

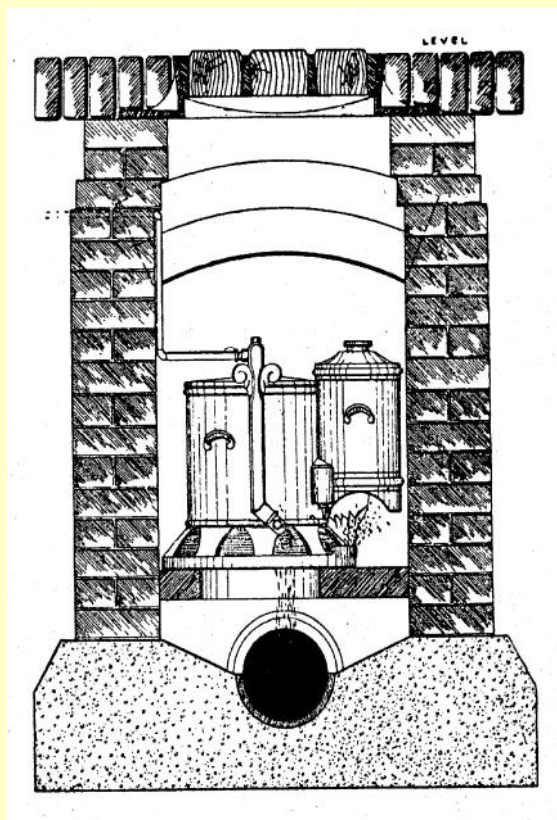
SEWERS FASCINATE PARKHURST RESIDENT

Robert Harris Reeves – Foreman of Works

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Much of Robert Harris Reeve's work had been forgotten for the best part of a century until on 11th November 1983 *The Portsmouth News* printed on its *Island Page* a request for information on a sewer purifier. The large pots had been found by North West Water lying buried under feet of sludge in one of their older sewer. It was identified by having R. H Reeves, Parkhurst, Isle of Wight on the moulding.

Sadly little is known of the man himself only something of his work. But between the years 1874 and 1900 it is recorded by the British Patent Office that Robert Harris Reeves had obtained at least a score of patents related to sewers, sewage treatments and the like. No doubt he had been stimulated into this unusual area of work by the ever increasing national concern then being shown by the new Local Boards of Heath across the country in dealing efficiently with the ever growing problem of treating the ever increasing volume of effluent as towns and cities grew. From his patent specifications, the census returns and his books and other writings it is known at least that in 1874 he was living in Southsea and by 1881 had moved across the Solent to work at Parkhurst Barracks, where he had the title *Foreman of Works*. His stay on the Island may however have not been all that long for five years later he gives two different addresses both in London on patent applications. One was in Berners Street, just off Oxford Street, and the other in Putney Bridge Road. From later patent records it is thought that he most likely retired to a village near Walton-on-Naze in Essex where he died.



One of the outcomes of the 1851 London Great Exhibition was a change to the British patent laws making it, at long last easier, and more importantly for many very much cheaper, to protect intellectual property. Robert Reeves certainly took full advantage of the change as it demonstrated by his long list of patents, which is impressive. Many of his original ideas and inventions were further developed over a span of some thirty years or more, as can be seen from repeated patent titles. But most of them evolved from around his time on the Isle of Wight. The most important of his patents, with their year and number, are listed below:

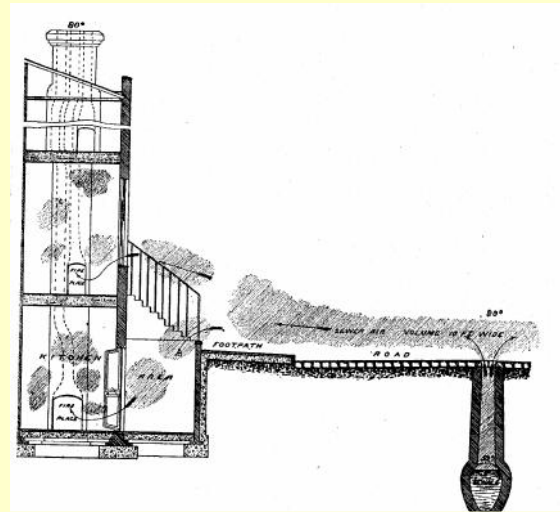
1874 – 1080	Ventilators	Purifying sewage effluent	
1880 – 4540	Detecting escape of noxious gases	1900 – 9819	Treating sewage
1881 – 1457	Ventilating apparatus	1902 – 28545	Sprayers
1881 – 3961	Drainage, destroying noxious gases	1902 – 28546	Sewer manholes
1883 – 1762	Flues, chimneys and grates	1902 – 28547	Sewer precipitation
1886 – 13313	Ventilating drains and sewers, deodorising and disinfecting gases	1902 – 28549	Pumping apparatus
1887 – 16061	Soil pipes, house drains	1903 – 23745	Sprayers
1889 – 19963	Ventilating, warming or cooling air	1903 – 23747	Sewer manholes
		1903 – 23748	Sewer precipitation

1890 – 10604 Producing air current for ventilation
 1895 – 18185 Purifying air of drains and sewers
 1895 – 22502 Treating sewage
 1897 – 9558 Treating sewage
 1897 – 9566 Treating sewer air

1903 – 23749 Pumping apparatus
 1906 – 29012 Ventilating sewers
 1913 – 5720 Ventilating sewers
 1913 – 13091 Sprayers

Reeves must have been very aware and no doubt motivated in his researches by reports such as that in the *IW Observer* of 18th June 1881:

An alarming increase has taken place in the prevalence of fever in the Isle of Wight during the year ending 1879 ---- with the absolute certainty of the inhabitants being exposed to the influence of drains and sewers, the occurrence of enteric fever can be no matter of astonishment."



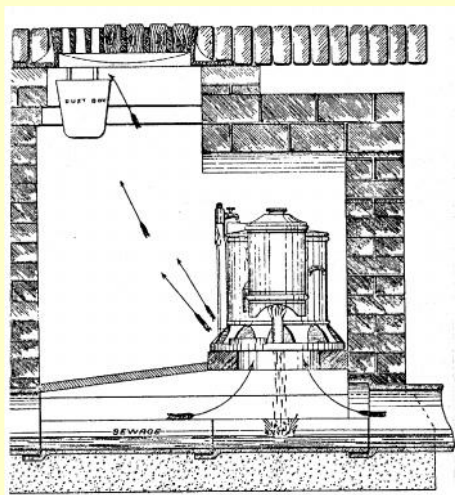
With the growth in tourism and the ever increasing population of main towns on the Island, as elsewhere, the need for better drainage was paramount. The Isle of Wight local boards of health, town commissioners and councils frequently had on their agendas new sewers and not inevitably their cost and government applications for the right to borrow money for the construction. The report in the *Hampshire Telegraph* on 18th November 1831 is typical of many that newspaper printed over the years:

"Newport Nov 26 – The Board of Health much to its credit, continue their exertions in inspecting and getting nuisances removed; and whether it be or not our fete to be visited with the much dreaded Cholera Morbus, the measures which have been taken for the cleaning of the town and ventilation and draining of houses and street in general, cannot fail to be attended with good effects."

For some thirty years later, 1861, the subject was still of importance to their correspondents, one of whom wrote:

"Ryde – One of our town counsellors declares that the only intellectual qualification necessary for a member of the corporation is to know all about a drain, smell a drain, and do a drain."

18 May 1870



Robert Harris Reeves wrote at least two textbooks, plus numerous articles, on sewer ventilation and the treatment of effluent. He was in consequence consulted and employed by various local authorities. Sewer gas and its elimination was of concern and he used the example of Ryde as an illustration in his books, for Ryde had notoriously bad sewers:

“The town sewers being of steep gradient, some ventilators had been very offensive and of these numerous systems had already been tried. But since one of my patent apparatus for preventing sewer gas has been fixed, the air passes out of the ventilator without the slightest trace of offensive smell.”

Other people were interested in the Island’s sewers as well as R. H. Reeve. One is the second Mayor of Ryde, George Fellows Harrington see *‘The Mayor gets into Drains’*

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A Short History of Isle of Wight Sewers

The history of local government providing sewers on the Isle of Wight has in general not been recorded in any detail. Its inclusion in this essay is of relevance in setting the background to the work and significance of Robert Reeves, his patents, consultations and writings. In his time the Island towns were growing rapidly through tourism and. The Isle of Wight story of sewers commences seriously in the autumn of 1814 when Newport Borough announced that it had got leave to bring a bill before parliament for paving, draining, cleaning, lighting and watching (policing) the streets of the town. The bill also allowed the making of common sewers and supplying water and waterworks. Still it took some fifteen years before the *Hampshire Telegraph* printed on 19th January 1829 that:

“A common sewer having been long wanted in this town, a partial one is being in progress through Quay-street and part of the High-street, the expense of which has been promptly and cheerfully met by private subscription. It has been a matter of standing grievance with the inhabitants, and of much comment of strangers, that so neat a town as Newport confessedly is, should so long be without this convenience; and it would be of great benefit to carry the same into effect throughout the town generally.”

The original announcement is followed up by several progress reports and with comments from the correspondent, including:

“Newport Feb 14 – We are sorry to find that the common sewer has arrived at its allotted partial destination, and that at present no intention exists of carrying it throughout the various other parts of the town, which is a matter much to be regretted, from the great benefit such a measure is well calculated to afford.”

“Newport Jan 8 1831 – Another Common Sewer is in progress, extending from Coppins-bridge along East-street, through Pyle Street to the Beast market, which, when complete, will be of much advantage to the Inhabitants of the this town. The one already made, from the High-street to the Quay, having answered the purpose very satisfactorily.”

Sewer work continued off and on in Newport and in 1861 the sewer trench being dug revealed what may well have been the town’s first water supply:

“Newport – In making the excavations necessary for a common sewer in Bedford-square, the workmen have just come across a number of huge elm trees in tolerable preservation, bored and laid down as long ago as 1623 by a Mr James for the purpose of bringing the Carisbrooke water into Newport. Either, however, through a defect in the principle or a failure in the funds, the experiment, never succeeded, and it remained to the present generation to carry into effect this highly necessary and beneficial improvement.”

Just a few miles away the Ryde Commissioners on the other hand were much too concerned with the appearance of the town and their effort to attract the nobility and wealthy tourists by building the town hall and assembly rooms to worry too much about things hidden underground. However the same newspaper also reported in 1831:

“Ryde Dec 17 – The Ryde Board of Health has been indefatigable in the discharge of their benevolent duties – The dwellings of their poor neighbours have been white-washed, and arrangements made to secure the cleanliness of the town, as far as practicable, in the absence of those great desoeratumms – common sewers. ---- Among the improvements going on, we are happy to see a new street laid out, from West-mount to the centre of the High-street, by which the entrance to Ryde from Newport will be materially improved.”

Some three years later subscribers to the newspaper were able to read:

“Ryde Dec 23 – “It is proposed to carry the whole of the drainage of the town to the low marshy district of the town near St John’s instead of allowing it to empty itself as here before on the sea shore.”

Ryde Marshes was the area along the Monkton Mead Brook and what is now covered by now The Strand, Simeon and other streets. It is now protected from flooding by having powerful electric pumps situated by the Cornwall slipway. Having left it to the last minute to take up the funding options work was started some three years later in 1857, but as with Newport it revealed some of the town’s forgotten history:

“30 May 1857 - Ryde – Sanitary Arrangements – The western sewer is to be at once constructed. This will complete the plan according to the Act which expires in July, and which limited the powers to construct the same to three years.”

“3 Apr 1858 - Ryde – As workmen were excavating the soil to form the new sewer on the Strand, they dug up a quantity of bones and a skeleton, supposed to be the remains of some of the unfortunate seamen who perished by the sinking of the Royal George, and who, on being washed ashore, were buried there.”

Cowes agreed to construct its sewer system in 19 June 1847, as with Ryde somewhat reluctantly, when the Town Commissioners decided by a majority of 14 to 6 to construct common sewers throughout the town.

In October of 1860 surveyors were busy in Sandown getting the level for the sewers. The resorts around Sandown Bay did not start to grow swiftly until stimulated by the opening of the railway link from Ryde

The report in the *Hampshire Telegraph* of Saturday 30 May 1868 reprinted below shows that the coastal towns relying for their livelihood on the growth in tourism had to take very seriously amenities such as drainage and the provision of sewers.

“Ventnor – Main Drainage – We are grateful in being able to announce that the whole of the drainage of the town has been completed. Although the contract taken by Mr Frayne was very much under any other competitor, the works have been executed in the most satisfactory manner, and there is now not a street in the town but what is provided with the means of carrying off the drainage from the dwellings therein. The fact that the town having thus so extensively attended to its sanitary requirements, will be an additional argument in favour of its selection as a fashionable resort, and we can only hope that the coming season will be one earnest of additional prosperity to the town and neighbourhood.”

Shanklin has to wait until 1873 when the government agreed to lend it £6,600 for improvements of sewerage, water supply, street improvements and the like. Six years later it was reported that the outfall from the Small Hope Beach was being constructed at the same time as the Esplanade was being improved.

In 1877, Ryde commenced the construction of its eastern sewer when the tender for the first portion went to W. Groves at £1,750. The tenders ranged from £1,277 to £2,280 so for once the cheapest option was not chosen. All the schemes mentioned above had outfalls flowing untreated into the sea or in the case of Newport into the river. Today some of the old pipes, now fortunately unused, can be seen at low tide lying across the sands at Ryde.

Very gradually over the years other places on the Island gained main drainage, but it was mostly still straight out to sea with little or no treatment. It was not until the year 2000 that Southern Water undertook a massive two hundred million pound scheme, 'Seaclean' with a brand new state of the art treatment plant at Sandown and a 3 kilometre outflow to sea off Culver. Something Robert Harris Reeves, the great national and international sewage engineer who was much associated with the Isle of Wight would have been very proud.



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