

## OBITUARY NOTICES.

## DEATH OF JOSEPH POOLE PIRSSON.

One after another, our cotemporaries are passing away. Last week we announced the death of Mr. Aaron R. Haight, for many years employed in our office, and now we have to chronicle another death, that of Joseph Poole Pirsson, who died at his residence in this city, on March 17th. Mr. Pirsson was the son of Joseph Poole Pirsson, a prominent member of the New York Bar, and distinguished as a chancery practitioner. The subject of the present obituary notice was, by profession, a civil engineer and solicitor of patents, possessing superior knowledge of practical and theoretical mechanics. As a solicitor of patents, he attained a large practice, and was skillful and comprehensive in the preparation of his cases. He published several useful works relating to his profession, the most prominent of which was entitled, "Laws and Practice of all Nations and Governments Relating to Patents and Inventions." The *Bureka*, a magazine devoted to Mechanism, Inventions, Patents, Science, and News, was also published by him and his partner, Mr. Kingsley, now deceased, who also assisted in the preparation of the above-mentioned treatise. The magazine was discontinued in 1850 or 1851. It was well conducted and well patronized, and was also one of the first of that kind of publications printed in the United States. Mr. Pirsson was also the author of a set of forms of patent practice, which were very generally used at home and abroad. He was also an inventor of considerable skill, and the originator of the "Pirsson Condenser" for supplying marine engines with fresh water, the first successful invention of the kind. It was not only placed in many of our first vessels of the mercantile marine, but in vessels of the United States Navy. Mr. Pirsson derived, for a time, a handsome revenue from this invention, but it was subsequently extensively pirated. He was well read in elementary chemistry, and an enthusiastic astronomer. He was also well read in ecclesiastical history, and the traditions of the Protestant Episcopal Church, of which he was a zealous and active member. He was an amiable and estimable citizen, and highly esteemed in the private relations of life. He was obliged, some years since, to withdraw, on account of ill health, from the large and lucrative practice he had secured, and though he rallied for a time upon the cessation of his labors, he never fully recovered his health. His remains were interred in Trinity Cemetery, the funeral being largely attended by the most distinguished citizens of New York.

## DEATH OF PROFESSOR WETHERILL.

We regret to have to announce the death of Dr. Charles M. Wetherill, Professor of Chemistry at Lehigh University, Bethlehem, Pa., which took place on March 5, 1871. Professor Wetherill had acquired a national reputation by his researches and publications, more particularly in agricultural and organic chemistry. He was at one time connected with the chemical laboratory of the Agricultural Department in Washington, and at that time made an exhaustive investigation into the chemistry of American wines. He also published an important paper on the peculiar fat of dead bodies, called adipocere. His loss will be severely felt, not only by the institution with which he was connected, but by the country at large.

## DEATH OF WALTER B. FORBUSH.

Mr. Forbush, who was killed at the recent New Hamburg disaster, was a solicitor of patents at Buffalo, N. Y. He was a son of E. B. Forbush, who was also killed, at the disaster at Angola, several years ago. At the time of his death, Walter B. Forbush was about thirty years of age, had a good business, and was noted for his clear understanding of mechanical inventions, having been gifted by nature with a remarkable mechanical mind. He left a wife and three children, and we are pleased to learn that his life was insured for \$25,000; consequently his family is left in comfortable circumstances.

## SCIENTIFIC INTELLIGENCE.

## REMEDY FOR FESTERING WOUNDS AND CANCERS.

Professor Böttger recommends gun cotton, saturated with a solution of permanganate of potash, put up in the form of a poultice, and held over an open wound by a bandage, as the best disinfectant for bad odors that can be conveniently applied. The strength of the solution of permanganate, best adapted for the purpose, is one part, by weight, of dry salt in one hundred parts of water.

Ordinary cotton cannot be taken, as it readily decomposes, but gun cotton is permanent, and not liable to explosion when in a moist state.

## LIQUID FOR ELECTRIC BATTERIES.

According to Dr. Bradley, there is a wide difference in the composition of these liquids. We subjoin some of the most approved admixtures: One consists of 800 grammes water, 50 grammes bichromate of potash, 50 grammes sulphuric acid, and 2 grammes chromic acid.

McCracken liquid: 1 pound bichromate of potash, 1 gallon of water, 3 pounds sulphuric acid.

Poggendorff liquid: 3 pounds bichromate of potash, 4 pounds concentrated sulphuric acid, 8 pounds (1 gallon) water.

U. S. Telegraph Company's liquid: 5 gallons water, 6 pounds bichromate of potash, 1 gallon sulphuric acid.

Western Union Telegraph Company's liquid: 18 pounds water, 1 pound saturated solution of bichromate of potash, 1 pound sulphuric acid.

Newton's solution for destroying organic matter: 12 fluid ounces water, 1 fluid ounce sulphuric acid, 1 ounce bichromate of potash.

## PRESERVATION OF WOOD UNDER WATER.

A correspondent inquires if there are other substances besides chloride of zinc that have been used for protecting timber under water. We find an elaborate paper, by Dr. Ott, in the *Journal of Applied Chemistry*, which may serve as an answer to the inquiry. A committee of *savants* was appointed, by the Dutch Academy of Sciences, to conduct experiments; and in their report, they classify the experiments into three groups: First, the coating or alteration of the surface; second, the impregnation with various preparations; and third, the use of timber different from that usually employed.

## I.—THE COATING OR ALTERATION OF THE SURFACE.

In this group the following alleged remedies were tried:

1. A mixture of tallow, coal tar, resin, sulphur, and powdered glass, applied warm, upon the previously roughened wood, to the thickness of several millimeters.
2. Paraffin varnish, obtained by dry distillation of peat.
3. Coal tar, applied cold and warm upon the superficially charred wood. Into some piles, holes were bored, which were stopped up, after being filled with the hot tar, which then had a chance to penetrate into the interior. Others were coated with a mixture of coal tar and oil of vitriol, to which some sal ammoniac and olive oil had been added.
4. The piles were coated with a paint consisting of linseed oil, turpentine, chrome green, and verdigris.
5. The surface was carbonized.

The thus prepared piles were immersed in May, 1859; on being examined in September of the same year, it was found that, with the exception of the wood mentioned in No. 3, which only presented traces of the teredo, none of the preparations had furnished protection. In the fall of 1860, or after one year and a half, the wood treated with coal tar was also thoroughly infested by the worm. From the results of these experiments, it seems therefore to be fully established that, although external coating may for some time prevent the attaching of the larvæ and young worms, the least abrasion, such as may be caused by floating ice or other means, or the cracking of the wood, will allow the entrance of the teredo to an injurious extent.

## II.—THE IMPREGNATION WITH PREPARATIONS.

Under this head trials were made with:

1. Sulphate of copper,
2. Sulphate of iron.
3. Acetate of lead, which proved ineffective.
4. The wood was first impregnated with soluble glass and then with chloride of calcium, in order to form a silicate of lime in the interior. Before being immersed, it was exposed to the air for half a year, so that the chemical combination might be complete. In March, 1862, the wood was sunk into the sea, and in October of the same year was found to be thoroughly invested.

5. Oil of creosote.—This is a well-known product of the dry distillation of coal, which, in being subjected to a second distillation, is freed from the very volatile as well as from the semi-solid portions. In May, 1859, creosoted piles were immersed in different harbors, and when examined in the following September, no indications of the worm could be discovered, while non-creosoted piles were thoroughly infested. Another trial was made in July, 1860, with ten piles of oak and pine, saturated in the same manner; later on, piles of beech and poplar were immersed, which had been treated by Boulton, in England. On examining these piles in the falls of 1862, 1863, and 1864, they were all found to be perfectly sound, with the exception of the piles of oak: while the non-prepared woods were more or less affected by the worms. In sawing through one of the oaken piles, it was ascertained that it had only been partly saturated. However, the piles of pine, beech, and poplar, treated in the establishment of Boulton, presented in 1864—or after three years' exposure—not the least indication of the teredo, and, after detaching the outer portions, they resisted equally well. The same result was obtained with piles, saturated by a firm in Amsterdam, that had been exposed for five years.

Of the non-impregnated piles, nothing had been left but the small head pieces projecting beyond the surface of the water. The rest had become a spongy mass, yielding to the least pressure. Petroleum had been recommended to the committee, but, owing to its high price, no experiments were undertaken with it.

## III.—USE OF EXOTIC TIMBER.

With regard to exotic woods, the experience of the committee is but moderate. It can only be stated, with certainty, that some kinds of wood from Surinam, the American oak and several others, were not spared. Besides, the committee was presented with a perforated piece of heavy guajac wood, which had been laying in the sea, near Curaçoa, a proof that even the densest wood is not impregnable. Finally, the committee had received information about various woods, reputed to be poisonous, and by which the fishes are said to become stupefied, and die, but no opportunity was afforded to experiment with them. We are assured, however, that the Dutch Government is making investigations in regard to this matter in the East and West Indies.

The report of the committee may be summed up as follows:

1. That mere external coating with paint or other substances furnishes no protection, since it is impossible to maintain an unbroken surface; the young teredo will enter the slightest crack or abrasion. The lining with iron, copper, or zinc plates, or the driving full of broad-headed nails is not only expensive, but protects the timber only as long as the lining remains perfect; and since this is impossible, it is of no use.
2. Impregnating timber with soluble inorganic salts, which

are poisonous to animal life, constitutes no protection, owing, firstly, to the fact that the teredo does not nourish itself from the ligneous tissue, but simply perforates it in order to secure a lodgment; and, secondly, to the circumstances that the water washes out the salt.

3. The density of the wood, as far as known, is of no avail.

4. The only true protection against the worm is found to be creosote oil, to which attention ought to be directed, as well as to the kinds of wood most absorbent of it; and to the most effective methods of impregnating it with this material.

The experiments were conducted in salt water, chiefly in reference to the teredo or ship worm, but they apply equally well for fresh water. In Germany, extensive use is made of chloride of zinc, by placing timber in boilers, partly exhausting the air, and driving the vapor of chloride of zinc into it. The amount to be taken can only be determined by experiment. Metallic zinc has also been used in a similar way.

## ENDLESS PLATFORM BELT RAILWAY FOR NEW YORK.

There has been no end of schemes, mostly absurd, for steam conveyance to accommodate the local travel of New York. We leave it to the reader to decide in what category a plan proposed by Mr. Robert Taylor, of 527 West Twenty-second street, New York, should be placed. The plan proposes that a series of endless rule-jointed aprons, running side by side, should be kept in motion by steam power, and extend entirely about the city, elevated, of course, and skirting the coast of the island. The outside one is proposed to be moved at three miles per hour, and each one in the succession inward is to move three miles per hour faster; so that three being employed, the inner one will run at nine miles per hour, the maximum speed. Mr. Taylor thinks it will be easy for people to step upon the outside apron, and from that to the next, and so on to the last, where they can be seated until they reach their destination. We hardly deem the subject worthy of serious discussion, but it is interesting, as being one of the many curious ideas, evolved by the pressing needs of the city for better traveling facilities.

TELEGRAPHIC COMMUNICATION WITH THE EASTERN WORLD.—The attention of the New York Chamber of Commerce has been called to the pressing necessity of establishing a submarine cable under the Pacific ocean, and placing this continent in electric communication with Japan, China, and the Sandwich Islands. There is enough telegraphic traffic to pay good dividends on the outlay. Even at present rates, *vis à Europe*, namely, about \$50 gold for twenty words, the number of messages forwarded is considerable; and, besides the inducement of low rates, the new cable would be a great benefit in saving of time.

THE DAVIS' SEWING MACHINE, manufactured at Watertown, N. Y., has been before the public some ten years, and is probably familiar to many of our readers. The Company, having recently greatly increased its facilities for supplying this machine, now calls for agents throughout the United States and Canada, as will be seen by its advertisement in this paper.

WHITE SPONGE.—Sponge can be bleached by soaking it in a weak dilution of hydrochloric acid, which removes the calcareous matter, and then washing it several times in cold water; after which it must be soaked in water holding a little sulphurous acid, or chlorine in solution.

A MAN in England has recently patented a hand garden-seed sower, which, he claims, will always drop just the desired number of seeds, and thus save the after-expense and trouble of thinning out.

## Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers, and hope to be able to make this column of inquiries and answers a popular and useful feature of the paper.]

1.—SHELLAC POLISHING.—How shall I prepare and use shellac, for polishing on a wheel?—J. L.

2.—SOLDERING CAST IRON.—In my query No. 5, in issue of March 4th, please substitute chloride of zinc for chloride of lime.—W. L. B.

3.—YELLOW RAIN.—We had a rain storm, at New Orleans, on the night of March 8th, leaving on the pavement a deposit of something resembling sulphur in color, but not having the fumes of sulphur when heated. I understand it has occurred frequently in different places, but find no one who has ever seen it before. I would like an explanation from some of your correspondents.—W. H. B.

4.—STOVE POLISH.—Will some of your numerous readers please give me a good preparation for polishing stoves—something that does not require so much rubbing as the usual compounds do?—W. J. N.

5.—GRINDING OCHER, ETC.—I wish to learn how to reduce a substance like chalk or ocher to a very fine powder. Is there any process better than grinding through mill stones? Is there any process of separating the same better than a bolt such as is used in flour mills? A No. 12 bolt is not fine enough. What is the advantage of running the under mill stone, and how large diameter can such a stone be run to advantage?—C. E. H.

6.—WIRE SPRINGS.—How can iron wire be tempered, so as to make good elastic springs?

7.—DISTILLING ESSENTIAL OILS.—Can the oil be distilled from wintergreen or peppermint, by connecting a steam pipe from a boiler to the still, just as well as by setting the still in a furnace?—A. V. S.

8.—FROSTING SILVER.—How can polished silver be given a frosted appearance?—D. E. K.

9.—CLARIFYING OLIVE OIL.—I have some olive oil that has become discolored by standing. How can I render it white and marketable again?—R. A.