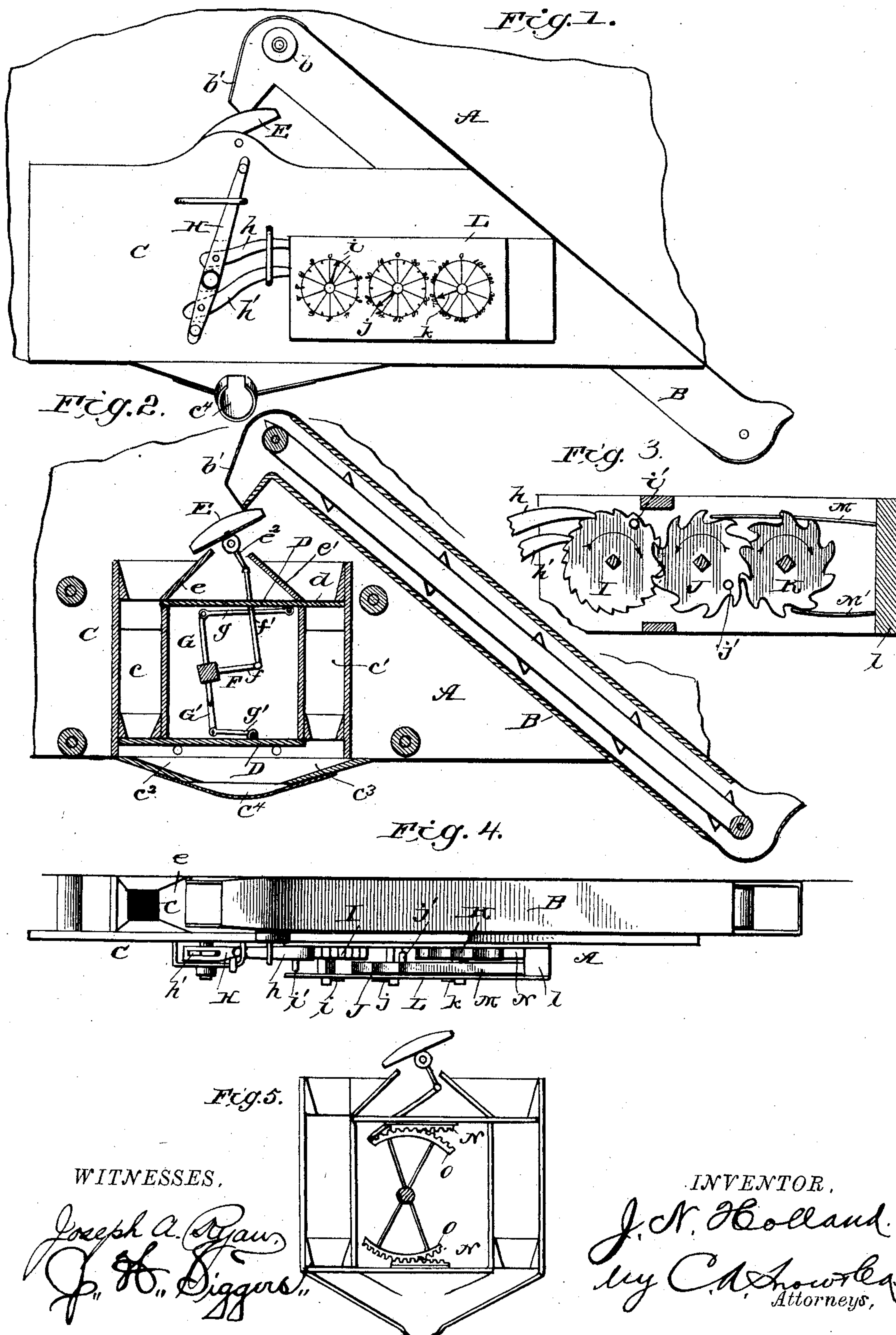


(No Model.)

J. N. HOLLAND.
GRAIN MEASURE AND TALLY.

No. 387,302.

Patented Aug. 7, 1888.



UNITED STATES PATENT OFFICE.

JOHN NEWTON HOLLAND, OF THORP'S SPRING, TEXAS.

GRAIN MEASURE AND TALLY.

SPECIFICATION forming part of Letters Patent No. 387,302, dated August 7, 1888.

Application filed March 21, 1888. Serial No. 267,954. (No model.)

To all whom it may concern:

Be it known that I, JOHN NEWTON HOLLAND, a citizen of the United States, residing at Thorp's Spring, in the county of Hood and State of Texas, have invented a new and useful Improvement in Grain-Measures, of which the following is a specification.

The invention relates to improvements in grain-measures; and it consists in the construction and novel combination of parts hereinafter described, and pointed out in the appended claims.

In the drawings, Figure 1 is a front view of a machine embodying the invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a front view of the dial-train with the dial-plate removed. Fig. 4 is a top edge view of the same. Fig. 5 is a front view of a modification of the working mechanism.

Referring to the drawings by letter, A designates the frame of the machine, to which is attached the elevator B, of common construction, having roller-pulleys at each end and an apron provided with suitable buckets running between said pulleys. The elevator is operated by means of a pulley, *b*, on the extended shaft of the highest roller. At its upper end the elevator-casing is turned downward and formed into a spout, *b'*, which discharges into the measuring mechanism proper.

C is a rectangular casing attached to the front of the main frame, and having at its opposite ends the vertical compartments *c c'*, discharging, respectively, at their lower ends into the grain-passages *c² c³*, which converge downward to the common discharge-spout, *c⁴*.

D D' are slides moving in suitable ways or grooves, *d*, respectively above and below the compartments or measures *c c'*, which are of equal size and have preferably the capacity of half a bushel each. The said slides are not long enough to cover the adjoining ends of both measures at the same time, but are arranged to be moved in such manner that when the slide D closes the top of the compartment *c* the slide D' will close the bottom of the compartment *c'*, and the reverse.

E is an oscillating chute pivoted in the front and rear walls of a central upward extension of the casing C centrally below the grain-spout *b'*, and *e e'* are inclined planes leading on each

side of said chute to the respective measuring-compartments.

e² is an arm standing from the shaft of said chute toward the compartment *c*.

F is a shaft having its ends journaled about centrally in the walls of the casing C, and consequently standing between the two measuring-compartments. *f* is an arm standing laterally from said shaft toward the compartment *c'*, and *f'* is a link-rod connecting the ends of the arms *f* and *e²*.

G G' are arms that extend, respectively, upward and downward from the shaft F, and *g g'* are link-rods that respectively connect the said arms to the lower surface of the slide D and the upper surface of the slide D'.

H is a double-armed lever attached centrally to the outer journal of the shaft F, extended outside of the casing C, and having a handle on each end.

In operation, when the device is attached to a thrasher or separator, so that the grain will be carried up by the elevator, it will fall thence from the spout *b'*, then descend upon the oscillating chute E, whence it will pass over one of the inclined planes and into the measuring-compartment toward which the chute inclines. When said compartment is full, the lever H is reversed, so that the slides are reversed and the chute also. The upper slide, D, thus forms a striking-board for leveling the grain in the compartments, while the lower slide, D', alternately forms a false bottom for each compartment. The double-armed lever is worked by hand.

The registering mechanism is as follows:

h h' are pawls pivoted to the arms of the lever H respectively above and below the pivotal point thereof, and preferably in slots in said arms.

I is a ratchet-wheel, and J and K are cog-wheels, having their shafts pivoted in the outer wall of the casing C, extended laterally, and in the dial-plate L, secured to said wall by end clips, *l*. Each of said wheels has its outer journal extended through the dial-plate and furnished with a pointer, and each of said journals projects through the center of a dial, the dials for the wheels I, J, and K being respectively those of units, tens, and hundreds. The pointers for said dials are designated, re-

spectively, by *i*, *j*, and *k*. The ratchet-wheel I is engaged and rotated one tooth by the pawls *h h'* at each oscillation of the chute E, and consequently at the emptying of each
 5 compartment *c c'*. The wheel I has on its side a pin, *i'*, which at each rotation of the wheel I moves the wheel J one tooth. The wheel J is also provided with a pin, *j'*, on its side, which at each rotation of said wheel turns
 10 the wheel K one tooth. The wheel I, as its dial has twenty graduations, registering bushels and half-bushels, has twenty teeth. The wheels J and K, as their dials have but ten graduations and register bushels only, have
 15 ten teeth each.

M and M' are detents that prevent the wheels J and K from reversing their rotation.

In the modification shown in Fig. 5 the slides have racks N N secured to them, which
 20 mesh with curved racks O O, connected with the shaft F.

The operation is obvious.

Having described my invention, I claim—

1. In a grain-measurer, the combination of
 25 the pivoted oscillating chute, the two similar and equal measuring-compartments arranged on the sides of the chute, the slides above and below the compartments, arranged to cover alternately one the top and the other the
 30 bottom of the compartments, and moving in opposite directions, and mechanism, substantially as described, whereby said slides are operated, substantially as specified.

2. In a measuring device, the combination
 35 of the pivoted oscillating chute, the similar

and equal measuring-compartments, the inclined planes leading from the chute to the mouths of said compartments, the upper and lower slides moving in opposite directions, and the mechanism, substantially as described, 40 whereby the said slides are operated, substantially as specified.

3. The combination, with the oscillating chute, the grain-measuring compartments, and the upper and lower slides, of the shaft F, the 45 arm *f* thereon, the arm *e'* on the shaft of the chute, the link-rod *f'*, the arms G G', and the link-rods *g g'*, substantially as specified.

4. In a grain-measuring device, the combination, with the oscillating chute, the similar 50 and equal measuring-compartments, the upper and lower slides, and the mechanism, substantially as described, whereby the same are actuated, of the double-armed lever H, the
 55 pawls *h h'*, the wheel I, having twenty teeth, the pin *i'*, and pointer *i*, and connected with the unit-dial having twenty graduations, the wheel J, having the pointer *j* and pin *j'*, the wheel K, having the pointer *k'*, and the detents
 60 M M', the wheels J and K having ten teeth and the tens and hundreds dials each having ten graduations, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN NEWTON HOLLAND.

Witnesses:

JAMES McMorries,
 S. V. McNutt.