E. M. LOVELAND.

GRAIN CLEANER.

APPLICATION FILED APR. 8, 1910.

1,016,424. Patented Feb. 6, 1912.

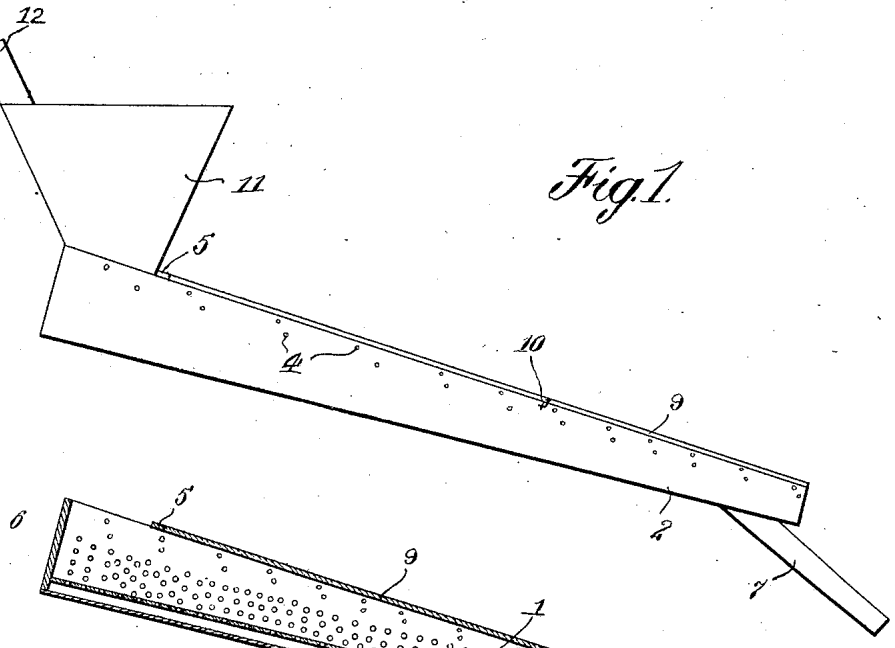

Fig. 1.

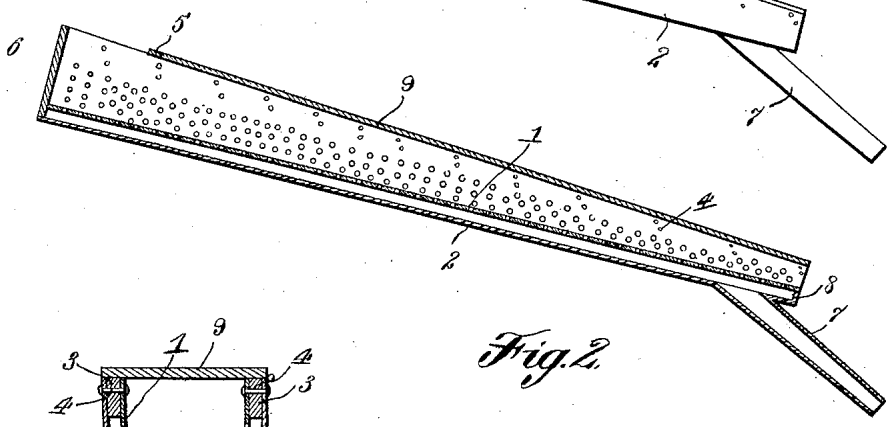

Fig. 2.

Fig. 3.

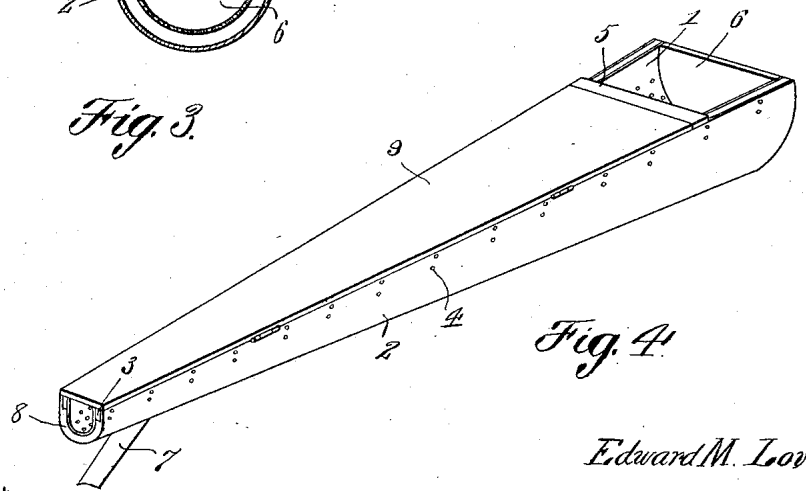

Fig. 4.

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GRAIN-CLEANER.

1,016,424. Specification of Letters Patent. Patented Feb. 6, 1912.

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To all whom it may concern:

Be it known that I, EDWARD M. LOVELAND, a citizen of the United States of America, residing at Lignite, in the county of Ward and State of North Dakota, have invented new and useful Improvements in Grain-Cleaners, of which the following is a specification.

This invention relates to grain cleaning devices, and it has for its object to produce a conveniently portable simple and efficient device of this character over which grain may be passed in the act of transferring the same from a storage bin or elevator to a railway car or other receptacle for the purpose of subjecting the grain to a cleansing operation, whereby the dust and impurities as well as mustard, millet and other strange seeds together with defective grains will be separated, the pure grain being conveyed to the receptacle, while the screenings are conducted through a separate discharge spout to a separate place of deposit, such as a suitably arranged receiving bin.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing,—Figure 1 is a side elevation of a grain screening device constructed in accordance with the invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a perspective view.

The improved device may be described as consisting of an elongated trough tapering toward one end, said trough being composed of an inner screen 1 which may be made of wire fabric or other foraminous material, such as perforated sheet metal, said inner screen being connected with and spaced from an outer casing 2 which is held in spaced relation from the inner screen and concentric therewith by means of spacing members such as boards 3 arranged adjacent to the upper edges of the members 1 and 2, both of which may be securely connected with said spacing members by fastening members, such as bolts 4. The screen member 1 and the casing member 2 are thus held securely together in spaced and concentric relation throughout. The spacing members 3, 3 are connected at a suitable distance from the upper or large end of the tapering trough by means of a cross bar 5, said upper end being obstructed by a closure 6; the lower, narrow or contracted end of the device is open, and a discharge spout 7 is connected with the casing member 2 at a suitable distance from said contracted lower end. A closure, best seen at 8 in Fig. 4, is preferably used to obstruct the opening between the contracted lower ends of the members 1 and 2.

A lid or cover 9 is hingedly connected with one of the upper edges of the trough, said lid extending between the cross piece 5 and the contracted lower end of the device. This lid when closed may be secured by a fastening device, such as a hook and staple, indicated at 10 in Fig. 1. A suitably constructed hopper 11 is mounted upon the cleaning device to discharge into the upper end of the latter intermediate the cross piece 5 of the closure 6. The hopper 11 is provided with an upwardly extending bracket or hanger 12 constituting also a handle whereby the device may be conveniently manipulated.

The improved cleaning device may be used in connection with elevators, bins or other places in which grain is stored in such a manner as to permit it to be discharged by gravity into a receptacle such as a railroad car. The hopper 11 receives the grain as it is being discharged from the storage place, and the grain being conducted over the screen 1 is separated, with the result that the pure grain discharged over said screen may be conveyed through a suitable duct or spout to the receptacle or place of deposit, while the screenings will pass through the spout 7 to a bin or storage place provided for the purpose.

The device, as will be seen, is extremely simple in construction, and it will be found thoroughly efficient for the purpose for which it is provided.

Having thus described the invention, what is claimed as new, is:—

1. A portable grain cleaning device com-

prising a foraminous tapering trough, a tapering trough-shaped casing, spacing members interposed between the upper side edges of the trough and the casing, and connecting members extending through said trough, casing and spacing members, the trough and the casing being thereby held spaced in concentric relation throughout to constitute a double chute over which grain and siftings may be passed.

2. In a portable grain cleaning device, a tapering elongated trough constituting a chute, the same comprising an interior screen and exterior casing, the same being suitably connected and spaced apart along their upper edges and maintained in concentric relation throughout, a closure for the large end of the chute, a cross piece connecting the side edges of the chute near its large end, a lid hingedly connected with one side edge of the chute, a closure for the space between the screen and the casing adjacent to the small end of the trough, and a spout extending from the casing near the small end of the latter; and a hopper supported between the cross piece and the closure at the large end of the trough.

3. A portable grain cleaning device comprising an imperforate tapering elongated trough-shaped outer casing having an outlet near its small end, a screen supported within and in concentric relation to the outer casing, said screen having an outlet at its small end, a lid or closure for the screen, and a hopper supported adjacent to the large end of the screen to discharge directly upon the latter, said screen and casing constituting a double chute for the passage of grain and siftings.

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

EDWARD M. LOVELAND.

Witnesses:
BERTLE NELSON,
LEVI FORSUNE.