

Correspondence.

The Cost of Sodium.

To the Editor of the *Scientific American*:

An article on the subject of alkali metals, in your issue of December 30, mentions the present price of sodium as being \$1.75 per pound. This is an error and I think should be prominently corrected, particularly as special reference is made to this price and special causes which are said to have contributed to advancing the price from a lower previous figure. The Aluminum Company of England, with whom I am connected as managing director, are now the only firm engaged in the manufacture of sodium. The present general market price of the metal is 75 cents per pound, but under special conditions as to quantity and for particular purposes or uses it is being sold at very much lower prices. As the article referred to is particularly misleading in reference to the important question of price, I trust, as it is a matter also of serious interest to the present manufacturers, you will make proper and prominent correction.

Any further information on the subject I shall be pleased if possible to afford. H. Y. CASTNER.
Homosassa, Citrus Co., Florida.

Relief for Stranded Vessels.

To the Editor of the *Scientific American*:

Noting in the *SCIENTIFIC AMERICAN* an article on the difficulty of getting a line to or ashore from a stranded vessel, would say I have done considerable wrecking while on the lakes. As to my success while there for over thirty years, that is for others to say. During that time I had a number of occasions to send a line ashore. We then called it a running line. After trying buoys, boards, rafts, etc., I adopted the plan of a barrel, with a reel inside, leaded inside on the corner, and a grapple on the outside in the shape of a one-fluked anchor that was to catch on to prevent the surf from carrying the barrel back when it struck shoal water. The lead I put in heavy enough to keep the barrel partially on end, and on the bottom and side of the barrel that the grapple is attached to. The device is so cheap and simple that any sailor can make one for his vessel with little cost, and it may be relied on to help him out of a bad mess.

W. H. LITTLETON.

[Our correspondent's device is a practical one, and since his first use thereof it has come to be known among seamen, but is not as much used as it ought to be. In our *SUPPLEMENT*, Nos. 852 and 854, engravings of it appeared.]

Japanese Prisons and Convict Settlements.

BY REV. W. W. CURTIS, OF SENDAI.

An experiment is being tried in the great northern island of this empire which ought to enlist the sympathies of all Christendom. The people of Japan have not yet opened their eyes to what is going on within their borders, but the experiment, which is nothing less than an attempt to administer the great government prisons of the Hokkaido according to Christian principles, is being made with the full approval of the central government, who take deep interest in it, and seem to expect that it will result in a reformation in the treatment of prisoners throughout the land.

Fourteen years ago the government began the practice of sending long-sentence convicts to the wilds of the Hokkaido, which they were trying to colonize, intending to utilize these convicts in preparing the way for the coming of settlers. Now there are four great prisons, two in the west, in the Ishikari valley, a region rapidly being settled, and in which is Sapporo, the capital of the Hokkaido, and two in the east, one on the Okhotsk Sea, the other some sixty-five miles inland.

A fifth prison is soon to be opened in the fertile Tokachi valley, in the southern part of the island. In these four prisons are some 7,000 men, employed for the most part in cutting down the forests and reclaiming land, in roadmaking, and in mining. Into the regions which they have opened in the forests settlers are flocking by the hundreds yearly. The product of their labor in the coal mines is finding its way by the million tons to America. No convicts are sent to the Hokkaido under a shorter sentence than twelve years, the periods ranging from this to life service, so that scarcely any have been discharged as yet; but within the next two years some 1,900 will gain their freedom. The result of turning loose so many criminals in that thinly populated region is looked forward to with anxiety by the settlers.

A few years ago these prisons were entirely independent of each other, and in some of them the government was quite lax. Two years since they were all put under one management, and the most efficient of the wardens, Mr. Oinue, was made general superintendent, in addition to the duty of being warden of one of the prisons. Mr. Oinue is a man of great executive ability, ranking highest in this respect, I have heard, of all the wardens in Japan. Very strict in the execution of the prison rules, he at the same time shows so kind a heart that he is both feared and liked by the

prisoners and most thoroughly respected by everybody. He consults freely and intimately with the other wardens and with the moral instructors, so that whatever is attempted is sure of having sympathetic support in all the prisons. His superior insight led him to the conviction years ago that the principles of Christianity are what are needed for the instruction of the prisoners, and he was anxious to get a Christian instructor for the prison of which he then had charge. Succeeding in this, and his anticipations being fully realized, when he was subsequently transferred to another prison he soon secured a Christian instructor for that; afterward, when made superintendent of all, he went to the third prison, the oldest of all, and introduced a Christian teacher there, and to the fourth prison, which was just opened, he sent as warden the man who had been next to him in authority in his first prison, and who also had become convinced that the new religion was the right one for the instruction of criminals; so to that prison a Christian teacher was appointed from the start.

In my tours in the Hokkaido it has been my privilege to visit all of these prisons and to inspect them thoroughly; some of them in two successive years.

My first visit was to the chief prison. When the instructor requested the privilege of showing the prison to his friend he was refused permission, on the ground that it is against the rules of the Prison Department to admit strangers. But subsequently learning that I was a Christian missionary, Superintendent Oinue not only waived the rule, but in person showed me over the whole institution. I was greatly pleased at the evidences I saw in all of the prisons that officers and guards discharge their duties, not perfunctorily, but with an interest in the welfare of their prisoners. Spending weeks in the neighborhood of these prisons, I saw the convicts in many places, both within and without prison walls, and saw them under various circumstances, yet not once did I see the abuse that I have seen in other parts of the country. The system of management seems well calculated to develop manhood, and to make the men capable of earning their living as good citizens when released.

The greater part of the men are engaged, as has been said, in public works, but each prison has its farm and its series of workshops, in which are carried on such industries as are needful in their self-support, yet none of these are carried to such an extent as to compete with free labor by throwing the products of prison labor into the market. The workshops in these great prisons are interesting sights. In them are carried on carpentering, blacksmithing, coopering, tailoring, shoemaking, harness and saddle making, toolmaking, etc. Rice cleaning is an important industry in Japan, and each prison has its rice cleaning and also its *shoyu* and *miso* department. These sauces, *shoyu* and *miso*, made of beans, wheat, and salt, are almost as essential to a Japanese meal and in cooking as pepper and salt are with us. The rations served are abundant and wholesome, and a principal article of diet is rice and wheat mixed in the proportion of six parts to four, more nourishing than the clear rice, which is the usual food of the better classes in the land.

The washhouse, the cookhouse, the bathhouse, the changehouse, where garments are changed as they go out to work and again as they return, the dryhouse, where their workclothes if wet are quickly dried, and the hospital all show thorough provision for the bodily wants of the men.

The cells are well ventilated, clean and neat. In almost every one is to be seen a little pile of books, scientific, ethical, and religious, showing not only the privilege granted them, but that the men, as a rule, are glad to avail themselves of it. A noticeable feature in each cell is the handwriting on the wall. A "golden saying" hangs there, the words of some wise man, Confucius, Mencius, or other ancient or modern sage, among them quotations from the Bible. These aphorisms, selected by the warden or the instructor, look the men in the face as they enter their cells day by day until they are thoroughly familiar, then are replaced by new ones.

More interesting than the workshops and cells are two rooms, one for personal conversation, where the instructor summons individuals with whom he wishes to talk privately and where they may seek an interview with him if they choose, and the room where is kept the record of work and behavior. The conduct of each prisoner is recorded every day in regard to three particulars: (1) Observance of the rules, (2) deportment toward the guards and toward other prisoners, and (3) diligence in work. If well behaved, they are granted special favors, and are paid a small amount monthly, being permitted with the money to make purchases. They receive rewards of merit in the shape of blue squares on the coatsleeve. I have seen a good many in the shops with one, two, three, four, and even five of these marks of honor, the latter showing them to be worthy of great trust.

Each prison has its chapel, or lecture hall, where the prisoners are assembled every Sunday afternoon for a moral address, after which is held a Sunday school. Attendance at the lecture is compulsory, at the Sunday school optional. I imagine that such unique Sunday

schools are to be found nowhere else in the world, where, side by side, are classes in Bible study and classes in the Buddhist scriptures and the Confucian classics. Here maybe seen zealous Buddhists and Confucianists, stimulated in the study of their own religions by the interest of their fellow-prisoners in the Christian religion. However, the study of the Bible, wherein are found the wonderful, new doctrines of the fatherhood of God and the brotherhood of man and of a present salvation from sin, proves by far the greater attraction.

There are many inquirers about Christianity in each of the prisons. Out of 1,506 prisoners in the Kabato prison, where Christian instruction was begun latest of all, 510 are studying the Bible, and of these 148 pray daily and follow the course of daily Bible readings marked out by the *Seisho no Tomo* (Bible Friend), a course used quite generally by the Christians of Japan. There is no chance while in prison for a public confession of Christ, as by joining the church, but the radical change wrought in the character of some of the men is such as greatly to impress those who have witnessed it. According to the testimony of their teachers, they are "an example to believers."

The results of Christian instruction have not yet attracted public attention to any extent, so few have as yet been released, but these results are beginning to be manifest in the prisons, not merely in the conversion of some, but by a general leavening. In evidence of this, the little effort made of late to escape from prison may be compared with that of a few years ago. From the beginning of the present year up to the latter part of May, when I last visited the prisons, but one man out of all the 7,000 prisoners had escaped. Last year the number of fugitives was 70; the year before it was 160; the year before that a still greater number. For this improvement two reasons were given me: one that the prisoners are beginning to believe that they can depend on the Christians to befriend them when they are discharged; the other, that the guards in all of the prisons are becoming interested in the good conduct of the prisoners, and are doing their best, so that a generous rivalry has arisen as to which of the prisons can make the best showing.

The general tone in all the prisons has greatly changed under Christian influence.

One thing that has given the prisoners great hope is the organization of an "Association for the Protection of Discharged Prisoners." A large tract of land was selected not far from Kabato, on the Ishikari River, the largest river in Japan, where it was planned to found what they call a Puritan colony of these discharged men, having as the ideal of this colony that simplicity of life and uprightness of character which marked the early New England colonies. A schoolhouse and a church are to be the first buildings. Buddhist opposition of late has put obstacles in the way of their getting a title to the land, and it is yet uncertain whether they will be able to carry out their plans just as designed. Another thing that has been very helpful is a prison magazine, called *The Sympathy*, which has quite a circulation in the prisons. Many of the prisoners, as I understand, subscribe for it. It is an independent undertaking of the instructors, having no government aid in its maintenance.

The way in which this great experiment in the Hokkaido came to be attempted, the providential leadings in it from the first until now, are of deep interest. But the account must be reserved for another paper.—*Missionary Herald*.

Production of Colors in Glass.

According to *Die Glashütte*, the beautiful coloring of certain varieties of glass now produced in Germany, and which far excels some of the most noted French specimens, is an art practiced by the glassblowers at the furnace, by means of an apparatus consisting of a sheet iron cylinder, 20 inches long and 8 inches diameter, standing vertically, and having a similar cylinder riveted across the top, thus forming a T-shaped muffle. In the lower cylinder is an opening into which an iron ladle can pass; and the horizontal cylinder is provided with doors at either end, the one nearest the operator being so arranged that the blowpipes can be supported when the door is closed in a horizontal split running to its middle, the object to be treated being held inside. While the glassblower is reheating his work for the last time in the furnace an attendant takes the long-handled iron ladle, which has been heated red hot, shakes into it about a spoonful of a specially prepared chemical mixture, and places the bowl of the ladle quickly in the opening provided for it in the vertical cylinder. The mixture immediately gives off vapor, which rises to the horizontal cylinders, where, meanwhile, the blower has placed his work, supported by the blowpipe, and heated to an even red, turning it rapidly in the vapor; in a short time the object is covered with a changeable luster, is removed from the pipe and tempered like other ware in an ordinary oven, then cut, engraved, painted, or gilded, as desired.

NATURALISTS assert that a healthy swallow will devour 6,000 flies every day.