

**Specification of Henry Young Darracott Scott and Thomas Walker Scott :
preparing lime for treating sewage.**

Contributors

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A.D. 1872, 4th DECEMBER. N° 3670.

SPECIFICATION

OF

HENRY YOUNG DARRACOTT SCOTT
AND
THOMAS WALKER SCOTT.

PREPARING LIME FOR TREATING SEWAGE.

LONDON:

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1873.





A.D. 1872, 4th DECEMBER. N° 3670.

Preparing Lime for Treating Sewage.

LETTERS PATENT to Henry Young Darracott Scott, of Ealing, in the County of Middlesex, Major-General, C.B., and Thomas Walker Scott, of the same Place, Gentleman, for the Invention of "IMPROVEMENTS IN THE MODE OF AND APPARATUS FOR PREPARING LIME FOR THE TREATMENT OF SEWAGE."

Sealed the 3rd June 1873, and dated the 4th December 1872.

PROVISIONAL SPECIFICATION left by the said Henry Young Darracott Scott and Thomas Walker Scott at the Office of the Commissioners of Patents, with their Petition, on the 4th December 1872.

We, HENRY YOUNG DARRACOTT SCOTT, of Ealing, in the County of Middlesex, Major-General, C.B., and THOMAS WALKER SCOTT, of the same Place, Gentleman, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MODE OF AND APPARATUS FOR PREPARING LIME FOR THE TREATMENT OF SEWAGE," to be as follows :—

The main object of our Invention is to economize labour when treating sewage with lime for the purposes of defecation and utilization.

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In carrying out our Invention we employ tanks or vessels, such as are ordinarily employed for making the milk of lime used in precipitating sewage. This tank or vessel is to be filled with water or sewage water, and is provided with a stirring apparatus consisting principally of a vertical axle with horizontal or inclined arms, from which are suspended 5 metal baskets or perforated boxes with sliding bottoms containing the lump lime, which will therefore be immersed in the water contained in the tank or vessel. As the vertical axle rotates it carries round the boxes containing the lime, which will gradually slake and be washed out by the water and will pass through the holes at the sides and bottom 10 of the boxes. The under burned and over burned lime and any extraneous matter, such as stones or flints, will remain in the boxes, and may be removed therefrom from time to time and cast on to a heap, where they may be allowed to remain and heat, after which the lime, when screened, may be again placed in the boxes and immersed in the 15 water, or thrown direct into the tanks. Horizontal or inclined arms are mounted on the vertical axle below the boxes, and are furnished with teeth, which project downwards, to stir up any sediment or lime at the bottom of the tank.

It will be understood that water may be kept constantly running into 20 the mixing tank and a regulated quantity as constantly drawn off by a pipe or valve suitably adapted to the vessel for the purpose, so that the workmen will only have to keep the boxes supplied with lime and see that the extraneous matters are removed therefrom from time to time.

SPECIFICATION in pursuance of the conditions of the Letters Patent, 25
filed by the said Henry Young Darracott Scott and Thomas
Walker Scott in the Great Seal Patent Office on the 4th June 1873.

TO ALL TO WHOM THESE PRESENTS SHALL COME, we, **HENRY YOUNG DARRACOTT SCOTT**, of Ealing, in the County of Middlesex, Major-General, C.B., and **THOMAS WALKER SCOTT**, of the same Place, 30
Gentlemen, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourth day of December, in the year of our Lord One thousand eight hundred and seventy-two, in the thirty-

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sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto us, the said Henry Young Darracott Scott and Thomas Walker Scott, Her special licence that we, the said Henry Young Darracott Scott and Thomas Walker Scott, our executors,
5 administrators, and assigns, or such others as we, the said Henry Young Darracott Scott and Thomas Walker Scott, 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 might make, use, exercise,
10 and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN THE MODE OF AND APPARATUS FOR PREPARING LIME FOR THE TREATMENT OF SEWAGE,**" upon the condition (amongst others) that we, the said Henry Young Darracott Scott and Thomas Walker Scott, our executors or
15 administrators, by an instrument in writing under 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 Seal Patent Office within six calendar months next and immediately after the date
20 of the said Letters Patent.

NOW KNOW YE, that we, the said Henry Young Darracott Scott and Thomas Walker Scott, do hereby declare the nature of our said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following state-
25 ment, reference being had to the Drawing hereunto annexed, and to the letters and figures marked thereon (that is to say) :—

The main object of our Invention is to economise the labour which is now required for first slaking and then screening the lime when treating sewage with lime, for the purposes of defecation and utilization. The
30 addition of lime to sewage, as now practised for the above purposes, requires constant attention and depends upon the workman keeping up a regular and uniform supply. A negligent performance of this duty will either involve an imperfect defecation of the sewage, or a waste of lime. In order to obviate these defects we arrange our apparatus so
35 that it shall work as nearly as possible automatically.

In carrying out our Invention we employ tanks or vessels such as are ordinarily employed for making milk of lime and in precipitating sewage.

H. Y. D. & T. W. Scott's Impts. in Preparing Lime for Sewage.

In the accompanying Drawing I have shewn a convenient arrangement of apparatus for effecting the desired object. The tank or vessel *a, a*, may be constructed of masonry, brickwork, concrete, or of iron, and is filled with water or sewage water. It is provided with a stirring apparatus, consisting principally of a vertical axle *b* with horizontal or inclined 5 arms *c, c*, from which are suspended perforated sheet metal or wire baskets or boxes *d, d*, provided with sliding bottoms *d¹, d¹*. These boxes or baskets contain the lump lime, which will therefore be immersed in the water contained in the tank or vessel. As the vertical axle *b* rotates it carries round the boxes *d, d*, containing the lime, which will gradually 10 slake and be washed out by the water and will pass through the holes at the sides and bottom of the boxes. The under burned and over burned lime and any extraneous matters, such as stones or flints, will remain in the boxes, and may be removed therefrom from time to time and cast into a heap, where they may be allowed to remain and heat. By this 15 means, the lime will be separated from the refuse mentioned above, after which the lime so separated may, when screened, be again placed in the boxes *d, d*, and immersed in the water or thrown direct into the tanks. Horizontal or inclined arms *e, e*, are mounted on the vertical axle *b* below the boxes *d*, and are furnished with teeth *e¹, e¹*, which project 20 downwards to stir up any sediment or lime at the bottom of the tank.

It will be understood that water may be kept constantly running into the mixing tank and a regulated quantity of water having in solution and suspension the finest particles of the lime may be as constantly drawn off by a pipe or valve *f*, suitably adapted to the vessel for the purpose, so 25 that the workman will only have to keep the boxes *d* supplied with lime and see that the extraneous matters are removed therefrom from time to time. At or near the centre of the tank or vessel *a* are openings or channels *g, g*, communicating with a common channel *g¹*, so that the sediment and insoluble particles may be from time to time drawn off. 30 The boxes or baskets *d, d*, are provided with hooks *d²*, whereby they are suspended from the horizontal arms *c, c*, in such a manner that they may be easily lifted off when required by means of a hook passed through the eye *d³*. The hooks *d²* are also provided with antifriction rollers, so that the boxes *d* may be easily slidden along the arms. 35

As an obvious modification of this arrangement it will be evident that instead of suspending the boxes or baskets *d, d*, from the horizontal arms *c, c*, as above described, they may be placed on a platform fixed

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to the vertical shaft, and may be provided with small rollers or running wheels for the facility of moving them about. In whatever way the boxes or baskets are used they must be moved round in the water in the tank by communicating rotary motion to the vertical shaft by means of
5 any suitable gearing.

Having now described our Invention of "Improvements in the Mode of and Apparatus for Preparing Lime for the Treatment of Sewage," and having explained the manner of carrying the same into effect, we claim as the Invention secured to us by Letters Patent as aforesaid,
10 preparing lime for the treatment of sewage by placing unslaked lime in perforated boxes or baskets, which are suspended in water and are moved round or about therein, in order that the lime may be gradually dissolved or washed out of the boxes or baskets, and the solution regularly drawn off as and for the purpose herein set forth.

15 We also claim the arrangement of apparatus herein set forth, or any mere modification thereof, whereby unslaked lime may be gradually dissolved and diffused through a body of running water, as and for the purpose herein set forth.

20 In witness whereof, we, the said Henry Young Darracott Scott and Thomas Walker Scott, have hereunto set our hands and seals, the Second day of June, in the year of our Lord One thousand eight hundred and seventy-three.

HENRY YOUNG DARRACOTT SCOTT. (L.S.)

THOMAS WALKER SCOTT. (L.S.)

LONDON :

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

WALKER & SCOTT, 11, Abchurch Lane, London, E.C. 4.

to the vertical shaft, and only the provided with a small roller on the shaft for the facility of moving them about. In whatever way the boxes or baskets are used they must be moved round in the vertical shaft by means of a suitable arrangement like a wire ladder or a similar device.

Having now described our invention of "Improvements in the Method of and Apparatus for Treating Lumps for the Treatment of Cancer," and having explained the manner of carrying the same into effect, we claim as the invention secured to us by Letters Patent as hereinafter appearing here for the treatment of cancer by placing unsliced thin, perforated boxes or baskets, which are suspended in water and are moved round or about them, in order that the lime may be gradually dissolved or washed out of the boxes or baskets, and the solution regularly drawn off and for the purpose herein set forth.

We also claim the arrangement of apparatus herein set forth, or any modification thereof, whereby unsliced thin, may be gradually dissolved and allowed through a body of running water, as and for the purpose herein set forth.

In witness whereof, we, the said Henry Young Barracott Scott and Thomas Walker Scott, have hereunto set our hands and seals; the said Henry Young Barracott Scott, in the year of our Lord One thousand eight hundred and seventy-three.

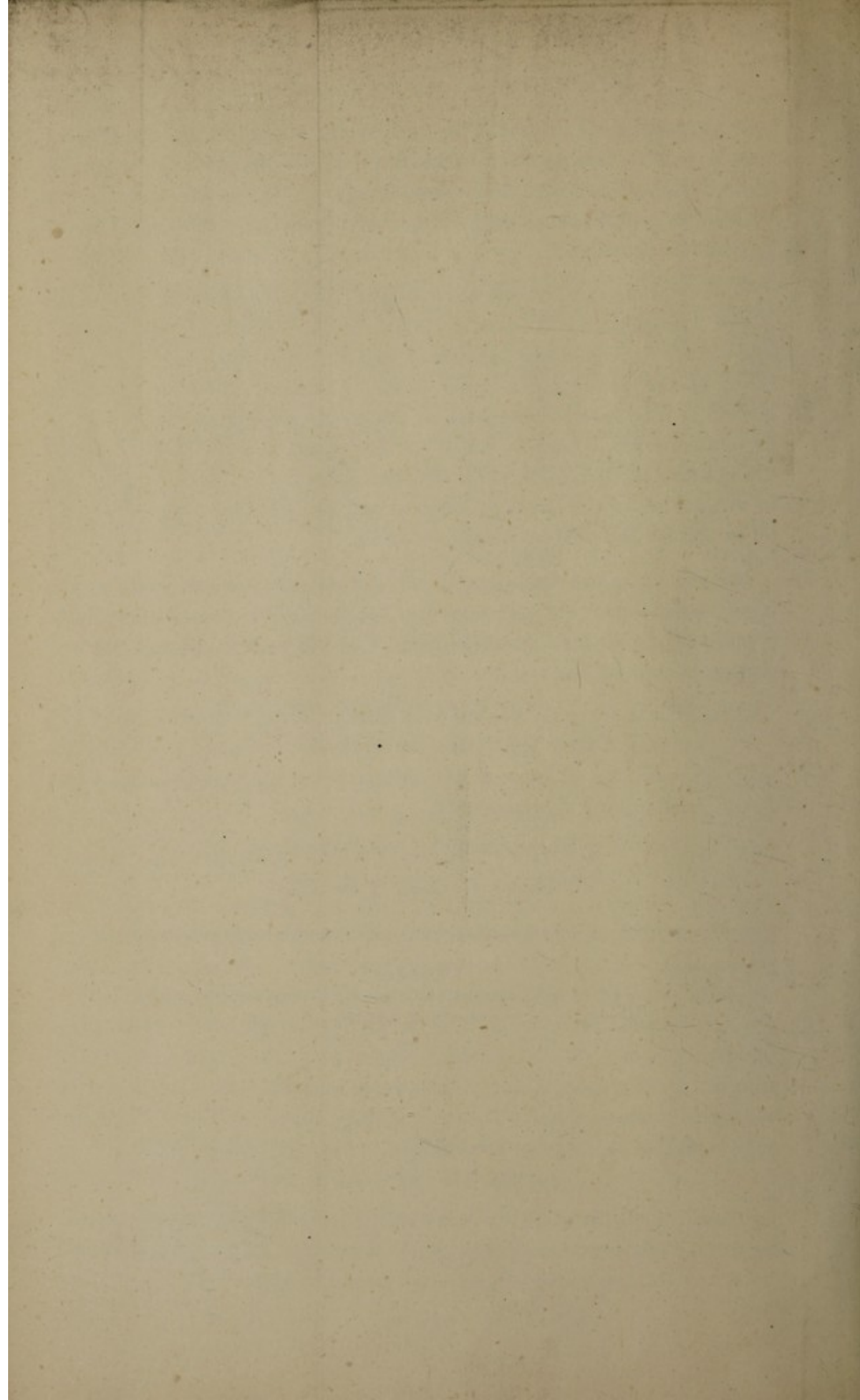
HENRY YOUNG BARRACOTT SCOTT. (Sd.)
THOMAS WALKER SCOTT. (Sd.)

WITNESSES:
JOHN BARRACOTT, of the County of London, Esq.
JOHN WALKER, of the County of London, Esq.

Printed by the Queen's Printer, at the Queen's Printer's Office, in the City of London, in the year of our Lord One thousand eight hundred and seventy-three.

And in the year of our Lord One thousand eight hundred and seventy-three, we, the said Henry Young Barracott Scott and Thomas Walker Scott, have hereunto set our hands and seals.





The filed drawing is partly colored.

London: Printed by George Kneller, in the Strand, and William Stoughton, Printers to the Queen's most Excellent Majesty 1873

Drawn and Signed by Mallory A. Sargent

