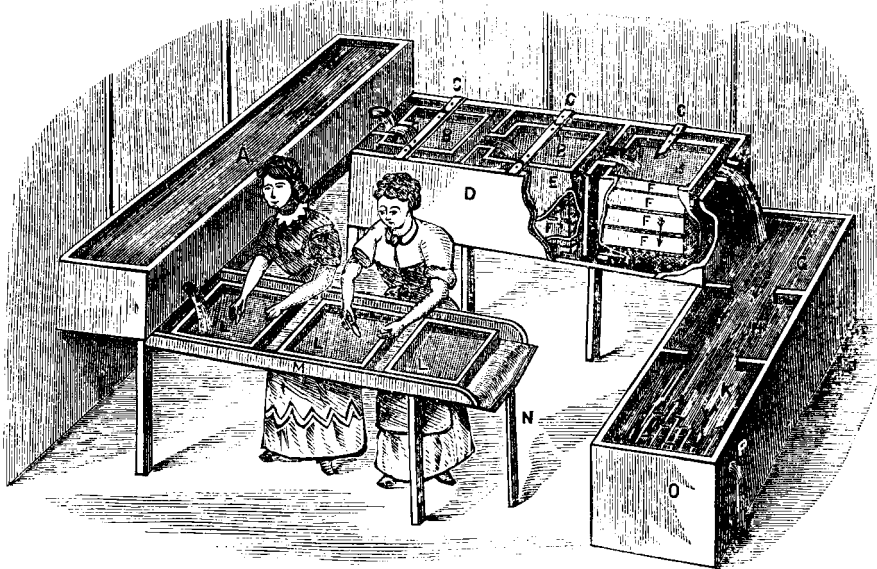


the appointment of proper officers to carry these laws into effect, with proper appropriations to provide for a new, and we hope, hereafter, an inexhaustible food supply. In this connection it is a pleasure for us to illustrate the latest improvement in artificial fish-hatching boxes, with a suitable construction for the rapid separation of the dead eggs, with necessary and suitable tanks and sluiceways for storing the fish when hatched, and separating them from the shell of the eggs.

That the artificial propagation of our best food-fishes is of the greatest benefit to the human race in the most rapid and cheapest manner possible, is universally admitted by all thoughtful minds. That this desideratum has been accomplished to the fullest extent is also admitted by highly scientific and practical fish breeders who have witnessed the operation of this valuable improvement, which has been in operation on a large scale at Clarkston, Michigan, during the past year. An examination thereof is earnestly solicited, knowing full well that all who have an interest in this great work of replenishing our exhausted waters with the best varieties of food-fish will adopt this method over all others now in use.

This invention consists in the construction of a suitable building, at one end of which, nearest the water supply, are tanks, containing many barrels of water conveyed through faucets from spring or lake, as the nature of the eggs to be hatched may require, which passes through flannel screens, and is thus filtered from all sediment before entering the troughs containing the hatching-boxes. These troughs are about one foot (or more, as the case may be) in width and ten inches deep, each of them containing a series of water-tight compartments, which contain the same number of boxes of less dimensions, also water-tight, except the bottoms, which are covered with finely-perforated copper or brass wire cloth to prevent the eggs or fish from escaping when hatched out.



These last boxes are filled with several screens, each containing many thousand eggs, and may be of sufficient capacity to hatch an almost unlimited number of eggs.

Over these screens, and after the eggs are equally distributed over them, there is placed a finely perforated metallic plate, B, and the whole is kept in place by a cross-bar, C, fastened to the sides of the main trough. These boxes are elevated upon feet to raise them from the floor of the trough, to allow a free passage of water under them, and to raise them above any sediment that may pass through and settle on the said floor.

The first screen that lies over the copper cloth is also raised to gain free circulation to the water. The main trough must have a descent of 3-16th of an inch to the foot, to form sufficient fall of water into each separate box to produce a moderate current of water down through the eggs.

This arrangement completed, the water is let in at the upper end of the long troughs upon the perforated cover, which spreads it equally over the whole part of the eggs below, which, owing to the declivity of the main trough and the water-tight partitions in them, causes it to flow over the said partition on to the next below, which produces an up-and-down movement to the current running throughout the whole series of hatching-boxes, making changes around and through the whole number of eggs in each compartment constant while in process of hatching.

Many more fish are hatched by this process than can be stored and cleansed from their shells and other impurities consequent upon the last stages of hatching; hence it becomes necessary to add a store-room, and an additional process for cleansing the fish when hatched out from the impurities above named.

To remedy this trouble a series of large tanks, G, H, K, are erected for the reception of the water as it leaves the hatching-troughs. From ten to twenty days are required from the commencement of the hatching season to its close, consequently a proportionate number of fish are hatched daily; these are washed from the unhatched eggs into the first receiving tank before-mentioned, and allowed to stand quietly without much current to the water in which they are. The eggs thus cleansed are returned to the hatching-boxes from which they came. As soon as the shells from the eggs are well settled to the bottom, a moderate current of water is allowed to flow through an opening to the next tank below, carrying the cleansed fish with it, depositing any impurities that may yet be left with the fish in said settler; and the fish are allowed to follow on with the current, passing still through another opening to the large reception-room, where they remain in perfect condition in pure running water until placed in the waters designed for them.

M is a shallow trough supplied with water drawn from the main tank, being the same temperature of that in which the eggs are hatched.