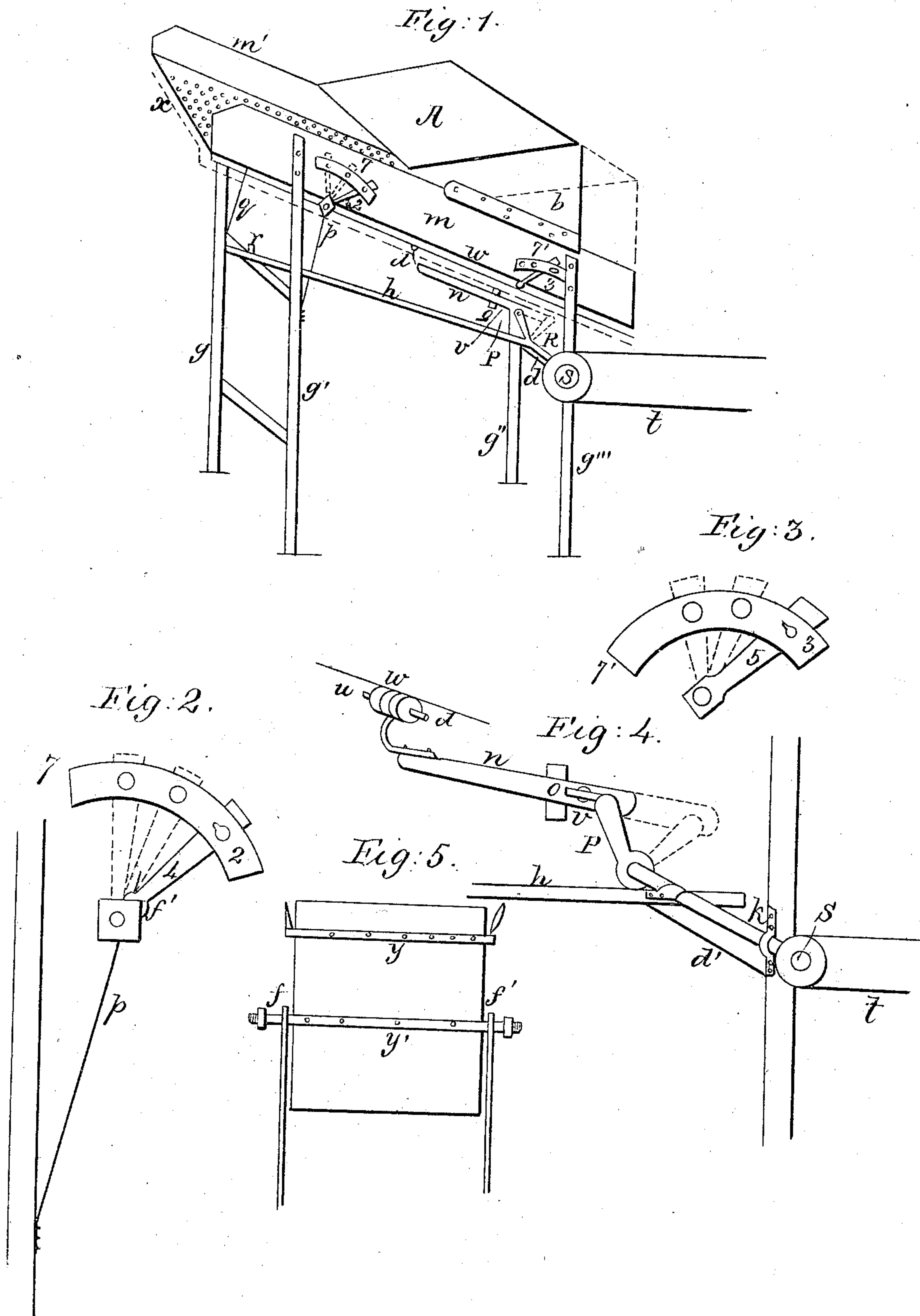


L. ELLIG.
Straw Carrier.

No. 20,976.

Patented July 20, 1858.



UNITED STATES PATENT OFFICE.

L. ELLIG, OF MILL CREEK, PENNSYLVANIA, ASSIGNOR TO ANDREW GARRET, OF MYERS-TOWN, PENNSYLVANIA.

STRAW-SHAKER.

Specification of Letters Patent No. 20,976, dated July 20, 1858.

To all whom it may concern:

Be it known that I, LEONARD ELLIG, a resident of Mill Creek, Pennsylvania, have invented a new and useful Improvement in Straw-Shakers, of which the following is a description.

Figure I, is a perspective view of my shaker. Letter (a) is a slide cap, which may be adjusted so as to remain fixed by means of a screw or pin as seen at (b) on both sides near the top of the sides (m and m'). Letter (w) is a movable bottom perforated with holes as shown at (x) and attached to the front and rear sides of the side-boards (m and m') by means of a pin or pivot (2 and 3) shown at (2 and 3) Figs. II, and III, and by means of an arm (2 and 3) as shown at (4 and 5) Figs. II and III. The side-boards (m and m') are secured to and within four posts (g, g', g'', g''') by means of two cross bars shown at (y, y') Fig. V, which is a bottom view of the movable bottom (w). Letters (g, g', g'', g''') are the posts which support the side-boards (m, m') being screwed on the outsides by means of screws or bolts. Letter (h) represents a longitudinal beam firmly fastened at both ends to the upper cross mortise-beams of the posts at (r, d') by means of screws or bolts. Letter (P) is a crank accommodated to the shaft (n) and axle (R). Letter (c) is a wedge inserted vertically into the shaft (n) in front of the tongue (v). Letter (s) is a fixed pulley, revolving with the axle (R) and fastened thereto as shown at (s) in Fig. IV. Letter (t), is a strap thrown over the pulley and attached to any threshing machine not shown in the drawings. Letter (d) represents an articulation of the shaft (n) to the movable bottom (w) by means of a pin (u) passing through the folds of a scroll and eye of the pitman (l) the scroll being screwed or fastened to the movable bottom (w) as shown in drawing Fig. IV. Letter (p) is a spring resting on a small movable hollow cylinder at (f) as shown at (f, f') Figs. V and II. A similar spring obtains also on the opposite side of the shaker as shown at (q) Fig. I, and adjusted and operating in the same manner. Figures (7, 7') is an arc screwed to the side boards (m, m') and on opposite sides of the same in like manner. These arcs are perfo-

rated so as to allow the introduction of the pin (2 and 3) in drawings, Figs. II and III. 55

I will now describe the nature and practical operations of the above described shaker, as far as may be deemed necessary, with its uses and advantages over other shakers. 60

The slide cap (a) is so constructed as to slide up and down the side boards (m, m') and secured at any place as already shown. This cap will be found necessary whenever the cylinder of the threshing machine to which my shaker is designed to be attached, has too much speed, in such case the cap will prevent the straw from being precipitated too far over the center of motion, in which case the grain might not be well separated from the straw before the latter leaves the shaker. 65 70

The movable bottom (w) is perforated for the purpose of relieving the grain from the straw and is suspended not on vertical radius bars or pendulum bars, neither do I make my arms (4 and 5) in drawings Figs. (II and III) of unequal lengths, because I design to accomplish different results from those of other shakers. I suspend my shaker or conveyer on four arms at any desirable angle. 75 80

My arms are of equal lengths, to accomplish the following results. In suspending the shaker thus at any desirable angle I effect with the movable bottom (w) what may be termed an incline plane, by reason of which the grain may be thoroughly separated from the straw before it leaves the shaker, therefore it will require no other complex arrangement to separate the grain because the inclination of the shaker alone will accomplish the result of a clean separation. In suspending my shaker as above I have also an advantage over other shakers, by reason whereof I can convey the straw into a straw-mow or any other place which otherwise might require one or more individuals to do the work of storage. In suspending the shaker in the manner described, the grain and chaff need not be removed from under the shaker as frequently as is the case in a shaker on the horizontal principle. Another advantage gained on the incline principle consists in this, that the feeder behind the threshing machine, by 85 90 95 100 105

reason of the inclination can see through the slide cap (a) into the shaker and thereby be able to detect any irregularity of the shaker which often occurs by feeding too

5 fast or by other accidents.

The spring (p) sustains the important office of assisting the crank (P,) over the center of motion by its action and reaction resting on the hollow, movable cylinder (f).

10 The crank (P,) on axle (R) with its appendent shaft (n) gives motion to the shaker, and the arms (4 and 5) on both sides, while they hold the movable bottom (w) suspended are free to move in a forward or retreating direction, governed alone

15 by the motion of the crank, which is designed to effect a rotary-projectile-motion forward, whereby the straw is pitched forward and runs up the incline surface of the

20 movable bottom (w).

The tongue (v) is designed to rest against the crank and propelled thereto by means of a wedge (c) in order to keep the crank always at its official place.

25 The pulley (s) is a fixed pulley and by means of a strap by which it is attached to any threshing machine, puts the crank in motion.

What I describe as arcs (7, 7') perforated with holes as shown in the drawings, serve 20 the uses of hanging my shaker at any angle I desire; because when the straw is somewhat green, or damp and therefore heavy the shaker must be less inclined, otherwise more inclined, which is done by shifting the 35 pins in the holes of the arcs as seen at (7, 7').

My shaker may be separated for the convenience of storage, by lifting the bolts or taking out the screws at (j) on both sides and the pin (u) that passes through the eye 40 of the pitman (l) which is a simple process, and needs no minute description.

What I claim as my improvement and desire to secure by Letters Patent of the 45 United States, is

1. The movable bottom (w) in combination with the arms (4 and 5) and spring (p,) as set forth in the specification.

2. The movable cap (a) adjusted as described and for the purpose set forth. 50

LEONARD ELLIG.

Witnesses:

S. SHIMER,

U. B. STEWART.