NEW AQUARIUM FOR NEW YORK.

New York City is soon to have probably as fine an aquarium as is to be found anywhere. It is with pleasure that we present to our readers some views of the interior of Castle Garden, one of the famous buildings of old New York, which for the future is to be devoted to the uses of an aquarium under the auspices of the Department of Public Parks of the city government. The larger engraving presents a view of the main floor, looking down from the gallery. On the ground floor have been established seven

large pools, whose walls of brick and cement, capped with stone, have been built up to a height of about 3 feet, and which are arranged to hold water having a depth of from 3 to 6 feet. They are lined with white porcelain tiles. The central circular pool, 28 feet in diameter, is to be the home of a large white whale. In the other tanks some of the larger forms of salt water life will be cultivated, such as seals, sea lions, sharks, anglers, and turtles. Around the walls of the building, (in two tiers, are glass-faced tanks, also lined with white tiles, which tanks are designed to contain the small varieties of fish. The wall tanks present the appearance of a picture in a picture gallery, and when filled with fish and supplied with absolutely pure water a most enchanting gallery of sea life will result-a very instructive form of living picture. The glass fronts, 1 inch thick, are of special plate glass, of composition to resist the effects of salt water.

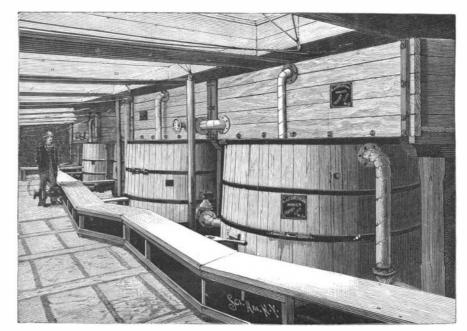
The great storage tanks were erected by A. J. Corcoran, of 11 John Street,

of them are round, and have steel bands fitted with the Corcoran adjustable lugs and draw rods with friction plates, by means of which any shrinkage of the wood may be taken up without "driving" the bands. Arranged on trestle work are six other rectangular tanks, so supported as to stand immediately over the round tanks, and so substantially and correctly made that there is not any leaking, although the conditions are about as trying as can well be imagined, inasmuch as the space they occupy is over the boilers, and a force of the sun's rays.

In order to obtain the greatest capacity possible for the available space, the tanks are of various shapes and sizes. some capable of containing about 2,000 gal-

lons each, and they are arranged with a view to convenience of connecting with the filters and with the distributing pipes, which, with the numerous valves, are of hard rubber. It would be difficult to find another such a collection of tanks giving such perfect satisfaction. One of the salient and most attractive features of the aquarium is the use of salt water, which is taken directly from New York Bay. It will be remembered that Castle Garden is situated at the extreme southern extremity of New York City, and is almost entirely surrounded by water, and hence is a particularly availand in size and shape resemble huge wash boilers.

rium will be found to be for the most part exceedingly curious and interesting. The fish are caught in most cases especially for this purpose. The fishing is done with nets, and great care must be exercised not to remove the fish from the water or to injure them in any way. The most difficult part of the work, however, is that of transporting them for great distances. For this purpose the New York City aquarium supplies cans of its own, and these are frequently sent to the very ends of the earth. They are made of galvanized iron



THE NEW YORK AQUARIUM-THE CORCORAN WATER TANKS.

New York City. They are all made of cedar. Six able spot for use as an aquarium. The water, as it is are employed to go out at all hours of the day or night pumped from the bay, is somewhat charged with sewage matter. It is therefore first passed through Carter pressure filters, which are of Tobin bronze and thoroughly non-corrosive, and when delivered to the Corcoran storage tanks it is not only purified, but presents a most beautiful, crystal-like appearance. From the cedar tanks the water passes through the hard rubber pipes to the numerous porcelain-lined and glass tanks, in which the fish, etc., are kept. The specimens are being collected and arranged under the efficient direction of large portion of the roof is of glass, exposed to the full Prof. H. T. Woodman, designer and superintendent of the aquarium, which it is intended shall be the most complete in the country.

> The methods employed for collecting live fish from all parts of the world to stock New York City's great aqua- dition.

The largest are about four feet in diameter. The sides of the cans are vertical, though all are curved slightly inward at the top. This is to cause the swash when the cans are moved to fall inward and so, to some extent, to make the water self-aerating. Foreign fish are usually brought by steamer. A sailing vessel takes so much time to make a voyage that it is difficult to preserve the fish in their narrow quarters. The fish brought from Japan, for example, are shipped by steamer across the Pacific Ocean. A man familiar with their needs is sent from the aquarium in New York to accompany them and care for them on the route. At San Francisco the fish are carefully examined and fresh water is supplied. The journey across the continent is then made by express trains. The method of bringing fish from other foreign lands, or, rather, foreign seas, is about the same.

The fish to be found in local waters are secured with less trouble. At Gravesend, where the larger part of the aquarium stock is kept, two men

when the fishermen are taking in their nets. These are carefully examined to discover if anything of interest is in them. During the season a man is sent from the aquarium on every steamer to the fishing banks to watch for valuable specimens of local varieties.

THE French industry of icing milk is an original departure in tinned commodities. The milk is frozen and placed in block form into tins, and on the part of the purchaser requires to be melted previous to use. Being hermetically sealed, the commodity thus iced preserves its form until it is required, when a minute's exposure to the sun's rays or to the heat of the fire is all that is necessary to reduce it to a liquid con-



THE NEW YORK AQUARIUM-VIEW OF MAIN FLOOR.

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The Marine Biological Stations of France.

equipped marine laboratories in Europe for carrying render them softer or harder. This alphabet dates the five alphabets, and of their variations (which may on biological research. Seven of these are situated on from the eighth century, and may be written in four dif- be called synonymous signs), forming a total of about the French coast and are maintained by the universities ferent series of characters. These are the "Kata-kana,", fivehundred; and if, finally, we reflect upon the limitless of France and the French government. They offer many advantages to the student of biology. They make possible a thoroughly practical course of instruc- kana " and the "Yamato-kana." In addition to these must admit that the literati of Japan have succeeded tion, for the materials are all at hand and may be collocted with the least possible expenditure of time and scientific works, with those belonging to the higher in the world to read. The affinities existing between energy. The stations bring together every winter the branches of literature, as well as official papers and Chinese and Japanese writing are so numerous that, best workers of many universities, and the work is fre-public documents, are written or printed in Chinese before making a satisfactory progress in his own lanquently rewarded by valuable discoveries.

The stations are especially noteworthy for the inge $nuity\ of\ arrangement\ and\ completeness\ of\ their\ labora-\ characters.$ tories. Of the seven, the station situated on the coast of Brittany, at Roscalf, is perhaps the most typical. from the lower to the upper part of the paper, begin- that a great portion of the education of a Japanese The coast of Brittany at this point is particularly well ning at the right. It may be well to mention that, in adapted for carrying on such investigation. The addition to the four usual alphabets, the Buddhists greater part of it consists of massive bowlders, sur- use the alphabet of the Sittan writings, consisting of rounded by swift-running currents, and often these fifty letters. rocks are exposed to a depth of fortyfeet, thus making According to Klaproth's researches, it appears that it possible to gather sea fauna in great abundance and until the reign of Ouzin Tenwo, the sixteenth mikado, variety. The laboratory at Roscalf has been con-the Japanese had no writing at all, all ordinances and difficulty of reading the text when the scholar has structed on a very ambitious scale. It is supplied with laws being proclaimed viva voce. Under the reign of learned only the ordinary form. a large glass-walled aquarium room, a workshop par- this prince Chinese characters were first employed. titioned off for a dozen investigators, a well furnished | In the year 284 B. C., Ouzin Tenwo sent an embassy to library, a laboratory for elementary students, and a the kingdom of Hakon-sai (which existed at that time masonry forms a vivier, which is used for experiments, of obtaining learned men capable of introducing civand also supplies water for the laboratory. Most of ilization and literature into his dominions. On his replete diving apparatus is in constant use.

Other stations similar to these described are situated its own, and it is noteworthy that a large portion of redirectly upon their combined efforts.

----The Japanese Language.

is generally known.

Spanish, or that both have to their common parent, the Chinese. It is called the Hira-kana. the Latin. This, however, is an error. The Japanese though expressed by different words, to all who under- cause the alphabet which came from India (the Buddthe figures 1, 2, 3 express the same idea of numbers to afterward added. There is yet another ancient alphathe inhabitants of different countries. The deeper and bet, which is known as the Manyo kana. The characmore extensive knowledge of Asian tongues that has ters of this are frequently mingled with those of the been acquired of late years by European philologists other two; the order of the letters is the same, and it has rectified many of the errors that formerly prevailed is composed of complete Chinese characters in the ordiform a distinct race.

Fisscher states that the sounds of the Japanese lan-; Thus, the Chinese character kiang, "river," represents America especially) these prices will be much lowguage are soft and agreeable, and the construction of the syllable ye, which in Japanese has the same mean-'ered. Besides this branch of the industry the comit admits of very important modifications as regards ing, just as the character neu, "female," represents pany manufactures ramie pulp for the making of euphony. Written in European letters, nearly every the syllable mi, which has the same meaning in paper of all kinds, but especially for that intended for bills of the Bank of France. character is a vowel, and when consonants come to- Japanese. gether and vowels are omitted it is generally the case Finally, there is another alphabet, composed of made a contract with the company, by which the that the consonants in this relation are easily pro- Chinese characters greatly abbreviated, which is called latter is obliged to keep in stock for the bank 20,000 nounced, as shrano for shirano, though the rule has Yamato-kana, or "Japanese writing." It gives us an kilogrammes of pulp in one of the bank's large storemany exceptions. Meylan says that, unless born in Japan, it is impos- characters in Japanese. Yamato-kana is formed of kilogrammes more, while the bank itself has always sible for one to pronounce certain letters correctly. three characters, the first being an ancient name of a similar amount in its paper manufactory near Paris, This author adds that there are no pronouns in Japan- Japan. It is read Yamato, though written with the making in all 60,000 kilogrammes at all times availese, and that the words are declined by means of short, vowel sound i; the second, conformably with its mean- able. The price of the pulp is six frances per kilowords affixed. In fact, the preposition changes the ing in Japanese, is called na, or "name," and from name and character in Japanese, although it follows the combination of the two is derived kana, "syl- the notes made with this material are not only stronger than others, but they defy imitation. instead of precedes the word. As for the verbs, they lable," or "character." change neither in number nor person, but are modified We may add that, with the exception of the Kata-----A Good Idea, by time and voice. kana, these different alphabets are rarely employed $Owing \ to frequent \ complaints \ from \ America \ of \ swind-$ The language is very rich and copious, for not only alone. Generally the characters of three or four alphamay its writers employ its own resources, but they may ; bets are mingled together, without regard to any rule, also have recourse to those of the Chinese, and the two and this renders the whole much more difficult to de- one such firm has been broken up, and the United tongues are easily combined or separated, according to cipher. And, as if the difficulties were not already States embassy warns American inventors to be caugreat enough, Chinese characters are mingled here and tious in dealing with people in London offering to caprice. The Japanese have an alphabet of forty-eight letters, there with or without the indication of their meaning take out English patents.—American Machinist.

which may in one sense be doubled by means of signs at the side, all according to the caprice of the writer: There are at the present day some twenty-six well joined to the consonants to modify their sound and so that if we consider the number of signs of each of

The Japanese, like the Chinese, write in columns

which is regarded as appropriate to the use of men; use which the Japanese make of Chinese characters in the "Kira-kana," peculiar to women: the "Manyo- the running hand, as well as in the ordinary form, we there is a learned character used by the Chinese. All in making their language probably the most difficult characters. The learned, however, employ their own guage, the Japanese must have learned three or four "Kata-kana" to gloss works printed in Chinese thousand Chinese characters, and, with them, an incredible number of combinations, modes, and different alphabets. It will, therefore, be readily understood scholar is passed simply in learning to read and write. Chinese books are occasionally prepared for the Japanese public in their original form. The prefaces of books are frequently written in Chinese, while the body of the work is in Hira-kana, in which case the running hand is often employed. This greatly increases the

The Ramie Industry in France.

The United States consul at St. Etienne says, in commodious lodging quarters. A strong inclosure of in the southeastern portion of Corea) for the purpose a recent report to his government, that a French society was formed, some years ago, to develop the cultivation of ramie in Spain and Egypt, two counthe students here are from the Sorbonne. They make turn the ambassador brought with him the celebrated tries affording most favorable conditions of soil and collecting excursions in the small sailing vessels owned Wonin or Wang jin, who well accomplished the task climate. The Spanish proprietors willingly consented by the laboratories and carry on a variety of experi- confided to him. From the time of his arrival he was to the experiment; but, being absolutely without the ments under competent teachers. The second station charged with the education of two princes. At a later necessary means, they had to draw largely from the of the Sorbonne is at Banyuls, on the Mediterranean. period his descendants filled many important military treasury of the society, and, at last growing discour-The laboratories here are equipped much the same as stations, and his own merit appeared so great to the aged, the experiment was abandoned. In Egypt, at Roscalf. The bright colored fauna of southern seas, Japanese that they ultimately decreed him divine success was not greater. Although the plant took however, can be obtained only by diving, and a com- honors. Since the days of Wonin Chinese characters kindly to its new home, the cost of irrigation became have been constantly used in Japan. Nevertheless, very onerous, and, in the end, the society had to go since, as above stated, the Japanese language differs into liquidation, after having lost 4,500,000 francs. In at Marseilles, Ville-Franche, Arcachon, Sables d'Olonne essentially from the Chinese, and as the same character the meantime, a manufactory, for the spinning of and Wimereux. Each has some particular advantage of in Chinese has frequently very different meanings, it ramie thread, and converting it into tissues, such as was found necessary to effect important changes Con- sailcloth, table linen, curtains, etc., was organized at cently published research is dependent directly or in-sequently, at the beginning of the eighth century, an Avignon. The creditors of the society in liquidation, alphabet was formed from different portions of the believing that the ramie industry would succeed in Chinese characters, and named the Kata-kana, which the end, abandoned to a new board of directors the signifies "parts of letters." This is employed either at factory for a certain number of years, on the condition The interest now felt respecting the Japanese, whose the side of or directly intermingled with Chinese that a large portion of the dividend should be approprovess and success has been so marked in their war characters; at the side to indicate pronunciation or priated to the extinction of the debt, which amounted with the Chinese, induces us to give a brief review of meaning, and among them to point out grammatical to 600,000 francs. There is already, says the United the subject of their language, about which but little forms or idioms rendered difficult by the use of isolated States consul, every hope of success. Abandoning characters. Tradition attributes the invention of this all idea of establishing plantations in Europe, the The Japanese language was long regarded as being alphabet to a scholar named Kibi. After him flourished company imports the raw material direct from China, either a simple dialect of the Chinese, or, at least, as Koubo, the inventor of another alphabet having es-¹ where it has already passed through the first and having the same relation to it that Italian has to pecial application to the Japanese without relation to somewhat incomplete operation of decortication. On its arrival at the factory, it is passed a second time On the subject of the invention of the third alpha- through a decorticating machine, of which M. Favier, understand written Chinese, it is true, because Chinese bet, the Japanese tell us that in the year 1006 A. D. a the manager of the company, is the inventor, and characters form a part of several systems of writing Buddhist priest named Ziakou-so left Japan for the finally relieved of all the glutinous matter by a chemused in Japan. This is intelligible enough when we purpose of bearing the annual tribute to China. He ical process, of which M. Favier keeps the secret, but reflect that the Chinese characters' represent, not letters, could not speak Chinese, but, as he wrote it very well, which is supposed to consist of a weak alkaline soluor sounds without meaning, which are simple elements he was recommended to prepare a list of Chinese tion, in which the fibers are boiled. It is then spun constituting words, but the words themselves, or rather characters with their signification in Japanese. On into thread, when it is ready for manufacturing the the ideas which these words express; and, consequent- this occasion he composed forty-seven letters for the articles already mentioned. The factory employs at ly, they ought to communicate the same ideas, even use of his countrymen, and which were adopted be- present about 200 hands, men and women, and the business done represents a value of about 1,000,000 stand the meaning of the characters. It is thus that hist) consisted of as many. A forty-eighth syllable was frances (£40,000) annually. Manufactured ramie is a little dearer than cotton or linen goods, but its durability is said to be threefold that of the latter. It is claimed that it will always preserve the original gloss. The factory does not, it is said, intend to continue the manufacture of tissues, but will confine on the subject of the Japanese. The learned Klaproth, nary form, and equally in running hand. Many charac-¹ its business to spiuning, so as to furnish the large in Asia Polyglotta, states that this language differs ters are employed at different times to indicate the weaving industries with thread. The actual price to such a degree from every other in its construction, same syllable. It may be remarked that the Chinese of the thread ranges from 4 to 12 frances per kilogrammar, and other characteristics, that we might characters which compose this alphabet, as well as gramme (from 1s. 6d. to 4s. 6d. per pound), but the justly conclude that the people by whom it is spoken those of all the others, do not invariably express the company asserts that as soon as the cultivation Chinese sound of the words which they represent. of ramie becomes developed in other countries (South This bank has example of one of the methods of employing Chinese rooms at Marseilles, and to have on hand 20,000 gramme (about 50 cents per pound), and it is said that

ling operations by alleged patent lawyers in London,

Baron Soll's Discoveries.

Baron Soll's expedition in 1893 to Arctic Siberia and the New Siberian Islands has proved to be one of the most successful explorations of recent years. The As a rule they have returned laden with costly speciresults of the expedition include over 3,000 miles of survey based upon thirty-eight positions astronomically determined, some nine months of meteorological observations in the tundras, in a series of important measurements of elevation above the sea along the whole route, many interesting photographs and rich collections of botanical, zoological and ethnological specimens. In the New Siberian Islands Baron Soll found under the permanent ice a sedimentary deposit containing pieces of bones of mammoths and other post-tertiary mammals, and complete trees fifteen feet long, with leaves and cones.

This is conclusive proof that when the mammoth wandered over Europe and Asia, trees and vegetation reached to the seventy-fourth degree of latitude, thus making its northern limit at least 200 miles north of its present boundary line. The discoveries include much of interest to geologists concerning the position of Siberian glaciers and the many varieties of fossils to be found beneath them.

The achievements of this expedition prove that the most desolate regions of ice and snow are fertile fields of study to the intelligent investigator.

.... Consumption in Dairy Herds.

The agricultural experiment station connected with the University of Vermont publishes a valuable report on the eradication of "consumption" in dairy herds. The experiment station in which these tests were made is supported in part by the State and is in charge of the university professor of agricultural chemistry. The report shows that during the past year the tuberculin test has been applied more than 1,000 times and that the presence of the disease was indicated in 222 of these animals. After these had been killed it was found that 220 of the 222 were unmistakable cases of tuberculosis. Tests applied to the cattle throughout the State of Vermont showed that only 39 "consumptives" existed in 81 herds, which contained in all 662 animals. This is less than 6 per cent and is considered a very good showing. It was found that in 24 per cent of the infected cows that were killed the disease had become

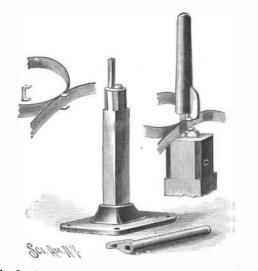


Fig. 2 .- TOOL FOR APPLYING FASTENING CLIPS.

developed in the udder. In accordance with the recent decision of the cattle commission, an inspection was made in Massachusetts which showed that a considerable number of the animals brought to the cattle markets in Brighton and Watertown were tuberculous. Out of 241 animals tested 25 were found to be diseased. The percentage of nearly 10 per cent in this case is dangerously large when it is considered that these cat- water ruins it); it is then gradually bleached, as when tle are sold for wholesome beef. In the future all first gathered it is of a light green color, and in the cattle received at these stations will be carefully examined.

Report of the New York State Fish Commissioners.

VENETIAN OR BENT IRON WORK.

This beautiful work, now so popular, has been admired by all visiting the sunny shores of the Adriatic. mens of the art.

These objects, which at first sight appear so intricate and difficult, can easily be made by any one possessing the requisite tools.

On examining the work it will be found to consist of



clasp the pieces at their points of contact. The an S, a C, or some modiproduce the desired pattern.

the required length, after which the ends

Fig. 1.-TOOL USED FOR BEND apparatus shown in Fig. 1, the form being ING THE SPIRALS. adjusted to produce a

spiral of the required size. It is the custom with the modern Venetian workman, as with his forefathers, to coil these strips with a pair of pliers. This method requires an expert with that tool to produce a spiral that is at all symmetrical. After the spirals are formed a binder is bent and clasped around the piece, but this fails to bind them tightly, the pliers being the only tool they use for the purpose.

Messrs. A. F. Weed & Co., 106-108 Liberty Street, New York City, have popularized this work and place it within the reach of every one by the introduction of their special patented tools, designs and material, which enable the amateur to produce these beautiful pieces in the shape of candlesticks, candelabra, photo frames, grilles, brackets, lamps, hanging lanterns, etc., which excel in symmetery and strength the work produced by the Venetian artisan.

A perfect spiral is produced by the Weed apparatus by inserting the strip as shown, and turning the handle forward one and one-half revolutions. Three different size spirals can be made by using the different attachments.

The Weed binding tool for applying the fastening clips, and the manner of using it, are illustrated in alum wash should Fig. 2. The parts, including the fastening clip, are be applied in the placed on the binding tool and a few light taps on the same way, except plunger fasten the parts securely together.

The iron for making the spirals is drawn with slightly rounded edges to prevent injury to the fingers, and to impart a desirable finish.

A specimen of one of the many forms of work that may be made by the Weed tools is shown in one of the engravings.

Irish Moss,

A little town, known as Jericho, in Massachusetts, seems to be the center of this industry. We gather these notes from a paper which was printed lately in the Boston Herald.

Boys, men and womenall engage in the work, which consists spreading it upon the beach prepared by raking all the dirt, stones and driftwood away, and leaving a fine bed of white sand; when the weed is first brought in by the boats, each of which gets about a barrel and a half. it is taken upon creels, a sort of barrow, and spread out upon the beach; it is turned over daily as in hay making, for the space of two weeks; each morning it is washed in clean sea water (fresh course of a few weeks becomes successively red, pink, and finally nearly white.

Stormy weather is a great drawback to the mosser's work. Some of the moss that the storms tear loose destruction of the eyesight of the person injured. The American Journal of Pharmacy says : A druggist was and scatter upon the rocks is gathered and classed as The annual report of the State Commissioners of hand picked, bringing generally a quarter or one-half experimenting on the action of ammonia water with oxide of silver, and had left the mixture in a porcelain capsule covered with water and a glass stirring rod in Should a spell of rainy weather come on during the the capsule. A salesman coming into the store thoughtlessly took up the rod and without agitation was replacing it in the capsule when a violent explosion occurred, shatterheaps. ing the capsule, pieces of which struck him in the face. Two crops are obtained each year, the first one being causing damage which it was feared would result in little black vegetable growth called glut, caused, it is the loss of one or of both eyes. Prompt treatment, said, by the warmer water of August days. however, warded off the threatening mischief. The product obtained by the action of ammonia on silver oxide, known as "Berthollet's fulminating Another Mastodon. silver," is a dangerous article. When dry, it explodes The bones of a mastodon have been found recently on the Rupel farm, near North Liberty, Ind., in clay violently on the slightest percussion, or even when soil, 8½ feet below the surface. Above was sand and touched with a feather. The black crystals, having a gravel. The tusks were 8½ feet long, and the teeth metallic luster, decompose violently with detonation weighed from $5\frac{1}{2}$ to 6 pounds apiece. About one-fourth when the liquid containing them is shaken. of the bones of the animal were dug out, and are on The exact composition of the compound has not yet been ascertained. exhibition in North Liberty.

Reform Printing Bill.

The reform printing bill, which provides for the public printing, binding and distribution of public documents in a new and much more efficient manner than heretofore, was passed in the House of Representatives recently, and its passage in the Senate is expected in the near future. The new law will con siderably lessen the cost of the public printing and binding. Its most important work, however, will be strips of iron bent into spirals and fastened together in bringing about a more intelligent distribution of with binders which government publications. Copies of these will be placed in depositories throughout the country, where they may be readily obtained and consulted by every spirals in nearly all one. The bill further provides for the distribution cases have the form of among public libraries of all the old United States documents which have been accumulating for years fication thereof, and and at present take up much valuable space at Washthese being fastened in ington. These number upward of 1,000,000 volumes, different combinations and in the future they will not be allowed to accumulate. The bill includes a further provision for the publication of a monthly catalogue of current pub-The strip is first cut lications, giving the price of each and the place where it can obtained, and also for an index of the publications ordered at each session of Congress. It is estimated are coiled by the simple that the enactment of this law will result in an annual

saving of several hundred thousand dollars.

To Prevent Dampness in Walls.

The following method of preventing dampness in walls is said to give very favorable results. Two preparations are made by dissolving castile soap in water in the proportion of three-quarters of a pound of soap to one gallon of water, and by making a solution of alum in the proportion of one-half a pound to four gallons of water. Both solids should be thoroughly dissolved before using. The walls to be coated should be perfectly dry and clean, and at the time of applying the preparation the temperature should not exceed fifty degrees F. The first or soap wash should be laid on when boiling hot with a flat brush. Care should

be taken to form a froth on the brickwork. This wash should be allowed to remain twenty-fourhours to become thoroughly dry and hard before the second coat is applied. The that the temperature of the solution need not be more than sixty or seventy degrees F. Another twenty-four hours should elapse before the second coat of soap should be put on. After this the two preparations should be applied alternately until the walls are rendered impervious to water. The combination of alum and soap forms an insoluble



Fig. 3.-BENT IRON CANDELABRA.

compound that fills the pores of the surface and effectually excludes all moisture.

A Dangerous Experiment.

An explosion occurred in a drug store in Philadelphia recently, resulting in an injury which came near to the

Fisheries for the past year states that the output of | cent per pound more than that gathered in the usual fish exceeded by eighty per cent the output of the pre- way for commerce. ceding year. This is especially gratifying, since the work was accomplished without expending more season of gathering, heavy unbleached muslin covers money than in previous years, or in employing more are used to protect the moss, which is packed up in workmen. A large part of the fish hatched were food fishes. The following figures will give some idea of the magnitude of the work. The total number of fish the better; the late crop is liable to be injured by a fry distributed during the year was 136 000,000. Of these, 2,982,500 were brook trout, 565,000 California trout, 5,415,000 lake trout, 18,112,000 whitefish, 12,012,000 ciscoes, 2,976,000, muskallonge, 22,603,000 smelts, and large quantities of salmon, lobster, black bass, yellow perch, carp, tom cods, and other less important varieties. The commissioners in closing their report state that at present there are as many hatcheries as can be worked to an advantage and that the legislature should refuse to grant any money to establish new ones.