

W. C. LYMAN.
Grain-Sampler.

No. 215,230.

Patented May 13, 1879.

Fig: 1.

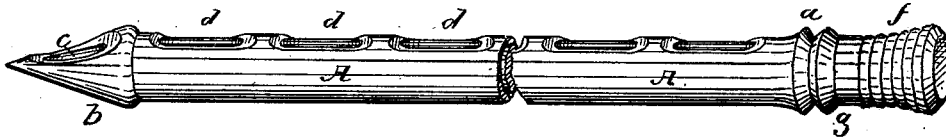


Fig: 2.

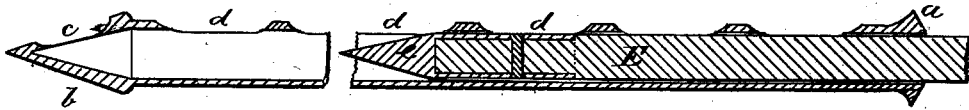
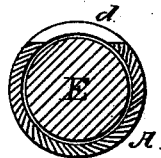


Fig: 3.



Witnesses

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UNITED STATES PATENT OFFICE

WILFRED C. LYMAN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN GRAIN-SAMPLERS.

Specification forming part of Letters Patent No. **215,230**, dated May 13, 1879; application filed September 16, 1878.

To all whom it may concern:

Be it known that I, WILFRED C. LYMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Sampling-Tube or Grain Trier, of which the following is an exact and accurate description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to an instrument for testing the quality of grain while in bulk; and it consists in the construction and arrangement of the two parts composing the same, as fully hereinafter explained.

In the drawings, Figure 1 represents a perspective view of my sampling-tube; Fig. 2, a longitudinal section of the same, the plunger being partly withdrawn; and Fig. 3 is a cross-section.

A is a metallic tube, which should be perfectly cylindrical and smooth on its inner face. Its upper end is enlarged by a chamfered flange, *a*, while its lower end is secured in a hollow cone, *b*, the largest diameter of which is larger than the diameter of the tube, so as to form a swell. This cone, at one side, *c*, is slotted out from near its point to near its junction with the tube, and the tube is also provided with a series of oblong slots, *d*, being in line with slot *c* of cone *b*. All of these slots are chamfered, so as to be bordered by a sharp edge to the bore of the tube, as shown in Figs. 2 and 3, thereby preventing chaff and dust from working in between tube and plunger.

A wooden plunger, E, perfectly cylindrical in shape, and of such diameter as to make a nice fit with the bore of the tube A, so as to telescope therewith, is on its bottom end provided with a metallic conical point, *e*, of such taper as to fit into the hollow of the cone *b*. The upper end of said plunger E is enlarged to form a knob-handle, *f*, and is provided with a collar,

g, forming a shoulder against the upper end of tube A when the plunger is pushed into the tube, thereby obviating damage of the hollow cone *b* by the striking of the conical point *e* into it. Said collar *g* is chamfered similar to flange *a* of tube A, both these chamfers to exclude any obstruction before the shoulders will meet, and thereby to prevent the pinching of the skin of the hand while pushing the plunger into the tube.

For sampling grain in a car, barge, or canal-boat this instrument is pushed into it in an inclined direction, with the slots downward, until the point reaches the bottom, when the plunger is extracted, the tube turned so that the slots are on top, and now the tube is extracted, when the quality of grain throughout, or any amount of plugging with chaff or dust, can be ascertained.

The advantages of my invention over other instruments for the same purpose is, that by the swell of the cone *b* the tube is relieved of a large amount of friction while pushing into the grain; that by means of the slot in the cone *b* the grain can be sampled close to the bottom of the boat, barge, or car; and that by means of the chamfered collar *g* a shoulder is provided, which will save the points of the tube and plunger from being damaged.

What I claim as my invention is—

The grain-sampler described, consisting of a hollow slotted casing, provided with a conical slotted head, *b*, of larger diameter than the body of the casing, and with shoulder *a*, and a solid piston with a metallic head, *e*, and a handle, *f*, having a shoulder, *g*, all constructed and arranged substantially as and for the purposes set forth.

WILFRED C. LYMAN.

Witnesses:

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