

SANITATION PLUMBING.

SANTARY PLUMBING.*

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BEFORE we consider its proper construction and the disposition of its waste, permit me to say that the subject of "House Plumbing" has grown enormously within the last few years, and that now it holds a place of no small importance in the planning of buildings. For this reason it is impossible for me to do otherwise than to touch on such points as I consider of greater importance, and which, I fear, are often overlooked by the owner and architect.

Now that an increased desire for thorough sanitation is being manifested by the better classes, the sanitary engineer is often called upon, if not actually to take charge of the plumbing work, at least to plan and advise in the interests of health and economy.

At present this work is largely controlled by the architect and plumber combined, who seem more eager to attain to better results, and much more

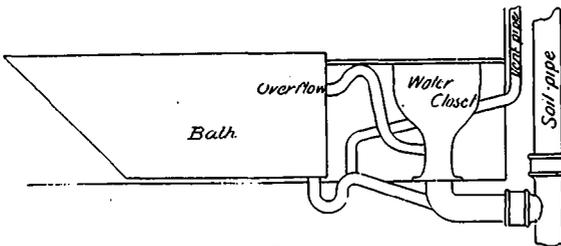


FIG. 1.

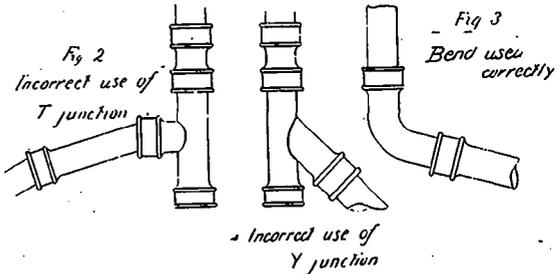
well as clever mechanics? Are they fully entitled, by a sound experience and careful study of their trade, to the full import of such an appellation? I fear not, and certainly much less to that signification which a too confiding public is ever sure to place on such titles. It is a fallacy to imagine that the knowledge of how to handle, cut, and connect pipes, wipe joints, and charge well, of necessity makes a man master of the plumber's trade. And yet I know from experience, that in the great majority of cases, this is regarded as the criterion. It might seem that the impression prevails among a large class of pipe fitters and mechanics, that the possession of a certain number of working tools, together with the valuable assistance of a couple of incompetent "shop-boys," a large shingle suspended over the sidewalk, more pronounced in its economy for truth than expense, a few cast iron connections displayed just outside the shop, and lots of gas brackets and other brass fixtures inside, constitutes a man at once a "practical plumber." There are a great many good workmen who are by no means good plumbers, and still a great number of good plumbers who are by no means "Practical Plumbers and Sanitary Engineers," as they often style themselves.

It therefore falls back on the architect to provide the soul, yes, the ethereal spirit of theoretical knowledge, and furthermore, to see the same properly and practically incorporated in the work of the plumber. That a man can pursue the plumbing trade without having first thoroughly mastered it in all its details, I consider as the great present evil. Hundreds of dollars have been spent, to my knowledge, in rectifying blunders made by such workmen, of whom it might be said, and this justly, that they had come by their trade dishonestly, because by too short a route. They of course little cared what might befall to their work, much less to the health and happiness of others, so long as they might pocket their gains and remain in blissful oblivion as to their moral responsibilities. As an illustration, of what I should term downright practical ignorance, I might give a case that occurred in the town of Brockville, Ont., a few years ago.

One of the so-called "master plumbers," who, previous to his settlement in the town, had worked at his trade for nearly fifteen years in the city of Montreal, and who was therefore looked upon by the simple public as a most desirable man to employ, actually presented a piece of "plumbing work" to be passed and approved of by the Inspector, where a two inch lead pipe, two feet four inches in length, had been bent and used under the closet seat, so as to act as a vent pipe to the closet trap, and at the same time as an overflow waste for the tub bath (see fig. 1). The workmanship, however, was simply perfect.

Not very long ago a case came under my notice in this city, where a long vertical line of soil pipes had choked and blocked up completely. It was thought at first that the servants must have thrown bones and rags, etc., down the closets, but further examination showed that there was nothing in the pipes, save the legitimate house wastes and closet paper.

The plumbers, in erecting the said line of pipes, had used too little gasket in some of the joints, and none at all in others. The consequence was, that the lead intended for the joints had spurted inside, and in some cases forming regular groups of fingers across the pipes, thus obstructing the passage of paper, etc. The only way this could be rectified was by the tearing down and re-constructing of that vertical line of soil pipes.



competent to do so, than they were formerly. Still it cannot be denied that the average architect possesses little or no scientific knowledge whatever on this important subject, thus clearly demonstrating a fact, that he and the rest of his profession attach too little importance to their responsibilities in connection with the plumbing of buildings, and therefore do not seem to experience for this that feeling of personal accountability so essential to success, which they do for other and less important sections of their work.

It is hardly necessary to explain that in these, and the remarks I am about to make, I refer not to the average members of "associations of architects," such as we now have in the Provinces of Ontario and Quebec, nor to the Boston Architectural Club, and other Societies in the States; but to the average, when we include all who may be said to be practising as architects, whether considered qualified to do so by these architectural bodies or not, and therefore, in this way considering the actual centre of gravity that affects the general public.

Col. George E. Waring, writing on this subject for the information of architects, as well as others, goes on to say: "I have never applied a water test, under pressure, to work that has been done in a fine house under control of an architect, with any other result, so far as his frame of mind was concerned, than to annoy him by the demonstration of leaks and defects.

"What seems still more remarkable, when I have sometimes thought that I had an architect really converted, when he acknowledged the work to be simple, elegant, safe, cheap, and in every way satisfactory, was that the conversion never lasted. I never found that the example had the slightest influence on him afterwards."

Sometimes we meet with owners, who, while they show all eagerness to consider from a standpoint of comfort, any proposed piece of plumbing work in connection with their house, nevertheless seem afraid to look on the sanitary aspect of the thing, lest the necessity of adopting certain changes or precautionary measures, might rise perforce before them, like the unwelcome ghost of Banquo. In the first place, any additional expense thus entailed, proving little or no obstacle; while in the second, the smallest outlay for the protection of health, would be regarded as a *dead loss*, and objected to in every possible way.

That an architect should ever ponder to the wishes of such people, who may be said to be pursuing an ostrich-like policy, is indeed to be regretted.

Sometimes an owner imagines that his rights as Despot in his own castle are being encroached upon. It is then the duty of the architect to point out the wisdom of providing for the preservation of health and happiness, not only of himself, but also of others, since we creatures very much dependent on our neighbors for our sanitary condition.

I knew an architect once who tried to exonerate himself from all responsibility in connection with a certain piece of "plumbing work," by saying that he had persuaded the owner to employ the best *practical plumbers* in town to do the said work, and that therefore there could be nothing wrong with it.

Obviously the above reasoning was rather sophistical. Who constitute the "best practical plumbers" in a community? Are they men of science as

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On investigation, it was found that the plumber, who was responsible for this, had had no intention of scampering his work. He had made some extraordinary experiments (by himself), which had convinced him against using a gasket where he could possibly help it. He had come to the conclusion that though a gasket was of great assistance in preventing any loss of lead while pouring a joint, yet from a sanitary standpoint it was objectionable as absorbing and retaining filthy liquids. In the interests of his employers therefore, he had decided to use gasketing only where it was impossible to do without it, and the good faith of the man was manifested in that he had not charged for gasketing, nor for the amount of extra lead he must have lost in trying to fill the joints. It is needless to explain further.

To my mind the house is the unit of sanitary administration. In fact, the whole sewerage system beyond, with its many intricacies and problems, both mechanical and financial, never would have developed, nor even have sprung into existence, but for the dwelling.

We may look upon man's modern habitation, therefore, as the principal source from whence all sewerage estimates. To secure perfect safety to the inmates, while removing at the same time the daily household wastes beyond the outer walls, is then our first consideration. Except where houses are