(No Model.)

T. MEYLOR.

GRAIN TRIER.

No. 323,057. Patented July 28, 1885.

Fig. 1.

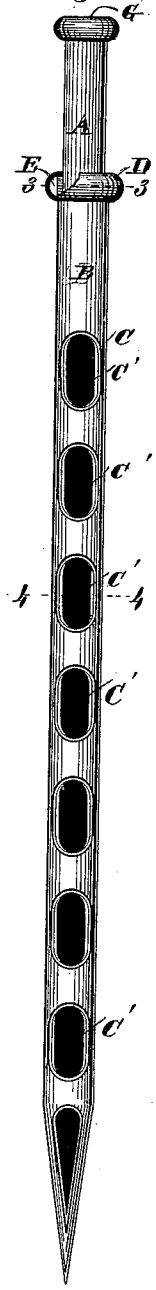


Fig. 2.

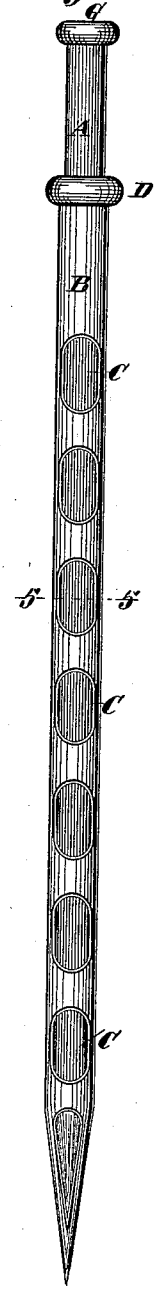


Fig. 3.

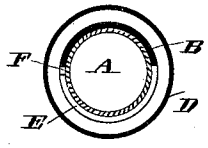


Fig. 4.

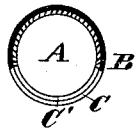
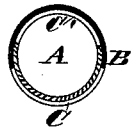


Fig. 5.



Attest

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UNITED STATES PATENT OFFICE.

THOMAS MEYLOR, OF ST. LOUIS, MISSOURI.

GRAIN-TRIER.

SPECIFICATION forming part of Letters Patent No. 323,057, dated July 28, 1885.

Application filed November 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MEYLOR, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Grain-Triers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side view of my grain-trier with its apertures open for the reception of the test samples, and with part of the coupling-ring broken away to show the inclosed slot or groove within which the gage-pin works. Fig. 2 is a similar view with the apertures closed. Fig. 3 is a transverse section on line 3 3, Fig. 1. Fig. 4 is a transverse section on the line 4 4, Fig. 1; and Fig. 5 is a similar view on line 5 5, Fig. 2.

My invention relates to that class of grain-samplers which consist of two tubes, one fitted snugly, but so as to be capable of partial rotation within the other, and both provided with a series of apertures or ports which are adapted to be closed or opened at will by simply rotating one of said tubes. In samplers of this character one of the tubes is usually provided with a transverse slot, while the other is provided with a pin projecting into said slot, whereby the relative rotation of the two tubes is limited. It has been found in practice that small particles of matter fall into this slot and prevent the proper working of the instrument.

The object of my invention is therefore to remedy this imperfection; and to this end my said invention consists in securing to one of said tubes an annular collar or ring, which covers the guide slot and pin and effectually prevents the choking of the instrument from the above-named cause.

A represents the inner tube of my grain-trier, and B the outer tube.

C represents the ports or apertures in the outer tube, and C′ those in the inner one, said apertures being so arranged that they can be made to register by the operator, both for the entrance of the sample into the trier and for the inspection of the same.

D is the coupling-ring, secured by screw-threads or otherwise to the outer tube.

E is a slot cut through the tube B near its upper extremity, said slot being covered by the ring D when the parts are secured together.

F is a stop or gage pin, which is secured to the tube A and projects into the slot E. This gage-pin answers a double purpose—namely, preventing the separation of the tubes, and gaging or regulating the extent of the rotation of the one within the other.

G is the outlet of the bore at the upper end of the tube A, through which the sample can be run when desired.

When the ports or apertures of the two tubes register, as in Figs. 1 and 4, the stop-pin F will be at one extremity of its slot E, and when said ports do not register, as in Fig. 5, the pin F will occupy the other extremity of its slot.

To use the instrument, the tubes are turned relatively to each other until the apertures are closed, as shown in Figs. 2 and 5, in which condition it is inserted in the bulk of grain or other material to be sampled, which may be in a sack, barrel, car, the hold of a vessel, or elsewhere. When inserted the tubes are again turned relatively to each other in the reverse direction until their apertures register, as represented in Figs. 1 and 4, which permits the grain to run freely into the empty tube, the air displaced thereby escaping at the aperture G, thereby taking a sample of the grain at each opening throughout the entire length of the tube. The tube being full, the two are again rotated relatively to each in a reverse direction, thereby closing the ports so that in the withdrawal of the instrument the samples thus taken may not become intermixed with the grain through which it passes.

When the instrument is removed the sample can either be run out at the aperture G, (by invertion of the tube,) or, if the inspector requires a more perfect exhibit, he may close said aperture and hold the instrument in a horizontal position with the apertures on top in the tube B, so that when the tube A is rotated therein until the ports register he can readily see the varying condition, if any, of the samples. He can thus test not only the size and condition of the grain in any particular part or parts of its bulk or whether the top filling is a fair sample of that below, but by inverting the instrument and permitting

the sample to run out at the aperture G he has a fair average sample of all the grain in the bulk.

From Fig. 1 it will be seen that the ring D completely incloses the gage-pin F and the slot E within which it works. This is found to be a very important feature, as by its use small seeds or grit cannot become lodged therein and thereby interfere with the free operation of the instrument.

It will be seen that by unscrewing the coupling-ring D the instrument can readily be taken apart for cleaning, removing obstructions, or for any other purpose desired.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent—

The combination, with the outer tube, B, having the slot E near its extremity, and the inner tube, A, having the pin F occupying said slot, of the collar D, covering said slot and pin, substantially as set forth.

THOMAS MEYLOR.

In presence of—
BENJN. A. KNIGHT,
SAML. KNIGHT.