COLE & LITTLEFIELD.

Grain Winnower.

No. 3,696. Patented Aug. 7, 1844.

Fig. 2 sectional view

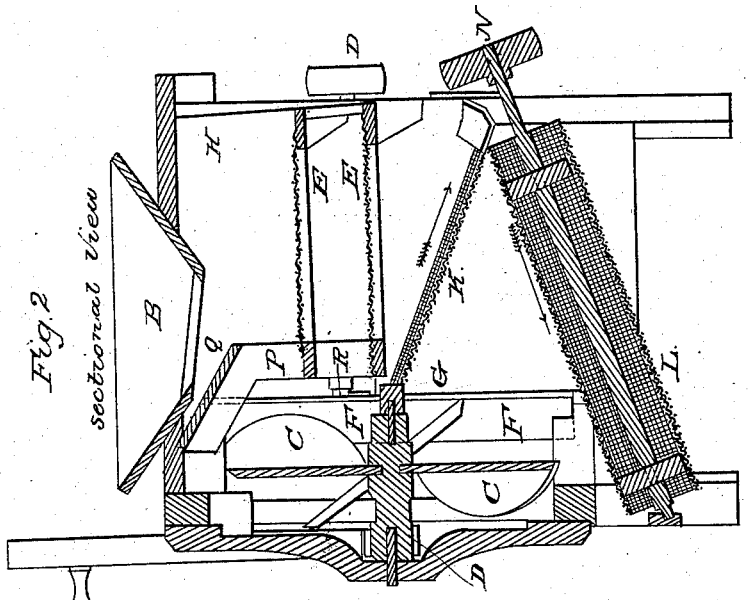
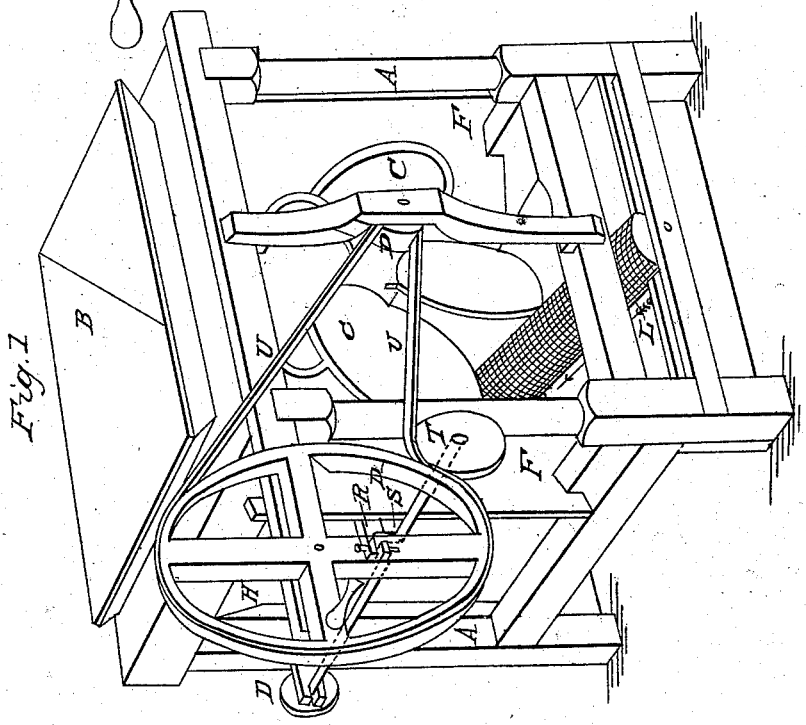


Fig. 1



UNITED STATES PATENT OFFICE.

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

WINNOWING-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 useful Improvement in Machines for Winnowing Grain, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical longitudinal section.

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

One of our improvements consists in placing between the fan and the riddles two vertical oblique sliding wings or guides F 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 diffusing it when they are drawn out, said wings 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 rectangular pieces of board inserted into oblique 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 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 operation 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 action of the wind and preventing the machine from clogging, which is effected by hanging the riddles by two strips H of strong leather one fastened on each side of the frame, connecting the riddles and forming an apron on each side to receive the grain and chaff, thus connecting other riddles without a shoe and making it so light that the motion of the pitman is comparatively easy.

A further improvement consists in placing a stationary inclined riddle K or screen extending from the end of the lower riddle 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 inclined in an opposite direction through which the grain passes to the front of the 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 boarding of the frame, said gauze being depressed and perforated in the middle of the lower 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. 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 pulley N for a band by which it is revolved; 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 mouth of the revolving screen in which it is revolved and screened of the remaining impurities. Next to the wire partition at or near the corner of the riddles are two upright posts P of wood or iron securely fastening 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 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 receiving a thin board Q to convey the chaff 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 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—

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.