planted and standing all kinds of rough usage, but abundantly repaying any lover of flowers for all the care that may be bestowed upon it. It grows readily from cuttings, and increases rapidly by underground runners. In short, it is in every respect a satisfactory plant to cultivate, and being found so sparingly in its wild state, makes it all the more valuable. S.

SANITARY EFFECTS OF DRAINAGE.

W. L. WADE, M. D.

Leaving out of our calculation the advantages of drainage for agricultural purposes which are such as to cause it to take the first place among the essentials of successful farming, we propose to speak of it in its relation to public health. Water, in a state of stagnation, has long been recognized as a prolific source of danger to health. As water undergoes putrefaction only because of foreign material held in solution, it follows that the more it is contaminated by such material the more offensive it becomes. Under the influence of light and heat, stagnant water becomes a nidus for innumerable germs of all the lower forms of fungoid vegetation. A good idea of the offensive character of such water can be obtained by smelling of water in which cut flowers have stood for a few hours in warm weather. We are then prepared with data from which to estimate the amount of effluvia arising from a square mile of our ponds and swales. The quantity of matter, chiefly vegetable, which is in a state of decomposition in the course of a year is almost beyond calculation. The Spring and Autumn are the seasons in which putrefaction is most active. This is owing to the fact, that heat and moisture, both essential to the change in question, are present in the proper proportions at this season.

Streams, so long as they are in rapid motion, are not a source of danger. This is one reason why the streams of the Mississippi valley are so much more unhealthful than those of Oregon, which having their sources fed by mountain springs, are never dried up by the summer heat.

To just what extent these putrescent matters are the causes of disease has never been definitely settled. There can be little doubt that malarial diseases, most of the fevers, dysentery, and, perhaps, diphtheria, have this origin—while rheumatism, bronchitis, asthma, catarrh, and, perhaps, other affections, owe their origin to excessive moisture, conjoined with cold. Water standing and evaporating carries off a vast amount of heat, and this is without doubt, a prolific cause of consumption, which fell disease carries off its thousands annually. So close is the connection between the rainfall, evaporation and physical conformation of a country with its sanitary condition, that a knowledge of the former is all sufficient from which to predict the latter.

Sewerage was the first remedy for the large amount of decaying matter accumulating in cities; but from its very nature it is almost valueless as a sanitary precaution. Millions of dollars have been expended to remove the filth a short distance from the city, while, perhaps, the very next breeze bears the only dangerous part, its noxious gasses, back to the nostrils of the citizens, while the unventilated trap sends up its quota of death-dealing poison from the sewer. In one week, during July, 1866, 1200 children died in New York City and 700 in Philadelphia, from causes tracable to decaying animal and vegetable matter. Tens of thousands of children die in our great cities yearly from causes in their nature largely preventable. The remedy for all this must be radical, and ample to the fullest extent. The key-note of the reform is the *perfect separation* of all matter liable to undergo decomposition from the waste water; this, after being deodorized, to take the usual course of the sewers, which will convey nothing else. All the matters separated are then to be completely dessicated and used for agricultural purposes. The complete execution of this plan would exert a remarkable effect on the vital statistics of the cities.

We learn that the Russian Minister of the Interior has signed a concession giving the American firm of Hutchinson, Kohl & Co. the right to the fur trade of the Komendorskin and Sulin Islands, off Kamtschatka, for a term of twenty-five years, at a rent of 5,000 roubles per annum. This, it is stated, is the first of a series of concessions that will be granted to American citizens in connection with the fur trade and fisheries upon the Pacific-Siberian coast, as being the best means of dealing with the disputes that have occurred recently between the Russian and the United States Governments in respect to those industries.

THE AUDIPHONE AND DENTAPHONE.

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Perhaps no appliance of equal notoriety has won a reputation so equivocal as the Audiphone. To-day it is regarded by many all over the land as an inestimable boon, and, by perhaps an equal number, is, after a brief trial, thrown aside as worthless. Now, strange as it may sound, the principal cause of this disagreement of opinion and experience rests neither in the instrument nor yet in the physical condition of the patient, but, it must be said, in the ignorance of the latter concerning the principles upon which it is constructed and used, and—in want of perseverance and faith.

The writer has arrived at these conclusions by actual experience with the deaf, and it would seem that the very simplicity of the audiphone has misled patients into supposing that its practical use is equally simple. He ventures the statement that proper instruction in its use is as needful as that to enable a patient to use an artificial eye or limb. A couple of cases will be appended to this article illustrating these points. In the mean time, let us determine those deaf individuals who can and those who cannot, be benefited by the instrument; this, of course, will include a description of its *modus operandi*.

Deafness may be considered as arising from two principal abnormal conditions of the ear, viz: Disease of the apparatus which conducts the sounds to the auditory nerve; and disease of the nerve itself. It should be clearly understood that the audiphone is useless where great deafness is caused by disease of the nerve; a condition only to be ascertained by a competent physician.

Fortunately, nervous deafness is comparatively infrequent, while deafness from disease of the conducting apparatus (i. e., the drum, etc.), is precisely the kind which the audiphone assists, and the greater the deafness the more marked the assistance derived.

For the sake of those who have not seen the instrument, the following description of its nature and working may prove acceptable. Advantage is taken of the acoustic principle that solid bodies possess the superior power of conducting and transmitting sonorous vibrations. With this is coupled a physiological fact, viz: that the nerves