

The little projections or feet at the conical end of the glass tube should be accurately ground so as to compel a uniform current to flow from all points of the base of the tube. The capacity of the jar in question may be stated as 150,000 eggs of the *Coregonus albus*.

At the present writing, I have a jar containing 40,000 eggs of the whitefish, which are hatching very rapidly. These are the oldest eggs on hand, and their speedy development was brought about by an accident. The main conducting pipe sprung a leak, which interrupted the water supply of the jar for a few moments only; but as soon as the water was turned on again from another pipe, these eggs immediately began hatching by the thousands. This shows that when the eggs are nearly developed, their constant movement in the jar must not be checked if it is thought advisable to detain the appearance of the fry for the longest possible period. These eggs, however, were nearly mature, and the fry therefrom are lively and vigorous.

Yours, very truly,

FRANK N. CLARK.

Prof. S. F. BAIRD,

*U. S. Commissioner of Fish and Fisheries, Washington, D. C.*

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**COAL ASHES AS A MEANS OF RAISING MACKEREL IN PURSE SEINES.**

**By S. J. MARTIN.**

Sometimes, when there is a large school of mackerel in the seine, they are heavy on the bottom of the seine, so that it cannot be easily handled. In such a case heave a bucket of coal ashes in the seine, and that will bring the mackerel to the surface. Captain Coas, of schooner John S. McQuinn, told me he had three hundred barrels of mackerel in his seine and they lay so heavy on the twine that he could not move the seine with twelve men hauling on the twine. He threw a bucket of coal ashes in it, the mackerel came to the surface, and they could then easily haul the seine. All the vessels that have tried it say it works well. The cook saves the coal ashes.\*

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**METHOD OF USING WILLARD'S PATENT POCKET FOR MACKEREL.**

**By S. J. MARTIN.**

Capt. S. J. Martin, Gloucester, Mass., writes in his journal, under date of June 30, 1881:

"I will explain how *Willard's Patent Pocket* is used for mackerel. In the first place, there are two out-riggers 9 feet long and 4 inches through;

\*NOTE.—Ashes have been used, so Mr. Merchant tells me, for several years, but is thrown outside of the seine instead of into it, as Captain Martin thought. The object is to frighten the fish by making the water white, when they rise to the surface. The same result is obtained by the menhaden fishermen by giving a few quick turns of the propeller. The fishermen call it "whirling them up."—J. W. Collins.

one of the out-riggers goes into the rail at the main rigging. There is an iron plate on the rail. What the fishermen call a 'goose neck' is on the inner part of the out-rigger that goes down through the iron plate on the rail. The forward out-rigger is forward of the fore-rigging and is fixed the same as the after one. There is a guy on the end of the out-riggers to keep them steady. The guy on the after one leads aft, and the guy on the forward one leads forward. The length, the distance between the out-riggers on board of a ninety-ton vessel, is 32 feet. The mouth of the bag is 33 feet wide; it is fastened on the out-rigger to within 4 feet of the end. There are stops on the out-riggers to fasten the pocket on. The inner part of the pocket is made fast to the rail of the vessel between the two out-riggers. There is a block on the outer part of the out-rigger. A block is made fast to the rigging, half way up the mast, that forms a tackle to the outer end of each out-rigger. When the seine has mackerel in it, the pocket is made fast to the inner part of the seine, the out-riggers are lowered down to the edge of the water and the mackerel are poured into the pocket. The pocket will hold two hundred and fifty barrels of mackerel. It is made of stout twine,  $1\frac{1}{2}$ -inch mesh. Some of the vessels have dressed a whole trip out of the pocket. When the mackerel are in the pocket, the seine is ready for a new school. All the seiners are having pockets made. All rigged, the pockets cost \$80. The size of the pocket is 8 fathoms deep, 32 feet wide, 14 feet long.

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#### FIRST APPEARANCE OF FISH AT GLOUCESTER, 1881.

By CAPT. S. J. MARTIN.

The herring came May 5, and were small. May 6, the large herring came. May 13, the first mackerel caught in trap at Kettle Island, thirteen in number. The first tautog were caught May 13 in the trap at Kettle Island. The first perch caught May 8. Flounders and sculpin first caught April 21. The small pollock came in the harbor May 2. Alewives first caught May 13. The first menhaden caught off Long Branch May 6, by Gallup & Holmes' steamers, of New London; 800 barrels taken in one day. Finback whales have been plenty since the first of April. Schooner Alice, of Swan's Island, was in Boston Monday, with 30,000 mackerel, caught off Block Island. The mackerel are coming east fast and are of good size. Pollock are plentiful at Chatham. Two vessels got 35,000 pounds each with seines; they were schooling on top of the water, the same as mackerel.

GLOUCESTER, *May 18, 1881.*