Specification of Benjamin Green : storing and treating sewage.

A.D. 1873, 24th MAY. N° 1885.

SPECIFICATION

OF

BENJAMIN GREEN.

STORING AND TREATING SEWAGE.

LONDON:
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25, SOUTHAMPTON BUILDINGS, HOLBORN.
1873.

A.D. 1873, 24th MAY. N° 1885.

Storing and Treating Sewage.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Benjamin Green at the Office of the Commissioners of Patents, with his Petition, on the 24th May 1873.

I, BENJAMIN GREEN, of Plaistow, in the County of Essex, Contractor, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN STORING AND TREATING SEWAGE," to be as follows:—

This Invention relates to improvements in storing and treating sewage so as to enable the same to be stored and removed for use as required, without in any way proving a nuisance to the surrounding neighbourhood by the escape into the atmosphere of the noxious gases arising therefrom. This I accomplish as follows:—I store the sewage in air-tight buildings which I term manure pits, and cause the noxious gases arising from such sewage to pass up a shaft constructed at one end of the building, at the base of which shaft a fire is kindled. Thus the said gases passing through or over the fire are burnt, and so rendered harmless before being allowed to escape into the surrounding atmosphere. The air necessary for feeding the fire is let into the building through small apertures, at the apposite end to that where the shaft is placed, so that such air has to traverse the whole length of the building, and so aids in causing the flow

of the gases to the shaft. The fuel for the said fire may be either coal, mineral oil, faggots, ordinary fire wood, or whatever may be most conveniently or economically used according to the locality in which the manure pits are placed. These pits are constructed to receive the sewage from any town, village, or area of land through a main supply pipe, which may be shut off from the pits when required by a sluice, and when more than one pit are constructed side by side, the main supply pipe may open into a supply reservoir running the whole length of the series of pits, and communicating with each by a sluice, so that one pit may be filled without the others. These pits are also constructed at such a level that the liquid portion of the sewage may be run off into some adjacent river, sea, or other place destined to receive it, whilst the soil is left behind to be used for manure as required when the liquid is run into a sea or river; I prefer to have the pits at such a level that they may be emptied at or near high water, so that all will be carried away as the tide runs out.

For the purpose of separating the liquid and solid portions of the sewage, these pits are constructed with double walls along one side, the inner wall or partition being lower in height than the other walls, so that on the liquid rising to the height of such partition wall, it will flow over the same into the channel formed between the two walls, whence it is let out as required by a sluice. The soil when required for use is taken away in air-tight carts or tanks, such carts or tanks being filled through pipes of proper size inserted in the front or other wall of the pit near the bottom thereof, which pipes are provided with means for being closed when not in use, and communicate with the said air-tight carts or tanks whilst such are being filled by flexible tubing; the carts or tanks being closed air-tight when full by any suitable means. If the soil should accumulate faster than required for use in the immediate neighbourhood, it is let into air-tight tanks suitably situated for that purpose, and dried by any suitable means; the noxious gases arising therefrom during such process being led into the said shaft, and burnt as before described. When thus dried the soil may be conveyed about without any unpleasant smell arising therefrom. The walls of these buildings may be constructed of brick, stone, concrete, or other suitable material, and the roof should be so made as to prevent the escape of any of the noxious gases arising from the sewage, for which purpose I prefer to coat the roof with felt or asphelte underneath the slating, which felt

or asphalte may be laid on a base either of wood planks or thin iron sheets. The roof should also be provided with strong iron frames for skylights, and with man-holes, so that men may be let into the pits for any purpose that may be required. The bottoms of the pits I prefer to face with concrete of sufficient thickness, and to construct with an inclination so as to facilitate the clearing of the pits. These pits may be used in connection with sewers now existing.

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Printers to the Queen's most Excellent Majesty. 1873.