

Specification of Henry Young Darracott Scott : treating sewage.

Contributors

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A.D. 1873, 25th APRIL. N° 1509.

SPECIFICATION

OF

HENRY YOUNG DARRACOTT SCOTT.

TREATING SEWAGE.

LONDON:

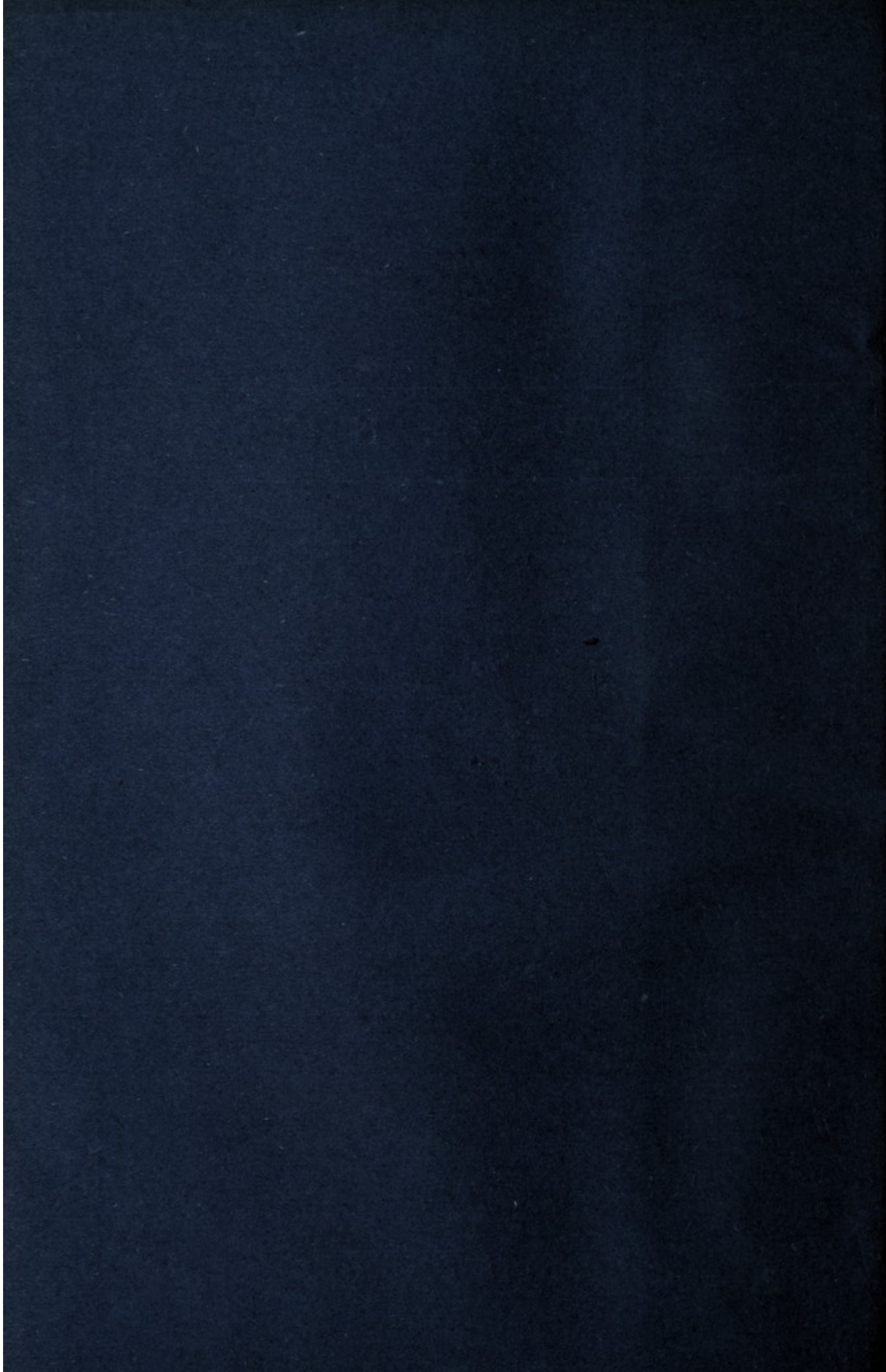
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1873.





A.D. 1873, 25th APRIL. N° 1509.

Treating Sewage.

LETTERS PATENT to Henry Young Darracott Scott, of Ealing, in the County of Middlesex, Major-General, C.B., for the Invention of "IMPROVEMENTS IN THE TREATMENT OF SEWAGE MATTERS, AND THE DEODORIZATION OF NIGHT SOIL."

Sealed the 30th September 1873, and dated the 25th April 1873.

PROVISIONAL SPECIFICATION left by the said Henry Young Darracott Scott at the Office of the Commissioners of Patents, with his Petition, on the 25th April 1873.

I, HENRY YOUNG DARRACOTT SCOTT, of Ealing, in the County of Middlesex, Major-General, C.B., do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE TREATMENT OF SEWAGE MATTERS, AND THE DEODORIZATION OF NIGHT SOIL," to be as follows:—

The object of this Invention is the utilization of sewage deposits for the deodorisation of night soil, and the preparation of inoffensive and
10 innoxious manure therefrom.

In carrying out my Invention instead of converting into charcoal as heretofore the solid matters deposited from sewage by precipitation

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with lime, or lime and clay, I subject them to a temperature only sufficiently high to decompose their organic matters, and so far scorch or only partially char them so as to develop in them compounds of a tarry nature, but not completely to expel such compounds as is done in the preparation of charcoal. I find that sewage deposits thus treated 5 exercise a remarkable effect in destroying the noxious smell of putrescent compounds, and that they may be used with great advantage in deodorizing night soil and rendering it innocuous.

The great advantages of the lime method of precipitation are the cheapness of the precipitant and the efficiency with which it clarifies 10 the sewage water and deodorises the deposit thrown down, but I may employ other precipitants such as chloride or sulphate of iron and alumina in conjunction with the lime, without interfering with the anti-septic properties of the compound which results from the scorching process. No corresponding advantages however, so far as these properties 15 are concerned, are gained by the use of such expensive chemicals.

In using the partially charred sewage deposits I reduce them to a powder either before or after the heat is applied to them, and I throw the powder, either by hand or by well-known mechanical contrivances, into dry closets and cesspools, or the powder may be mixed with the 20 night soil after collection from privies, or it may be used in the preparation of the Goux pail or other similar contrivances.

I sometimes mix with the partially charred and powdered deposit, lime, chloride of lime, or chlorides of the metallic salts or charcoal, or other disinfectants or deodorants. 25

Sometimes, also, I so manage the scorching process as to drive the tarry compounds from the portions subjected to the greatest heat over other portions of the deposit, which thus become impregnated with hydrocarbons, and have imparted to them similar antiseptic properties with the partially charred parts of the deposit. 30

The complete charring of certain portions of the deposit, and the imperfect action of the heat upon other portions, is comparatively unimportant. This is one of the great advantages of this mode of dealing with sewage deposit, for the rude method in which the process may be carried out without rendering it ineffective makes it specially 35 applicable to the necessities of small towns.

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The ammoniacal vapours which pass off during the scorching operation may be collected by well known methods.

During the prevalence of cholera, typhoid fever, and other contagious diseases, the mixed cesspool and scorched sewage deposit may be dried
5 and subjected to a temperature sufficiently high to commence charring as in the case of the deposit alone.

All germs of disease will thus be destroyed, and the resulting compound may be either used for agricultural purposes, or may be reused to deodorize fresh portions of night soil.

10 The ammonia and other matters distilled off by the scorching process may be collected and utilized, and the hydrocarbons which are expelled (whether in the case of treating sewage deposit only, or sewage deposit and night soil mixed) may be made by their combustion to assist in the scorching process.

15 **SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Henry Young Darracott Scott in the Great Seal Patent Office on the 25th October 1873.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, HENRY YOUNG DARRACOTT SCOTT, of Ealing, in the County of Middlesex,
20 Major-General, C.B., send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-fifth day of April, in the year of our Lord One thousand eight hundred and seventy-three, in the thirty-sixth year of Her reign, did, for Herself, Her heirs and successors, give
25 and grant unto me, the said Henry Young Darracott Scott, Her special license that I, the said Henry Young Darracott Scott, my executors, administrators, and assigns, or such others as I, the said Henry Young Darracott Scott, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times
30 thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE TREATMENT OF SEWAGE MATTERS, AND

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IN THE DEODORIZATION OF NIGHT SOIL," upon the condition (amongst others) that I, the said Henry Young Darracott Scott, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was 5 to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Henry Young Darracott Scott, do hereby declare the nature of my said Invention, and in what manner 10 the same is to be performed, to be particularly described and ascertained in and by the following statement (that is to say) :—

The object of this Invention is the utilization of sewage deposits for the deodorization of night soil, and the preparation of inoffensive and innocuous manures therefrom. 15

In carrying out my Invention, instead of converting into charcoal (as heretofore) the solid matters deposited from sewage by precipitation with lime, or lime and clay, or lime and iron, or alumina salts, I subject them in iron cylinders or retorts to a temperature only sufficiently high to decompose their organic matters, and so far scorch or only partially 20 char them as to develop in them compounds of a tarry nature, but not completely to expel such compounds as is done in the preparation of charcoal. I find that sewage deposits thus treated exercise a remarkable effect in destroying the noxious smell of putrescent compounds, and that they may be used with great advantage in deodorizing night soil and 25 rendering it innocuous.

The great advantages of the lime method of precipitation are the cheapness of the precipitant and the efficiency with which it clarifies the sewage water and deodorizes the deposit thrown down, but I may employ other precipitants, such as chloride or sulphate of iron and alumina 30 in conjunction with the lime, without interfering with the antiseptic properties of the compound which results from the scorching process.

In using the partially charred sewage deposits I reduce them to a powder either before or after the heat is applied to them, and I throw the powder either by hand or by well known mechanical contrivances 35 into dry closets and cesspools, or the powder may be mixed with the

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night soil after collection from privies, or it may be used in the preparation of the Goux pail or other analogous or equivalent contrivances

I sometimes mix with the partially charred and powdered deposit lime, chloride of lime, or chlorides of the metallic salts or charcoal, or other
5 disinfectants or deodorants.

Sometimes also I so manage the scorching process as to drive the tarry compounds from the portions subjected to the greatest heat over other portions of the deposit, which thus become impregnated with hydrocarbons, and have imparted to them similar antiseptic properties
10 with the partially charred parts of the deposit.

The complete charring of certain portions of the deposit and the imperfect action of the heat upon other portions is comparatively unimportant. This is one of the great advantages of this mode of dealing with sewage deposits for the rude method in which the process
15 may be carried out without rendering it ineffective makes it specially applicable to the necessities of small towns.

The ammoniacal vapours which pass off during the scorching operation may be collected by well-known methods, and may be utilized in any way for any purpose for which they may be required.

20 During the prevalence of cholera, typhoid, and other contagious diseases, the mixed cesspool and scorched sewage deposit may be dried and subjected to a temperature sufficiently high to commence charring, as in the case of the deposit alone.

All germs of disease will thus be destroyed and the resulting com-
25 pound may be either used for agricultural purposes, or may be reused for deodorizing fresh portions of night soil.

The ammonia and other matters distilled off by the scorching process may be collected and utilized, and the hydrocarbons which are expelled (whether in the case of treating sewage deposit only or sewage deposit
30 and night soil mixed) may be made (by their combustion) to assist in the scorching process.

Having now described my Invention of "Improvements in the Treatment of Sewage Matters, and in the Deodorization of Night Soil," and having explained the manner of carrying the same into effect, I claim
35 as the Invention secured to me by Letters Patent as aforesaid,—

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Subjecting sewage deposits to a temperature sufficient to make up or decompose their organic elements, and develop from them tarry compounds, as and for the purposes herein set forth.

I also claim the use or employment of the sewage deposits scorched to this degree for deodorizing and disinfecting night soil and other foecal matters as herein set forth. 5

In witness whereof, I, the said Henry Young Darracott Scott, have hereunto set my hand and seal, the Twenty-fifth day of October, in the year of our Lord One thousand eight hundred and seventy-three. 10

HENRY Y. D. SCOTT. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1873.

