

**SEWER GAS, AND HOW
TO KEEP IT OUT OF
HOUSES, A HANDBOOK
ON HOUSE DRAINAGE**

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Sewer gas, and how to keep it out of houses, a handbook on house drainage by Osborne Reynolds

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OSBORNE REYNOLDS

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SEWER GAS,

AND

HOW TO KEEP IT OUT OF HOUSES.

A HANDBOOK ON HOUSE DRAINAGE.

BY

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PREFACE.

THE principal part of this book was written nearly four years ago. It has only been waiting in order that some suggestions it contains might have a thorough practical trial, and this being accomplished, it is now published in the hope that it may help those people who are in doubt and trouble with the drainage of their houses. It would be a public calamity if the wide-spread alarm, caused by the recent illness of the Prince of Wales, were allowed to subside without producing a beneficial effect; but there is danger that such will be the case, simply for the want of definite information as to what is amiss, and how it is to be set right. The discussion in the newspapers has been more calculated to cause alarm and bewilderment than to direct anyone how to act. Everyone is crying, "Do! do!"

while no two agree what is to be done. What appears to be wanted is a book of approved scientific merit, and of such a practical character that a householder or any unscientific person can learn from it how to ascertain if drains are safe, and, if not, how to get them put right. In the absence of such a book, I venture to hope that this little work may be useful.

My chief object in writing on this subject was to suggest a plan for preventing the evil which is now causing so much alarm—viz. the back-flow of gas into our houses. Of this plan I have now had four years' experience; and have, without exception, found it to answer perfectly. In the first place, I applied it to my own house at a cost of fifty shillings or thereabouts. This house is of the ordinary type, and is drained into a foul sewer. Before the introduction of the new plan, it was never free from smells; while, since, there has been no annoyance of the kind, nor have the drains required any attention whatever.

The plan is very simple, and can be applied to any fairly-drained house at a small cost, and without requiring the drains inside the house to be disturbed.

I am not aware that this complete scheme has

ever been suggested before ; but it embodies as its principal features several plans which, I am pleased to see, are daily growing in favour ; among which perhaps the most important is that of having a break or trough in the pipe which connects the house with the sewer. This has now been advocated for several years, but I do not know by whom it was first proposed.

Besides describing the proposed scheme, I have endeavoured to impress the reader with its simplicity, and also to point out other ways in which the drains in a house may be harmful, besides by the admission of sewer gas—in fact, to make this a handbook on house drainage. With this view, I have divided the book into four sections.

Section I.—A description of the plan recommended for disconnecting the house and the sewer, together with the directions necessary to enable an ordinary workman to apply it to every house.

Section II.—On the purpose and general arrangement of house drains.

Section III.—On the way in which the house-drains themselves give rise to stinks and poisonous gas, and the best means of preventing them doing so.

Section IV.—On the precise way in which the sewer gas enters houses, the inadequacy of measures in use for preventing this, and the advantage of the new plan.

Throughout the book I have endeavoured to make the language intelligible to everyone, however ill acquainted with technicalities. I have avoided, as much as possible, disputed ground; but there are two errors frequent among newspaper-writers, which I have found it necessary to point out. The first error is the common belief that there is often an excess of pressure of gas in the sewer beyond that of the atmosphere. Some writers maintain that at times this excess is ten or fifteen pounds on the square inch; others, that it is at least sufficient to force the gas past a trap. The second error is the belief in the efficacy of mere ventilation for preventing the sewer gases getting into houses. Both these notions are hypothetical, and all experience is against them.

I do not mean to say that there is never an excess of pressure in the sewer, or that sewer ventilation will not mitigate the evil, but that the evil is not solely or even generally due to such pressure, and cannot be cured by ventilation.

I have not gone into or even touched upon the drainage of towns or the disposal of refuse, but confined myself entirely to the drainage of houses. Such readers as wish to study the wider subject are referred to Professor Corfield's able work on "The Utilization of Sewage."

O. R.