bath-room was found attached to this pipe, and its trap was so neatly emptied of water that it offered no obstruction to the entrance of sewer-gas. Mr. Rockwell had wash-basins in his sleeping rooms and nursery, but the traps do not hold water, so of course the gas had no difficulty in gaining entrance. In fact, if the builder had desired to turn his house into a hospital and furnish his own patients, he could not have devised a better system of defective plumbing.

SEWER VENTILATION BY FURNACES.—The ventilation of sewers is never perfect till it is constant, and sufficient to prevent all objectionable smells, and all complicated plans for effecting this have proved miserable failures. More than 30 years since it was proposed to connect all sewers with furnaces so as to draw out and consume the foul vapors. The scheme was tried at Battersea, and acted with a vengeance at times, the air being occasionally drawn through the houses, breaking the water seals of the traps, while at intervals the operation was too sluggish to have any good effect. One day some coal gas leaked from the gas to the sewer mains, and the works at Battersea were wrecked. Yet the same idea has been put forward within the past four years as a novel and practicable idea, notwithstanding the literal explosion of the theory in 1844.—*Prof. Corfield.*

SEWAGE UTILIZATION A FAILURE.—From exhaustive articles on utilization of sewerage, in the valuable reports of Massachusetts Board of Health, 1873, 1876, 1877, and also from the report of G. Karwiese, C. E., on the sewerage of Washington, D. C., we must arrive at the conclusions therein determined by statistics, that no process of settling sewerage has proved satisfactory either as a purifier of the affluent, or as a converter of its heavy parts into a profitable fertilizer. In many places where some of the sixty processes for this purpose have been used, there has been no market for the resulting fertilizer. Irrigation seems to be the only way of utilizing sewerage with hopes of a profit, and this plan is almost in its infancy and does not give universal satisfaction.—*Engineer Guthrie, of Buffalo.*

"A Brooklyn plumber was told to carry a 6-inch vent-pipe from a w. c. to the roof. He did so, but was satisfied to insert the lower end in the woodwork below the seat, *without connecting it in any way with either the soil pipe, trap or receiver!* Such an ignoramus should be heavily fined and forbidden to work at the trade until he had served an apprenticeship with some one who knew a little about plumbing."

If we were to reveal some of the imperfect work done by plumbers in the City of Montreal, our citizens would not wonder at its death rate. The above writer calls the Brooklyn plumber an "*ignoramus*," but we suffer from stupidity, ignorance, and wilful negligence all combined. Probably in no City on the continent is so much bad work done by men calling themselves plumbers. It is not from our street drains that our great death rate comes, but from our house drains, which if made perfect in all their joints and properly trapped and ventilated would keep out the poisonous gases bred in the street drains.

—EDITOR *Scientific Canadian.*

REMEDIES FOR CARPET BEETLES, MOTHS, &c.

To the Editor of the Scientific American:

At this season we are frequently besieged by inquiries in relation to the "carpet beetle," moth, etc. Many of your readers may be glad to know of the following simple remedies:

First.—Steep one quarter of a pound of Cayenne pepper in a gallon of water; add two drachms of strychnia powder. Strain and pour this tea into a shallow vessel, such as a large tinned iron milk pan. Before unrolling a new carpet, set the roll on each end alternately in this poisoned tea for ten minutes, or long enough to insure the saturation of its edges for at least an inch. After beating an old carpet, roll and treat all its seams and edges to the same bath. Let the carpet dry thoroughly before tacking it to the floor, in order to avoid the accidental poisoning of the tacker's fingers by the liquid. It is perhaps unnecessary to state that the residue of the liquid should be thrown out where it will not be drunk by any domestic animal, or if preserved for future use, carefully labeled "poison."

This preparation will not stain or disfigure carpets nor corrode metals in contact with the carpet, as will most preparations of corrosive sublimate.

Second.—One pound of quassia chips, one quarter of a pound of Cayenne pepper steeped in two gallons of water. Strain and use as above. This preparation, although irritating to the human skin, especially on cut surfaces, has the advantage of not being poisonous.

To either of these teas from one quarter to one half more boiling water may be added at the time of first using, if greater depth of the liquid in the vessel be required. When it is desirable to treat carpets that are not to be taken up, either of the above preparations may be applied by means of any of the common atomizers to every seam and margin with good results, although a second, and even third, application may be needed.

FRANCIS GREGORY SANBORN,
Consulting Naturalist.

Andover, Mass., April 10, 1879.

BRITISH vs. AMERICAN TOOLS.

What the English say about American-made tools.

The importation into this country of American-made tools is becoming a somewhat noticeable feature in Transatlantic trade. We have been accustomed for many years past to get our notions from across the water, and very ingenious and very useful many of these little contrivances were. Yankee mousetraps enable our cats to live in dignified idleness. But for Yankee egg-flipper forks would still do duty in this necessary process. Yankee apple-parers and peashellers, carpet sweepers and ash sifters have saved not a little labour, and contributed not a little to our comfort. (The future historian, with characteristic logic, will probably conclude that a nation so addicted to saving labour must have been extremely lazy.) Although, however, the introduction here of most of these and similar articles is due to American enterprise, it is probable that British industry has succeeded in producing them at prices under those at which they can be imported, so that much of the work sold as American is really of British manufacture. And it would appear as though in the future importations from America will become more and more confined to novelties, and continue for given articles only so long as the novelty lasts. In other words, so soon as any considerable demand for a novelty is created here, home manufacturers will supply the demand on terms leaving little scope for importation. In the matter of cutting tools, it is an undoubted fact that American manufactures have gained a very appreciable footing in Russian, Australian, and Canadian markets, hitherto supplied almost wholly by British manufacturers. But, according to the *Engineer*, the late reductions in the prices of English houses have considerably checked the success of American competitions, and there are indications that by the employment of improved machinery foreign enterprise will be yet more effectually met. The *Engineer* proceeds to say:—"An examination of certain tools obtained by a Midland hardware merchant from an American firm, to the order of certain Australian customers, has convinced us that they would have been sent out by no tool-making firm in this country, having other than the very lowest standing; they would most certainly not have been issued by our leading toolmakers. It could hardly have been with goods of this quality that the Americans succeeded in getting the position in the Antipodean markets which led to the preference indicated in the order."

This country may justly be considered the birthplace and home of what are known as machine tools, such as lathes, shaping, drilling, and other machines used in mechanical operations. It is, therefore, somewhat disquieting to find American-made machine tools competing here with tools of home make. Having occasion some time since to buy a number of light machine tools, the writer thought it advisable to carefully examine the American productions of that class, with a view of getting the best tools, whether British or American. The result was not favourable to the American machines. The impression produced by the examination was—first, that the American tools were all too light, much lighter than British tools of same nominal capacity. In a machine tool it is difficult to err on the side of solidity. Mass, indeed, is essential to steady, hard cutting. Secondly, that the workmanship was in no case up to our British standards. It was wanting in that absolute accuracy which characterises the workmanship of our first-rate toolmaking firms. Thirdly, the prices were anything but low. No lower than (if as low as) those of Whitworth, or other firms of the highest standing in this country. The writer concluded that those who required first-rate tools should not go to America for them, whilst those who require cheap tools could procure the cheapest here at home.

American machine tools are not often met with in our engineering workshops proper, but are chiefly found in manufactories devoted to the production of bycicles, sewing machines, and in other such light mechanical industries. Chiefly also in the smaller establishments of this kind. In short, American machine tools are in most favour among those who know least about tools. Amateur mechanics are recommended to think twice before investing in them.