EDITORIALS.

WE have heard of much trout in Bear Lake and River, and there is some in Utah Lake and Provo River and some other rivers and creeks in the Territory. But there is not a tenth part of enough, and judging by the way that kind of fish is snapped up when any chances to come into market, one would think that trout raising would be a highly remunerative business. Why do not some of our enterprising farmers and rancheros engage in this business and supply the market? Here is an account, from the Truckee *Republican*, of an ensample for them at Donner Lake in the Sierra Nevadas—

Messrs. Kelly and Steward, near Donner Lake, have made an excellent beginning in trout raising, and their experiments in the business promise to result in splendid success. They own 400 acres of land located on Donner creek and Coldstream, half a mile below the outlet of the lake. A large portion of the land is a natural meadow, not swampy, cut with a sufficient fall to prevent any serious overflow from freshets Spread out over this meadow are numerous small groves of young pine, cedar, fir and tamarack. The two streams we have named furnish a plentiful supply of cold water the year round, an important consideration in the hatching and raising of trout. Messrs, Kelly and Stewart made their commencement in the business last September. Being without practical experience in the business, they have proceeded cautiously, and have mostly followed the instructions laid down by Seth Green, the well known ichthyologist, in his treatise on Trout culture, published in 1870. Mr. Stewart, who has had the practical management of the fishery, informs us that in every instance where he has strictly followed Mr. Green's rules, as laid down in his book, he has found them correct, and whenever he has departed from or ignored the same, he has met with disaster. The firm have at their fishery six small ponds, three of which are natural and three artificial. In one of these they have 15,000 trout ranging from one to three years old. The largest are of from one to two pounds weight and of marketable size. A few of these trout were found on the spot, it being a natural reservoir, and the remainder were caught in Donner and Coldstream creeks. Their first experiments in hatching spawns was this season. They procured the same from Lake Tahoe, Mr. Stewart bringing them down from the lake in buckets and on foot—distance 18 miles. In bringing them down in this way an opportunity was afforded to change the water frequently in the buckets. These spawn were placed at the proper season in hatching boxes. These boxes are about 14 feet long by 14 inches wide, with a grade of two or three inches. To prevent the fish from crowding to the lower end of the box after they are hatched, a wire gauge is placed across each box every four feet. A small stream of filtered water is kept running constantly into the head of the box. This water is thoroughly filtered before entering the boxes by being run through ten feet of gravel and then through red flannel tacked on frames. The object of this is to arrest all sediment and vegetable matter, which are destructive to spawn. The clearer, purer and colder the water, if not below 45 degrees, the better it is for the spawn and the young fish. The length of time required for hatching varies from fifty to seventy-five days—the colder the water the longer it takes. Of the 250,000 eggs procured by Kelly & Stewart they have already hatched and living about 200 000 fish. Of these, 15,000 are twenty five days old, 60,000 fifteen days old, and 125,000 ten days old Since these fish were hatched, scarcely any of them, except those which were deformed, have died. After the fish have been hatched forty-five days, they are placed in one or more of the ponds separate from the larger ones. One excellent feature of Kelly & Stewart's location is that besides Donner creek and Coldstream, they have a bountiful supply of cold spring water, which never freezes, and has nearly an even temperature the year round. Strange to say, small, narrow ponds are found better for the growth of trout, and more convenient for feeding them. Like cattle in good pasture, if they have plenty to eat, they are quiet, and do not waste their flesh and time in roaming about in search of food If the pond be large, it is difficult to call them together at feeding time. Last Spring, acting upon the supposition that large ponds were the best, they constructed one about 150 feet square. Even this they find too large, and will divide the same by running an embankment through it in the center and making two ponds of it. Narrow ponds of from ten to twenty feet wide and a hundred feet or so long, they find the best. Next season Messrs. Kelly & Stewart intend to obtain spawn enough to raise 1 000,000 trout. They also intend to experiment with salmon, shad, black bass, perch and other well known fish, and see if they can be raised here successfully. These gentlemen have one of the best natural locations for engaging in pisciculture on an extensive scale that we have seen anywhere on this coast. They have hundreds of acres of ground upon which they can create, at a very slight expense, as many ponds as they desire; they have cold spring water to fill them, and the climate could hardly be more favorable than it is. We shall look with interest upon the results of the fishery at Donner Lake. If successful, and it looks as if it would be, there will be many other persons who will engage in the same business, and the field is illimitable.

WE have received a pamphlet copy of a Speech on Fish Culture Compared in Importance with Agriculture, by Hon. Robert B. Roosevelt, of New York, delivered in the U. S. House of Representatives. Mr. Roosevelt briefly traces the progress of fish culture among ancient nations as well as in modern Europe, particularly that of salmon. Mr. S. states the reasons why shad should be largely cultivated. After saying that cod and herring are the most fecund of fishes, the female of each of those species depositing a million of eggs, he says—

These are the most prolific species, but the others do not come so far behind, shad producing from ten to twenty thousand eggs to each pound of their weight, and consequently yielding from thirty thousand to one hundred thousand eggs each. Salmon and trout are not so productive, having only about two thousand eggs to each pound, and not even that in the largest. We have not yet learned to breed cod or herring, but we can breed shad, and hence we have an advantage over the European nations that is precisely proportionate to the relation that two bears to twenty. Here is an immense point gained, for shad grow as rapidly or nearly as rapidly as salmon and far more so than trout, and they are as delicious a fish on the table if not quite so substantial a meal.

Nor is this all. Salmon and trout require three months or thereabouts to hatch, while shad hatch within a week. The former must be carefully watched and have special appliances in the matter of water and location; the latter need no attention, and hatch in a common box with a wire grating fastened over the bottom. Salmon and trout are helpless for thirty days after they are born, being weighed down with what is called the umbilical sack, the unabsorbed portion of the egg. Shad are able to take care of themselves and seek their own food the moment they burst the shell. The former must be fed when young and protected from their enemies for months, salmon not leaving the fresh water and descending to the sea usually till a year or more after birth, whereas the little shad seek the ocean as soon as they are turned loose, and need no care or food till they come back grown fish ready for the gridiron or the baking-pan.

There are three great classes of fish as viewed from the stand-point of the fish culturist, each having a different mode of laying its eggs and raising its young. First the salmon tribe, what ichthyologists call the *salmonidæ* which deposit their eggs in fresh cold water, digging nests for them and covering them up as fast as they are impregnated by the male; secondly, the herring family, which includes the shad, another migratory species, but whose eggs are left uncovered to drift in comparatively still fresh water; and, thirdly, the perch family, which includes the black bass, which deposit their eggs in a mass kept together by a mucous or gelatinous substance which is exuded with them. The latter cannot be hatched artificially, the mode of manipulating either fish or spawn not having been discovered, and it is only with the two first classes that the fish culturist has anything to do at present, and these differ wholly in their methods of incubation, if that word can be used in default of a better.

The expense and trouble of the artificial incubation of shad are much less than of salmon, and it is therefore worthy of extensive practice, the shad being a delicious fish, though not equal to the magnificent salmon. But there is some reason to fear that we must do without shad, unless it is possible to cultivate it in the Colorado and its tributaries, as that is a sea-going fish, and our inland sea is rather too salt for the finny races.

To Mr. Seth Green, of Rochester, New York, is due the credit of the discovery of the artificial culture of shad, commencing his operations in the Connecticut River, in May, 1857. As a result of his labors, the number of shad in that river became unprecedented and the market price fell two thirds, and the wholesale price from eighteen dollars to three per hundred.

Of the advantages of pisciculture Mr. R. says:

The relative fertility of the water and the land is altogether in favor of the water. An acre of land will produce corn enough to support a human being, but an acre of water will support several persons, and could readily be made, with proper aid, to sustain the lives of many more. The former requires manuring, working, planting and harvesting; the latter merely requires harvesting; and that where the fish are sufficiently abundant is hardly labor at all. While the yield from the land is reasonably large, the profit is exceedingly small. The field must be plowed, and harrowed, and fertilized; the corn must be planted; it must be plowed again; and still again, must be hoed; and at last the ears must be stripped, husked and ground. What is the net result of this compared with the natural increase of fish grown in abundance, almost without effort, finding their own food, and finally taken in some net which does its fishing while its owner is sleeping?

Then the relative productiveness: the ear of corn grown from a single kernel will more frequently fall below than rise above a thousand grains. A shad lays, say sixty thousand eggs, of which we have said fifteen thousand can be brought to maturity with the care and oversight of man. Were the farmer to strew his corn broadcast over sod and rock alike, "by the wayside and on the stony places," and leave it to come up with weeds and tares without manure or attention, he would hardly expect a good crop, and would find much trouble in living on the proceeds, no matter how much land he owned, and yet this is precisely what we do with fish. To judge by what has been effected it may be confidently asserted that fish culture is yet to add a very large proportion to the wealth and resources of the world, above all to the riches of this continent. At present our vast lakes are left untilled some of the smaller ponds and many streams in the older and more thickly settled States have absolutely no edible fish in them, and some no fish whatever; the hook, the net, the spear and the "jack"—night spearing—has annihilated the last one. They teemed once with their natural inhabitants. Why cannot they be made to do so again? The evidence of our own and other countries clearly prove they can.

Correspondence.

PROVO, Aug. 20, 1872.

Editor Deseret News:

General Morrow and command left this place this morning at 7 o'clock, as per previous arrangement. President Smoot, General Pace, Elder Dusenberry and myself went in company as far as Springville. The command encamped at Roundy's pasture on south side of Springville. At this place we met General A. K. Thurber, Lyman S. Woods and Bishop Bringhurst and learned that Tabby and his Indians had concluded not to come out of Spanish Fork Kanyon, but they would meet the General four or five miles up the kanyon. After consultation it was deemed expedient that a few visit them and enter into arrangements if possible to have the Indians come out and talk and have an understanding of what is intended pertaining to the future of the Indians. Consequently Prest. Smoot, Generals Pace and Thurber, Bishop Bringhurst, Elders Dusenberry and Wood and myself left Springville at 10 a.m. for Tabby's camp. We arrived some four miles up the Spanish Fork Kanyon about 12 o'clock, met Tabby, Douglass, Antero, Wanderodes and some 50 to 75 Indians. Prest. Smoot, through L. S. Woods and General Thurber as interpreters, laid before them the views and desires of General Morrow towards them, to the effect that he wished to treat with them friendly, to take plenty of time to talk and have an understanding. He wanted to hear of their grievances, and reconcile them if possible. Wanderodes, being acquainted with our language, also acted as interpreter.

Tabby and Douglass talked, and both stated they felt now as they always had done: they desired peace and did not want any trouble; wanted the Mormons, miners and others to travel the kanyon roads and mountains in peace; also wanted that the Indians could go about and not be in danger of being shot and killed by the soldiers or anybody else. They felt disposed to meet General Morrow and have a peaceable good talk as often as he might desire, until a thorough understanding could be gained. They were willing to go back to the Reservation as soon as they could conveniently.

A box of tobacco was distributed among them, and they had a good time of smoking.

After a consultation among themselves, it was decided that Antero and Judge, a White River Indian, and four others should accompany us to visit the General this evening, and that Tabby, his chiefs and as many Indians as they could bring should meet the General at Springville about 10 o'clock to-morrow morning.

At 2 p.m. we left the Indians, they feeling first-rate, and we arrived at General Morrow's camp at 4 o'clock. The General had a friendly chat with Antero and the Indians. He gave them something to eat and treated them very friendly. We left for home at 5 p.m.

It is hoped that good will result from this visit, that a proper understanding will be had in regard to the Indians, that the mean ones will be punished and those who may be friendly disposed will not have to suffer for the actions of a reckless few.

Through the untiring efforts of General Thurber and others our co-operative herd has been secured and driven out of Spanish Fork Kanyon, also the herd out of Hobble Creek Kanyon, and are now well guarded.

L. JOHN NUTTALL.

The above did not reach us until the 26th. Consequently we were not able to publish it earlier.

Steam on Street Railroads.

Our street cars are entirely inadequate for the work they undertake. They must be the main reliance for conveying the vast stream of local travel from point to point in our city and into the suburbs. On all holidays they are greatly overtasked. Take, for instance, last Sunday. At certain hours the cars on all the lines were crowded as full as they could be packed—so full that only by almost cruel beating and urging could the jaded horses start their loads. If the companies put at work all spare stock on these occasions, they still lack the requisite power to move the concourse of those who demand accommodation. Evidently it would not pay them to keep large numbers of extra horses for use at such times. Yet the lack of power should be met. Why can we not try a remedy for this defect, which has proved a success in New Orleans? There cars are run nine miles, with ample power, by a boiler of water heated at the station-house. No fire is used in connection with the car, nor is there any noise or any escape of steam. Little room is occupied by the engine, and one man is able to act as driver and conductor, stopping the car by the brake and starting without any difficulty. At the station the water is reheated by connecting it with a furnace, and the car is ready to make another trip By this method there would be no killing of valuable stock from overwork, and only lack of liberality in the companies would defeat abundant provision for all who might wish to ride. Even if it should prove that this plan would fail in the severest of our winter weather by the too rapid cooling of the water, we could at least use it during such seasons as the present, and avoid the hardships which we see imposed upon poor horses, who lack speech to plead their cause against too exacting man. New York should not be restricted to horse power in the service of her severely-taxed street railways.—*New York Herald.*

No man is so insignificant as to be sure his example can do no hurt.