Steam Trawling--Canadian Fishermen

By GEORGE FREDERICK BENDER

Under the above heading many speeches and newspaper articles of the "alarmist" and "scare" type have been given publicity of late, and, according to them the outlook for Canadian fisheries with the introduction of the steam trawler is cloaked in sombre hue. Orators and writers have been dilating upon the ultimate ruin of the poor hand and trawl line fishermen of our coasts; hints of international complications and impending deeds of violence upon the crews of the maligned steam trawlers are hovering in the background of all these perfervid orations, like the pendant sword of Damocles, and last, but not least, the terrifying picture of the total depletion of our fisheries is thrown upon the screen as the final and convincing argument for driving the charge home.

Every now and again the "trawler question," like the sea serpent has a phoenix like awakening, and on the morning of a new government in Canada end the eve of a presidential election in the United States a writer in the New York Evening Post has started the ball a rolling. Under the head of "Steam Trawler—A Menace," it publishes an article calling attention to the invasion of the French steam trawlers upon the Grand Banks. The writer began by drawing a pitiful picture of the little "smacks" on these banks, and using Kipling's "Captains Courageous" as an introductory wedge on the hazards of the "smack" fishermen from the Atlantic liners crossing the Grand Banks, he misquotes the same author's "Ballad of the Bolivar" in regard to the "damned liner's lights going by" amid the lurid vituperation of the fisherfolk aboard the "smacks." This type of vessel is practically unknown upon the banks of the North American coasts, and if the men of the Grand Bankers knew that their 70 and 120-ton schooners, with their yacht like lines were being collectively designated by the nomenclature of the tar hulled, stodgy, brown sailed ketches, cobles, luggers and yawls of the European seas, it is doubtful if they would feel flattered. The fishermen of our waters are the aristocratts of their profession, and comparison with the "smacks" of Europe, with their sails dyed in tan bark, and manned by a crew of five men, a boy, some cabbage, corned beef and a jug of water, or other thirst quencher, is to say the least odious. However, that is a mere detail, but it serves to illustrate the practical knowledge some writers have of their subject.

The author goes on to describe the yearly increasing number of French trawlers on the fishing grounds of the Gulf of St. Lawrence and the Banks of the Newfoundland coast, and in his article he points them out as a menace that should be suppressed at all costs. This he proposes to do by means of international legislation, prohibiting the operation of these vessels upon the waters aforesaid, and by this apparently easy bit of diplomatic work, the dove of peace will fly happily over the fisheries of the United States, Canada and Newfoundland. The offending Frenchmen will of course retire sans ceremonie from the particular mode of fishing which they have have had the acumen and ability tohave made a success of. As we, of the Anglo-Saxon race have not been noted for retreating from any particular industry or development work we have ever laid our hands on, it hardly seems likely that the Frenchmen, be he ever so compromising and polite, will do so, especially in the case of a national asset and industry which gives employment to so many citizens of the republic.

We may not have the deductive powers of a Sherlock Holmes, but it seems to us that the "nigger is still in the woodpile" and the French trawlers are not the real bone of contention. The writer gives the Frenchmen the full benefit of the tarbrush, but says nothing of the six steam trawlers operating out of T Wharf, Boston, or the two Canadian steam trawlers pursuing their business out of Canso and Digby, N.S. It is the fear that Americans and Canadians will inaugurate this method of fishing that has prompted the author to take up his pen and endeavor to kill steam trawling, and back of him there is the fishy odor of Gloucester interests, where there is a vast amount of money invested in large types of sailing schooners. We may be wrong in making such an assertion, but when we consider that Gloucester practically controls the North Atlantic fisheries of America; Gloucester's dollars have the fish scales sticking to them, and the name of the town is synonymous with 'fish," and any innovation in fishing likely to hurt Gloucester interests must be killed instantly, directly or indirectly, and looking around David-like for a good-sized pebble to fell the steam-trawler Goliath, they decided that the Frenchmen operating upon the Grand Banks would make a satisfactory boulder to hurl.

To our minds this is a "boomerang" policy. It will probably do more harm to the assailant than the assailed, and we venture to predict that when Gloucester realizes the advantages to be gained by this improved method of fishing, they will, before long, operate fleets of steam trawlers in addition to their fleets of schooners. However, the trouble with our friends across the border has nothing to do with Canada, and in a campaign against the steam trawler by Americans, they must have the support of the Canadians to render it in any way effective. With the exception of Georges Shoals, the best berths for fishing are in the vicinity of the Canadian coast, and to them the vessels from Gloucester and other United States ports sail and gather in their fares. If the Canadians, with the independent spirit characteristic of the Dominion, should invest capital and develop and encourage steam trawling for their own fishermen, the American interests recognize the fact that it would hurt their industry and they would be forced to follow suit. That is where the shoe pinches. To every new innovation there is always a certain amount of opposition. Almost every page of history proves this assertion, and there is hardly an industry today but what has had its revolutions. The steam engine had its share of resistance; sail waged an ineffectual war against steam in deep-water ships; cotton spinning machinery and cloth looms almost caused a revolution in England years ago, and when labor-saving devices are placed upon the market there is always the inevitable howl from the man who thinks he is going to be ousted by it. It is the same in the fisheries, and if steam trawling is an advance on the older methods in vogue on these coasts it is not to be supposed for a moment that Canadians are going to remain in a rut and for purely sentimental reasons refrain from the prosecution of a method of fishing which is much more satisfactory and remunerative. The fisheries of Canada's eastern seaboard are yet in their infancy, but each year sees a satisfactory increase. The development of the fisheries would gain still more if Canada's population included more fresh fish in their diet, and in years to come the public will be educated to understand the value of fresh fsh as an indispensable article upon the menu. Government has, by means of an express bounty, diverted the supply of fresh fish to inland towns in Canada from the United States ports, to shipments from the ports of the Dominion, and the trade has been very largely increased thereby. To meet the demand for fresh fish in future years it will be absolutely necessary to employ trawlers operated by steam, as the fares of the sailing schooners in the "shacking" of fresh fish business cannot be depended upon for a steady supply.

In rough weather the sailing vessels cannot operate, and if a fare of fresh fish comes in during the period of tempestuous weather, the price of the fish runs high. With the steam trawler it is different. They can shoot their gear and make hauls of fish in almost any kind of weather up to a gale, and with their ability to do this a regular and steady supply of fish is assured. This fact led to the introduction by a Canadian company of the two steam trawlers at present operated in Canadian waters, and the inland markets of Quebec and Ontario have to thank these vessels to a large extent for the steady and uniform supplies of fresh fish they have received when the other fishermen have been laying hove-to on the banks, or sheltering in harbor and unable to set their gear. Everything is ruled by the law of supply and demand, and in order to supply an insistent demand the method of supply had to be improved or increased.

The Canadian fishermen are as intelligent and as progressive as any in the world. With the development of their fisheries, they have progressed with the methods of supply. From the shallops and pinkies in which they fished the inshore waters, they ventured further offshore in the small schooners. For many years the old-fashioned clipper bowed vessel of 50 to 70 tons was regarded as being suitable enough for the prosecution of the Bank fisheries; then came a revolution in favor of the knockabout and semi-knockabout designs and vessels of 95 to 100 tons. Nowadays the 90-ton schooner is regarded as being too small, and the big 120-ton semi-knockabout schooner with auxiliary gasoline engines is regarded as the only proper craft for off-shore fishing. In the small inshore fleets, sail has been displaced by the motor, and almost every year there is a new type of boat designed and employed by the fishermen.

It is an insult to the intelligence of the fisherman of our coasts to suppose that he will prefer the methods of fishing peculiar to his ancestors in favor of the most modern means, and that the introduction of steam trawlering will ensure his bitter antipathy against them. The hook and line trawling is laborious and hazardous in the extreme, and battling the fickle moods of Old Ocean in small dories in all kinds of bitter weather calls for more hardship than the remuneration covers.

Trawl line fishing on the schooner of the present day means that each man after rigging up his gear has to chop up his bait, and "bait up" some 670 hooks to each tub of gear. If he is making a "three-tub set," his dory mate and himself (if they are working double trawl dories), will have considerably over 900 hooks to bait apiece. After baiting up the gear, the dories are swung out, and with the mean and gear in them, they are dropped on various parts of the Bank by the schooner. The baited lines are hove over and anchored along the bottom by means of an anchor at either end of the trawl line, and after the time allowed for the "set," the men commence to haul. The fish caught are slung into the dory or slatted off into the sea if useless or unmarketable. The hauling of three tubs of gear against wind or tide is an extremely arduous job, but the work pales into insignificance in comparison with the risks of fishing from these small dories in anything of a sea. Many men are drowned by capsizals, and as many more lost by getting astray from their vessels in the bank fogs. The schooners themselves are often overtaken by disaster, and not long ago two of them left Newfoundland and were never again heard of. The year 1911 took toll of over 60 men from the fishing fleet of Gloucster alone, and in one gale, some ten years ago, eight score men of the fishing fleets were drowned upon Georges Bank in a single night.

In steam trawling this loss of life is reduced to a minimum. The work is all done from the deck of the steamer ,and there is no venturing out in small dories to haul trawls. The gear used for catching the fish is paid out and hauled in by means of steam winches and capstans; there is no time lost by cruising around the coast looking for bait, and all the monotonous and time-wasting labor of rigging trawl line gear, hooking up and baiting up is done away with. The only similarity in the work aboard the two types of fishermen is the "dressing" or cleaning the fish at sea. Then, again, upon the steam trawler, there is none of the perilous work in gales of wind of reefing or furling a mainsail—a piece of work which has claimed many a man—or being compelled to heave-to in a blow or run for shelter. When the gales hit in, a steam trawler can push its way back to port or harbor in the teeth of them without any beating against it, and it is then up to "the brave engineer" to keep a full head of steam. The crew can remain in their bunks secure in the knowledge that they will not have to turn out and have a tussel with refractory canvas hanging like bats on to a sixty or seventy-foot boom passing stops or reef points, or muzzling a jib upon the footropes of a bowsprit, and in imminent danger of being washed off by a sea. All this kind of thing sounds very romantic when dished up for the delectation of admiring landlubbers ashore in the Sunday supplement, or magazine, but there is very little romance in the actual work of harvesting the crop of the shoal waters, and anything that tends to minimize the ardor and hazard of the life should be welcomed instead of condemned.

One of the principal charges in the indictment against the steam trawler seems to be that it will lead to the total extinction of the sailing fleets and also the boat fishermen. In Canadian waters, the latter are sufficiently protected by the "Three-Mile Limit," and in the former case there is little to fear of such a calamity for many years to come. The demand for fresh fish in Canada is not sufficiently large enough at present to employ many steam trawlers, and, when such a time comes, the Canadian fisherman and vessel owner will turn readily to new conditions and build trawlers operated by steam for themselves.

The life of a schooner is practically only ten years. By the time she has reached that age, there is a larger and newer design upon the seas, and the older vessel is discarded in favor of the most modern type. Around our ports at the present time there are able fishing schooners of the older models rotting at their wharves for want of skippers and crews to take them out. The steam trawler is inevitable. It is employed for fishing by all countries. Great Britain and France have a vast fleet of them, while Australia, Portugal, China and Japan are encouraging the industry in their own waters, and as the Canadian fisherman is by no means lacking in business ability, there is every probability that those who have money to invest will club together and purchase interests in steam trawlers and operate them, as many of the fishing schooners are being operated today, on the share system.

When the steam trawler becomes a power in the Canadian fisheries there are still vocations left for the schooners. Salt trawl-fishing, hobutting, haddocking, sword-fishing, and mackerel-seining will still call for a large number of the sailing craft, while the drift-net fishing for herrings off-shore, as outlined by Mr. J. J. Cowie, of the Dominion Fisheries Department, would, if it were prosecuted, prove a remunerative branch of work.

Another indictment against the trawlers is that they damage the trawl lines of the banking schooners by hauling their beam or utter trawls over them. This is certainly an evil, but it is one that can be remedied by the masters of the steam trawlers plying their operations in the vicinity of schooners working with lines. All schooner trawls are buoyed and marked by black-balls at each end, and it is an easy enough matter for the steam trawlers to shoot their gear and haul clear of these obstructions by exercising proper care in making observations and steering. Speaking for the steam trawlers employed by a Canadian corcern, in trawling at night or in thick weather, the bearings of the positions of vessels in the vicinity are taken and by careful steering "snarling up" gear has been avoided.

The steam trawler has also been blamed for the destruction of undersized fish, and fish spawn. The latter indictment is nonsensical, as fish spawn floats on or near the surface of the water, and the former accusation is erroneous in the case of the Canadian trawlers. The company owning these vessels do not want undersized fish—they are not marketable in Canada, and the meshes of the "Otter" trawl, which they employ, are sufficiently wide to allow the escape of all immature and small-sized fish. If by any chance small-sized fish are brought up in a trawl net, they can be immediately thrown back into the water, and as they are alive when landed on the trawler's decks, they have every chance for life. Small-sized and unmarketable fish caught on the hooks of the trawl and hand line fishermen are slatted off on the gunwale of the vessel or dory and killed by the blow, and excluding the dogfish, which needs to be destroyed. This means the destruction of edible fish like skate, sea perch, flatfish, catfish, silver hake, butter fish, and many others. The line fishermen bring in the marketable fish only, viz.: cod, haddock, halibut, hake, pollock and cusk—all others are destroyed. The steam trawler, on the other hand, brings in large-sized fish of all species, and if not edible, they are rendered into glues and fertilizers, so that in regard to destruction of fish, the boot is on the other leg.

It is not the purpose of this article to encourage the encroachments of the French trawlers upon the Grand Banks, and if they have been plying their vocation carelessly and to the detriment of the vessel fishermen, by all means bring them to task for it.

Steam trawling, if properly carried out, should not interfere with the line fishermen. Our fishing grounds are probably the largest in the world, and there is room for greater exploitation. It is not a case at the present time for conservation of the Canadian fisheries, but one of development. Laws can be made for the prevention of waste, and the fishermen be enjoined to keep them, but the agonized howl of "suppress the steam trawler" is the war cry, not of the fishermen, but of the interests, and said interests are probably to be found over the border.

Campaigns have been organized from time to time to reduce the high cost of living, but in spite of them food prices are not reduced. The best of our Canadian beef goes out of the country to the British markets and the prices in Canada run high. With the education of the Canadian public to the food value of fish, it will mean the introduction of a healthful and economical article of diet, while, in order to maintain a steady supply and at a reasonable price, it will be necessary to depend upon the steam trawlers for our fresh fish. This argument is borne out by the condition in Great Britain and the Continent, and as far as Canadians are concerned, if the French can make a success of steam trawling at our front door, it is up to John Canuck to employ the same business methods and develop one of his greatest natural resources—the Fisheries. — George Frederick Bender, in Montreal Gazette.

OBSERVATIONS IN SCIENCE

By F. Napier Denison

A slight earthquake shock caused some concern in central and western Scotland on the 26th of January. Doors and windows were shaken, crockery was displaced from shelves, and in many instances beds moved perceptibly. A fairly extensive area, stretching from the Campsie Hill district, near Glasgow, to Perthshire, was affected. At Dunblane, a "distinct thud" is stated to have been felt, accompanied by an alarming rocking sensation.

Earthquake shocks were also felt in the Monmouthshire Valley during the early hours of the 26th. At Llanhilleth there were three distinct shocks, which caused great alarm among the inhabitants, many of whom rushed to a neighboring colliery under the impression that an explosion had occurred. In the West Dip district of Llanhilleth collieries a number of workmen, startled by the subterranean rumbling, rushed to the bottom of the shaft. Hundreds of terrified people remained outdoors until daybreak.

Mine Explosions

The forests of ancient times which have rested for millions of years, and gradually turned into coal, take their revenge when they are disturbed, says the London Standard. The revenge is so terrible that even millionaires have never tried to spend their money in fighting it. Libraries have been built, as we know. Technical institutions have been endowed, but we never get any nearer the great conquest of Nature, which enables the miner to go down into his coal-pit with the perfect certainty that there will be no explosion, and that he will come back just as if he had gone to a factory of some other kind. His risk is always great. He takes it very quietly, and probably never thinks of the risks he runs. It is his ordinary day's work, and, so far as he is concerned, there is no more to be said about it. He risks explosions without even thinking about them

When Sir Humphry Davy invented his lamp to save the miners he had only one idea, and a very definite one. He thought—indeed, he knew—that when the gas, fire-damp, was mixed with air a light would cause it to explode. Moreover, he knew that a thin sheath of copper gauze wrapping round and covering in his lamp-flame would prevent the mixture of air and gas from catching fire. Hence came the Davy lamp. The tiny flame used by the miner was kept cool by the sheath of copper webbing. The miner was protected, and explosions were supposed to be things of the past. The reasoning of the whole thing was perfect. Coal, or any other carboniferous deposit, always gives off some kind of gas or oil. In Pennsylvania it has broken up into oil, so no one tries to get coal; the oil bubbles up too freely. The same thing happens in Baku, on the shores of the Caspian Sea. Here some of the oil wells caught fire thousands of years ago, and are still worshipped by the peasantry.

But in England the dead forests that make the mines are so old that very little of either gas or oil is to be found in them. Gassy mines are the exception, and even in the dryest there is very little chance of any gas explosion.

Yet when the explosion does happen the effects are gigantic. It is no tiny thing like the explosion of a 13.5in. naval gun, or of a hundred such. The broadside of a super-Dreadnought is a quick, evanescent thing, that makes a big noise, and may possible do considerable damage. It is caused by concentrated explosives working through little tubes called guns. When the great forces of Nature set to work in a small way they send their slow, deep-throated terrors through a few miles of tunnel under the ground. The explosion as a rule moves slowly. Experiments have often been shown in our lecture halls, inside glass tubes, and it has been shown how the wave front of the explosion, a white sheet of fire, can move forward slowly or quickly. In the gun of the battleship it moves quickly, and pushes its half-ton or so of metallic shell a few miles—ten or twelve, not a hundred—and has finished. In the dry mine the flame-wave moves slowly, irresistibly. Thousands of tons of earth crumble up before it, and men do not count.

These things seldom occurred in damp mines, yet for years there was no doubt that gas had not very much to do with it. The Davy lamp did not prevent explosions. Possibly it may have done something. Hundreds of mines may have been saved, but explosions did not stop.

There came an explosion near Glasgow many years ago in a flour mill that changed all the old opinions. Flour is a substance that burns easily, but it was not known before then that flour, finely dispersed like dust through the air, could burn in a flash like gunpowder. When this great object-lesson was seen, experts turned their attention towards coal dust. It was found to be a very unfiery substance. To grind up Welsh anthracite very finely, to blow it into the air and to try to light it is a lost endeavor. Even the simple experiment of blowing a little anthracite powder through a piece of tubing—a pea-shooter will do—into a gas flame only tends to put the gas out. Blowing finely ground rosin—not real resin, but the colophony that musicians call rosin—through the gas flame has a very different effect.

It seems strange to say that the old dried-up resins of the trees that grew millions of years ago found their way into the mines and cause explosions. Yet it is so. During the first few days when the Science Department of the Coronation Exhibition was being put together there was a Lancashire miner who was cutting sections of varjous kinds of coal—tiny sections so thin that they appeared like semi-transparent leaves. Many of them must have been cuttings from the trunks of trees, giant grandfathers of the pine that had lived and died ages long before the chalk cliffs of England were either laid down or built up. As he shook his films of coal a rain of particles fell out, a fine heap. Even when it settled down the heaps were easily lighted. No doubt these minute grains of matter, stored up so long ago in the cells of the giant carboniferous forests, have been the cause of many an explosion.

Until a very few years ago little was known of fossil botany. Many plants were known. Indeed, any elementary text books of geology printed ten years ago gives quite a list of fossil plants. The lists were much the same as those of the shells—carefully classified, but not much more. New methods have changed all this. The sections coarsely made by Lancashire miners are now made of wonderful thinness by microscopists. The intimate structure of the wood and leaf of palaeozoic times is being made out and a new science of palaeobotany is growing up. An intimate knowledge of the old plants is being gathered. It seems a far cry from the work of the modern microscope to the protection of the miner, but such is modern science. The ladies—for they are mostly ladies—who are working with the dainty films of coal are as likely to save thousands of lives in coal mines as was Sir Humphry, the inventor of the Davy lamp.

Pragmatism.—This was the note which was handed to one of the grade teachers the other day:

"Dear Mum—Please ixcuse Johnny today. He will not be at school. He is acting as timekeeper for his father. Last night you gave him this iximple, if a field is 4 miles square how long will it take a man walking 3 mles an hour to walk 2 1-2 times around it? Johnny ain't no man, so we had to send his daddy. They left early this morning, and my husband said they ought to be back tonight, tho it would be hard going. Dear Mum, please make the nixt problem about ladies, as my husband can't aford to lose the day's work. I don't have no time to loaf, but I can spare a day off occasionally better than my husband can. Resp'y yrs. Mrs. Jones."—Miami News.

Propriety.—"What are the proper calling cards?" "Threes or upwards are considered very good."