

No 171

LEAFLET NO. 3.

Fisheries.

AN ROINN TAILTE

(Department of Lands)

PRAWN FISHING

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The common prawn (*Leander serratus*) is widely distributed around the Irish coasts, but obviously varies in abundance from place to place. This prawn should not be mistaken for the *Norway Lobster*, sometimes called the *Dublin Bay Prawn* (*Nephrops norvegicus*) or with the brown shrimp (*Crangon vulgaris*) (Fig. 2). Alive, the common prawn is a grey-brown colour and has blue bands on its legs. The Norway lobster is a pink colour, and its body is profusely covered with white tipped spines. The common prawn also has a projection from its head, called a rostrum, which is absent from the shrimp. As the prawn is of economic importance, some notes on simple methods of capture will be of interest to fishermen. There are at least three methods of prawn fishing, commonly used in other countries, namely :—

- (a) the trawl (either with otter boards or beam) ;
- (b) pots or creels ; and
- (c) hoop-nets.

(a) *Trawling*.—Normally prawns are taken by this method in comparatively shallow water. Although the method produces a relatively high yield in some areas, the gear is rather costly and moreover the fishermen concerned engage in this form of fishing as a full-time occupation. Owing to the long time which would elapse between capture and landing, it has been the practice in other countries for trawl owners to equip their boats with suitable boilers for cooking the catch shortly after capture in order to maintain the quality of the produce.

(b) *Pot or creel fishing*.—This method of prawning, like that by the hoop-net described later can, unlike trawling, be carried on as a part-time occupation which allows a fisherman to engage in other forms of fishing and other work generally. Creels made of close-woven wicker work, and shaped like miniature lobster creels, have now been largely superseded by square or rectangular wire framed mesh-covered pots and similarly constructed creels. Both pots and creels are most efficiently fished in groups or trots (Fig. 3). Each trot usually consists of a dozen pots or creels which are attached at 3 or 4 fathom intervals to a bottom rope. It is a wise precaution to anchor both ends of the trot rope when fishing on exposed shores, though it is unnecessary to do so in quiet inlets. A buoy-line is attached to one or both ends of the trot rope. It is also a wise precaution to attach the buoy-line by a swivel to the trot line anchor, where strong tides run, in order to avoid fouling and consequent shortening of the buoy-line. A commercial fleet of pots or creels usually comprises between 6 and 8 trots, for which a boat of at least 20 ft. is required, if the fleet is to be handled with comfort. The design of a prawn creel is shown in Fig. 1. The creel rather than the pot is described in this figure, because it was found by experiment in Irish waters that the creel is slightly more efficient than the pot. It is imperative that the mesh covering the creel frame must not be greater than $\frac{3}{8}$ " in diameter. If the mesh is smaller, say $\frac{1}{4}$ " it will be found to capture the tiny prawns, which will cause difficulties when the catch is being handled and sorted. Furthermore, there is a tendency, with too small a mesh, towards

reduced catches of marketable prawns. The typical ground where prawns are found is on the sand and mud patches of the foreshore between rock outcrops and surrounded by the large oarweed at the low water mark. Prawns will also be found commonly where eelgrass is re-appearing. It is advisable to fish creels as near to the large oarweeds as possible, without being covered by them. If creels are fished every four hours from dawn to dusk, it will be found that the catches during the hours of daylight are poor and that best returns are obtained at or before dawn and at or after dusk. For this reason, it will be found economical to set the creels in late evening, pick them up shortly after dark, reset them on the same grounds and fish them again at or preferably just before dawn. After the dawn fishing the creels are normally taken ashore for cleaning and rebaiting.

The most successful bait appears to be crushed green shore-crab. It is relatively easy to capture large quantities of shore crabs by baiting with waste fish an old crawfish pot to which a smaller eye has been fixed, or some similar kind of trap. If the baited trap is placed amongst the brown sea-weeds of the middle shore line, large quantities of green crabs are likely to be captured the quantity depending, of course, on the state of the tides. The bait crab, should be crushed so as to expose the coral and meats of the legs. Overcrushing should be avoided because the best of the bait may be washed out of the creel when setting. Other successful baits include salt-herring and gurnard, flat fish heads, limpets and mussels. None of these, however, has been found to be as good as green crab. The crushed crab, or other small bait, can either be tied in a shrimp-net bag and suspended from the eye in the upright in the middle of the creel (Fig. 1), or broadcast on the floor of the creel. The confinement of the bait in a shrimp net bag has the advantage of allowing it to be used at least twice, and thus avoiding too much re-baiting. On the other hand, there are grounds for stating that when the bait is broadcast on the bottom of the creel larger catches of prawns are likely.

(c) *Hoop-net*.—The hoop-net (Fig. 4) is constructed from a light metal or wire hoop, 3 feet in diameter, to which a cone shaped shrimp netting bag is lashed. The depth of the bag should not exceed 3 feet. Each hoop-net has three bridles which meet to form a buoy-line of the length required to fish the nets in not more than 5 fathoms of water. Across the diameter of the hoop-net a baiting string is attached to which salt herring, gurnard, plaice heads, etc., are secured by a slip-knot. The advantages of the hoop-net are (1) cheapness, and (2) the number of nets which can be carried. A small row-boat will take up to 50 hoop-nets, stowed one on top of the other on the stern sheet. When each net has been baited prior to setting out for the grounds it is laid upside down with the corks and buoy-line underneath. This greatly facilitates shooting a large number of hoop-nets stacked one on top of another. Hoop-nets are best fished on the same type of ground mentioned for creels, usually at or after dusk. Each hoop-net should be shot 4 to 6 fathoms apart.

When the last net has been shot, the first one can be picked up. Each net need only be left fishing for a period of 10-20 minutes. Taking up the buoy-line, the net must be raised with great care off the bottom, and, when a fathom or so of the line is boarded, the remainder of it should be hauled in as rapidly as possible. More than one fishing can be made each night, though this and the extent of the catch will depend upon the clemency of the weather.

HANDLING THE CATCH.

The handling of the catch is most important, if the prawns are to reach market in good condition. Prawns cooked after their death do not take on the typical bent condition and bright pink colour associated with those cooked alive. For this reason, and to avoid losses, it must be borne in mind that the prawns must be cooked as soon as possible after their capture. The catch must not be placed in a container of water during the actual fishing operations, because prawns use up the oxygen rapidly, foul the water, and die quickly. They will live longer out of water, and may, therefore, be placed in an ordinary fish-box lined with sea-weed and covered with a clean moist sack. This will protect the prawns from the adverse effects of light or drying.

It is not always profitable to cook the catch of each night's fishing as it is landed. Prawns may be stored for periods up to 7 days, in keep-boxes floated in clean undiluted sea water. Undue loss may result from fresh water, either run-off from the land or as rain, or harbour bilge entering the box. A suitable box measures 36 ins. × 18 ins. × 6 ins., and the long sides of the box are cut away and covered with $\frac{1}{2}$ ins. woven wire. This allows water to circulate amongst prawns stored in the box, whilst access to the prawns can be gained by a lid arrangement on the top. Floated in satisfactory water each box will hold up to 3,000 prawns (say, about 20-24 lb. weight). Prawns should not be fed whilst stored in these keep-boxes. A good morning and night fishing by creels should yield between $\frac{1}{2}$ and 1 lb. weight of prawns per creel. The nightly catch from hoop-nets is usually slightly less per net.

When sufficient prawns have been collected for a shipment to market they should first be boiled in fresh water, to which $\frac{3}{4}$ of a cup of common salt has been added for every 2 lb. weight of prawns. Prawns are probably best put into the boiling water. After boiling for a few minutes, the prawns will rise and a froth or "lett" as it is called appears. This froth should be skimmed off so that the prawns settle again. They rise for a second lett at which point they are properly cooked. The prawns should then be left out to cool. After cooling they should be washed with fresh water to remove any attached scum, etc. Prawns are best packed in small boxes or punnets. The bottom of the container should be liberally sprinkled with salt, and filled with alternate layers of prawns and salt at the rate of about 5 lb. of prawns per layer. The salt will keep them fresh during transport in hot weather.

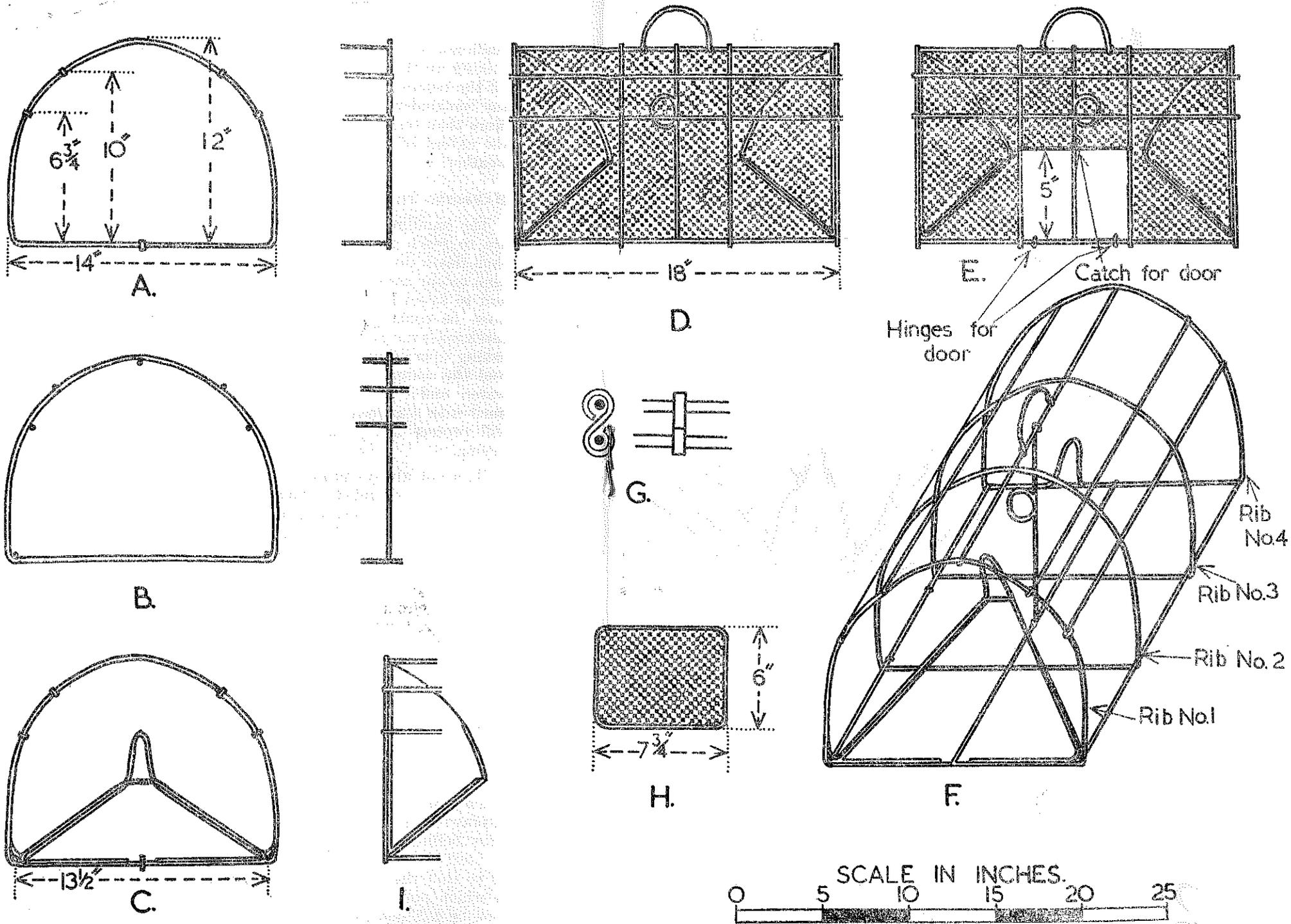


Fig. 1. Diagram of the construction of a prawn creel :

A—Ribs Nos. 1 and 4.

B.—Ribs Nos. 2 and 3.

C.—End view showing lead in.

D.—Elevation left side.

E.—Elevation right side.

F.—Isometric drawing entire creel.

G.—Plan and elevation of hinge.

H.—Door,

I.—Detailed side view of entrance and

Rib No. 1.

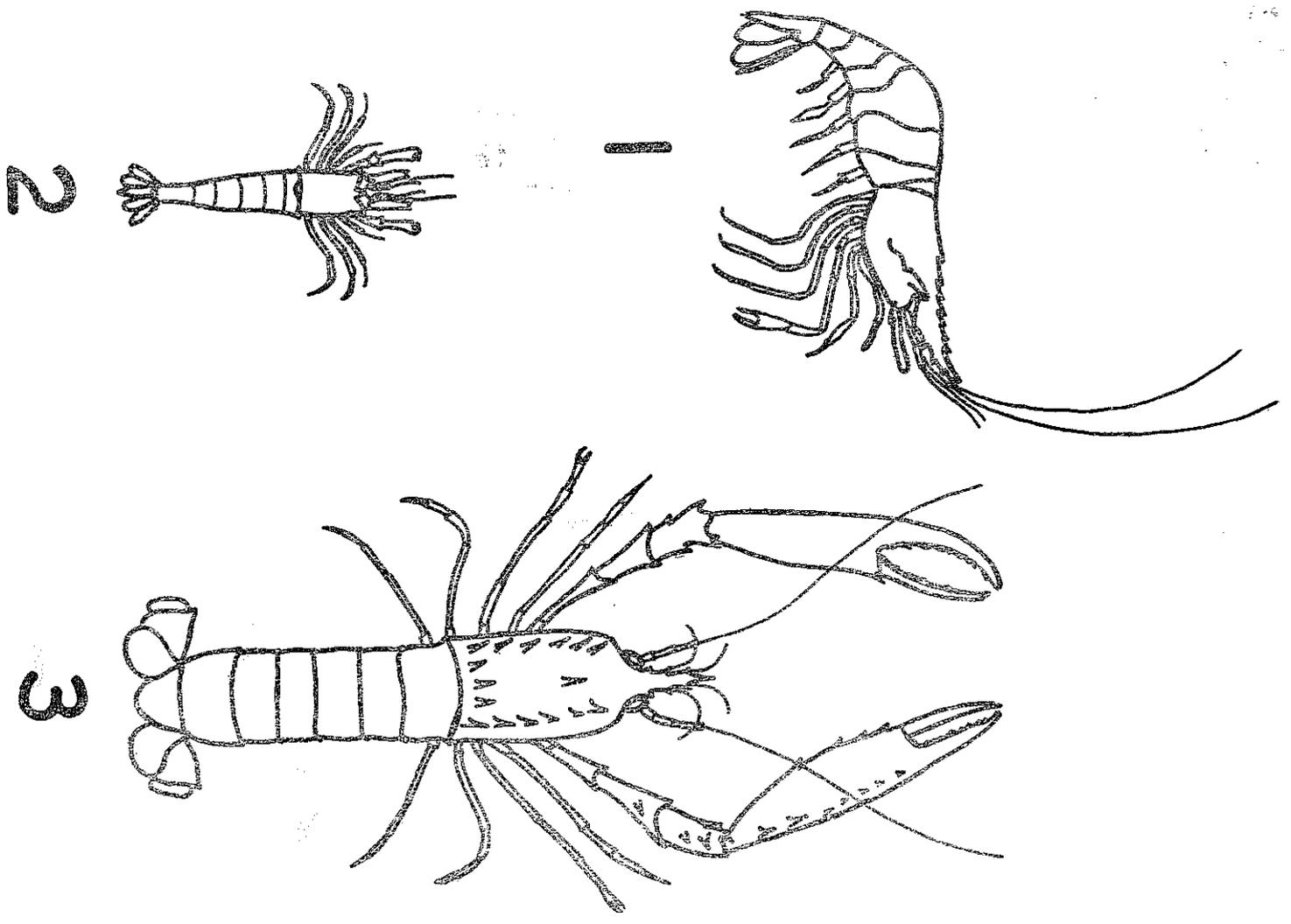


Fig. 2. Three types of shellfish :

- 1—The Common Prawn.
- 2—The Brown Shrimp.
- 3—The Norway Lobster (Dublin Bay Prawn).

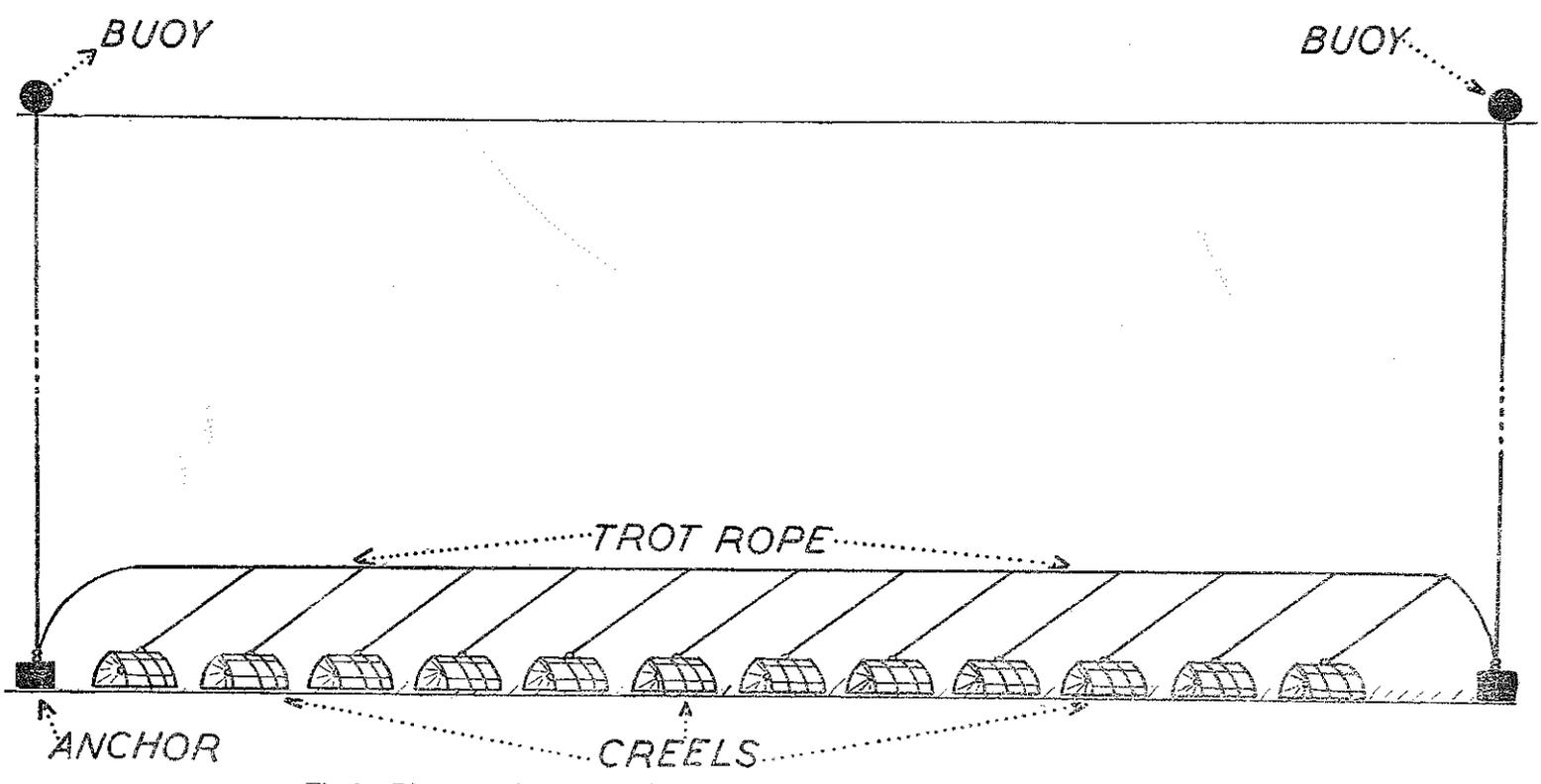


Fig. 3. Diagrammatic representation of the fishing position of a trot of prawn creels. Note the heavy anchors, which are advisable if fishing takes place on an exposed shore.

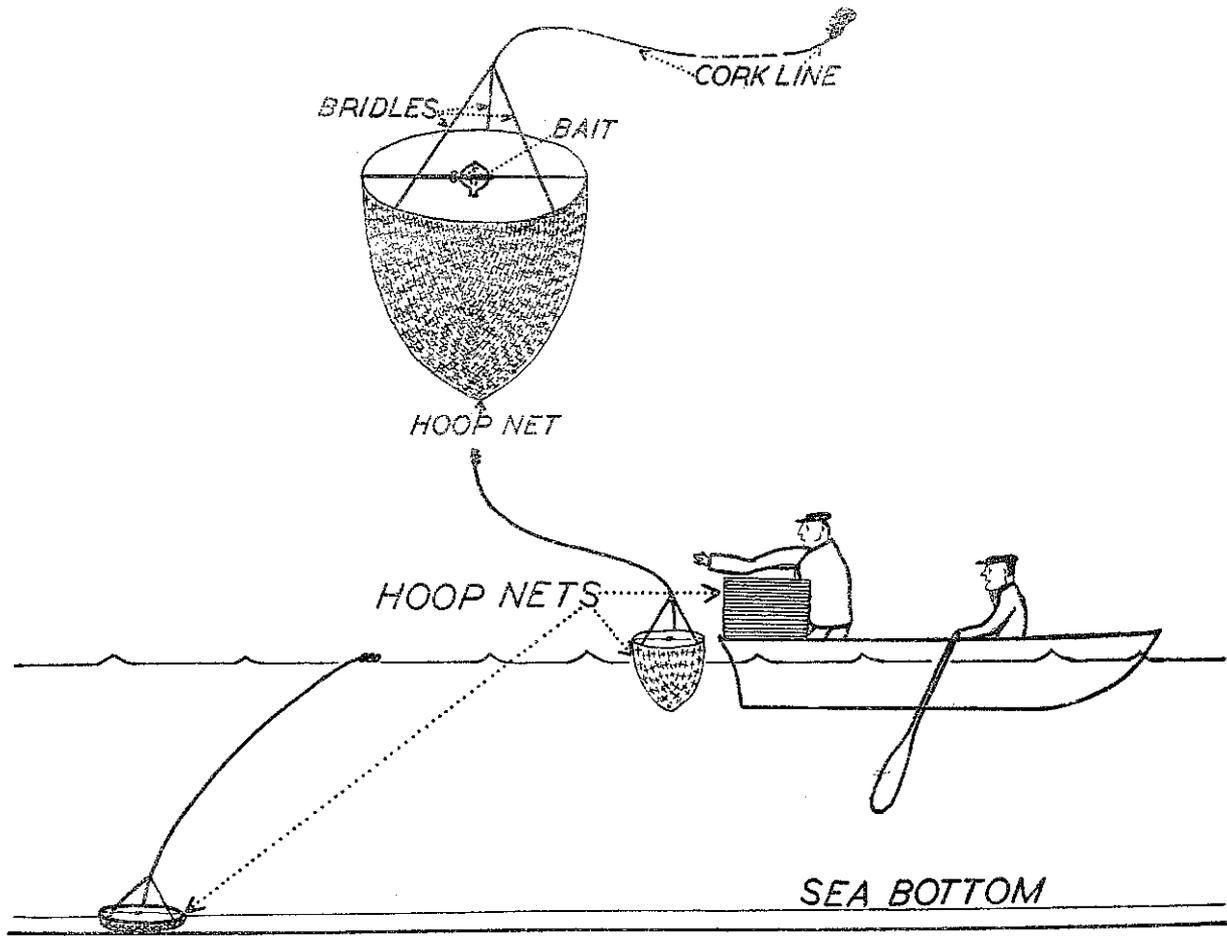


Fig. 4. A—Diagrammatic representation of a hoop net.
 B—Method of stowing and shooting hoop-nets from a small craft.

*Copies of this Leaflet may be obtained free of charge, and post free, on application to the Secretary,
 Department of Lands, Fisheries Division, Dublin.*