

Sea and River Fishing.

Angling Talks. By George Dawson. Price 50 cents. *Fly-Rods and Fly-Tackle.* By H. P. Wells. Price \$2.50. *Fly-Fishing and Fly-Making for Trout.* By J. H. Keene. Price \$1.50. *American Angler's Book.* By Thad. Norris. Price \$5.50.

THE FULL TEXTS of the game fish laws of all the States, Territories and British Provinces are given in the *Book of the Game Laws.*

THE U. S. FISH COMMISSION EXHIBIT.

MUCH interesting work is now being done in Washington by the several Government departments in preparing the great collective display of the U. S. Government for the World's Columbian Exposition. Captain J. W. Collins, the representative of the U. S. Fish Commission, in charge of the preparation of the exhibit of that bureau, informs us that his exhibit will be the most complete historical representation of the fisheries ever put before the world, although it will be the first of its kind displayed to the American public.

As boats and vessels were the basis from which the fisheries were developed, Captain Collins has undertaken to show these in a historical series, beginning with the fishing shallop of "ye olden time," and showing the successive steps to the type in use at the present time, which will be represented by a model of beauty and grace, as produced by Edward Burgess in his fishing vessel, the *Fredonia*.

Already ten full-rigged models have been prepared, these including an authentic representation of the old-time Marblehead fishing schooner, the *Pinkie*, a type of vessel used during the '50s, another during the '60s, and others during the '70s, and the pioneer of the new deep-draft fishing vessels, the Fish Commission schooner *Grampus*.

One of the interesting features of the display will be a series of the food and economic fishes of North America, including the Atlantic, the Gulf of Mexico, the Pacific, and the Great Lakes and interior river fishes. The work of making new moulds and casts of fishes is being done by Mr. Sherman F. Denton, who uses a certain glue compound for the casts. The secret of this compound is known only to himself, and produces a product that cannot be readily broken like plaster of Paris. This feature is of peculiar importance, since considerable difficulty has already been experienced in transporting casts made of plaster of Paris, because of their liability to break.

Already about 125 casts have been prepared, as well as papier macé casts of larger species, such as sharks, etc. Two most interesting fishes were received at the exhibit not long ago, being additions to the fish fauna of the United States. One of them, the escolar, while known to inhabit the Mediterranean and the waters of the warmer climates, has never been found in abundance, but is highly prized as a food fish at the Canary Islands. The second is the opah (*Lampris guttatus*), the first specimen ever recorded as having been taken in American waters. This is a very beautiful fish, an inhabitant of the Gulf Stream. Its colors are brilliant, the fins and edges of the belly being a beautiful red, its sides a silvery white, and its back and head from a deep to a light blue, with white spots radiating in all directions from the eye. It will thus be seen that its general coloration is that of the national emblem, though Capt. Collins is disappointed that there are more than forty-two spots on the blue field. Both of these fishes were taken on the La Have Ridge by American fishing schooners, and much credit is due to the thoughtfulness of the captains of these vessels in bringing them to port.

The fishculture section is under the direction of Mr. W. de C. Ravenel. Thus far all of the historical apparatus has been brought together, put into shape and packed ready for shipment. There will also be included in this section models of the principal hatcheries in use by the United States Fish Commission, more particularly the representative stations for each of the important fisheries.

It is proposed to show at Chicago a model hatchery in full operation, with jars of eggs of the different species of fish that can be obtained while the Exposition is open, while the process of hatching other fish will be shown by means of artificial eggs.

Our attention has also been called to the proposed plan for the live-fish display. Ample provision has been made for the accommodation of the most extensive exhibit of aquaria ever established in this country, in one of the buildings connected with the fisheries department. Mr. W. P. Seal, the well-known aquarium expert of the U. S. Fish Commission, is in charge of this work, and it is as well to recite what he has to say on the subject:

"The building designed for the aquarium is a polygon, about 135ft. in diameter, having a central rotunda 60ft. in width, in the middle of which will be a pool 26ft. in diameter, surrounding a mass of rugged moss and fern-covered rocks, from which streams of water will ooze and drip to the reeds and rushes in the pool below, where gorgeously colored fishes will disport.

"Surrounding the rotunda, under a glass roof, run two lines of aquaria, separated by a gallery, or corridor, 15ft. wide. The inner line of aquaria, ten in number, will have glass on both sides, one of which will front on the rotunda, and the other on the gallery. These tanks will have a depth of 7ft. of water, the bottoms running down on an incline from each side to about 2ft. below the bottom of the glass, which will be 5ft. high. The diameters of these tanks will be about 10ft. They will be from 15 to 60ft. long, with a capacity of from 7,000 to 28,000 gallons, or a total of over 90,000 gallons, weighing more than 850 tons. The outer line of aquaria, forty in number, will have glass in the front only, the backs being of slate, and what is known as 'slope-back' in design. The glass in these will also be 5ft. high. The width of this series of tanks will be 3ft. at bottom and 6ft. at the top, the length from 5½ to 11ft., the capacity varying from 900 to 1,800 gallons, with a total capacity of over 50,000 gallons. The entire series of aquaria will contain 140,000 gallons of water, weighing about 600 tons.

"Fifteen tanks will be devoted to marine species. These will have a capacity of from 800 to 14,000 gallons, or a total of about 40,000 gallons. The entire amount of sea water in circulation will be nearly 75,000 gallons. The

pumps and piping for this part of the exhibit will be constructed of hard and soft rubber, wood and glass. Two pumps will be made in duplicate, to provide against accidents, though but one will be used at a time. Every effort will be made to provide for any possible contingency in this respect. It is expected that the building will be completed a year before the opening of the exhibition, thus affording ample time for deliberately and methodically establishing satisfactory conditions, and for the transfer of the plant and animal life, so that when the exposition opens there will be one of the most wonderful displays of the kind ever presented to mortal eye.

"Among the fresh-water species of large size that will be displayed will be the Atlantic and Pacific salmon, the masacalonge, the lake trout, the sturgeon, the spoon-bill catfish, the great Mississippi catfish, the long and short-nosed gar, the alligator gar, etc. Smaller species will include all the species of trout, the whitefish and other lake fishes, the basses, carp, buffalo and other Cyprinidae, catfishes, sunfishes, eels, etc.

"Of the larger salt-water fishes there will be represented sharks, dogfish, skates, rays, torpedoes, the goosefish, striped bass, drums, grunts, sheepshead, porgies, tautog, flounders, bluefish, squeteague or weakfish and many others.

"Smaller species will be represented by sculpins, sea-robbins, toad-fish, sea-ravens, puffers or swell-fish, mullet, blennies, gobies, sticklebacks, pipe-fish, sea-horses, as well as many Mexican, South American, Asiatic and European varieties. There will also be Octopi, commonly known as devil-fishes, and possibly cuttle-fishes, but these latter are difficult to transport in good condition when living. The same may be said of the jellyfishes, but attempts will be made to exhibit them at Chicago, with some hope of success. Of the lower forms of life, generally, there will be representatives of the mollusks, anemones, starfishes, sea-urchins, holothurians or sea-cucumbers, corals, etc.

"There will be a wonderful showing in the aquaria of algae, or sea weeds. The exquisite foliage and wonderful coloring of these plants cannot be described, but must be left to the imagination. It may be stated, however, that the colors range through the various shades of yellow-brown, green, red and purple, some species displaying the most exquisitely beautiful hues. The fresh waters will also be represented by natural growths of the great variety of their plant life. The magnificent lilies of our ponds will be seen from their other aspect. We are familiar with them in the ponds of our beautiful parks; but to see them from beneath the water, with the fishes dispersed among them, as never before displayed or even attempted, will be one of the novel and interesting features of the Exposition.

"Outside of the Fisheries Building will be a series of ponds illustrating methods of pond culture and the possibilities in the practical and ornamental use of aquatic and semi-aquatic plants; the question of having in these ponds an exhibition of manatees, seals, sea lions, etc., has been under consideration.

"The time is near at hand when the great cities of the country will vie with each other in the establishment of great aquaria, for the wonders of the waters are fast becoming objects of popular, as well as scientific, interest, and our growing wealth and leisure cannot be devoted to projects of greater interest.

"The experience at Chicago will thus be valuable in affording a basis of practical knowledge which will be available for the general information."

THE BIG TROUT OF THE STONE DAM.

IN the summer of 1890 it was my good fortune to spend a couple of weeks with two companions in camp at the forks of the Magalloway, about four miles below Parmachenee Lake. In the last few years I had met a number of anglers who had been in that region, and each and every one had sung the praises of the pool at the old stone dam on the Little Magalloway, and told, as only anglers can, of the number of two and three-pound trout taken at this pool, but they added that there always remained the giant of the waters, whom many had seen, a few had hooked and had with him a few moments of anxious and expectant pleasure; but none had been able to become intimately acquainted and to place their hands upon his gleaming sides. I had heard so much of this talk, that the one spot on earth, or rather water, where I longed to cast my fly was that stretch at the old stone dam on the Little Magalloway.

It is needless to say that as soon as we got camp well fixed we made a call at the old stone dam, which is about a mile up the Little Magalloway from the forks. A glorious morning's walk over the trail past Sunday Pond brought us to the stone dam. The sun was just giving the pool its early morning greeting as we reached it. It was indeed an ideal spot, and if beneath its rippling surface the patriarchs of the trout tribe were taking their morning swim and were ready for breakfast, I also would sing its praises. Joining our rods, we commenced casting the fly from the head of the pool; and at the first cast they were ready for business. We caught a goodly number before they stopped rising to the fly. They were nice, fat, handsome fellows, from a quarter to three-quarter pound in weight, and made glorious sport on a light rod, as we frequently took two or three at a cast. We did not get any of the old "he busters," but I, too, saw the father, nay the grandfather, of the trout of the Magalloway.

I had hooked a good half-pound trout, and it had made a gallant struggle for life and freedom, but the constant spring of the rod was too much for him, and he lay upon his side at the top of the water; and I was slowly reeling him in, when a giant trout rose directly beneath him, opened a pair of monstrous jaws, slowly brought them together again, and my half-pound trout disappeared from view as would a two-inch sabiner in the mouth of a 5lb. bass. What happened next I do not know, for I lost my head, had "buck fever," or something else, and the boys said I jumped about two feet in the air and gave an awful "yank." The first thing I realized was that my trout was in the air, and I had a glimpse of a fan-like tail as it disappeared from view. Perhaps it will be best to drop the curtain on the next few moments. Suffice to say that every angler has had some such experience and can picture the scene for himself and I sincerely hope he can do it justice. I cannot.

For the next few days by common consent that pool was my property, and I spent at least an hour there every day. I was there in the early morning before the sun was up, and at night when it was so dark I could not keep

the trail by Sunday Pond—and climbing windfalls after dark is not pleasant traveling. I cast upon its waters flies of every size, shape and color, from tiny midge to large and gaudy bass fly, and when these failed I descended to bait, the abused angle worm, wood grub, a strip of fish, the fin of a trout, and live bait from a two-inch shiner to a half-pound chub. Many a handsome trout did I get, but not one glimpse of the old patriarch of the pool until the last day of our stay.

I was making my farewell visit to the stone dam alone, and was idly casting a fly upon its waters, and was just ready to reel up and leave, when, throwing my fly in the rapids near the dam, it was taken by a small quarter-pound trout and I commenced to reel him in. But he was a gamy little fellow and was darting here and there as quick as a flash; and the thought struck me, why not try him for a bait? But no, I will never be guilty of piercing the sides or lips of a lordly trout and using him for bait; but as this is my last cast, and I can see that you are lightly hooked in the lip, for the gaudy wings of the Parmachenee-belle can be plainly seen, you may take one run down through the pool, and if you do not get away I will gently release you and you shall go free. I drew the line from the reel to give him all the play he wanted; and down to the center of the pool he went, and there he stopped for a few playful darts this way and then that. Then he started again down the pool, until I had all the line from the spool and thought it about time to reel him in. But I could not start the reel, and still he went. I involuntarily struck and raised the tip, and for an instant a big fin showed above the water and I knew I was fast again to the old patriarch of the waters. What a predicament. There I stood on a rock at the head of the pool with one of Chubb's little 4oz. "Raymond" rods in my hand, not a single turn of the line upon the spool of my reel, and 140ft. away, hooked with a No. 8 Sproat, was the giant trout of the Magalloway. There was one thing to do, and I gave him the butt. Whether the little rod was too much for him or he concluded he had gone that way far enough I do not know, but he turned and started for the head of the pool diagonally from me, and I had time to get a goodly lot of line on the reel; and then I took a good long breath. It is useless for me to attempt to describe the battle that followed. How long it lasted I do not know; but it was down the center, forward and back, cross over and all hands round and repeat, until at last he lay upon his side and was drawn across the landing net, and I had barely strength to lift him from the water. What a big one he was. Four, five pounds; yes, we will call him a six-pounder; as handsome in form and as brilliant in coloring as a half-pound trout. And why should he not be, this cannibal of the waters, who would refuse every kind of bait or fly and would have naught but his own beautiful spotted tribe, his relatives or perhaps his own children. But you have had your last one, you old rascal, and the other trout can now swim in peace.

To understand the "subsequent proceedings" it will be necessary for me to describe the stone dam. This was not made by man, but was a natural ledge, running clear across and extending up the river for perhaps a couple of rods; but the fall was mostly in the last rod before the water fell in the pool below, somewhat more than half-way across, when the water was at its usual summer height the ledge protruded from the water. This was worn smooth by the action of the water, and formed a flat table-like surface with rounded sides. The water upon each side of this ran with the swiftness and force of a race-way; but with care and a cool head it was possible for one to wade and jump to this rock without having the water come above a pair of high boots. Directly below this ledge, and jutting into the pool, were two large rocks, which could be reached from the ledge by a little careful wading, and from these rocks a good caster could reach all the best parts of the pool below. It was from this rock that I had been casting and upon which I now stood with my prize; and I wanted to get to shore with the fish soon as possible. Grasping the net above the trout, I crept to the ledge above and attempted to cross to the shore; but I was so weak I could hardly stand and hold the fish. With my first step the water nearly took my feet from under me; and I realized that I must rest before I could cross in safety. I therefore lay the landing net down upon the ledge with the big trout in it, and the handle pointing up stream, and stepped upon the frame in such a way that the fish could not get out. I had hardly straightened up when I heard a grating on the ledge, and just caught a glimpse of a long handle as it swung or rolled into the water. The moment the full force of the current caught it my feet flew out from under me and I sat down with a "dull thud," and the only reason why the ground did not shake was that I only weigh 130lbs. and there was no ground there to shake; it was all rock.

The current was fast drawing me in; I was wet all over before I could manage to grasp a protruding rock and drag myself out to look for my landing-net and fish. The frame had caught in the rocks and the handle was playing shuttlecock on top of the racing water. Quickly grasping it, I began to raise the net; and as I did so the big trout came to the top of the water, some little way below, and with a dash was carried to the pool beneath. As he reached the more quiet waters of the pool and lay upon his side, he gave one "spat" with that giant tail, which was plainly heard above the roar of the waters, and disappeared from my view forever. No, not forever. Many a time during the past winter, as I have sat by the open fire, my feet upon the fender, watching the fantastic shapes the blaze would assume, have I seen the handsome form of that monstrous trout, and the scene at the old stone dam was all before me. And many a time in my dreams have I fought that battle over again and have been awakened by the "spat" of that fanlike tail as the trout disappeared from view—only to find that the noise was made by the alarm clock.

I told my companions that day that I had not got the big trout, that I had slipped into the water and was now ready to go home. From that day to this I have never told the story of the big trout. It was a very sore spot in my memory (and I had another one somewhere else) for many a day, but time works wonders. The sportsman only remembers the pleasure of a trip, the trials and discomforts are forgotten or are made light of; and now I am enabled to look back with some degree of pleasure and think of that royal battle with the monstrous trout of the big pool at the old stone dam on the Little Magalloway.