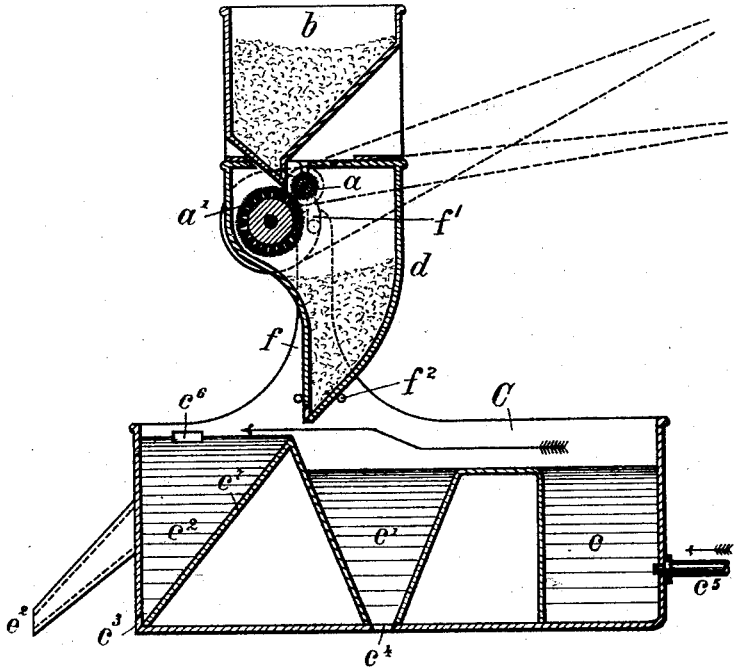
(No Model.) 2 Sheets—Sheet 1.

G. T. A. NIEDERER.

APPARATUS FOR PURIFYING GRAIN.

No. 342,220. Patented May 18, 1886.

Fig. 1.



Witnesses,
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O. A. Clark

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

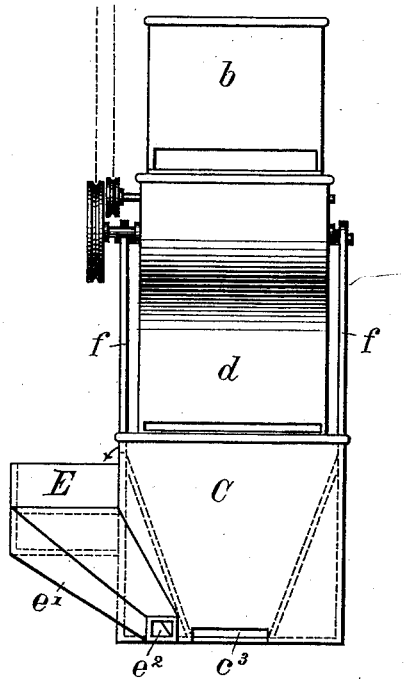
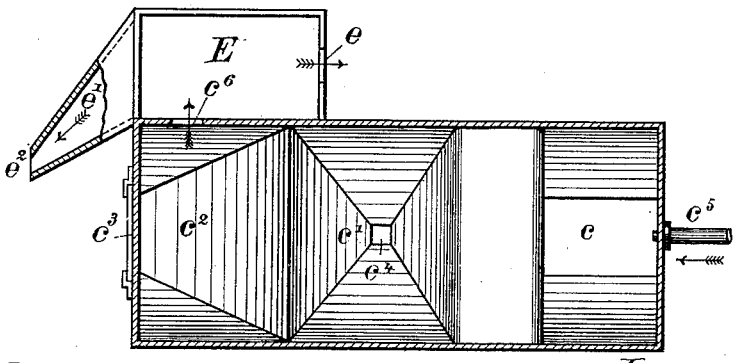


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORG TRANGOTT ARNOLD NIEDERER, OF HAMBURG, GERMANY.

APPARATUS FOR PURIFYING GRAIN.

SPECIFICATION forming part of Letters Patent No. 342,220, dated May 18, 1886.

Application filed February 17, 1886. Serial No. 192,230. (No model.)

To all whom it may concern:

Be it known that I, GEORG TRANGOTT ARNOLD NIEDERER, a citizen of the Republic of Switzerland, and a resident of Hamburg, in the German Empire, have invented certain new and useful Improvements in Apparatus for Purifying Grain, of which the following is a specification.

This invention relates to apparatus for purifying grain; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

The objects of my improvements are, first, to provide improved means for cleaning the grains from impurities—such as sand, earth, &c.—attached thereto, and, second, for separating the good full grains from the blighted smutty ones, and from hulls and tailings and other admixtures. I attain these objects by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section. Fig. 2 is a front elevation, and Fig. 3 is a horizontal section.

Similar letters refer to similar parts throughout the several views.

The grain filled into the hopper *b*, after being moistened, passes between the rotary brushes *a a'*, which brush off the sandy and earthern parts attached to it. Within the funnel *d* the grain, with all the impurities, falls into the trough C. The latter is divided by suitable partitions into several compartments, *c c' c²*. Through the pipe c^5 enters continually into the hindmost compartment, *c*, a current of water of considerable velocity, which, floating over the partitions, enters into the compartments *c'* and *c²*. The grains, descending within the funnel *d*, are submerged, in consequence of the fall, in the water in the compartment *c'*, whereat the heaviest parts—such as earth, sand, stones, &c.—descend toward the opening c^4; but the grains and the lightest parts are washed away by the current over the partition between *c'* and *c²*, into the compartment *c²*, where the good and full grains slide downward at the incline c^7 to the lower part of the compartment *c²*, wherefrom they are drawn off through the opening c^3. The hulls, tailings, and the smutty blighted grains rest at the surface of the water and flow through an opening, c^6, in the height of the level of the water into a box or case, E. This box E is provided at the upper part with a spout, *e*, and at the lower part with an incline, *e'*, whereon any full grains which are drawn accidentally into the box E slide down to the opening e^2, while the tailings, hulls, the smutty grains, &c., leave the apparatus at the spout *e*.

All outlets are to be adjusted in such a manner that a uniform water-level is maintained continually, as required by the situation of the outlet c^6 and the spout *e*.

The funnel *d* is pivoted in bearings in the standards *f* in such a manner that it may be raised or lowered as it is required to regulate the height of fall of the grain, according to its specific gravity, in such a manner as to submerge it sufficiently deep into the water of compartment *c'* to separate it from earth, sand, and other impurities of greater specific gravity, but not too deep, that it may not be drawn into the current toward the outlet c^4. Such regulating of the funnel *d* may easily be obtained by suitable inclination and suitable height of its bearings.

In order that the funnel may be adjusted vertically, the standards are provided with vertical slots *f'*, which form bearings for the pivots of the said funnel. By introducing packing between the bottom of the slots and the pivots, which rest in them, the height of the funnel may be adjusted. Steady-pegs f^2 may be used for steadying the bottom of the funnel and holding it at any desired inclination. The funnel-opening may thus be adjusted with respect to the partition c^7 in the trough.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In apparatus for purifying grain by means of a current of water, the combination of a trough for the water provided with a partition dividing it into separate compartments, vertical bearing-standards projecting above the said trough, and an adjustable funnel pivoted in the said standards, so that the point of discharge of grain from the funnel may be regulated with respect to the partition in the

trough, substantially as and for the purpose set forth.

2. In apparatus for purifying grain by means of a current of water, the combination of a trough for the water provided with a partition dividing it into separate compartments, vertical bearing-standards projecting above the said trough, an adjustable funnel pivoted in the said standards, so that the point of discharge of grain from the funnel may be regulated with respect to the said partition, rotary brushes inclosed within the said funnel, and a hopper above the said funnel, for conducting the grain between the said brushes, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 13th day of January, 1886.

GEORG TRANGOTT ARNOLD NIEDERER.

Witnesses:
ALEXANDER SPECHT,
EMIL HAASE.