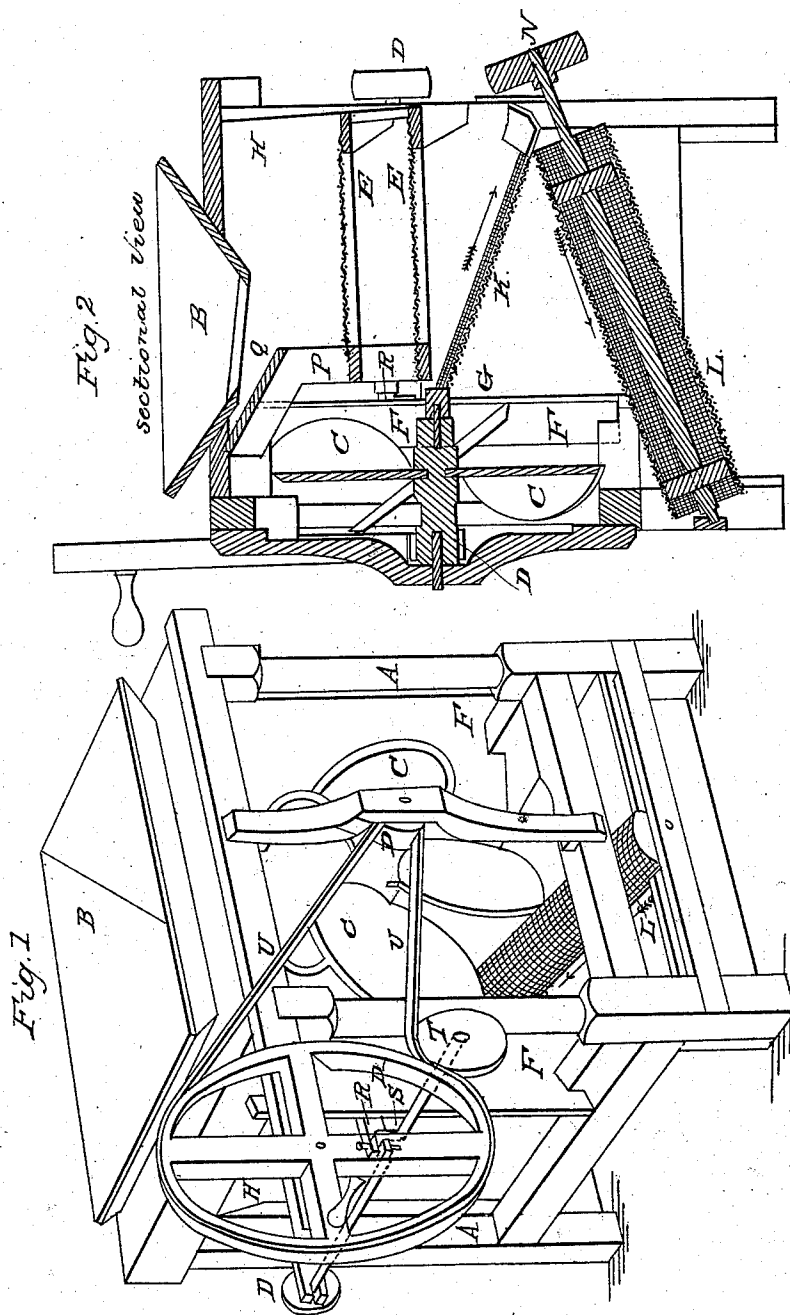


COLE & LITTLEFIELD.

Grain Winnower.

No. 3,696.

Patented Aug. 7, 1844.



UNITED STATES PATENT OFFICE.

THOS. COLE AND JOHN LITTLEFIELD, OF SWITZERLAND COUNTY, INDIANA.

WINNOWER-MACHINE.

Specification of Letters Patent No. 3,696, dated August 7, 1844.

To all whom it may concern:

Be it known that we, THOMAS COLE and JOHN LITTLEFIELD, of Switzerland county, State of Indiana, have invented a new and
5 useful Improvement in Machines for Win-
nowing Grain, which is described as follows,
reference being had to the annexed drawings
of the same, making part of this specifi-
cation.

10 Figure 1 is a perspective view of the ma-
chine. Fig. 2 is a vertical longitudinal sec-
tion.

The frame A of this machine, the hopper
B, the fan C, the propelling gear D, the
15 swinging riddles E are made like others in
use.

One of our improvements consists in plac-
ing between the fan and the riddles two
vertical oblique sliding wings or guides F
20 for directing the wind toward the center of
the riddles, when said wings are pushed in
toward the center of the opening in front of
the fan or concentrating it and also diffus-
ing it when they are drawn out, said wings
25 moving in grooves in the frame and so
adapted as exactly to gage the strength of
the blast to suit the kind of grain or seeds
to be cleaned. These wings are plain rec-
tangular pieces of board inserted into ob-
30 lique grooves made in the side girts of the
frame so that said wings shall stand at an
angle of about 30 degs. with the front of the
frame wire partitions G are placed between
the inner extremities of the aforesaid wings
35 and the riddles, to prevent the grain, straw,
chaff, sticks or dirt reaching the fan.

Another of our improvements consists in
the manner of hanging the riddles E so as
effectually to confine the grain until the op-
40 eration of cleaning it commences and then
made to receive a motion exactly adapted to
throwing it up in the riddles until separated
from the straw, thus subjecting it to the ac-
tion of the wind and preventing the machine
45 from clogging, which is effected by hanging
the riddles by two strips H of strong leather
one fastened on each side of the frame, con-
necting the riddles and forming an apron on
each side to receive the grain and chaff,

thus connecting other riddles without a 50
shoe and making it so light that the motion
of the pitman is comparatively easy.

A further improvement consists in plac-
ing a stationary inclined riddle K or screen
extending from the end of the lower riddle 55
E next the fan C downward to the back of
the frame for conveying the grain into the
mouth of a revolving cylinder screen L in-
clined in an opposite direction through
which the grain passes to the front of the 60
machine. The screen K is a rectangular
piece of wire gauze nailed to the inside of
two of the cross girts and to the side board-
ing of the frame, said gauze being depressed
and perforated in the middle of the lower 65
side forming a spout.

Another improvement that we have made
is in combining with the swinging riddles
and stationary screen, a revolving screen L
for more effectually cleansing the grain. 70
This cylinder screen is made of wire gauze
through the center of which an inclined
shaft passes turning in suitable boxes in the
frame having on its upper extremity a pul-
ley N for a band by which it is revolved; 75
which band passes around the pulley D on
the crank shaft. The grain passing down
over the screen K is guided to the aperture
in the center of the lower extremity thereof
through which aperture it passes to the 80
mouth of the revolving screen in which it is
revolved and screened of the remaining im-
purities. Next to the wire partition at or
near the corner of the riddles are two up-
right posts P of wood or iron securely fas- 85
tening each riddle at a proper distance apart
by screws with taps so that either of the
riddles can be readily loosened and taken
out of the frame when required. These
posts or rods of iron extend perpendicularly 90
at a proper distance or about eight inches
above the upper riddle, when they slope off
in an angling direction upward toward the
front of the frame for the purpose of re-
ceiving a thin board Q to convey the chaff 95
and grain from the hopper to the riddles.
A rod R of iron or wood is connected to one
of these posts P, or in any convenient place

having a hole in each end of it connected to a crank S turned by a pulley T in front of the frame giving the required motion to the riddles, the aforesaid pulley being
5 turned by a strap U passing around the master wheel D—also around the shaft of the fan.

What we claim as our invention and which we desire to secure by Letters Patent is—
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1. The arrangement of the wings F, in the manner and for the purpose set forth.

2. The combination of the permanent inclined rectangular screen K with the revolving cylinder screen L as set forth.

THOMAS COLE.

JOHN LITTLEFIELD.

Witnesses present:

JOHN McHENRY,

JOSEPH McHENRY.