NEW YORK, MAY, 1879.

PLUMBING INSPECTION.

This subject is intelligently discussed in two communications from valued correspondents on another page. It is a topic to which we have several times referred, and is attracting more attention than formerly; and, indeed, it is quite time that something was done to put a stop to the criminally bad plumbing work which is so universal now-a-days. The occasional spasmodic exposures by the daily press of such cases as the Buddensick "houses do little permanent good. The culprit is vigorously denounced, and perhaps arrested, but he soon gets bail and after a while resumes his nefarious trade. Buddensick has never been brought to trial, and his case only serves as an example of the way to escape punishment.

The only practical and permanent remedy for this difficulty is to prevent bad work by having it inspected by a competent person. The authorities should allow no house to be occupied unless thus inspected; where defective work is afterwards found, they should cancel the license of the plumber who did it; if he persists in such evil practices, then send him to the penitentiary to learn the error of his ways.

The fears expressed by "J. S." that the position of inspector would probably be filled by a mere politician do not seem justifiable to us. We have many men occupying public offices who are honest and capable, and with proper care we see no reason why this office should not be equally safe and useless there is in these arguments, and just how little value they will prove to anyone.

Certainly the evil is of sufficient magnitude to demand reform, and prevention is both easier and better than cure.

Let us then at least try the experiment, and see if something is not possible in this direction, for we certainly cannot permit matters to go on as they have been without having an epidemic or some other penalty to pay for our apathy.

To show that tenement house reform is both practical and profitable, we take pleasure in stating that a well-known gentleman in this city, who has expended considerable money in improving his tenement property, states that as a result he has a better class of tenants who pay promptly, and that the change is in every respect for the better.

The Brooklyn Mechanics and Builders' Exchange oppose the bill introduced by Senator Pierce at Albany to give the Health Board power to determine and supervise the plumbing work to be done hereafter in Brooklyn. They think it will "impose a great burden of expense and trouble upon the building interest." Nevertheless the bill will benefit householders generally, and ought to pass.

PRACTICE vs. THEORY.

There is an unfortunate prejudice shown by many—because we might say by an unwavering scientific man—toward scientific investigators. The correspondence between Mr. Waring and "Journeymen," in some of our earlier numbers, was partly due to an antagonism of this kind, and almost daily we hear expressions of contempt, from practical men for the labors and researches of "theorists."

We can well understand that the practical plumber must feel disgust at much of the windy talk on sewer gas and like topics, which fills the daily papers. He knows how much stuff and nonsense there is in these arguments, and just how little value they will prove to anyone.

But in condemning the charlatan, he must not be unjust to the real man of science, whose type is found in Humboldt, Agassiz, Farraday, Tyndall, or the late Prof. Henry. These men are the benefactors of mankind. They are disinclined seekers after truth. Agassiz said "he had no time to spare for money-making," and they all sacrifice the selfish gratification which other men seek, for the greater enjoyment of research and discovery. The practical benefits which result from their labors are of an incalculable magnitude; and the Prof. Henry's institution of the Weather Bureau, for example. Is there a single one of our thirty millions of people who is not daily benefited by the Old Probabilities? Yet its inventor never derived a penny of gain from this discovery and its application.

Plumbers are quite as apt as most practical men to scoff at scientific theory, and, apparently, do they appreciate its value. We quote from a published letter from one of them, this candid expression of opinion:

"I never had any instruction on plumbing, although I have been practically engaged in the business both as a journeyman and master plumber, for the last 25 years, consequently all the knowledge I have of it has been acquired by perseverance in learning the mechanical part of it; observation and experiments aided by a more than common school education, supplied the theoretical portion, and I believe the theoretical part of plumbing the most essential to make a good plumber."

Not long since, the remark was made in the presence of a New York plumber, that one of his neighbors had refused to subscribe to this journal, because he knew all he cared to learn about plumbing.

With an indescribable expression of disgust, the other observed, "that man is evidently a—fool! I've been working all my life, and when I can't learn any thing more I want to die."

This was in the true spirit of Sir Isaac Newton in his old age, when he was master of all the knowledge of his time, said "he felt as if he had been gathering shells along the shore, while the great ocean of truth stretched before him unexplored."

We commend this sage observation to those men who think they know everything.
THE HOLLY SYSTEM OF STEAM HEATING

BY ROBERT BRIGGS, C.E.

A seven-day wonder in mechanical engineering has been the Holly system of steam heating. It has been discussed with the usual profundity of the newspaper writers in nearly every paper in the land, until a large portion of the community have come to believe in the faith in the Holly system's capacity to produce an inexpensive attainment of that comfort which proceeds from heat, abundant in quantity, controlled to suit all desires or necessities. The complaint made from time to time against the system is that which has the largest quantity of surface in the lowest temperature imparting heat to the "Holly system," and it may be well to institute a brief inquiry into the same and discover, if possible, what it is that is in the eyes of the practical mechanic can be found to constitute its merits.

The first step will obviously be to ascertain what the "system" is, or what it claims to be. Here the inquirer finds himself somewhat at loss. A careful reading of a pamphlet issued by the projectors, called "The Holly System of Steam Heating," and the implication that no other system is known and is superior to the one hand and the other hand and the knowledge of the plumber in question is the "Holly System of Steam Heating," and the implication is that none, however meritless, however meritless in perfections from the practical engineer it may be. The length of the distribution in these days in which lines of many thousands of feet are dependent for heat is well known that the limit of length was only that of the system's capacity to produce an inexpensive attainment of that comfort which proceeds from heat, abundant in quantity, controlled to suit all desires or necessities, either prime cost or cost of operating.

The demands of heat by each and every room in any dwelling are quite well known to thousands of skilled constructors. The most economical method of supplying these demands is found in the Holly system. Once it is found that the Holly system and this method also supplies the heat demanded at the least possible cost of apparatus. The next method, in capacity to heat, is that of heated air, where steam or hot water become the alternate vehicle. Here the cost of the surface becomes much more than equally effective steam surface, but a more equitable and expedient temperature of room is secured; and hence also the boiler and distributing pipes become a great part, perhaps one-half, of the prime cost, and a system not sufficient to compensate for the reduced temperature of the gases of combustion from the boiler below those passing from the stove, is incurred. Any steam heating whatever it will cost quite as much for fuel and ten to twelve times as much as stoves in any house for prime cost. Neither of these methods provide for ventilation of the building. Air ventilation is optional by admission and removal with or without systematic (not Holly system) provision.

With regular addition of volume of air for ventilation, all times it becomes possible to warm rooms in general by imparting an excess of heat to the fresh air currents, and when the proper quantity of fresh air is provided it can be said that the demands for heat can be supplied by equivalent quantities of heat imparted to the air by stoves or by steam coils set in a room below that which is heated. When the stove system, now having become a hot air furnace system, will be found to cost in prime cost four or five times what the stove in rooms of equal area would have cost, and when it is allowed to escape from the chimneys of furnaces, there will have been burned quite one-half more in the furnace than would have been needed for the same stove with equal quantities of fresh air. The steam heating system being thus more economical in fuel than the furnace. These remarks as to ventilation are general.

The comfort and reliability of steam or hot water heating over any other is undenied. The advantage and saving in attendance, and especially the individuality of the fireplaces of a house or number of houses into one general or common boiler, is highly appreciated. Other advantages in point of uniform temperature, as well as those which are well enumerated but it will be assumed to have general acceptance that the most perfect heating apparatus is that which has the largest quantity of surface at the lowest temperature imparting heat to the largest possible source of air; complete control and manageability being assumed to be conducive.

When the building or group of buildings are extensive, a steam heating apparatus becomes a necessity. Boilers of sufficient size to need the constant attention of a regular fireman can be employed and a certainty of action ensured with great economy of labor and often some economy in fuel and, in the absence of steam for heat so large that no considerable gain in fuel can be made over what would be consumed by several small boilers doing the same work.

Many ladies were present, and Mrs. Helen E. Starrett, a representative of the public schools, Dr. Leete, Rev. Dr. Eliot, the Unitarian divine, Rev. Dr. Fost, Dr. Green and Mr. Silas Bent, of the Police Board. It is a hopeful sign that the matter and action is being entertained for a moment. The effect of such a state of things is seen in the present disposition of so many persons not to have any plumbing at all in their houses but to do plumbing as this causes bad work to multiply and they find plenty of occupation in tearing out and replacing such work. But this is a necessary evil. The effect is that the matter and action is being entertained for a moment. Therefore if anything is done it is to discourage poor work in every possible way.

The complaints made from time to time against the Board of Health inspectors are very much like wolves around a sheepfold, crying out "Hydropobia " when the watch-dog appears.

In a late letter to the New Haven Common Council, Prof. Beebe, President of the Health Board, ably describes the character and scope of health boards, whose duties he thus summed up:

1st. To do that which the free individual cannot do in his private capacity to protect himself from wholesale conditions which arise from negligence.

2d. To see that the conditions which produce or spread syphilitic diseases are suppressed or controlled.

3d. To educate the public in sanitary matters, advise it of means, and give it clear and correct information.

4th. To protect the poor from those dangers to health which they are particularly subjected to.

An interesting discussion of sanitary topics took place at a late meeting of the St. Louis Social Science Association. Many ladies were present, and Mrs. Helen E. Starrett, a representative of the public schools, Dr. Leete, Rev. Dr. Eliot, the Unitarian divine, Rev. Dr. Fost, Dr. Green and Mr. Silas Bent, of the Police Board. It is a hopeful sign to see vital subjects discussed by men of this class.