

J. N. STACY.
Grain-Testing Device.

No. 217,166.

Patented July 1, 1879.

Fig. 2.

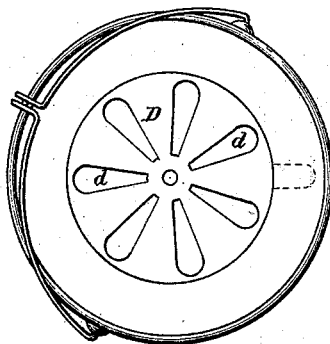
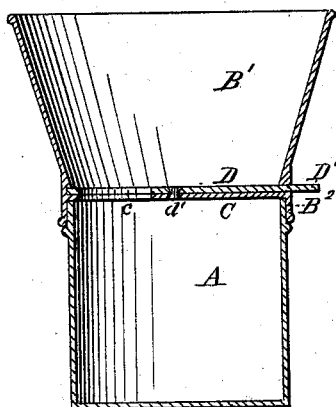


Fig. 1.



Witnesses:

J. S. Barker.
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UNITED STATES PATENT OFFICE.

JAMES N. STACY, OF MONTICELLO, MINNESOTA.

IMPROVEMENT IN GRAIN-TESTING DEVICES.

Specification forming part of Letters Patent No. **217,166**, dated July 1, 1879; application filed April 1, 1879.

To all whom it may concern:

Be it known that I, JAMES N. STACY, of Monticello, in the county of Wright and State of Minnesota, have invented certain new and useful Improvements in Grain-Testing Devices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an effective device for grading wheat, and for testing the quality and value of the same.

It consists in providing a hopper of peculiar construction, through which the grain is passed to the testing-vessel or measure, so that the grain shall always flow in a regular and uniform manner.

It consists, further, in so attaching the hopper to the testing-vessel that it may serve also as a ruler to strike off or level the grain within the vessel.

To these ends the hopper is constructed with the usual sloping sides, and with a rim or cylinder at the bottom adapted to fit over the testing-vessel or measure, and to hold the hopper firmly thereon.

At or near the bottom of the hopper there is situated a diaphragm or partition, which is provided with perforations to permit the passage of the grain. Below this fixed diaphragm, and pivoted to it, there is a movable plate, adapted to oscillate under it. It is provided with perforations similar in number and location to those in the diaphragm, so that when it is in one position the grain can pass through both; but when it (the plate) is in any other position the flow of the grain will be cut off. This oscillating plate is operated by a handle, which projects through the wall of the hopper.

It is well known that in order to test the weight, quality, and value of grain, it is necessary to permit the grain to enter the measuring or testing vessel evenly, uniformly, and without packing. It is also known that if grain is poured into the vessel in the ordinary

manner it will tend to pack, and that the density of the grain will vary through the measure.

Such objections are entirely obviated by my testing device, as it causes the grain to pass evenly and smoothly, and insures a uniform density.

The under face of the oscillating plate rests upon the testing-vessel or measure, and supports the hopper thereon. When the tester is full the plate will insure that the grain shall be even with the top of the vessel.

Figure 1 is a vertical section of my testing device. Fig. 2 is a top view of the same.

In the drawings, A represents the vessel, adapted to hold the grain while it is being tested. B is the hopper, the upper part, B¹, of which is preferably conical, and which is provided at the bottom with a rim, B², adapted to fit around the vessel A.

C represents a diaphragm placed across the hopper, and perforated, as shown at *c*. D is a plate situated above the diaphragm C, and perforated similarly thereto, as shown at *d*. The plate is pivoted centrally to the diaphragm, as shown at *d'*, and it is operated by a handle, D', which projects through a slot in the side of the hopper. The plate D rests upon the top of the testing-vessel A.

In order to secure the hopper firmly in place, pins or lugs may be secured to the vessel, adapted to engage with slots in the rim B², or the hopper and vessel may be joined in any other way. The movable plate may be placed above the diaphragm, if desired.

The grain that is placed in the hopper passes through the diaphragm and plate, when they are in proper position, evenly and uniformly into the vessel beneath. When the grain rises to the plate D, of course the vessel is full, and the grain ceases to pass through the diaphragm, after which the plate D is turned and the holes *d d c c* are closed. The turning of the plate D levels or strikes off the top of the vessel and leaves it evenly full, thus avoiding the necessity of the ruler, usually used by hand, and which is not invariable.

By using a device of this description, the whole operation of filling and leveling the

tester is carried on in concealment, and during the process the grain cannot be interfered with, either by accident or design.

What I claim is—

1. In a grain-tester, the combination, with a measuring-vessel, of a detachable hopper, provided with a flange adapted to join the hopper and the vessel, substantially as set forth.

2. In a grain-tester, the combination, with a measuring-vessel, of a removable hopper, adapted to be joined to the measuring-vessel, and provided with a plate, which, while the vessel is filling, is situated at the top of said vessel, and which causes the vessel to be left

evenly full when the hopper is removed, substantially as set forth.

3. In a grain-tester, the combination, with a hopper provided with a slot or aperture in its wall, of a fixed plate and a movable plate, operated through said slot, both plates having corresponding openings, substantially as set forth.

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

JAMES N. STACY.

Witnesses:

EDWARD P. SANBORN,
WILLIAM PORTEN.