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Industrial Development Service
PROJECT REPORT

REPORT ON A VISIT

TO THE FISHING PORT OF BREMERHAVEN, W. GERMANY

by

Frank Dopplinger, C.E.T.

for

Industrial Development Service
Department of Fisheries of Canada, Ottawa
November 1968

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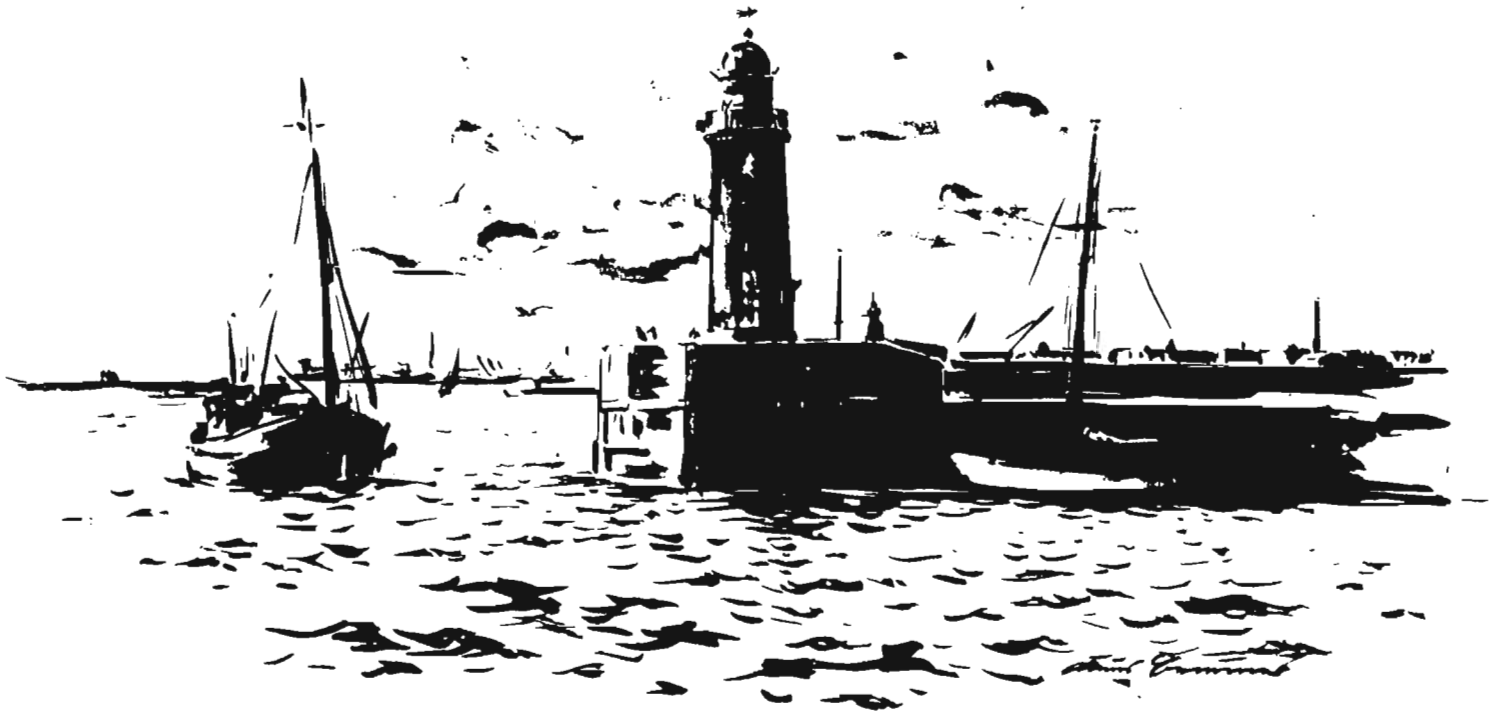
REPORT

ON

A VISIT TO THE FISHING PORT OF BREMERHAVEN / GERMANY



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NOVEMBER 1968

BY FRANK DOPPLINGER, C.E.T.
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PREFACE:

While attending the FAO Conference on Fishing Harbours and Port Markets, Bremen, 23-28 September, 1968, the author had an opportunity to visit the Port of Bremerhaven as part of the Conference program. This report is a short account of information obtained and observations made during this visit.

The FAO Conference on Fishing Harbours and Port Markets will be the subject of a separate report to the Department in the near future.

November, 1968.

REPORT ON

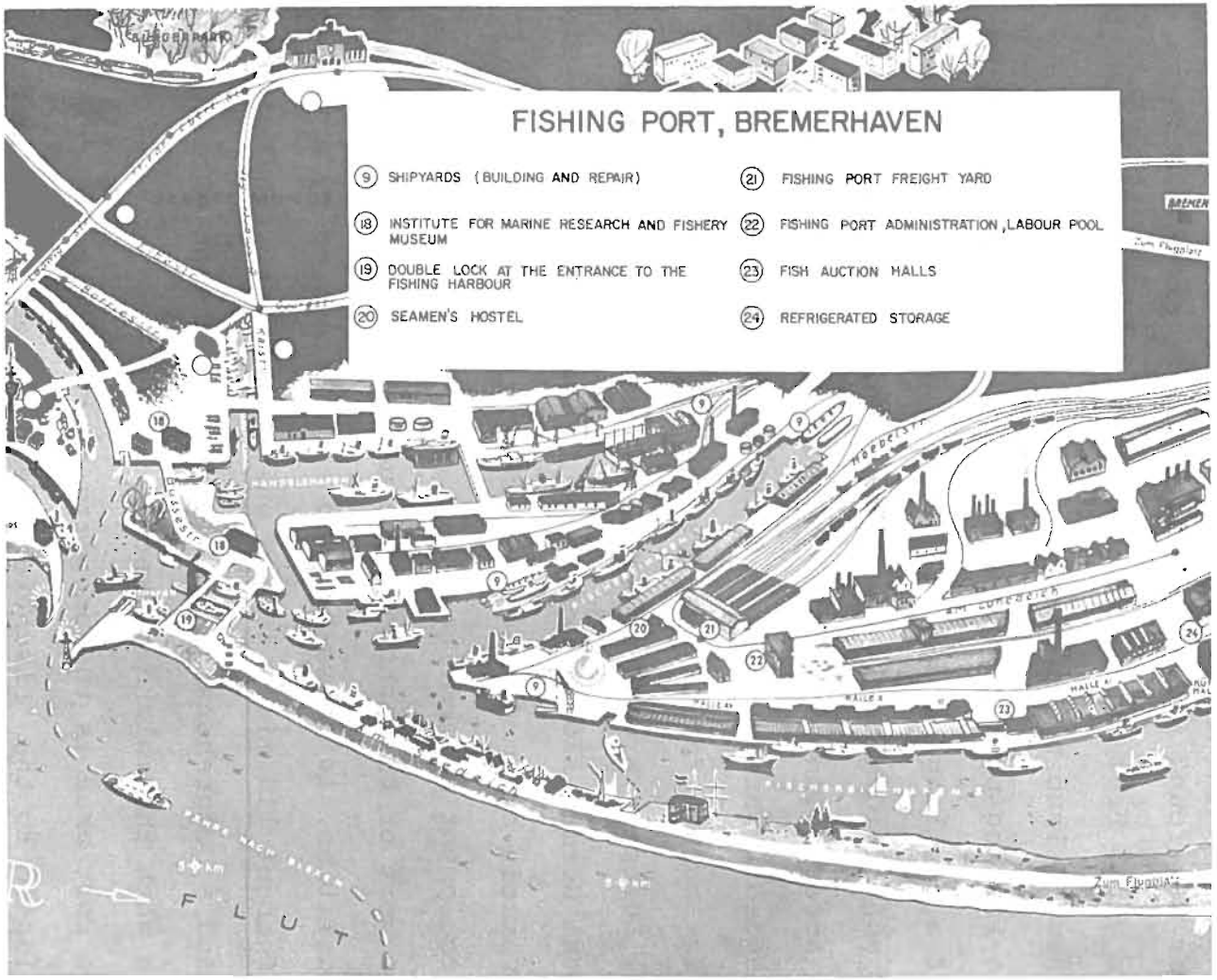
VISIT TO FISHING PORT OF BREMERHAVEN

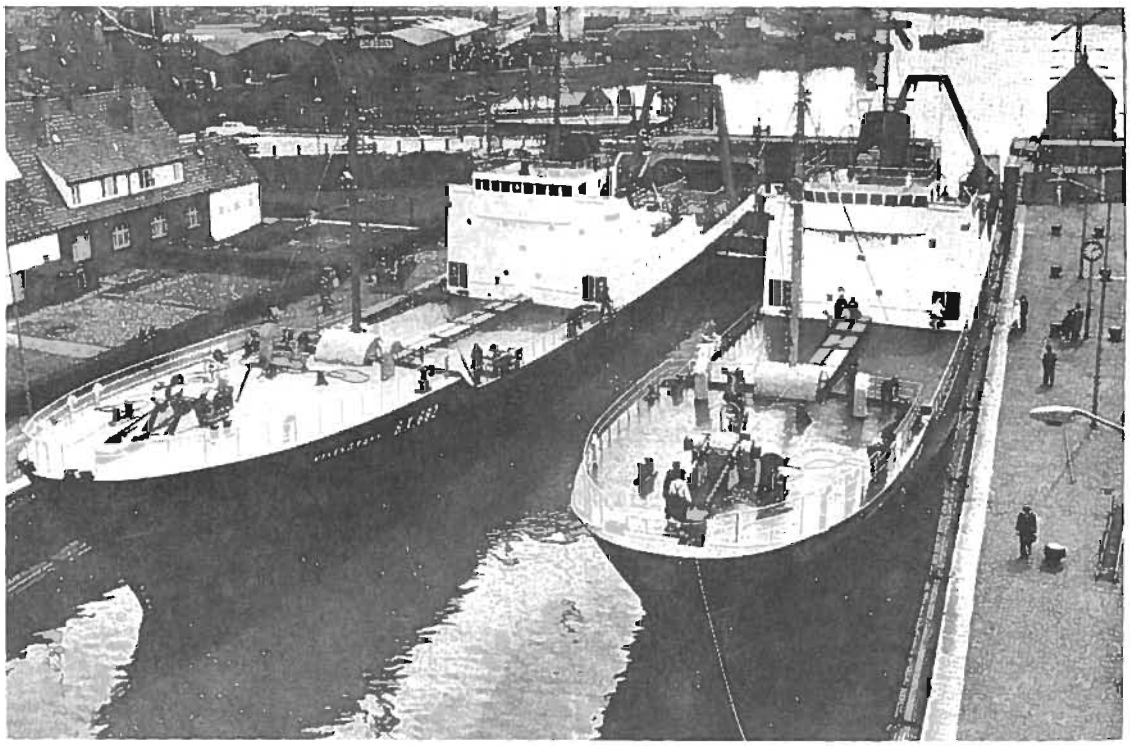
Founded in 1827 by the city fathers of Bremen when the river Weser was found to be too shallow for large vessels to reach this city, Bremerhaven has grown into Germany's and maybe the Continent's leading fishing port.

The fishing port of Bremerhaven presents an impressive picture of a bustling commercial centre; with a length of about 1.5 miles and a width of 3/4 mile, it covers a total area of about 720 acres. The 1967 total of almost 200,000 metric tons of fish landed in Bremerhaven reveals the importance of this port and its market facilities for the supply of the markets of Central Europe. Eighty-seven fishing vessels, just over 50% of the total German fleet, are based in Bremerhaven. Thirty-one of these vessels are modern stern ramp trawlers with deep freezing equipment aboard.

The port of Bremerhaven, including the shipbuilding and repair facilities, is criss-crossed and surrounded by a railway network of about 110 miles length which together with federal highways and a comprehensive canal system forms an excellent connection with the inland markets.

The Port area is the property of the state of Bremen and has been leased to the "Fischereihafen Betriebsgesellschaft" (Fishing Port Operations Company) for operation and utilization including all land based industrial equipment constructed by the state Bremen. The "Fischereihafen Betriebsgesellschaft" (FBG) is a private company with the state of Bremen as its sole partner.


FISHING PORT, BREMERHAVEN
(9) SHIPYARDS (BUILDING AND REPAIR)
(18) INSTITUTE FOR MARINE RESEARCH AND FISHERY MUSEUM
(19) DOUBLE LOCK AT THE ENTRANCE TO THE FISHING HARBOUR
(20) SEAMEN'S HOSTEL
(21) FISHING PORT FREIGHT YARD
(22) FISHING PORT ADMINISTRATION, LABOUR POOL
(23) FISH AUCTION HALLS
(24) REFRIGERATED STORAGE
FLUT



Stern Trawlers Leaving Harbour Through Lock

View of Harbour from Lock Control Tower

Basin I at Left, Basin II at Right

According to its own "General Terms and Conditions for Utilization and Business Relations" (Market Regulations), the FBG carries out its activities vis a vis their contracting parties against payment as is the case for any private company.

The FBG's field of activities in the fish centre comprises:

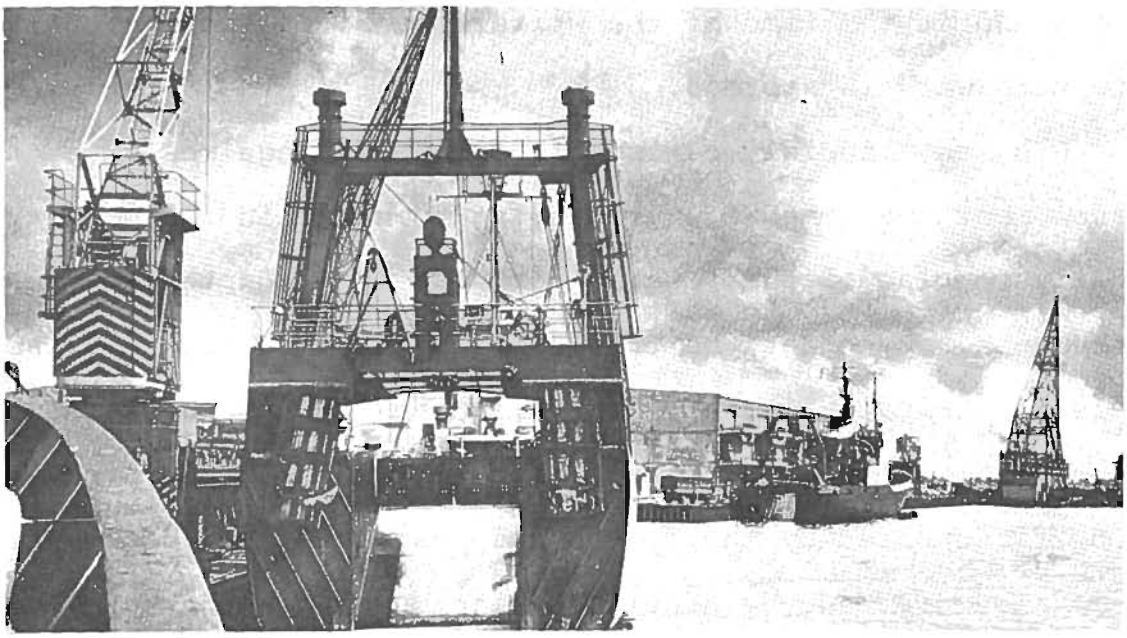
A. administration and maintenance of the physical assets of the fishing harbour (such as auction and packing halls, roads, supply and canalization systems, railroad properties, leasing of sites and buildings in the port area, two power stations for the electrical needs of both the commercial port and the fishing port, fresh water supplies and intra harbour water craft);

B. supervision of all activities connected with good handling (loading and unloading), auction, allotment or other sales mediation of the marketable fish supply and of other products of the sea and of the industrial products manufactured of same;

C. support to measures promoting the fishing industry and the sale of fishery products.

In 1967 more than 194,000 metric tons of fresh and frozen sea fish and fish products were landed and processed in Bremerhaven. This constitutes almost 40% of the landings and 48% of the value of the total for the four largest fishing ports (Bremerhaven, Cuxhaven, Hamburg, Kiel) of West Germany.

All the fish and fish products are landed in Basin II of the fishing harbour (see map of harbour) where an unloading quay almost one mile long affords ample space. This quay is equipped with three large auction halls totalling more than ½ mile



Stern Trawlers Unloading into Auction Halls
and Cold Storage Plant

Conference Delegates Examine Auctioned Fish

in length and a new cold storage building with a nominal capacity of 20,000 metric tons. This capacity is frequently exceeded and at the time of the writer's visit a total of 50,000 metric tons were in storage.

Fish as a rapidly perishable commodity requires quick transshipment and immediate processing to maintain its quality. The daily routine of the fishing port has been adapted to these requirements. By night the trawlers, cutters, luggers and inshore vessels returning well until past midnight are unloaded, the catch sorted, weighed and placed into high density polyethylene fish boxes supplied by the centre and placed on the auction floor.

Sales are made by auction beginning on week-days at 7:00 a.m., to about 120 fish processors located in Bremerhaven and to purchasers of other sea fish markets. The auction process is quite rapid with auctioneers on movable raised platforms which are positioned in front of the fish being sold with buyers following along. The auction process is generally finished by 8.00 a.m.

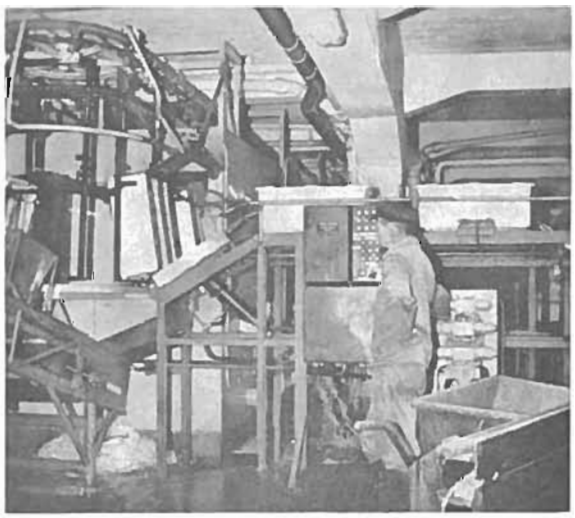
Immediately after being sold the fish is transported to the fish processing plants within the harbour or transshipped to the buyer's place of business if outside the port area.

The general impression of excellent sanitation and cleanliness in the auction halls which was received by the writer, was somewhat clouded by the sight of dozens of buyers and fish handlers and auction personnel in street shoes standing or walking on the top edges of the displayed full fish boxes thereby introducing an unnecessary and undesirable contamination hazard.

Daily Catches Ready for Auction

The Auctioneer at Work

Polyethylene Auction Boxes



Box Washing Machine

Special fish express trains with all refrigerated cars leave the fishery harbour daily early in the afternoon and together with refrigerated trucks provide the means by which inland consumers are supplied. Fish condemned by inspection personnel together with unsold lots in the auction halls are processed into fish meal the same day so that all the fish unloaded the preceding night has either been shipped or processed by evening of every day.

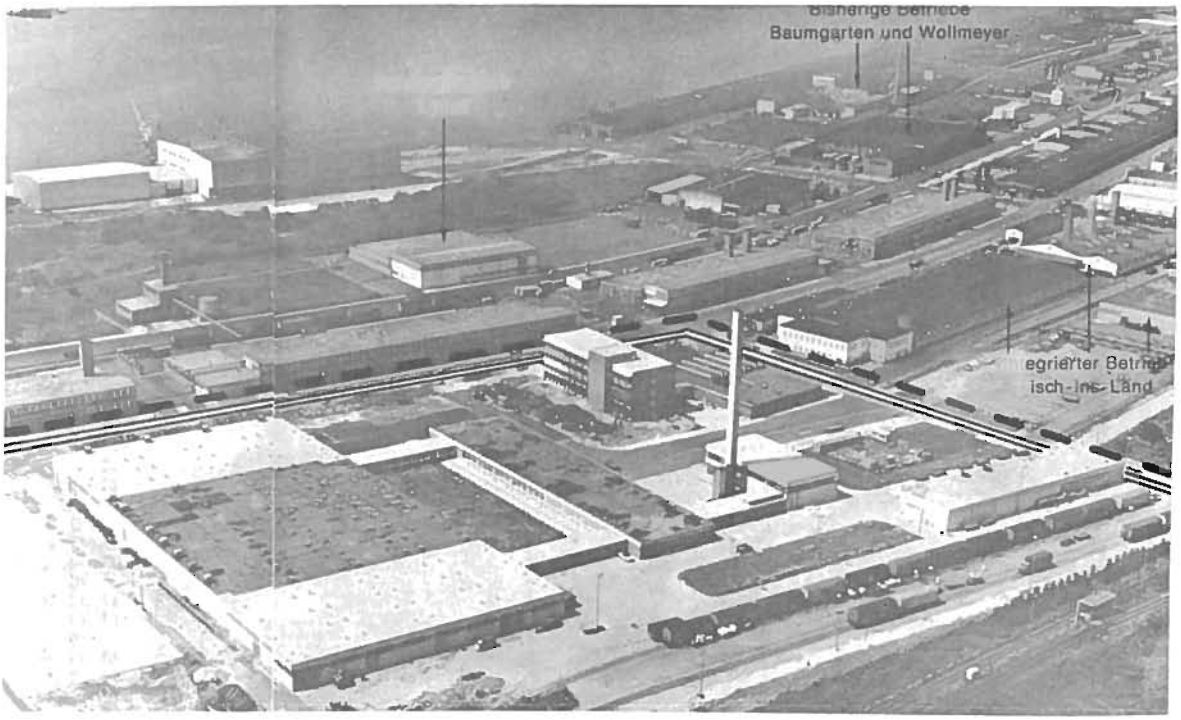
It is difficult to ascribe the growth of Bremerhaven to any one of a great number of causes but there are some rather obvious factors which certainly played a role:

A. the geographical location close to the sea and within easy range of many major inland population centres which provide a ready market for large quantities of fresh fish;
B. the existing river estuary which was eminently suitable for use as a fishing port;
C. a dense network of railroads, canals and roads;
D. the availability of large land areas around the port for expansion purposes and plant construction;
E. generous support by the state for harbour improvements and plant construction;
F. progressive management of all port facilities providing constant improvement of techniques and utilization of modern types of machinery for the handling and processing of fishery products.

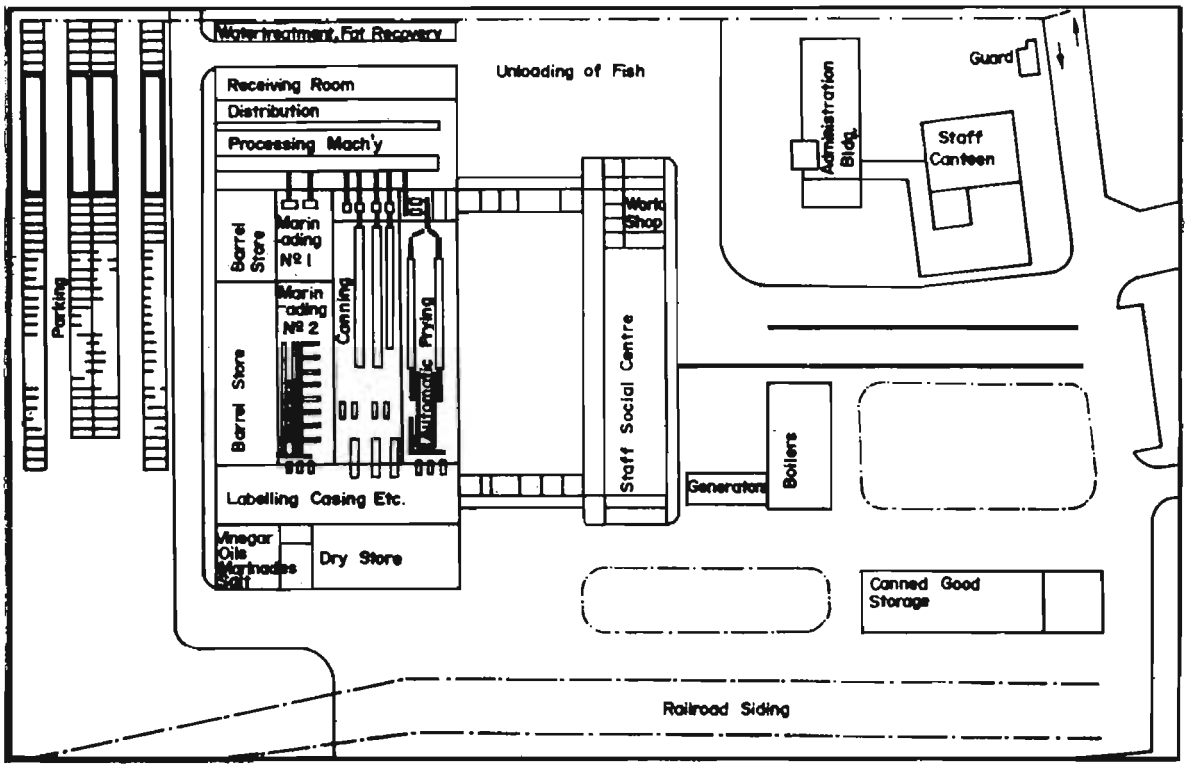
Progressive management was quite obvious in three major establishments of the fish processing industry which the writer had an opportunity to visit. "Bremerhaven Cold Stores, F. Busse & Co.", "Fischindustrie Bremerhaven" (Nordsee) and "Ocean

Fischhandelsgesellschaft (Oetker)" proved to be up to date in their production methods and plant equipment. Especially, the "Nordsee" plant was impressive with its mechanized herring canning line and central mixing and storage facilities for various brines and marinades. However, one expects to see conveyors, skinning machines, elevators, automatic retorts and big control panels in any reasonably modern plant; what one does not see in every plant are large, airy employee lunch rooms, clean and spacious washrooms with modern wash-up facilities in view inside the plant and beautifully landscaped lawn areas between factory buildings. These items more than any automated production line bear witness to truly progressive management.

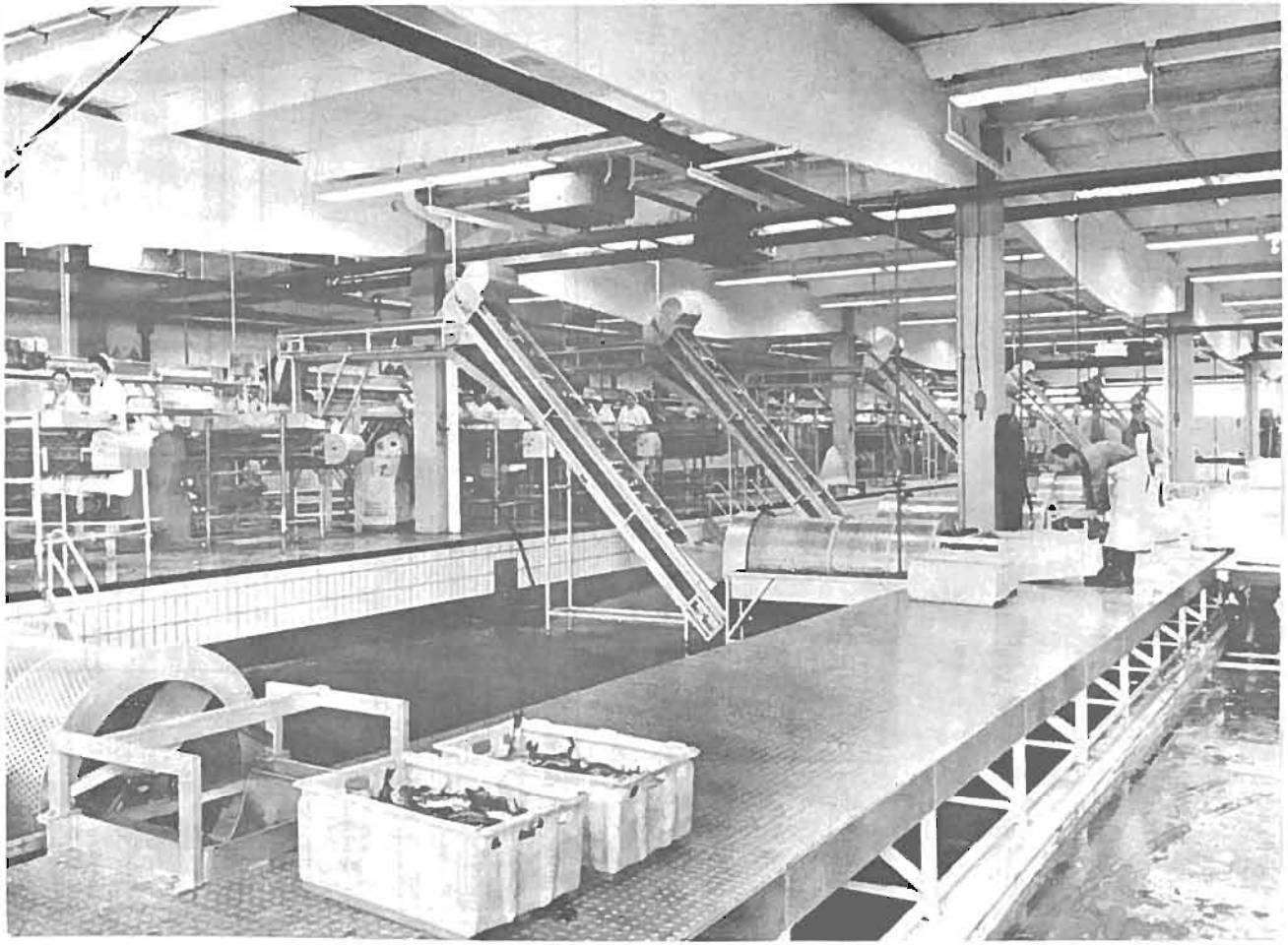
If ever more than a small fraction of the total herring landed in Canada is to be used for direct human consumption, a drastic increase in the variety of herring products available for selection by the consumer must be one of the first prerequisites. In the "Nordsee" plant the writer had an opportunity to see and taste at least half a dozen distinct and different herring products which were being packed in various containers from 4 oz. cans to two gallon institutional packs. The labelling was imaginative and from what the writer saw during his stay, appears to be backed up by a vigorous advertising campaign in local newspapers and on billboards. Such diversification and advertising, adapted to Canadian conditions and merchandising methods might well be one of the ways to increase the use of herring for human consumption.



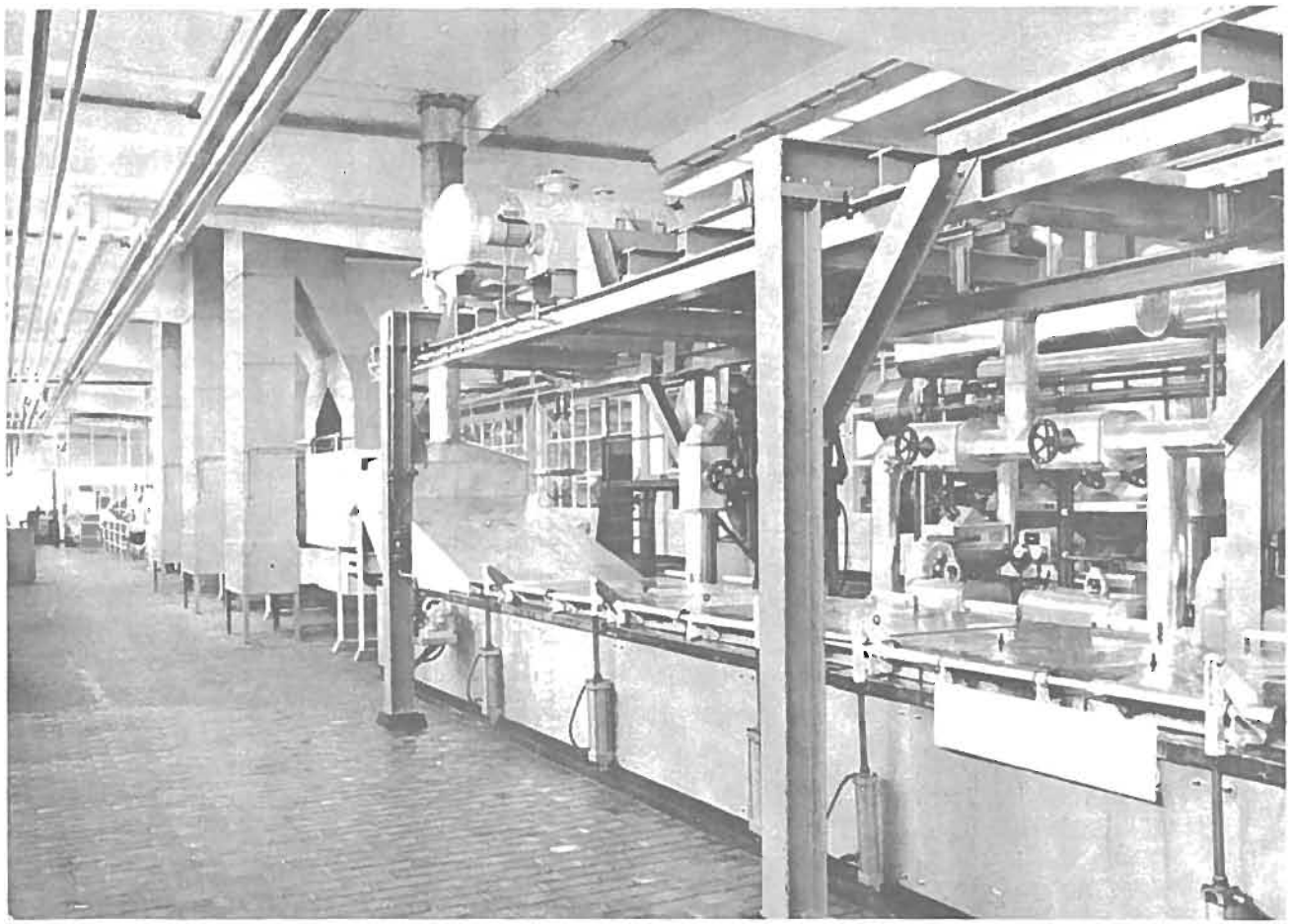
Consolidated Plants "Fischindustrie Bremerhaven, Nordsee"



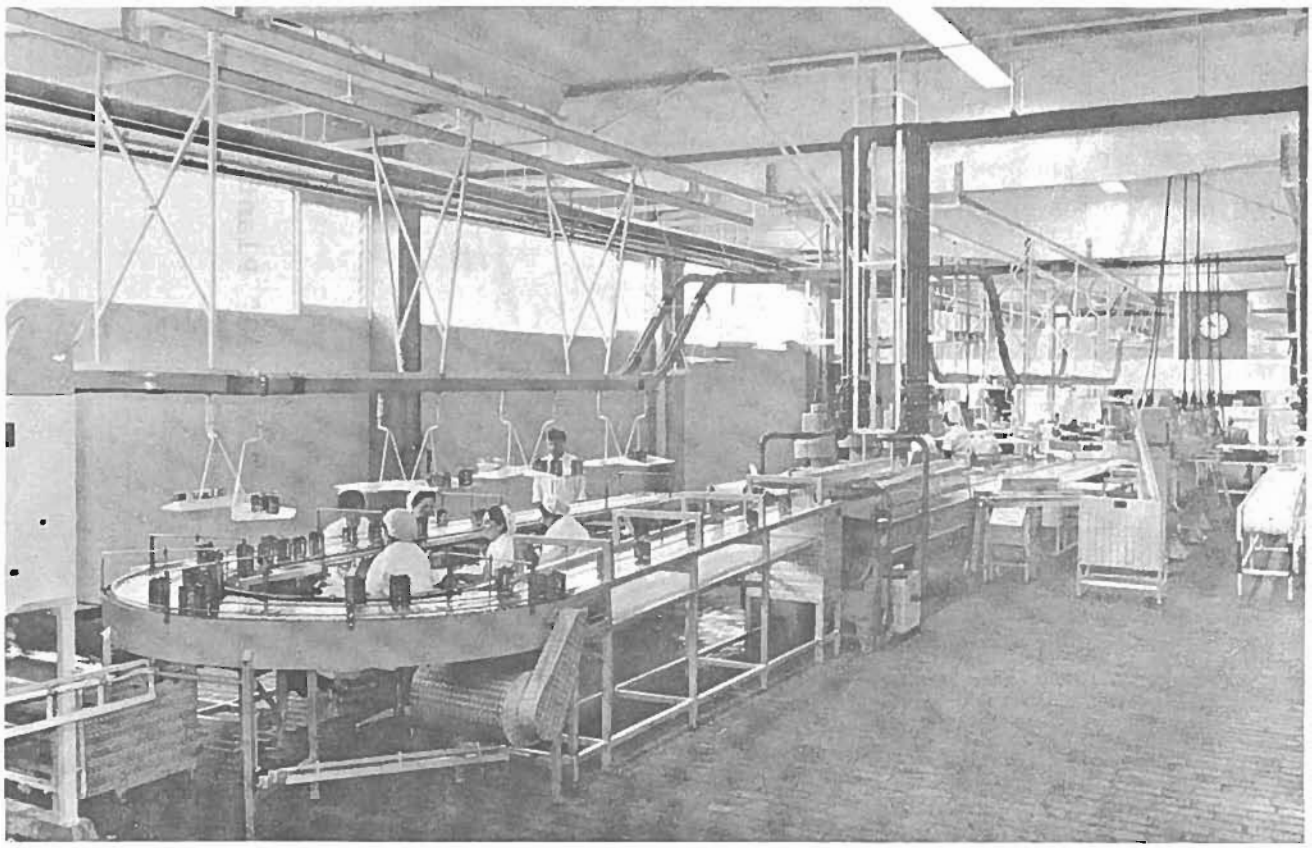
Plan of New Development (Below Dotted Line in above Photo)



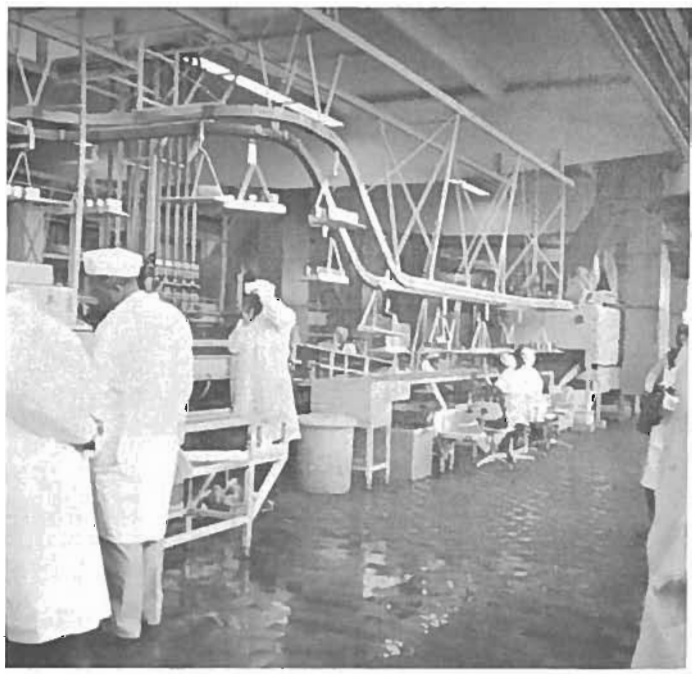
Fish Distribution to Rotary Washers at Beginning of Herring Processing Line. Washers Discharge into Elevators Which Carry Fish to Filleting Machines etc. ("Nordsee" Plant)



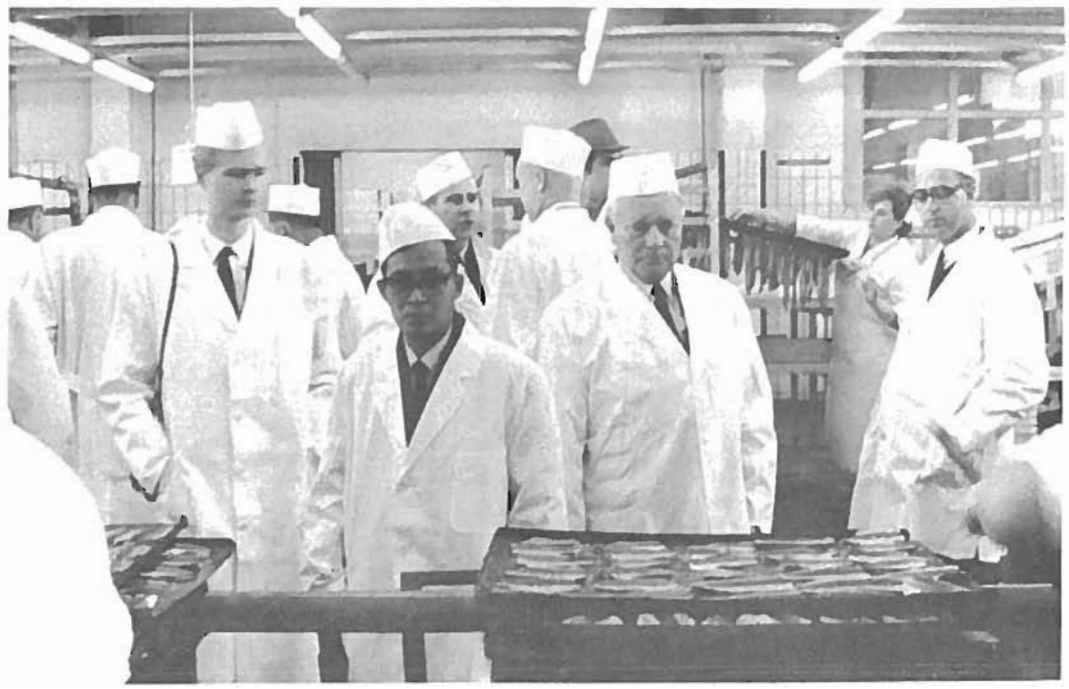
Automatic Deep Frying Conveyor for "Brathering" ("Nordsee" Plant)



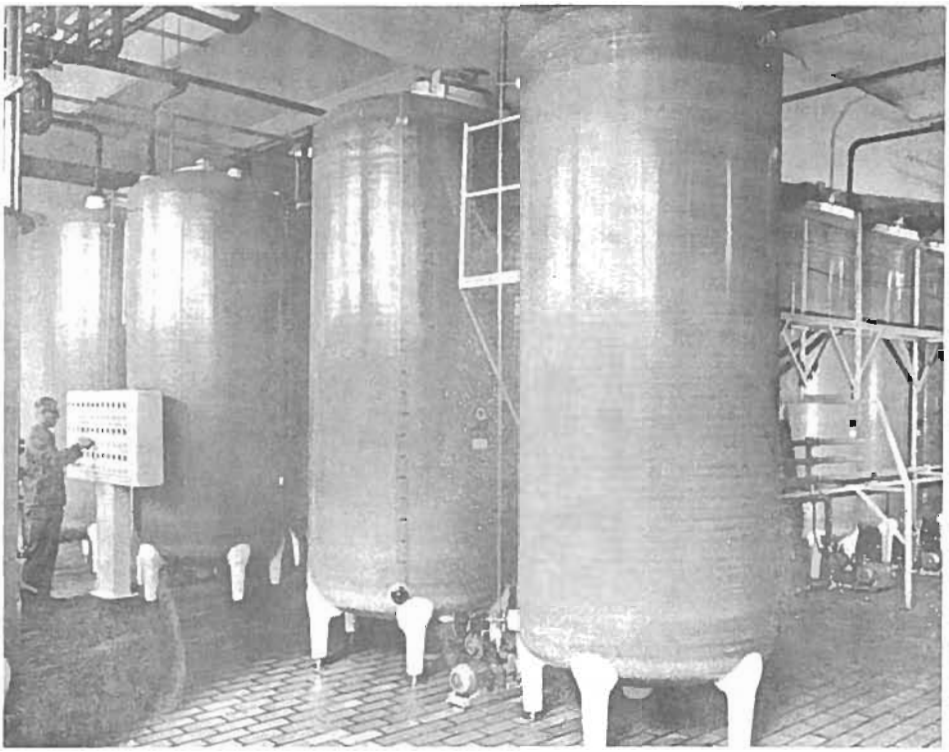
Above and Below: Packaging Line for "Brathering", Cans Travel on Overhead Trolleys, All Workers are Seated, Capacity one Metric Ton/Hour ("Nordsee" Plant)



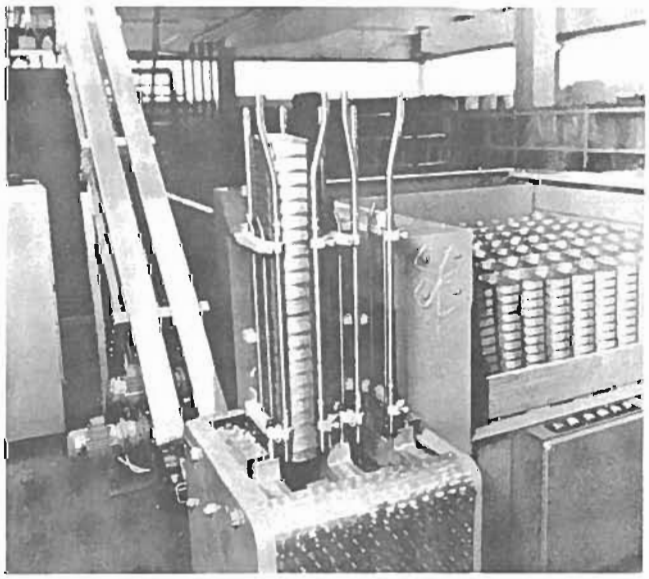
Foot Operated Disinfectant
Wash Before Work ("Nordsee" Plant)



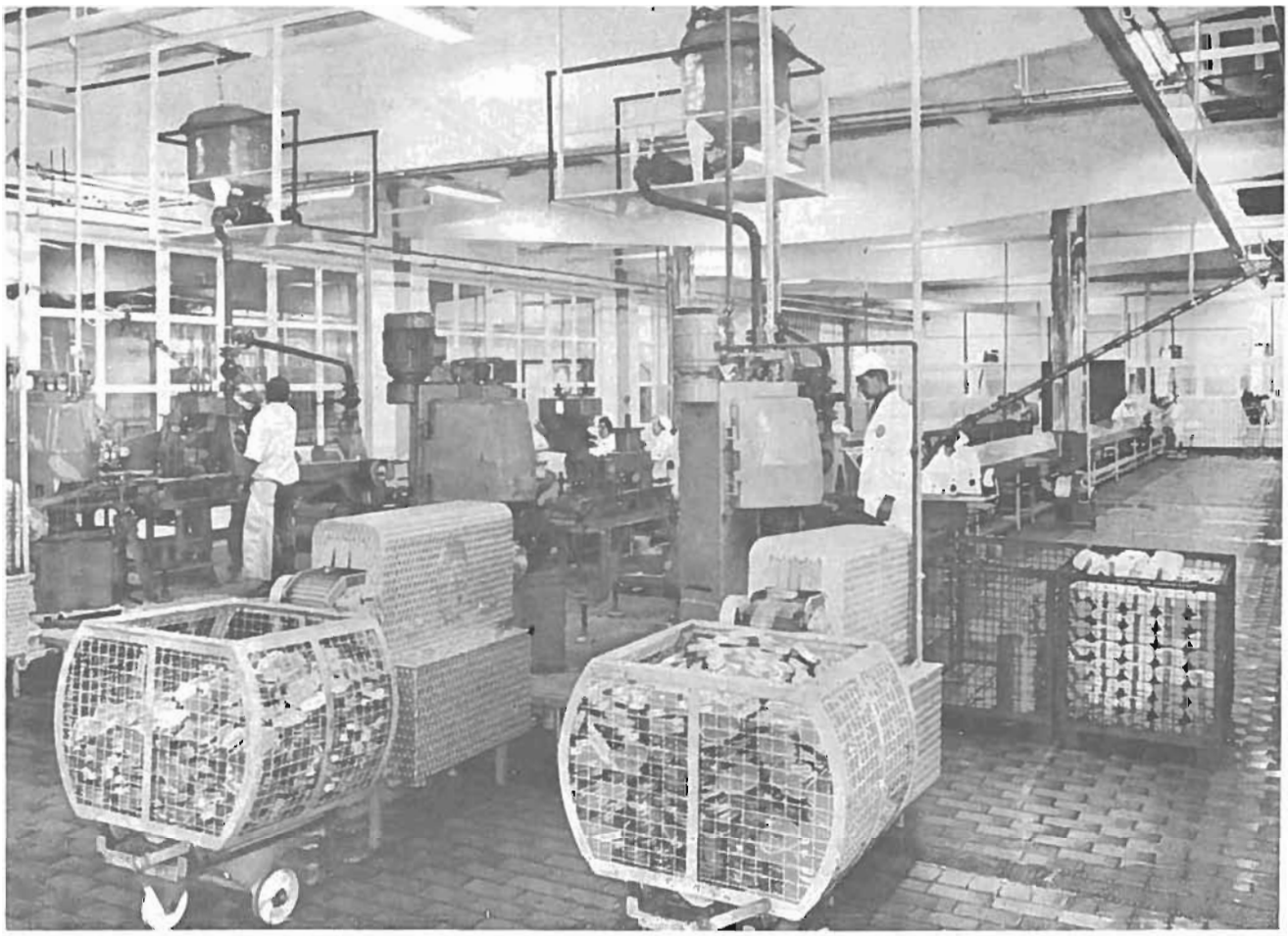
Fresh Processed Fish from the Baking and Smoking Oven
("Nordsee" Plant)



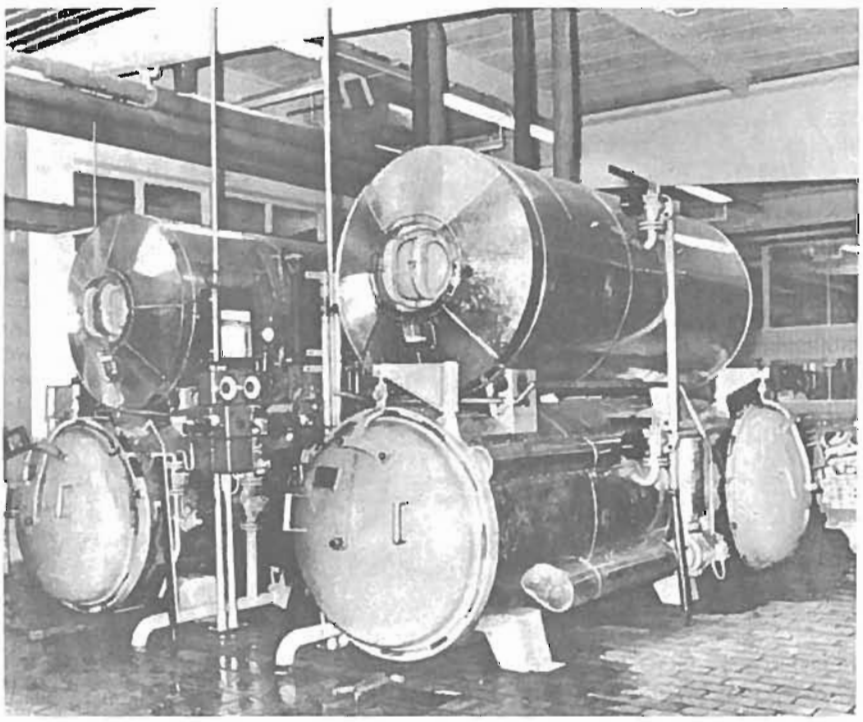
Reinforced Plastic Storage Tanks for Brine, Oil, Vinegar, in Main Marinade Mixing Room ("Nordsee" Plant)

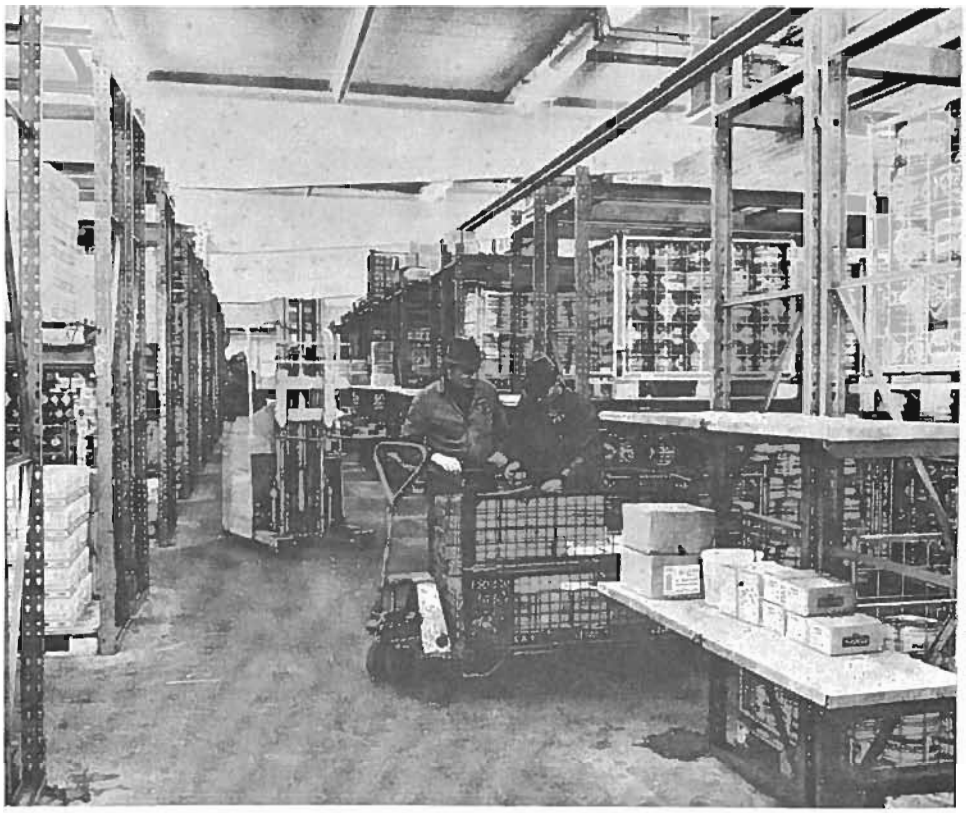


Depalletizer at Start of Empty Can Distribution System ("Nordsee Plant)

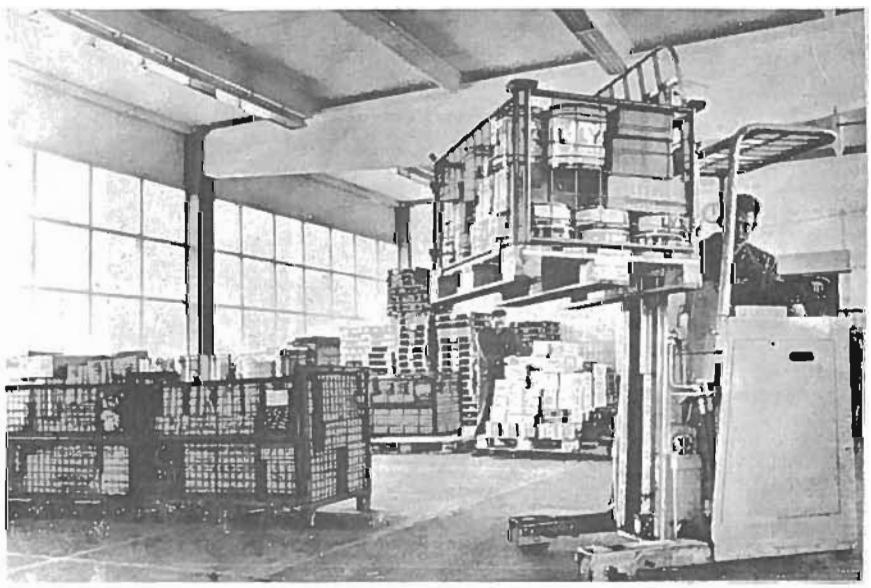


After Seaming & Washing the Cans are Tumbled into Profiled Retort Baskets and Cooked (Below) in Double Ended Horizontal Retorts ("Nordsee" Plant)

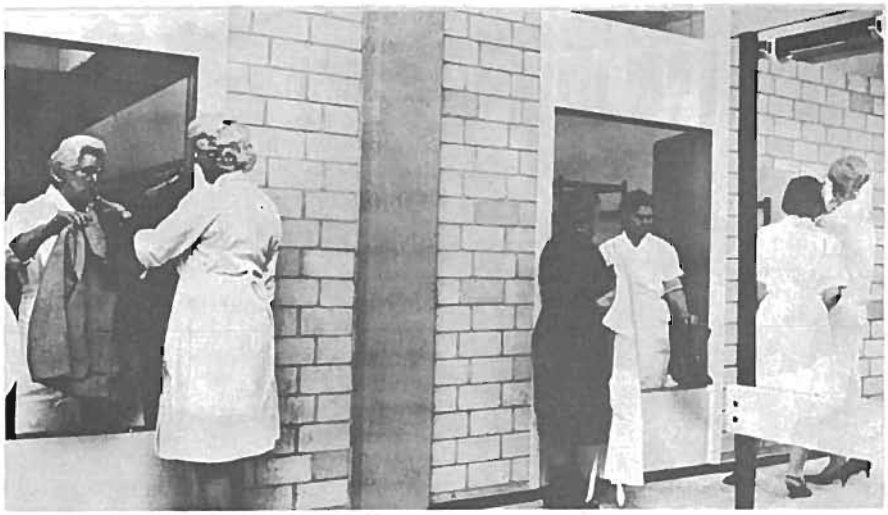




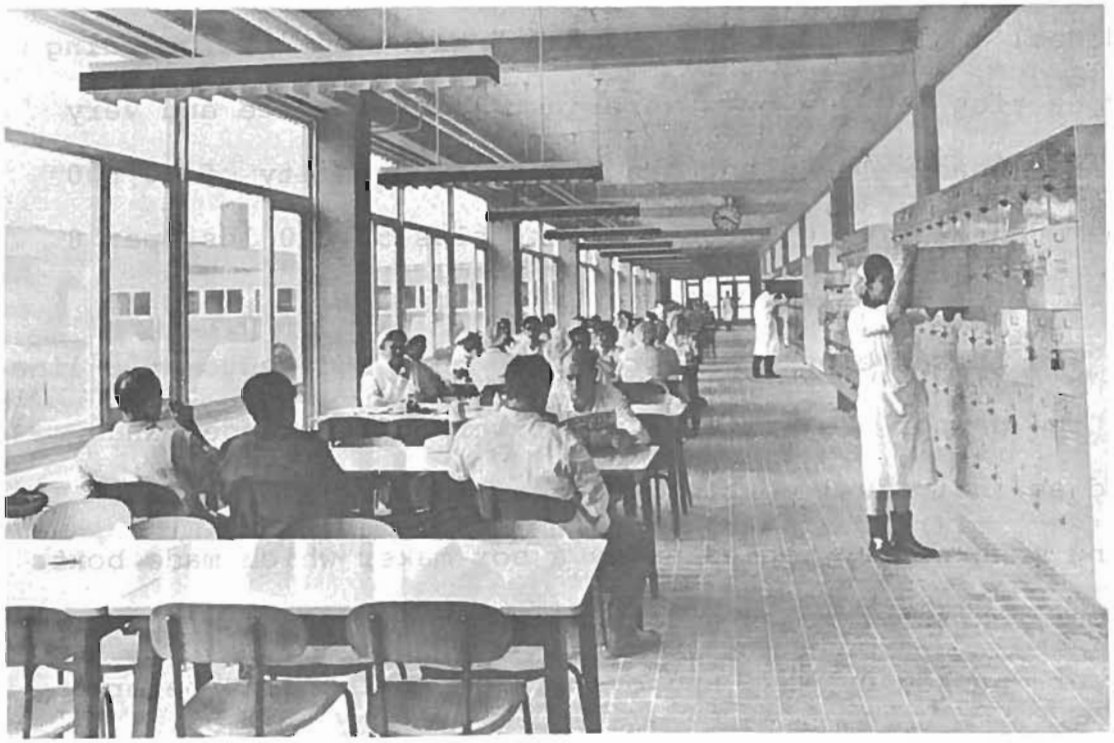
Large Cool Room for Storing Marinaded Fish
Prior to Shipping ("Nordsee" Plant)



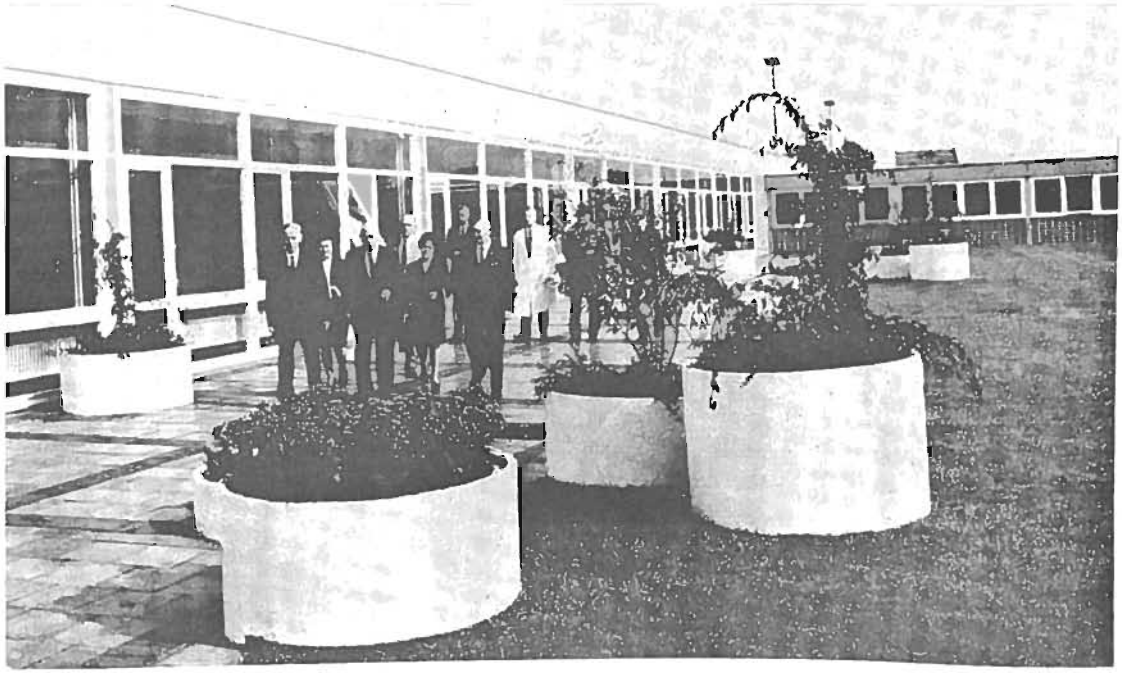
Before Shipping, Goods are Assembled and Palletized
In This Room Adjoining the Railroad Siding ("Nordsee" Plant)



Employees Hand in Their Street Clothes and Are Given Fresh Work Clothes Before Entering The Processing Areas ("Nordsee" Plant)



Employees Lunch Room and Personal Lockers. A Cafeteria is Located in a Nearby Building ("Nordsee" Plant)



Lawn Areas and Shrubs Between Buildings Add to the Overall Appearance of the "Nordsee" Plant

The plant of the "Ocean Fischhandelsgesellschaft" was a good deal smaller than the "Nordsee" plant but the building and production line layouts were just as up-to-date and very light and clean. The plant has a nominal capacity of 20,000 lbs. per 8 hr. shift of frozen blocks plus 50,000 lbs. per 8 hr. shift of fresh fish.

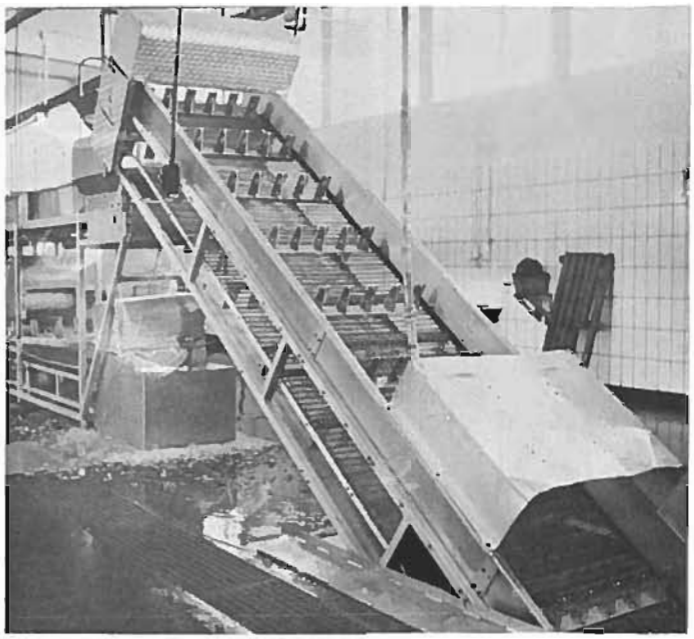
The frozen blocks are processed on a semi-automatic line and on the day of the writer's visit were cut, breaded and wrapped as individual portions similar to our fish sticks. The wrapping machine was backed up by a box maker which made boxes for about ten servings at a rate of about fifty per minute. These boxes were packed by hand and overwrapped by machine before going into the cold storage room.

Plant Interior (Ocean Fischhandelsges.)

The fresh fish line was filleting Redfish manually much as seen in any Canadian fish plant. One difference which was notable was that all horizontal movement of fish was by conveyor belts rather than by flumes. Stainless steel rather than aluminum seemed to be used quite extensively in conveyor and table framing.

On the upper floor of the "Bremerhaven Cold Storage" there was a highly mechanized production line for fish sticks (no breading) which were cut from 50 kilogram frozen blocks of fillets. All wrapping, labelling, etc. was fully automated. This, however, was only a relatively small operation with a quite limited capacity.

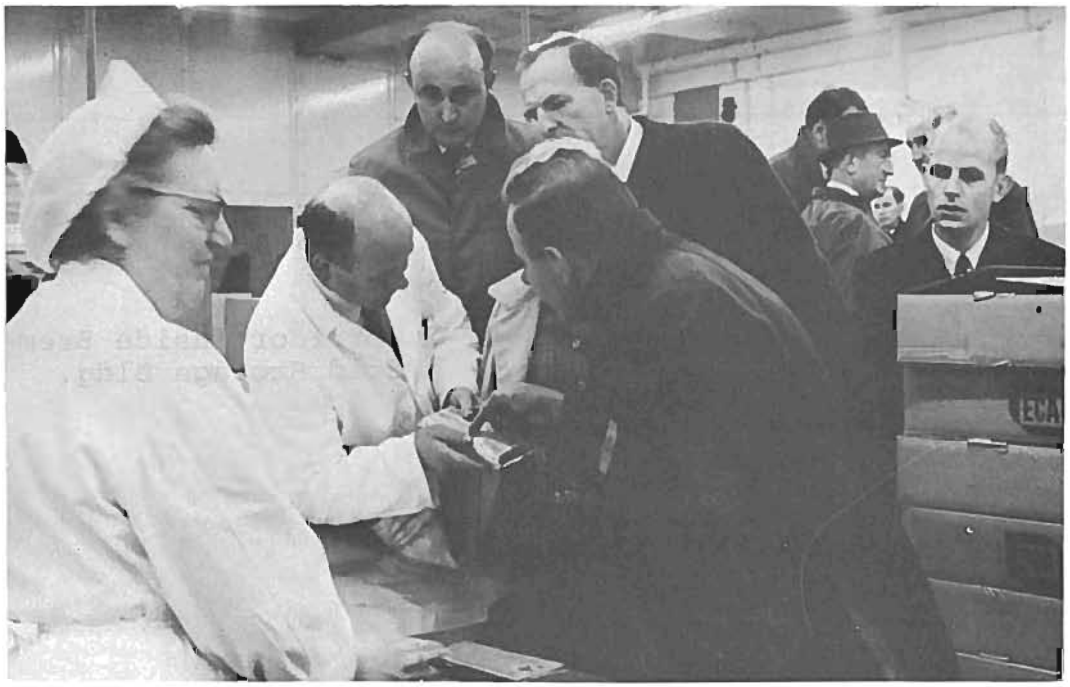
On the whole, the fishing harbour of Bremerhaven gave the impression of a well organized establishment with good facilities for fish handling and vessel maintenance. Large vacant land areas are still available for future expansion but the rather old double locks at the entrance appear to be a limiting factor for the number of vessels entering and leaving the port per day.



Fish Elevator to Processing Line
(Ocean Fischhandelsges.)

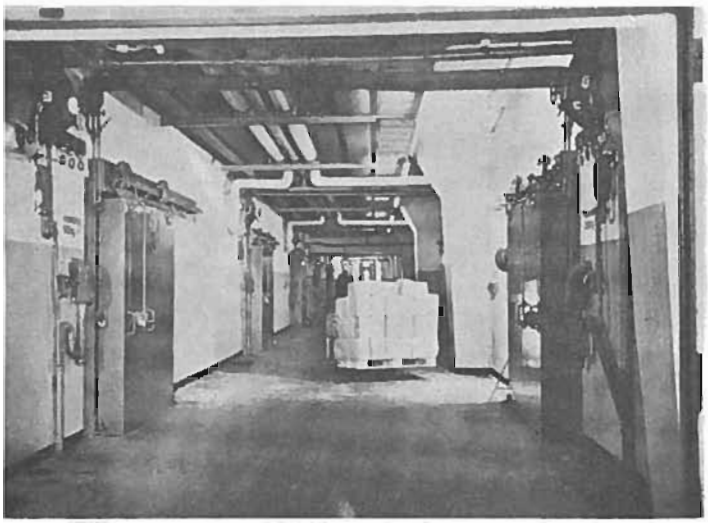
Filleting Redfish
(Ocean Fischhandelsges.)

Hand Packaging Line
(Ocean Fischhandelsges.)

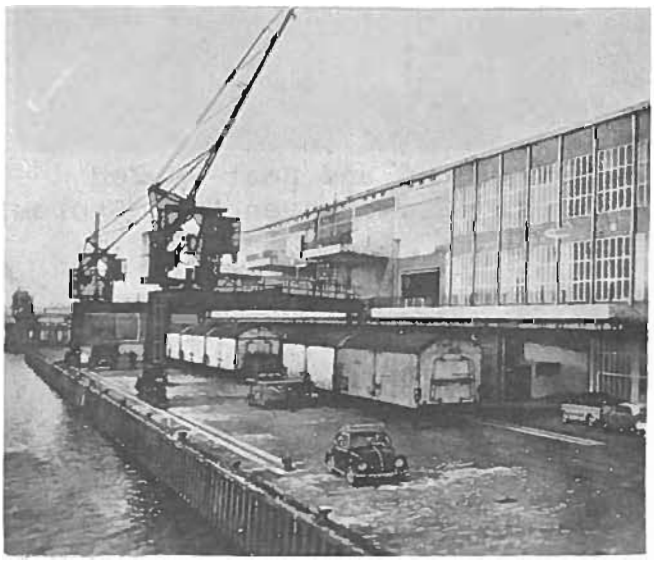


Examining an Automatically Wrapped and Heat-Sealed Package of Frozen Fish Sticks (Bremerhaven Cold Stores)

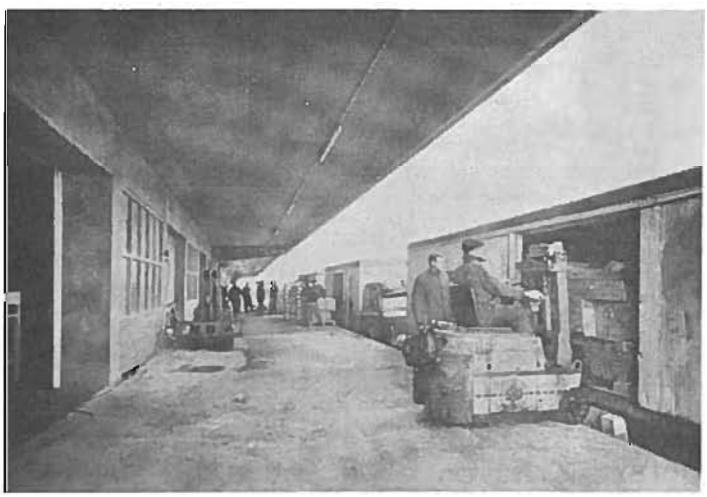
Interior of One of the Cold Storages, Max. Stacking Height Approx. 23 Feet (Bremerhaven Cold Stores)



Corridor Inside Bremerhaven Cold Storage Bldg.



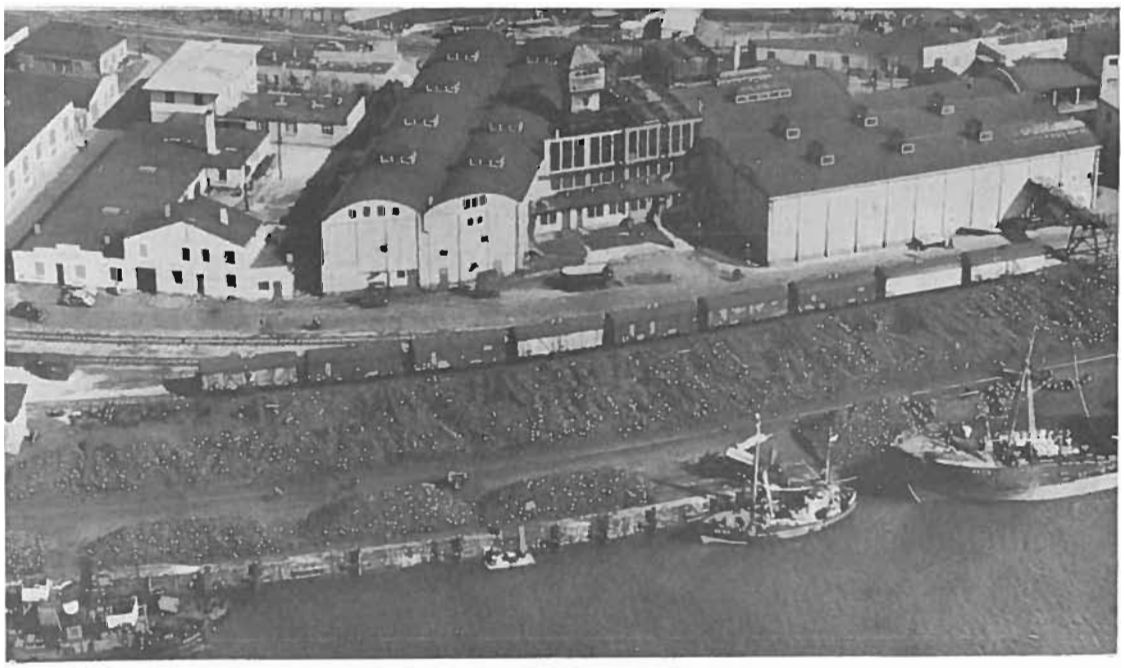
Waterfront of Cold Stores I and II (Bremerhaven) with Railroad Siding and Unloading Cranes



Cold Store Loading Dock for Trucks and Box Cars (Bremerhaven Cold Stores)

Cold Stores' Waterfront with Siding and Unloading Cranes

One of Many Daily Shipments of Fresh Fish Being Loaded Into Refrigerated Box Car



Overall View: Ice Plant No. 2 in Harbour Basin No. 1