



PAPERS OF THE CONFERENCES

Held in connection with

*The GREAT INTERNATIONAL
FISHERIES EXHIBITION*

PRACTICAL FISHERMEN'S
CONGRESS

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International Fisheries Exhibition

LONDON, 1883

PRACTICAL

FISHERMEN'S CONGRESS

COMPRISING THE FOLLOWING SUBJECTS

DESTRUCTION OF IMMATURE FISH

HARBOUR ACCOMMODATION

BETTER MEANS FOR PREVENTION OF LOSS
OF LIFE AT SEA

RAILWAY RATES

FISHING VESSELS' LIGHTS



LONDON

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1884

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PRACTICAL FISHERMEN'S CONGRESS.

FRIDAY, OCTOBER 26, 1883.

EDWARD BIRKBECK, Esq., M.P., in the Chair.

THE CHAIRMAN said he had great pleasure in opening the Practical Fishermen's Conferences, and on behalf of the Executive Committee, of himself, and the public, he thought he might say that no greater interest could possibly have arisen in connection with these conferences than the final ones, which were to be discussed, as he hoped, by practical fishermen themselves. The subjects placed on the agenda were all matters of vital importance to the fishing interest, and to the public at large, and he proposed to take them in the order in which they appeared. The first was as to the destruction of immature fish; the second, harbour accommodation; the third, better means for prevention of loss of life at sea; the fourth, railway rates; and an additional one had just been sent in, namely, the question of fishing vessels' lights. All those were matters of very great interest, and he was quite sure that when the time came for all the unique collections which would be published by the executive committee, of all the discussions which had taken place, together with the essays

and the handbooks which would be printed, that the Practical Fishermen's Congress would form a most interesting and important addition to that work. He had now great pleasure in opening the question of the destruction of immature fish. It was a subject which had already been discussed to a great extent by various authorities, some of them very high authorities indeed, and by some of their foreign friends who had attended the conferences. The matter had never been placed on the agenda before, though it had been indirectly introduced into various discussions, prominently by Professor Huxley, when he alluded to the question in his opening address. He was himself more and more impressed that it was a subject of the greatest possible difficulty, and he thought that many persons had not borne in mind that it was an international question, and one that it would be impossible for them as a nation to deal with alone. If anything is to be done, in his opinion, it must be done in an international point of view. In saying that, it must be palpable to every one that they had no jurisdiction as a nation beyond their territorial waters, which is the three-mile limit. Therefore, supposing for one moment that any Bill was introduced into Parliament as affecting the destruction of immature fish, it could only have jurisdiction within the three-mile limit, so that if the English fishermen were to be in any way restricted in the capture of immature fish, the French, Dutch, Germans, or any other nation could do what they liked just beyond that limit; they could laugh at the English fishermen for being restricted, and could capture any amount of immature fish and send them to the foreign markets or to the English markets. Therefore, an injustice would be done to the English fishermen if they were restricted and the foreigners were

allowed to do what they liked. That being so, it was clearly an international matter, and one which alone could be brought to a satisfactory conclusion by an international conference—he did not mean such a conference as had taken place at the Exhibition, but a duly authorised conference such as took place at The Hague two years ago, a conference in which he was specially interested, and worked hard for many years to obtain. The Conference at the Hague was a most satisfactory one, and if anything was to be done to prevent the destruction of immature fish, it would possibly be done upon the same lines as upon that occasion. With regard to the destruction of immature fish, Mr. Jex, who had kindly consented to introduce the subject to the meeting, would point out what was going on in all directions; he would probably refer to the size of the mesh of the nets used round the coasts of the United Kingdom, and the sizes of the fish brought into the market; but there was another point which he wished to mention, namely, that probably the scarcity of fish had arisen in a great measure from the extraordinarily increased demand. Fish was now sent to every town throughout the kingdom by means of the railways and the parcels' post, and he had learned on excellent authority that even through the Exhibition the demand for fish had palpably increased, no doubt owing to the cheap fish dining-room, in which an enormous quantity of fish had been consumed. Even Boards of Guardians were now giving fish dinners to the paupers once a week, which in itself would create an increased demand. No doubt the fishing-grounds had been fished to a most extraordinary extent, and owners had now to send their fleets and smacks to a distance which was never contemplated years ago. All he could say as regarded the Exhibition

was, that he confidently hoped there were inventions which had been exhibited which would enable the owners to prosecute their fisheries at a far greater distance than they contemplated before, and in that way the supply might be kept up. He alluded especially to the adoption of steam. The Executive Committee at the outset, when they framed their classification, thought it was most important that a special prize should be given for the best trawl net for preventing the destruction of immature fish, and though the report of the Jurors in connection with those exhibits had not yet been made public, he had had an opportunity of reading it, and he regretted to say that the Jurors could not find any exhibit in the Exhibition which was worthy of the special prize that the Committee offered. One point which had struck him, as regards this great question, was that it might be found by an International Conference, or by the Legislature, that a move in the right direction would be to pass a law prohibiting the sale of immature fish. He did not wish to express an opinion strongly one way or the other, but it was a point which is worthy of consideration. If the smack owners sent small fish up to market, whether it was to Billingsgate, Birmingham, Manchester, or anywhere else, and they found that the sale of small fish would not be allowed, then he felt confident that they would at once come to the conclusion that it was not worth their while to pay the excessively high railway rates which they had to pay, and have their fish confiscated. He had very much pleasure in calling upon Mr. Jex to introduce the subject of the destruction of immature fish.

Mr. JEX said this was a vast and important subject, not only to English fishermen, but to all nations of the world. Immature fish were being destroyed, not only by British

fishermen round the British coast, but by fishermen of all countries fishing in the same waters, and even in all parts of the world. That Conference had more particularly to deal with the destruction of immature fish upon the British coast, and therefore he would take the matters in proper rotation. He trusted that after many gentlemen had expressed their opinions in that room, the further consideration of the subject would be adjourned until there was a better representation of fishermen present, and that the wardens of the Fishmongers' Company would consent to lend their hall for the purpose of the matter being further discussed in the month of January. Drift-net fishing was in full operation as well as the trawl-net, and long-line and hand-line, consequently the present was a most inopportune time for holding the Conference. In the fishing population of the British islands, he might say there were not nine out of ten who believed in theoretical men, but rather in the practical man who had worked from his boyhood in every branch of fishery. One gentleman, who was a very high theoretical authority, lately said that the fishermen of England should be allowed to use what net they liked, to fish when they liked and how they liked, but that was what he should call extermination. Many of these theoretical people put views before the practical man that the practical man would not look at at all, as they were wrong altogether, and he did not think he should be far wrong in saying that ninety-eight out of one hundred of the fishing population did not believe in them. In the first place, he would deal with the drift-net fishery. Before the repeal of the Sea Fisheries Act, in 1868, no one could use a net for the capture of herrings with a mesh of less than one and a quarter inch, but since the repeal of the Act he had measured no less than twenty herring

nets with a mesh of thirteen-sixteenths of an inch at Yarmouth and Denes during the past week. The nets to which he referred were particularly used by his brethren from over the border, the Scotchmen from Banff, and that neighbourhood. When these nets were used, they were acted upon by the action of the sea, the result being that the large fish which struck the net were nosed, the greater proportion of the large fish being lost, and only the small taken. He thought it was quite time that the Government took the subject in hand, and defined the mesh of net to be used. He quite agreed that the mesh should not be forced upon British fishermen unless a convention could be made with other countries, with all the fishermen fishing in the same waters. The mackerel net was used in much the same way as the drift-net, but the mesh of that as used by the people on the east coast was twenty-seven meshes to the yard, and was used in the same way, but many were now using thirty-two and thirty-three meshes to the yard. No doubt that acted in the same way with mackerel as the drift-net did for herrings. Of course they could not make a convention as to that without all the other countries agreed. Pilchard were captured by the drift-net of forty to forty-two meshes to the yard, and the question now for consideration was whether the mesh was too small or too large. That subject was one which he hoped the practical men now present would deal with. The garvie or sprat was also caught by the drift-net, and he held in his hand a sprat-net obtained from Leigh, in Essex, of a very small mesh, and, of course, those present would understand that the mesh was smaller when wet than when in a dry state, the consequences being, that when such a net was used the small fish could not escape. It had been said by gentlemen of high theoretical authority

that the herring was some two or three years in arriving at maturity ; but he was prepared to show that the herring, from the time it left the parent fish, became a full-sized fish in the space of twelve months, thus proving that theoretical men knew very little of the subject. When the fish matured, it shot its roe in a temperature suitable to the good ripening and coming to life in from ten to forty days, and if the little insect life escaped its many enemies, in seven weeks it became from $2\frac{1}{2}$ to 3 inches long ; when in the months of February and March they had arrived at a length of from 6 to 7 inches they were caught as spring herrings, and very often for bait. The trawl-net fishing was one of the most important industries of the British Islands, and upon the table before him there were specimens of small soles, haddocks, and plaice which had been sent to Billingsgate Market that morning. Thirty years ago he worked in a trawler from Yarmouth, as a cabin-boy to Mr. Richard Yaxley, when but a small number of vessels left that port ; but now Yarmouth numbered 600 sail of vessels in the trawl fishery, and quite that number in the drift-net fisheries, and the tonnage of each vessel upon the average is double the tonnage that it was in his early days. In those days they had only to go to the Knowle, a short distance from Yarmouth, say from twenty to thirty miles, to obtain the fish, and in one night he had seen captured on board the little vessel upon which he was, eight to ten double of soles, and a very large number of plaice and haddock ; the soles being sold at 7s. to 8s. per double, but at the present time they fetched £6 per double. Many people wondered why trawl-fish should be so dear, but as the Chairman had stated, he thought the great increase of population had much to do with it. Referring

to the size of the nets used at different places, he stated that at Scarborough, Hull, and Grimsby, they used a universal size of mesh, namely, from two to three inches in the clear. One would naturally suppose that that mesh of net would allow everything to go through that should go through. Great praise was due to the people of these places, for keeping to the larger size mesh net. At Yarmouth, he found that the mesh was reduced to $1\frac{1}{4}$ and $1\frac{1}{2}$ inches, in the same part of the net; at Lowestoft it was $1\frac{1}{4}$ inch; at Ramsgate it was rather smaller; at Brixham it was smaller still, and at Plymouth about the same. A great deal of the destruction of immature fish by the trawler was caused by the small mesh in the cod end of the net, owing to the ground-chain nipping the ground, and so taking everything into the net. In the mesh used by the fishermen of Scarborough, Hull, and Grimsby, a great proportion of the *débris* and smaller fish would go through the mesh, but when the mesh came to be reduced to one and a-half inch the *débris* choked the net, thus causing the fish to be smothered or drowned by the vessel going through the water. When the nets were hauled there was no question about it that the great proportion of the fish were found to be dead. One of the principal things to recommend to the Government would be that any one found in possession of a fish under a certain size should be amenable to the law. If a universal size mesh of net was used by the fishermen of all countries it would result in a great benefit to the public at large and the fishermen of all countries.

He had heard it stated that the "trawl" was first used in England by the fishermen at Brixham some time during the last century, but he must go back to a very early date in English history for this origin. He found in the Govern-

ment records a petition presented to Parliament in the year 1376-1377, in the reign of Edward III., and the petition reads thus—"That whereas, in several places within your said realm, in creeks and havens of the sea, where was accustomed before these times to be a good and plenteous fishery, to the great profit of the realm, which is in part destroyed and rendered valueless for a long time to come by some fishermen who have for some time during seven years past, by a subtlety, contrived a new instrument, which is amongst themselves called a *Wondyrchoum*, made after the fashion of a dag for oysters, which is unusually long, to which instrument is attached a net of so small a mesh, no manner of fish, however small, entering within it can pass out, and is compelled to remain therein and be taken: and besides this, the hard and long iron of the said wondyrchoum destroys the spawn and brood of fish beneath the said waters, and also destroys the spat of oysters and mussels and other fish, by which large fish are accustomed to live and be supported: by means of which instrument called wondyrchoum, in many places aforesaid, the fishermen aforesaid take so great abundance of small fish aforesaid, that they know not what to do with them but feed and fatten their pigs with them, to the great damage of the whole commons of the Kingdom, and the destruction of the fisheries in like places, for which they pray remedy."

"*Responsia*.—Let Commission be made by qualified persons to inquire and certify on the truth of this allegation, and thereon let right be done in the Court of Chancery."

In the seventh year of the reign of Henry VII., 1491, of the fishermen working upon the Norfolk and Suffolk coasts and about Orford, now called Orfordness, many

were convicted and fined £10 (about equal to £100 at the present time) for fishing with small-meshed nets and unlawful engines for taking small fish. In the reign of James I., very strict measures were enforced for the suppression of the use of the illegal nets then employed by fishermen in trawling on our coast. For example:—On 13th April, 1619, the Mayor of Rye wrote to Lord Zouche, who, as Warden of the Cinque Ports, was *ex officio* in fishery jurisdiction and affiliated to the Admiralty, announcing that certain fishermen were taken off that part of the coast for fishing with unlawful nets. Similar proceedings occurring from time to time produced such beneficial results that on the 27th February, 1621, the Mayor of Rye again writes to his lordship, conveying to him the thanks of the fishermen of that port for his action in directing the suppression of unlawful nets. Similar cases could be quoted at other parts of the coast, proving that the fishermen, as a rule, were up in arms against the abuses caused by small-meshed nets.

The Mayor of Hythe wrote to Lord Zouche on 7th March, 1622, complaining that the fishermen of Rochester and Stroud, who were trawling off that port with illegal nets, resisted his interference, but would answer any accusation at London. Therefore he (the Mayor) requests his lordship to take action thereon without delay, adding that his town is ruined by such proceedings. In the reign of Charles I., illegal and small-meshed nets, sometimes used by the French, Dutch, and by our own fishermen, caused considerable notice, and stringent measures were adopted from time to time to suppress this nuisance. In the year 1630, Viscount Dorchester, one of the principal secretaries of state, to whom this great fishery question was entrusted mainly at the King's request, was inundated with petitions

from the fishermen from all parts of the coast, complaining of the small size of the meshes of the nets used by some trawlers, and with suggestions of various new regulations for correction of abuses in this description of fishing. Many different opinions were submitted, but it was on all hands agreed that the deterioration of the sea fisheries was attributable to the destruction of the fry, consequent upon the use of improper nets both by foreign and English fishermen. During the interregnum we find the Cromwellians following the policy pursued by the Cavaliers with regard to this question, and the good old regulations, whereby the use of the small-meshed and other illegal nets was prohibited, were then enforced with the utmost rigour of the law, and when any illegal nets were found on board any trawler, or in possession of any fisherman, the nets were seized, confiscated, and invariably burned. Several instances are preserved amongst the Admiralty records, formerly kept at Harwich.

Immediately after the Restoration, Charles II. and his ministers of state directed special attention to this question. The mesh of the trawl-net was regulated and fixed at various standards.

From the time of James II. to the accession of Queen Anne, somewhat similar regulations were enforced, and the great increase in the number of trawlers upon the English coast at this time, combined with the quantity of fish they caught, proves the wisdom of our ancestors in adhering to the due observance of those salutary measures, and, what was of more importance, the vessels had not to proceed far out to sea, and in a comparatively short time returned to port laden with good catches. The wanton destruction of immature fish, which we now see on many parts of our coast every time the trawl-net is heaved on deck, was utterly unknown in those days, and the abuses

perpetrated under this head never were prominent until the statutory mesh of the trawl-net ceased to be noticed by the Government.

The principal fish taken by the trawl-net are :—Turbot, sole, brill, dory, mary, cod, plaice, haddock, red and grey gurnard ; also the sapharine or tubfish, whiting, weaver, sand dab, skate, ray, red mullet, hake, ling, coal-fish, cat-fish, conger eel, halibut, sturgeon, and often large quantities of oysters, with a few crabs, and by chance a lobster—plainly showing there is very little escape wherever the trawl-net, as now in use, passes over, more particularly by the nets used by vessels south of Great Grimsby to the Land's End ; and we find the same abuses in the size of the mesh on the west coast of England.

Before closing his remarks upon this important subject, he would give the size of the cod end as used in the trawl-net at several of the principal fishing ports ; but, before referring further to them at present, he would first of all address himself to the fundamental and all-important question with which he started : Have the trawl fisheries of England deteriorated ? In answer to this pertinent question, most emphatically he would say, yes, they have, and will still continue deteriorating, unless such legislative action is taken similar to that which had such salutary effect on the fisheries in the reigns of Edward III., Henry VII., James I., Charles I., Charles II., James II., and other monarchs since that time, as well as during the Commonwealth, and compel the fishermen of to-day, as then, to adopt certain well-defined remedies.

The next point of the subject with which he would deal was the seine-net fisheries. The seine-net now in use around the British coast was one of the most destructive nets possible. The net was frequently taken from off shore by a

seine boat, the net being shot some distance at sea and brought into land by a tender. There were various kinds of seine-nets, all of which did an incalculable amount of harm; he himself having seen large heaps of small fish taken out of them and left upon the shore for the next tide to wash away. When in France some short time ago, a deputation of fishermen waited upon him at Boulogne, and they agreed with him as to the destruction of fish upon their coast, and informed him that the French Government would not allow a seine-net to be used. He asked them if they had any stake-nets; at first they said they had not, but afterwards admitted that they had, though they were twenty-seven meshes to the yard, and were anchored nets for the capture of herrings. He noticed some thousands of pairs of soles in Boulogne market which were not four inches long, and hundreds of little skate and ray. The French fishermen agreed with him that the fisheries were being ruined, but they put it down to the small nets used by the shrimp boats. From the red shrimp nets which he held in his hand, and which were used at Gravesend and that part of the coast, it was plain that anything which got into it must be destroyed. They could not exactly stop shrimp fishing, but still some provision ought to be made as to the distance at which the shrimp boats should work from the bays and headlands, and there should be a specified mesh of net which they should use. What they had to look to was the food of the masses, and as it was clear that a large amount of fish was destroyed by this class of fishing, it was evident that the shrimp-fishing was a subject which required to be investigated. The fishermen in France to whom he had referred said that they would write to the Minister of Marine in order to induce him to enter into a convention with the British Government to put a prohibition upon the

use of small-mesh nets. Having exhibited to the Congress the cod end of a trawl-net used from the port of Leigh, the mesh being about three-eighths of an inch, he said that it was monstrous that such a net should be allowed to be used. He quite agreed with the Chairman that they could not force a close time, or insist upon an enlargement of mesh of net without a convention of all nations. The Yarmouth fishermen very truly said that if they did not catch the spring herrings the Frenchmen would do so, but he maintained that it was a great shame that fish were not allowed to arrive at maturity. He had known midsummer herrings to be sold upon the beach at twenty-five shillings per hundred, but now it would not pay to send boats out to catch them. He did not intend to go into the question of long-line and hand-fishing, as that was the fairest mode of fishing there could be. Of course no one could stop the most minute fish from taking the bait upon a long line, and he held in his hand two small cod which had come all the way from Newfoundland, proving that small fish were caught in all parts of the world. He would not detain the meeting further by any remarks, but should be most happy to answer any questions which might be put.

Mr. CAPPS (Lowestoft) said he was a practical drift fisherman, having been acquainted with fishing all his life. Some time ago Mr. Frank Buckland held an inquiry at Yarmouth upon the subject of Spring Herring Fishery, and after taking a deal of evidence, that gentleman had come to the conclusion that the spring herring fishery did no harm. It was well known in Yarmouth that if a spring herring lived for ten years it would never become a midsummer herring. Vessels commenced fishing about seventy miles east by north from Lowestoft, and there they caught the spring herring, which was not a young herring, but a

herring which had shot its spawn in the early part of the spring. There were always some fish which had not shot their spawn, and the fact that some of these spring herrings were caught late in the year with hard spawn in them, which they had been unable to discharge, proved that they were not young fish, and as spring came to an end, these fish came in to within twenty-five miles of Yarmouth, and till ultimately the spring-herring fishery finished at a distance of twelve miles off the shore. At the termination of the spring-herring fishery upon the 20th of May, it would be found that the fish were not so large as at the commencement of fishing. This conclusively proved that spring herrings were not young herrings. A spring herring and a midsummer herring being shown to Mr. Buckland, the question was put to him whether, as an amateur fisherman, he could bring his mind to believe that herring would grow from this size in the latter part of May to the middle of June, and he said that it was an impossibility, and that he was perfectly convinced that the fishermen of Lowestoft were right when they said that a spring herring and a midsummer herring were not identical. Another argument in support of this view was that during the spring herring fishery, although a large number of fish were left in the water, and it was thought that in consequence there would be enormous catches at midsummer, it turned out, although there were over one hundred boats fishing during the midsummer season, not a single boat paid its expenses. This to his mind conclusively proved that the spring herring and midsummer herring were not identical. He also agreed with what Professor Huxley said at the Norwich Exhibition, that drift fishing did not diminish the quantity of fish. Professor Huxley proved that cod devoured more

herrings than all the vessels caught in the year ; that a cod of average size would take from eight to ten herrings at a meal, and he made a calculation of the number of cod, and comparing it with the number of herrings caught, he proved that cod devoured more herrings than were taken by the boats. Mr. Jex had very rightly said that herrings in the summer season fetched as much as twenty-five shillings. He (Mr. Capps) had seen them fetch a guinea, and he had also sold spring herrings for a guinea, so that supposing both were sold for the same price, it mattered very little to fishermen whether they sold them at a guinea in the spring, or at a guinea at midsummer, for it came to one and the same thing. He quite agreed with what Mr. Jex had said as to the small mesh used by Scotch fishermen, though he could not agree with him altogether about the fish being knocked out of the nets by the action of the boats. With regard to Mr. Jex's remarks as to nets used by the Yarmouth fishermen, he thought that gentleman had been misinformed, as the Yarmouth and Lowestoft men used a net of thirty-one meshes to the yard. Mr. Jex had also been misinformed as to the mackerel-net used upon the east coast, as no net with a mesh smaller than twenty-six to the yard was ever used. If any law could be passed that would affect all nations, no body of fishermen would be more pleased than those of Yarmouth and Lowestoft, though he should very much regret if the House of Commons interfered with an industry which now employed a very large number of men, and which if interfered with in an undue manner would produce most disastrous results. He hoped the Conference would not be concluded that day, but that the matter would be well thrashed out at a future time when there might be some practical effect from the Exhibition.

Mr. Alderman STAPLES (London) said that although he

was not a practical sea-fisherman, he had taken a very active part in the inquiry lately made by the Corporation of London with regard to the fish supply of the Metropolis. What struck him most, in looking over the Exhibition, was that everything was done for the destruction of sea-fish, and nothing for their protection. In fact, the sea-fish did not appear to have any friends in the Exhibition. He thought that the prevention of the destruction of immature fish ought not to be the only object of this section of the Congress, but that artificial propagation of sea-fish ought also to be considered. Many of the fishing-grounds around our coasts were not as well stocked as in former times, and some places appeared to be entirely deserted. Our fishermen were now compelled to go a distance of three or four hundred miles in order to obtain their supplies of fish, which ought to be found nearer home at less expense. Much had been done for the protection and propagation of salmon in this kingdom, from the fact that large numbers of people have vested interests in salmon rivers; but no one had such interest in the open sea, and consequently nothing was done there for the preservation of the fish. The world at large is interested in the supply of sea fish, and he contended that the interests of the people could only be preserved by means of legislation. He quoted, in support of this statement, an Act of Parliament to prevent the sale of crabs and lobsters under specified sizes, which had exercised a very beneficial influence on the supply, and suggested that similar restrictions should be placed on the capture of very small fish. The American fisheries enabled us to estimate the evils produced by excessive or improper fishing. Within fifty years no waters of the same extent in the world could show such numbers of shad and herring as the Potomac

river, below the Great Falls. In the year 1833, 25,500,000 of shad were taken by the Potomac fisheries, as well as 750,000,000 of fresh-water herring. In the year 1878 the catch of shad had dwindled down from 25,500,000 to 224,000, or less than 1 per cent. of the yield of 1833; the catch of herring was also reduced from 750,000,000, in 1833, to 5,000,000 in 1878, again less than 1 per cent. of the yield at the first-mentioned period. In the year 1878 upwards of 12,000,000 eggs of shad were taken in Albemarle Sound and distributed to all parts of the States, with generally satisfactory results. Experiments made at Gloucester Sound showed conclusively that the sea-herring could be multiplied artificially on a sufficiently large scale for economical purposes. But the most important success of the United States Fish Commission was the hatching out of several *millions of cod*, and planting them in the ocean adjacent to the harbour of Gloucester. Special arrangements were of course necessary, as the principle is diametrically opposed to that adopted in connection with fresh-water varieties, the eggs of the cod family being non-adhesive, and floating freely on the surface of the water. The same system can be applied for hatching out haddock, mackerel, halibut, and other species. He thought the British Government should be urged to take the necessary measures to remedy the deficient supply of fish round our coasts, and to establish at least one experimental station for the culture of sea food-fishes, this being a national requirement beyond the province of private enterprise. He confidently believed that if a vessel were constructed and anchored in the proper quality of water, an enormous propagation of sea-fish could be accomplished, and the supply of cod, &c., not only increased where it is at present found, but, by carrying the

young to new localities, fresh fisheries could be established. One of the benefits derived from this Exhibition, and by no means the least important, should be the collection of such information as would enable the Legislature to act for the public benefit in improving our in-shore fisheries, and induce other Governments to act in concert.

Mr. HENRY SMITH (Brixham) said he had heard it stated during his experience of forty-three years that if their forefathers were wrong, to a certain extent their children were wrong, but he should be able to show that in all cases it was not so, inasmuch as the fishery of Brixham as carried on forty years ago, was a very different thing as compared with that of the present day. Mr. Jex had held up for their inspection a piece of net—a part of a trawl-net which was used at the present time at Brixham; and as a representative of the place, he (Mr. Smith) wished to do all he could to put down the practice of destroying many tons of small fish. Many years ago the smacks employed in trawling were much smaller than those in use at present, ranging from eighteen to twenty tons, but now they ran from forty-five to fifty tons, showing that now they did not work with the same kind of materials as their forefathers did. The trawls now in use were of very considerable length and size in mesh, and would compare favourably in size with those used at any other place. Taking a net of 65 feet for the beam, the mesh was three and a half to four inches in the clear. He had had fifteen years up and down the North Sea fishery, and having seen the trawls used by the fishermen of Hull, Grimsby, Yarmouth, Lowestoft, and Ramsgate, he could safely say that the Brixham trawl would outstrip in size and length that used by any fishermen from any other place. The fishing net which Mr. Jex presented to the audience as a sample of the Brixham

net was by no means the net now in use, nor was it even made in Brixham ; it was merely a "chafing piece," which was used to prevent the chafing of the net, and no doubt it had been obtained from the North Sea fishermen, but it was no part or parcel of a Brixham trawl-net. With regard to the hemp piece of net which had been exhibited, that was only used at the bottom of the trawl in order to keep the fish in when once caught, and the small fish had an opportunity of going through the trawl before they reached that small piece. He denied most positively that the Brixham fishermen were in the habit of destroying the spawn of fish. They had great cause in Brixham to complain of the destruction of immature fish, and at three little places close by, namely, Godrington, Helbury, and Paignton, it was the general custom to use the horse drag-seine, the mesh being so small that everything which came before it was dragged on to the sands, and there left to perish. He had seen thousands of little brill, turbot, and soles left upon the sands to perish. Ten years ago they had trawlers ranging from forty-five to fifty tons, but now a different state of things was coming about, which was destructive in every sense of the word to small fish, as a class of vessels was now being built ranging from fourteen to eighteen tons register, which used the long line, and attached to the side was a trawl, the mesh of which was considerably smaller than any which had been exhibited that morning. If those vessels were allowed continually to shoot their trawls where they now shot them, and to catch the small fish which they now brought to market, they would be doing an incalculable amount of mischief to the fishing industry of Brixham. Scores of baskets of fish were landed, which were not fit for food, and he had lately seen ten baskets of fish landed from a vessel,

the price offered at a public sale being only three and sixpence, notwithstanding that there had lately been a scarcity in the supply. The price given for these ten baskets at once showed that the fish were so small as to be almost unsaleable. If the destruction of immature fish continued, the fishermen in Brixham would starve. His own opinion was that there ought to be a close season for fish.

Captain CURTIS, R.N., said the question for consideration was whether the recuperative power of the fish was equal to the destructive power of the present nets and mode of fishing. He had it on very good authority that in British Columbia herrings spawned on the branches of trees which project into the rivers, and the Indians lived for three months in the year upon the spawn. He should like to know from practical fishermen whether herrings should be allowed a certain time to spawn, during which time it should be illegal for them to be caught, and the spawning beds protected. Another point which had not been touched upon was with respect to the steam trawlers, for it was a moot point with many whether these vessels did not destroy the spawn upon the ground. Herrings spawn on smooth stones and shingle. He was exceedingly sorry that the jurors had not been able to award the special prize for a trawl-net that did not destroy the immature fish, and although he did not like to be personal, he might say he had seen one net which he considered a very good one. He very much regretted to hear that fishermen used a net of thirteen-sixteenths of an inch mesh, and he suggested that there should be a national Fishermen's Congress, at which laws should be tabulated before being submitted to Parliament, so that there might be one universal law, as far as possible, for all nations, beyond the three-mile limit in the North Sea and Atlantic. Laws for

localities by the fishermen of the district and Corporations should be made. The laws which the fishermen required could be made known by the especial representatives of the class.

Captain READ (Deal), who stated that he had had many years' experience as a fisherman, having served his time as an apprentice fifty-three years ago, and lately as an officer of the Coastguard, said that he had been over some thousands of trawlers in his life, and while stationed at Morecambe Bay he had seen some hundreds of tons of immature fish caught by shrimpers, the fish being sold for manure at sixpence a bushel. He should like to see something done to prevent the wholesale destruction of the food of man which was constantly occurring, and he had exhibited a net, for which he had received a diploma and silver medal. The mesh of this net was capable of being changed from a diamond to a square, thus allowing the immature fish to escape.

Mr. GEORGE COWAN (Eyemouth) was very sorry to hear the report that had been given by previous speakers as to the destruction of immature fish. Mr. Jex had stated that formerly the fishermen of Yarmouth had merely to go to the Knowle, a distance of about twenty miles, to catch the fish, but now they had to go a distance of two hundred to three hundred miles, and he should like to know whether he intended to represent that that was because the ground had been cleared up by trawl-fishing. He had been a long-line and drift-net fisherman for over thirty years, and, notwithstanding what had been said upon the subject by Mr. Jex, he had scarcely ever seen a small fish taken by the long line. Many people had an idea that long-line fishing was of no importance, but he could assure them that the markets were chiefly supplied by the long-line

fishermen, some of their boats landing from ten to twenty-five hundredweight of fish every day. At a meeting at Eyemouth some short time ago, a gentleman from Birmingham stated that he had to pay as much as £100 to get fish from Glasgow to Birmingham, but very likely a great portion of the fish had come in the first instance from Ireland. It was a mistake to say that fish spawned only at the bottom, as he had seen a large quantity of eggs which had been found upon some seaweed floating at the top of the water. The practice of destroying immature fish greatly interfered with the fishing in Berwickshire. Herrings were very careful where they deposited their spawn, the usual place being upon a gravelly bottom. His opinion was, that the herring matured in about ten months.

Mr. JOHN HELYER (Great Yarmouth) said that for thirty years he had been engaged in deep-sea fishing in all its branches in all parts of the world; he was master of a trawler for twenty years, and for the last ten years had been admiral of a fleet in the North Sea. During all this time he had seen, from the Jutland Coast to The Hague, some hundreds of thousands of tons of immature fish taken not only by English fishermen, but by those of every nation. There was as much destruction of immature fish by vessels crossing the sea as took place on the shore, and he thought something ought to be done to put a stop to it, though what measures should be adopted he would leave to persons wiser than himself to suggest.

Captain CURTIS asked what was the percentage of immature fish taken by the trawlers as compared with full-sized fish. His object in asking the question was to see whether it would pay fishermen to bring undersized fish ashore in order to sell it as manure, to convert into fish guano.

Mr. HELYER said the percentage was 60 or 70 per cent.

Mr. JEX remarked that he had been informed by one of his captains that he had thrown more immature fish overboard than he had ever sent to market.

Mr. HELYER said his opinion was that trawl-fishing destroyed a large amount of immature fish. If one boat out of a fleet of one hundred and fifty used a small-mesh net and captured a large quantity of fish, the others were bound to do the same, or else the captains would have to go in shore in consequence of their take not being the same. It was not right that this kind of thing should be allowed to go on. If the adoption of a larger mesh would do any good, by all means let it be adopted, but it must be adopted by fishermen of all nations.

Mr. JOHN HEPTON (Grimsby) said, that having been a trawler all his life, he took great interest in all matters relating to the prevention of the destruction of small fish. It had been stated by one speaker that one cod would eat twelve herrings every day ; but his experience, having seen the entrails of many, he might say thousands of cod-fish taken out, was this, that not more than 20 per cent. of the fish caught would be found to contain any herrings whatever, and of those very few would contain more than four or five at the same time, whilst the different stages of digestion showed that they had been swallowed at intervals. The trawl-fisheries suffered exceedingly from the destruction of small fish. When first he went to sea he had no difficulty in returning after having been out for eight or nine days, with from eighty to a hundred boxes of plaice, besides other fish ; but now things were entirely changed, excepting the Fisherbank season, for although the ships were larger they would return after an absence of about a fortnight with only thirty boxes or levels of plaice and half a score of turbot and one or two boxes of soles. The

expense of obtaining a ton of trawl fish was seven times greater than it was fifteen years ago. It was possible to fish some grounds near at home, until it did not pay to fish them any longer, and then it became necessary to go further away, which of course entailed an additional expense upon the owners. He thought the reason some grounds were not so prolific as formerly was, first, in consequence of their being overfished; secondly, because of the destruction of the food of the fishes; and thirdly, through the destruction of the fry. When speaking of spawn, he referred to the eggs, and fry he called small fish. Having given great attention to the subject, he had come to the conclusion that the spawn of haddock and cod floated on the top of the water; the spawn of turbot he had never been able to find. He believed that one cause of the decrease in the number of turbots was the scarcity of male fish, which scarcity had been brought about by catching the fish when they had congregated on the spawning grounds in shoals. Although he had been fishing since last January, he had only seen one male turbot, and he suggested, in order to increase this kind of fish, an attempt should be made to artificially propagate them. He had not been able to definitely ascertain whether the spawn of plaice floated or sank; it was so light in the water that some would sink and some remain on the surface; but if the water was stirred, that which sank would immediately rise to the surface. His own opinion was that it was held in suspense by the motion of the current. The temperature of the water in which the fish spawned was generally about 45°. No doubt soles were the most important of all fishes. Upon the 8th of July he had in his possession a sole which commenced to spawn; each egg was about one-twentieth of an inch in

diameter, and were totally disengaged one from the other, there being no adhesive matter causing them to stick together. Round each egg was to be found a slight ring, and after they had laid still for a short time, they all went to the bottom, and then the ring showed on the top. He had no means of keeping these eggs, or else he should have tried to go further into the matter of how the eggs were hatched. Fish were now so scarce in the North Sea that in order to obtain sufficient to meet the national wants the number of vessels had to be increased, and the expenditure was barely recouped by the increased price obtained for the fish. He had seen hundreds of tons of fish thrown overboard; but it really was not the fault of fishermen; they were not their own masters, and were forced to go where others went, if a large haul could be obtained. The average weight of an ordinary-sized plaice was three and a-half pounds, and the quantity of small fish that were and are still caught on the German coast during the summer that it took to weigh three and a-half pounds was seventeen. He had seen large quantities of fish thrown overboard, which he considered a great waste of human food, as it was well known that when fish had been brought up in a trawl it was impossible for them to live when thrown back, in consequence of the handling which they received. With regard to the small fish caught around the coast, he could not say much, as he had never been in a shrimper, though he recollected, when a boy, having seen as many small plaice, flounders and brill destroyed as would fill a large basket. He did not wish to interfere with any class of fishermen, but he thought it ought to be made compulsory upon all shrimp fishermen to throw overboard what was of no benefit to them, or to any one else, at that time, because they might be of benefit to

the country at large when they arrived at maturity. With regard to what had been said about fishermen not being able to get a living in consequence of the scarcity of fish, he might say that he could not agree with that, because when fish got scarce the price went up, and it would pay a fisherman just as well if he got sixpence for one fish, as it would if he got sixpence for three. No doubt the question was one which affected poor people, as they were now only able to get for one-and-sixpence what at one time they obtained for sixpence. He had known £15 paid for a box of soles; this large price was caused by the use by fishermen of a small-mesh net. The sole was usually found in the southernmost parts of the North Sea. The subject of nets was one which demanded the consideration of an International Conference, because the nets in use in the United Kingdom would bear no comparison with those in use by the fishermen of Belgium and France, which were of so small a mesh that he could not put his finger through it at the cod end. When the trawl was at the bottom of the sea the fish went underneath the square before they got into it, and if the mesh was large enough they would certainly swim out, especially the sole; but, if it was not of course it was impossible for a small fish to get out. As one gentleman had asked whether fish recuperated as fast as it was caught, he might say that at one time he firmly believed that all kinds of fish were able to reproduce in about five years, but he thought it was impossible to come to any satisfactory conclusion unless you had the fish under your own eyes from the time they were in the egg until the time they were able to reproduce themselves. If plaice had sufficient recuperative power they would not diminish so quickly as they now did. He considered that a plaice would not get to full size under six or seven years.

Soles would spawn in any part of the sea, and he had found both small and large soles at all places, though he never found a small plaice in the open sea. All round the English coast a small fish, excepting soles and haddocks, would never be found outside a distance of three or four miles—they were always found close in-shore, and from that he argued that sea fish did not come in-shore to spawn, but that there was some provision of Nature whereby the small fish were carried from the place where the fish spawned until it arrived upon ground suitable for it to exist. If the small fish were not caught on these grounds they would stay there just so long as the food was suitable for them, and it was well known that food suitable for a small fish was not suitable for a large one, and consequently as soon as they arrived at a certain age their instinct caused them to remove to another part where they found that subsistence which was suitable for them. After they had grown to the proper size when they were able to reproduce, the same instinct which guided salmon to go up the rivers to spawn guided them to the spawning grounds. If it could be satisfactorily proved that soles, turbot, haddocks, or cod, deposit or shed their spawn upon particular grounds, and this can be done, they should have time allowed them during which they might deposit their spawn, and he should be in favour of a close time being enforced on those particular grounds for a certain time, though he did not by any means wish to put a close time on fishing during the spawning season, as there were plenty of other grounds where the fishermen might go to during such times.

If time had permitted he had purposed to say a few words as to any improvement or regulations that might, under the circumstances, appear advisable, and if it is

thought that anything beneficial could be done, why should Great Britain wait for the co-operation of other countries? Our trawl-fisheries exceed those of any two bordering the North Sea for effectiveness, and consequently our benefits would be greater even if other countries reaped some slight advantage through our self-denial.

The Conference then adjourned for luncheon.

The Conference was resumed at two o'clock.

Mr. SALMON (Grimsby) quite agreed with Mr. Jex that every trawl carried by a deep sea fishing-boat should be limited in size. There were a great many which were under the scale, and the consequence was that they caught a great quantity of immature fish which was entirely destroyed. Yesterday, for the first time in his life, he took the exact measure of the mesh of his trawl. There were five different scales; the first was 3 inches, the second $2\frac{3}{4}$, the third $2\frac{1}{2}$, the fourth 2, and the last $1\frac{3}{4}$, and he thought such a scale of mesh would allow any unsaleable sole to escape, and that they had done all that could be expected in Grimsby to stop the catching of immature fish. But he thought it was utterly impossible to stop it altogether, because in the passage of the trawl over the ground, no matter what came in the way it was bound to catch it, and the speed the vessel carried the net over the ground, at the rate of $1\frac{1}{4}$ miles an hour, caused the meshes to be drawn so tightly that it was impossible for the small fish to escape, and even if they did escape after they had been a certain

time in the trawl, he did not think they would live to come to maturity. He had known several fishing-grounds where, when you caught the fish and held them up, you could see through them like sheets of paper, but the next season they found the fish were a little better, and so on ; and he came to the conclusion that the continual trawling and ploughing up of the ground caused worms and small shell-fish to come to the surface, so as to afford more food to the fish, and that, therefore, some good was produced as well as evil. He had no doubt they were all aware that nature had provided different places of protection for animals on shore, and likewise similar places of resort for fish at the bottom of the sea. These were places where sailing vessels could not fish on account of the rough ground-rocks and stocks ; but it was found from experience that on different parts of this rough ground there were portions of what was called fine ground, and the steam trawlers, which were constantly working up and down the coast, found out where these grounds were by means of their lead, and were able to work them, and thus caught the fish in this protected place amongst the rough ground, and thus prevented the fish getting out farther away where the sailing vessels could get at them. It was now necessary to go a great many miles to sea ; the expense incurred in fitting out the vessels was very great, and at times the returns were not enough to make it pay. In former times the vessels were very small, but now, as trade and demand had increased, they had increased in size, and of course in cost ; but it not unfrequently happened that an accident would occur by which the whole of the gear was carried away, to the great loss of the owners and fishermen.

Mr. COWAN wished to add, that at the conference of fishermen at Eyemouth the opinion was expressed that

line-fishing had a good effect, and increased the quantity of fish instead of diminishing them.

Mr. WELFARE (Worthing) said most of what he intended to say had already been said before. He had had thirty-five years' experience, and he had known the time when there was abundance of fish in Rye Bay, and other bays on the coast, but it was not so now, and it was well known that the real cause was the wholesale destruction of the young fry; you might often see soles not an inch in length, and turbot about as big as a whiting. During the last eight or ten years a great many more fish had been brought in and destroyed or used for manure, than were fit for food. In 1878, when he gave evidence before the Commission, on which the late Mr. Buckland and Mr. Spencer Walpole sat, he laid down what he thought would be suitable sizes for all fish to be brought into the market, and he thought if legislation followed those lines the supply might be increased four-fold. If he had the power of a despot, he would do what the late Emperor Napoleon did with regard to the oyster. In 1862 England imported oysters to France, but later on, through the discretion of the Emperor Napoleon in preserving oysters, the tables were turned, and we were now almost depending on France for our supply. Fish spawned at different seasons according to the kind and locality. In the West of England the spawning began earliest, and protection for the young fry was required the same as for the produce of the land. He would not say much about theory, but he considered the present state of the fisheries was entirely due to theorists. Professor Huxley made the remark at Norwich that he would allow fishermen to fish when, where, how, and as they liked. It appeared to him that a steward might as well tell a nobleman when the first fruits of the estate

became ripe, to let in the whole rabble of the town to come in and take the produce at their discretion. He hoped this would not be the last Conference held on the subject, but that it would be adjourned to a more convenient time. They were all agreed that a wholesale destruction was going on all round the coast, especially on the south coast, and he could sometimes shed tears of vexation to see the little fish brought in. The Crab and Lobster Bill was almost a dead letter, and in 1861 he sent to the Home Office a crab weighing one-and-a-half ounces, which was the largest he could select out of about ten bushels. The law forbade the offering of these fish for sale under a certain size, but there was nothing to prevent the men catching them and eating them themselves, or giving them away, which seemed to him a great mistake. The Act had been in operation since 1877, and had done no good at all.

Mr. JEX asked Mr. Welfare whether seine-nets were worked on the south coast.

Mr. WELFARE said yes. In 1866 he was a witness to about ten thousand mackerel being brought in, out of which only eight hundred were large enough for sale.

Mr. J. C. BLOOMFIELD wished to say a few words in behalf of the Irish fisheries. He had never been so delighted in his life as to hear a number of practical fishermen discussing in such a masterly manner the interests with which they were connected. He would impress upon them that the question of international law was one of great difficulty; they would never get a Frenchman to alter the mesh of his net, or to do anything whatever in the interests of the English fisherman; whatever he did would be done in his own interest, and his interest would be according to the party who happened to be in power at the time. If

Mr. Birkbeck, with all his energy and ability, endeavoured to carry out the international system, it would be the hardest task he ever undertook. Every now and then the shifting of responsibility in the Cabinet of France would upset the scheme altogether. He therefore begged them to stand by each other, and with the independence of Britishers endeavour to carry out some regulations for their own benefit. He found on one point a great deal of ignorance manifested by most of the speakers, and that ignorance was not confined to them, but was shared by the Chairman and many others, and that was with reference to poor Ireland. Mr. Jex had shown that, owing to various circumstances, they were driven far out of the grounds they had formerly fished, and they had been obliged to expend more money, and to go three hundred or four hundred miles off; they did not seem to be aware that within a very short distance—only eighteen hours from the London market—there were over two thousand miles of coast unfished, but that was the fact, as he had proved in the Paper read at these conferences, from official documentary evidence. What was required to improve this industry was, first of all, harbour accommodation, and next, proper means of transit, so that when the fish were caught they might go to the nearest point, and be conveyed to market at once.

The CHAIRMAN reminded Mr. Bloomfield that the subject he was now touching upon would be discussed later.

Mr. BLOOMFIELD said he was not aware that the discussion was confined to the destruction of immature fish, but on that subject he could only say that the Irish were entirely innocent, because for want of a market, transit, and means, the quantity caught was infinitesimal compared

with the existing supplies, in vain presented by a kind Providence.

Mr. JAMES ALWARD (Grimsby) hoped this meeting would not be the last one on the subject, but that out of it would come a conference of practical fishermen, and that arrangements would be made such as would enable more of them to attend. London was a long way from most of the fishing ports, and many people were not able to come who were interested in the matter. He heartily concurred in what had been said by the last speaker with regard to the Irish coast, where he believed fish abounded; but the gentleman who spoke before him gave an illustration which was not quite applicable to the case. He spoke of a man having a quantity of fruit and vegetables, and allowing the people at large to come in and destroy it, but they happened to know all about the physical causes that governed the fruit, vegetables, and other products of the land, but unfortunately they were in a state of gross ignorance with reference to the sea. He had studied the question himself a very long time, and had just reached the point of being aware of his own ignorance, and also that there was a great amount of ignorance on the part of others. He should have no difficulty, if time allowed, in entirely flooring many of the arguments which had been put forward that day. An instance had been given of a large quantity of mackerel being caught with a seine-net, out of which there was only a certain number fit for market. But how was a difficulty of that kind to be regulated? If the fish abounded on the coast, and a man went out with his net, and took a quantity, how could you prevent the small fish being taken.

Mr. WELFARE. By making the mesh of larger size.

Mr. ALWARD said the gentleman who spoke before had

shown that when the meshes were tight the net would take fish you did not want to take. You might impose what restrictions you liked on the net, but when there was a certain strain upon it, though theoretically a given size mesh would allow any size fish to escape, practically it was not so. You could not allow a shoal of large fish to escape because there was a danger of taking some small ones. If that line of action were adopted no very large fish would be taken. He listened with great pleasure to the opening address by Mr. Jex, at Norwich, and also to the one delivered by Professor Huxley, in which he made the statement which had been referred to, that he would allow fishermen to fish as when, how, and where they liked ; and he would advise all his friends to hold their judgment in suspense on that matter, because it was not at that conference that they would get at the real state of the case. After all, it might turn out that Professor Huxley was correct in his conclusions ; but there was not sufficient time to enlarge upon the matter, and to show how it might be so. One gentleman spoke about steam trawlers, others against trawling altogether, others about line-fishing and drift-net fishing, but in all these investigations it would be found that the various classes of fishermen abused the means used for the capture of fish by other classes, and this consideration must have its due weight. He admitted the public generally were not actuated by ideas of that kind. To them it was a broad question, could anything be done to maintain and preserve the bountiful supply of fish which was so valuable as an article of food? But a right conclusion could only be arrived at by getting the scientific man with his knowledge of natural history and other sciences, and the practical fisherman, and putting the views of one against the other, and having the thing

reasoned out deliberately. Many of the propositions put forward that day, although they appeared very plausible, when they came to be thoroughly examined had no practical weight whatever. It gave him very great pleasure to notice the careful manner in which Mr. Hepton, a practical fisherman, was studying this question; and there was great evidence that whatever fishermen had been in the past, they were now progressing, and that with the spread of education and love of reading there would in the future be people connected with the fisheries who would be able to grapple with this great question. The various modes of net-fishing which had been condemned by different classes of fishermen only differed in degree; the only real difference was in line-fishing, where the fish could not be said to be captured, but took the bait of their own accord. He was pleased to hear the testimony from a Scotch gentleman, which went a long way to refute what had been advanced at a commission of inquiry which had taken place of late in Scotland, that the operation of trawling had entirely destroyed the fish on the Scotch coast, for if he understood him aright, he said the fish had been very plentiful indeed. The other question with regard to immature fish was, were fish sufficiently prolific to increase and keep up their numbers regardless of the means of capturing them? If it was true that they did produce in such numbers as to be almost incalculable, then the modes of fishing would have very small effect. Four or five years ago there was a commission of inquiry at which he gave evidence, and he still adhered to the views he then expressed, namely, that notwithstanding what he might think about trawling not being sufficient to exhaust the fisheries of the North Sea, he was still willing to admit that if scientific men could prove that certain grounds were breeding grounds or nursery grounds, the Government

should step in for the purpose of regulating to some extent the fishing on those grounds. That was as far as he would go in that direction. He had knowledge of the fisheries from the West of England right round the coast of Scotland, and his experience only showed him how careful they must be in accepting positive statements without due inquiry. A gentleman from Brixham had told them of the kind of trawl he used, which he said was larger than any other. No doubt he made the statement in good faith, but he (Mr. Alward) had the management of a trawl which he was sure would astonish that gentleman if he told him the magnitude and extent of it. He had spoken of fishing vessels ranging in former times from 18 to 25 tons, and now-a-days from 45 to 50 tons. To-day they were using vessels from 45 up to 130 tons. Again there was a generally held opinion amongst practical fishermen that the places where the small fish were obtained in such large quantities were confined to the coast line, and that was true to a large extent, but not absolutely true. In the line somewhere between the Texel and Boston Deepes, there was a place where a large quantity of small fish were caught in the middle of the North Sea. The Grimsby people did not fish there very much at present, though they did formerly; but an immense quantity of small plaice were found there, and as far as he knew that was the only exception to the rule he had referred to. Coming to the size of mesh, a mesh which would allow small plaice to escape would allow the largest sole they knew anything about to pass. When the Silver Pits abounded with soles, small soles were caught there in immense numbers, but that was a thing of the past, for hardly any soles were caught there now. He had not been able to satisfy his mind whether the exhaustion of the

fish on the various grounds was due to overfishing or to natural causes, or, at least, if they were artificial causes, whether they were not something apart from trawling. It was somewhat remarkable, that though turbot was stated to be one of the most prolific of fish, it was one of the scarcest ; yet there had been instances within his recollection of turbot abounding in immense quantities in the vicinity of Falls Banks and New Ground Bank, and the vessels which were there to catch them were insignificant in number, and the gear they used would be looked upon almost as a shrimp-net as compared to a trawl. Mr. Jex had referred to laws being enacted in the reign of Edward III. to protect small fish, when the statement was made that but for this protection the fish in the North Sea would have been exterminated. It was also said that it would take longer to obtain a given quantity of fish now than formerly, but that was not exactly correct. Fishermen were not accustomed to reason very closely, they were the most ready to come to hasty conclusions of any men he knew anything about, and did so simply because they had not the same varied experience as men whose associations were on land, and who were engaged in different commercial transactions. He would ask any practical fisherman what was the nature of the appliances for hoisting fish out of the water on to the vessel's deck. It consisted of certain tackle and numbers of sheaves, a certain sized rope, and a certain mechanical contrivance to heave it in ; but what had they thirty-five or forty years ago ? If you asked the North Sea fisherman to-day to go to sea with the sort of tackle he had thirty years ago for hoisting the fish in, he would say it was no use going to sea with such apparatus, that he would catch more fish than he could lift out of the water with it.

There were recent instances of more fish being caught in a given time than was ever known before. He did not wish to say a word against the knowledge and ability shown by Mr. Jex, which no one appreciated more than he did, but he did not want the public to get into a state of excitement and be carried away by false issues. Whenever an opportunity was given for Mr. Jex to hold a Conference, if it were an international one he should have the opportunity of coming to it ; but many people could not do so, and therefore he hoped local arrangements would be made at the various ports whereby those possessing knowledge of the subject could come together ; so that with the assistance of scientific and practical men a right conclusion would be arrived at. It would not do to hurry Government into legislation. An Act had recently been passed called the Fishing-boats Act, which had been the result of careful deliberation ; but perhaps Government had not as much knowledge on the subject as it might have had, and, though it was done with the best intentions, it was not satisfactory. They should, therefore, be careful not to press the Government to do something which they might have to regret afterwards. He believed that he could prove to demonstration that it was a question of displacement, not destruction. No doubt many of the fish they used to catch near the shore were now caught farther off, but they did not know that when they are found nearer the shore they were also found at greater distances, and it was pretty well settled that fish were of a migratory nature.

Mr. JEX asked if Mr. Wilmot could give any information with reference to the capture of spawn, fry, or immature fish on the coast of Canada ?

Mr. WILMOT said he thought it would be out of place for him to interfere in the present discussion, which was confined

to British fisheries, though, if time permitted afterwards, he should be glad to say a few words. He would only say that if they waited to lock the stable-door until the horse was stolen it would be too late.

Mr. HELYER said Mr. Alward was quite right in advising them not to come to any conclusion until they had thoroughly considered the matter, but, from what had been said, he thought it was quite necessary that something should be done to stop this total destruction. He did not think they could do better than leave it in the hands of the Chairman, who had already shown his energy with regard to the important question of lights on vessels, and persisted in his representations to the Board of Trade until something was done. He begged to move the following resolution: "That taking into consideration that the question of the destruction of immature fish is one of international importance, it is in the opinion of this meeting imperative in the public interest that an international Conference be held to consider the desirability of recommending legislation upon the subject; and this meeting of practical fishermen further requests of Her Majesty's Government to take immediate steps to bring about such Conference at the earliest possible date."

Mr. SMITH (Brixham) seconded the resolution.

Mr. SIMS (Hull) supported the resolution. As a fisherman of thirty years' standing, and having had experience of the fisheries from the Land's End to John o' Groat's, he studied this question for a very long time, and had reviewed it very carefully. In Mount's Bay they used to catch an abundance of soles in April and May, ten to fourteen inches in length, very few under, but they had all disappeared, or nearly so, the reason in his opinion being the small nets used in-shore which caught all the small fish before they

came to maturity. Taking the coast from Land's End to Horn Reef, there was what might be called an in-ground and an off-ground ; the in-ground would run from six to seven or eight fathoms, and beyond that, particularly in the North Sea, you came to rough ground. There large soles were caught, and he believed they went there to deposit the spawn. In the summer season the young fish could be almost dipped up in shore, but directly the snow touched the water, out they came and resorted to the rough ground. A friend of his said that it took eight years for a plaice to be full grown, but he could not agree with that. Take the hake, for instance. In the month of May they were caught in Plymouth Bay about an inch and a-half or two inches long, but from May to Christmas they got larger and larger, until they weighed a couple of stone, and he had known them fifty-six pounds ; in fact, you could almost see them grow, and if these fish came to maturity so quickly, he could not conceive that plaice would take eight years. With regard to the question of tackle, it was quite true that in former times the vessels were not so large as they were now, but the tackle was quite capable of lifting as much as it was now. He had helped to heave in one hundred dozen of hake in one bag with one of those tackles ; they had then a runner on the tackle, which gave not only a double purchase, but a three-fold purchase, now it was only two double blocks. Vessels were now three times as large as they were, and more. They had some from Hull 180 tons, but they were steamers, the net tonnage being 98 to 120. They had sailing trawlers from 86 to 90 tons, and he had just launched one which he called after the worthy Chairman, the "E. Birkbeck," of 87 tons. The destruction of immature fish certainly wanted consideration ; it was no use to let the horse go before they shut the door. It was quite true,

as Mr. Alward said, that thirty years ago there were small soles in the Silver Pits, but there were a great many large ones. Where you got one pair of large soles, you would get fifty then. He believed at this day there were more soles caught in number than there were fifty years ago, but, on the other hand, not one-tenth as much in weight. Why was this? Because all round the coast you found horses and donkeys drawing trawls up and down the beach, and the little soles and plaice might be seen left to dry on the beach. If that was not destruction, he did not know what was; and unless something were done to stop it, the sole would be almost a thing of the past. Not that he thought they were going to exhaust the sea, they never could do it, because there was a grand command, "Be fruitful and multiply, and bring forth abundantly;" and out of the whole creation the fish was the only thing that was commanded to fill the waters of the sea, and they were full. (Loud applause.)

Mr. J. W. ARNOLD (of Kingsdown, near Deal) said something like forty-five years ago he started fishing, first with the shrimp-net, then for sprats, then for herrings, and afterwards mackerel. At certain seasons of the year, in going along the beach, you came to small transparent purses sticking out of the sand at low water, generally close to what was called honeycomb rock, and those when examined would be found to be full of small soles, and others turbot, brill, and all that kind of fish, except skate or wray, which were found in four-square purses. All this young fry should be protected, for this must begin at their own doors. The moment the herring and sprats came out of the eggs they were able to take care of themselves. In his belief, the donkey-trawl was the greatest destroyer, much more so than the deep-sea trawl, which he did not

believe did half the mischief that was supposed. Trawlers generally avoided spawning ground when they knew it. One of the greatest places for spawning was the estuary of the Thames. Herrings spawned about November. He had been hauling seven lasts of herrings in the Downs at one haul in twenty-five nets, and the remainder had broken away with the fish and were lost. Those fish were all in a spawning state. He had known them in that state all the winter afterwards, and they were rolled up in great quantities along the beach after heavy winds. His belief was that these fish went from one place to another until they found a favourable place for spawning. Sprats and whiting spawned in the months of April and May, and on a fine day you could sit upon the beach from Gravesend round to Dungeness and find them in incredible numbers. He had no doubt the warmth of the water round the shore at that season of the year attracted them ; and he also believed that shell-fish who spawned before that time afforded them food. Afterwards, when the oyster began to eject its spawn, the mackerel played great havoc with it, but they would also take small fish, sprats, or anything that came to hand that was not quite as large as themselves. The mackerel was said to come from the westward. But what brought them ? He believed they followed the water of a certain temperature up the channel, and as they came up they selected those places where they could find food. All shell-fish spawn came to the surface when first ejected, and as it gained weight it sank to the bottom. It was useless for one fisherman to use a trawl with a large mesh unless all did the same ; but he believed they had a great deal in their own hands, and he thought it would be a good thing if such people as the heads of the Exhibition, or his Royal Highness the Prince of Wales, who had a

great deal of influence in foreign countries, would issue a suggestion to all fishermen, that the moment the shrimp-net came out of the water the first thing to look after was to throw the young fry overboard. The mackerel, he believed, only spawned about the latter end of June and the beginning of July. The spawn lay for some time at the sea-bottom, then the young fry came forth, and were in an oily state in the month of September, and the next spring they were fit to be caught.

Mr. THOMAS KEMP (Whitstable) said he was perfectly acquainted with the estuary of the Thames from the North Foreland up to the Naze, Harwich, where the chief trawling was done by the shrimp-net. Some thirty years since it was very prolific of edible fish, large quantities of which were caught and taken to market, but from some cause they had disappeared, and those now taken were chiefly taken by shrimp-trawls. If it were to be the law that trawl-nets should be of a certain size, it would be impossible to catch the shrimp. If you saved the shrimp you must save the small fry. One speaker had said that when small fry had been in the net a certain time they would be useless if cast into the water again, but he could hardly believe that that was so. There was a great demand for this small fry for the purpose of bait, especially all along the Kentish coast, and at Grimsby, where what was called trotting for whelks was pursued, and the small fry was saved by the fishermen, and saved for this purpose. If anything could be done in the shape of legislation to prevent this, it would be of great benefit. He believed as many whelks were destroyed and cast into the water again as actually came to the market.

Mr. WOODGER (Scarborough) said he was not a fisherman, but he felt bound to say a word in support of the

resolution ; he could only speak of the Yorkshire coast, but he considered the catching of immature fish was a matter of vital importance. It did not affect the fishermen quite so much as some seemed to think, because as fish got scarcer it got dearer. He had seen a vessel go to sea for a night's work, and catch six or seven boxes of big haddock in the summer, and as many as forty boxes of little fish. He had sold those fish, and sometimes had a difficulty in getting 6*d.* a trunk, sometimes 9*d.* and 1*s.* ; but hardly ever more than 3*s.*, whilst the average price would be 1*s.* 6*d.* If these small fish were allowed to come to maturity one box would be worth ten, and instead of being sold for 1*s.* 6*d.*, would fetch 8*s.* or 9*s.* He did not think anything could be done to stop the universal catching of small fish, but if the recommendation of the Commission which had been sitting in Scotland of the three-mile limit were carried into effect, it would save a great deal.

Mr. HERBERT HOUNSELL (Bridport) said he had hitherto refrained from speaking on this question, because he had been listening to the practical observations made by fishermen from different parts of the coast, which were of great value. Although what he might say was not equal in importance to what had already been said, he would add a few words which he thought were worthy of attention. He had been much interested in this matter from his youth, and had often conversed with the late Mr. Buckland upon it. In *Land and Water* for the 30th of April, 1870, there was a letter from Mr. Buckland with regard to the collection of fish in his museum at the Horticultural Gardens, and it included a letter from himself, in which he offered to furnish him with specimens of the different kinds of lines and nets used in the capture of fish. His offer was accepted, and he presented

him with £120 to £130 worth of fishing-nets, which were hung up in the South Kensington Museum, where they had gradually rotted away, but the lines remained. Mr. Buckland was much struck with the idea that the small mesh of the trawls must destroy large quantities of fish, and he said he hoped visitors would examine the nets with particular attention, as it would show the necessity for legislation on the subject. Not only was there no room for the young fry to escape, but they all got jammed in a semi-solid mass at the lower end, and of course were destroyed. The most practical idea he had seen was a large square mesh two inches from knot to knot. When the quantity of seaweed and pebbles which got collected in the end was taken into consideration, he thought there was not much chance of any sole escaping; but if a few small fish did escape so much the better. There had been times when smaller meshes had been used for driving. He could remember the time when the Dutchmen used nothing smaller than $27\frac{1}{2}$ meshes to the yard; they then got to 30, and the same thing had happened with herring-nets. A drift-net had the advantage that it would not kill fish which it was not intended to catch; if there were large fish in the water they would not mesh, nor would the small, they escaped, and were caught another day. He believed one of the most feasible ways of dealing with this matter, would be to enact that the whole of the foreshore within three miles should be preserved for trawling, thereby the spawning beds would not be disturbed, and the smaller fish would also be left at rest; the small mesh should also be done away with, except on particular grounds where it was used for sprats, whitebait, and fish of that description, and, as much as possible, gill-nets should be adopted within three

miles of the shore. The gill-net was the first kind of net which could be used, especially on waters where the fish spawned. If it was set to catch cod, you could not catch sprats with it; and if you were fishing for large herring, you would not catch a pilchard. He believed this Exhibition had been the means of drawing the attention of the public to a matter which thirteen or fourteen years ago a few isolated individuals were attending to, and it was a great point gained that the attention of practical fishermen should be directed to the matter, and especially to the preservation of spawn and young fry. The Jockey Club was a society formed for preserving the best interests of race-horses, and he did not see why an analogous society should not be formed to watch over the interests of fisheries. In Canada and the United States there was a Minister of Fisheries, and he hoped the time would come when there would be something similar in this country, so that through a practical investigation of the habits of fish, proper means might be devised to prevent the destruction which was now going on.

Mr. JEX then referred briefly to the remarks which had been made by previous speakers, in the course of which he said that the pont-herring which used to come in large quantities to London, being caught along the Blackwater and right down the Essex coast, across to Boston Deep, and even up the River Humber, had entirely disappeared. He also condemned the catching of whitebait, which was nothing but the young fry of sprat and herring. Legislation had done a great deal for the crab and oyster fishery, and why should not the protection of other deep-sea fisheries be taken in hand? He did not advocate a close time for fishing, but thought if the size of mesh were restricted that would answer the purpose. It had been

said by some gentlemen that, even if the meshes were larger, the drawing of the net would prevent the escape of small fish ; if that were so, what was the object in having the mesh so small, and why should there be any objection to having a larger one ? But the fact was, that in drawing in the net, owing to the motion of the sea, it was slackened from time to time, which would allow of an immature fish to escape. He had been very much pleased with the suggestion of Mr. Alward, that Conferences should be held all round the coast, at which men of practical knowledge could be got to take part, and he should only be too proud to attend such meetings.

The CHAIRMAN said no doubt the resolution would be passed, and it would be the duty of the Executive Committee to forward it to the proper authorities, but at the same time he would point out that they all knew well enough what was thought of a resolution in the House of Commons : a resolution might be passed, and not the slightest notice taken of it. Notably he could say that a resolution was passed last session which affected himself in an agricultural point of view, but nothing came of it. If this question came before the House of Commons, and any members were fortunate enough to secure a night when the discussion could take place, and a resolution was carried, there was no proof that whatever Government might be in office, any action would be taken in consequence ; but this point was beyond all doubt, that if the Government made up its mind to take any action in this matter, it would be only common justice to the fishermen throughout the United Kingdom that there should be a most searching inquiry into the whole matter first, and they must not encourage any Government to take a leap in the dark, and legislate in any particular direction without a most careful inquiry. Un-

fortunately, there had been legislation carried out without inquiry, and afterwards fishermen had had to complain of it. He alluded especially to the Fishing Vessels' Lights Act. This matter was undoubtedly one of the greatest possible difficulties, and what had been said to-day would have due weight, because the discussion would be published in the official documents, and would be read in every part of the world. Before anything was done, however, a Royal Commission would have to be sanctioned, and no doubt it would take, as in the case of 1866, some two years to investigate the matter. Then the next step would be to endeavour to persuade foreign Governments to take part in it also, and that would be an exceedingly difficult thing. He for one could not hold out any hope that at present foreign Governments would assist, though possibly he might be wrong. Another point to be borne in mind was this, that if an international convention were agreed to there would be this difficulty in carrying it out, namely, of having a sufficient number of gun-boats to enforce the regulations which were made. There were many other matters he should be glad to touch upon, but time did not allow going into them.

The resolution was then put and carried unanimously.

The CHAIRMAN announced that the first subject to be taken into consideration the following morning would be the Railway Rates.

CONFERENCE ON SATURDAY, OCT. 27, 1883.

E. BIRKBECK, Esq., M.P., in the Chair.

RAILWAY RATES.

The CHAIRMAN, in opening the proceedings, said he believed they would to-day be honoured with the presence of his Royal Highness the Duke of Edinburgh. (Loud applause.) As he intimated yesterday, the question under discussion to-day would be that of Railway Rates. It was a subject which in his opinion was easy and simple compared with what was discussed yesterday—was a very delicate and complex question, and he was sure it was one that not only the fishermen throughout the length and breadth of the United Kingdom were concerned in, but also the community at large. He had constantly heard it remarked by fishermen that it was no use their sending fish to London and other large towns because of the excessive rates which they would have to pay for carriage. He had seen the sale-notes of fishermen at Billingsgate, and had been astounded to see how in many cases what ought to have gone to the fishermen in respect of the fair return for the fish sent, had been completely swallowed up by the rates which had been deducted for carriage. He believed there were gentlemen present who would state that not only had it occurred constantly that there had been no return whatever, but that on the other hand there had been a balance

to pay on the part of the fishermen on account of the rates. It would be apparent to those present, and the community at large that there must be some remedy for this, and that they ought to ask the railway companies for fair play and justice in the matter. As he had said before, it was not a question alone for the fishermen, but one which concerned the community at large. If the supply of fish was to be increased for London and other populous towns, then they ought to ask the railways to meet the fishing interest in a fair and proper way. He trusted there were representatives of some of the railway companies present to-day, but if they were not then present he hoped they would come during the course of the day, so that they might give their version of the question, and answer any facts that might be brought before the Conference. He had no doubt they would probably say that they could not be expected to convey fish from various towns upon the sea coast by express and mail trains at the low rates the fishermen asked for, but of course that was really a question of policy. He should imagine that if the railway companies would take it into their consideration to reduce their rates to what the fishing interest asked for, the result would be an enormous increase to their funds. He was sure it would be a benefit to the railway companies in the end if they would take it into consideration and would meet the fishing interest in a fair and reasonable way. He then called upon Mr. James Alward, of Grimsby, as a practical fisherman of long standing, to open the discussion.

Mr. JAMES ALWARD said his *forte* was more to listen than to speak, but, as the question was an important one, he might be permitted to make a few observations. As the question was a purely commercial one, it was a little bit unreasonable to expect fishermen to possess the neces-

sary ability to deal with the subject in the way in which it should be dealt with. Having had large experience of the way in which the fishing trade had been developed, he might say that he considered they owed their present position to the railway companies for having afforded them the means of distributing the fish throughout the country. That being so, it was of the most vital importance that the companies should do all they could to meet the growing necessities of the case by giving additional accommodation. When large quantities of fish could not be sent to different towns in which it might be consumed, in consequence of the high railway charges, it was apparent that it became a most serious question, as it affected the food of the masses. When the question of the destruction of immature fish was before the Conference, one gentleman stated that boxes of fish containing from five to six stone were sold at the ports at which they were delivered for 6*d.* and 1*s.*, and as a natural consequence people were inquiring why they could not get fish at a price less than was now charged for it. At present large quantities of fish were consumed at the ports at which it was landed, and some was sold for manure ; but if railway accommodation was easy, it might be sent to London to form the food of the poorer classes. Railway companies might think that they had the case in their own hands, and could charge what rates they liked. They might say that fish was a perishable commodity, and that as there was nobody to press upon them the reduction of the rates, they could keep up the monopoly. If that was their argument, all he could say was that it was not by keeping up excessive rates that people brought the greatest benefit to themselves. There could be no greater instance of that than the penny postage, which had demonstrated the fact that popular rates in-

creased the income of those interested in the subject. Speaking as a practical fisherman, he should be happy to do his mite in the matter, in order to bring pressure to bear upon the railway companies, and to try and show them that this was a question which could no longer be disregarded. It might be said that they could bring fish by water, but that mode of conveyance was scarcely worth mentioning, and to many places fish could not be sent by water, so that the railways had nothing to fear from competition. The Grimsby Smack Owners' Association had tried over and over again to bring pressure to bear upon the railway companies, but up to the present time they had not succeeded in lowering the rates, although the railway companies had at different times offered some little compromise, but the concessions made had not been adequate to the requirements of the case. He hoped that a resolution would be passed by that meeting, and forwarded to the proper quarters, which would have the effect of arousing public feeling upon the matter, so that attention might be drawn to the subject.

Mr. JEX said he also was a practical fisherman, and a member of the Fish Trade Association of London, having been appointed delegate for England, Ireland and Scotland to appear before the Railway Commissioners upon the subject of railway charges. He had received a great many communications upon the subject of railway charges, which, with the permission of the meeting, he would refer to. The first letter was from Mr. Thompson, of Leith, who stated that the railway carried vegetables at 25s. per ton. If sprats were carried at the owner's risk, the rate was 55s. per ton, and if at the company's risk, 73s. 4d. per ton, the value of the sprats being about £9. Potatoes were carried in four-ton lots in a truck at 25s. per ton, or £5 share of

truck at company's full risk, and fish at £11, but £14 13s. 4d. was charged if the company were responsible. Railway companies knew that fish must be carried by them, or cured and sent by sea, and in their dealings with the fish trade they were insolent, arrogant, and impudent.

Mr. STEVENSON remarked that the fish had to be sent express to London, and that no delay was permissible; if it was delivered at Billingsgate at three or four o'clock in the afternoon, from circumstances over which the railway companies had no control, the value of the fish was gone, so that it would be a near-sighted policy to propose that fish should be carried at a farthing per pound, and have it subject to delay.

Mr. JEX then read another letter which he had received from a gentleman, stating that the rates for fish by goods trains were 2s. 9d. per hundredweight, the railway company not being responsible for any damage. The letter went on to state that railways were constructed with a view to facilitate the trade of the country, but, instead of doing so, they were doing all in their power to impede it. Some people might call them gigantic monopolies, but, in his opinion that was too mild a term—that a cask of herrings could be carried from Glasgow to Cork for 2s. 5d., but if it was sent to London by goods train it would cost 7s. 4d. The North British Railway or the Caledonian Railway would send a waggon with one horse from Leith to Midcalder for 3s., and for one barrel of fish weighing two cwt. they charge 2s. 3d. Another letter was from Mr. Matthias Dunn, of Mevagissey, to the effect that the rate for fresh fish from that place to Billingsgate was £5 per ton, for which sum goods could be forwarded to Australia and sent back again, and then leave a surplus. The writer expressed an opinion that the facilities offered

by the French railway companies gave the French fishermen considerable advantages over the English fishermen. He had also received a letter from Mr. Vaughan, of Yarmouth, who had been in the fish trade all his life. That gentleman stated that the rate for sending offal to London was 26s. to 28s., prime 37s. 6d.; but this sum did not include icing, for which a charge of 3d. per package was made, bringing the amount to 5s. per ton more, nor did it include collecting or delivery at either end, the charge for the whole amounting to 8s. 4d. per ton, bringing the rate for prime up to 50s. per ton. The profit to the company upon the icing was also very large. To smack-owners and others the package rate was calculated at 23s. 4d. per ton; barrels of fish were charged at the rate of 2s. 6d. per barrel, and cod at the rate of 30s. per ton.

For vegetables in large quantities the rates were for 2-ton lots, 9s. 2d.; for 5-ton lots, 8s. 4d.; for coal, 8s. 9d. per ton, 4-ton lots. Beer was carried for 9s. a ton, this amount including hauling from the store, in addition to which the beer was conveyed by the quick route. From that letter it would be seen what enormous charges were levied for fish, and what low rates for other goods. The next document to which he might refer, was a receipt for 8s. 11d. which he paid for one box containing twenty-nine lobsters sent from Garve, which was as much as the lobsters fetched. The rate for Cornish mackerel was 80s. per ton; Scotch rates for herrings, 76s.; from Wick, 80s. The rates of railway carriage from Ireland were extremely heavy; for cheap fish, herrings and mackerel from Cork, the rate was 85s. per ton; mackerel from Holyhead, 75s.; mackerel and herrings from Milford, 65s. 6d., the carriage of sprats being 7s. 6d. per barrel, 6d. being charged for delivery. Before any one could send fish to Billingsgate or to any of the

great centres, the consignor had to sign an undertaking that the charges would be paid for the gross weight as ascertained at the sending station without reduction for subsequent diminution in weight or by leakage. Now it was well-known that fishermen could not send fish without it being packed in ice, and every mile travelled the weight decreased by the melting of the ice, so that when the consignment reached its destination it was considerably reduced in weight, though the full weight at starting had to be paid for. The letter went on to state that the rate from Rotterdam to London was 10s. per ton extra; but if the journey was broken at Harwich, the local rate had to be paid the same as upon English goods. The Dutch could send goods cheaper from Rotterdam to London, than it was possible for Englishmen to send goods from Harwich to London. Fish from Antwerp and Rotterdam were charged 20s. per ton to Harwich—through to London 30s. per ton. The next letter which he had received was from Mr. Browning of Torquay, who stated that having inquired into the rates charged by companies, he found that the rates for best fish when sent by “perishable” train, were £3 per ton, by mail train, £4 15s. per ton; common fish by “perishable” train, £2 10s. per ton, by mail train, £4 8s. per ton. The rate for all kinds of fish to Paris was £4 14s. 5d.; the rate for vegetables was £1 12s. 6d., and for colonial produce 30s. per ton. He had received a list of the charges made by the North-Eastern Railway Company for carrying different articles from Whitby, which was as follows:—

WHITBY.

	£	s.	d.
Foreign jet, to and from London per ton	2	10	0
English jet „	4	10	0
Old potatoes, turnips, onions, carrots, less than 3 tons	1	17	6
„ „ „ „ 3 tons and above	1	3	4
Other vegetables, loose less than 3 tons	1	17	6
„ „ 3 tons and above	1	3	4
Vegetables, packed under 1 ton	2	10	0
„ „ 1 ton and under 2	1	17	6
„ „ 2 tons and above	1	3	4
New potatoes, in two-ton lots and above, during the months <i>April, May, and June</i>	1	17	6
Wood hoops, less or more quantities	1	17	6
Rope and oil.—Special rate for rope, cod-oil, in 2-ton lots	1	8	4
Ale, porter, and heavy groceries, such as sugar in casks, vinegar, soap	1	8	4
Second class.—Bacon, hams, salt, butter, cocoa, candles, lard, coffee, sago, starch, tapioca, and salt provisions, Whitby and Scarbro'	1	10	0
Agricultural seeds, biscuits, oranges, canvas, leather undressed	1	17	6
Figs, raisins, lump sugar, wines and spirits, in casks and cases	2	0	0
Tea (small quantities)	2	13	4
Fresh meat	3	3	4
In small lots.—Foreign preserved meats, in tins ; fresh butter	1	17	6

Fish Rates, Owners' risks.

	Rate.	£	s.	d.
Goods train.—Cod, ling, white herrings in brine	1/6	1	10	0
„ Red herrings, or dried cod and ling	1/8	1	13	4
Fish trains.—Herrings, packed in ice	(At Com-pany's risk, 25 per cent. more)	2/0	2	0
„ Herrings, packed in salt		2/0	2	0
„ Kippers and bloaters		2/0	2	0
„ Kippered salmon and crabs		2/0	2	0
Fresh salmon, haddocks, cod, mackerel, lobsters	2/9	2	15	0
„ soles, plaice, codfish	2/9	2	15	0

He had also received a list showing the rates charged by the South-Eastern Railway Company for carrying the different goods from Hastings. The list was as follows:—

CARRIAGE OF DIFFERENT GOODS BY LUGGAGE TRAIN FROM
HASTINGS TO LONDON.

	per ton	£	s.	d.
Fish, fresh		1	2	6
Vegetables	„	1	0	0
Corn	„	0	11	3
Coals, in 4-ton lots	„	0	7	6
Rail, rod and bar iron, in 2-ton lots	„	0	11	3
Drapery	„	1	8	4
Sugar, moist	„	0	13	4
Coffee	„	1	0	0
Spirits and wine, in casks	„	1	0	0
„ „ in cases	„	1	8	4
Fruit, ripe	„	1	8	4
Furniture	„	1	9	2
General luggage	„	1	9	2

PASSENGER TRAIN.

Fish	per ton	2	5	0
Collection for fish here	„	0	3	4
Delivery in London	„	0	5	0
Total cost from Hastings fish-market		<hr/>		
to Billingsgate		2	13	4

He had also received a letter from Mr. Pringle, of Newton-by-the-Sea, Northumberland, who stated that the rates by the fish train from Newcastle to London were 3*s.* 6*d.* and 4*s.* 2*d.* per cwt.; to Birmingham, 2*s.* 3*d.*; to Derby, 3*s.* 3*d.*; these rates being all at senders' own risk. If the goods were sent at the risk of the railway company, the rates were 25 per cent. additional. It had lately been stated that the rates for fish upon the South-Eastern line

had gone up 75 per cent. since the opening of the Exhibition, though he hoped this statement was not true. He had received a communication from Mr. Summers, of Ramsgate, stating that the charges by the South-Eastern Company were, for prime fish, 40s. per ton; offal, 22s. 6d.; coal and minerals, 6s. 5d.; vegetables, 20s.; corn, 9s. 7d.; 2 tons, 7s. 6d., and 4 tons, 6s. 8d. By the London, Chatham, and Dover line the charge for prime fish was 40s.; for offal, 22s. 6d.; coals and minerals, 6s. 5d.; for corn, 6s. 8d.; and for vegetables, 20s. per ton. He had also received a letter from Mr. D. Veal, of St. Ives, who stated that the rate for mackerel was £4 per ton; for common fish, £3; for new potatoes, £3 5s.; and for broccoli, £2 7s. 6d. per ton. From a letter which he had received from Mr. W. H. Murray, Peterhead, it appeared that the rate for fresh fish per passenger train was 3s. 9d. per cwt., if carried at owner's risk, and 4s. 8d. if carried at company's risk. Beef was carried at 77s. 6d. per ton at owner's risk, and 85s. per ton at company's risk. Cured goods were carried at 76s. per cwt., the rate by steamer for fish being 25s. Mr. James Sellars, of Scarborough, had written to say that one class of fish, sent at owner's risk, was carried at 35s. per ton, provided a load of 3 tons was sent; other fish was carried at 40s. per ton, and another class at 55s. per ton, though much lower rates were charged for vegetables. Mr. David Murray, of Cellardyke, had written to say that the rate by the North British Railway was 3s. 9d. per cwt. by passenger train, 1s. extra being charged if carried at company's risk. The steamers carried fish for 2s. 6d. per barrel, but the charge by railway was 7s. 6d. The next letter was from Mr. Jennings, of Harwich, and was as follows:—

HARWICH ; *July 1st, 1881.*

DEAR SIR,—In answer to your note, I send you the List of Charges by rail.

Owner's risk.

From Rotterdam or Antwerp to Harwich—	£	s.	d.
Shrimps per basket	0	1	0
Cod, or plaice, or other kinds of fish per ton	1	0	0 to Harwich
Shad „	1	0	0 „
Smelts per basket	0	0	4

From Harwich to London—	£	s.	d.
Cod in larger vans on week days	3	0	0
„ small vans „	2	5	0
„ on Sundays in large vans	3	15	0
„ „ small vans	2	5	0
Offal fish per ton	1	5	0
Shrimps „	1	9	2
Herring or sprats „	1	3	4
Lobsters „	1	15	10
Mackerel „	1	15	0
Whelks „	1	0	0
Cod in packages „	1	10	0
Live haddocks „	1	10	0
Eels „	1	10	0

All kinds of Fish 20 per cent. extra charge on Sunday.

From Harwich to London, at Company's risk—	£	s.	d.
Offal fish per ton	1	9	2
Herring or sprats „	1	6	8
Shrimps „	1	14	2
Whelks „	1	3	4
Lobsters „	2	1	8
Soles and turbot „	2	5	0
Mackerel „	2	0	10
Cod in packages „	1	15	0
Haddocks „	1	15	0
Eels „	1	15	0
Large van of live cod „	3	12	0
Small „ „ „	2	14	0
Large van of haddocks „	3	3	0
Small „ „ „	2	11	0

Haddocks in van, at Owner's risk		£.	s.	d.
Large van	per ton	2	12	6
Small van	"	2	2	6
From Harwich to Norwich, at Owner's risk--				
Shrimps	"	1	6	8
Plaice	"	1	8	4
Salmon	"	1	8	4
Sprat and herring	"	1	3	4
Haddocks	"	1	3	4
Crabs	"	1	3	4
Eels	"	1	3	4
Cod	"	1	8	4
Mackerel.	"	1	8	4
Shell fish	"	1	8	4
Fresh fish of all kinds	"	1	15	0

The above is a true list of the railway charges.

Yours respectfully,

J. JENNINGS,

Wholesale Fish Merchant, Harwich.

He thought it was most important to the fishing industry of the British Islands that some resolution should be passed that day relative to the enormous charges now being levied by the railway companies. He had himself received barrels of salmon, which had come 1,000 miles north of California, and were delivered into the London market at £1 per barrel. It was monstrous that a barrel of herrings should cost 7s. 8d, to come from Glasgow to London. The charges now levied by the railway companies for carrying the common sort of fish prevented the fishermen from sending it to London. He declared emphatically, on behalf of the fishermen of England, that it was a great drawback upon the men that they had no means of sending the fish to market and receiving a fair percentage for their labour. He thought the time had now arrived when the Executive of that Exhibition or a

Committee should appeal to the Government or to the Railway Commissioners, to hear what could be said upon this important matter. Fishermen did not suffer at one port only, but at every port around the coast, in consequence of the charge for the carriage of fish being 30 per cent. more than that for vegetables. He was quite ready to give the companies all the credit to which they were entitled for having provided special trains for the carriage of fish ; but still he thought the charges were excessive.

Mr. SMITH (Brixham) said the trawlers at Brixham caught a large amount of ray, or roker-fish, as it was called in London, and six or seven years ago they disposed of this to the French fishermen, but the French Government having discountenanced the practice, the question arose as to how this fish should be disposed of as an article of food. He tried to dispose of some of it in the London market, and his own vessel having from Monday to Wednesday caught twenty-three dozen of large wray, he got twelve pads and borrowed seven packages off a fish salesman, and sent the fish to Billingsgate market, where it realised the sum of £6 14s. *Od.*, but after paying the charges it left him with a sum of £2 9s. *Od.*, out of which he had to pay for the pads. On inquiring why the amount returned to him was so small, he was told by the salesman that it was owing to the excessively high railway rates. They had found that it did not pay to send roker-fish to London from Brixham, and consequently it was sent abroad.

Mr. SALMON (Grimsby) thought that if the rates for the carriage of fish were lowered, there would be more sent to the midland counties, and the poorer classes would thus have an opportunity of obtaining a wholesome food at a cheap rate.

Mr. HELYARD (Great Yarmouth) said that during the

time he had been engaged in fishing, which extended over a period of thirty years, he had seen the breaking up of several fishing fleets in the North Sea, owing to the excessive rates charged by the railway companies. Two fleets of which he was admiral, one belonging to Mr. Fleming Hewitt, and one to Mr. Morgan, had been broken up solely for this cause. At one time when he was in command of 180 sail, a tremendous quantity of fish were taken, each vessel having over thirty trunks of large plaice. The question arose as to what should be done with the fish, and most of the captains, not having any boats to forward it to London, came to the conclusion that it was better to throw the fish overboard; but one or two fitted up three vessels and sent the fish into Yarmouth, from which place it was sent by rail to London, the price realised being £6. Of that sum his share came to £1 4s. *od.* On another occasion when a large capture of fish had been made, it was sent to Ostend, and a very good price realised. The heavy rates charged by railways was not only the cause of the breaking up of the fleets and the stoppage of a large supply of fish in the London market, but it was the cause of fishermen's wages being reduced, thus causing them great misery. It did not matter how many fleets were established, or what amount of capital they had at their backs; it was a dead certainty that however much fish they caught, if they sent it to London it would not be very long before they came to grief. Of course his remarks only applied to the deep-sea fishing. Speaking upon the trawl fishery, he should advise the owners of trawlers not to grumble at the railway companies, but to at once enter into competition with them and beat them. Fish would never come within the reach of the poor of London while it had to be conveyed by railway; the only

way in which the price could be reduced would be by conveying it by water.

Mr. BLOOMFIELD said that competition might answer very well along the south coast, but as to competition by Ireland, that was utterly out of the question. When he spoke of railway rates it was a question of life and death to the fishermen of Ireland, and not only so, but a most important matter as regarded the public generally, especially the people of London. Perhaps he might be permitted to quote the words used by H.R.H. the Duke of Edinburgh when speaking upon this subject. H.R.H. said—"How many of the inhabitants of these Islands, even including our dwellers on the sea coast, have a conception that if from any cause the myriads of fish at present swarming on our seas were this afternoon to retreat to the depths of the ocean beyond the range of man's appliances for capturing them, to-morrow half a million of our fellow subjects would be looking starvation in the face." Those words were golden, and ought to be borne in mind by every one in considering this question. They had to fight a large corporation that had something like 700 millions of money at its back, and if they were not supported by the public generally, it was a farce for them to hold these meetings. It had been stated that the freights charged for the carriage of fish amounted to £4, but he could assure that meeting that the freight from Ballyshannon to London was £5 11s. *od.* per ton for offal fish, but this was at owner's risk, an impossible alternative in so perishable a commodity. In addition to that, twenty-five per cent. was charged if it was sent at the company's risk. Unless something was at once done to compel the railway companies to lower their rates, they would soon be in the position in which they were upon the other side of the Atlantic. He held in his hand an

extract from an American paper of a meeting which was held in America to check the growing evil of railway monopoly. Judge Black, in addressing the meeting, said: "It is alleged that the railroad corporations, being put into possession of the public highways of the country, are bound in law and justice to run their roads in the interest of the public to whom the highways belong; that they are public servants and trustees, but that they have violated their trust most grossly and shamefully." "Is it true, or is it not true? If it is false, then the railroad men are in the interesting position of much injured and ill-used individuals, for they are being foully slandered by every man who talks about them at all, and they are the subjects of continuous libel in the newspaper press of the whole country. If it is false, this league ought to dissolve at once, and you, gentlemen, ought to hide your heads in shame for having engaged in a movement against the honest, disinterested, and upright citizens who run your railroads for you. But, if it is true, you are engaged in one of the noblest works that human hands ever undertook to accomplish; and if you succeed, you will earn and receive the gratitude of a redeemed and regenerated people." Further on Judge Black said: "The General (Garfield) described the immense power which these railroad people wield, referred to the large endowments which had been bestowed on them, and their solid combination, and warned his hearers that the time was coming when a conflict would occur between them and the Government, in which the Government would be overthrown if the railways were not throttled before." "We must allow them to start with all to which they are entitled—a liberal compensation for their services, the cost of keeping their roads in repair, and a fair profit on the capital invested." This started a

question which they ought to have thrashed out in England, namely, whether the public carriers of this country, in the shape of railway directors, were merely men absolutely controlling the transit by independent companies, or whether they were not amenable to Parliament even for the freights which they charged. He maintained that a correct view upon this subject had been taken by their friends upon the other side of the Atlantic ; upon that view they acted, and it was the view upon which English fishermen should ground any complaint they had to make. If the International Fisheries Exhibition had not been inaugurated by the gentlemen who were on the Executive Committee, and notably by the Prince of Wales and his illustrious brother, they would never have had a chance of getting things put right ; and if they were to lose the opportunity they now had of sending forth some strong resolution upon the subject, there was no use in meeting in that room, or of talking of the rings of Billingsgate, &c. The thing to alter was the rates at present being charged. He might mention that he had lately noticed a case reported in the paper of an action brought against a railway company for loss occasioned by fish being destroyed in transmission, the fish being carried at the risk of the owner, and a verdict was recovered against the railway company. It was not generally known that when fish was carried at the owner's risk that the company were liable for any loss which might be occasioned, and therefore he thought it as well that the facts should at once be made public. It was all nonsense to say that poor people would not eat fish ; the fact was, that they could not obtain it at a fair price, and unless the railway charges were considerably reduced, it never would come within their reach.

Mr. ROBERT GIBBS (of Banbury) hoped there were some

gentlemen present from large inland towns. He came from exactly the centre of England, but it was only a small town, and it appeared to him the railway rates were almost prohibitive of fish being sent to inland towns. Take the rates, for instance, from Inverness, Newhaven, and Anstruther; the principal fish they got from there were sprats and herrings; only this last week they had sprats from Inverness, and the rate he was paying was £4 5s. per ton, which, he maintained, was much too high, and he hoped a resolution would be passed asking the railway company to lower the rates. In his district three times the quantity of fish could be sold if the rate were lowered; and it seemed to him a great anomaly that fishermen should go out to catch fish, bring them in to Inverness, and get less for them than they cost for carriage. He had known sprats sent to Birmingham, and the consignees had to call on the fishermen to send up money, because they had not made as much by them as the carriage. They got mackerel from Kinsale, and herrings from Rowth and Arklow; the rate from Kinsale to Banbury was 8s. 6d. a box of two hundredweight, and herrings from Howth and Arklow were about the same rate. Those mackerel were a grand fish, and ought to be brought into the inland towns for the sake of the population. He was a member of the Town Council of Banbury, and a Poor Law Guardian, and he was glad to say they were now introducing fish into the unions; but the rates ought to be lowered, so that poor people who were just on the verge of pauperism should be able to eat fish, whether it were of the class called roker, dead cod or haddock, which, when well iced, was a good and wholesome fish, though, of course, not equal to live cod, which they had to supply to their regular customers. It was a great anomaly that the carriage of sprats and herrings was £4 5s. a ton, whilst the

average price of sprats would be about 2*d.* a pound, and salmon, the average price of which would be from 1*s.* 6*d.* to 1*s.* 9*d.* a pound, only paid the same rate.

Mr. MOORE (of Bristol) said he was not a practical fisherman, but he had visited a great many of the fishing-grounds. When at Youghal he bought a small box of salmon, and having inquired of the station-master whether the company would guarantee the delivery of the box, and being answered in the affirmative, he forwarded it, but from that hour to the present he had never received any money for it.

Mr. SAYER said he considered that Ireland and Scotland had great reason to complain of the excessive railway rates, which was the cause of so little fish coming to London. The rate for mackerel from Kinsale to Billingsgate is 85*s.* per ton, or about 1*d.* for each fish; and from Milford to London the rate is 62*s.* 6*d.* per ton, while that for coal is only 8*s.* 4*d.* A short time since Irish mackerel was sold in Billingsgate at 12*s.* per box of 120 fish. The cost of carriage, icing, &c., is 14*s.* per box, showing a clear loss of 2*s.* per box in the expense, to say nothing of the cost of the fish. With respect to Scotland, on Thursday last about 1,000 barrels of sprats were sent from Inverness, which realised gross £800 to £900. The railway carriage amounted to about £550, which left only £300 for the fishermen, buyers, and sellers. Frequently this kind of fish has to be sold for manure, the prohibitory rates preventing its being sent to market without entailing serious loss on the merchant. Last season a million barrels of herrings were cured in Scotland for Continental markets, the freight being 1*s.* 6*d.* to 2*s.* per barrel. A large portion would doubtless have been sent to London, but for the heavy charge of about 12*s.* per barrel. He was of opinion

therefore, that the railway companies by their heavy fish rates were the sole cause of the common kinds of fish being so dear in London. Through the Fisheries Exhibition a greater demand had been created for this kind of fish, and he thought the present was a good opportunity to try and induce the railway companies to revise their fish rates; and he hoped with the assistance of the Chairman, who had worked so thoroughly for the interest of the fishermen, and still continued to do so, that something would be done by which these fearful rates might be reduced, and the poorer classes benefited.

Mr. Sayer then handed in the following Tables:—

RATES FOR CARRIAGE OF FISH TO LONDON.

Railway.	Where from.	Rate per Ton.	—
Lond. & North-Western and Great Northern	Scotland	Owner's risk. 75/0	5/6 delivery for herrings, &c.
Midland & Great Northern	„ „	87/6	5/6 „ prime fish.
	Scarboro'	40/0	For herrings, &c. } 5/0
	„	55/0	„ prime, } per
	„	42/6	„ loose fish in van, } ton.
	Grimsby	} 25/0	„ „ truck.
	Hull		„ „ van, and
	„	35/0	5/0 for delivery.
	„	30/0	„ packages.
Great Western . . .	Plymouth	60/0	„ mackerel, cod, &c.
	„	45/0	„ herrings.
	St. Ives	70/0	„ mackerel, cod, &c.
	„	53/4	„ herrings.
	Falmouth	65/0	„ mackerel, cod, &c.
	„	50/0	„ herrings.
South-Western . . .	Plymouth	60/0	„ mackerel, herrings, &c. (collected and delivered).
Lond., B. & South Coast.	Brighton	21/6	„ mackerel, herrings, &c. (5/0 extra for delivery).
Lond., Chatham, & Dover	Ramsgate, Deal, Dover, &c.	} 22/6	„ mackerel, herrings, &c. (including delivery).
	„ „		40/0
South-Eastern	„ „	40/0	„ prime fish (including delivery).
	„ „	22/6	„ offal, including delivery.
Great Western	Milford	65/6	„ mackerel; coals 8/4.

Railway.	Where from	—
Great Western	Plymouth .	Mackerel, cod, &c., 60/0 per ton ; herrings, 45/0 per ton.
	St. Ives .	Ditto ditto 70/0 per ton ; herrings, 53/4 per ton.
	Falmouth .	Ditto ditto 65/0 per ton ; herrings, 50/0 per ton.
South-Western	Plymouth .	Cured fish, 24/2.
	„ .	Mackerel, herrings, &c., 60/0 per ton ; collected and delivered.
L., B. & South Coast.	Brighton .	Mackerel, herrings, &c., 21/3 per ton, delivery 5/0 per ton extra.
London, Chatham, & Dover	Ramsgate, Dover, Margate, &c..	Mackerel, herrings, &c., 22/6 per ton, including delivery.
	„	Prime fish, 40/0 per ton.
South-Eastern	Ramsgate, Dover, Deal, &c.	50/0 per ton, delivery 5/0 ton extra (time table) <i>parcels rate</i> .
	Yarmouth .	Prime, 32/6 per ton.
Great Eastern	„ .	Common, 21/8 per ton ; Beer, 9/0 per ton.
	Scotland .	Owner's risk, 75/0 per ton ; delivery 5/0 per ton, herrings, &c.
Great Northern, Midland, and Lond. & N.-Western.	„ .	87/6 per ton, prime.
	Scarboro' .	40/0 per ton, herrings, &c.
„	Grimsby & Hull.	55/0 per ton, prime.
	„	Truck, loose, 25/0 per ton
	„	Van, loose, 35/0 per ton.
„	„	Packages, 30/0 per ton.

His Royal Highness the DUKE OF EDINBURGH said the subject now before the meeting was one of great importance both to the fishermen and to the consuming community, but it was one to which he had not devoted special or particular attention, and a subject to which he did not allude in the small Paper which was read at the opening of the Conferences. He had hoped to have had an opportunity of saying a few words upon the subject which would come on later, namely, that of better means for the prevention of loss of life at sea, that being one to which he had devoted some attention ; but he regretted to say that his engagements would not allow him to remain. He thought it would be a very good thing if the resolution which was about to be proposed were to bring about a reduction of the rates, by

which means both the fishermen and the public at large would be benefited.

Mr. MURRAY said he had much pleasure in moving the following resolution: "That this Conference of Practical Fishermen having heard the disastrous and destructive effect upon the fishing industries of the United Kingdom through the excessively high charges of the railway companies, which prohibit the distribution of good wholesome fish throughout the country at a cost within the reach of the poorer classes, are of unanimous opinion that some pressure should be brought to bear upon the Railway Commissioners; and that Mr. Birkbeck, M.P., be requested to forward this resolution to the Commissioners."

Mr. J. SAUNDERS seconded the resolution, which was put to the meeting by the Chairman and carried unanimously.

"HARBOUR ACCOMMODATION," AND "BETTER MEANS FOR PREVENTION OF LOSS OF LIFE AT SEA."

The CHAIRMAN said the prevention of loss of life at sea was a subject in which everyone was deeply interested, but no one more so than himself, as he had the honour of being the Chairman of the National Life-boat Institution. The question resolved itself into whether any other steps could be taken to prevent the loss of life which occurred from time to time, especially in the winter months on board smacks in the North Sea. A Board of Trade Committee last year visited Grimsby, Hull, Scarbro', Lowestoft, Yarmouth, Brixham, and Penzance, and took evidence from skippers of smacks, crews, and also owners upon this sub-

ject, and the evidence pointed to the fact that the loss of life occurred most in the ferrying of fish from the catchers to the carriers, though he thought that that loss had been very much exaggerated, and that in many instances the hands had been washed overboard, or knocked overboard by the boom or the tiller. The question of the ferrying was not in the minds of the Committee so serious as they anticipated when the inquiry was first opened. The Executive of the Exhibition had received an order from Mr. Edwards, of Lowestoft, of a prize of £60 for the best smack's boat for the conveyance of fish from the smack to the steam-carrier, but the Jurors had inserted a very important clause in their report to the effect that there was not one boat in the Exhibition which they considered worthy of the special prize. He was sure that that was a disappointment not only to Mr. Edwards, but to the Executive and the public at large. The Committee also considered whether there was any dress which might be worn by fishermen who were employed in the boats, and the result of their inquiries at various ports led them to the conclusion that although cork jackets were provided by the owners the men would not wear them for fear of being laughed at by their fellow-men. That was an unfortunate state of things. The crews of life-boats were compelled to wear cork jackets, and, therefore, he thought the owners of smacks should compel their men to do the same. With regard to the question of harbour accommodation, that was a subject which had been ventilated by the Select Committee of last Session, and the only point to which he would allude was one of paramount importance, viz., that the Government should allow more convict labour to be employed in constructing harbours of refuge to give the fishing community that accommodation

round the coast which they certainly ought to have. He noticed that the question of raising the money at a low rate of interest was discussed in the report, and he believed that the Government would consider the question of employing convict labour in the construction of harbours of refuge.

Mr. JEX said that as one of the Jury of the No. 5 division of the International Fisheries Exhibition, he had examined minutely into every detail connected both with boats used for the conveyance of fish from the smacks to the steamers, and the Jurors had come to the conclusion that there was nothing in the Exhibition sufficient to merit the award of the special prize of £60. They had recommended that the Executive should write to Mr. Edwards to get his consent to this prize standing over for six months, and that the award of the gold medal offered by the Executive should stand over for the same period in order that boat-builders might have another opportunity of producing some boat to meet their requirements. A great number of men were lost when the boats were returning empty from the steam-carrier or cutter, the boats being light, and in a cross choppy sea get struck aft, and get what is technically known among fishermen as pooped, then upset; and when the boat is capsized, the men generally place themselves in the midship section, and are then washed off by the sea. I have frequently recommended that a line be run the length of the keel from stem to stern, and spliced, so that the men should have the means of righting the boats. If they would get as near to the stern post as possible they would go with the boat, and not run so much risk of being washed repeatedly off the boat and lost.

The CHAIRMAN announced that the Executive had written to Mr. Edwards asking him to allow his prize to remain open for another six months.

Mr. JEX was very glad to hear that that had been done. One boat had been exhibited of a carvel-build ; but it was not at all suitable for carrying fish to the carrier, because a man in a short sea would very often drop a trunk of fish in order to save his life, and the edge of the trunk coming down upon one of the planks, the boat would become water-logged, and she would sink up to the buoyancy that was in her. The boat had cork all round between the gunwale and the thwarts, and if such a boat was upset the leverage being on the top, it would take six of the strongest men to right her. Saving life at sea was one of the most important subjects of the Exhibition. It was well known that many of the lads fell over in dipping a bucket of water, or from the vessel giving a sudden lurch, and if any means could be devised for saving these lives, it would be a step in the right direction. He had provided life-belts for the men on his vessels, but they would not wear them.

Rev. Mr. BERTHON said he stood before them as a theoretical inventor ; but as the canvas boat which had been invented by him had been proved to be the very best boat yet brought out, he thought that would be a sufficient excuse for his addressing the meeting. His canvas boat might be banged against the ship's side without hurting it, as it would at once bound off, and it would go through any sea without sinking. One of these canvas boats would not occupy more than about a foot of the gangway of a smack, and it could be instantaneously opened, when it at once presented the form of a very perfect lifeboat with enormous air cases at the end, by which the boat would right itself in the event of its being capsized. When used as a ferry boat for the conveyance of fish from the trawler to the carrier, the boxes would be entirely encased in wood. The thwarts were made to collapse or not, and the

boat could also be made self-delivering, as well as self-righting. If by any accident the boat was injured, the water did not get in, as there were a number of air compartments. When the boat was returning empty from the steam carrier, water might be carried as ballast. The boat was so constructed that if it was found dangerous for men to row it to the steam carrier it might be allowed to drift, and the carrier could pitch a grapnel over the painter and take the fish on board, and then return it in the same manner to the smack. Had he known that a special prize had been offered for a boat for this particular purpose, he should have devoted his attention to providing such a one. He had already received a gold medal for a collapsing boat, and a diploma for the one which he had just described.

Mr. JEX said the Jury had minutely examined the boat exhibited by Mr. Berthon.

Rev. Mr. BERTHON said the boat exhibited by him had not been sent to the Exhibition for the purpose of competing for the special prize.

Mr. BUGLES (Berwick-upon-Tweed) said it would be a great blessing to his town if a harbour was constructed there, so that fishing-boats might go in and out at any time. At the present time they had no kind of shelter whatever on the Berwick coast, but he was happy to say that a company had now been formed for the construction of a harbour at Berwick, and he should be happy to show any one the plans which had been prepared.

Mr. HELYARD said the subject of preventing loss of life at sea was one to which he had devoted his attention for the last thirty years. In his opinion the fishing vessels were not large enough or strong enough; they were good enough for fishing, but they were not strong

enough to withstand the heavy seas they sometimes encounter. He suggested that fishing vessels should be of 200 tons, and propelled by steam. He knew that fishermen would not wear the cork life-belts ; in fact, at one time he would not wear one, though he had now altered his opinion with regard to them. He had tried to induce the men under him to wear air-belts, but they would not put them on. On one occasion he persuaded them to put them on before they went into the boat to convey the fish to the carrier, but he noticed when they returned they had not them on. He thought the admiral of the fishing fleet, and the captain of the cutter, should have authority to give orders when the operation of conveying the fish to the carrier might be performed with safety ; at present they had not the power, and if the men were ordered to convey the fish they were bound to obey the orders, or else they would have to go to gaol for neglect of duty. In conclusion, he suggested that the master of every fishing vessel should be qualified in the same way as pilots were by the Board of Trade.

The Conference then adjourned for luncheon.

Mr. SMITH (Brixham) said the place from which he came had a population of 7,000, the number of fishing vessels being 180. The insured capital invested in the business was £90,000, but there was not harbour accommodation for these 180 vessels. He need not go back to 1866 and narrate the results of the terrible gale of wind which then occurred, as it would be, no doubt, within the recollection of all, when wives sat at their windows and witnessed the loss of their husbands close to their own doors. There were 100 fishermen on board their vessels at the same time, riding to a piece of large chain which

was laid down in a north-east and south-west direction, which they called the moorings. He was on board a vessel that night, expecting every moment to be swamped. They said in that neighbourhood Brixham was a little place at one end of the world, but they felt that they ought to bring it out, make it more prominent, and show the Government that it and other ports were without harbours of refuge. He therefore begged to move the following resolution:—"That in view of the great want of harbour accommodation round the coast of the United Kingdom, we pray that Her Majesty's Government will, without delay, carry out the recommendations of the Select Committee of last session, and thus prevent the continuance of a state of things which, while crippling the resources of the country, and annually injuring a great industry, fills the papers with terrible disasters, leaving hundreds of widows and orphans to excite the sympathies of the country."

Mr. SAUNDERS (Brixham) seconded the resolution. As Mr. Smith had remarked, there were 180 vessels belonging to Brixham, and there was only harbour accommodation in spring tides for from forty to sixty, and in neap tides for from twenty to thirty; all the rest had to ride to moorings in the outer roads, where they were exposed to the full fury of the easterly gales. In a gale which occurred something like six years ago, six vessels were totally lost on the rocks, fourteen were two months in harbour repairing, and then were driven right up into the main street.

Mr. ROGER MOORE (Bristol) supported the resolution, in the hope that the matter would be taken in hand by the Government, and that something practical would be done. The place he occupied that day would have been filled by

the leader of the organisation with which he was connected in the West of England, Mr. Samuel Plimsoll, had he not been kept away by domestic affliction. One question had been touched upon by the Chairman which he thought required consideration at the present moment, namely, the utilisation of convict labour. On many parts of the coast there were places where this labour could be utilised without any extravagant expense in looking after them. Amongst them he might especially allude to Lundy Island, in the Bristol Channel. This place offered great facilities for the protection of vessels, being in proximity to the open sea, a short distance from Penarth Roads, and shelter could be afforded there in stress of weather, which would much reduce the loss of life. He was glad to see that in Ireland they had obtained small grants from the Government, and had in some places carried out some improvements; but Government had not yet assisted the Irish fishermen on the south and west coast to the extent that was desirable.

Mr. BLOOMFIELD said, as far as Ireland was concerned, £250,000 had been allocated for harbours, and in a short time they hoped the Government would see to its being expended in the best manner possible.

Mr. HEPTON (Grimsby) said he felt at a very great disadvantage in speaking on this subject. He had heard it said that a good way for a man to become a public speaker was to go into the fields and talk to the trees, and he would not mind spending five years talking to the trees if it would only enable him to find words to express what he felt with regard to the prevention of loss of life at sea. It might seem rather curious, but, having thought on this subject a great deal, he was convinced that the one they were speaking about yesterday, viz., the destruc-

tion of immature fish, together with those to-day, viz., railway rates, harbour accommodation, and loss of life at sea were so much intermingled, that before this, the most important from a sympathetic or human point of view, can be in any way benefited or the loss of life mitigated, some alterations must be made in existing laws, regulations, or arrangements in these matters to which the previous subjects referred. The question was, how were these lives lost, where were they lost, and why were they lost? It had been explained that many lives had been lost in fleeing; many were lost through unaccountable causes, easily lost, one almost wondered how they could be lost; they fell overboard unaccountably, if it were fine weather they were often drowned, whilst if it were in the winter time some who could hardly have missed being lost were saved. Some were lost overboard taking in the jib; they pitched head foremost into the sea, and then there was no possibility of saving them, for by the time they could get something to throw to them the vessel had fallen off to leeward, and they were out of reach; some were lost putting up side lights, and some drawing buckets of water, but these were only isolated cases. There were about ten-fold more lives lost on the east coast between Lowestoft and the Spurn to what there were all round the British coast; he could hardly tell the reason, but it was principally due to heavy seas rolling abroad, and fleeing. If there was any one on deck and they saw a sea coming, they sung out "water;" that meant, hold on to something if you could, or get down below; and if a man got washed overboard at that moment, all the hands on deck, who alone could save him, had as much as they could do to look out for themselves, and by the time they could do anything he was gone. One reason so many were lost on the east

coast was because the vessels had to go right away out to sea, and when a gale of wind came on it was impossible to try to run home to harbour, because there would be more danger in so doing than in stopping where they were. The greatest danger lay in large fleets being congregated together. The heavy railway rates making the fish cost so much in sending from the ports, made it almost impossible for the single boats to get a living, and led to the fleeting system, and sending the vessels further out. If they could send their fish at a reasonable rate from any port, they would not be obliged to congregate in such large fleets. The dangers of fleeting were very great; lots of lives were lost by boating. Although a man might walk about on deck with a life-jacket on, when he had to pick up a large box of fish and hand it up higher than his head, he did not want to be crippled with life-belts and jackets, he wanted to have everything free about him so that he could use his strength. That was why they did not like these appliances, not because they were afraid of one another chaffing. Fear was a word unknown amongst fishermen. Unfortunately there was a discussion going on at Hull amongst the fishermen, which precluded him from saying as much as he might with regard to the fleeting, lest it might be thought that he was a partisan. But great losses took place last winter amongst the Hull vessels, especially amongst those who had been fleeting. It was proved that there was more loss of life through the fleeting or boarding system during the winter months than in single vessels. It was said that vessels should go fleeting to have a fresh and regular supply for the public; but he urged that this was not so, providing railway rates were made so reasonable that the public could have their fish brought from any part of the coast to the great centres. The reason for the great

fleets was, that such a large percentage of the earnings was taken in railway carriage, that owners could not make it pay. Now during the last three months, the supply at Billingsgate was about 230,000 boxes, an average of 17,700 a week, or nearly 3,000 a day ; but the number of days this average supply reached London was only nine for the whole period of thirteen weeks ; there had been about twelve days when under 1,000 came to market (of course he only included market-days), on six days there had been no steamboats there. On the contrary, on one day there were 9,100, another, 8,000, another, 7,600, and another, 7,200. That did not prove that there was an average of 3,000 boxes daily, but just the contrary. Again, taking the average weekly supply of 17,000 to 19,000 boxes, there had only been four times that quantity, twice over 23,000, and once under 8,000. Then as regarded the freshness of the fish, he would allow that steamboats were well able to bring fish fresh, provided the steamer were always there at the time when the fish was ready to be put on board ; but in winter the cutters were sometimes astray, and at such times the fish is either thrown overboard or sent to market in very inferior condition. As had been said before the Conference, on one occasion they sent away three steamboats one morning, and one the night before, and there was none left ; the fishing vessels put the gear down that night ; and he wished them to take particular notice that they wasted more fish on that occasion than all the single boaters wasted in twelve months ; and although such occurrences are not common, this is by no means an isolated case. Sometimes it happened on account of there being fresh winds, there were some men so humane that they told the skippers not to board ; but there were men in the fishing interest who would let men board, no

matter what risk they ran. He stood there as the representative of 3,000 men and boys, and felt that he must do his duty and speak the truth on this matter. With regard to the loss in the Hull fleet, it was contended that three-quarters of the damage would never occur if they were not crowded together in such large numbers. Any sea-going man would say that if he had a fine ship he did not fear a gale of wind provided he had plenty of sea room and no company; but if he was surrounded by vessels nearly as thick as the chairs in this room, he had little chance, if it were a dark or rainy night, accompanied with a gale of wind. It was urged that there were a great many vessels lost out of Grimsby, but four out of nine lost on one occasion were either in connection with the Hull fleet, or close to them. He hoped the Conference would give this subject its earnest consideration, and would be enabled to see that the questions of loss of life, railway rates, and the destruction of immature fish were all connected together. The preservation of immature fish would give more mature fish for the vessels to catch on the single boating system, and the railway rates being lowered, would give the owners a fairer percentage on the fish their vessels caught, and would put on one side the fleeting system during the winter altogether. He believed that if any man could manage to get an Act of Parliament passed which would abolish fleeting for six months during the winter, in days to come his name would be written in letters of gold. He was unable to go into any practical methods of preventing the loss of life at sea, the short time allotted to each speaker having expired, But he desired to make one suggestion that, is, that deep-sea fishing vessels should be fitted with iron stanchions and nettings from their fore rigging to the taffrail, the stanchions about four feet in

length (two or three each side), the netting to be made of strong line six inches from knot to knot, so as not to obstruct the sight. The cost would be very slight.

Mr. DAVID TAMLIN (Swansea pilot) said he could not allow the discussion to close without calling attention to the want of harbour accommodation on the coast of Wales. Swansea was not represented there by the fishing community, and, therefore, he felt bound to call attention to the want of harbour accommodation in that locality. The trade had diminished, especially the oyster fisheries, but there were still a great many boats there, and the bay was entirely open to south-westerly and south-easterly winds. The Mumbles was a most admirable place for a harbour of refuge, and he believed that the last Royal Commission recommended that one should be constructed there, and nothing had been done. If the great loss of life which took place had been occasioned by a want of sanitation there would be an immense outcry at once, but if it were a question of harbours of refuge it seemed to be shelved altogether.

Captain READ (Deal) said he came there to point out one remedy for loss of life. Steamers were constantly running down fishing-smacks, and running one another down in all directions, generally for want of some means of knowing how a vessel approaching at an angle was steering. He wished to explain a means which had been adopted in the British Navy since June 1869, and he might say that about six months ago a friend of his at the Admiralty, to whom he spoke on the subject, said he had used the invention on his ships, and no captain in the British Navy steaming with two or more ships in company would ever think of moving without it. The object was to show the approaching smack which side the steamer intended to pass him, so that he

could see in a moment if he intended to obey the law. [Captain Read exhibited the model of a steamer showing the nature of his invention, which consisted of a spar slung at the mast-head with a red globe at one end and a green at the other. When the helm was put to starboard it automatically lowered the red end; when the two were horizontal the helm was amidships.] At night the two ends were represented by a red and green light respectively. There were many advantages connected with this system. It would not only indicate whether the ship was being steered properly, it would show the captain of the ship that his lights were burning, it would also show him that the men at the wheel were not asleep. The largest ship afloat could be fitted with this apparatus for £5. When the red was above it showed that the vessel was on the port-helm, and thus gave the information which the side lights did not show. If you were running through a fleet of ships with a fair wind, all going in the same direction, there were no side lights showing at all. Captain Reid concluded by enumerating the various prizes and medals he had obtained for this invention, and by reading letters from Admiral Sutherland, Admiral Hammerton, Mr. Myles Fenton and others, speaking in high terms of the invention.

Mr. SALMON (Grimsby) said the loss of life at sea was a matter which required further investigation. From his own personal experience, he might say that they had the finest fleet of vessels sailing out of Grimsby in the world, fitted with all the latest improvements and appliances; but there were times when unforeseen accidents occurred, leading to loss of life, such as being washed overboard, oöys drawing water and being pulled overboard by the bucket—not knowing how to draw it, the motion of the vessel pulled them over, and sooner than let go the bucket

they went over the side. With regard to the box-fleeting system, he believed there were a great many lost from that cause, and if it could be discontinued, he believed there would be a saving of life, as many lives were lost in attempting to save those of others. On the 28th of October, 1881, there were 55 lives lost and 11 smacks, each smack having 5 hands on board. On the 18th of October, 1882, there were 18 lives lost and 1 smack. On the 6th of March, 1883, they lost 96 lives at sea, and 12 smacks, with all hands. There was a class of men and boys who could see no danger at all, and if life-jackets were put on board they were such an encumbrance that the men would not put them on. If he had a life-jacket on he should take it off, because the first necessity was perfect freedom of motion. He then handed to the Chairman to read an extract from a Hull paper, giving an account of the loss of life from a heavy gale. On the date named, 806 smacks arrived at Hull in one tide, 90 per cent. of which had been more or less seriously damaged, and from one nearly a score of lives had been lost. At the time of writing 23 smacks were missing, and it was feared the majority of these had sunk. The result was a total of 115 lives lost, which with the 20 previously reported made 135; and as to the previous gale there were 2 smacks lost with all hands, which made a grand total of 150 lives in connection with the Hull fishing fleet. Mr. Salmon said he did not say that all these lives were lost owing to the fleeting system, but if a gale of wind came on when the vessels were in such close contact, they all got crowded together, and it was almost impossible for them to escape.

Mr. JEX said he had received a letter giving some particulars of the proposed fishing harbour at Berwick. It

would have a draught of 7 ft. at low water, and 22 ft. at high water. It would be protected both north and south by outlying headlands. It would be a great advantage to the boats from the surrounding fishery harbours, and was very advantageously situated for railway communication, being close to a station at which all trains stopped. If such a harbour had existed previous to the disaster in October, 1881, many lives would have been saved. The present harbour was a bar harbour, with only 3 ft. of water at low tide, and the boats were often in great jeopardy.

(The resolution was then put and carried unanimously.)

Mr. ALWARD then proposed the following resolution: "That the large number of fishermen annually lost by drowning around the British Islands, notably in the North Sea, demands that the attention of the Government should be called to the matter, and that it should take such immediate steps to institute an exhaustive inquiry into the various causes, and ascertain what means, if any, could be devised to prevent, or at least to diminish, the same." In proposing this resolution he did not commit himself to any course which he should be sorry for. It was a generally admitted fact that the loss of life round the British coast was something appalling. The fisheries were progressing, the people were increasing in numbers, the vessels were increasing in importance and magnitude, and he thought all this showed the necessity that before any legislation took place, consultation should be held with the leading men connected with the fisheries on the coast of Britain, of course including Ireland. He made that remark for this reason: he could prove, from his own experience, that the Legislature, in their anxiety and desire to benefit the nation, often pursued a course very detrimental to those for whom

they were legislating. He would not blame them, because they did it from the best of motives ; this was mainly due to their technical ignorance, which caused them to fall into the errors which they had committed. This was brought before them very forcibly some two or three years ago, when without any warning they were told that a new regulation respecting lights to be exhibited by fishing-vessels was arranged all cut and dried, and simply put forward to be accepted, whether suitable or not. As soon as practical people had their attention directed to it, they saw that instead of preventing loss of life, it would be a fruitful source of increasing that loss. The gentleman who had brought forward a model showing arrangements of lights for indicating the position of the vessel's helm, and various other features which were very good indeed, had accomplished a good work ; at any rate he had shown that attention had been directed to a matter which was calculated to be an immense benefit. There might be little faults which could easily be overcome on consultation with practical men, and he cordially gave it his general support. In continuation of the remarks of his colleagues from Grimsby he would say this, that having been connected with commercial transactions since he gave up the sea, his ideas had become broadened, and he apprehended the difference between people all at once coming to a conclusion on a certain subject, but not giving effect to their opinions there and then without further consideration, and submitting them to the judgment of people who possessed superior intelligence, and a man rushing at once to a thing which his instinct told him was necessary. For instance, his friend Mr. Helyard, who had had charge of fleets, spoke of the size of the vessels, and said they were not large enough ; he would have a vessel 200 tons, but he might tell him,

with all respect, that it did not follow because you increased the tonnage of a vessel that you increased her safety as a sea-going machine; in fact the life-boat was one of the smallest boats which went on the water. One fruitful source of loss of life at sea in fisheries was this, that fishermen prided themselves on being a fearless set of people. The older he got the more fear he possessed, because he believed that with increase of knowledge came increase of fear; he could not boast of much knowledge, but he had at any rate learnt his own ignorance. Those who did not possess a very extensive knowledge generally had the least fear. The man who could realise the danger by which he was surrounded, who understood the force of the elements, and so on, could apprehend the dangers contained in them, but one who simply took a superficial view of the matter, and possessed all the physical courage and power necessary to perform his duties, knew nothing about fear. They had been told over and over again that life-buoys, life-belts, and all the various appliances for insuring safety, were disregarded, and one gentleman said that at one time if he had been asked to put on a life-jacket or make use of a life-buoy, he would have considered it an insult to his courage, but now he had got old enough to realise the fact that that was the most sensible thing to do to preserve his life, and to recommend it to others. He had been in vessels he had the management of, and he had on several occasions given out a full set of jackets and buoys, but the difficulties he had met with had been those which had been already mentioned, that the men treated them with contempt, and when you went on board the vessel which had been supplied with them, you found them kicking about as if they were of no earthly use. A great deal had been said about fleeing,

and there had been a Commission of inquiry held lately at the port of Hull, at which he had an opportunity lately of giving evidence on this point. A question was put to him as to the reason of going in boats for the purpose of carrying the fish under this system, and he explained that the fish were put into a small boat to be transferred to the steam vessel, which was the carrier to bring it to market. He was asked what was the intrinsic difference in danger between the two systems, and he replied that the difference was between being on the deck of a vessel surrounded by the conditions of safety, and going into a small boat which did not possess those conditions. At the same time, if those who had to board the fish discriminated, and had power put into their hands to exercise their knowledge and judgment not to board the fish when the weather was unfavourable, there would not be such excessive risk ; but, as had been stated, some admirals and masters had the power to refuse to board fish when it ought not to be attempted ; but it was also perfectly true, as had been stated, that if they did not send it when the owners were expecting it, in many instances the men would lose their situations. Again, the masters of crews and admirals of the fleet, even with the limited power they had, had very great difficulty in exercising it, because although they might make signals not to board, fishermen were of that class that they were not subject to much restraint ; every man prided himself on being at liberty to do as he chose. A Bill had been passed called the Merchant Vessels and Shipping Boats Act, 1883, and he believed in that case the Legislature tried to make themselves acquainted with the requirements of the case, but whether they went sufficiently low down he would not say ; still the leading members of the trade had a fair opportunity of expressing their opinions upon it. This

Act, amongst other things, provided that every man who took charge of a vessel, not only a master, but a mate, should have a certificate, proving that he was a competent person, either from having passed an examination or from long service. Although he believed this Act was going to confer great benefits on the trade, it was receiving very strenuous opposition at the hands of fishermen, but he believed, as fishermen became more enlightened by the spread of education, which was more required by them, perhaps, than any other class, they would appreciate it. Before the Education Act, fishermen were glad to send their children to earn their living as early as possible, and when a boy was nine or ten, he went to wake up the crew of his father's boat. He himself had served eleven years of apprenticeship, and his brothers had to follow in the same course; but a new state of things was now introduced by the Education Act, and he believed the results would be very satisfactory. If time permitted he should like to suggest that a congress be held of practical fishermen of the various ports. Fishermen were not a wealthy class, and he was sorry that in these Conferences one thing had been lost sight of. The money subscribed to further this movement might be thought to have been better employed than it had been latterly in enabling a larger number of fishermen to come to speak on these subjects. One remark he would make as to the collapsing-boat of Mr. Berthon's. That gentleman proposed a means of transferring the fish from one boat to another without jeopardising the lives of the men. It was an admirable idea, and it was a practicable thing which he had suggested. Strange to say, he had never heard it mooted during the whole course of his life before, and yet he had himself put it into effect in order to rescue the lives of a crew of a ship when sinking. He

manœuvred his vessel so as to sail round the sinking vessel when it would have been utterly suicidal to put his own crew into a boat, and when, in fact, he could not spare his crew, but he managed to place his boat alongside the sinking ship, and rescue the crew a few minutes before she sank.

Mr. HEPTON asked leave to state that the fishermen sailing from the Humber believed the Act referred to by Mr. Alward would be a special benefit to them. He knew the greater part of the Grimsby people were of this opinion, and a unanimous opinion in its favour prevailed in Hull.

Mr. ARNOLD (Kingsdown) said he had had to suffer enough through the loss of those nearest and dearest to him at sea, and if anything could be done to prevent it, he should be only too proud and happy to know it. They had heard about patent nets, patent lights, and other things, but he thought one of the first things was to bring more patent men in, but that was not to be done in a hurry, it required experience and education. Loss of life very often took place suddenly, without the least idea it was going to occur. He had often had to witness disaster, and to endeavour to assist in the saving of life, and he believed loss of life often occurred through the emulation of the men. One man would say, we can hang on to our gear as long as our neighbours, and therefore they would let it go a little while longer; but by-and-bye the time came when they were obliged to let go the gear, and sometimes perhaps it would be too late. But if the gear were let go they would not get so many fish; and if another man hung on and saw the gale out, the first man would be told by the owners, "Why did you not hang on longer; you could hold on as long as your neighbour." In old

times he remembered old people telling him that when it came to pay out the rope it was time to let the gear go, and the men would say, "We're going to take care of ourselves now, never mind the owners." But that was not the case now. They must look after those on shore, not after those at sea. But there ought to be a certain limit to that. He thought if there were better regulations, and every captain had a Board of Trade certificate, they might be trusted to say when it was time to let the gear go. At the same time, he would allow every man to know what his own ship would do best, whether it were a smack or a mackerel boat.

Captain SWINBURNE thought the general style of steam trawlers, judging by all the models he saw in the Exhibition, were nothing more than the old coast steamers with flat bottoms and flat sides, which was not at all the class of vessel for a steam trawler, and if they were continued there would be the same loss of life or more.

Mr. HELYARD said the class of steamers which they had had running for some eighteen years was not represented in the Exhibition at all. There was not a model like it.

Captain SWINBURNE said if they wanted to get proper fishermen, they must go back to the apprenticeship system. There was a great want of harbour accommodation on the east coast. He did not know what the Commission had said about it, but he knew several places where harbours were much wanted, such as Filey, Tees Bay, and Eyemouth. Vessels could always run there from a south-west gale.

Mr. HELYARD said some time ago he wrote a Paper on the apprenticeship system, which he sent to the late Mr. Buckland. He believed that system was gone, and ought

to go, as it would never do for the present age. He agreed with Mr. Alward that they must begin with education. Though he went to sea at thirteen, he ought not to have gone; and he might say another thing, that his apprenticeship never taught him his business; he learnt it and qualified himself almost in spite of the master he sailed with, and many a night he had taken his instrument and stolen upon deck to get an observation when he dare not let his master see him. His idea was, that there should be training homes for boys established either by Government or by individuals, where they could learn the first rudiments of seamanship, and let them take their certificate from there.

Mr. BLOOMFIELD said he could not allow this topic to pass without saying a word with reference to apprenticeship. It seemed to be the idea that Government were to take the matter in hand and make fishermen for the fishing fleet, but he had experience of what had been done for a great industry in the matter of apprenticeship. He had the honour of being the originator of the only china factory that ever existed in Ireland. When that commenced they had nothing but a lot of ragged urchins all round the village, and they were obliged to send over to this country for English and Scotch potters to commence. Fortunately his partner took up the question of apprenticeship, and they had forty-five or fifty of these ragged urchins, who began by simply turning the jigger, but in two or three years they learnt the business, and now you could go into that village and see those same ragged urchins wearing fine broadcloth, and earning from £2 to £3 a week. If they attempted to take it out of the hands of the fishermen themselves, the end would be that the glorious tribe of fishermen must degenerate into a lot of

people all looking at each other, to see what help they could get from someone else.

Mr. ALWARD said he understood Captain Swinburne to say that steam-trawlers were unsuited for the purpose, and were likely to be the means of loss of life. If that got into print it would be a great reflection on a class of vessels which they held to be second to nothing afloat as a means of catching deep-sea fish. He was quite ready to discuss the question on the ground of stability, buoyancy, or any other quality which a sea-going vessel ought to propose.

Admiral MACDONALD said he had been engaged a great many years in the preservation of life in connection with the Life-Boat Institution, and he did not like the discussion to close without a few words with reference to a class which appeared not to have been thought of except in connection with Captain Read's lights—he referred to sailors. They had been talking about saving fishermen, but sailors also needed assistance, and the Exhibition had done the best it could to help in that direction. Not only were prizes offered for all kinds of things for saving fishermen's lives, and fishing gear, but also for the benefit of sailors who went a little further afloat. There was a class of life-boats which went from the shore, and there were also ship's life-boats, and several of these had been examined, but the jury were not able to pronounce an opinion upon them, because they could not do so in a building. He only mentioned this lest people should imagine that only one class of life-boat had been considered. When on the coast of Scotland many years ago, he had occasion to bring life-belts in fishing-boats before the Cellardyke fishermen, and one of them said, It is really no use taking life-belts in our boat, because the only time when any danger happens is when we are running in from the banks, and then they

would be of no use ; but he told them that even if the boat did founder, and there was no chance of their lives being saved, it would give them time to offer up a prayer to Almighty God, and he believed that many of them did take life-belts with them ; whether they put them on he could not say. There was no doubt they were fearless enough, but they feared the chaff much more than actual danger.

Mr. TAMLIN said one of the great means of saving life at sea would be to support compulsory pilotage throughout the kingdom. At ports where compulsory pilotage was in existence, the pilots were in turn always at sea, no matter what the weather was, and hence they were on the spot ready to give assistance to ships in difficulty.

Mr. ROGER MOORE said, as a member of the British Town Council, he might mention that attention had lately been drawn to compulsory pilotage in the Bristol Channel. He had been elected a member of the sub-committee to deal with the question, and the belief of the majority of those mixed up with the seafaring population was, that if the compulsory district were limited to between the Homes and Kingroad, it would increase the dangers of the channel, and consequently the loss of life and property.

(The resolution was then put and carried unanimously.)

The CHAIRMAN said the last subject on the agenda was the question of fishing-vessels' lights. He thought really it had better be postponed as there was not time to consider it. He should be obliged to speak at considerable length upon it, because it was a question which he had gone into from the very commencement.

Mr. LIGGINS suggested that the Conference might be adjourned to some future day when the subject might be further discussed. He knew the Society of Arts had a

committee formed to go into any plan for the prevention of collisions during fogs, and these other subjects might be considered with it.

The CHAIRMAN said they might consider the Conference adjourned.

Mr. JEX said several fishermen of Yarmouth and of Scotland had asked him to lay before the Committee the impossibility of their attending this Conference, and asked him to ask the Executive Committee if they would obtain permission from the Fishmongers' Company for the use of their hall in January, when these practical matters might be further discussed.

Mr. BLOOMFIELD said the functions of the Chairman and Executive Committee would soon be at an end ; and he suggested it would be better to leave it for the Fishmongers' Company to take up the matter and issue their own invitations.

The CHAIRMAN thought it would be better to simply adjourn the Conference. Of course due notice would be given of any future meeting.

Mr. ALWARD then moved a vote of thanks to the Chairman for the grand services he had rendered to the cause. No doubt the Exhibition itself was due in a great measure to his exertions. He only wished he could say half he felt on this subject.

Mr. JEX seconded the motion, which was carried unanimously.

The CHAIRMAN said he was extremely obliged to Mr. Alward and Mr. Jex for the kind expressions they had made use of, and he could assure all present that it had given him the greatest pleasure possible to preside at these Conferences. He considered that yesterday and to-day had been two of the most important days' work in connec-

tion with the Conferences, and also the most interesting ; and he might also remark that, except the first two days, they had had the best attendances. As to the question of future Conferences, he would venture to suggest, and he should be glad to take any steps to follow up the suggestion if desirable, that there should not be simply an adjourned Conference, but that they should try to have in London every year a Conference of fishermen ; they would then hear, from representatives from all parts of the kingdom, their views on all the questions of the day. Every other interest met more or less annually in London, and he did not see why the fishing interest should not have a fair chance also.

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