THE NEW FOOD FISH.—(*Sebastes dactyloptera.*)

Mention was made last week of the discovery by Captain Collins, in the service of the United States Fish Commission, of a new and promising food fish. The fish was taken, it will be remembered, while trawling for tile fish in deep water off the south coast of Long Island.

At the National Museum, in Washington, the fish was recognized as the *Sebastes dactyloptera*, young specimens of which were taken in great abundance by the Fish Hawk, off Newport, R. I., in 1880, along the edge of the Gulf Stream, in 100 to 150 fathoms of water.

The fish recently taken were the first adult specimens caught off the American coast. Professor Goode states, however, that the fish is found in great abundance around the Madeira Islands, where it is popularly known as the "catseye," and highly esteemed as a food fish. In general appearance it closely resembles the red perch or Norway haddock, which is so plentiful along the coast of Maine The fish run from two to three and a half pounds in weight.

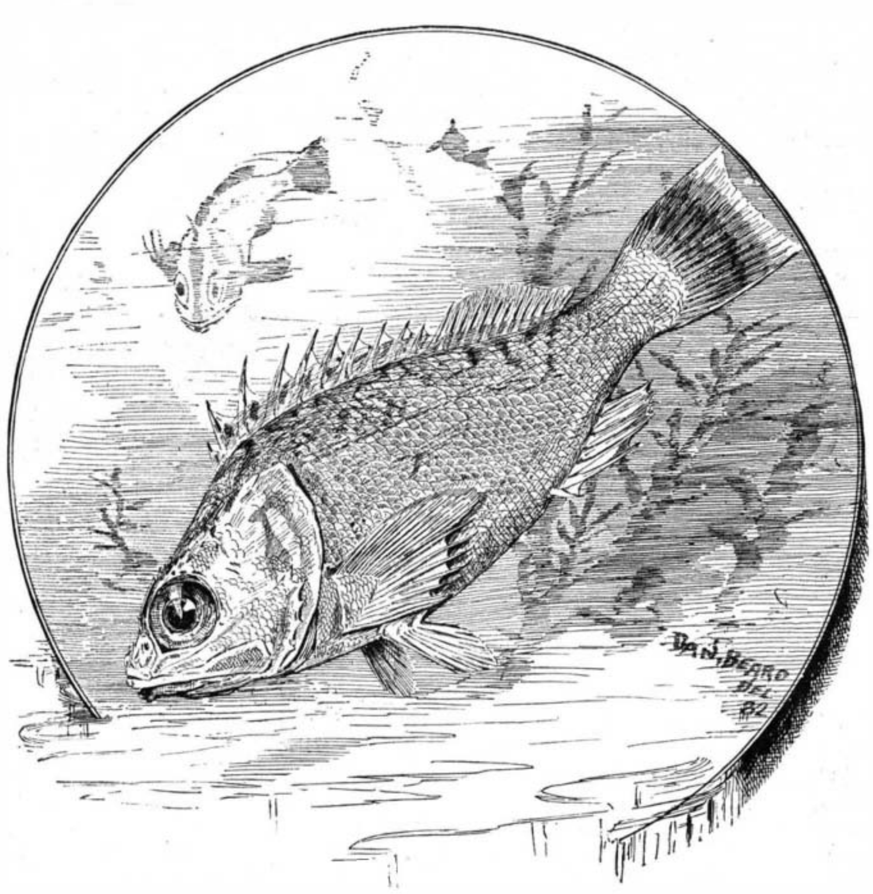
The engraving herewith is from a fine drawing by Daniel C. Beard, of the specimen in the possession of Commissioner Blackford, at Fulton Market. Mr. Beard describes the fish as follows:

The specimen Mr. E. G. Blackford has is rather smaller than the average, some of the fish weighing four pounds or over. Mr. Blackford, with his usual good nature, not only allowed me the use of his office, but had his specimen of the new fish removed from the glass jar that I might be enabled to make an accurate drawing of it. The alcohol had bleached the brilliant red color of the fish until it appeared of a light orange tinge; irregular small brown spots are scattered over the top of the head, back, and sides, above the lateral line, as far as the termination of the second dorsal fin. A few spots are scattered sparsely over space below the lateral line and above pectoral fins. The pectoral fins are no longer "blood red," but have a faded orange color, with a touch of lake on the lower rays. The belly is inclined to a light purplish lake, and the ventral fins are of the same color. The tail seems to retain its color better and is still of a brilliant goldfish red. From tip of nose to end of tail Mr. Blackford's alcoholic specimen measured 10 inches; from tip of nose to end of operculum, 3¾ inches; perpendicular distance through body at second spine of first dorsal fin, 3½ inches; thickness or horizontal distance through body at pectoral fins 2¼ inches. Head large and ornamented with small spiny points; very large eyes, 1 inch in diameter, situated half an inch above the mouth, and extending to the top of the head. Three diagonal parallel spots of brownish color on the top of the eye; operculum triangular in form, with apex upon a level with the eye; center of operculum marked by a dark bluish spot; outer border of operculum fleshy; two small spiny points respectively two-eighths and five-eighths of an inch below apex of gill cover; scales at irregular intervals. Bony ridge ornamented with seven spiny points commences at a point half an inch in front of first dorsal fin, runs down face, separating top of eye from top of head, and joining another ridge on nose; this second ridge runs back, forming the lower edge of the orbit, and terminates at the second spine of the preoperculum; two small spiny points in front of nostrils. Length of mouth, 1¾ inches. Fine teeth upon upper and lower jaws; fleshy space in center of upper lip, destitute of teeth; a small protuberance on lower jaws fits in this space when mouth is closed. Preoperculum covered with small scales; lower edge armed with five bony points. Five branchiostegous rays. Fins: first and second dorsal joined, and lower parts enveloped in integument; first dorsal composed of ten spines; second dorsal, one spine and twelve soft rays; at highest point fin is one inch above back; pectoral fins composed of nineteen soft rays, the lower eight of which terminate in flexible points free for distance of from a quarter to three quarters of an inch; length of fin, 2 inches; breadth of fins at base, 1$\frac{1}{16}$ inches; breadth at outer edge when expanded, 2 inches; ventral fin situated below and ¼ inch back of base of pectoral fins, one hard spine and five soft rays; anal fin located 6 inches from tip of nose and 1½ inches back of anus, composed of two hard spines and five soft rays; caudal fin is 2 inches long and 1 inch perpendicular width at base; small scales extend between rays to a point within three-eighths of an inch of top of tail; when expanded tail measures 1¾ inches, very slightly notched. Lateral line commences at the termination of bony ridge above eye, with three spiny points following the edge of the gill cover; it curves down from the apex of the operculum to a point three quarters of an inch below the sixth dorsal ray; thence it runs in almost a straight line to neck of tail half an inch below dorsal fin; thence parallel to neck of tail to point where caudal rays commence.

IN St. Petersburg the snow is thrown into pits and melted by steam.

Pier Building in Paris.

An interesting expedient was successfully used for laying the foundations for the new dry goods store, the "Printemps," now building in Paris on the site of the one destroyed by fire last year. The new structure is to be entirely fire-proof, and although the disposition of the upper stories made it advisable to plan the foundation in a series of piers, it was necessary, says the *Amer. Architect*, to make these piers very firm, and carry them down to a stratum of unquestionable solidity. The ground under the site was, however, of a character very ill-adapted for deep excavation. It was a loose sand, saturated with water, and although the firm rock was found about six feet below the water level, any removal of the sand for trenches was sure to be followed by caving in of the sides, and very probably by the undermining of the adjoining buildings. It was therefore decided to employ for depositing the piers a modification of the caisson and airlock now used in bridge building. Tubes of sheet iron, six to nine feet in diameter, and about six feet long, were provided, in number equal to that of the piers to be constructed. Each of these had at the top a projecting flange, by which it could be bolted to a hollow cone, also of sheet iron, the joint being made tight with India-rubber. This cone had a man-hole door at the top fitting air-tight, and over it could be placed a second cone, which was bolted to it, and also had an air-tight door. The space between these two cones formed the air-lock. The caisson tubes were first placed in position, and the double cone was set up over one of them, and when all was made tight the workmen placed inside began to excavate under the rim of the tube. As this sank by its own weight, air was pumped into the cones in sufficient quantity to force back the water which would otherwise enter beneath, and the laborers thus worked in dry ground until the caisson had sunk to its hard bed. The excavated material, instead of being thrown out, was deposited in the bottom of the air-lock, occupying the narrow space between the lower part of the outer and inner cones. When all was excavated, a "beton tube," consisting of a small, separate air lock, with double doors, was attached to the man-hole of the upper cone. This was alternately filled with concrete through the upper door by workmen outside, and emptied into the bottom of the caisson by men stationed in the air-lock between the two cones, who opened the door of the lower cone simultaneously with the lower door of the beton tube. The laborers in the caisson spread and rammed the concrete as it fell, until the pier was complete; then they ascended to the outer air, the bolts were loosened, and the beton tube and the upper cone were lifted off. The removal of the upper cone allowed the excavated material, which had been deposited in the bottom of the air-lock, to slide quietly off on all sides, and the inner cone was then lifted and carried away, to be replaced on top of the next caisson. This ingeniously simple contrivance answered its purpose admirably, and the time occupied for building each pier, including all the adjustments of the cones and tubes, was only about twenty-four hours.



THE NEW FOOD FISH.—(*Sebastes dactyloptera.*)

Waterproof Leather.

The fat having been removed, the clippings are mixed with starch paste, some gum arabic, and about one per cent alum, and pressed into plates. It is then treated with a solution of soda soap, and pressed again. Thus it becomes impregnated with fatty aluminous compounds. Greased leather clippings are first to be treated with sodium silicate or caustic. The resulting soap is then rendered insoluble by impregnating with alum or zinc sulphate.—*E. Polluk.*

Warm Milk a Health Restorer.

Considerable has been lately said in medical journals concerning the value of warm milk as a remedial agent in certain diseases. The *Christian at Work*, referring to an interesting article on this subject which lately appeared in the London *Milk Journal*, states, on the authority of Dr. Benjamin Clarke, that in the East Indies warm milk is used to a great extent as a specific for diarrhea. A pint every four hours will check the most violent diarrhea, stomach-ache, incipient cholera, and dysentery. The milk should never be boiled, but only heated sufficiently to be agreeably warm, not too hot to drink. Milk which has been boiled is unfit for use. This writer gives several instances in arresting the disease, among which is the following:

The writer says: "It has never failed in curing in six or twelve hours, and I have tried it, I should think, fifty times. I have also given it to a dying man who had been subject to dysentery eight months, latterly accompanied by one continued diarrhea, and it acted on him like a charm. In two days his diarrhea was gone; in three weeks he became a hale, hearty man; and now nothing that may hereafter occur will shake his faith in hot milk. A writer has also communicated to the *Medical Times and Gazette* a statement of the value of milk in twenty-six cases of typhoid fever, in every one of which its great value was apparent. It checks diarrhea, and nourishes and cools the body. People suffering from diseases need food quite as much as those in health, and much more so in certain diseases where there is a rapid waste of the system. Frequently all ordinary food, in certain diseases, is rejected by the stomach, and even loathed by the patient; but nature, ever beneficent, has furnished food that in all diseases is beneficial—some directly curative. Such food is milk." The writer in the journal last quoted, Dr. Alexander Yale, after giving particular observations upon the point above mentioned, its action in checking diarrhea, its nourishing properties, and its action in soothing the body, says: "We believe that milk nourishes in fever, promotes sleep, wards off delirium, soothes the intestines, and, in fine, is the *sine qua non* in typhoid fever."

We have lately tested the value of milk in scarlet fever, and learn that it is now recommended by the medical faculty in all cases of this often very distressing children's disease. Give all the milk the patient will take, even during the period of greatest fever. It keeps up the strength of the patient, acts well upon the stomach, and is in this way a blessed thing in this sickness.

Inventors in the Market.

One of the secrets of the rapid progress of invention in modern days is the practical encouragement afforded it in the publicity attaching to any improved devices, and the readiness with which capital can be secured for any solid advance in chemical science and constructive art. A new machine brought out, if of sterling merit, being widely advertised, creates in this country a wide demand. A host of our leading manufacturers are solely dependent upon the growth of the demand for machines made in numbers. There are many mechanic productions which, so long as the demand is limited, cannot be made profitably by expensive machines, and hand labor is resorted to. There are plants which will not pay unless thousands and even tens of thousands of given articles are turned out. We need scarcely remark that inventions that come into such general use as to justify a large outlay of capital in production are such as meet well defined and general needs, particularly in removing previous imperfections, doing work better, and saving labor. An inventor often makes an improvement which is not important enough to justify any great investment of capital in pushing it. Further, a host of patents are taken out which do not rank higher than variations in form and processes, without compensation in the better accomplishment of results. Many inventions are made by chance, but most can be traced to men who, with suggestive minds, have a good knowledge of the class of work to which their inventions pertain, and have discovered the mode of securing better results either in more work or doing this more efficiently and economically. All invention may be traced to single-handed intermittent individual enterprise. Such are the facilities of bringing inventions forward that the world is wisely disposed to judge the merits of inventions by the extent of their acceptance.—*The Trade Review.*

Electric Lighting on the Pennsylvania Railroad.

The Pennsylvania Railroad Company have taken the lead in experiments looking to the adoption of electric lamps for passenger cars. The electric storage is accomplished by the use of secondary batteries underneath the floor of the cars, thirty cells of battery furnishing current for six Edison lamps for seventeen hours. Test experiments made September 19 are said to have been very satisfactory to the officers of the company.