

No. 840,943.

PATENTED JAN. 8, 1907.

P. M. INGOLD.
GRAIN SAMPLER FOR GRAIN BINS.
APPLICATION FILED MAY 14, 1906.

Fig. 1.

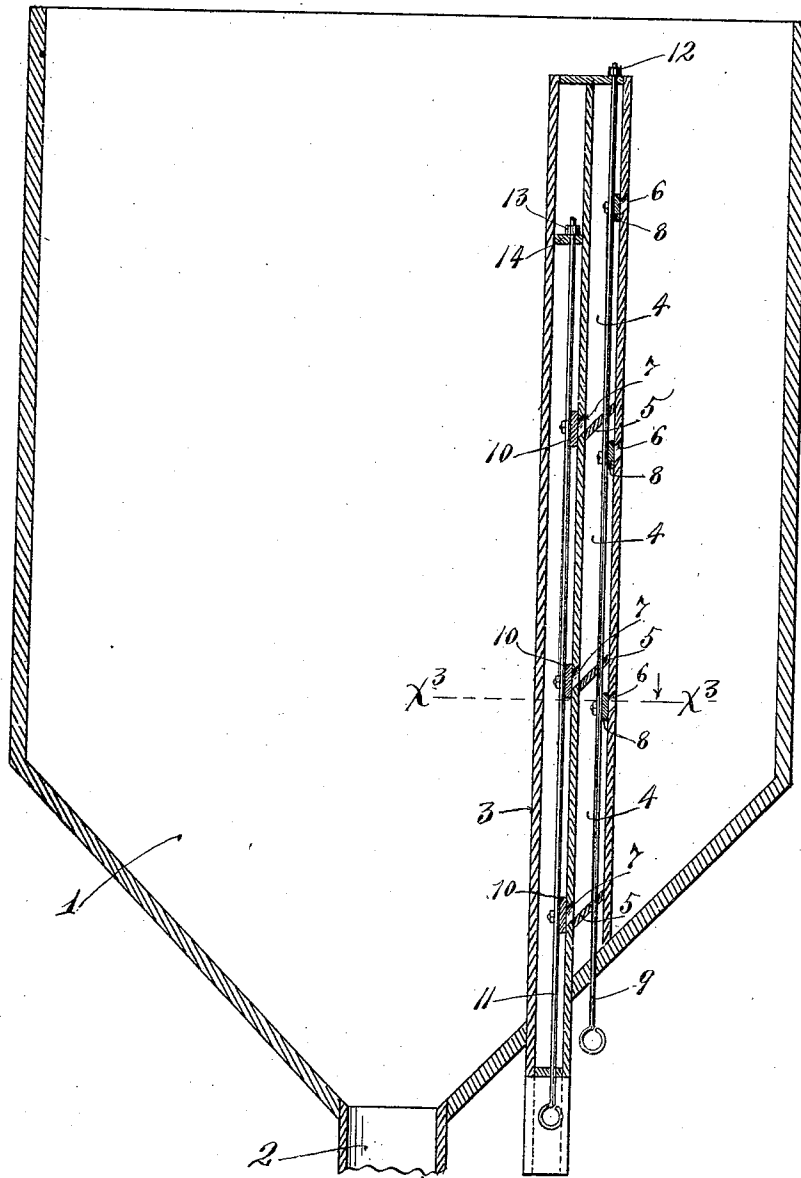


Fig. 2.

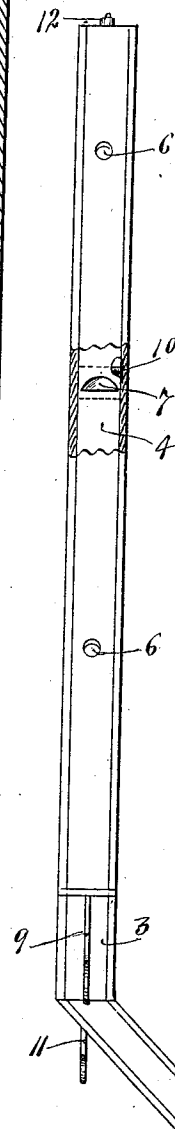
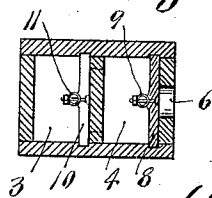


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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GRAIN-SAMPLER FOR GRAIN-BINS.

No. 840,943.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed May 14, 1906. Serial No. 316,760.

To all whom it may concern:

Be it known that I, PERRY M. INGOLD, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Grain-Samplers for Grain-Bins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved grain-sampler for grain bins or hoppers; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a vertical section taken centrally through a bin and showing my improved grain-sampler applied thereto. Fig. 2 is a side elevation of the grain-sampler removed from the bin, some parts being sectioned; and Fig. 3 is a horizontal section taken on the line $x^3 x^3$ of Fig. 1, the parts being shown on a larger scale than in Fig. 1.

The numeral 1 indicates a grain bin or hopper which, as shown, is provided in its bottom with a discharge-spout 2.

The improved sampler is extended vertically within the bin and, as shown, is rectangular in cross-section, but may of course have other forms. The improved sampler comprises a main or discharge spout 3, the lower end of which extends through the hopper-like bottom of the bin 1. To one side of this spout 3 is secured a second spout, which is divided into a plurality of compartments 4 by means of inclined partitions 5. As shown, the sides of the spout 3 and of the several compartments 4 have common side plates. An inlet-port 6 opens into the upper portion of each compartment 4, and outlet-port 7 opens from the lower portion of each compartment 4 into the discharge-spout 3. The inlet-ports 6 are normally closed by slide-valves 8, that are connected to a common operating-rod 9, the lower end of which extends downward through the bottom of the bin 1 and terminates in a suitable hand-piece.

The discharge-spouts 7 are normally closed

by slide-valves 10; that are connected to a common operating-rod 11, the lower end of which extends downward through the inclined bottom of the said spout 3 and terminates in a suitable handpiece. At its upper end the rod 9 is shown as provided with a nut 12, that engages the top of the spout and limits the downward movement of the said rod and the inlet-valves 8; also, as shown, the rod 11 is provided at its upper end with a nut 13, that engages a horizontal partition 14, that is secured in the upper portion of the spout 3, the said nut serving as a stop to limit the downward movements of said rod 11 and of the discharge-valves 10.

The operation of the improved sampler is as follows: While the discharge-ports 7 are closed by the valves 10 the inlet-valves 8 should be moved upward, so as to open the inlet-ports 6, and thereby allow grain to run into the several compartments 4. In this way equal amounts of grain are taken from the vertical portions of the body of the grain contained within the bin. Then the discharge-valves should be moved into positions to close the said ports 6, and then the discharge-valves 10 should be moved upward, so as to open the discharge-ports 7. This being done the grain caged within the several receiving-compartments 4 will be allowed to run into the discharge-spout 3 and out at the lower end of said spout. The grain caught from the lower end of the spout 3 when mixed will give a sample of the same quality as the body of the grain contained within the bin. Hence with this device it is a very easy matter at any time to determine the condition and average quality of the grain contained within the bin.

The device is simple and may be applied to any grain bin, hopper, or similar grain-containing receptacle at very small cost.

What I claim is—

1. The combination with a grain-bin or storage-receptacle, of a grain-sampling device comprising a vertical discharge-spout, a plurality of vertically-spaced receiving-compartments located within said bin and having inlet-ports opening thereinto from the said common bin, and having outlet-ports opening into said spout, and valves for opening and closing the said inlet and outlet ports, at will, substantially as described.

2. The combination with a grain-bin or storage-receptacle, of a grain-sampler comprising a spout extending vertically within

said bin and out through the lower portion thereof, a plurality of vertically-spaced receiving-compartments having inlet-ports opening thereinto from the said bin, and having discharge-ports opening into said spout, a series of valves for opening and closing said inlet-ports, a common operating-rod connected to said inlet-valves, a series of discharge-valves for opening and closing said

discharge-ports, and a common rod connecting said discharge-valves for common movements, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

PERRY M. INGOLD.

Witnesses:

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