

The net is simply a large bag. The upper portion is fastened to the beam, from which the apparatus derives its name. This beam varies in length from 45 to 50 feet, and rests on two triangular iron frames called the trawl heads. These trawl heads being of iron serve to sink the net and keep it in position. The under part or "belly" of the net is composed of two layers of netting, and is shaped like a crescent at the mouth. This under part is not connected with the beam, but is weighted round the mouth by a loaded rope. As the trawl heads stand about five feet high, a very large aperture is thus made for the fish to enter the net. The net tapers down to a breadth of about five feet, to which is attached a larger bag or "cod." Into this bag most of the fish find their way, and the weight of the catch being sometimes considerable the bag is coated with strips of manilla to keep it from wearing by contact with the bed of the sea. The extreme end of the "cod" is drawn together with a line, and when the net requires to be emptied this line is untied, and the fish emptied out. Once inside the net it is almost impossible for a fish to get out again, as two pieces of netting attached to the sides of the net converge on a small opening in the centre. The mode in which the trawler works is this: Arrived at the fishing ground the trawl is unshipped. About 100 fathoms of wire rope is paid out, at the end of which two "bridle" ropes branch off, one to each trawl head, where they are shackled to the beam. The vessel then steams ahead at the rate of about three knots an hour, with the trawl in tow. On ordinary occasions trawling is carried on for about thirty-six hours at a time, and during that period the trawl is generally lifted six times. When the net is to be emptied, the beam is drawn alongside and shipped on the port side. The bag is then canted over the beam, the "cod" line untied, and the fish fall out on the deck. The trawl is again unshipped and the vessel proceeds. The fish are then assorted and taken to the hold. In a proper trawling vessel the hold is placed as far as possible from the engine and boilers. The bottom is laid with concrete, and the hold is so constructed that currents of air are made to pass through it. The trawl is shipped by means of a steam winch placed amid-ships on the starboard side of the vessel.

It will be at once observed that this "sea scraper" when set in motion is a very formidable apparatus. Its voracious mouth is always open and it is never satisfied. The sportive haddock and codfish and the lazy, phlegmatic turbot and skate alike fall victims to its voracity. Flat fish suffer most from it, as a large surface is swept by the mouth of the net. The skate lying dreaming on a soft bed of sand is ruthlessly awakened by the loaded rope of the net coming in contact with his outstretched "caudal appendage." Starting up and looking round to see what is coming, he finds himself incontinently drawn into the thorax of the monster. Resistance is useless, he has to join the "happy family" in the "inner circle." The innocent fluke "flounders" into the breach, never to return, and is followed by his friends the plaice and the sole.

Without entering into the merits of the question of trawl *versus* line fishing, it may be observed that improvements or innovations have always met with opposition from interested parties. The proprietors of stage-coaches strenuously opposed the opening up of railway communication; the old-fashioned farmers

denounced the introduction of the steam-plough, and handloom weavers agitated themselves over the application of steam-power to weaving. Of course the alleged destruction of young fish by the operations of trawlers is a question which has no parallel in the cases noted above, and will have to be seriously considered. As bearing on this point it may be interesting to quote a paragraph on the subject from the report of the Fishery Board for Scotland, for 1883, just published. The Commissioners sent a number of queries to the fishery officers of Scotland, and after consideration of the reports sent in, The Commissioners arrive at the following conclusion:—

"All the information which has been laid before us leads to the conclusion that in the present state of the evidence it cannot be affirmed that beam trawling had to an appreciable extent affected the general productiveness of any other mode of fishing. Trawling has long been practised, although steam trawlers have only taken the place of sailing vessels within the last few years. The wealth of the sea is so enormous that no improved appliance for adding to the food of the population ought to be discouraged. What is required is some power of regulating this industry, so that its prosecution will not be to the injury of the nets and lines of other fishermen, particularly in narrow waters. At present the only regulation now in force is the following:— 'Trawl boats shall not commence fishing at a less distance than three miles from any boat fishing with drift nets. If trawl boats have already shot their nets they must not come nearer to boats fishing with drift-nets than the distance above mentioned.' We are of opinion that the following additional regulations are worthy of consideration:—(1) Trawlers should be required to avoid lines as well as nets. Line fishermen should be bound to mark their lines with flags and buoys. (2) On proof that injury to lines or nets was done by a trawler he should be presumed to be in fault, and so liable in the damage done, unless he can show that the blame was attachable to the line or net fisherman himself or some third party. (3) Failure to mark his lines in the way above indicated should disentitle the fisherman to recover. (4) On verbal complaint to a Superintendent or Fishery Officer—where the sum claimed is under £10—the Superintendent, assisted by two Assessors, when the parties choose to name them, or one Assessor named by himself if they failed to do so, should be entitled to settle the dispute and fix the amount to be paid. Failing payment, the complainant should be entitled to receive a certificate of the damage done signed by the officer, and recover in the Sheriff Small Debt Court the amount contained in the certificate. The Secretary of State should be entitled to prohibit beam trawling in estuaries and narrow waters or inshore, as recommended by the Commission of 1878 (Evidence, p. 38); and also wherever the operation is likely to interfere with beds of oysters, mussels, etc. The Act 44 and 45 Vict. cap. 11 (passed 3rd June, 1881), conferring a power on the Board of Trade by Provisional Order to protect bait beds from injury by beam trawlers, might, in this view, be advantageously extended; and the Statute 10 and 11 Vict., cap. 92 (22nd July, 1847), prohibiting the use of any dredge, etc., for the purpose of taking mussels or mussel-brood in mussel beds, should have its scope enlarged."