L. A. GRIFFIN.

ASH TANK AND SETTLER.

APPLICATION FILED DEC. 11, 1915.

1,211,310. Patented Jan. 2, 1917.

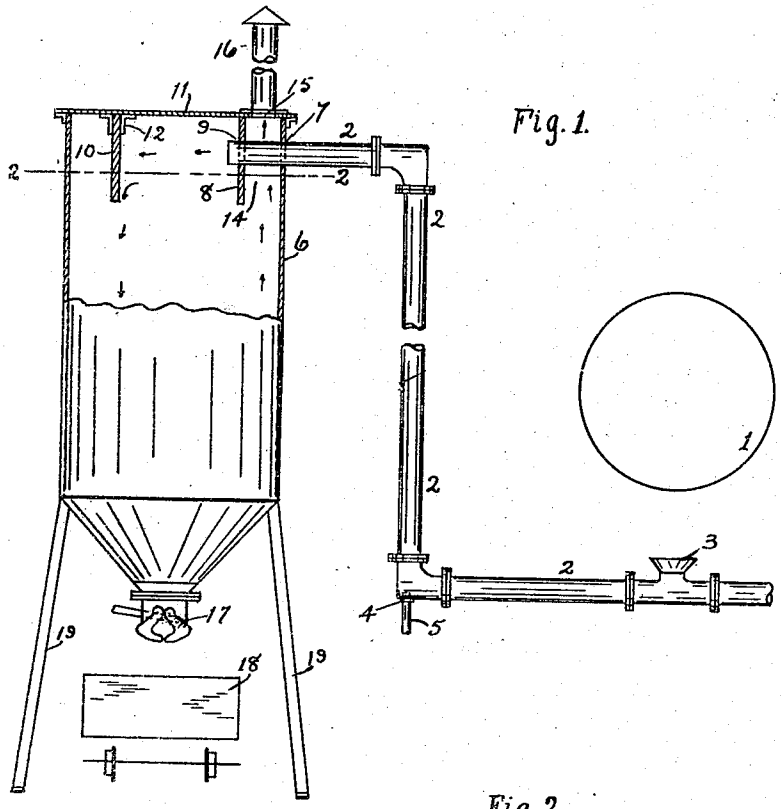
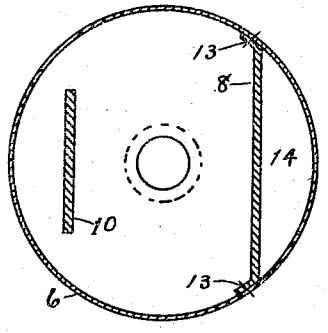


Fig. 1.

Fig. 2.



INVENTOR.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LORNE A. GRIFFIN, OF ELKHART, INDIANA, ASSIGNOR TO AMERICAN STEAM CONVEYOR CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

ASH TANK AND SETTLER.

1,211,310. Specification of Letters Patent. Patented Jan. 2, 1917.

Application filed December 11, 1915. Serial No. 66,342.

To all whom it may concern:

Be it known that I, LORNE A. GRIFFIN, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Ash Tank and Settler, of which the following is a specification.

My invention relates to pneumatic ash conveyers, and more particularly to the ash container, or tank, into which a conveyer, operated by fluid under pressure, discharges ashes.

The object of my invention is the production of an ash container, or tank, adapted for use in connection with a pneumatic ash conveyer, the motive force of which is steam under pressure, in which the interior construction of the tank retards the exhaust of the steam and ash dust, and facilitates the settling of the ash dust within the tank.

On the drawings, Figure 1 is a side elevation of a steam ash conveyer and an ash receiving tank; and Fig. 2 is a section on the line 2—2 of Fig. 1.

Similar numerals refer to similar members and parts of members throughout the several views on the drawings.

Referring to the drawings in detail, the numeral 1 designates the front end of a steam boiler before which is arranged a part of an ash conveyer conduit 2 provided with an ash intake hopper 3. The ash conveyer conduit is provided also with means for creating a partial vacuum, or suction, within the pipe line to draw ashes into the hopper 3 and through the conduit, said means comprising a steam inlet nozzle 4 in communication with the conduit interior, and a steam supply pipe 5 connected with the steam nozzle 4 and a source of generation of steam under pressure.

The conveyer pipe 2 extends vertically and thence laterally to discharge the ashes into an ash receiving tank 6 which is apertured at 7 to receive the conduit pipe 2.

The numeral, 8 designates a deflector plate, or member, rigidly secured within the tank 6 adjacent the top thereof and apertured at 9 to permit the passage of the discharge end of the conduit 2 which extends somewhat beyond the face thereof.

The numeral 10 designates a baffle plate, or member, of any suitable wear resisting material, preferably chilled metal, rigidly secured within the tank 6 and disposed opposite the conduit discharge end to receive the impact of the ashes and steam emitted therefrom. Preferably, the baffle plate 10 is removably suspended from the tank top or cover 11 at 12, rigidly secured thereto and is braced in any suitable manner against the effect of violent ash and steam impact.

The deflector 8 extends transversely of the tank interior and is secured rigidly to the tank walls at 13, 13, thereby forming a segmental outlet chamber 14 through which the conduit 2 passes.

The numeral 15 designates an outlet aperture in the tank top or cover 11, and the numeral 16 designates a vent pipe mounted upon the tank cover and over the aperture 15. The tank bottom is provided with a discharge gate 17 for admitting the ashes therefrom to a car 18 for removal. The tank is suitably supported upon the members 19, 19.

Heretofore it has been deemed necessary in all cases to supply an ash conveyer pipe line, of the class herein shown and described, with a water injection system of some kind to wet down and settle the ashes within the conduit or a receiving tank. But it has been found from actual use of my improved form of receiving tank that the great steam condensation within the tank settles much if not all of the ash dust within the tank itself, and the uncondensed steam passing through the outlet chamber 14 into the vent pipe 16 and thence to the outside atmosphere contains little or no ash dust. By providing the deflector plate 8 in the form and manner shown and described the ash laden steam is prevented from initially escaping through the aperture 15 and the vent pipe 16, thereby facilitating steam condensation and dust settling within the tank.

For convenience of access to the tank interior, the top 11 is preferably removable or provided with a door—not shown—in the larger sizes, of sufficient dimensions to allow of the insertion and removal of a baffle plate 10, for renewal thereof.

I claim:

1. An ash receiving tank for a pneumatic conveyer comprising, in combination, a tank body provided with a top and a vent opening in said top; a baffle plate within the tank and depending from the top thereof; an apertured deflector plate within the tank and depending from the top thereof, said de-

flector plate being located between said vent opening and said baffle plate and opposed to the latter; a conveyer discharge pipe penetrating said deflector plate aperture and directed at said baffle plate to discharge its contents against the same; and means providing a passage direct from the impact face of said baffle plate around said deflector plate to said vent opening.

2. An ash receiving tank for a pneumatic conveyer comprising, in combination, a tank body provided with a top and a vent opening in said top adjacent one side thereof; a baffle plate secured to the tank top adjacent the opposite side of said tank and projecting downward into the tank; an apertured deflector plate secured to the tank top intermediate said vent opening and the baffle plate, opposed to the latter and projecting downward into the tank; a conveyer discharge pipe penetrating the tank side and said deflector plate aperture and directed at said baffle plate to discharge its contents against the same; means providing a passage direct from the impact face of said baffle plate around the bottom of said deflector plate to said vent opening; and means adjacent the tank bottom for the removal of the ash accumulation therein.

In testimony whereof I have hereunto affixed my signature this 8th day of December, 1915 at Elkhart, county of Elkhart and State of Indiana.

LORNE A. GRIFFIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."