

Specification of Bevan George Sloper and Felix Jean Joseph Washer : treating sewage.

Contributors

Sloper, Bevan George.
Washer, Felix Jean Joseph.

Publication/Creation

London : Great Seal Patent Office, 1871 (London : George E. Eyre and William Spottiswoode)

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A.D. 1871, 8th FEBRUARY. N° 329.

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

OF

BEVAN GEORGE SLOPER
AND
FELIX JEAN JOSEPH WASHER.

TREATING SEWAGE.

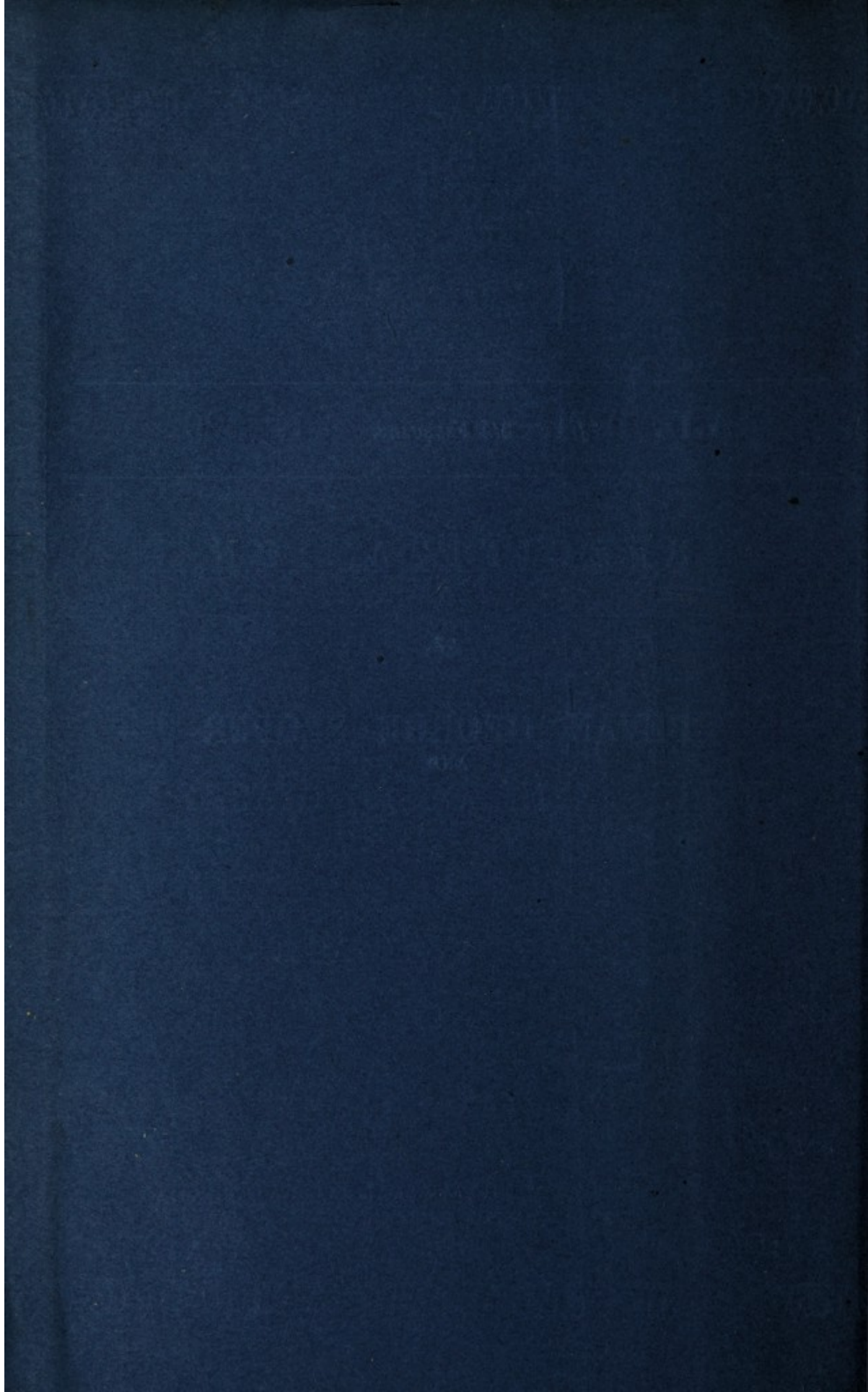
LONDON:

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

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,
25, SOUTHAMPTON BUILDINGS, HOLBORN.

Price 4d.

1871.





A.D. 1871, 8th FEBRUARY. N° 329.

Treating Sewage.

LETTERS PATENT to Bevan George Sloper, of Northfleet, in the County of Kent, Chemical Engineer, and Felix Jean Joseph Washer, of Brussels, in the Kingdom of Belgium, Industrial Engineer, for the Invention of "**IMPROVEMENTS IN THE TREATMENT OF SEWAGE AND OTHER FECAL MATTERS.**"

Sealed the 21st April 1871, and dated the 8th February 1871.

PROVISIONAL SPECIFICATION left by the said Bevan George Sloper and Felix Jean Joseph Washer at the Office of the Commissioners of Patents, with their Petition, on the 8th February 1871.

We, **BEVAN GEORGE SLOPER**, of Northfleet, in the County of Kent,
5 **CHEMICAL ENGINEER**, and **FELIX JEAN JOSEPH WASHER**, of Brussels, in the Kingdom of Belgium, Industrial Engineer, do hereby declare the nature of the said Invention for "**IMPROVEMENTS IN THE TREATMENT OF SEWAGE AND OTHER FECAL MATTERS,**" to be as follows:—

10 We mix with the sewage or other fecal matters under treatment a sufficient quantity of an alkali or alkaline earth to decompose the

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nitrogenous substances contained therein and effect their conversion into ammonia and into a carbonate of the alkali or alkaline earth used.

Our Invention, therefore, consists in the method of converting nitrogenous substances contained in sewage or other fecal matters into ammonia, without fermentation at the temperature of the atmosphere. 5
After this conversion we mix with the sewage or other fecal matters solutions of a soluble salt of magnesia and of a soluble phosphate in or in about the following proportions:—For each equivalent of ammonia contained in the liquid matters treated we use two equivalents of the magnesian salt and one equivalent of the soluble phosphate. We 10
agitate the liquids well on mixing and obtain the precipitation of the ammoniacal phosphate of magnesia.

When necessary for further clarification and deodorization, we use small quantities of lime with sulphate of alumina or chloride of lime or proto-sulphate of iron, according to circumstances. 15

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Bevan George Sloper and Felix Jean Joseph Washer in the Great Seal Patent Office on the 5th August 1871.

TO ALL TO WHOM THESE PRESENTS SHALL COME, we, **BEVAN GEORGE SLOPER**, of Northfleet, in the County of Kent, Chemical Engineer, and **FELIX JEAN JOSEPH WASHER**, of Brussels, in the Kingdom of Belgium, Industrial Engineer, send greeting. 20

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighth day of February, in the year of our Lord One thousand eight hundred and seventy-one, in the thirty- 25
fourth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto us, the said Bevan George Sloper and Felix Jean Joseph Washer, Her special licence, that we, the said Bevan George Sloper and Felix Jean Joseph Washer, our executors, administrators, and assigns, or such others as we, the said Bevan George Sloper and Felix 30
Jean Joseph Washer, our 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

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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 AND OTHER FECAL MATTERS," upon the condition (amongst others) that we, the said
5 Bevan George Sloper and Felix Jean Joseph Washer, our executors or administrators, by an instrument in writing under our, or one of our 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 to be performed, and cause the same to be filed in the Great
10 Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that we, the said Bevan George Sloper and Felix Jean Joseph Washer, do hereby declare the nature of our said Invention, and in what manner the same is to be performed, to be particularly
15 described and ascertained in and by the following statement thereof, that is to say:—

We mix with the sewage or other fecal matters under treatment a sufficient quantity of an alkali or alkaline earth to decompose the nitrogenous substances contained therein and effect their conversion into
20 ammonia and into a carbonate of the alkali or alkaline earth used.

Our Invention, therefore, consists in the method of converting nitrogenous substances contained in sewage or other fecal matters into ammonia, without fermentation at the temperature of the atmosphere. After this conversion we mix with the sewage or other fecal matters
25 solutions of a soluble salt of magnesia and of a soluble phosphate in or in about the following proportions:—For each equivalent of ammonia contained in the liquid matters treated we use two equivalents of the magnesian salt and one equivalent of the soluble phosphate. We agitate the liquids well on mixing and obtain the precipitation of the
30 ammoniacal phosphate of magnesia.

When necessary for further clarification and deodorization, we use small quantities of lime with sulphate of alumina or chloride of lime or protosulphate of iron, according to circumstances.

By means of our Invention we are enabled to remove from sewage
35 all the solid impurities and also a very large proportion of the soluble

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polluting matter it contains, and to obtain a precipitate which is a manure of very great value.

In witness whereof, I, the said Bevan George Sloper, on behalf of myself and the said Felix Jean Joseph Washer, have hereunto set my hand and seal, this Third day of August One thousand 5 eight hundred and seventy-one.

B. G. SLOPER. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1871.