

Specification of François Alcidi Bonnefin : treating excreta.

Contributors

Bonnefin, François Alcidi.

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A.D. 1874, 3rd OCTOBER. N° 3384.

S P E C I F I C A T I O N

OF

FRANCOIS ALCIDI BONNEFIN.

—
TREATING EXCRETA.
—

LONDON:

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Treating Excreta.

LETTERS PATENT to Francois Alcidi Bonnefin, of the Island of Mauritius, at present residing at Queen Street, Cheapside, in the City of London, for the Invention of "IMPROVEMENTS IN THE TREATMENT OF HUMAN EXCRETA AND IN THE MANUFACTURE OF MANURE THEREFROM, AND IN THE APPARATUS EMPLOYED THEREIN."

Sealed the 2nd April 1875, and dated the 3rd October 1874.

(Void by reason of the Patentee having neglected to file a Specification in pursuance of the conditions of the Letters Patent.)

PROVISIONAL SPECIFICATION left by the said Francois Alcidi Bonnefin at the Office of the Commissioners of Patents, with his Petition, on the 3rd October 1874.

I, FRANCOIS ALCIDI BONNEFIN, of the Island of Mauritius, at present
5 residing at Queen Street, Cheapside, in the City of London, do hereby declare the nature of my said Invention for "IMPROVEMENTS IN THE

Bonnefin's Improvements in Treating Excreta.

TREATMENT OF HUMAN EXCRETA, AND IN THE MANUFACTURE OF MANURE THEREFROM, AND IN THE APPARATUS EMPLOYED THEREIN," to be as follows :—

My Invention relates to the treatment of human excreta, and to the production of manure therefrom, and consists of a peculiar process of and apparatus for effecting the deodorization or disinfection of the solid 5 and liquid portions together, and of the liquid portion separately in order to fix the salts and gases, and render the excreta capable of being employed as a manure for agricultural purposes.

In carrying out my Invention I employ a receptacle for the excreta, into which the solid and liquid portions are simultaneously discharged. 10 This receptacle, which may be made of any desired shape, is composed of a tub or vessel forming a movable cesspool, in which there is supported at a suitable distance from its bottom a movable or false bottom perforated with holes, and having fixed thereto a perforated or openworked cylinder composed of metal or of other suitable material. Over the 15 surface of the movable or false bottom there is placed a layer of pounded carbon or charcoal, or other suitable porous substance previously saturated with sulphate of iron or other suitable chemical agent, and thoroughly dry, which layer of porous material is covered with a layer of crushed or ground substances intimately mixed with chemical agents 20 as herein-after mentioned.

The cylinder herein-before referred to may if desired be dispensed with, in which case a basket or a vessel of wickerwork may be disposed above the combined layers of porous and other substances. Between the internal sides of the tub or vessel and the external sides of the basket 25 or cylinder, there are introduced any suitable absorbent and filtering materials, or the combined substances herein-after mentioned. The apparatus so constructed is either disposed directly underneath the seat of a closet or it may be placed in the lower part of a building, and the closets on the various floors be made to communicate therewith by means 30 of pipes, or it may be otherwise arranged, according to circumstances.

The absorbent and filtering substances which I propose to employ are the following, viz'. :—The sweepings of towns properly dessicated or calcined, and crushed or ground turf, or peat humus or earth; carbonaceous material, such for example as animal charcoal, chalk, grey or 35 white plaster, or its equivalent; clay, phosphate of lime, or bone powder with sulphate of iron.

Bonnefin's Improvements in Treating Excreta.

The various chemical agents and other substances employed are selected to suit the particular purpose to which the manure is to be applied, so as to enable such manure to be employed direct without further treatment.

- 5 The absorbent and filtering substances are sprinkled or moistened with a solution of phosphoric acid or other suitable acid as they are applied to the tub or vessel. The liquid becomes separated from the solid portion of the excreta, and passes through the sides of the basket or cylinder; the fertilizing substances are absorbed. The chemical agents
10 effect the deodorization or disinfection of the excreta, and fix the salts and gases, the surplus liquid escaping through the perforations of the moveable or false bottom to the lower part of the tub or vessel. When the tub or vessel is moved the excreta is to be covered with a layer of the above or any suitable absorbent substances, and a certain quantity
15 of such substances may also, if desired, be supplied by a rocking apparatus or other suitable means each time the closet is used.

In the case of urinals and the like receptacles I propose to employ an ascending filter for the purpose of purifying the urine or other liquid, so as to retain the organic and fertilizing substances, whilst admitting of
20 the escape of the surplus and useless water. This apparatus is composed of a receptacle filled with a substance which is saturated with any suitable disinfectant, such for example as sulphate of iron, at the bottom of which receptacle there is formed an aperture provided with a pipe, which is covered with a screen or with straw, or otherwise arranged so as
25 to slightly obstruct the passage of the liquid. Below the above-mentioned receptacle there is placed another receptacle also containing a substance saturated with the disinfectant, such lower receptacle being provided with a double or intermediate perforated false bottom, in the centre of which is an ascending pipe, which the descending pipe from
30 the upper receptacle enters. This intermediate bottom is covered with a layer of a substance, such for example, as charcoal or other porous material which has been pounded, but not ground or pulverized, and which has been saturated with one or more of the chemical agents herein-before mentioned, or any other chemical agent suitable for the
35 purpose, and above this is placed a layer of fine sand. The liquid under treatment is first brought into contact with the disinfecting material in the upper receptacle, and then passes into the lower receptacle, where it is again acted upon by the disinfecting material, and being gradually

Bonnefin's Improvements in Treating Excreta.

increased in quantity, rises again and is brought into contact with the chemical agent, with which the porous body on the intermediate bottom is saturated, and thence is caused to pass upwards through the layer of fine sand, leaving below the organic matters, which may be subsequently employed in the manufacture of manure. The water thus purified 5 may be allowed to run off direct or be saturated with salts of sulphate of iron for the purpose of disinfecting the drain into which it is discharged.

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