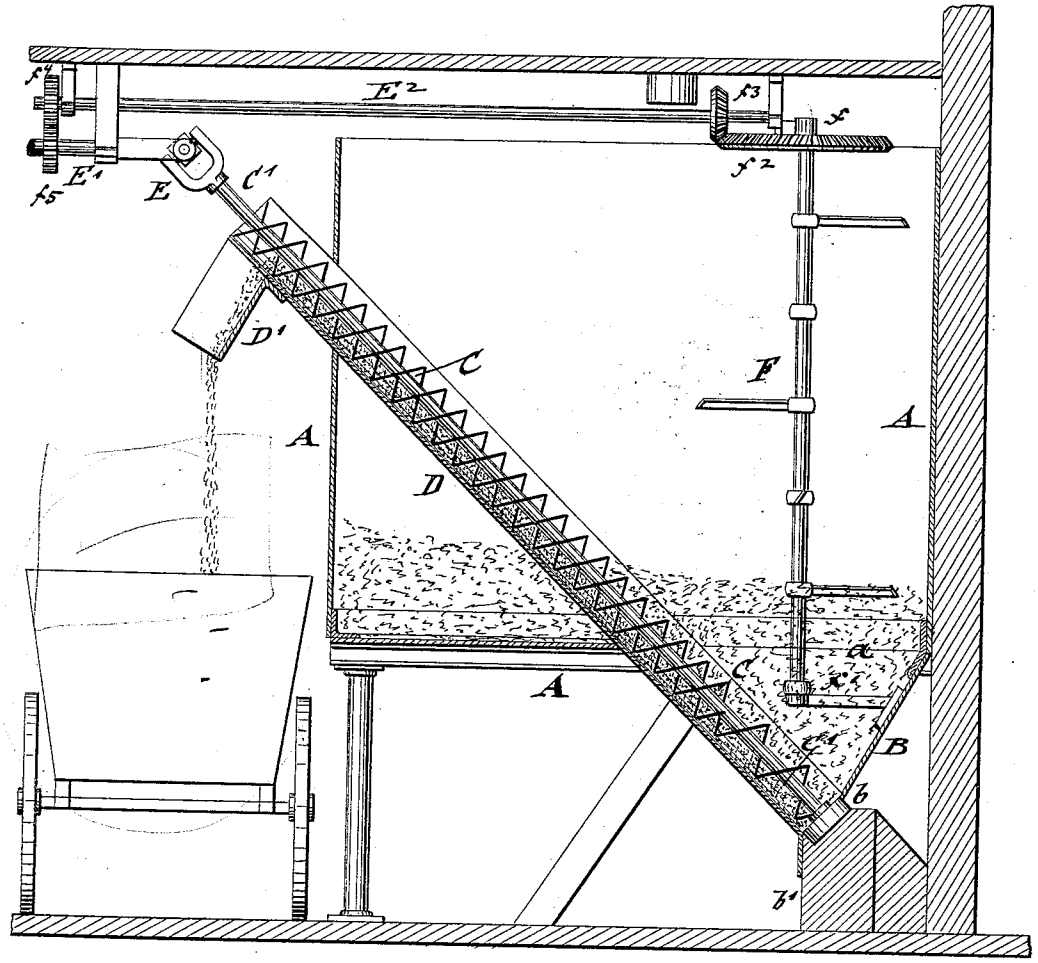
(No Model.)

E. G. W. WOERZ.

CONVEYER FOR BREWERS' GRAINS.

No. 381,455. Patented Apr. 17, 1888.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ERNEST G. W. WOERZ, OF NEW YORK, N. Y.

CONVEYER FOR BREWERS' GRAINS.

SPECIFICATION forming part of Letters Patent No. 381,455, dated April 17, 1888.

Application filed July 8, 1887. Serial No. 243,743. (No model.)

To all whom it may concern:

Be it known that I, ERNEST G. W. WOERZ, of the city, county, and State of New York, have invented certain new and useful Improvements in Conveyers for Brewers' and other Grains, of which the following is a specification.

This invention relates to an improved device for conveying brewers' and other grains from the tank in which they are collected to the wagons or carts in which they are carried off, so that the shoveling out of the grain by hand is obviated, which is connected in summer, owing to the heat in the tank, with considerable hardship to the hands employed.

The invention consists of a grain-tank having a bottom opening, a hopper extending below said opening, a screw conveyer supported in inclined position on step-bearing in said hopper, a casing for the conveyer provided with a discharge-spout at the upper end, a rotary agitator extending into the hopper, and means for imparting rotary motion to the screw conveyer and agitator from a common shaft, as will be fully described hereinafter, and finally be pointed out in the claim.

The accompanying drawing represents a vertical longitudinal section of a grain-tank provided with my improved conveyer.

A in the drawing represents a tank for collecting the grains in breweries, said tank being made of any suitable size and provided at the bottom with an opening, *a*, below which a downwardly-extending hopper, B, is arranged. At the lower part of the hopper B is arranged a step-bearing, *b*, which is supported on a suitable foundation, *b'*, said step-bearing supporting the lower end of the shaft C' of a screw conveyer, C, which extends at a suitable angle of inclination through the tank A and to the outside of the same, said conveyer having two threads composed of two spiral blades or plates, of which one terminates a short distance above the lower end of the casing in which said screw rotates. The screw conveyer C is located in a suitably-shaped casing, D, which is provided at the upper end with a spout, D', for discharging the grains into a wagon, cart, or other vehicle, by which the grains are removed. The upper end of the shaft of the screw conveyer C is connected by a universal coupling, E, with a line-shaft, E', that is supported in suitable hanger-bearings from the ceiling. If desired, the shaft C' of the screw conveyer C may be supported by a neck-bearing at the upper end of the casing D, though this is not absolutely necessary when the hanger-bearing of the shaft E' is arranged close to the universal coupling E.

A vertical agitator, F, is supported near the lower end of the conveyer in the grain-tank A by suitable neck and step bearings, *f f'*, and extended into the hopper B. The agitator F receives motion by a bevel-gear transmission, $f^2 f^3$, from an auxiliary shaft, E^2, which again receives motion by a gear-wheel transmission, $f^4 f^5$, from the line-shaft E, as shown clearly in the drawing. The arms of the rotary agitator F serve to keep the grain in motion, so that the same are gradually fed to the conveyer and cannot choke the same by settling in the hopper.

By a conveyer of the construction described the grains can be quickly transferred from the grain-tank to the vehicle without requiring any shoveling of the grain from the tank to the vehicle by the men, which, especially in summer, is a great relief to them, as they are not exposed to the stifling heat in the grain-tank.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with a grain tank having a hopper formed in its bottom, of an inclined conveyer screw casing having its lower end in the hopper and its upper end projecting beyond the side of the tank, a conveyer-screw in said casing, a line-shaft, a universal joint connecting the shaft of the screw with the line-shaft, and an agitator driven from the same line-shaft that drives the screw, said agitator extending from the line-shaft to near the lower part of the conveyer-hopper, substantially as herein shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ERNEST G. W. WOERZ.

Witnesses:
DE FOREST FOX,
JNO. D. COLE.