

Specification of Thornton John Herapath : treating sewage and manufacturing manure.

Contributors

Herapath, Thornton John.

Publication/Creation

London : Queen's Printing Office, 1853 (London : George E. Eyre and William Spottiswoode)

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A.D. 1853. N° 643.

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

OF

THORNTON JOHN HERAPATH.

TREATING SEWAGE AND MANUFACTURING
MANURE.

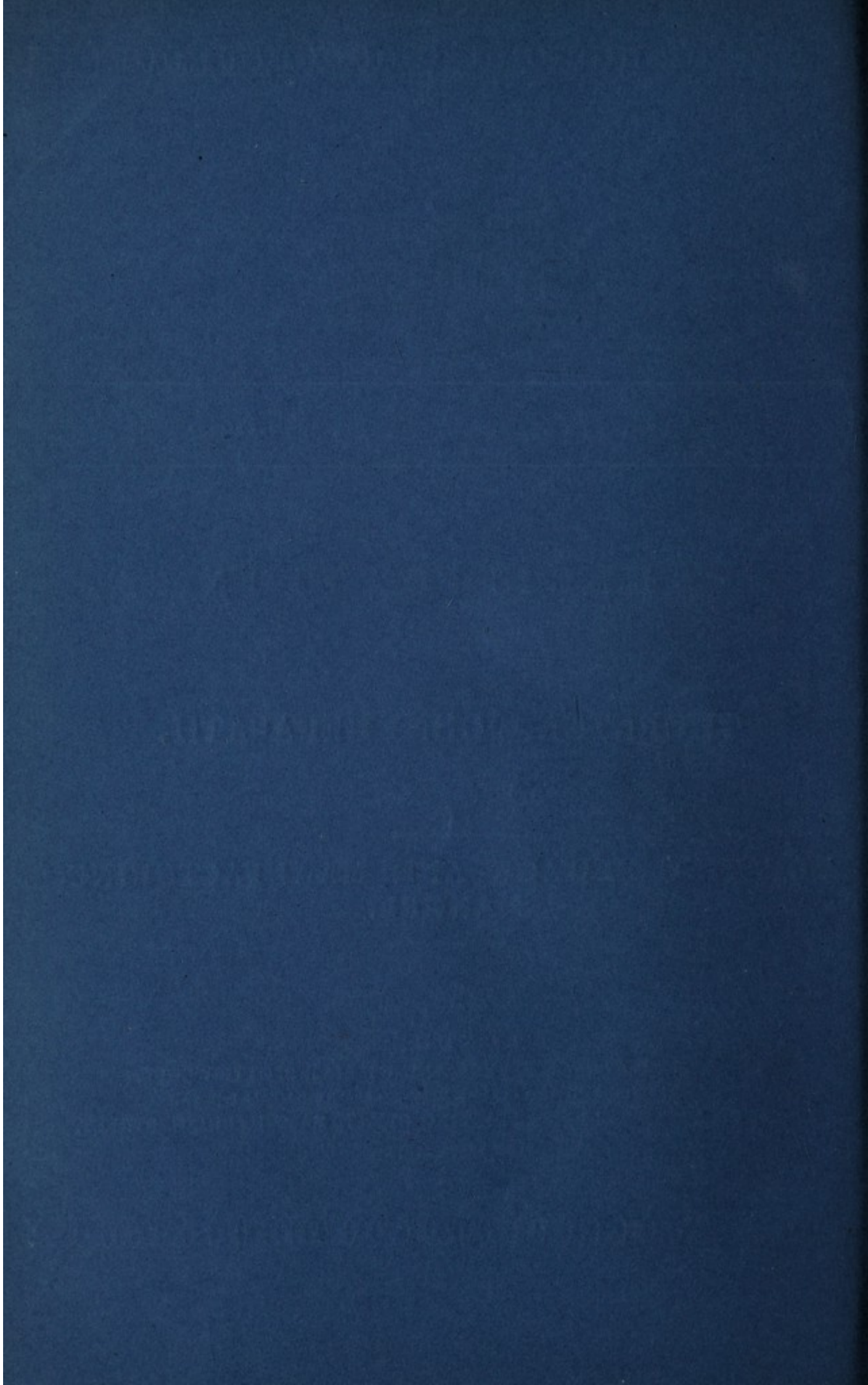
L O N D O N :

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE QUEEN'S PRINTING OFFICE, EAST HARDING STREET,
NEAR FLEET STREET.

Price 2½d.

1853.





A.D. 1853 N° 643.

Treating Sewage and Manufacturing Manure.

LETTERS PATENT to Thornton John Herapath, of the City and County of Bristol, Analytical Chemist, for the Invention of "**IMPROVEMENTS IN TREATING SEWAGE AND IN MANUFACTURING MANURE THEREFROM.**"

Sealed the 17th May 1853, and dated the 15th March 1853.

PROVISIONAL SPECIFICATION left by the said Thornton John Herapath at the Office of the Commissioners of Patents, with his Petition, on the 15th March 1853.

I, **THORNTON JOHN HERAPATH**, of the City and County of Bristol, Analytical Chemist, do hereby declare the nature of the said Invention for "**IMPROVEMENTS IN TREATING SEWAGE AND IN MANUFACTURING MANURE THEREFROM**" to be as follows:—

The Invention consists in making use of burnt magnesian-limestone, or magnesia, or substances containing the same, together with a salt of iron. The Invention may be performed by adding a small portion of slacked magnesian limestone to the sewage; then a small portion of

Herapath's Improvements in the Treatment of Sewage, &c.

sulphate of iron. The solid matters will be deposited in from about 5 to 10 minutes, and the sediment will contain the whole of the phosphoric acid and ammonia of the sewage. The supernatant fluid is afterwards drawn off, and may be employed for irrigation; the remaining substance, after being drained, forms a highly valuable manure. 5

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Thornton John Herapath, in the Great Seal Patent Office, on the 15th September 1853.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, THORNTON JOHN HERAPATH, of the City and County of Bristol, Analytical Chemist, send greeting. 10

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fifteenth day of March, in the year of our Lord One thousand eight hundred and fifty-three, in the sixteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Thornton John Herapath, Her special licence that I, the said Thornton John Herapath, my executors, administrators, and assigns, or such others as I, the said Thornton John Herapath, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times 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 TREATING SEWAGE, AND IN MANUFACTURING MANURE THEREFROM," upon the condition (amongst others) that I, the said Thornton John Herapath, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was 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. 15 20 25 30

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NOW KNOW YE, that I, the said Thornton John Herapath, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :

5 The nature of the said improvements in the treating of sewage consists in causing the phosphoric acid and ammonia of such matters to be precipitated in a comparatively insoluble state by the addition of magnesia, or a magnesian compound, at or about the same time as the deodorization of the said sewage is effected by the addition of some
10 deodorizing chemical agent, which will not decompose ammonia or its salts. I proceed as follows:—I receive the said matters in a tank or reservoir, and add to them chloride of magnesium, nitrate, or sulphate of magnesia, or burnt and slacked magnesian limestone, commonly called dolomite, or a mixture of carbonate of magnesia and carbonate
15 of lime, which will slack together. I add, either before, after, or about the same time, such deodorizing agent as may be added without decomposing ammonia or its salts, but will combine with or absorb hydro-sulphuric acid, such as metallic sulphates, or metallic chlorides, or animal or vegetable carbon. Upon such additions I find the sewage
20 matters lose their offensive smell, and their fertilizing parts precipitate to the bottom. I allow the supernatant clear fluid to flow off, and either use it to irrigate land or to run to waste. The pulpy sedimentary matters I now dry, either by the admixture of some material capable of absorbing water, such as saw dust, malt combings, ground bones, or
25 coprolites, and so forth; or they are dried by artificial heat of moderate degree, when these matters form a manure of great fertilizing power, for use either by themselves or by admixture with other suitable manures.

And having now described the nature of my said Invention, and in
30 what manner the same is to be performed, I declare that I do not claim the employment of the ordinary deodorizing materials, such as I have named, when used alone; nor do I claim the use of magnesia or its salts as precipitants, when used alone; but I claim—

The combined employment of magnesia and its compounds, together

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with deodorants, to sewage matters, so as to precipitate their useful parts, deodorize them, render them readily portable, and manufacture them into manure, in the manner herein-before described.

In witness whereof, I, the said Thornton John Herapath, have hereunto set my hand and seal, this Fourteenth day of September, One thousand eight hundred and fifty-three.

THORNTON JOHN HERAPATH. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1853.