

Specification of James Bannehr : treating sewage.

Contributors

Bannehr, James.

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A.D. 1875, 27th NOVEMBER. N^o 4122.

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

OF

JAMES BANNEHR.

—
TREATING SEWAGE.
—

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

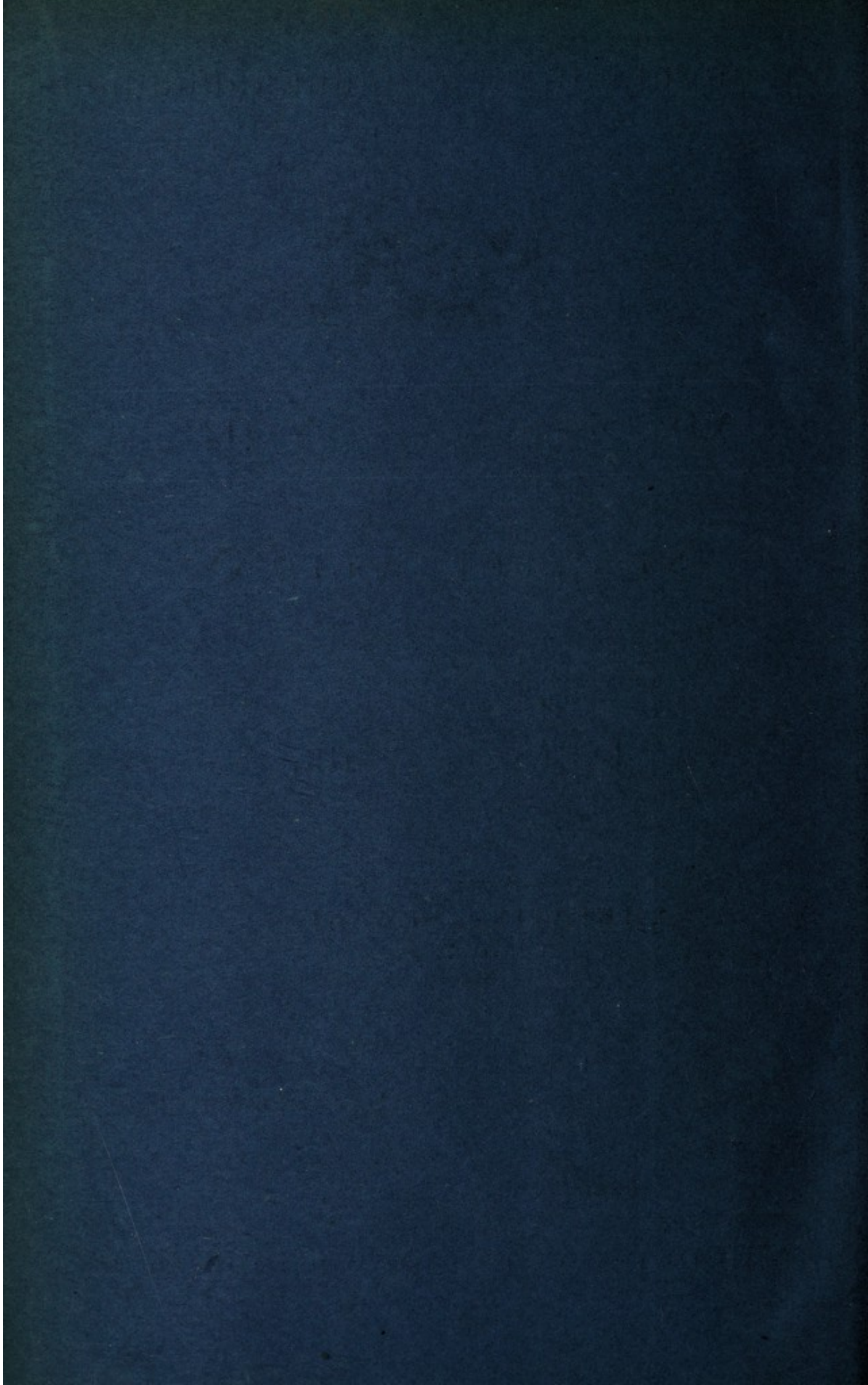
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A.D. 1875, 27th NOVEMBER. N° 4122.

Treating Sewage.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by James Bannehr at the Office of the Commissioners of Patents, with his Petition, on the 27th November 1875.

I, JAMES BANNEHR, of Gray's Inn, in the County of Middlesex, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN MEANS FOR INTERCEPTING AND TREATING EXCRETA AND OTHER MATTERS OF SEWAGE," to be as follows:—

The Invention has for its object to intercept urine with the smallest convenient admixture with water, and other extraneous matters, and to intercept and treat the foeces and other suspended matters contained in sewage.

My object in the first place is to extend the system of intercepting urine before it is combined with sewage in regard to its treatment and utilization under the Specification of Letters Patent granted to me, dated October 17 1867, No. 2918. To accomplish this I provide a vessel of suitable material which may be placed underground, and which is provided with inlet and outlet holes. The inlet hole is higher than the outlet, and is intended to receive the urine flowing thereto through

Bannehr's Improvements in Treating Sewage.

a pipe, and connected with such pipe is a chamber for containing deodorant to purify the air passing from such vessel, such purifying chamber being placed at a higher level than the urine inlet.

The outlet hole is provided with a valve, through which the accumulated urine may be passed into a drain for conveying it either to works for treatment or else to receptacles, from which it may be removed to the works periodically. 5

In order to prevent or limit the admixture of water with the urine, the vessel is made of a capacity to receive only the quantity of urine passing from an estimated number of persons in a given period. 10

At public urinals I provide against the admixture of surface or rain water with the urine, whilst for private or portable urinals or commodes I employ a stench trapped pan constructed as heretofore, which is also provided with a groove or channel around the upper edge into which the flange of a cover is fitted, but instead of filling the groove or channel with water I fill it with a suitable deodorant or disinfectant. 15

According to the second part of my Invention in order to intercept the fœces and other suspended matters in sewage, I proceed as follows:— To separate the heavier matters, such as road detritus, I reduce the rate of flow to, say from one-half to one mile an hour by considerably widening or enlarging the channel through which the sewage towards its outlet passes. I make the floor of such channel of any suitable material with a series of transverse projections on the upper surface of the floor, in order that the detritus may be intercepted by those projections. When sufficient matter has accumulated in one of a series of such channels the sewage is diverted and turned into another channel, in order that the accumulation in the one last used may be desiccated either by heated air passing over its surface, or by artificial heat under the floor, after which the dry matter can be removed. Having separated the heavier portions of suspended matter in sewage I provide for the interception of the lighter suspended matters by crossing the sewage channels with a series of strainers ranging from coarse at the commencement to fine at the termination. The strainers will be placed at an angle of, say 45 degrees, leaning at their upper ends towards the direction from which the sewage flows, and near the upper or outlet side of such strainers I provide agitators or beaters which will pass rapidly backwards and forwards so as to induce frequent back currents, 30 35

Bannehr's Improvements in Treating Sewage.

and thereby give an impetus to the suspended particles, and by their receding from the strainer to some distance from it they would ultimately be deposited on the bottom of the channel. I make the floors of these channels preferably of iron, in order that the accumulated
5 matters may be desiccated by heat underneath as well as by a current of heated dry air passing on to and over the surface of the precipitated sludge. These channels are covered over, and each of them is in continuation of the channels first above described.

In desiccating the last named matters it may sometimes be necessary
10 to use a deodorant to prevent an offence from the precipitated sludge, I therefore convey such deodorant in the current of heated air passing on to its surface.

After the foregoing process has been performed I pass the liquid sewage through filters, and after or during such process I treat it with
15 currents of electricity generated in any convenient manner.

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Printers to the Queen's most Excellent Majesty. 1876.

Baumann's Experiments in Treating Sewage.

and thereby give an impulse to the suspended particles, and by their
action from the streamer to some distance from it they would
ultimately be deposited on the bottom of the channel. I make the
floor of these channels perfectly level, in order that the accumulated
matter may be disintegrated by heat uniform and as well as by a current
of heated air passing on to and over the surface of the precipitated
sludge. These channels are covered over, and each of them is in con-
tinuation of the channels first above described.

In describing the last named system it may sometimes be necessary
to use a hood to prevent an effluent from the precipitated sludge. I
therefore convey each hooded in the manner of heated air passing
on to its surface.

After the foregoing process has been performed I pass the liquid
sewage through filters, and after of doing such process I treat it with
10 currents of electricity generated in any convenient manner.

LONDON.

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