

## **Specification of Henry Malcolm Ramsay : treating sewage, &c.;**

### **Contributors**

Ramsay, Henry Malcolm.

### **Publication/Creation**

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A.D. 1870, 19th JULY. N° 2032.

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SPECIFICATION

OF

HENRY MALCOLM RAMSAY.

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TREATING SEWAGE, &c.

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LONDON:

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

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4d.

1871.





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A.D. 1870, 19th JULY. N° 2032.

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**Treating Sewage, &c.**

*(This Invention received Provisional Protection only.)*

**PROVISIONAL SPECIFICATION** left by Henry Malcolm Ramsay at the Office of the Commissioners of Patents, with his Petition, on the 19th July 1870.

I, HENRY MALCOLM RAMSAY, of 2, Russell Villas, Pope's Grove, Twickenham, in the County of Middlesex, Civil Engineer, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE TREATMENT OF SEWAGE OR OTHER LIQUIDS OR SOLUTIONS, AND THE PRODUCTION THEREFROM OF MANURANCE PRECIPITATES OR OTHER SOLIDS, AS ALSO FOR RAISING SEWAGE OR OTHER LIQUIDS OR MATTERS BY FLOATING TANKS OR BY THE ACTION OF TIDAL WATERS," to be as follows:—

For the purposes and requirements and means for carrying out this process, or for raising or lifting the sewage or other matters, I design, fit up, arrange, construct, operate, and work the several appurtenances, apparatus, constructions, materials, liquids, and powers, obtained as under mentioned.

A. Receiver for Sewage, etc.—First. The sewage or other liquid or solution to be collected at outfall or other arrangement into certain chambers, cisters, or other suitable receptacles. The sewage or other

*Ramsay's Improvements in Treating Sewage, &c.*

liquids or solution being discharged or flowing into same by the action of pumping, or lifting power, or by gravitation.

B. Precipitation Pans.—Second. From the receiver "A" the sewage or other liquid or solution shall flow, pass along by gravitation through one or more closed or open troughs, pipes, conduits, or other channels, 5 and discharge therefrom into one or more precipitation pans.

C. Precipitant Bath.—Third. The necessary mixture or precipitant being prepared or mixed in the bath is to be conveyed from same by a service or supply pipe to be affixed to the trough or troughs, or other channels before mentioned, and to be ejected therefrom into the same, 10 and thereby become equally mixed with the sewage or other fluid flowing into precipitation pans.

D. Press Chamber.—Fourth. Attached to or adjoining the precipitation pans shall be fitted up a perforated bed plate or pockets or bags and top press plates for the expression of or squeezing out the moisture or 15 liquid from the precipitate; this object to be obtained, effected, or applied by hydraulic pressure, or by screws, levers, weights, or other apparatus or fittings to be acted up by steam, water, or manual power, the moisture or liquid being thereby expelled from the precipitate matter, the water or liquid so discharged from precipitate being collected in 20 channel under and passing therefrom into foul water drain.

E. The Drying Chamber or Flues.—Fifth. Attached to or adjoining press chamber D shall be an enclosed space to be heated by hot air flues, steam or hot water pipes, and to the necessary height, width, and length for the reception of the false bottom or bed plate or floor of the 25 pans B upon which the precipitate has been deposited.

F. The False Bottom or Bed Plate in Pans.—Sixth. Each pan shall be fitted up with a false bottom, upon which the precipitate shall deposit, such false bottom being constructed of canvass or copper wire, or other suitable webbing fitted or strained into proper framing, 30 or of perforated iron, zinc, or copper plates connected with same, shall be fitted all necessary bed or other rollers, chains, and other necessary apparatus for the purpose of conveying or hauling or carrying the bed plate when loaded with precipitate from the pan or pans under press, and from thence into drying chamber, and returning same to pan when 35 precipitate has been removed, the whole being worked or moved by steam, water, or manual power.

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*Ramsay's Improvements in Treating Sewage, &c.*

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G. The Supernatant Water and Filter.—Seventh. Each pan or pans to be fitted up with proper openings for the discharge from the pans of the supernatant water into certain filters or filtering beds, as also for the discharge of the foul water from the deposit, the effluent water after 5 filtration passing off in clear water drain.

H. The Raising or Lifting Sewage or other Liquids or Substances.—Eight. By the construction of an open well or other receptacle for holding water constructed to the necessary size or dimensions according to the tank or weight to be raised, floated, or lifted therein. By the 10 construction of an open tank with the lower portion divided as an air or water-tight compartment, such tank to be acted upon for the purposes required of certain appliances, pumps, etc., necessary to charge or empty such compartment with air or water, or by the use, application, and admission of tidal waters into such well or receptacle, so that the 15 tank will rise to level required, such level subject to the action of the tides in the particular locality.

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Printers to the Queen's most Excellent Majesty. 1871.

Warrant of Appointment in Township of ...

1. The undersigned, being duly qualified, do hereby certify that the following is a true and correct copy of the original as the same appears in the records of the Township of ...

2. The following is a true and correct copy of the original as the same appears in the records of the Township of ...

Warrant of Appointment in Township of ...

3. The undersigned, being duly qualified, do hereby certify that the following is a true and correct copy of the original as the same appears in the records of the Township of ...