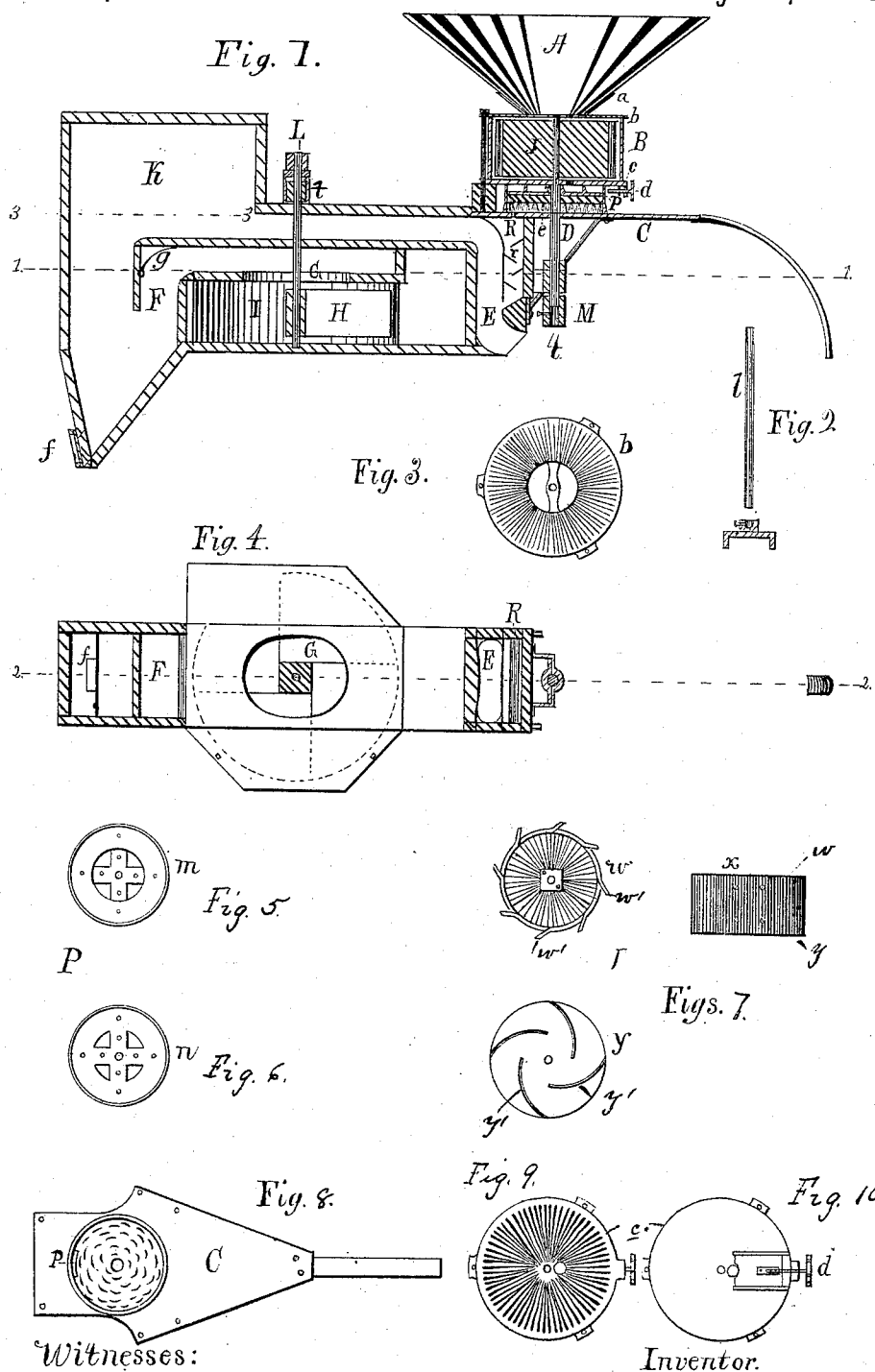


(No Model.)

H. LAMPMAN.
GRAIN CLEANING MACHINE.

No. 317,655.

Patented May 12, 1885.



Witnesses:

E. M. Shay
O. N. Swift

Henry Lampman

UNITED STATES PATENT OFFICE.

HENRY LAMPMAN, OF AFTON, NEW YORK.

GRAIN-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 317,655, dated May 12, 1885.

Application filed February 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY LAMPMAN, a citizen of the United States, residing at Afton, in the county of Chenango and State of New York, have invented a new and useful Grain-Cleaning Machine, of which the following is a specification.

My invention relates to improvements in grain-cleaning machines; and it consists in the peculiar combinations and the construction and arrangement of parts hereinafter more fully described and claimed.

In the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of the entire machine, showing the arrangement of its parts. Fig. 2 is a view of an ordinary shaft and clutch coupling on a small scale. Fig. 3 is an under plan view of the cap of the case. Fig. 4 is a horizontal section of the separator, taken on the line 1 1 of Fig. 1. Fig. 5 is a view of one side of the brush-pulley. Fig. 6 is a view of the opposite side of the same; Fig. 7, detail views of the cylinder. Fig. 8 is a plan view of the corrugated bottom plate of the scouring device. Fig. 9 is a top plan of the lower plate of the case, and Fig. 10 is a reverse plan of the same.

Referring to the details of the drawings, the letter A represents a hopper; B, a circular case provided with a corrugated cap, *b*. C is a corrugated plate. D is the driving-shaft. E F represent the air-trunk, and H I the fan carried by the fan-shaft L. K is an air-chamber situated over the air-trunk E F. J represents a corrugated and ribbed cylinder.

When it is desired to transmit motion to this machine from the running stone of a grinding-mill, the shaft 1 is coupled to the shaft D by any suitable clutch-coupling—as, for instance, that shown in the drawings.

The corrugated cap *b* is provided with openings for the free admission of the grain from the hopper to the interior of the machine.

P is a pulley secured to the shaft D below the plate *c*, and carries brushes on its under surface, as shown in Fig. 1. This pulley has openings about its center for the passage of the grain from the case B and cylinder J to the plate C.

w represents the corrugated upper end of the cylinder, and *w'* represents vertical ribs,

which extend the length of the cylinder and revolve near the inner surface of the case B. *y* is the lower end of the cylinder, and is provided with circular ribs *y'*, set at an angle to its radii to carry the grain to the discharge-opening near the lower end of the case B.

R is an opening for the discharge of the scoured grain into the spout *r* which leads to the running stone.

The corrugated side of the plate *c* faces the lower end of the cylinder.

The small opening near the center is for the discharge of the grain from the case, and the other side is provided with a slide operated by a screw and hand-wheel, *d*, controlling the discharge from the case B.

The cylinder J and the brush-pulley P are carried by the shaft D. The fan-shaft L is rotated by a belt passing around pulleys P and *t*, Fig. 1.

The fan H I and the air-trunk E F form no part of my present invention; but on the top of the separator proper, which has been long in use, I erect an air-chamber, K, over the air-trunk E F above the broken line 3 3, for the purpose of equalizing and steadying the blast of air through the air-trunk. I have learned by many tests that the revolutions of the fan-wings produce corresponding pulsations in the air-blast through the air-trunk, and consequently the separation of the grain from impurities is not equally perfect at every moment, and that by providing an air-chamber, as above described, the blast is equalized or made steady, and in consequence the work is more perfectly done. The strength of the blast is regulated by means of the arm or valve *g*.

Having described the construction of my machine for cleaning grain, I next describe the mode of operation. The grain passes from the hopper A through large openings in the top of the case B onto the top of the revolving-cylinder J, and immediately fills all the space between the case and cylinder. The opening in the lower end of the case for the discharge of the grain being many times smaller than the openings on the top, the case is necessarily kept crowded full of grain, subject to a continuous process of scouring until discharged through the pulley P onto the

plate C. It is there acted upon by the brushes and swept to the opening R, thence it falls through the spout *r* into the suction-blast of the separator at E, thence as clean grain into the eye of the millstone. The grain falling into the eye of the running millstone, or the "feed," as millers term it, is regulated by means of the slide and hand-wheel *d*, and is completely under control of the operator.

10 Having described the construction and the mode of operation of my improved grain-cleaning machine, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hopper A, case B, situated immediately below said hopper and having the corrugated cap *b*, provided with openings, as described, the shaft D, cylinder J, secured to said shaft, the corrugated plate C, and the brush-pulley P, secured to said shaft D, and carrying brushes on its under side and provided with openings for the passage of grain from the case B and cylinder J to said plate C, substantially as described.

2. The combination, with the hopper A, case B, having corrugated cap *b*, and shaft D, of the cylinder J, secured to said shaft and revolving in said case and provided with vertical ribs *w*, and on its lower face with circular ribs *y*, substantially as and for the purposes described.

3. The herein-described grain-cleaning machine, consisting of the hopper A, case B, having corrugated cap *b*, secured to the top of said case, cylinder J, revolving within said case, shaft D, brush-pulley P, also secured to said shaft, corrugated plate C, arranged under said pulley P, fan H I, air-chamber K, arranged over said fan, and the air-trunk E F, situated between said fan and air-chamber, the parts being constructed, arranged, and operating substantially as herein shown, and for the purposes described.

HENRY LAMPMAN.

Witnesses:

E. M. SHAY,
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