

Scientific American.

ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors
PUBLISHED WEEKLY AT
No. 361 BROADWAY, NEW YORK.

O. D. MUNN. A. E. BEACH.

TERMS FOR THE SCIENTIFIC AMERICAN.

One copy, one year, for the U. S., Canada or Mexico. \$3 00
One copy, six months, for the U. S., Canada or Mexico. 1 50
One copy, one year, to any foreign country belonging to Postal Union. 4 00

The Scientific American Supplement is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octavo pages, uniform in size with SCIENTIFIC AMERICAN. Terms of subscription for SUPPLEMENT, \$5.00 a year, for the U. S., Canada or Mexico. \$6.00 a year to foreign countries belonging to the Postal Union. Single copies, 10 cents. Sold by all newsdealers throughout the country. See prospectus, last page.

LA AMERICA CIENTIFICA E INDUSTRIAL (Spanish trade edition of the SCIENTIFIC AMERICAN) is published monthly, uniform in size and typography with the SCIENTIFIC AMERICAN. Every number of La America is profusely illustrated. It is the finest scientific, industrial trade paper printed in the Spanish language. It circulates throughout Cuba, the West Indies, Mexico, Central and South America, Spain and Spanish possessions—wherever the Spanish language is spoken. \$3.00 a year, post paid to any part of the world. Single copies 25 cents. See prospectus.

LA AMERICA CIENTIFICA E INDUSTRIAL (Spanish trade edition of the SCIENTIFIC AMERICAN) is published monthly, uniform in size and typography with the SCIENTIFIC AMERICAN. Every number of La America is profusely illustrated. It is the finest scientific, industrial trade paper printed in the Spanish language.

The safest way to remit is by postal order, express money order, draft or bank check. Make all remittances payable to order of MUNN & CO.

NEW YORK, SATURDAY, APRIL 9, 1892.

Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as Agricultural inventions, Air compressed, Aluminum as a coin, Astronomical lecture, Bicycle, Capillarity experiment, etc.

TABLE OF CONTENTS OF

SCIENTIFIC AMERICAN SUPPLEMENT

No. 849.

For the Week Ending April 9, 1892.

Price 10 cents. For sale by all newsdealers.

Main table of contents listing articles by Prof. Albert Logg, H. M. S. Eberheim, H. M. S. Eberheim, etc., with page numbers.

PROPOSED DISCRIMINATION AGAINST FOREIGN INVENTORS.

A dispatch from Washington says, at the request of the House Committee on Patents, General Berdan has prepared and submitted to the committee a bill to equalize the cost of patents to inventors in the United States and in foreign countries.

The idea of compelling Englishmen to pay more for patents in this country than our own citizens, because the British fees for patents are larger than ours, is very old. Under the law of 1836 and up to the year 1861, the subjects of Great Britain were required to pay \$500 on filing an application for an American patent, and all other foreigners \$300.

In 1861 this law discriminating between the inhabitants of the United States and those of other countries was repealed, and the same fees were established for all applicants, namely, \$15 on filing the application for patent and \$20 payable in the event of an allowance of the patent.

Prior to the year 1861, the number of patents granted to Englishmen was quite small, varying from twelve to twenty patents in a year. Dating from the reduction of fees in 1861 to the present time, the yearly number of patents to Englishmen has gradually increased.

The total number of American patents issued in 1891 was 23,244. It will thus be seen that the ratio between patents granted to Englishmen and other foreigners, as compared with the total number of issued patents, is very small.

The theory upon which we grant patents, and the object of our patent laws, is the promotion of useful arts and industries, not the taxation of inventors. The aim of our patent law is to encourage the study and development of new inventions whereby multiplied and diversified forms of novel industries are made accessible to the people.

The larger the number of patents granted, the greater will be the number of new industries established, and our measure of prosperity correspondingly increased. As a people we have everything to gain and nothing to lose by encouraging inventors, no matter where they live or where they were born.

The proposed bill we regard as unnecessary and uncalled for. It is unwise. It is legislation for the repression of industry and inventive genius.

ARTIFICIAL PROPAGATION OF LOBSTERS.

During the past ten years there has been a great falling off in the supply of lobsters, until the price has increased fully one hundred per cent. This applies alike to the New York market, to the waters along the New England coast and in Canada and Newfoundland.

Marshall McDonald, who is at the head of the United States Fish Commission, says: "I have always felt that the maintenance of the lobster fishery rested more essentially upon proper regulation of the matter by the States than upon any efforts in the way of artificial propagation."

marked improvement in the lobster fisheries during recent years."

A law was enacted by the New York Legislature in 1880, prohibiting the taking of lobsters smaller than ten and a half inches, but it was repealed, largely, it is said, by reason of the efforts of a hotel keeper in New York City with political influence, who was determined to serve small lobsters on his table, regardless of the effect of rescinding the regulations.

The difficulty of securing legislation on this subject of enforcing the laws when they are enacted, and preventing their repeal through the efforts of persons who have no regard whatever for the consequences of their acts, compels those who desire to see the supply of this wholesome food fish kept up to look to artificial propagation as the most available method for securing the object desired.

In the volume entitled "The Fishery Industries of the United States," by G. Browne Goode and associates, the following statement is made regarding the cultivation of lobsters:

"The artificial propagation of lobsters has been rarely attempted, either in this country or in Europe, and in no case are we aware of its having been productive of satisfactory practical results. There are so many difficulties to overcome in an undertaking of this character, and the breeding habits of lobsters are so imperfectly understood, that it is not surprising that greater progress has not been made in materially aiding the increase in supplies by artificial culture, as in the case of the oyster and of many of our true fishes."

Since the above opinion was expressed considerable success has been achieved in the line of artificial propagation. The United States Fish Commission's hatchery at Wood's Holl, Mass., provides about three million young lobsters each year, and these are all placed in Vineyard Sound and Buzzard's Bay, owing to the impoverishment of the species in that vicinity.

For three seasons lobsters have been hatched in small numbers at the station of the New York Commission, Cold Spring Harbor, L. I. Last season 27,700 were placed in the water at that point. The embryos are very delicate, and when lobsters are placed on ice, as many are which come to market, the embryo is generally ruined for hatching purposes.

Fred. Mather, superintendent of the Cold Spring hatchery and a man of wide experience in fish propagation, said recently that lobsters were not only decreasing in numbers, but also in size. A two pound lobster was now considered a fair average.

New York is next to the largest receiving market for lobsters in the country, yet the lobster fisheries within the boundaries of the State are not now important, and are confined to eastern Long Island. In former years lobsters were found in large numbers in New York Bay and at Hell Gate. The disappearance of this food fish is due mainly to over fishing, but also to the establishment of manufactories, which have polluted the waters.

Lobsters are sold in New York during the entire year, but the demand is five times greater during July, August, and September than during any other three months of the year. The demand is the least during February and March. The consumption of lobsters at Coney Island in summer reaches 3,500 pounds a day.

The experience on the coast of Maine seems to be similar to that already stated. In 1890 twenty million of lobsters were taken, which was a falling off of five million or twenty per cent from the catch of 1888 and ten per cent from 1889. There has also been a steady decrease in the size of the fish sent to market. During 1889 and 1890 the average length of lobsters offered for sale was 10 1/2 inches and the average weight two pounds.

Considerable progress has been made by the Newfoundland Fisheries Commission in the way of lobster propagation. The work was taken up two years ago when the methods of the United States Fish Commission were adopted and their experience was made serviceable. A hatchery was located at Dildo Island. In the summer of 1889 4,039,000 lobster eggs were hatched, and the young lobsters planted around the head of Trinity Bay, the eggs having been obtained from lobster packing establishments in the vicinity.