

Herring, too

Evening Standard Reporter

YARMOUTH, Friday.—To-day I have seen herring taken straight from boats here and after a preliminary cleaning passed into freezers. In less than two hours they came out frozen, and I am told they will be perfectly good for at least a year.

The capacity of the plant, the first of its kind at Yarmouth, is 150,000 herring a day. The experiment is being made under the guidance of the Herring Industry Board.

The Herring Board will watch the results of the experiments, and if they are successful, will decide when the first frozen fish will go on the market.

Herring will be moonstruck

Evening Standard Reporter: Great Yarmouth, Friday

The herring harvest is beginning to appear on the fish quays here and at Lowestoft. In both places I have seen the local fishermen, and the visitors from the Scottish fishing fleets, swinging out the baskets of herring from the holds of their sturdy vessels.

As the ships assemble in greater strength than has been seen for more than six years, the air of restrained expectancy grows in the fish towns.

The Scots girls, who can gut and salt fish with unrivalled skill, are ready to roll up their sleeves and get to work as soon as the size of the catches justifies it.

The fish curers are waiting, the railways are ready and the gentleman who provides the rich brown colouring which, makes the kippers look so appetising, is on the spot.

But so far the catches are limited in size.

The herring are out there right enough, but the men who know are looking at the night sky as much as at the sea.

"It's the moon that will fetch them," they say.

And the general prophesy is that herring by the hundred thousand will be moonstruck next week.

One hundred thousand herring were landed here this morning from 14 boats.

Some of the fish were "overdays," which means, they were caught more than 24 hours ago.

As nobody was prepared to buy at the regulation price of 9s. a cran (about 750 fish) the auctioneer's bell was heard for the first time on the fish quays.

The "overdays" were sold for 80-odd shillings a cran.

Most of the Scottish boats are here now. They stretch in a continuous line for half a mile along the quays, and one buyer was talking hopefully to me to-day of repeating his pre-war buys of a million and a half herring in a day.

12/10/45

Check Mini Fisheries

19/10/45.

Content

G.H.

FIRST CATCH IS LANDED

GOOD AUGURY

From Our Special Correspondent
LOWESTOFT, Tuesday.

When the Lowestoft drifter, East Britain, tied up at the fish quay today she was the first vessel for six years to land herrings from the East Anglian fishing grounds. She was one of the "scout" boats out early prospecting.

Her skipper, Mr. Offord, landed one cran of "little Octobers" from the Smith's Knoll. A cran is a basket of about 40 gallons, ordinarily holding about 750 herrings.

Though the quantity was negligible the importance of the catch lay in the proof it gave that big shoals were beginning to enter these waters.

The first batch of Scottish fisher girls also have arrived in the town and are spending their time shopping until their job of gutting and salting the fish begins. There will be 300 at work at Yarmouth and Lowestoft when the season is at its peak in the next two weeks.

Two Lowestoft drifters which had been fishing the Dowsing grounds arrived here to-day. Sunbeam II brought 30 crans of herrings and the Golden Ring 16 crans. The fish was allocated and sold in record time.

Empire gifts will be part of the ration

Gifts of food from the Dominions and various parts of the Empire will be distributed as part of the ration and not confined to any special groups of people, except in the case of gifts to institutions.

Sir Ben Smith to-day said his aim is to ensure the maintenance of the present civilian rations and to increase them as soon as possible.

Meanwhile, the policy will be equal shares for all. Equity, he pointed out, would go if large gifts were to be distributed to selective groups as a complement to the rations.

Herring.—The autumn season in East Anglia will be in full swing by the end of next week. One hundred and fifty herring vessels are off East Yarmouth and Lowestoft and their catches so far are good.

Any surplus herrings will be exported.

The Minister of Food said he will buy pickled cured herrings for Belgium, Holland and France, to be distributed through U.N.R.R.A.

When East Anglian kippering plants are full to capacity, the Ministry will pay carriage on herrings to other kippering centres. Special plants have been established by the Ministry of Food at Yarmouth and Lowestoft for quick freezing of herrings for storage.

23,627 FOOD PARCELS

SYDNEY, Tuesday. — Food parcels passing through Sydney Post Office to Britain have been steadily mounting in the past few months.

From 9978 parcels sent in March, the figure has risen to 23,627 parcels, weighing 48 tons, in August.—B.U.P.

J.C.S. Please keep for dope.
You can check with Jensen
when he phones through. J.C.S.

THE MINISTRY OF AGRICULTURE AND FISHERIES IS ENCLOSING THIS NOTE ON THE
REQUEST OF THE HERRING INDUSTRY BOARD AS IT MAY BE OF INTEREST TO YOUR READERS

HERRING FREEZING

Gives An All-The-Year-Round Season

In East Anglia the Herring Industry Board are sponsoring two further experiments in herring freezing, and members of the Board will be visiting Yarmouth and Lowestoft, on 17th and 18th October respectively to see the experiments in progress. Earlier in the year large scale trials were carried out in Fraserburgh which conclusively proved that the Moray Firth herring can be successfully frozen and the rich succulence of its freshness retained for months. If this can be done to the East Anglian herring there is a brighter future for the whole of the herring industry in Great Britain. For it has the advantage of making herring available all the year round instead of the supply being restricted, as at present, to the actual catching seasons. The process will also result in areas which the fresh herring has hitherto been denied being able to receive them. The herring of all our fish is the most perishable - and that is the reason why, under war conditions of transport, it has lost some of its popularity. It has inevitably deteriorated during its lengthened journeys to the consuming areas.

The East Anglian trials comprise two separate methods of freezing herring. One being operated at Great Yarmouth is an American process of which the patent rights in this country are owned by Frosted Foods, Ltd: here the herring are made up in packages of convenient size and placed in what looks like a big cupboard with numerous metal shelves. These shelves are, in fact, plates through which circulates liquid ammonia - a substance which can be reduced to an extremely low temperature without turning solid. By light hydraulic pressure the plates are brought into close contact with the packages placed between them and the herring are frozen through in about an hour.

In the other method, commonly called brine freezing a machine patented by Messrs. Herring Industries Limited, is being operated in their factory at Lowestoft. The fish to be frozen are fed on to the top of a series of trays fixed to a rotating shaft and interconnected in such a way that the fish pass in succession to the lower trays until they reach the bottom chute. During the journey they are sprayed continuously with cold sodium chloride brine and eventually emerge frozen hard.

The product of each plant is stored at low temperature pending dispatch either to permanent cold store for later release or direct to markets.

In the opinion of the Board herring freezing, when fully developed, will go far to provide the British public with more herring and better herring. The fishermen will also benefit: for the expected increase in home consumption will, it is hoped, be some compensation for the shrinkage in their traditional markets which are now largely within the Russian economic sphere.

The British public are requested to eat more herring, and the greater the demand the more probable the supply. As the Board points out no dollars or foreign currencies are required to finance the transaction, and this alone is of economic importance. All doctors and dietitians are agreed that the herring has peculiarly valuable health-giving properties not the least of which is that the warmth-giving oil (which in other fish, such as cod, is stored in the liver) is contained in its flesh. The British housewife can help the nation's economic problem, and ensure a reasonable amount of vitamins for her family, by once more placing the herring high on her shopping list. The food value and palatability of herring is not confined to the fresh fish. The kipper and the bloaters were once a favourite component of the morning or the evening meal and although war-time contingencies may have resulted in some diminution of their attractiveness it is confidently hoped that they will regain their popularity. For every herring is a "sterling" proposition.

HERRING INDUSTRIES LIMITED, LOWESTOFT

Patentees of ROTARY FISH FREEZING MACHINE

*Developed Machine
of Sole Patentee*

Herring Freezing

A New Process and New Plant Described

(Reprinted from March 1939 Issue FOOD TRADE REVIEW)

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Herring Freezing

A New Process and New Plant Described

THE sad plight of the herring industry is known to all and the story of declining sales, loss of foreign markets, quotas, restrictions, etc., need not be retold here. Many suggestions have been made for improving matters including the use of refrigeration. Readers will, therefore, be interested to learn of the activities of Messrs. Herring Industries, Ltd., of Lowestoft, the patentees of a "rotary fish freezing machine."

During 1937 this concern experimented with a small unit and was so pleased with the results obtained that in 1938 they obtained new premises and installed a larger machine complete with the necessary refrigerating plant and cold stores.

In the herring season, which at Lowestoft lasts from September until the beginning of December, herrings are frozen as soon after landing as possible. Those that are not shipped abroad immediately are put into cold store for re-sale when fresh herrings are scarce or unobtainable. It is of interest to note that during 1937 and 1938 consignments of frozen herrings were sent as far away as Australia where they arrived in splendid condition and where a ready market was found for them. This, of course, has resulted in repeat orders. It was found that the herrings kept perfectly well in the ships' cold store. A consignment was also sent to Belgium, and an important merchant there is prepared to take considerable quantities next season. Obviously such conditions would not exist if the herrings were not in first class condition when thawed out. It may be stated that frozen herrings when thawed out are practically indistinguishable from fresh herrings nor can any difference be detected when they are kippered or bloatered.

Apart from the export trade, there is a growing demand for frozen herrings in this country, particularly among those concerned in the production of kippers and bloaters. This demand will increase, since it has been proved that kippers produced from frozen herrings are better than those produced from fresh

herrings and kept in cold store for some time after curing. In addition, the kipper manufacturer or bloater curer now finds himself in the enviable position of being able to obtain supplies of prime quality herring all the year round instead of for only a few months. Thus he is able to carry on his business continuously, with consequent benefits to himself and to his employees. The fact should not be overlooked that if freezing plants were put down at all our fishing ports, those who man the trawlers would also benefit considerably, since in times of glut a reasonable price for the fish could be maintained.

The patent rotary fish freezing machine consists of a vertical galvanised cylindrical steel tank containing a central shaft to which is fixed a number of flat trays or discs. The shaft is driven through gearing by means of a 2 h.p. electric motor so that the trays or discs revolve slowly. Fish to be frozen, after being washed in fresh water are fed on to the top tray by hand or by means of a mechanically driven conveyor band, and as they are carried round on the trays they are sprayed with sodium chloride brine. Mechanically driven sweeps are arranged to work in conjunction with chutes arranged outside the machine to carry the fish from one rotating tray to the next. The fish, which are spread evenly over the face of the trays, are sprayed continuously with cold sodium chloride brine so that

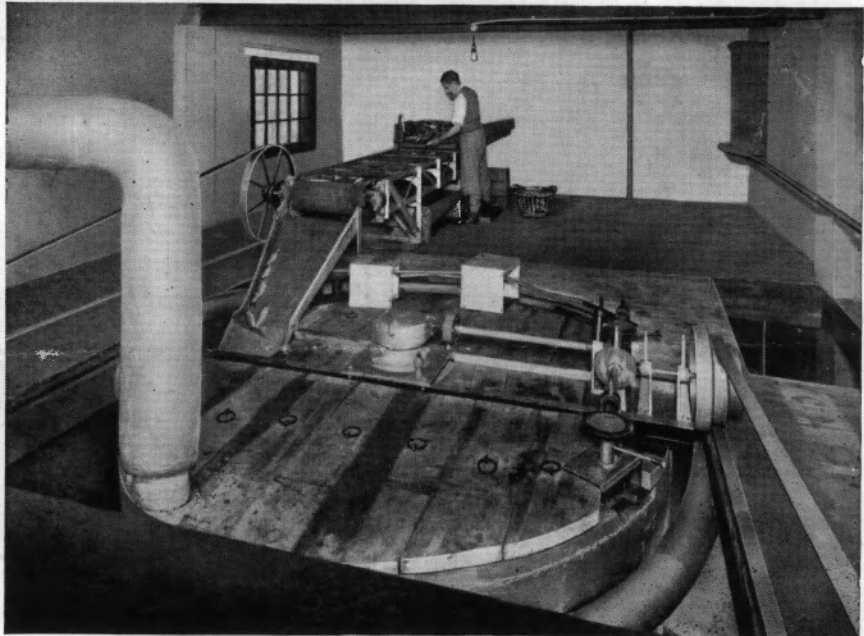


Illustration No. 1.

when they emerge at the bottom of the machine they are frozen hard.

Illustration No. 1 shows the on-going conveyor band and the top of the fish freezing machine. This conveyor band is driven by the same motor which drives the fish freezing machine. It has been found in practice

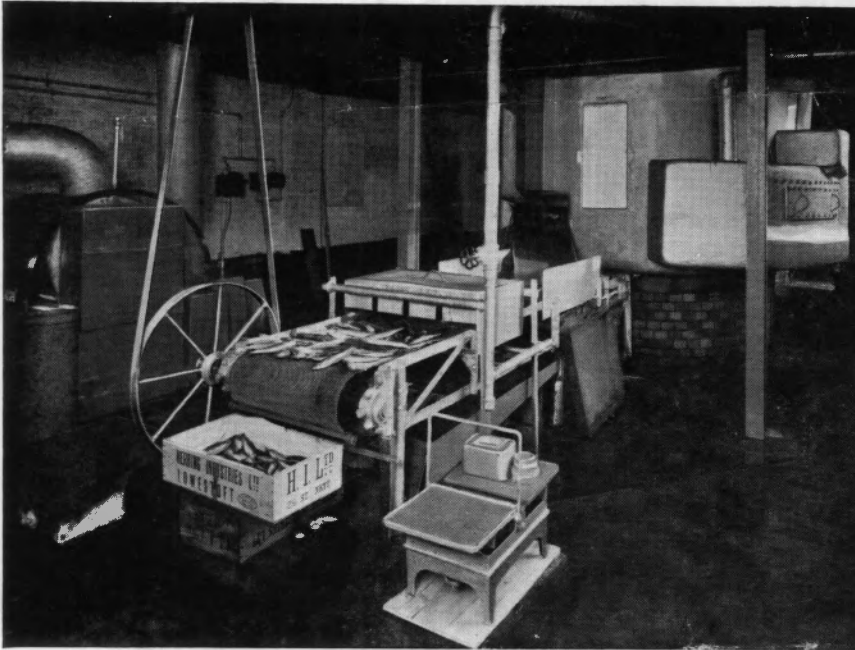


Illustration No. 2.

that the on-going conveyor band is hardly necessary, as the fish can be fed in satisfactorily by hand.

Illustration No. 2 shows the bottom of the machine with the off-going chute and conveyor band. As the herrings travel along the band they are sprayed with fresh water to remove traces of sodium chloride brine. The off-going conveyor band is driven by means of a $\frac{1}{2}$ h.p. motor.

It may be mentioned that the fish leave the freezing machine singly, not stuck together, and perfectly straight. This is due to the fact that they lie perfectly

flat on the revolving plates and are sprayed with brine from above. Upon leaving the machine they are packed into boxes, and if not shipped away to customers immediately are put into a cold chamber until required.

Messrs. Herring Industries possess three cold chambers having a storage capacity of about 13,500 cu. ft. These stores are efficiently insulated with slab cork 9 in. thick on the walls, and 6 in. thick on the floor. The ceilings are insulated with 10 in. of granulated cork. The rooms are all cooled by direct expansion grids on the walls and ceilings, arranged in circuits so that the three rooms can operate at different temperatures if necessary. Normally a temperature of minus 10° F. is maintained in all rooms for herring storage.

Illustration No. 3 shows the interior of one of the cold stores.

The refrigerating plant which cools sodium chloride brine to minus 3° F. for circulation through the fish freezing mach-

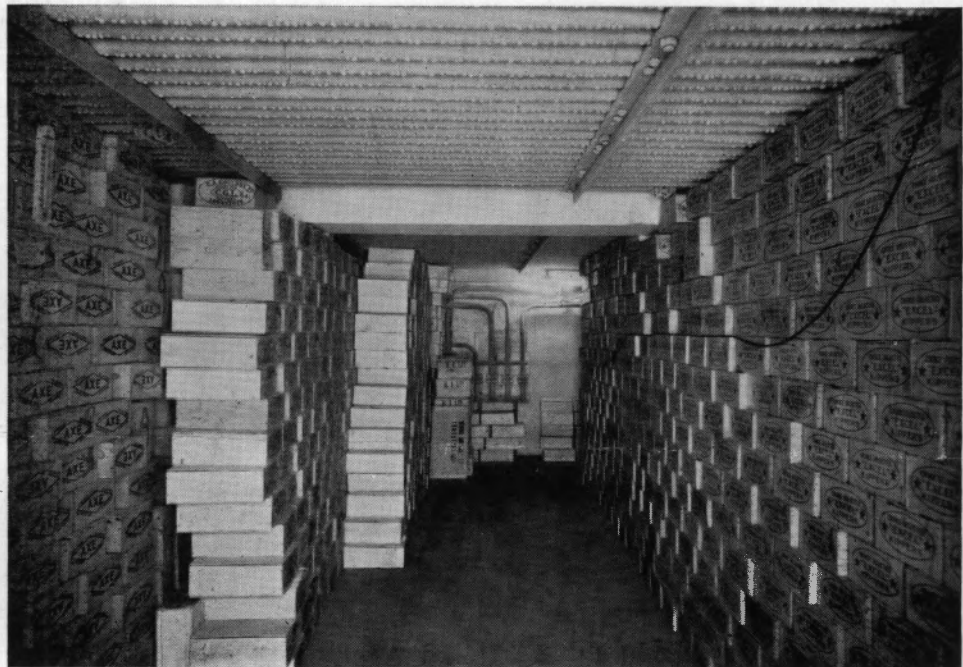


Illustration No. 3.

ine and which also cools the cold chambers, comprises two compressors of the medium speed Monobloc type having twin cylinders 6 in. bore by 6 in. stroke. Each one is driven through multiple vee belts by means of an electric motor of 35 h.p. Each compressor is complete with a large vertical cylindrical oil separator through which the gas passes from the compressor on its way to the condenser which is of the atmospheric interlaced coil type standing in a concrete tray in a yard adjacent. Water is recirculated from this tray over the condenser coils by means of a centrifugal pump direct coupled to a 1 h.p. motor. A large capacity horizontal cylindrical

to work on the dry compression system, which is the most efficient for all practical purposes. A centrifugal pump direct coupled to a 5 h.p. motor is provided to draw brine from the tank and pass it to the sprays in the rotary fish freezing machine. It returns from the sump tank of this machine to the brine cooling tank by gravity, first passing through filters to remove fish scales, etc.

Illustration No. 4 shows the machinery in the engine room.

Messrs. J. & E. Hall, Ltd., of Dartford, were entrusted with the whole of the work involved, including the manufacture of the rotary fish freezing machine,



Illustration No. 4.

steel ammonia liquid receiver is contained in the condenser tray. From this the refrigerant is fed to a regulating station where it is distributed to the direct expansion grids in the cold chambers and to the sodium chloride brine cooler, which consists of a quantity of solid drawn steel piping made up into the form of oval coils situated in a large galvanised steel tank. This tank is arranged below floor level. A vertical spindle propeller direct coupled to an electric motor is provided in the tank to drive the brine over the cooling coils at high velocity thus increasing the rate of heat transference. The gas returning from the various circuits passes through two ammonia liquid separating vessels provided with level gauges. The refrigerant used is ammonia, and the plant is arranged

provision of refrigerating plant and insulation of the cold stores.

It may be mentioned that since the close of the 1938 herring season, experiments have been carried out on the freezing of plaice, soles, whiting and haddock. It has been found that these fish freeze remarkably well and on being thawed out can hardly be distinguished from fresh fish in appearance and certainly not in palatability.

Messrs. Herring Industries, Ltd., are to be congratulated upon the efforts they are making to solve one of the acute problems of the herring industry. Undoubtedly there is a demand for frozen herring and white fish and they are doing their utmost to meet it.