

*New Apparatus.*

During the past year there was perfected in this hatchery a new and improved tray for fish-hatching purposes, which I feel assured will, in time, supersede all others now in use at the several hatcheries.

The tray in general use in most of the fish-breeding establishments in the United States and elsewhere, is formed with small wooden frames, with wire cloth or perforated zinc tacked on the lower side, and coated with paraffine varnish. These have been doing very good service, but the "age of improvement" has now brought out this "new tray," which possesses qualities infinitely superior to the "old one" in every sense.

The objectionable points with the ordinary tray has been, that the wooden framework made it so light and buoyant as not to sink it to the bottom of the trough, necessitating its being weighed down with small stones, or heavy substance till it became "water-logged." During this time it was found both troublesome and dangerous to handle the tray filled with eggs without the liability of shifting, and frequently spilling out the eggs.

Another objectionable feature was the amount of space lost in the troughs by the wooden frames, which are usually made of thin quarter-inch stuff. This area even on a single tray used up a considerable amount of egg room, but when applied to the large number of troughs in an extensive hatchery gave subject for much consideration as to economizing space.

Yet another drawback was felt with the "old tray" by the meshes of the wire work getting disarranged, and making openings by which many eggs and young fish would fall through and get lost, also the screening frequently becoming detached from the wooden frames, requiring frequent overhauling to prevent losses; add to this the rough uneven face of the wire meshes, which always, more or less, injured the eggs and the sack of the young fry; and finally, the destructibility of these combined wood and metal trays was quite an item of annual expense in a large hatchery.

The "new tray" overcomes all of these objections, being made wholly of heavy sheet tin, pressed into the exact shape and size required, the bottoms and ends being perforated by machinery at the stamping works.

The appearance of this tray, when finished, is not unlike an ordinary shallow kitchen pie-dish punched full of holes at the bottom and ends, the holes being of such a size as to retain the ova and yet let all sedimentary matter fall through; the end perforations allowing a free circulation of water to pass through amongst the eggs.

These tin trays, after getting a couple of coats of paraffine varnish, become as smooth and equally impervious to rust or other injurious substances from the water, and quite as indestructible as glass itself, but without its objectionable quality of easy breakage.

The size of the tray used here is 10 inches wide by 15 inches in length and three quarters of an inch deep; the perforations are a little over a sixteenth of an inch in size, with 10 holes to the square inch of the tray.

They are admirably adapted for the ova of any of the salmon family of fishes; each tray will easily accommodate a single layer of three thousand salmon eggs, and several tiers may be placed upon each other in the trays. Their cost is less than any other tray yet used in any of the hatcheries. Two thousand of these were manufactured last summer for the use of the newly-constructed nurseries. They are giving unbounded satisfaction, and may deservedly be styled the *ne plus ultra* hatching-tray in fish culture.

*Fry Reared and Distributed in 1879.*

The number of the several kinds of fry hatched out last season in the Newcastle Nursery amounted to two million six hundred and two thousand seven hundred (2,632,700), as follows: