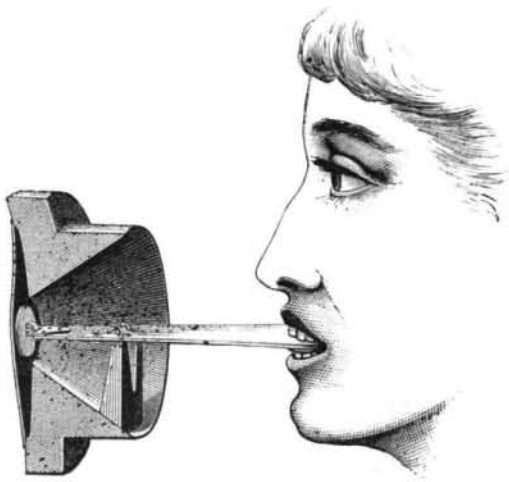


DENTAL ATTACHMENT FOR TELEPHONES.

The engraving shows a device to be attached to an ordinary receiving telephone for transmitting the vibrations of the diaphragm to the teeth, to enable deaf persons to hear conversation, music, etc.

The device may be readily detached so that the telephone may be used in the usual way. A link of rigid sound conducting substance, such as wood or hard rubber, is connected with the center of the diaphragm, or with a disk attached to the center of the diaphragm, and is supported by an elastic fulcrum attached to the mouthpiece of the telephone. The under surface of the link is provided with an elastic coating which prevents the vibrations from affecting the teeth of the lower jaw.

This device is applicable to either the electric, or the string, or acoustic telephone, and transmits the vibrations to the teeth and bones of the head, affecting the auditory

**DENTAL ATTACHMENT FOR TELEPHONES.**

nerves, and enabling persons having defective ears to hear. This device was lately patented by Mr. H. G. Fiske, of Springfield, Mass.

Canned Salmon by the Cargo.

The first cargo of canned salmon of this year's catch, from the Columbia River, was lately cleared from Portland, Oregon, for Liverpool, England. It comprised 56,756 cases, each containing four dozen one pound cans, or their equivalent. The gross weight was over 1,400 tons. Two other ships were soon to follow, both taking nearly full cargoes. Large consignments have also been received at San Francisco, for reshipment to England, Australia, and New York. The steamer Oregon, from Portland, June 25, brought 22,546 cases, the largest invoice of the season, if not the largest single shipment ever made to San Francisco from the Columbia River.

IMPROVEMENT IN SEWERS.

The engraving shows a device for preventing back flow of sewage in sewers, and for preventing noxious gases from being driven from sewers out into the air. The improvement consists in applying to the sewer a valve or gate provided with one or more floats, and a branch pipe running around the valve.

Fig. 1 in the engraving shows the arrangement of the sewer, and Fig. 2 is an enlarged view of the sewer and its branch. A short distance from the discharge end of the sewer there is a valve which swings on a horizontal axis running transversely through the sewer. The upper portion of the valve is provided with a float. Above the valve a branch pipe rises gradually to a height a little above high water mark, and then descends and discharges into the sewer beyond the valve. The branch may discharge into the river or into the main sewer, instead of returning, as shown in the engraving.

With this arrangement, when the outflow of sewage is obstructed by high water or otherwise, the back water having risen above the pivot of the valve, the float will rise, carrying the valve with it, closing it. The sewage will then rise and flow out through the branch. The engraving shows, in Fig. 3, a paddle wheel which may be applied to the sewer to increase the rapidity of the flow through the sewer, but the inventor has found that this is rarely needed.

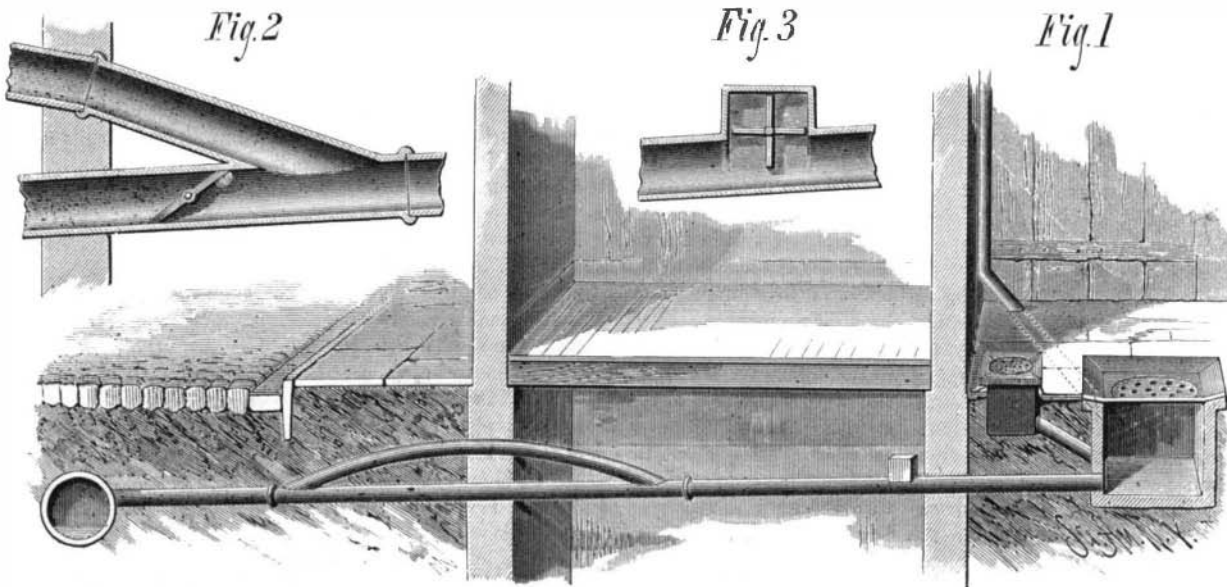
The inventor states that bath tubs and water closets, where this improvement is applied, may be placed in the cellar without the slightest danger from floods, and we are informed that the device has been applied under trying conditions, and is working well, controlling the back flow and

preventing flooding when, with the usual sewer provisions, a flood would be unavoidable.

This invention was recently patented by Mr. Charles Schirrmeister, of Brooklyn, E. D., and is being introduced by Mr. Alonzo Gaubert, 107 Broadway, Brooklyn, E. D., who should be addressed for further particulars.

Death Rate of the Rich and the Poor.

An important paper on the comparative mortality of the rich and the poor was read at the recent meeting of the American Medical Association. The author, Dr. Charles Robert Drysdale, of London, began by pointing out the achievements of sanitary science during recent years. Yet, with all these advantages, it was found that the death rate in London had rather increased than diminished, having been 22.2 per 1,000 in 1856, 22.3 in 1876, and 23 in 1877. In all England the rate had remained identically the same for three decades, namely, 22.35 per 1,000. The point Dr. Drysdale endeavored to elucidate was, that the great cause of this non-improvement resided in the mass of indigence which, now as always, was instrumental in producing a large crop of premature deaths in all densely populated States. M. Villermé, the distinguished Parisian physician, and several of his able collaborators on the *Journal d'Hygiène Publique* had contributed some valuable facts to the argument. Thus, it had been observed in France that persons between the ages of 40 and 45 die, if in easy circumstances, in the proportion of 8.3 per 1,000, while, if poor, they died at the rate of 18.7 per 1,000. That is, the mortality between these ages was twice and a half as large among the poor as it was among the wealthy. It was found, too, that in Paris, between the years 1817 and 1836, 1 inhabitant in every 15 died in the Twelfth Arrondissement, which is peopled in great part by the poor; while in the Second Arrondissement, inhabited by the wealthier classes, the deaths for the same period were only 1 in every 65. M. Garnier, of Paris, in 1857, speaking of the mean life in a large English manufacturing city, had found that it was only 17 years in the quarters inhabited by the poor against 42 among the higher classes. Villermé calculated that the probable life of the infant of a weaver at Mulhouse was as low as 1 year and 6 months, while that of the baby of the proprietor of the factory was 26 years. Dr. Drysdale cited from a pamphlet written in 1877 upon the dwellings of the wages-receiving classes in Paris some further suggestive figures, from which it appeared that a death rate which was the mean of the whole population is always misleading. Thus, in part of a sub-district in London, comprising houses in good condition, the death rate did not exceed 11.3 in every 1,000, while there were adjacent dwellings in the same sub-district in which the death rate had risen to 38 per 1,000; and it was now reported that there were particular districts in London where the death rate was 50 per 1,000. On the other hand, the average death rate of the whole population was only 24 per 1,000 in 1843, and had scarcely deviated from that figure since. If such statistics were insufficient, he would refer to the researches of Ansell, who collected the statistics of 48,044 children of the opulent classes in England, including professional men, the nobility, and gentry. It appeared from Ansell's tables that, among these classes, the death ratio was only 80.45 per 1,000 for children under a year old, while for all classes taken together it was 150. Dr. Little found the ratio in Berlin, a city of extreme poverty among the working classes, to be occasionally as high as 500 per 1,000. In conclusion, Dr. Drysdale referred to the statistics of New Zealand as a remarkable confirmation of Ansell's tables. In New Zealand, of late years, the wages of labor-

**SCHIRRMESTER'S IMPROVEMENT IN SEWERS.**

ers had been very high, and the profits of capital large, with meat only 3d. a pound, so that a laborer was able to secure plenty of food without undue anxiety. The result was a death rate of only 12.5 per 1,000—a fact mainly due to the absence of an indigent and badly paid class. In England and Wales, with the same death rate, some 230,000 lives would be saved every year. In passing, Dr. Drysdale took occasion to dissent from the view that alcohol is the great cause of evils in modern states. It was probable that a

New Zealand laborer did not drink less beer than he did before he left England, and yet he lived nearly twice as long in New Zealand as he could expect to live at home.

NOVEL CAN OPENER.

The can opener shown in the engraving consists of a curved blade, having its cutting edge tapered or inclined backward obliquely on each side of the penetrating point. This blade is secured in an annular groove in the handle by a pin passing through the handle and through slots in the blade.

The handle has two or more annular grooves into which the blade may be sprung and fastened to adapt it to cans of different sizes.

The method of using this instrument is obvious. The penetrating point is forced through the top of the can near

**BROCK'S CAN OPENER.**

one side; the blade is then pushed down, making a shearing cut and cutting out a circular portion of the can cover.

This invention was recently patented by Mr. W. E. Brock, of New York city.

NEW INVENTIONS.

Mr. Jules Lambert, of New York city, has patented an improved flitter for milliners' trimmings that is ornamental, and serves also to attach other ornaments, such as beads, bugles, etc., to feathers and other articles of dress.

An improved heater or steam generator for open grate fireplaces has been patented by Mr. Issac B. Potts, of Columbus, Ohio. It is designed that this heater or steam generator shall be placed in an open fireplace, with its pipes forming or lining the back and sides of the fireplace, and with upward inclined pipes forming or lining the lower slope of the chimney flue.

An improved car coupling has been patented by Mr. John F. Stanley, of Chaplin, Ky. The object of this invention is to furnish car couplings so constructed that they will couple automatically when the cars are run together, can be easily uncoupled, and will not be liable to become uncoupled accidentally.

Mr. James R. Thomas, of Calpella, Cal., has patented an improvement in eyes for securing hoe blades and other tools to handles, so constructed that the blades or tools will be held firmly in place and may be detached and exchanged when desired.

A telescopic or extension pedestal, to be used as an accessory in forming photographic backgrounds, and so constructed that it may be extended and lowered as the height of the person to be photographed or the character of the pose may require, has been patented by Mr. William F. Ashe, of New York city.

Mr. John Collins, of Brooklyn, N. Y., has recently patented an improved apparatus for generating gas for soda water. The object of this invention is to render the operation of gas generating continuous or intermittent, as may be desired, without removing the charge of carbonate or acid until it is entirely exhausted. The device which controls the supply of acid to the carbonate is entirely automatic after being once set in operation, the gas pressure controlling the flow of acid. The mechanical devices by which this invention is carried out cannot be readily described without engravings.

A new tree protector, for protecting trees from grubs and insects, has been patented by Mr. Joseph W. Richards, of Lynn, Mass. It is simple and effective.