{4}$  inches diameter. The delivery hole (Fig. 3), is 5 inches high and 4 inches wide, and is in the cylinder stave near the bottom of the machine. The shaft of the machine (Fig. "7") is to stand on a bridgetree to raise or lower the rubbers at pleasure.

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

1. The making of the bottom of the cylinder case, with openings as herein described.

2. The combination of the fluted rubbers and brushes, in the manner and for the purpose herein described.

3. The rubbers and the upper part of the cylindrical case and on the shaft of the fluted rubbers, in combination with the combined fluted rubbers and brushes, for the purpose and in the manner described herein.

GEORGE MANN, JR.

Witnesses:

ELLIOT W. COOK,  
H. S. MEAD.