

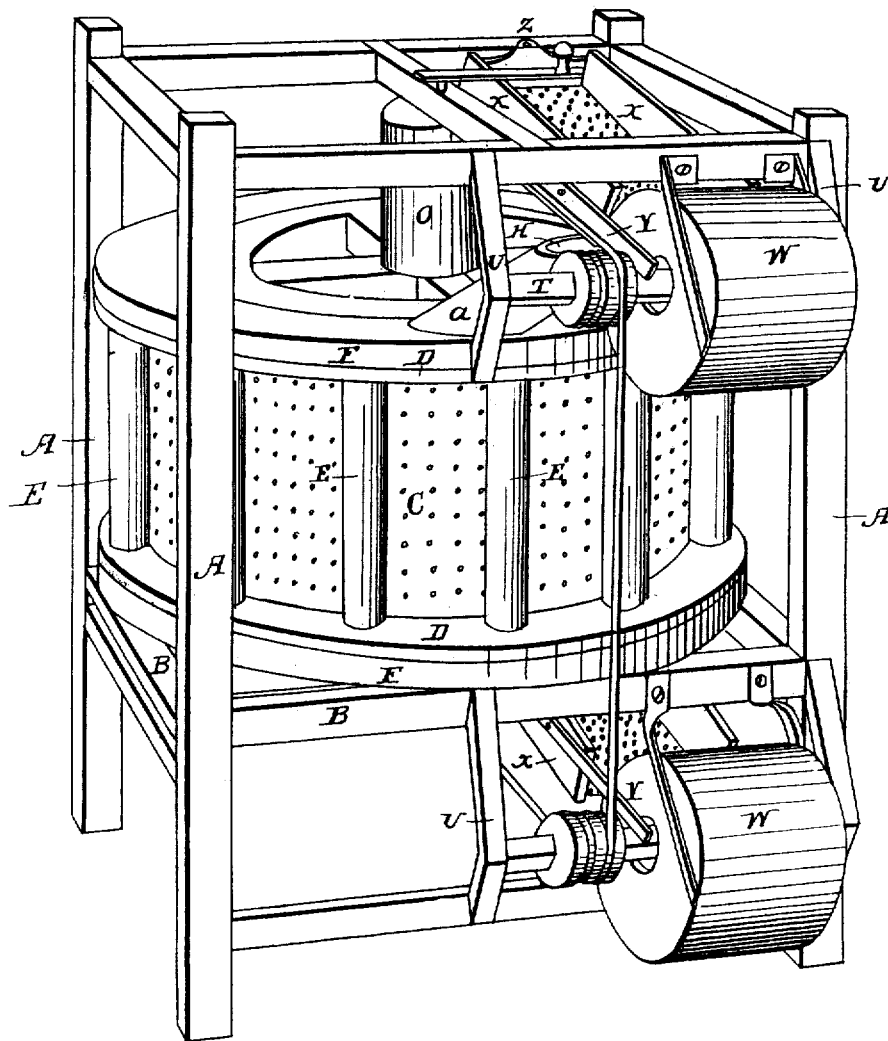
D. H. COLE.
Grain Cleaner.

3 Sheets—Sheet 1.

No. 846.

Patented July 17, 1838.

Fig. 1.



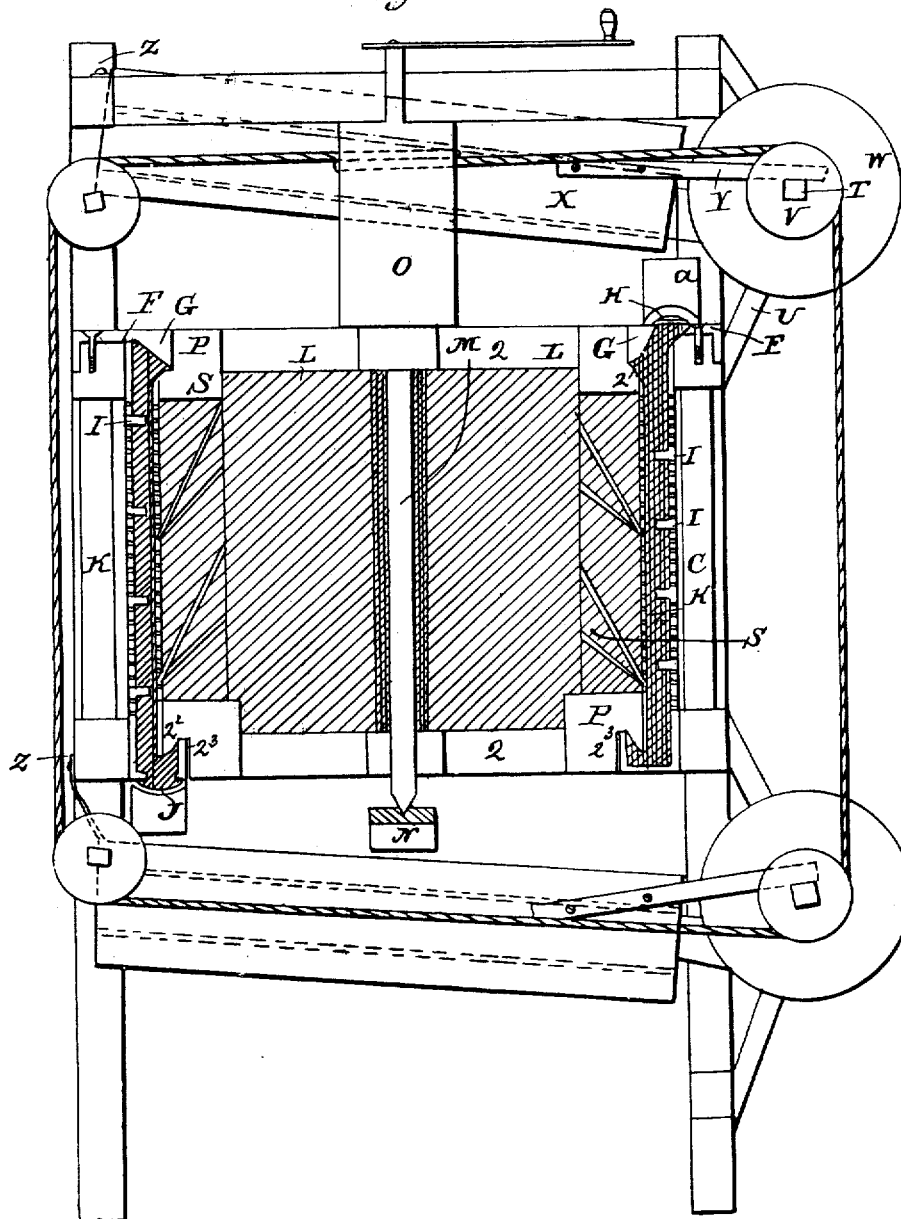
Grain Cleaner.

3 Sheets—Sheet 2.

No. 846.

Patented July 17, 1838.

Fig. 2.



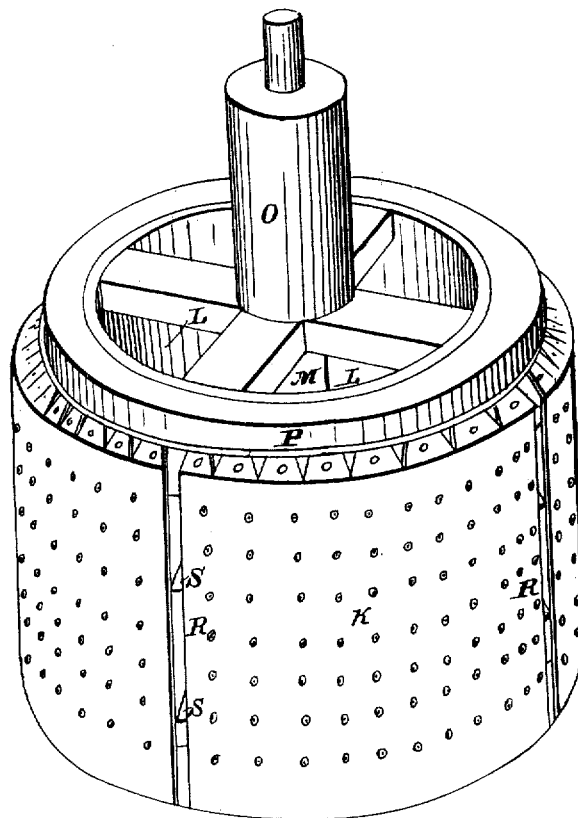
D. H. COLE.
Grain Cleaner.

3 Sheets—Sheet 3.

No. 846.

Patented July 17, 1838.

Fig. 3.



UNITED STATES PATENT OFFICE.

DAVID H. COLE, OF PORTLAND, MAINE.

MACHINE FOR CLEANING GRAIN.

Specification of Letters Patent No. 846, dated July 17, 1838.

To all whom it may concern:

Be it known that I, DAVID H. COLE, of Portland, in the county of Cumberland and State of Maine, have invented and made
5 new and useful Improvements on a Machine for Cleaning Wheat and other Grain, Preparatory to Grinding.

The nature of my improvement consists in the compactness, combination, and general arrangement of the machinery, so that
10 the grain is carried down between two cylinders on a rotary truck or plane, by which circuitous route, its stay is prolonged between rough iron until the smut and other
15 foul matter is broken to dust, and the cleansing accomplished without the loss or waste of grain. And to enable others skilled in such machinery, to make and use my improvements, I will proceed to give them in
20 full, by a description of the machine in all its parts and operation.

I construct a frame in the accompanying drawing A, A, A, Figure 1, three feet square, five feet high, with girders and posts, of
25 four inch timber, the lower girders B, B, being two feet from the floor, on these I place the end of a cylinder, C three feet in diameter and two feet long, formed by connecting two wheels, D, D, in the accompanying drawing; with sixteen ribs, E E E equi-
30 distant, made of two inch timber, and cover the whole interior circumference with sheet iron C or some metallic substance, with small holes, or apertures, punched inwardly; on each end of this cylinder are iron circles,
35 F one fourth of an inch thick, four and half inches wide, the outer edges form a right angle, extending on the wood one inch, like angles on the inner edges form bevels, G, facing the iron covering. These circles are
40 confined by rods and screws. In the center between two posts, I make an opening H, in the upper iron circle, one inch wide and three inches long. Directly under, and with-
45 in one inch of this aperture, I commence the track of a circular inclined plane, I, I, I, projecting from the inner surface or the outer cylinder formed with rails of iron or composition one inch wide, and of sufficient length
50 to reach two or more ribs, to which they are confined by screws or nails, the ends are connected by joints, this plane with a regular descent, is continued several times around the cylinder, until it reaches the lower iron
55 circle; through which an opening J, like that above is made, and at its termination a

stop, is placed extending to the rail above. With wheels and ribs, made of three inch timber, I construct a second cylinder K K
60 Figs. 2 and 3, two feet long, and of such diameter as will fill the space within that described, without friction on the inclined plane, at each end connected with the wheels is a cross-work, L, L, L, in the center of
65 which is an iron shaft, M, two inches square, three and half feet long, the lower end pointed with steel, extends six inches below the crosswork, and stands in a composition box attached to a bar, N. The ends of this bar
70 rest on extra girders framed into the posts; on the shaft above the upper crosswork, is a pulley, O, ten inches long and eight in diameter; the end above is fitted to a box and bar like those below; I reduce the diameter
75 of each end of the inner cylinder two inches and place thereon iron hoops, P, P, one inch wide, with arms, Q let into them; the upper hook is sloped from the lower edge of the hoop to a bevel Q', of one inch. On the
80 lower hook also is a bevel Q² which covers the rim Q³ on the iron circle; the outer circumference of this cylinder is covered with sheet iron, or other metallic substance, with
85 holes punched outwardly, and is put on in four equal parts, leaving a perpendicular space, R R, between each, half an inch wide. Four wings, L, L, forming a fan are placed
90 between the two crosswise, extending from the shaft in opposite directions, to the sheet iron on the left of the spaces, on the right are ribs, standing obliquely, by which the
95 inner width of the spaces is increased two inches; at the lower end center of these spaces or ventilators, rest the points of wedges, S, S, the wide ends sloping upward. Above the opening in the upper iron circle
100 and the post on the right, is a fan with four wings, eight inches square, attached to an iron shaft, T, one inch square, eighteen inches long, resting horizontally on iron
105 knees U, U, fixed to the wood work; on the inner end of the shaft is a pulley, V, four inches in diameter, the cylinder, W, W, covering the pan is suspended to the wood work of the frame and connected with the shaft.
110 A box, X, ten inches wide, eight inches deep and three feet long, containing two screws represented by the dotted lines, is placed across the frame with one end near the fan. Attached to this end of the box are two iron
arms, Y, which extend to and rest on the shaft outside the cylinder, the other end ele-

vated six inches is suspended to a girder at Z. At the lower end of the under sieve, is a conductor *a* leading to the opening H in the upper circle. At the outlet below, is a conductor, box with sieves, fan with shaft; pulley and cylinder, like those described above.

Two pulleys like those on the fan shafts, Fig. 2, are attached to the girders opposite, by iron gudgeons and shafts six inches long. A small band is pressed around the upper end of the large pulley, and carried over the whole frame resting on the four small pulleys. A leather band four inches wide, placed on the lower end of the large pulley, and attached to a one horse power is sufficient to put the whole in motion.

In operating, the grain falls from elevators on the upper sieve and passes through leaving all larger matter to escape at the lower end. The wind from the fan, has a direction between the sieves, blowing off the dust. The small seeds fall from the grain, through the lower sieve. The motion of the box, caused by the arms resting on the shaft of the fan, shakes the grain from the lower sieve into the conductor, which directs it to the space between the cylinders. The wind from the fan of the inner cylinder, blowing

through the ventilators, hastens it rapidly through the machine, on the circular plane to the outlet, where it is again operated on by the sieves and fan below.

What I claim as new in said machine and the improvements which I desire to secure by Letters Patent, are—

The particular manner of making and arranging the circular inclined plane between the cylinders, and the manner of carrying the grain downward on said plane, by the combined power of wind and inclination, and in connection with this, the openings made in the circles, which admit and discharge the grain; the bevels on the circles and inner cylinder, which give the grain a direction from the joints, toward the plane above and the outlet below; the manner of connecting the sieves and fans, resting the arms on the sieve boxes on the shafts of the fans, by which both receive motion from the same pulley.

Portland January 22d. 1838.

DAVID H. COLE.

Witnesses:

ELIPHALET CLARK,
S. W. COLE.