

Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

O. D. MUNN.

A. E. BEACH.

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NEW YORK, SATURDAY, APRIL 23, 1887.

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NEW PROCESS FOR THE PROTECTION OF IRON.

The problem of preserving iron from oxidation may fairly be termed one of the great issues of the present day. Hitherto it has been effected in widely opposite ways. One method has consisted in converting its surface into an oxide, another in applying paint or enamel, another in coating it with zinc—a metal more readily attacked than itself. All these methods bear the aspect of being expedients merely, and do not present a definite solution of the problem.

Of all the ordinary metals, lead, which resists some of the stronger acids, such as sulphuric or hydrofluoric, may be regarded as the most durable. A new process for coating iron with an adherent layer of this metal has recently been discovered and perfected by Mr. F. J. Clamer, of the Ajax Metal Co., of Philadelphia. By it the iron is covered with a uniform coating of silvery lead. The roughnesses and indentations of the iron receive the lead, as well as the smooth parts. The result is a perfectly protected piece as long as the lead endures, and it is practically everlasting. No oxidation can affect the iron.

We have before us some admirable specimens of work done under this new process. It is specially adapted for the protection of sheet iron for car and other roofing, for spikes, bolts, nuts, pipes, boiler tubes, water tanks, iron bridges, and wherever the protection of iron or steel, wrought or cast, is desired. Its cost is no greater than that of the ordinary zinc or galvanic process. The superior excellence of the new method, its comparative cheapness, and the wide range of its applications, mark it, in our opinion, as one of the most important of recent improvements in the useful arts.

SEA LIONS IN CENTRAL PARK.

The little artificial pond in the rear of the lion house in the Central Park is now occupied by a group of interesting visitors from Alaska. They drowse lazily upon the stone coping of the banks, and, tiring of this, wobble awkwardly to the brink and dive deep into the limpid depths below. When at home in the cold North, they keep a sharp eye out for bears and sealers while lying upon the frozen rocks, and must devote a large portion of the day a-fishing, else they will be supperless. Here there is no one to disturb them; their only neighbors being a pair of taciturn pelicans and a sad-eyed stork who seems to have one leg more than he has any use for. They no longer have to catch fish for a living, a supply being fetched them daily from the Fulton Market stalls; and perhaps the only flaw in what might be an ideal existence is that they are unable to name the quality of the fish they prefer on certain days.

These newly arrived visitors are called sea lions, though why such inoffensive looking creatures should have so terrible a name it is hard to understand; and the visitor to the park, after taking a good look at the lords of the forest as they pace their cages in haughty fretfulness only a few steps distant, will scarcely see any resemblance in these mild-eyed, almost timid, creatures. They came from Alaska by boat, though fully able to swim the entire distance, and, being landed in San Francisco in four large crates, they were transferred to a great refrigerator, in which they journeyed hitherward, wondering, perhaps, as they gazed through the slats of the car, how the natives of the country through which they passed could find it so very warm.

There are eight of these sea lions in all, five cows and three bulls, and it was an interesting sight to see them removed from their separate crates on the bank of the little pond. A big bull, some eight feet long, was the first released. He craned his neck, thrust his nose high in the air, and took a good sniff, and then, catching sight of the water, shuffled over to the coping, poised himself on his flanks, described a crescent with his back, dipped his nose, and the loose jointed, loose skinned body seemed to leave ground in series, and to describe the same curve as that which had been traced by his nose. He remained below about a minute, and reappearing set up a terrific roaring, which may have meant that he found the pond neither deep nor salt enough, and disappeared just in time to miss the answering roars and gruesome howls which came from the lion and tiger dens hard by. The other sea lions seemed anxious to miss them too, for they hastily waddled over to the water and disappeared. The only exception was a cow sea lion, who stubbornly refused to leave her dead calf—it died during the journey hitherward—and three men were engaged in the struggle before the dead infant could be removed. Four of the sea lions steadily refused all offers of food, and have not broken their fast since their capture, some three months ago. This is a peculiarity of seals, large and small, for, though tenacious of life and easily tamed, they will often refuse to eat for many months while in captivity, living apparently on their own tissue, as in hibernation.

As to the exact genus of these sea lions, it is not easy to say with anything like certainty, there being much difference of opinion among the authorities. It resembles Steller's sea lion (Platyrrhynchus, Stelleri, Less.),

though by no means so large, for this is sometimes 15 feet long. Though harmless in appearance, these sea lions are really very fierce at times. They eagerly attack and always defeat the sea otter, often much larger, and having powerful teeth. They will even attack a boat when they are wounded, and the sea bear (O. [A.] Ursina, Cuv.) flees at their approach. The sea lion has a keen scent and good sight in a dim light, such as prevails during Arctic winters and in polar seas.

They are very tractable, and have been taught to turn an organ, stand erect on the hind limbs, shoulder a gun, and shake hands.

It is the sea lion which it is supposed that Jason, in the mythological story of the Argonautic expedition, mistook for sirens, who sat upon the adjacent shores and essayed to allure his crew by their singing. Orpheus' superior music kept them aboard, however, and the quest for the Golden Fleece was not interrupted.

DANIEL DAVIS.

On March 22, at the age of 74 years, Daniel Davis died at Princeton, Mass. Forty years ago he was one of the leading electricians of this country. He was born at Princeton, and worked on his father's farm until he attained the age of 20 years, when he came to Boston. After working in the soda factory of Mr. Darling, he became acquainted with Dr. William King, a manufacturer and dealer in static electrical machines, and who also erected lightning rods. The flat copper rod now on the Boston court house was put up by Mr. Davis, for Dr. King. Eventually, after various business changes, he began business alone in 1837 as a manufacturer of electro-magnetic apparatus. He had as an associate in much of his work Dr. Charles G. Page, the well known inventor. In 1847, he published "Davis' Manual of Magnetism," one of the earliest works on the subject.

He did not patent his inventions, many of which would have yielded very large returns. Thus, the invention of electrotyping in copper for reproduction of type and engravings is attributed to him. He reproduced by electrotypy the arm of a girl; the object is said still to be in existence. He was the pioneer in this country of gold and silver plating. Many medals and awards testify to his achievements. He developed and improved Morse's telegraph, making a practical system out of the not fully developed devices of Morse. Many of the scientists of the day were intimate with him and interested in his work. Among them the names of Hare, Silliman, Henry, Abott, Farmer, and Webster are given. In 1852 he retired to his farm, relinquishing science for agriculture. He died comparatively unknown, as he suffered the march of progress to go by him.

THE CELESTIAL WORLD.

THE CONJUNCTION OF SATURN AND DELTA GEMINORUM.

The planet Saturn cannot fail to be easily recognized in the western sky in the early evening, as the twin stars, Castor and Pollux, on the north, plainly point out his position in the sky. He is an interesting object, for his light is soft and serene, and his color is like that of pale gold.

Keen-eyed observers will see with the naked eye a star of the third magnitude a little way east of the planet. We wish to direct attention to this star. It is known on star records as Delta Geminorum, and Saturn will be in conjunction with it on the 25th of April, at 9 o'clock in the morning, being at that time only 12' north of the star. Planet and star will not be visible when at the nearest approach, but on the evening of the 24th Saturn will be near the star and west of it, while on the evening of the 25th he will have passed the star, and will be found east of it.

The conjunction is interesting, for it is a phenomenon that every observer can see for himself as he watches the apparent approach and recession between a planet and a fixed star. It is the planet that moves, the star remains fixed.

Saturn occupied nearly the same position in the heavens on the 6th of February that he will occupy on the 25th of April, only he was then 8' farther south. On the 6th of February, he was 4' north of the star, and so near that on several successive evenings planet and star seemed to touch each other. The view through an opera glass, when they were separated by only a thread of sky, was very beautiful.

The planets, as seen from the earth, present three different aspects. They have what is called direct motion, when they move eastward, and retrograde motion, when they move westward, and they are sometimes stationary, or seem to be standing still.

Saturn on the 6th of February was retrograding, or moving westward. He continued in this course until the 17th of March, when he was stationary for a few days. He then turned a celestial corner, and has since moved eastward, or in direct motion. On the 25th of April, he will be again directly north of Delta Geminorum, just 8' north of the point he started from seventy-eight days before.

The student who wishes to become familiar with the movements of the planets will find that a careful

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For the Week Ending April 23, 1887.

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