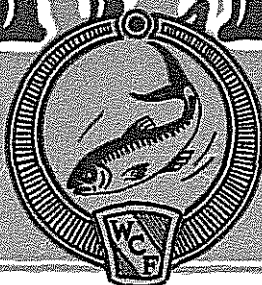


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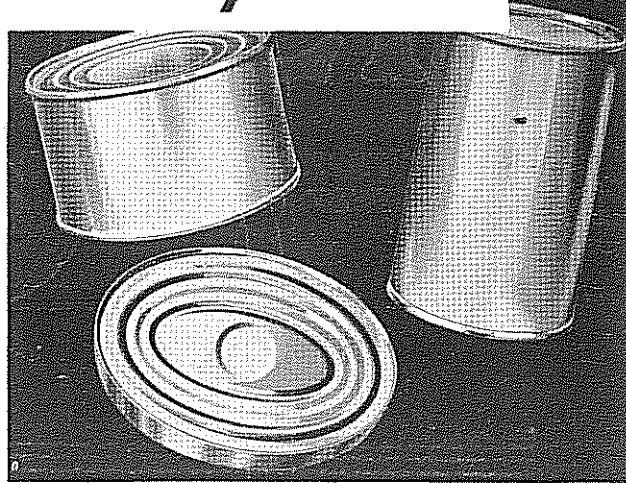
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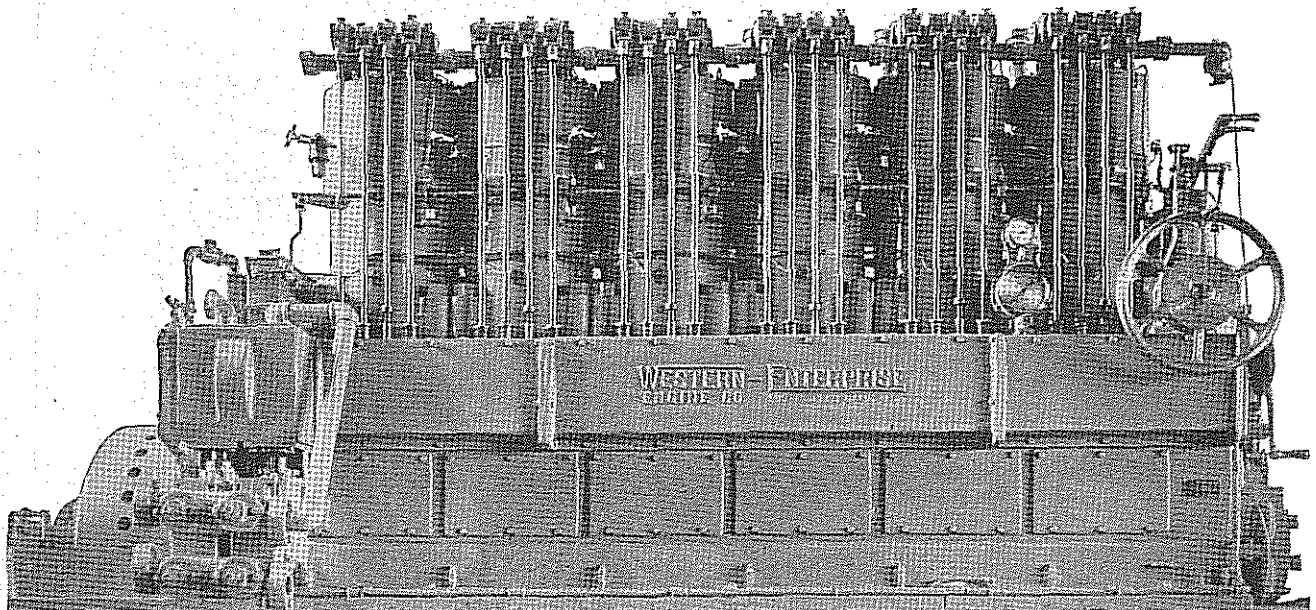
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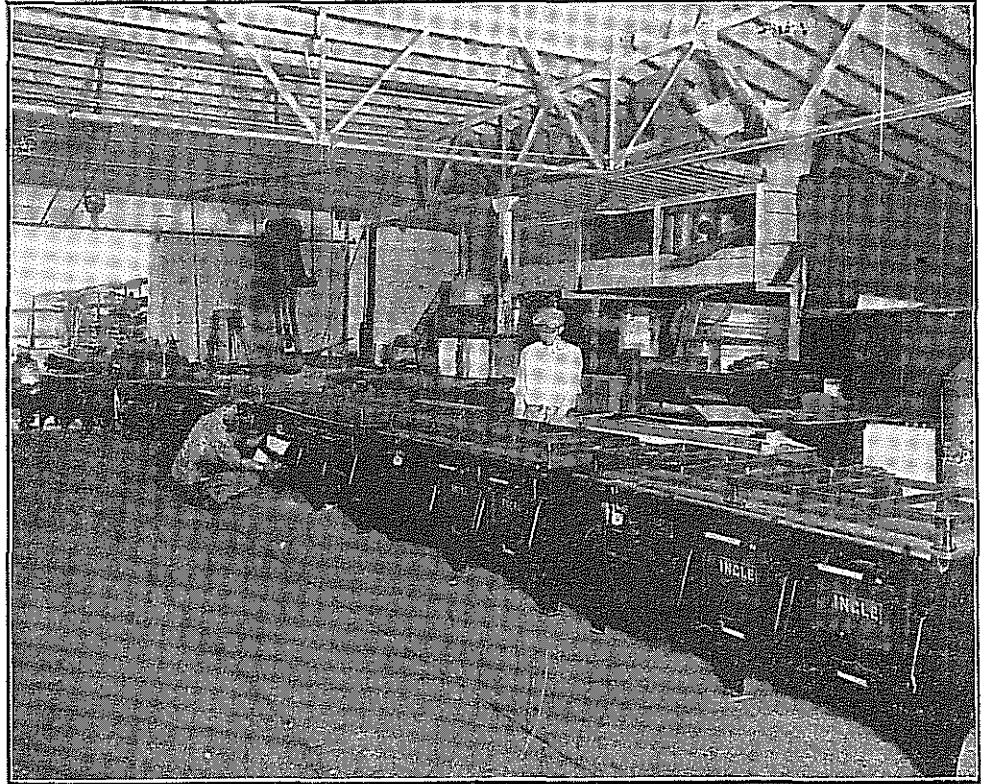
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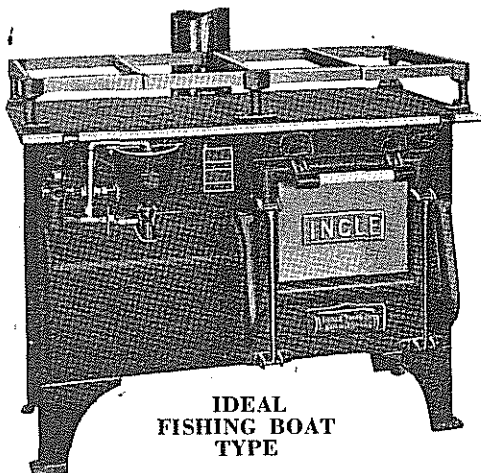
A carload lot of Ingle marine ranges being shipped to the Atlantic Coast, where they will be installed on the eight scout cruisers now being constructed by the U. S. Government.

INGLE'S POPULARITY is sweeping the coast. Not only are the new fishing cruisers purchasing these smokeless, odorless, cheap-fuel ranges, but millionaires and governments are installing them in yachts, patrol boats and battleships. Don Lee put one in his "ELIA," and the Star & Crescent Co., San Diego, has one in the galley of the tug "CUYAMACA" and another in its fishing barge. Mexico bought Ingles for the "TECATE" and the "S. A. F. No. 1"; the California Fish Commission took pains to specify an Ingle for the newly-launched "BLUEFIN", finest patrol and research craft in existence. All four of the \$1,000,000 Coast Guard cutters now being commissioned at Oakland have "Valjean-Processed" oil-burning ranges.

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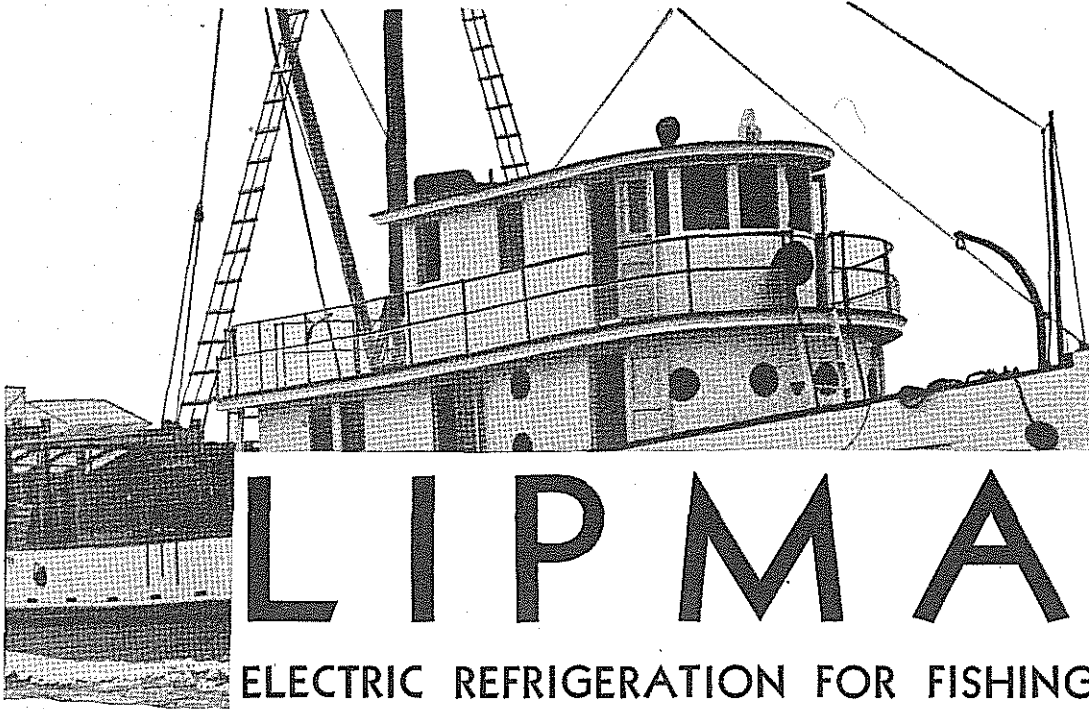
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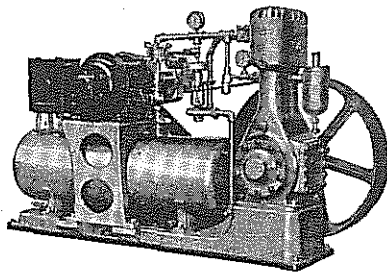
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By keeping a greater percentage of fish in prime condition, no matter how long the trip—by preventing shrinkage of the fare—by reducing the cost of “icing down”—and by eliminating “broken trips” when fares are hard to complete—the Lipman not only pays for its cost of operation, but swiftly pays the purchase cost of the machine itself.

Moreover, Lipman Electric Refrigeration for Fishing Boats affords protection against deterioration when accidental delays prevent a speedy return to port.

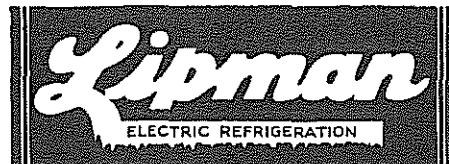
Today, these factors are more vital than ever before in fishing boat operation. The California Division of Fish and Game reports last season's catch off the California Coast to be only 4,500,000 pounds as compared with 15,000,000 in 1921. Fish are now caught in more distant waters and fishing boat refrigeration is necessary in order that long trips may be profitable trips.

Record catches are being made on the high seas' banks by Lipman equipped boats. Why not join these far-sighted fishermen? Without obligation to you in any way, a Lipman engineer will examine your boat and estimate the cost of installation. Now is the time to consult the one nearest you!



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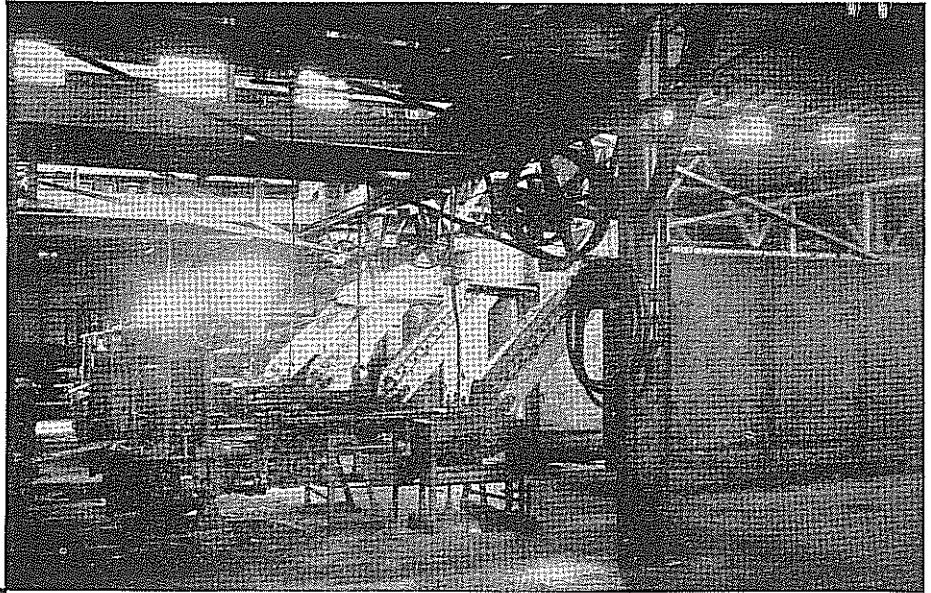
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4 MEN Instead of Sixteen

IN this plant four A-B Spiral Chain Exhausters —four men on the job, one man to each machine—handle an output equal to that requiring sixteen men by the drying-and-frying method.

The saving is due to the elimination of dryer and fryer, which are not required by the raw-pack method. The elimination of frying solution also adds substantially to the saving. And there are other savings as well, including a saving of floor space.

An installation like this practically pays for itself in one season's operation. Write for complete details or talk with your nearest A-B representative.

Anderson-Barngrover are ready with unsurpassed engineering and manufacturing facilities, to work with you in putting your plant in the best possible physical condition for low-cost production of a quality pack.

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Editorial Office, Postoffice Bldg., San Pedro, Calif., Telephone San Pedro 4890

Representatives and Correspondents in Practically Every Fishing Center on the West Coast of America

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 Foreign Countries, \$4.50*

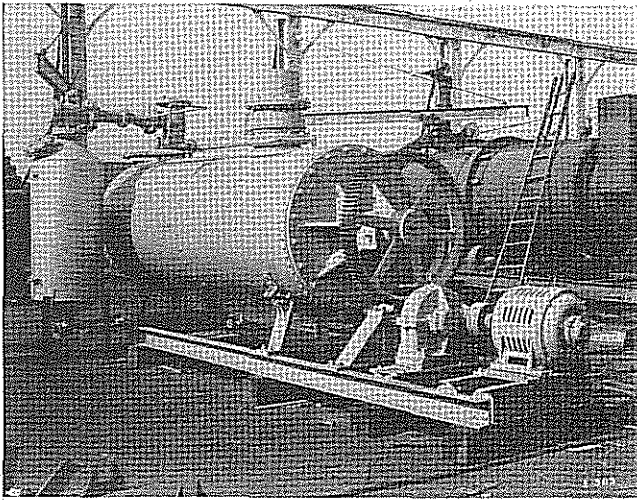
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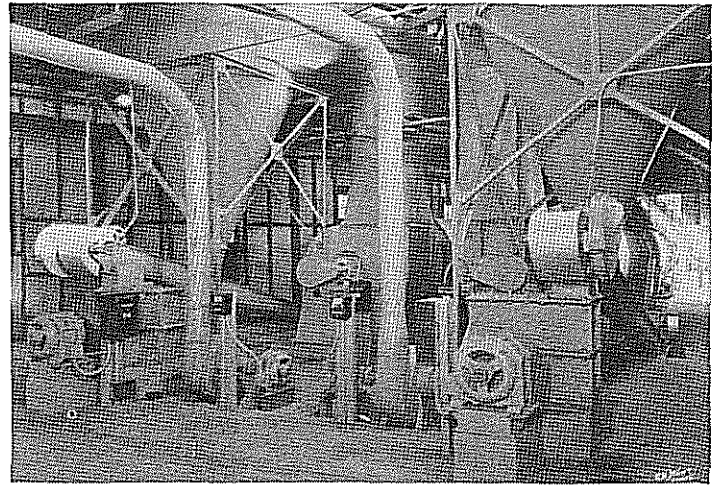
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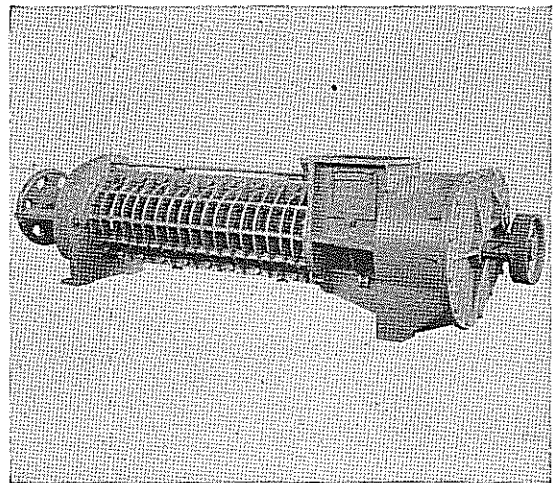
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WCF

California Cannerymen Pick Business Executive To Manage New Association

~~~~~

**Bismark Houssels and Thos. A. Morrissey are made President and Manager, Respectively, of Fish Packers' Organization. Administration to be on Modern Business Basis.**

~~~~~

MODERN METHODS of business administration are to be applied to the fish-canning industry of Central and Southern California, the significant indication that this prediction of the packers is correct, being their recent choice of Thomas A. Morrissey as secretary-manager of their newly-formed California Fish Cannerymen's Association. Morrissey, corporation executive and financier, was selected by the Executive Board of the Association at a meeting held in the Los Angeles Biltmore on the afternoon of the first of July. He was picked from a large field of able men, twelve candidates having been considered before, by unanimous consent, he was agreed upon.

Important Conference

The largest packers of fish products in California were represented on the Executive Board that met to elect officers. The entire Board was present; its members were:

Frank Van Camp, of the Van Camp Sea Food Co., Inc.

Alfred W. Eames, of the California Packing Corp.

H. A. Irving, of the Sea Pride Packing Corp., Ltd.

B. Houssels, of the Van Camp Sea Food Co., Inc.

E. B. Gross, of the E. B. Gross Canning Co.

Sam Hornstein, of the Coast Fishing Co.

Ed Hoyt, of the French Sardine Co., Inc.

R. E. Ludlum acted as secretary of the meeting.

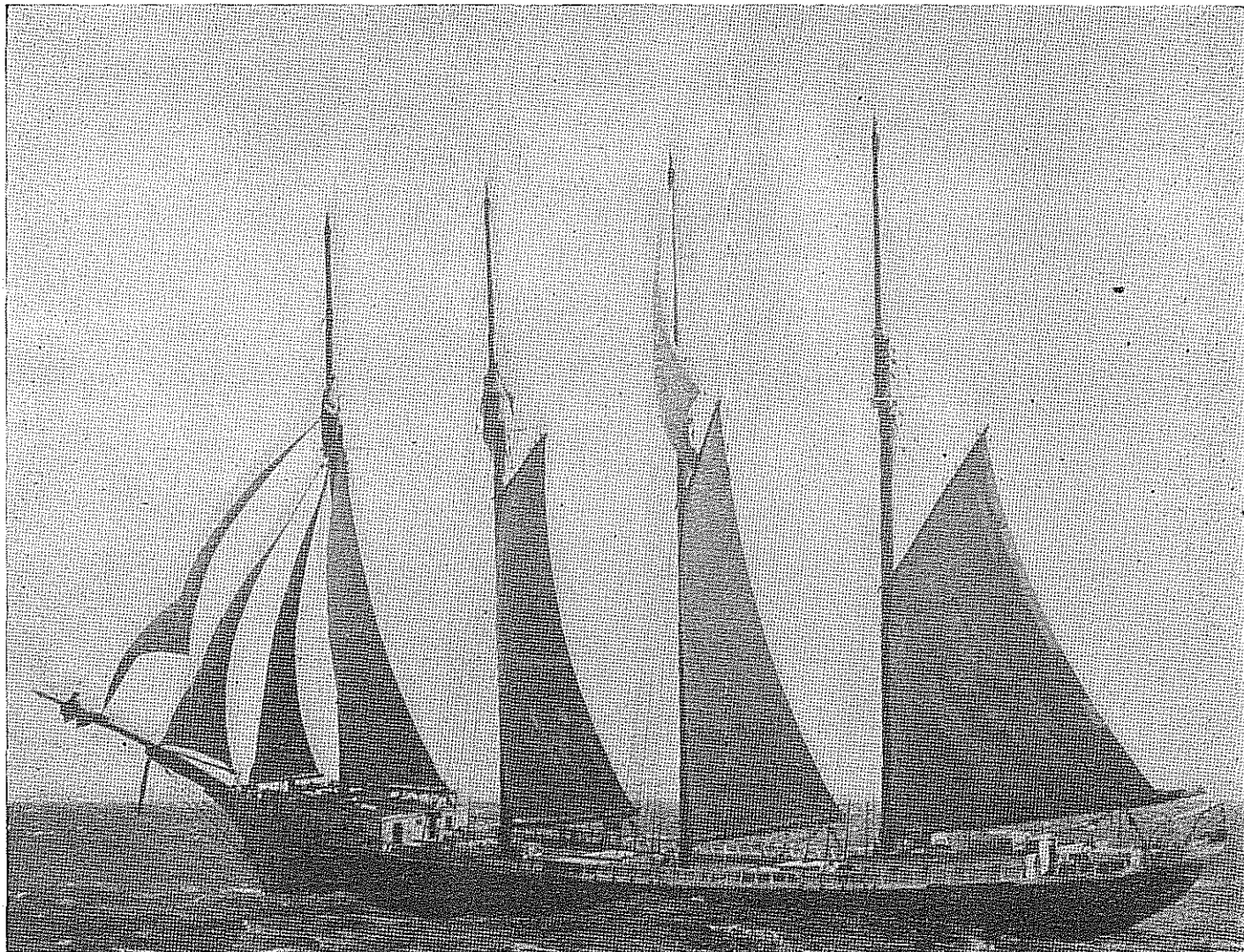
Unquestionably the decision of this group of men, in determining who should be placed in the managerial officership, determined, to a large extent, the whole



THOS. A. MORRISSEY

future of their Association. Likewise, upon the issue also depended whether or not co-operative accomplishment should now march rapidly onward, or whether through disorganized effort the industry would make but halting and irregular progressions towards the goal of ultimate perfection which is the object sought with great earnestness by all of the chief operators in the field.

(Continued on Page 14)



The "Oceana Vance," the "Mindano" and others of the old sailing-ship fleet that once operated in the Mexican shore-station tuna fishery, all have been relegated to the limbo of things antiquated. After their discontinuance efforts were made to utilize smaller craft such as Gloucester-rigged 2-masted schooners, but these also failed fully to succeed. At present not one wind-

driven tender continues in the tuna fishery and the spectacle here represented—that of an ice-laden schooner standing out from San Pedro for Turtle Bay—has passed into the history of those colorful days when un-insulated and un-refrigerated wooden ships essayed bringing fares of fresh fish north from the sub-tropics, preserved only in beds of ice.

Evolution of South Sea Fishing

**SAILING VESSELS SUPERCEDED BY DIESEL DRIVEN CRAFT
—REFRIGERATED AND MODERNIZED THROUGHOUT**

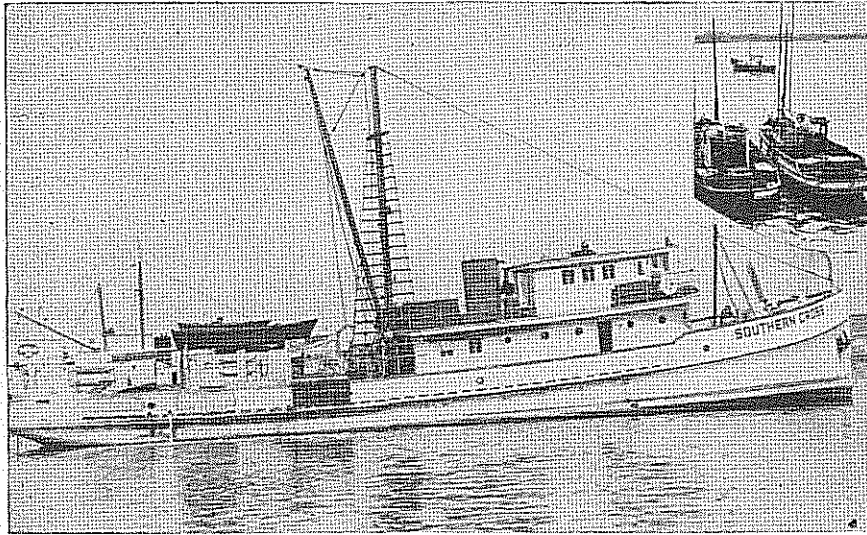
IT IS A LONG CRY from the ice-carrying sailing ship-tender to the refrigerated tuna cruiser. The one was independable, its functioning was determined by forces with which man was unable to cope, and its best performances were both clumsy and tedious when compared with the superior effectiveness of powered craft; the other is wholly reliable, it lends itself to use on exact, pre-determined schedules, and is practically unaffected by inclemencies of weather or similar adverse conditions that completely nullified the usefulness of the canvas-propelled bottoms.

Despite the disparity between the two utilities, the evolution from the one to the other has become complete in the short space of 10 or 12 years. Within the recollection of practically every man in the canned fish business of the southern reaches of the West Coast the

"Oceana Vance," the "Mindanao" and the auxiliary-schooner "Golden Gate" of the Union Codfish Company have been chartered and impressed into service as fish-carriers between Mexican shore-stations and San Pedro canning factories. No man can lay claim to being an "old-timer" solely upon the basis of having witnessed the strange occurrences that market the era of wind-driven tender ships. As recently as the fall of 1925, long after the proven success of diesel machinery, 3- and 4-masted "fore-and-afters" cleared with frequency from San Pedro to voyage down to Turtle Bay. Even at that late date the sailing-vessel-tender appealed to many operators in the business as a practical proposition, and as an institution deserving much laud.

Untoward Incidents

Had it not been for disastrous experiences, in which



In its day, the "Southern Cross" was the giant of the fleet. It was built by a group of enterprising Japanese fishermen who had the financial support of the Coast Fishing Company of Wilmington. As will be noted, its superstructure is placed somewhat forward of the central region of the hull, but it still is no more pronounced in this regard than any ordinary sardine or bluefin purse-seiner. The deck space forward of the house is practically wasted. Two old-style albacore boats are shown in the inset. Prior to 1925 practically the entire fleet was composed of small craft such as these, and of northern purse-seine boats.

homeward-bound schooners encountered head winds—that held them stationary until their ice melted, and the fish all spoiled—our present age of large, high-seas cruisers might have been delayed interminably, and the sudden transformation of the fishery not become complete in the brief space of a half dozen years. As things happened, however, the "wind-bags" were proven unfit—and with emphasis. Natural handicaps from which they suffered came to be admitted generally at the same time that increased recognition was accorded the imperative necessity for improving the quality of the foreign-caught fares. Progressive men commenced scheming out some better means of carrying home the catch than the one that had been initiated by the courageous men who pioneered the "game."

Conscripted Craft

Not knowing exactly what sort of vessels might prove best suited to their peculiar needs and purposes, the fishing agencies commenced a wide and general experimentation. The steam-schooner-style cattle-boat called the "Vaquero" was chartered. Likewise the old yacht of the King of Spain was won away from her profitless business of hauling bananas and sent south with a hold full of ice to carry home fish. Thus it was that the "Camina" became identified with the trade—temporarily, at least. The ancient "Bergen" was added to the list, also the "Heston," all of these being diesel ships of one sort or another. Before the experimenters had done they tried out the "Carpenter" and one or two steamers of small size. None of these craft being built to the business, none succeeded well. Principle among the reasons for lack of success was the absence of mechanical refrigeration.

Trouble Ashore

Unquestionably tendering would have developed into a big business had it not been for two discouragements from which the tuna fishery, as it was conducted in Mexico, suffered. The first of these was the exorbitant rates of duty demanded by the government of the neighboring Republic in return for the privilege of exploiting the resources which she never had used herself, the condition being un-necessarily aggravated by inconsistencies in the national disposition of that Nation, rapid and perplexing changes in its voluminous statutes and tariff codes, and the abuses of petty officials who made of the fishing firms an annual plum pie. The shortsightedness of such a policy seems not to have been apparent to Mexico, for the government was appealed

to again and again by American interests, in an endeavor to make possible a continuance of profitable operations there. No doubt the incorrigibility of Mexico finds its most plausible explanation in the rather current opinion that then prevailed in that country, that tuna could be caught only from shore stations in far southern waters, and that willy-nilly the Americans must accept whatever hard terms the country might offer, were it to receive tuna from that rich region. This discounting of American inventiveness, financial ability and genius at organization found its very present reply in the complete discontinuance of shore-station operations in Turtle Bay, Baja California, whereupon Mexico picked the feathers from the dead goose-that-had-laid-the-golden eggs by capitulating completely. It promised to reconsider its legislation, and offered seductive inducements for a re-establishment of the trade that had yielded thousands of dollars in revenue without other effort on the part of any Mexican than the mere collecting of fees.

"Not a Cent For Tribute"

Meanwhile, in both San Pedro and San Diego the outraged fishermen swore to emancipate themselves from further typhes to foreign lands, and set about circumventing the obligation of paying tribute by building big fishing vessels. These did not need the protection of a Mexican harbor during times of storm, but could stay at sea, and ride out any gale safely, well beyond territorial limits.

Organization Gets Results

In order to finance the construction of these large craft the traditional 2- and 3-man partnerships that had for years been customary among the owners of small boats, were expanded to include 10 or 14 or even 18 investors. Usually a majority of the co-partners formed the complement of the vessel which they built. Soon a considerable number of 75- and 80-footers was in commission. They cruised down-coast until arriving off Mexico, caught full fares in the customary style, and returned home without paying anyone anything for the privilege that was theirs. Definite demonstration of the effectiveness of the method won all boatmen to the same general purpose, and soon the same men who had previously struggled against incessant aggravations and against trumped-up difficulties while trying to carry on in Mexico, came to marvel that they ever should have endured so humiliating a situation or have sought to assist in its thankless perpetuation.

(Continued on Page 15)

San Rafael Christened

AT EXACTLY 5:30 p. m., Saturday evening, June 10, the 121-foot tuna ship, "San Rafael," was launched from the ways of the San Diego Marine Construction Company. A. C. Pires and Associates, "parties of the first part," for whom the ship was built, all were present, as was also Manuel Sousa, the captain.

Dean B. Johnson, manager of the shipyard named, acted as master of ceremonies, a part that he knows so well how to play. He introduced the Catholic priest who was to officiate on the occasion and presented an armful of red roses and Japanese lilies to pretty Miss Olive Rabella, sponsor.

Prayers and Blessings

The Italian priest spoke fluent Spanish, blessed the ship and sprinkled it from stem to stern with holy water. He was attended during the ceremonies by both Captain Sousa and Miss Rabella.

As the big tunaman commenced gliding towards the sea Miss Oliva crashed the christening bottle against its stem, shivering it into a thousand fragments and splashed rich Bacarde all over herself and attendants. The patriotism of the twelve Portuguese partners was evidenced in that the long-necked bottle was decorated in American colors.

Sea Food Feast

When the ship was safely afloat a generous buffet dinner was served to all the spectators. Pickled Mexican lobster, fresh tuna sandwiches and many special dainties were provided in great profusion. It was a long time before the crowd broke up.

Most of marine San Diego witnessed the launching. In the throng that milled about we recognized Gus Johnson of Van Camp; Fred Schellin, Clem Stose, Page Bacon, Carl Bruington, Orville Davis, Lee Davis, Captain Henry Olson of Van Camp, and Captains Joe Soares ("Abraham Lincoln"), M. O. Medina ("Atlantic"), M. Rosa ("Lusitania"), Joe Sousa ("Orient") and M. Crivello ("G. Marconi").

Structural Data

The "San Rafael" will be completed at a cost of about \$110,000. She will measure 121 feet 7 inches by

27 feet 6 inches by 11 feet, will be powered with a 450 h. p. Atlas Imperial six-cylinder diesel, have a fuel capacity of 20,000 gallons, and be able to cruise 9,000 miles at 10 knots. The crew of 14 will be quartered in a house on deck. There will be a 10-ton ice machine, with coils lining the overhead, bulkheads, sides and bottom of the hold, which will have four-inch sheet cork insulation in addition to dead-air spaces, layers of building paper and asphalt. Twin Atlas Imperial 45 h. p. auxiliary diesels will be directly connected to 8-inch Byron Jackson centrifugal brake pumps.

It is expected to commission the vessel some time in July.

CALIFORNIA CANNERS

(Continued from Page 11)

Extreme optimism now prevades the industry, for with the acceptance of the managership by Morrissey the future of the Association seems bright.

Successful Career

Confidence that the new Secretary-Manager will accomplish large benefits for the canning business has reinforcement in the fact that Morrissey has achieved notably in private business, having served with conspicuous success in a number of large financial institutions besides maintaining a variety of incidental interests. One of these chanced to be fish-packing, for it was he who rehabilitated the Southern California Fish Corporation and piloted its rising destinies during some three successive years. Fish, fishing, and fish-canning always have been something of a hobby with the man. Packers cite his inclination to pursue these as avocation, in explanation of their good fortune in being able to prevail upon him to take part in their progressive project. To him the managership will be the "game" of making the Association a business triumph whose profits will be enjoyed in the form of betterments that will descend to all participants in the fish-packing trade.

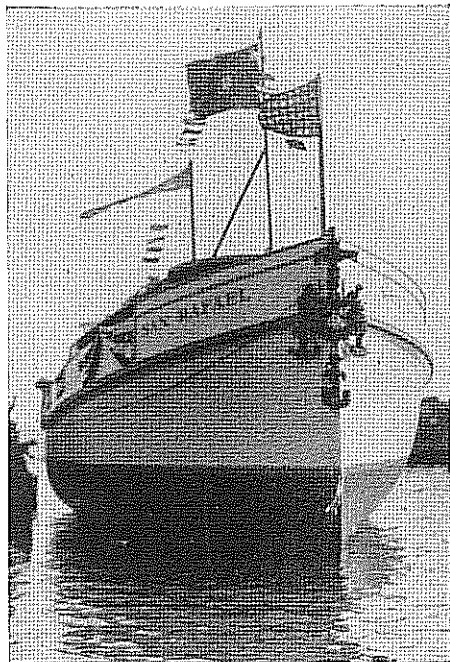
Experienced Financier

Industrial enterprises and their management are subjects intimately understood by Morrissey. Twenty years of banking experience have familiarized him with every phase of modern business. For 18 years—and until its merging with the Bank of America of California—he was vice-president of the Merchants National Trust and Savings Bank of Los Angeles. Currently, he held the presidency of the Pacific National Bank, in the same city. For two years he headed his own investment company. Being a man of large private means, the salary offered by the new post is said to be no inducement—emolument is not the attraction. Instead, he is intrigued by the novelty and uniqueness of the fascinating trade, is ambitious to organize, correlate and standardize it, and plans to predicate the success of its future upon the same sound principles that already have proven practical and profitable in other modern industrial fields.

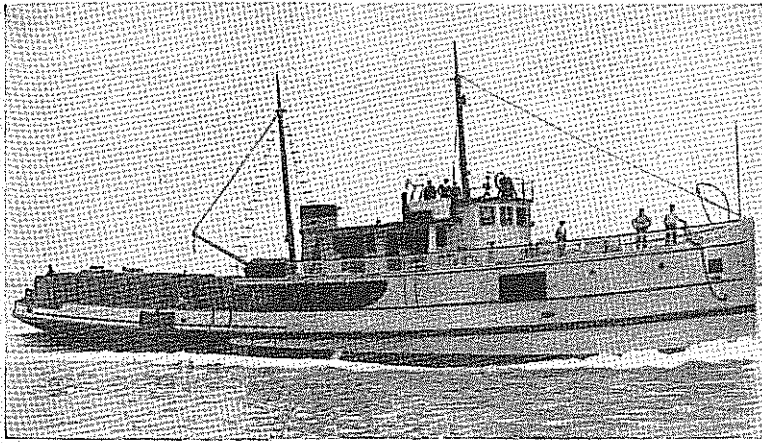
Houssels Is President

Several changes in the personnel occupying the officerships of the Association arose from the resignation of the presidency by Frank Van Camp. Wilbur Wood, of the Southern California Fish Co., likewise resigned from the Board of Executives.

(Continued on Page 17)



The "San Rafael" being warped into moorings a few moments after launching at the yards of the San Diego Marine Construction Company



SOUTH SEA TUNA CRAFT

(Continued from Page 13)

The American fishing people had achieved their independence, and incidentally had commenced the construction of the world's finest fishing fleet.

Glorified Purse-Boats

The only fishermen in California who knew anything about large boats were those Scandinavian and Austrian purse-seine men who had worked with 50- to 65-foot salmon craft in the north. Many of these had settled in San Pedro, where they engaged in sardine and blue-fin seining. Naturally enough, when these men commenced constructing larger craft, they did so by amplifying the dimensions of the boats already known to them. Thus it happened that the first "big tuna-boats" were in general of purse-seine mould. Japanese imitated the lead of the ex-salmon men, and in San Diego where are centered the Portuguese boatmen, the same general vessel-type was adopted.

The "Atlantic" Type

Numerous keels have been built upon in the general purse-seine style. There was definite plan in this, for not only were the crews accustomed to the design, but most of the earliest vessels were denominated "combination"—a term which signified to the initiated that, whereas in summer they might be in service as live-

When tuna fishing had been extended into tropical waters it became apparent that large vessels alone were practical. Wm. Maggio, manager of the C. J. Hendry Co., then purchased the steamer "Hermosa" and converted it to a dieselled tunaman. In the process the after house was removed, but the raised deck forward was left intact and converted into quarters. The novel conveniences which this arrangement afforded the crew, together with the better working qualities which the ship derived from it, established a new scheme in design. The "Hermosa" was the first billet-headed tunaman; all subsequent craft of like design were patterned in its likeness.

bait operators having large tanks of living bait on their sterns, in autumn these receptacles would be stowed ashore and, in their stead, turn-tables would be installed with which to participate in the mid-winter pilchard fishery. They were, then, just as truly purse-seiners as they were live-bait tuna craft.

Many of them were built, and as recently as the launching of the "White Star"—enormous as she was—the owners sought to make of her a dual-service vessel. They fitted her with the hugest turn-table and seine-skiff ever constructed. But she was too long to be agile and the seine was put ashore.

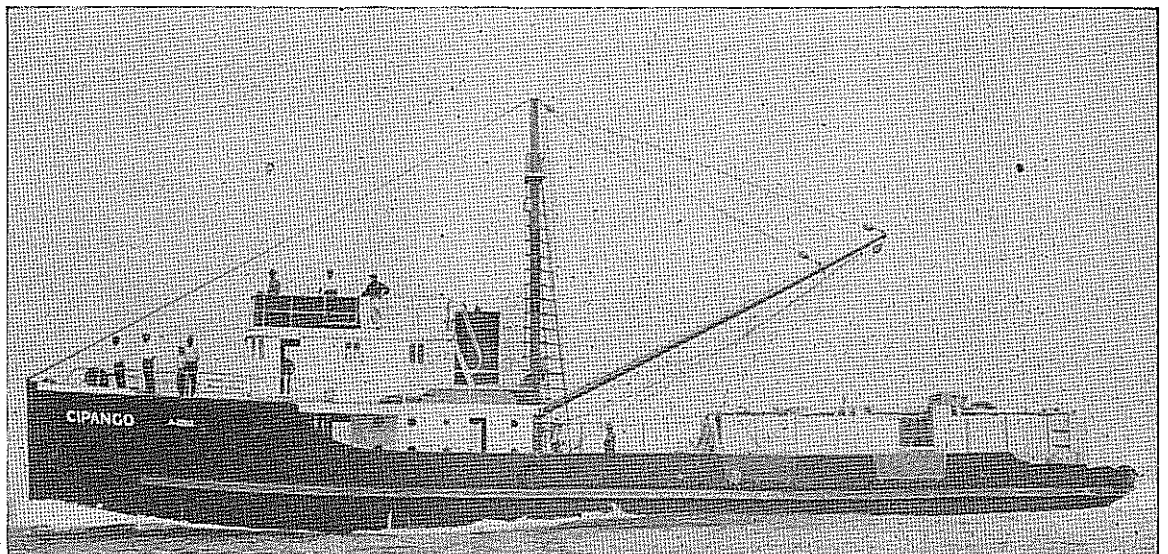
Several famous "house-on-deckers" or purse-boat type of tunamen were built. Most of their conspicuity arose from their large size. Best known of them all is the "Atlantic," a Campbell-built craft, 112 feet long. Another is the "Southern Cross," and the Harbor Boat Works at Fish Harbor made history again when it constructed the "Adventurer," an 113-footer.

"Billet-Headers"

The final stage in tuna-ship construction was ushered into being by an odd circumstance. So great had been the demand for new ships that every boatyard on the West Coast was surfeited with orders and an overflow of insistent orders had to be accommodated in yards in the north. It happened that at this juncture

(Continued on Page 33)

Early tuna boats were patterned after the northern purse-seiner type, from which they sprang. Quarters were in a house-on-deck; the engine-room was in the waist. The "Cipango" departed from custom in that it had its machinery forward, beneath the billet-headed bow. This vessel inaugurated the 1930-type tuna cruiser, a specialized, distinctive type, and the first clearly individual live-bait tuna model to be developed. Its obvious advantages are a maximum hold space in a single unbroken section together with large deck areas on which to place bait-tanks and carry on the fishing.



Seattle Is One of Nation's

By S. B.

NORTH PACIFIC waters are estimated to be the home of 600 different varieties of fish only 150 of which enter into consumption at the present time, only 30 of these being in common use. Of the 30, salmon ranks first; the canned pack of which from Puget Sound alone averages half a million cases a year. The salmon industry along the shores of Alaska, British Columbia, Washington, Oregon and California produces millions of dollars worth of fine food products annually.

In the State of Washington fisheries stand third in the list of basic resources, with Seattle the most important distributing center on the coast. Seattle, as a fresh fish port, is exceeded in the United States only by Boston and Gloucester, Massachusetts. The growth in the quantity of fish handled at this port has been extraordinary inasmuch as it has increased fourfold during the past quarter century. From landings that in 1895 amounted to less than 12,000,000 pounds, the industry has increased until, today, the annual arrivals exceed 45,000,000 pounds, while the increase in rail shipments is approximately seven times that of twenty-five years ago.

Market Various Species

Next to salmon in its various forms of fresh, canned, frozen, mild-cured (kippered, pickled and smoked, there follow, in the order of their importance, halibut, herring, cod, sable fish (commonly known as black cod), and smelt, while next come the shellfish—clams, crabs, shrimp and oysters. There are several varieties of the last named, the principal beds of which are in Puget Sound. One species, the native Olympic, bears the distinction of being the highest-priced oyster on the American continent. Yet other productions are those of whale and sperm oil, bone meal, guano, and the various fish meals, fertilizers and fish oils.

Seattle, at the head of Puget Sound, occupies a strategic position on the shortest deep sea route between the United States and the Far East. It also is the gateway to Alaska, and stands unique among the primary fresh and frozen fish markets of the country. All the fish products from Puget Sound and Alaska pass through Seattle's port. Some idea of the magnitude of this traffic may be gained from the fact that the annual value of this fresh, canned and preserved fish is some \$60,000,000.

Elliott Bay, the salt water harbor, extends eastward from West Point on the north and Alki Point on the south, the two points being approximately five miles apart. The East, West, and Duwamish waterways extend inland on the south side of the bay. Smith's Cove is on the north side, and Shilshole Bay constitutes the western outlet of the Lake Washington ship canal.

The fresh water harbor includes that portion of Salmon Bay and the Lake Washington Canal east of the Locks (second in size to Gatun, at Panama), Lake Union, through which the canal passes, and Lake Washington, which is about 20 miles long and forms the eastern boundary of the city.

The total area of the salt water harbor exceeds 5,000

acres, or approximately eight and one-quarter square miles, with a total tidal frontage of 53.38 miles. The fresh-water harbor covers more than 32,000 acres, or 51 square miles, with a frontage of 139.5 miles. Thus the total water frontage measures more than 190 miles.

Owing to the great depth of Elliott Bay, anchorage is confined to a narrow strip lying along the central waterfront to another shoal spot, at Smith's Cove and along the south and west sides of the bay. Lakes Union and Washington each afford good fresh-water anchorage. Mooring buoys, under the jurisdiction of the Port Warden, are maintained in Elliott Bay by the City of Seattle.

Bell Street Terminal, on the central water front (which ten years ago was considered remote as a terminal site), is headquarters for barreled fish. Choice red salmon, mild cured and packed in tierces weighing half a ton, and thousands of barrels of herring, pass over this pier annually. A cold storage warehouse is conveniently near, its facilities being needed for the economical distribution of these commodities. It is fireproof, of concrete construction, and has a capacity of approximately 7,500 tons, the refrigeration being of the brine-cooling type, furnished by three 35-ton ammonia compressors.

It is estimated that more than one and a half million cases of Alaska salmon are received and stored annually at the Stacy Street Terminal, which occupies an entire block between Stacy and Lander streets. It has two wharves, separated by a slip 212 feet wide.

At Smith's Cove, where are Piers 40 and 41 (the longest and largest structures of their kind in the world, and costing some \$4,000,000), four sheds, each 90x421 feet, are being constructed. These will add a total storage capacity for 1,750,000 cases of salmon. They will be ready for this season's pack.

C. J. Sebastian,
Secretary, Treasurer,
General Manager and
principal owner of
the Sebastian-Stuart
Fish Co. A large
northwestern
producer of fresh
and canned salmon
and one of the leading
figures in aggressive
movements of the
West Coast fishing
industry. Much
credit is given Mr.
Sebastian in the new
Association, to
advertise salmon
nationally.



Outstanding Fresh Fish Ports

WRENN

It is the Spokane Street Terminal, on the East Waterway (on the south side of the harbor), that accommodates the major portion of the fish industry. There is found a combination of all required facilities—wharf, storage warehouse, cold storage, ice plant and fresh fish freezing.

The salmon warehouse is two stories high, 147 feet wide, and runs back from the street 514 feet. It encloses a plane area of 124,878 square feet, or a cubical content of 2,340,060 feet. It has capacity for approximately 23,000 tons (655,000 cases) of salmon.

The cold storage warehouse is a seven-story concrete structure, measuring 147x197 feet; it measures 1,828,646 cubic feet, and has a storage capacity of 15,000 dead-weight tons. The rooms are insulated for temperatures ranging from 12 degrees below zero up, the refrigeration being by direct ammonia expansion, furnished by three 100-ton compressors.

Next to the cold storage building, and adjoining it on the west, is an ice house, with a capacity of 5,000 tons. Gravity chute and automatic elevators provide the necessary crushed ice to fishing boats and for the packing. The ice-making capacity is 70 tons per day. Adjacent is the fresh fish plant, with a storage capacity for 4,000,000 pounds of fresh fish and a freezing capacity of 125,000 pounds per day. Here are three sharp freezers, each capable of frosting 45,000 pounds daily. The freezer is an Otteson installation.

Still other buildings at Spokane Street Terminal, connected with the fish industry, are: A fresh fish packing plant, 104x106; an ice delivery house, 32x36; a single-story compressor house, and an ice plant, 106x118 feet in size. On the wharf, as well as in the salmon warehouses, there are customs-bonded spaces, with bonded fish reconditioning rooms, and a storage room for fresh fish under bond. Including transit sheds, warehouses, etc., Spokane Street Terminal has a total capacity for 62,000 tons.

Since the fish industry is largely seasonal, storage warehouses are essential, and occupy a large share of the facilities required by these commodities. It might be mentioned that in the year 1928 some 2,436,700 cases of canned salmon were shipped from Seattle to other parts of the United States and to various foreign countries. During that same year more than 2,000 tons of fresh fish were sent abroad.

Salmon Bay, the fresh-water terminal and rendezvous for fishing fleets, is located on Lake Washington Canal at Ballard, just above the Canal Locks, where there are ample mooring facilities, including dolphin floats and piers. Two marine ways of 100 and 300 tons capacity each, and a marine repair plant for small vessels, are located at the property, together with a warehouse for fishing gear and nets.

CALIFORNIA CANNERS

(Continued from Page 14)

Bismarck Houssels, vice-president of the Van Camp Sea Food Co., Inc., was elected to the presidency, so comes into that office at the time of the commencement of the Association's activities. No better man could have been entrusted with the post, for Houssels not only is experienced and an authority in the fish-conserving business, but his dispassionate approach to all vexing problems, his ability to discern the "key-log of the jam," and his suaveness impart to him great influence with other canners.

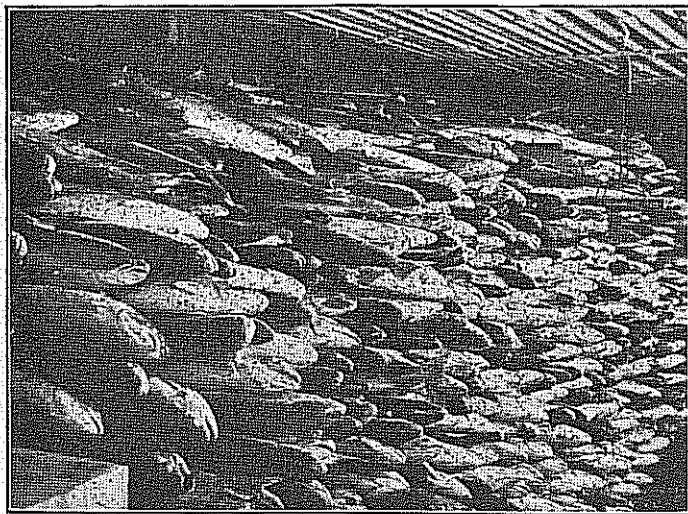
Tri-Phase Organization

The scheme of confederation, as outlined by Frank Van Camp at the time of the June 26 organization meeting, is to have the Association represent all of the fishcanners in the State. Within the Association three departments will be maintained, one each for the sardine, mackerel, and tuna specialists. By grouping men having identical interests into homogenous units greater solidarity will be achieved, better team-work made possible, and government within the parent Association simplified. Each of the three subdivisions will contribute to the support of the enterprise set in motion in its own behalf, and none will be called upon to finance work in whose benefits it will not be a beneficiary. The plan has all of the clear-cut definiteness of a military parcelling-out of authority. It is a practical departmental scheme.

Call New Meeting

July 24 has been set as the date of the next general meeting of the Association, the place to be Del Monte, on Monterey Bay. In the interim Secretary-Manager Morrissey will perfect his organization, become oriented, and make a survey of what needs are felt most.

It is understood that now every canner save one or two has declared his adhesion to the new Association, and all persons are entirely sanguine that within a few days the new organization will have within its membership practically 100% of the fish canners of California.



Internal view of one of Seattle's largest Salmon Storage Plants, showing a portion of hundreds of tons frozen each year to supply markets of the world.

Naval Architects Visualize Ideal Trans-Ocean Tuna Ship

Hundreds of Thousands of Dollars of Tuna Have Been Lost in the Last Year thru Spoilage of Fares in Transit. Now Come Suggestions for Design of Boats that Will Eliminate Such Waste and Enable Vessels to Stay at Sea Indefinitely

TUNA FISHING in future must be conducted on a plan basically different from the one used at present. Cannery owners, vessel owners, and fishing skippers recognize that certain fundamental faults, inherent to contemporary ice-boat methods, obstruct further progress and inhibit the development of the ultimate pan-Pacific tuna hunt.

THE WEST COAST FISHERIES has analyzed the situation. It experienced little difficulty in dispelling the irrelevancies that obscured the crux of the question. It found that the future of the fishery is dependent upon amplifying the refrigerative principles now employed in it. In fine, tuna cruising already has expanded to exceed the capabilities of the small-capacity chilling machinery thus far installed. Before ocean-wide scope can be attained, more and better refrigeration must be provided.

Engineers Co-operate

To concretize an abstract concept, specialists in the fields of vessel construction and vessel refrigeration were engaged as collaborators, and definite plans were drawn for a future-type tuna ship. Lambie & Mabry, naval architects of Wilmington, California, worked out the dimensions of the hull, computed capacities and stabilities, and prepared detail-drawings to scale. Paul W. Hiller, M.E., familiar to our readers as the author of articles on vessel refrigeration that have appeared in WCF for some time, and who is himself the inventor of ammonia circulatory systems, drew up specifications for insulating cargo holds and sharp freezers, and arrived at the amount of piping, compressor capacity and auxiliary diesel power necessary to insure the degree of refrigeration that is requisite.

New Idea in Boat

The vessel—which we shall hereafter call the “Skipjack”—is a departure from conventional design in that instead of having its machinery placed forward it will be a “stem-winder” of steam-schooner or oil-tank type. All quarters will be on deck, in the bow.

In planning the “Skipjack” care was taken to distribute stresses evenly. The tendency to “hog” which is accentuated when a heavy bait-tank is shipped on the stern at the same time that the engines are placed in the bow, is here obviated by distributing the load evenly along the entire length of the ship. Six bait-tanks, carrying a total of 250 tons of water, are the means of effecting this uniformity. Wm. Lambie states that there will be good stability despite the quantity of water carried, he having provided for this in designing the hull and in planning the bait-tanks so that there will be no free surface to disturb equilibrium.

The “Skipjack” will have no bait-wells; all live-bait will be carried in the tanks on deck.

Is a “Turret-Decker”

In some respects the craft will resemble the old “tur-

ret-deck” steamers that were built to defeat Suez Canal tolls. Decks will be at a low level, for convenience in fishing, and 4 feet wide. Passages between the bait-tanks will allow for quick moving from one side of the ship to the other. During storms these passages will be sealed by closing water-tight iron doors, so that although seas pile aboard four or five feet deep, the vessel will be in no danger of foundering. Indeed, when fully loaded the “Skipjack” normally will come home with her decks almost awash, there being ample reserve buoyancy in the 7-foot high central section of the craft to provide a wide margin of safety.

Hypothetical Trip

So as more comprehensively describe the “Skipjack” let it be supposed that the vessel is starting on a tropical tuna cruise. It will first take aboard more than 30,000 gallons of fuel, which will be stowed in the stern, in the large tank, shown in the bottom sketch. Six hundred gallons of lubricating oil will be taken into the engine room. Tanks in the bow will be filled with 3,000 gallons of fresh water. Live-bait will be accommodated in all six of the containers on deck, and the vessel will then proceed southward to the fishing areas. Twin diesels, each of 375 h.p., will impart an average cruising speed of 10 knots, at which rate the range will be 12,500 miles; by reducing the velocity to 9 knots the distance can be increased to 15,000 miles. Thru the use of two diesels the likelihood of the ship ever becoming disabled at sea because of engine trouble becomes so remote as to be negligible.

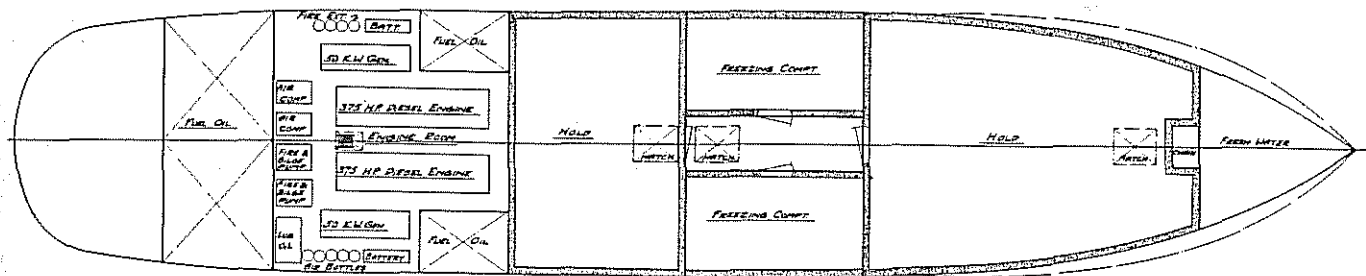
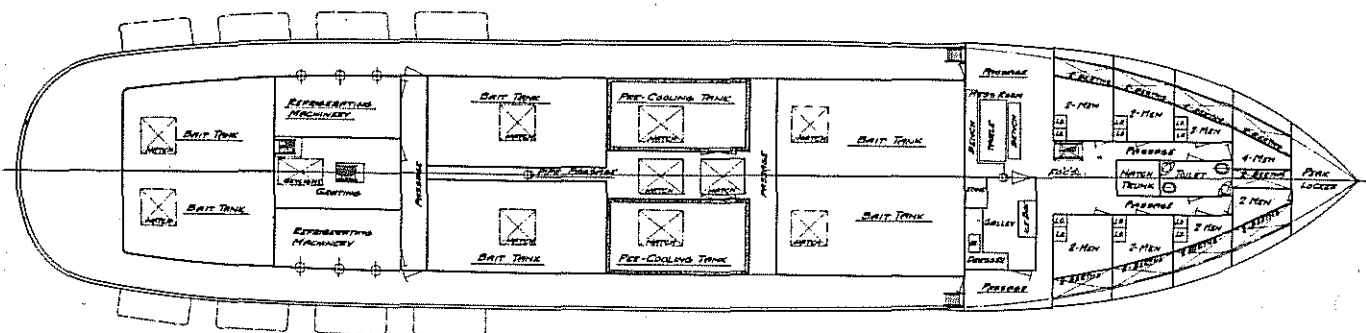
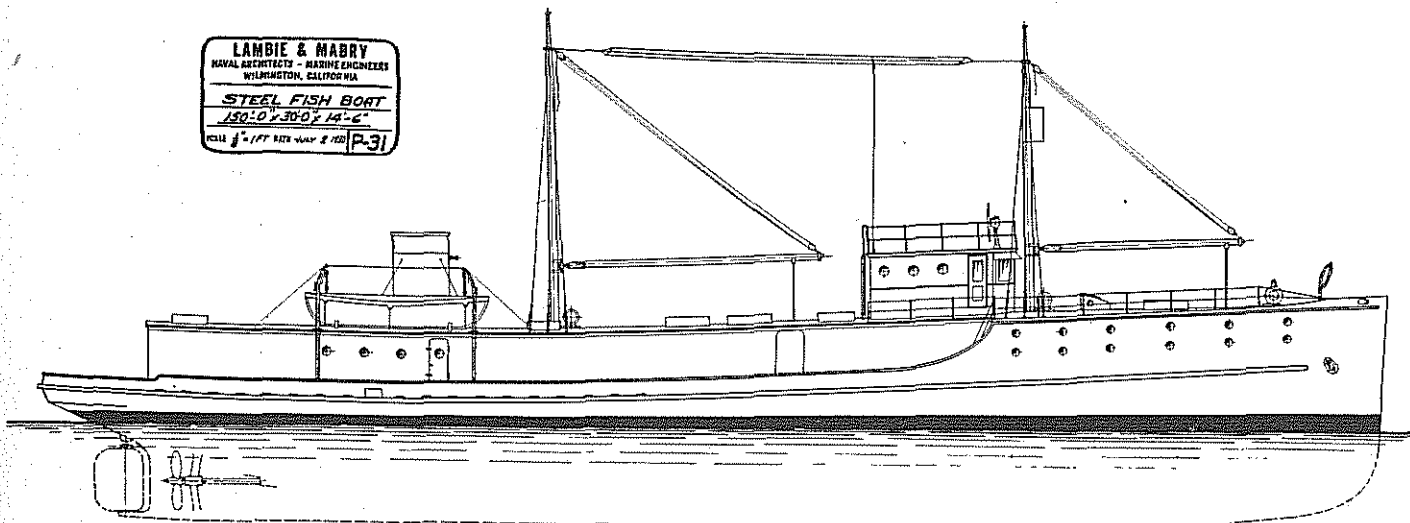
Live Bait

Awnings spread across the cargo booms and supported by removable stanchions along the rails shade the bait-tanks and the deck thereby reducing the difficulty of preserving the live fish being carried. Fresh supplies of sea water are forced into the tanks by electrically-driven pumps in the engine room, and aeration is effected by finely perforated pipes run along the bottom of each tank, compressed air being introduced thru them. Since the tanks will be entirely closed at the top, except for an air-vent and a clamp-door that can be opened at will, light will be admitted by overhead dead-lights as well as provided by several water-tight glass containers in which electric lamps of low candle power will burn constantly. The illumination in this way provided will be adequate to enable the fish to see their way about, and so save them from injuring themselves by colliding with the walls in the darkness.

Yellowfin Sighted

On sight of fish the two pre-cooling tanks are partially filled with sea water. Down in the engine room the two auxiliary diesels are started and the temperature of the pre-coolers is pulled down to 33 degrees. Fish will by this time be coming aboard, and the tuna

LAMBIE & MABRY
 NAVAL ARCHITECTS - MARINE ENGINEERS
 WASHINGTON, CALIFORNIA
STEEL FISH BOAT
 150'-0" x 30'-0" x 14'-6"
 HULL # 177 NOV. 2, 1929 [P-3]



The "Skipjack" was named advisedly. Every tunaman will tell you that he has sailed away from enormous schools of striped tuna (skipjack) around Corcos Island and the Galapagos because his vessel was so small that he could not afford to load up with this low-priced fish. This new ship has such large capacity that skipjack can be caught at high profit. By freezing the tuna solidly it can be heaped together by tons in the holds without danger of crushing or damaging a single fish. The "Skipjack" will make a fortune from skipjack, for it will be alone in that yet untouched tropical fishery.

Note that all mechanical equipment that is vital to the successful operation of the vessel has been installed in duplicate, there being twin main diesels, twin generator sets, twin refrigeration compressors, twin bilge pumps, air compressors, and bait pumps. The ship will have forced ventilation, adjustable out-board standing platforms, a large mess-and-club room for the crew's convenience and a pilot house divided into rooms for the captain and for the wireless operator. A powered life-boat will be carried in addition to a regular work boat or seine skiff.

will be passed up from the deck and slid into the ice-cold brine as rapidly as they are caught. The pre-coolers will be filled one at a time—each will hold 10 tons. As soon as the second pre-cooler is full, the first one is emptied. This is done by draining out the water thru a tap in its bottom, whereafter a door on the inside wall of the pre-cooler is opened and the fish are chuted thru the small hatch indicated, to the sharp-freezers in the hold. One freezer at a time is filled, the fish being laid on shelves of ammonia coils in a room-temperature that can be reduced to zero. When frozen rock-hard, the tuna are transferred for storage to the holds, which are kept at 4 or 5 degrees below freezing.

General Data

For insulation, Hiller specifies 4 inches of cork around the holds and pre-coolers, 6 inches under the deck and 6 to 8 inches entirely around, over and under the sharp-freezers. Hull insulation will be entirely inside of the frames or ribs.

The "Skipjack" is to be of 3/8 inch steel plates, the

interior of the hull lined with rust-proof "Bitumastic" enamel, which is permanent and absolute in its effect. Every six months the vessel must be drydocked for bottom-cleaning and painting—just as other steel ships are cared for.

Curtis Mabry wants it mentioned that electric drive can be provided at a cost only about 5% more than for direct-shafting. He also states that an Oertz streamline rudder will be specified, this new device being the practical equivalent of much added fuel capacity.

The "Skipjack" can stay on the grounds for weeks at a time, or until a load is obtained. Its fish cannot spoil, for they are frozen solidly. In the event that an over-catch is made, and more fish are caught than can be gotten into the holds, the sharp-freezers are filled and then the pre-coolers are loaded. If the fish are chilled as soon as they are caught there can be no question that 20 additional tons can be brought home in the pre-coolers, which can be kept chilled. THE WEST COAST FISHERIES invites comment on this proposed vessel from all cannery executives and fishermen.

Reviewing Business for THE MONTH OF JUNE

A DETAILED ANALYSIS OF PRODUCTION FOR BOTH CANNED AND FRESH FISH

JUNE is the month in which West Coast cannerymen check up on machinery and other equipment, preparatory to the local tuna run.

All machinery thoroughly overhauled and repaired where necessary. New installations were made at many of the canneries and July 1 found them all ready for the tuna pack that is now at its height.

This year the run developed in the south, during the last week of June, and was really of large proportions by early July.

All packers of the Terminal Island and San Diego districts found it necessary to work full crews on July 4th. Heavy arrivals of both yellowfin and bluefin from the south made this imperative. Officials and employees found it obligatory to cancel previously laid plans for outings on Independence Day.

Turtle Bay Activities

K. Ogawa, International Marine Products Co. official, returned from the Turtle Bay Canning Co.'s property July 1. He advised that B. T. Cuno has been appointed Superintendent of the southern plant, M. Kondo, the principal owner, having departed for Japan where he is now making headquarters. The International Marine Products Co. will be the managing operators of this cannery in the future.

The refrigerated mother-ship, "Oceania Vance," will be dispatched to Turtle Bay, July 12. She will be moored there permanently as a receiving ship for striped tuna in particular, which will be caught and delivered to her by a fleet of smaller boats. This tuna will be conveyed to Long Beach by tender boats and delivered to the Halfhill Packing Corp.

M. Fukuno now has a fleet of eight fishing boats based at the Turtle Bay anchorage and a force of 200 Japanese fishermen afloat and ashore. Fukuno also is superintending the eight abalone diving camps that are established on the coast adjacent to Turtle Bay, and fishing for this cannery.

K. Ogawa reports a strong demand for one-pound tall canned abalone in the Chinese markets. In addition to several styles of abalone pack, his company produces the "salmon-style" yellowtail that is put up in No. 1 talls, exclusively for Mexican trade. Moreover, the concern's fish cakes are also in great demand in both Honolulu and United States markets.

Intense rivalry prevails among fishermen during the tuna season. Each skipper endeavors to bring in the largest catch for the cannery for which he fishes. At the present time the four high boats, in the San Pedro district, are the "Flamingo," "Oakland," "Sunkist" and "California II," fishing for the Van Camp Seafood Co., Inc., Halfhill Packing Corp., California Packing Corp. and Southern California Fish Corp., respectively.

Captain Nick Baskovich of the "Flamingo" established a record during the last week of June when he arrived at the Van Camp Cannery with eighty tons of yellowfin from Guadalupe Island; while making for port

he ran through a large school of bluefin. Seeing these fish, he wirelessed to the cannery to be prepared to take immediate delivery of his catch upon arrival, and to have supplies at the dock for his vessel. On arrival he discharged his catch in three hours and put back to sea, coming into port again in slightly less than twenty-four hours with another load of 97 tons.

The catches, up to this time, have been approximately evenly divided between bluefin, caught in local waters, and yellowfin, coming up from Cape San Lucas, Magdalena Bay and Cabo San Lazaro.

The Franco-Italian Packing Corp. reports their boats, the "Liberty," "Silver Wave" and "Chicago," as having averaged seventy tons per trip during the last week of June, this fish being caught in local waters and consisting of bluefin tuna, averaging 22 pounds in weight. President Joe Mardesich of this firm claims that these fish are some of the finest specimens of bluefin that he has ever received at this plant.

The French Sardine Co. packed 400 cases of mackerel during the latter part of June. This pack being on special order. It will not be the policy of the French Sardine Co. to go into mackerel packing until later in the season.

The Coast Fishing Co. also augmented the local mackerel pack with 30 tons of mackerel on July 1.

The General Fisheries Corp. of San Pedro have their cannery in readiness to start an extensive mackerel pack as soon as suitable fish are available.

At the present time the general complaint in the south is that the mackerel are too small to be desirable for canning. Packers have been unable to get more than 16 or 18 cases per ton, whereas profits are not realized unless 20 to 21 cases can be canned per ton of raw material.

Monterey District

Cannerymen in the Monterey district have been active during the last 30 days in enlarging the capacity of their manufacturing plants, preparatory to the opening of sardine fishing there on August 1.

Much interest was aroused among them during June and early July by demonstrations being made of L. G. Bonzagni's fish-factory deodorizer. Tests made July 7 seemed to prove the entire efficacy of the deodorizer in neutralizing all of the noxious smells characteristically originating in the reduction plants of fish factories. The deodorizer installations cost about \$2,000; operating expense amounts to approximately \$1.08 a day. City officials of Monterey were keenly interested in the success of the demonstration, which, it was said, might become the subject of municipal legislation. The San Carlos Canning Company's plant was the scene of the tests.

So as to effect the trials under the most adverse conditions possible, fish were held in the offal bins for three entire days. They were in a state of advanced decomposition before they were run thru the reduction plant and the deodorizing abilities of the Bonzagni neu-

tralizer put to test. Witnesses of the event declare that the conversion of the decayed material was effected without the liberation of foul odors of any sort.

Wholesale dealers on the West Coast, during the month of June found themselves in a very favorable position with respects to the supply of desirable fresh fish.

During the early weeks of the month salmon catches in the north were curtailed somewhat, due to extended bad weather, which forced the fishermen to remain in their respective home ports. However, this condition improved during the latter part of June and now the markets all well stocked with all sizes and classes of fresh salmon.

In the southern districts, barracuda has been king for the past 30 days, it being the general rule that all fishing crafts, putting into the various wholesale docks, had practically capacity loads.

Local Swordfish, that is, fish caught south of Point Conception as far as the Coronados, have been large during the past 20 days. This species has enjoyed a remarkable increase in demand during the past two seasons and fishermen are being well paid for their catches.

It has been noted that the better restaurants and clubs are featuring swordfish steaks on the menus and this, no doubt, will stimulate sales of fresh fish in such establishments.

Halibut, originating in the vicinity of Seattle, has also found a ready market on the whole coast; catches are on a parity with demand. In connection with south-bound halibut shipments, it has been noted that most of it is being moved by express rather than by refrigerated trucks.

The southern ports, San Diego and San Pedro, have had an abundant supply of yellowtail, local seabass, rock cod, swordfish and barracuda, to supply retail markets.

A Sub-tropical Fish —BARRACUDA

ELONGATED CREATURE IS
HIGHLY ESTEEMED BY ALL

WCF now presents the seventh of a series of sketches treating of the principal market fishes of California. These accounts are prepared with a view to facilitating the movement of fish. Through them dealers who are not familiar with West Coast species will be acquainted with interesting facts relative to the fish that are in season at the time the sketches are published.

“OH! IT LOOKS like a snake—I won’t eat it!” shrilled the gray-haired lady from Minneapolis, who, on having had barracuda recommended to her, asked a San Diego retailer to sell her two pounds of it. “That looks awfully wiggley,” she averred, “how could anyone eat anything so lank and long as that?”

“Excuse me, Madam,” intervened a bystander who had noted the Minnesota license plate on her Cadillac sedan, “excuse me, but this fish is certainly well known to you. It is the salt water wall-eyed pike, exactly the same fish as you get from Mil-Lac and Lake-of-the-Woods, except that it is darker in color because living in the sunny California ocean. You see, the Spanish name for wall-eyed pike is ‘barracuda,’” he concluded.

The explanation was accepted, the customer took her fish; two days later she was seen again at the markets, this time walking into a different retail place where she astounded all hands by demanding a quantity of “Mexican pickerel.”

When the bystander came to the rescue a second time he was assured with profuse thanks that: “Really, it was delicious—tasted just like the fish back home, only better, if anything. While I am out here I’m going to enjoy this ‘berrykoodoo’ fish!”

Had the dear lady hailed from the crappie and catfish country of Louisiana the trick would not have worked, for not even the slender bowfin of the south is as elongate as the rod-like barracuda. Someone aptly dubbed the fish an “animated broomstick”; other names have been applied to it in an effort to express its long, slim appearance, but none can do this half so well as its own distinctive title.

To the people of the Southwest barracuda is as commonplace as mackerel to Boston, haddock to New York, salmon to Seattle, or pompano to New Orleans. It is so familiar to them that they note nothing weird or grotesque in its rare proportions, but view it with

the same equanimity as a Nantucketer looks upon the 80-ton bulk of a bull sperm whale. During its season of local production it is the dominant element in the market.

Each spring the first barracuda are captured in the vicinity of San Diego—usually off the Coronado Islands of Mexico or around the tall bluffs of Point Loma. This is jig-fishing (trolling) or live bait fishing. A week or two later the schools are found farther north, along Oceanside, and presently are encountered near San Pedro, Santa Catalina Island and as far north as Point Conception. In all of these last named areas the chief mode of capture is gill nets, but live bait operations result in considerable catches also. Purse seining is forbidden during the height of the run, not only because of the destructive character of this apparatus, but because the tremendous catches that result from its employment frequently result in oversupply, glut, and consequent loss.

Late May is the time when the first barracuda usually are caught off San Diego. Middle June finds them abundant in the San Pedro area. July and August is the peak of the season, whereafter it tapers off quickly. Winter supplies of the fish are captured by a fleet of San Pedro purse seiners that voyage southward in November to commence seining along the Baja California, Mexico, shore. Hassler’s Cove, in San Martin Island, is the general rendezvous for the barracuda pursers; a short run from that favored anchorage brings them to the San Quentin beaches where the fish abound most plentifully.

In late summer, when heavy local production induces a decline in barracuda prices, it is the practice of such large dealers as the Gilbert Van Camp and American Fisheries firms to freeze considerable tonnages against the post-season demand, which sustains itself throughout the entire year. Barracuda is the preferred dish of thousands of Southwest fish eaters.

CONTINUING travels in Tins to Foreign Lands "WCF" presents herewith another of those informative articles on export markets, through the cooperation of the United States Department of Commerce.

GREECE BUYS MORE SARDINES

BY FREDERICK B. LYONS

COMMERCIAL ATTACHE, ATHENS, GREECE

IMPORTS of canned sardines into Greece during 1927, 1928 and 1929, by countries of origin were:

Country of Origin	Kilograms		
	1927	1928	1929
1 Portugal	1,223,335	465,433 (1)	99,710 (3)
2 Norway	371,122	311,627 (2)	441,841 (1)
3 Spain	276,324	113,315	17,580
4 Algiers	274,860	79,640	9,320
5 Italy	245,873	31,285	40,747
6 Holland	174,869	47,914	40,777
7 United States	138,656	161,531 (3)	311,749 (2)
8 France	38,510	14,998	16,394
9 Great Britain	9,154	6,165	15,471
10 Turkey	8,939	2,241	728
All Others	102,877	59,358	19,709
Total kilograms	2,864,519	1,293,507	1,014,026
Total value	\$555,557.65	\$278,460.72	\$259,316.76

It is interesting to note that in 1929 the United States ranked second in exporting canned sardines to Greece, while its position during 1927, was seventh. During the past two year period the United States increased this business with Greece by approximately 125 per cent, and is now supplying nearly one-third of the local demand.

Portugal is fast losing its market here because of the non-existence of a commercial agreement with Greece, which would place it within the group of "most favored nations." Exports from Portugal to Greece are subject to the maximum tariff and import charges, which are prohibitive. The other countries listed above are within the favored group, having commercial agreements with Greece, making their products imported into Greece subject only to the minimum tariff and import charges.

It will also be noted that the total sardine imports into Greece have greatly decreased during the past two years. This is partly due to the general depression existing here, and the relatively high price for such imported foodstuff as compared with prices for the native products. It is evident that the Greek fish industry has greatly increased during this period, but as no official statistics are available for this business in Greece, it is practically impossible to make an authentic estimate of the increase or extent of the industry at this time, without necessitating an extensive survey of the local fisheries.

Relative of Sardine

In 1923, the daily catch of all kinds of fish in Greece was estimated at 6,500 kilograms. Since this time it is believed that the output has at least doubled. There are approximately twenty large fish breeding ponds in this country, about one-fourth of the business being operated under the government's supervision, the balance being operated by private enterprises under leases from the government.

The most popular fish on the Greek market is a small fish called "Marida," sold fresh at approximately

5 per cent of the cost of imported canned sardines. Marida is considered of the sardine family.

The question of the import duty on canned and prepared fish was first raised when the Greek government on August 29, 1927, abolished the decree issued by General Pangalos, in December, 1925, whereby the conversion rate of the metallic drachma on these goods was temporarily fixed at zero, and ruled that on and after August 29, 1927, the duty on imported canned and prepared fish would be at the general rate of fourteen paper drachmas to one metallic drachma.

This sudden change not only subjected the goods to a very heavy duty, amounting in some cases to about 80 per cent of their value, but also caused the refusal by the consignees of large quantities of fish ordered or en route from the United States prior to said date. Of the many shipments that arrived during this period, only small lots could be sold under the new duty, the larger shipments being left in the bonded warehouses pending a reduction in the rate of duty.

Late in 1927, the government established a commission to revise the import tariff, and this commission decided to lower the duty on canned and prepared fish. A bill was submitted to the parliament and was published as Law No. 3605 in the Official Greek Gazette under date of July 6, 1928. The tariff reductions affected by the passage of this law greatly assisted American exporters of canned fish to Greece, especially sardines, which were the most affected by the former high duty.

(To Be Continued)

"NAVIGATOR" INSTALLS WIRELESS

JOHN T. REYNOLDS, known to thousands of wireless operators aboard ship as "Jack," has gone aboard the new tuna cruiser of Capt. Freitas and associates to handle the short-wave set installed aboard the "Navigator" by I. R. Colbert of Long Beach.

Reynolds is a young chap, but an "old hand" in the telegraphy field, just the same. He is a graduate of the Pacific Radio College of San Francisco, and has worked up from the bottom, from the worst to the best job that the wide scope of wireless telegraphy affords. He has handled the key on the steam-schooner "Multnomah," the coaster "Humbolt," the Australia liners "Ventura" and Sonoma," the "Harvard," the "Yale," the Asiatic freighter "Golden Hind" and oil tankers.

Colbert and Reynolds each had heard of the other long before they met. By luck Reynolds had just finished a term in university at the time that Colbert needed an expert to take his new set to sea and break it in. "Jack" is delighted with the "Navigator"—says he didn't know before that tuna ships were cleaner than passenger liners—and was looking forward to an engrossing experience at the time that the vessel cleared for its first wireless-equipped trip, July first.

FITTS
FOR GOVERNOR

Elect him
at the primaries
Aug. 20th

Famous Skipper Enters Port Aboard DIESEL-DRIVEN ICEBERG FULL OF FROZEN TUNA

By GEO. ROGER CHUTE

"HELLO, BELOW! Do you want a hose down there?" sang out the winch-man on deck. "I want about 15 of 'em! This-here is an ice-berg. I can't break out the fish at all. Gimme the water!" answered a tired voice from the belly of the ship.

And it was done. The long fresh-water hose was brought down from off the wharf and passed into the after-hold of Captain Guy Silva's "Emma R. S." By directing the stream of comparatively warm water against the ice-mass, it was melted away rapidly, loosening the tuna that had been locked in its frigid grip. The procedure seemed a sort of placer project in which the fish were under-cut and sluiced out of the glacial binder just as Klondike nuggets used to be won. But in this instance the arctic "yellow metal" found substitution in tropical yellow-fin.

Never Happened Before

"What's the matter down there?" this inquisitor wanted to know.

"Oh, we can't get the fish out—everything frozen up solid—losing time getting unloaded—too much refrigeration," explained the winch-man.

TOO MUCH REFRIGERATION! Whoever heard of such a thing? It can't be done!"

"Sure thing. Guy put in another Lipman, and now we're frozen three feet deep and can't unload—but the fish are perfect," he concluded.

At this juncture the Skipper came down from Gus Johnson's offices—for all of this occurred at the San Diego tuna-wharf of the Van Camp Company, on June 9th, last—and we boarded his vessel together.

We're Doing It Wrong

"This ice machine that we put in here at the start was all right, but it wasn't big enough," declared Silva, as we stood beside the hatch-combing, peering into the main hold. "Then, too, our piping was wrong, so that we had imperfect distribution of what capacity we did have. You see, it has been supposed that all of the heat in a hold rises to the deck beams, and that if you have your coils there you will get good refrigeration and good circulation. That is all wrong. It is costing the tuna fleet thousands of dollars every month to continue that system."

Silva then went back to the simon-pure ice days, when no captain in the fleet had sufficient courage to depart from the rut of outworn custom.

"The very first vessel to have refrigeration machinery put aboard was the 'Patricia II.' They tried to work a brine-circulatory system in her, but without great success. In those days the fishermen were afraid of am-

monia outfits, believing that when installed in a rolling ship the coils would be apt to burst, driving the men overboard."

"Lois S." Shows How

This writer remembers very clearly that in early January of 1927 he discussed the southward extension of tuna fishing with Captain Silva at the very time that the "Lois S."—the predecessor of the present "Emma R. S."—was hauled out in the yards of the San Diego Marine Construction Company for the installing of the first ammonia ice machine that ever had been put into a tuna ship. Practical mechanical refrigeration dates from this time, for soon the other boats followed Silva's lead.

"We began by simply running our coils along the over-head," continued the Captain, "but when the trips got longer and the fish did not keep so well, some of us ran the pipes down the sides a short distance. That

helped, but it was not enough.
Carrying Ice On a Hot-Plate

"You see, the whole bottom of the vessel was un-refrigerated. Heat came through from the warm sea water and melted our ice on the bottom before the coils along the top of the load could have effect. We lost fish several times—especially in the after-hold and along the shaft-alley. Those two places always gave us trouble."

Feeling that he had made a correct diagnosis of his difficulty, the Captain last May concluded to install an auxiliary freezing unit. This he bolted to the deck under the fore-castle-head of the "Emma R. S." (which is a raised-deck vessel and unusually roomy forward), on the fore part of the house. The compressor and its motor occupy no more space than a three-quarter barrel of salt pork would do, and is entirely out of the way.

"I bought a little 'Model 310' Lipman," said Silva. "It rates at about 1½ tons and is driven by a 3 h.p. Fairbanks motor. It is connected to 1800 feet of 1-inch pipe that is laid along the bottom, 8 inches between centers. Then, too, we put pipes in the shaft alley. There was 400 square feet of unrefrigerated area there, which was equal to 180,000 B.T.U.'s. We filled the alley with pipe, and wanted to put in more, but there wasn't space enough. I'm not satisfied, but we can't get any more in."

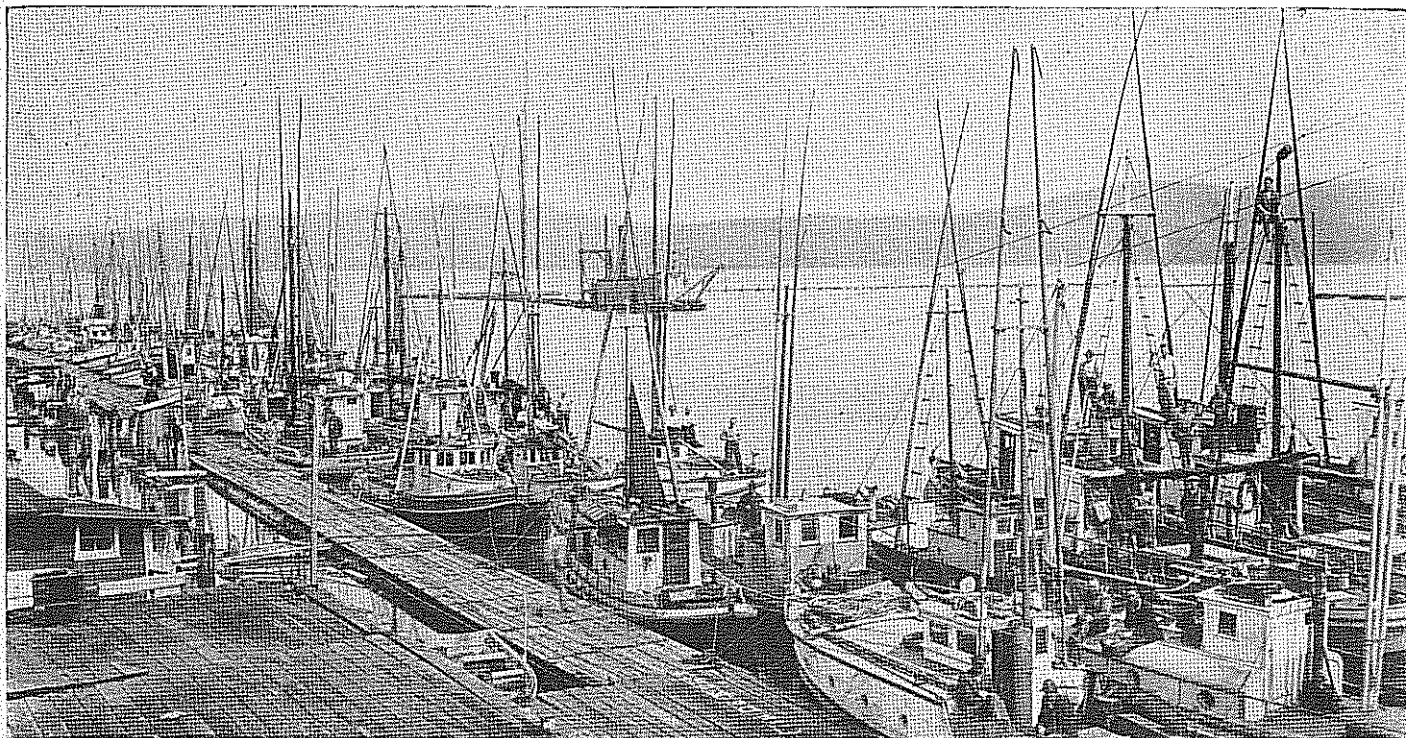
Ice Left in Shaft Alley

On Friday, June 7, the Van Camp company received a wireless telegram from the "Emma R. S." which stated that the vessel was just starting for home from the Revilla Gigedos and that on Monday it would arrive with 85 tons of tuna. Promptly at 7:30 on the

(Continued on Page 34)

Captain Guy Silva sponsored the introduction of practical vessel refrigeration when he installed an ammonia-gas ice machine aboard the "Lois S." three years ago. Since that time tuna craft of modern design has done him honor by imitating his example.

¶ Now Silvia takes the further step of increasing his refrigerating capacity to the point where he has brought to port a fare of yellowfin frozen stone-hard.



Open-ocean salmon trollers lying-in at the Coos Bay wharf that was constructed expressly for their benefit and convenience by the business men of Marshfield. Note the sign painted on the wharf's deck: "Fish Dock Only." Chas. Fellers, wholesale salmon merchant of the port, tells how the Marshfield Chamber of Commerce financed the project and attracted to this snug haven the fleets of trollers that enter the bay.

"NO PORT on the West Coast, south of Seattle, affords greater convenience to the fisherman than does Marshfield, in Coos Bay."

So writes Chas. Fellers, shad-salmon-and-clam man of the place named. Nor does Fellers leave off with but a vociferous acclamation, as a real estate salesman or cigaret advertiser might do, but comes forward with evidences wherewith to substantiate his claim.

"A few years ago I was instrumental in arousing interest in the construction of a fishermen's dock. The local Chamber of Commerce gave the plan support, and with voluntary contributions from merchants we finally were enabled to put in a 640-foot floating wharf, equipped with all things necessary for the comfort of those using it. The fishermen appreciated it greatly and tied up to it in large numbers. Small trollers made headquarters there because they could lie undisturbed as long as they chose—they never were forced to shift or get out, for the wharf was for their use, primarily and exclusively.

Became Popular Immediately

"The convenience of the place made it popular with the men. It was lighted with electricity, had running water connections and had easy access to the street. Its well-selected location placed it close to the center of town, so that the boats all can be seen from the street. Thus the fishermen can congregate ashore to discuss their various businesses while, at the same time, 'keeping an eye on her' as their boats ride quietly there, grouped together.

"Its nearness to town makes the wharf a great help to butchers and grocers who make deliveries to the

boats. Indeed, I believe that the floating wharf represents one of the most constructive pieces of work yet accomplished by the Marshfield Chamber of Commerce. How different this is from the ports where the fishermen are harrassed continually, where they are driven back and forth in search of a mooring, and at last have to tie up to some rotten dock or any old piling that can be found, many times far away from stores and in unsafe situations!

Lie In Quiet Water

"In Marshfield the dock is located at the upper end of the bay, where the boats lie in quiet water at all times. There is no pounding or chafing of the vessels, which can lie moored six deep, if necessary, without doing each other injury. Moreover, the likelihood of theft is greatly lessened, for the reason that there are always some of the fishermen around, and many watchful eyes follow the stranger who goes among the boats."

BOOTH BUILDS TENDER

Launched at midnight, when a high tide permitted, a new boat was added to the San Francisco Bay fishing fleet, on June 28th. The "Crescent No. 3," as the new boat is named, will be used as a tender for F. E. Booth's cannery at Pittsburg.

Built at the Fulton Shipyards, Antioch, California, at a cost of \$40,000, the new craft will represent the last word in "carriers." Powered with twin 4-cylinder, 9' x 12", 110-h.p. Atlas Imperial diesels, it will have speed well above the average.

The "Crescent No. 3" is designed to transport asparagus and other vegetables, as well as fish.

Throng Wishes "White Rose" Banzai On Trial Run To Catalina

WITH her bait tank full of watermelons, her galley crammed with heaped-up boxes of sandwiches, salads and Japanese delicacies, and with the waist largely taken up by tubs of cracked ice, from which protruded invitingly the business-ends of bottled liquid refreshment, the "White Rose," 89-foot tunaman, belonging to Capt. S. Ishikawa and associates, left Al Larson's wharf in Fish Harbor on July 6 and stood away on her trial trip for the "isthmus" of Santa Catalina Island.

A crowd of relatives, friends and mere spectators had gathered to see the new vessel off, but at the last everybody swarmed aboard and went along. Al Larson and his cigar were there, also O. W. Beckman and Ed P. Walling of the Atlas Imperial Engine Company, and Marion G. Fry came to test out the two-ton Lipman ice machine that is installed in the engine room. Matt Zovich, outside man for the Coast Fishing Company of Wilmington, together with his wife and father-in-law, located himself in a sheltered spot on the boat-deck, where also was Frank Nelson, master carpenter of the Larson yards, who had charge of finishing the hull, and jovial Joe ("Dago") Turano, mighty man from the market boats "I.O.U." and "Yolando."

Many Guests Aboard

Captain and Mrs. S. Ishikawa were the hosts, in the duties of which gracious office they were seconded by K. Ishikawa and wife and S. Mochizuki and his wife. It is believed that the balance of the joint owners of the ship all were present; these are N. Nakamuri, G. Jamawaki, J. Isobe, S. Kawaguchi, M. Suzuki and M. Muramutu. Some of the guests were Robert S. Kojima and Fred S. Ito, both of the Los Angeles office of the California Bank; Y. Nishimaye, cantaloupe grower from Brawley, Imperial Valley; R. Miyama, friend of the captain. Some 30 children made the ship seem like a blackbird roosting-tree at dawning, for they scampered about the vessel hilariously.

Lloyd Barber, engineer, turned up the Atlas Imperial diesel to make the run from the San Pedro breakwater to the white rock off the isthmus in two hours flat—which figures at about 11 knots. The 230 h. p. diesel will do better than that, once it is broken in, says the man with the oil can. Barber is a proselyter for the "Atlas," he having run them before, in the "Seagull" and "Yolanda."

Executive Shows Skill

En route to the island H. Yokozeki, executive secretary of the Southern California Japanese Fishermen's Association, took the wheel to exhibit dexterity in steadying the lubber-line. He hadn't been at it long, however, when Ed Walling, happening to notice the curve in the wake, took it for granted that Yokozeki was setting on a school of blue-fin, so tumbled down on deck to try to find the turntable. Under some circumstances Yokozeki might have had an alibi by accus-

ing the compass, but this one was a big Ritchie, so it must have been sea currents.

Arrived at Catalina, the captain let go his 250-pound Laughlin anchor, paying out some 15 fathoms of American stud-link chain over the sprocket-sheave in the Cunningham windlass. The majority of the crowd then went ashore to swim, Frank Nelson taking the sweepstakes in a realistic imitation or personal interpretation of how-to-get-out-when-you-fall-in.

Continuous Luncheon Served

Lunch was served continuously, all the way over, all during the stay at anchor, and all the way back. K. Yamada, tuna-ship chef, fired up the new Ingle range and, as soon the paint had burned off the top, brewed up all sorts of secret matters. Asked how he liked the range, he smiled broadly, lifted the lid over the patented Valjean oil-burning "carburetor" and proved, thereby, his subsequent declaration, "Good! Good! No smoke—the same as gas!" And, as if in doubt that his emphasis had been insufficient, he again lifted the lid, exposed the brilliant flame issuing from the burner, and reiterated, "No smoke!"

At 4:30 p. m. the "White Rose" started home. The return trip was the occasion for the well-relished eating of a supply of raw abalones that had been brought up from the bottom by some of the swimmers. Uncooked Tuna likewise was served, and let this be a testimonial that both were delicious.

Is Thoughtful Host

Seven-thirty that evening found 60 invited guests seated at a banquet table in the Japanese upstairs restaurant on Terminal Way. Captain Ishikawa was the thoughtful host, who made special provision for his English-speaking friends by seating them together at one end of the table. O. W. Beckman, Ed Walling, M. G. Fry and wife, L. Barber and wife, Miss Janet McDonald and Geo. Roger Chute were the only "foreigners" present.

G. Jamawaki opened the feast by rising to deliver remarks of felicitation to the captain. On closing, he introduced H. Yokozeki, secretary of the Japanese Association before mentioned, who congratulated Ishikawa on being master of the finest vessel in the San Pedro association; his best wishes would always follow the "White Rose," he said. Jamawaki, acting as toastmaster, again arose to introduce J. Hiraga, publisher of the "Southern Coast Herald," a Japanese-language newspaper. Hiraga brought out that in his capacity of president of the Japanese association Capt. Ishikawa was the benefactor of them all. Hiraga predicted much success for the "White Rose," basing his judgment on the productive record of Ishikawa's past commands and the fact that he now has a picked crew. Those present commented on the fitness of the ship's name, since it

(Continued on Page 28)

MID-NIGHT STEW IN JUNGLE CAMP LEADS TO INVENTION

A HOBO PREACHER, assiduously nourishing a flickering smudge beneath a pie-fruit can of extemporized mulligan, one night chanced upon the discovery of a fundamental principle of combustion that was destined to predicate the ultimate development of a great manufacturing business. It seems that the sky-pilot of fallen fortunes had contrived to assemble sufficient ingredients for a stew, but happened to choose as the site for his exercise of the cookery art a much-frequented "jungle" of the fraternity of South-West transients. The scene is supposed to have been somewhere in Southern California or in Arizona, so it may be presupposed that wood was scarce, and a cooking fire difficult to provide.

The nondescript exorcizer of the satanic presence, being a man of some circumspection and natural cleverness, made shift to satisfy his needs by appropriating a bucketful of petroleum from a tank wherein the railroad had stored fuel for its locomotives. He knew that the thick, sticky stuff contained much combustible material, and set about devising a fire-box that would burn the tar-like fluid. His first efforts were productive of nothing more heartening than a terrific smoke cloud, which in any forested region would have provoked the descent upon him of a corps of fire fighters.

Eventually, however, the spiritual agent of the laity hit upon the scheme of burning the oil in the bottom of a can, the sides of which he pierced to admit air. He found that there existed a rather exact relationship between the size of the can used as a fire pot and the number of perforations required to cause the oil to burn with a clear, smokeless flame. It was a discovery!

Pythagorus Comes To Town

Some time after this experimentation with fire, the preacher drifted into San Diego. While cruising along the water front his attention was arrested by the sight of a metal-working corporation whose business revolved around the building of stoves and ranges. The Ingle Manufacturing Company, it was called. His sensitive mind instantly linked the company with his discovery of how to burn oil, so he approached the concern with a business proposition.

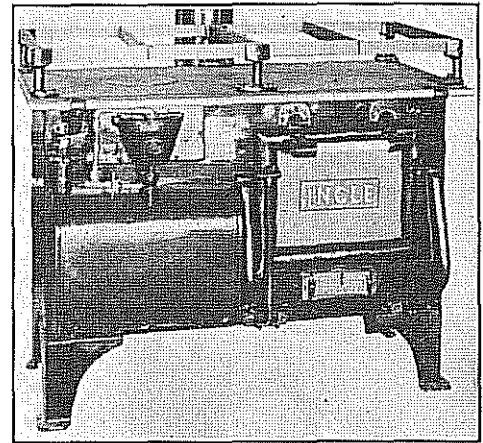
Now the Ingle organization is an old one. The genesis of the business dates back some 35 years; papers of incorporation were taken out in 1906. It began as a retail hardware store that presently began undertaking simple sheet-metal work. The subsidiary phase of the house soon came to be its major function, and from that it branched into the manufacture of hot air pipes, metal chimneys, then furnaces, stoves, hot water heaters, gas burners, and all sorts of allied appliances. It was at this juncture in the evolution of the firm that the preacher arrived with his announcement of a mode of burning crude petroleum, and the company was quick to take it up.

Costly Pioneering

"What they tried to do was convert all kinds of wood stoves and coal ranges to the oil-burning prin-

THE self same idea that, wrongly applied, exhausted the resources of a large manufacturing house, later brings back to it renewed strength, redoubled vigor, and business volume.

From the original tin can brazier of the bankrupt sky-pilot the principle of the smokeless, oil-burning stove have evolved to that point of fine perfection exemplified by the modern Ingle range. Ingle makes ranges in many different sizes and produces them in finishes varying from plain black iron to chrome or rustless steel, monel metal and colored enamels. The feature of them all is the patented "carburetor" that burns low-gravity fuel oil without soot, smoke or the accumulation of carbon.



ciple—and that can't be done," declares Finlay M. Drummond, the present head of the corporation. "The entire interior of a stove must be changed if it is to burn oil successfully. Because they did not know that in those early times, the company spent \$60,000 in fruitless experimenting—in fact, it almost became bankrupt."

When Drummond took the tiller, and set about steering a course out of the difficulties that beset the Ingle firm, his first efforts were expended in harmonizing the oil-burning feature with the interior construction of the stoves and ranges. Heat currents were studied and the discoveries that resulted are the basis for the patents which at the present time protect the Ingle designs from infringement.

The Perfected Carburetor

"One must have a fire box of the right shape in order to get the proper distribution of draft and of heat," Drummond has said. "There must also be provided a means for carrying off gases and odors."

The Ingle Manufacturing Company came back to life. By harmonizing the oil-burning principle with proper shaping of the range itself, an entirely satisfactory product was assembled, and the trade responded with a large volume of orders. But improvement did not end there; engineers of the company continued the research.

"The old style Ingle carburetors had to be cleaned every day," says C. H. Marvin, engineer. "Six or eight pounds of carbon were removed every 24 hours. That represented unburned fuel, or loss. It was a condition calling for correction."

The Perfected Carburetor

In October, 1929, the first carburetor of the new Ingle type was installed in the range already aboard

(Continued on Page 34)

PERSONALITY CORNER

ALBERT
TOFANELLI



STANDARD
FISHERIES

GENTLEMEN, shake hands with Albert Tofanelli, president of the Standard Fisheries of San Francisco, a man with a penchant for injecting new stamina into ailing and disorganized businesses.

Way back in the "gay nineties" when leg-o'-mutton sleeves for ladies and short yellow coats for men were the ultimate in style (and prohibition hadn't even been dreamt of) there was great cheer and rejoicing in a certain San Francisco home in consequence of the advent of a sturdy son. His parents promptly called him Albert, surname Tofanelli.

Tofanelli, senior, was prominent in the San Francisco fish business of those times, being proprietor of a large retail establishment called the Home Market, at Sutter and Polk. There, after completing grammar and high school, young Albert acquired experience in fish and its merchandising that was to stand him in fine stead later.

Rejuvenates Plant

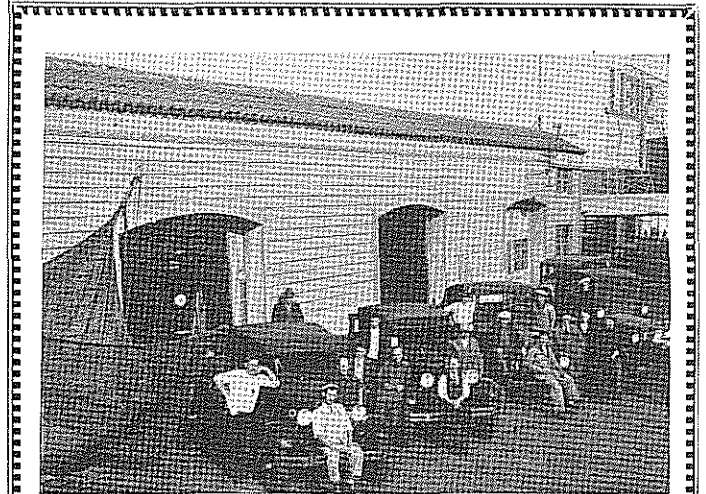
His first sortie into large business was when, in 1921, he and his brothers absorbed the bankrupt Cable Oyster Depot, calling the resultant concern the Tofanelli Fish and Oyster Company. He at once set about rehabilitating the firm and succeeded so well that by New Year's Day, 1922, ten men were kept busy serving customers in the same market where twelve months previously three clerks were standing idle.

Business continued good. In 1925, the Tofanelli Sea Food Company was launched in Sacramento, where it

still continues a flourishing career. Soon after the inauguration of this activity Tofanelli came in contact with Joseph Chicca, an alert and capable individual having many ideas in common with him. He thereupon disposed of his equities in the Tofanelli Fish and Oyster Company, and, in company with Chicca, purchased the controlling interest in the languishing Borzone Fish Company (1925). Renamed the Standard Fisheries Company, the firm took on new life.

Three years later the two partners acquired, together, more than 95 per cent of the proprietary interest in the house. Since that time they have augmented their fleet of trawlers and have now in project further additions.

In addition to his proclivity for rejuvenating fagged businesses, Tofanelli wields a mighty "driver" and canny "niblick"; he is, moreover, a recognized habitue of the Elks' Club, the St. Francis Yacht Club, and the Shrine. As an index to his genial fellowship stands the eloquent fact that "Albert" is as a name unknown—Tofanelli is "Al" to all the boys.



Standard Fisheries, their delivery fleet, and personnel. Its trawlers land on the other side of the building.

WHITE ROSE LAUNCHED

(Continued from Page 26)

was suggested by Sam Hornstein of the Coast Fishing Company.

Wish Good Fortune

H. Hamaguchi then succeeded to the toastmastership. He is a cousin to Hiraga and one of the officers of the association. He spoke briefly, expressed appreciation for the holiday, wished the skipper good fortune, and introduced R. Miyama, a friend of the captain's. Miyama paid tribute to the qualities of his friend, whom he thanked for the pleasant excursion to Catalina Island and the dinner then to be served.

Captain Ishikawa next was called upon by Hamaguchi, whereupon the president of their association, arose and delivered a fluent address, in which he thanked his friends for their amiable sentiments and invited them to partake liberally of the dinner that was

to be placed before them. The 60 guests jumped to their feet, gave two cheers for the smiling host, and all drank his health and success with unfeigned feeling.

Then Came the "Eats"

An eight-course banquet followed. Exquisite Oriental dishes, such as no one from the Western World would know how to order, were carried in in rapid succession. The feasters set up individual chants, extemporized songs and rendered recitations to liven the occasion, the Americans making but a poor showing in comparison with the unrestrained participation of the Japanese. Finally one of the diners appeared in an improvised costume and did what may have been a comic spook dance, making everyone laugh with his weird antics and gesticulations, which were enhanced in effect by the use of a strange-looking, tray-like basket.

So ended the festivities accompanying the trial trip of the "White Rose."

Japanese Corporation Commissions Floating Fish Freezer

CALIFORNIA FRESH FISH MARKETS AND HALFHILL CANNERY TO BE SUPPLIED WITH FROZEN FARES FROM MEXICO

THE "OCEANA VANCE," 51 years old, formerly a three-top-mast schooner in the Australian lumber trade, and later a mother-ship tender operating for John Heston in the Baja California yellowfin fishery, has now been converted to a refrigerator barge. Recently it returned to its ancient anchorage at Turtle Bay, Mexico, for the purpose of freezing stripped tuna and fresh fish in general for the West Coast markets of the United States.

Historic "Wind-Bag"

Few vessels still afloat have half so colorful a history as this old schooner that once had two continents all agog over its performance in a 10,000-mile deep-sea race, but at last the glamour has been taken out of the grand old ship, for they have cut down her masts and tumbled her tall spars into the sea.

The Halfhill Tuna Packing Corporation of Long Beach is owner of the craft. Sometime ago, when it was decided to convert her to a freezing ship, they sent to Minnesota and recalled Captain Sam L. Pratt, who was of her crew some years ago. Captain Pratt is in charge of her now, and will skipper his historic charge while she operates in Mexico.

Massive Hull

The "Oceana Vance" is a wooden ship, having frames ranging in thickness from a foot to 16 inches. Inside sheathing adds to the thickness of the wood, and 12 inches of cork laid between the frames constitutes additional provision for insulation, which protects the frozen fish stored within. Originally an ice-carrying tender, the "Oceana Vance" has now been provided with complete mechanical refrigeration, two 12-ton compressors operated by twin 25-h.p. Fairbanks Morse semi-diesel engines chill the three sharp freezers which are built into the hull, while at the same time maintaining freezing temperatures within the spacious storage holds themselves.

Numerous Mosquito Fleet

A mosquito fleet of small boats, manned by fishermen resident in the Japanese colonies of the Mexican coast, will voyage to sea each day, and return at night to deliver their fares to the mother-ship for freezing. Twenty to fifty tons a day can be cared for by the ice machines. The total storage capacity of the ship is 480 tons.

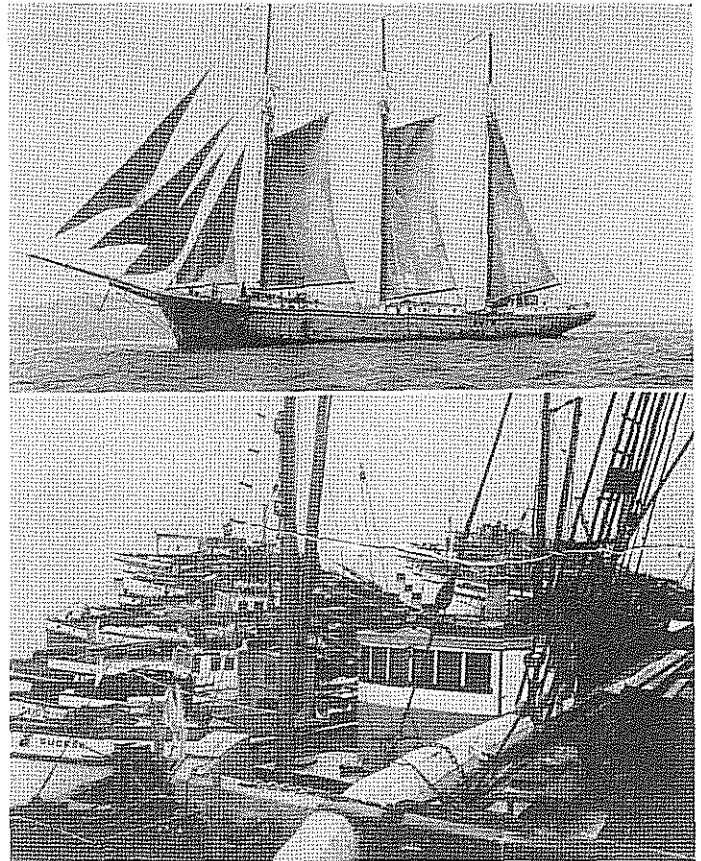
A Japanese Enterprise

The International Marine Products Company, a Los Angeles and San Francisco firm of Japanese, has interested itself in the possibilities of this floating freezer. M. Tatsukawa, the company's agent, has chartered the vessel from its owners, and will no doubt accompany it on its first expedition to the south.

Swift Tendering Planned

An insulated tender, capable of maintaining high

speeds, will be put into service between San Pedro and the rendezvous of the floating freezer. It will bring to port the solidly frozen tuna, and carry back provisions and supplies. At the end of the season, when the vessel is to return home, it will be towed to the Halfhill cannery dock, where it will discharge directly into the plant.



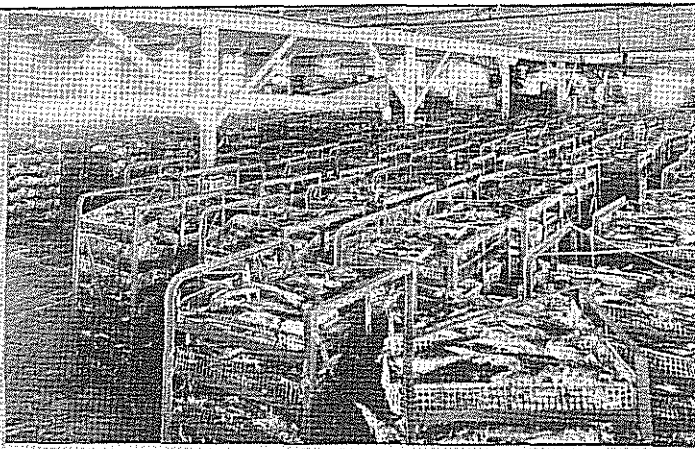
In 1918 John Heston introduced the "Oceana Vance" to the Mexican tuna fishery. Above is an actual view of her heading southward from San Pedro, for fish. Below you see her surrounded by a part of the 90 small craft that fish for her.

FORT BRAGG OBTAINS FEDERAL AID

If the Federal Board of Engineers for Rivers and Harbors, meeting in Washington, D. C., April 8, act favorably on the many recommendations sent to them, Fort Bragg will soon have harbor facilities sufficient to take care of the largest boats of the local fishing fleet.

W. J. Schultz, president of the Coast National Bank at Fort Bragg, and Congressman Clarence F. Lea, have been working on this project for over three years. Mr. Schultz was in San Francisco recently securing additional information from fish companies, the Fish and Game Commission and the State Fish Exchange for Congressman Lea who is presenting the case to the Board.

VAN CAMP SAN DIEGO



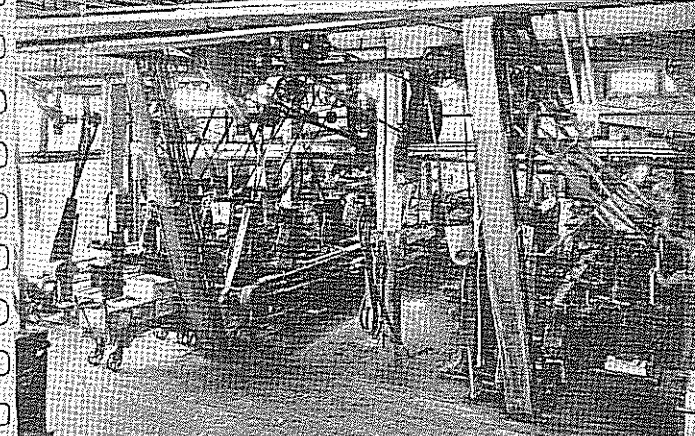
SEVENTY TONS READY FOR MEAT SORTING



WOMEN SELECT THE WHITE AND DARK MEAT



WOMEN ALSO GET THE JOB OF PACKING CANS



MACHINES SEAL THE PACK WITH SAFETY FOR YOU

VAN CAMP'S San Diego plant is the largest tuna-packing institution ever built. Moreover, it is believed to be one of the foremost fish canneries in operation anywhere in the world today, and, indeed, well may be actually the champion of them all. As a means of conveying an approximate concept of its present relative capacity, officers of the Van Camp firm describe their southernmost plant by saying: "It has greater tunahandling ability than all seven of the canneries now operating around Fish Harbor, San Pedro, if you leave out of consideration the 'N.-K.' plant of the Van Camp company."

Seven acres of ground are covered by the San Diego cannery, which is a one-story factory throughout. It is admitted that the "N.-K." plant of the same owners, at San Pedro, has more area beneath its roof, but this was accomplished by tiering-up a two-story structure.

Ford's System Applied

Mass-production methods have been inaugurated in the re-built southern plant by laying out its floor plan in such wise that there are no doublings-back or lateral movements during the manufacturing process. The raw fish are introduced into the institution at its sea-side end, and after a straight trip through the cannery the cased-up stock emerges from the other end.

"We bring the fish to the men; the work moves along in front of our help," says M. N. Quama, foreman, "and the employees do not have to run around, following the fish through a crooked route. Our tuna passes along in a straight line, the various processes taking place in an orderly sequence. All of our facilities are carefully balanced so that no congestion takes place at any point. Our ability to scheme out the plan so accurately arose from long experience and constant experimenting in the tuna field."

Three-Ship Unloader

Three fishing ships can be discharged coincidentally at the Van Camp wharf. No other such installation is in existence anywhere. Mechanically operated drapers or moving platforms carry the fish shoreward from the vessels' sides, gradually gaining altitude until reaching a hopper suspended from scales at a considerable height above the deck of the wharf. After being weighed the tuna are slid into metal flumes in which they are sluiced a distance of several hundred feet, to be discharged upon the butcher-

REBUILDS TUNA PLANT

ing tables where they are dressed. Following repeated cleansings in pure water they are laid in wire trays which in turn are arranged in tiers in specially-constructed iron cars that, when fully loaded, are wheeled into immense sheet steel tanks called cookers. Metal doors are closed and live steam admitted to do the cooking. Three to five hours are needed to cook the thick tuna, after which the cars are wheeled out into an airy cooling room and allowed to stand until the heat has left the meat. Women then take the cold stock and carefully remove all bone, skin and dark-colored flesh, only the whitest and finest being placed in the cans.

Modernized Cannery

During the last few months unusual activity has characterized the Van Camp cannery in what normally would have been the "dead season." A new flume was built from ship-side to plant and the Shockey Boiler Works installed a 250-h.p. steam boiler to supplement the previous power supply. To maintain the balance between unloading ability and cooking capacity the Hasty Welding Works were called upon to make a battery of five of the largest tuna cookers ever yet heard of. These were the first double-tracked cookers ever constructed, and together will hold more than 40 tons of fish. Then, with more unloaders and more cookers, 2000 additional galvanized metal baskets were purchased from Harold N. Larson of the Wire Products Corporation, Los Angeles. These are the strongest tuna baskets yet seen, and no one can doubt Quama when he predicts that they will last for 10 or more years.

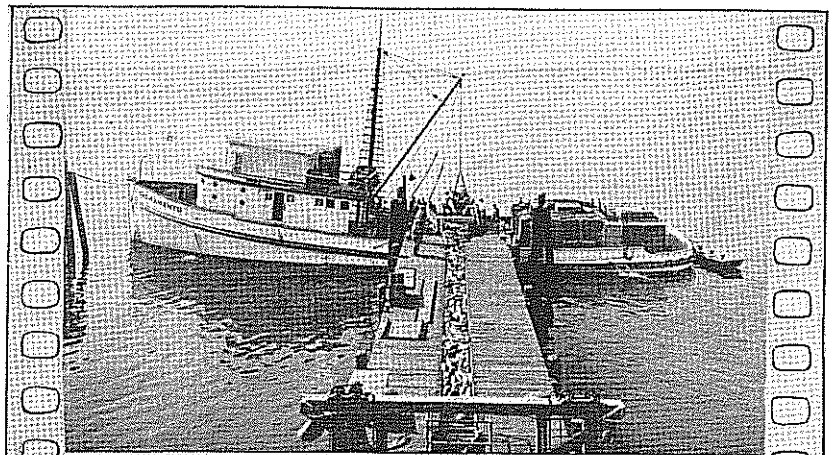
17 Closing Machines

The largest battery of American Can Company closing machines in existence is installed in this cannery, declares M. N. Quama. Seventeen machines, all of them high-speed, receive the out-put of the four lines of packing tables. These closers are for 1-pound, 1/2-pound, and 1/4-pound can sizes, and can be worked in the following combinations: 3 lines of 1/2's and 1 of 1's; 2 lines of 1/2's with 1 of 1's and 1 of 1/4's; 2 lines of 1/2's and 2 of 1/4's. On an instant's notice the combinations can be switched around so that special orders of any sort can be handled. Quama states that three of the machines now in service will soon be replaced with newer American Can Company equipment of greater speed and out-put.

Enormous Capacity

Usual rates of discharge for tuna ships range around 10 tons per hour. With

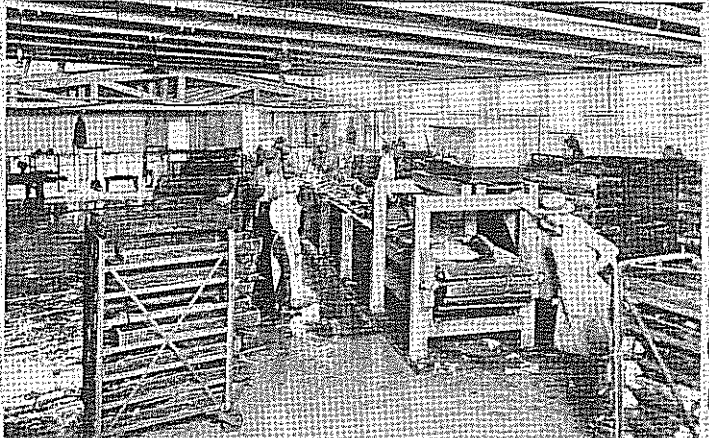
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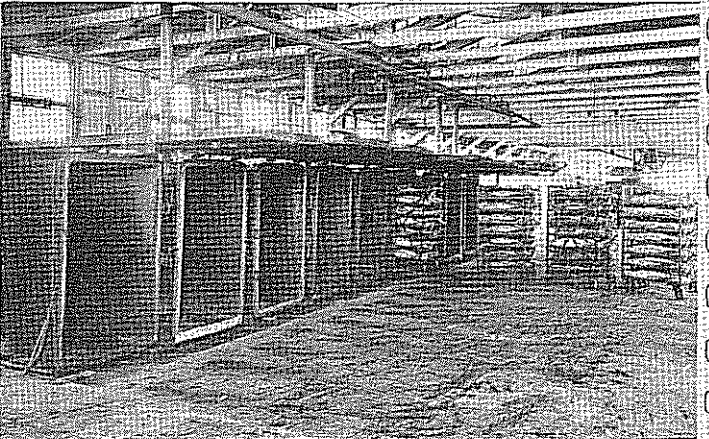
DISCHARGING AT A SAN DIEGO TUNA WHARF



'CHICKEN OF THE SEA' SHOO EASILY NOW



NO SQUEALS HERE, BUT BUTCHERS ARE MEN



YAWNING COOKERS TAKE TRUCKS AND ALL



EDITORIAL

Put More "R's" in Summer

BUSINESS MEN are school teachers. The public is their student body. The curriculum is the principle of progress, and there is no graduation for as soon as one good lesson is learned there arises another in its stead.

Merchants and manufacturers, whose business it is to supply the wants of the people, find it imperative to assume the task of "educating" their clientele. There is no halt in the march of progress, for new ideas and new inventions are brought forward in ceaseless procession. In fact, betterments are discovered at so rapid a rate that were the public not stimulated into constant receptive consciousness it would not assimilate a tenth of what, under conditions of coaching, it now absorbs. It has to be taught to abandon old and out-worn customs in preference for the new and better things that man is developing as he ascends from firebrand to candle, from whale oil to kerosene, and from electricity to we know not what—yet.

Advertising is the business man's method of teaching his school. By means of it he jars the old-timers out of their semi-dormant lethargy, and shows them the way to new and better living. It is the tool with which he hews the barricades of habit, indifference and ignorance. By means of it he refutes old and commonly-accepted falsehoods, he erects signs in proclamation of the truth as boldly as any Luther, and by asserting what is right, wins followers.

Every change that is made has to be effected despite the opposition of the static inertia of the public. Oddly enough, the public cherishes its wrong tenets just as freely as its right concepts. Customs and habit are the twin poisons that paralyze population and make mobs of organized racial progressions.

The business man, with his trade-marks, labels, slogans, bill boards, radio talks and personal contacts is the present-day crusader who promotes happiness and better living far more effectively than ever did any "lion-hearted" King Richard or Moor-chasing Frederick Barbarosa. He upsets such falacies as the old notions that tomatoes are poisonous, that night air will give one organic disorders, that shingles will curl if laid during the waning moon and that shellfish dare not be eaten during months whose names are spelled without "r's".

As an apt illustration of the service that merchants can perform for mankind in correcting the crazy old notions that come down from days of witches, hob-goblins and sorceresse's amulets we have the contemporary instance of the Haines Oyster Company, a Seattle house that is wageing a single-handed fight to overcome the stupid idea that clams, oysters, cocktails, scallops and all other shellfish are unsuited for food except in winter.

"Because the general public is of opinion that oysters should not be eaten in months not having an 'r' in them, on May first of every year the shellfish business simply goes all to pieces," writes E. J. Whitman, manager of

the Haines Company. "This season we are advertising, and are going to inform the public of its error in thinking that shellfish such as crabs, shrimp, scallops, and clams are not just as tasty and appetizing in summer as in winter. We are having a large number of attractive signs painted along the highways in the Northwest, which will declare to the people that crabs are just as good in summer as at other times. These signs are 10 feet square. A large crab is painted in natural colors in the center of each sign. The words 'DEEP SEA CRABS' are painted across the back of the crab, while along the top of the sign board is the big-letter statement; 'GOOD THE YEAR 'ROUND'.

"We also are having display-cards on which is written additional information of this kind, placed in all of the fish markets," writes Whitman. "We would like to have every retail fish market co-operate with us in our effort properly to inform the people in the true facts relative to the use of shellfish for food in summer.

"Picked crab-meat and shrimp-meat gradually are taking the place of these foods in the shell. By displacing the meat all ready to serve, the market has been increased greatly, this being because the average person has very little idea of how to extract the meat.

"Let's all get together and sell more shellfish in the summertime!"

"LANCER" VISITS WCF

HARRY CARR, nationally known columnist whose syndicated writings appear locally in the Los Angeles Times, decided some weeks ago to transfer summer G. H. Q. from the heat and dust of the City of the Angels to the cool slopes of the Palos Verdes mountain, that imposing mound from which can be seen the greatest of fish-canning ports.

Since taking up residence in San Pedro, Carr has been a visitor to the offices of the WCF, which publication he declares he peruses with absorbed intentness. He declares astonishment at the extent of the fish packing that he sees under way around him, says that he had no idea that America was passing through another era of wooden ship building, and responded to the sportsmanship and glamor that is mingled in this new-style, long-distance, tropical tuna fishing.

Carr has established summer quarters overlooking the entrance to the port. The constant comings and goings of the endless line of ships he characterizes the daily "parade." He confesses much interest in the fish packing plants and in the novel modes of handling the stock.

"Few people have any adequate conception of the magnitude of this port!" he declared.

We hope that he is around next fall, so that we can introduce him to Cannery Row on some one of those 3,500-ton sardine mornings.

"The Lancer" has an inquiring and receptive mind. Probably no man in the country is so well informed on all general subjects. Yet he was frank to confess absolute ignorance of the tuna fisheries and bore away with him a full set of "F.F.V." inserts, with which he manifested unfeigned delight.

OBSERVE JAPAN

BAIT-CARRYING is a West Coast achievement. It has been so perfected here that the Japanese themselves—who are credited with having invented the device—recently came to America to find out how the thing is done. American, Scandinavian, Slavonian, Japanese and Portuguese fishermen, all plying in and out of California cannery ports, through long and persistent experimentation, have arrived at certain fundamental facts relative to caring for live-bait, whereby they now are enabled to “keep” the little fish alive almost indefinitely.

The value to the nation of this ability is inestimable, for it is the principle upon which is predicated the recent extraordinary extension of tuna fishing. Were it not for our boatmen's understanding of how to preserve their bait during protracted off-shore cruises we now would be paying the same extortionate taxes to Central American countries and to Mexico as were exacted from the industry by the latter country prior to the fishermen's developing of bait-tank technique.

Undivided credit for their discoveries must be accorded the fishermen. The truths that they learned were uncovered without assistance. They perfected their apparatus at their own expense, and by the extravagant trial-and-error method. Throughout the whole procedure they had no help or co-operation of any sort, either from the agencies of the National Government or from those local authorities who derive revenue from the industry. Their taxes availed them nothing, but, by reason of their self-supplied efficiency, their taxes are now increased.

Tuna fishing is believed to be nearing another metamorphosis in its evolution from a Catalina Island jig-boat basis to a trans-oceanic refrigeration and transportation business. Numerous packers, financiers, and vessel captains now are considering naval architects' plans and are trying to see ahead and discern what sort of tuna-ship will be most serviceable in two or five or nine more years. All attention is fixed upon such considerations as pre-coolers, absolute refrigeration, cruising range and live bait. Engineers and ship-builders can answer in emphatic terms all questions except the last. Of live bait nothing is known.

With large and costly vessels under consideration it is necessary that something more definite be learned about live bait. It is a highly important thing to know whether a cruiser, designed especially to exploit the skipjack resource of Hawaii, must carry 150 or 300 tons of water in its reservoirs in order to insure a sufficient bait supply to guarantee a successful trip. This is a serious engineering question, and one that requires something more to dispel it than the haphazard experimentation of lay boatmen.

Guy Silva, August Felando, M. O. Medina, John Zuanich and other clear-visioned and observant vessel masters, all recount that at certain temperatures their bait dies. It seems that the fatal temperature is about 86 degrees. When this temperature is reached shade must be given the bait-tanks, and maximum in-flow of new sea water provided. These are considerations that should be investigated by young and quick-witted men of a practical turn of mind.

Here are questions that now require answers:

1. What range of temperature will live bait endure in the open sea, where water-supply is unlimited?
2. Does live bait consume more oxygen in captivity than when at large?

3. Would live bait consume less oxygen if the temperature of the bait-tank water were lowered?

4. Would a combination of aerating (U. S. Bureau of Fisheries methods) with refrigeration be sufficient to keep bait without pumping in such enormous volumes of sea water as at present are believed to be necessary?

5. Could present vessels carry twice or three times as much bait in their tanks as they now are able to do were they to install aerators and cooling coils in place of pumping so much water?

These are practical questions. They mean money to the industry, and they are the sort that cannot be solved by individual builders except at great expense. The field is properly one for the State Fish Commission, which has not only a large and suitable vessel for the purpose, ample personnel and every other facility, but also unlimited means—collected, in large part, from the tax-per-ton on tuna.

No one need question that larger ships than those now in commission will be built. The only stay to the present construction of craft of the “Skipjack”-type is the lack of information regarding the quantity of tuna to be found elsewhere throughout the world. Were it to be made known today that commercial stocks of yellowfin are available in a definite region of the Indian Ocean, there can be no question that there would be a rush of shipbuilding such as followed the “Atlantic's” demonstration that tuna were abundant off Southern Mexico and Guatemala.

Hawaii has long been under consideration as a field for West Coast cruisers, and now Japan is planning to construct, at national expense, several great refrigerated tuna-ships with which to exploit the stocks of fish that are said to abound among the islands of the South Pacific over which she exercises a mandate. Experienced technicians will accompany the Nipponese cruisers, to discover, for the benefit of the Japanese fisherman, the things that he cannot find out for himself.

SOUTH SEA TUNA CRAFT

(Continued from Page 15)

Wm. Maggio decided to possess himself of a fishing ship and, finding the builders taxed to the limit, practiced the practical strategy of buying the steamer “Hermosa.” The vessel was converted to diesel power, the after cabin was removed, and the superstructure forward was preserved and conditioned for occupancy by the crew. The vessel proved much superior to the types that had gone before and, as a result of its demonstrated qualities, a new ship called the “Cipango” was patterned after it.

“Billet-headers” are specialized tuna ships; they engage in no other activity; they follow the tuna south in winter and make of the quest a year-around activity. They have been greatly refined and much enlarged; even now they are evolving swiftly.

Ultimate Iceless Cruiser

But the end is not yet. Already the masters of the largest craft in the business will admit that so long as dependence is placed solely on ice there can be no real success in far southern fishing. Elsewhere in this issue WCF proposes to the industry its concept of what the future iceless, all-mechanically-refrigerated tuna cruiser may be like.

GUY SILVA SKIPPERS ICEBERG*(Continued from Page 24)*

morning of the day indicated the vessel tied up at the Van Camp wharf and commenced to unload. The tuna were lifted out at the rate of 13 tons per hour until suddenly the crew hit bed rock.

"She's froze up solid!" announced the men in the holds. "Three feet deep she's one solid chunk, fish and all. What we goin' t' do about it?"

For the first time in her career, the "Emma R. S." could not unload.

"There was ice left even in the shaft-alley, something that has never happened before," said Silva. "And of course there were no crushed fish on the bottom, the entire mass being frozen to the pipes in one hard cake.

"But all we had to do to thaw her out was to go in there with a hose," he added.

Buying a Bigger Lipman

"Well, what are you going to do now, Captain—keep two separate ice machines in service on board?"

"No. I am satisfied that what we need is increased refrigeration, so I am going to enlarge the plant. What I expect to do is to tear out both of these compressors and put in a 'Model 800' Lipman. Then I'll have the vessel re-piped all over, and the days of spoiled or crushed fish will be about over."

WCF hails Guy Silva's demonstration as an epoch-making event; it comes as the first substantiation of the contention that we have been urging continuously, which is that our tuna ships are under-refrigerated. Tropical fishing can never be fully successful until such time as facilities are provided for freezing the fares solidly and keeping them so frozen until arriving home. We know of a certainty that other vessels must follow Silva's example, as they have done in the past, for the example of the "Emma R. S." unloading fares of 100% perfect fish will compel a reconsideration of past conclusions by the skippers who keep losing 10 or 20 or more tons of \$120 tuna each trip. They quickly will realize that only two or three such losses would suffice to pay for the larger equipment needed, and come to appreciate what it will be worth to them to be able to cruise endlessly through the tropics, unconcerned and confident in the knowledge that their fish are safe below decks, and that although they stay around the Galapagos for a month, when they arrive in the cannery port their tuna will still be as prime and inspection-proof as the day when it was laid in the hold.

The day of the all-refrigerated-tuna-cruiser is here!

MID-NIGHT STEW AND INVENTION*(Continued from Page 27)*

the Union Oil Company's tanker "Montebello." It burns the fuel so perfectly that practically no residuum remains.

"The 'Montebello's' cook has cleaned the carburetor only once in six months, and then what little carbon had formed was around the top only," says the Ingle executive.

Notable Installations

World-wide recognition of the virtues of the company's new type stoves and ranges have resulted in some unusual orders having been received. One of these originated in Mexico, at the time of the construction of the magnificent hotel, casino and other beautiful edifices at the American Monte Carlo of Agua Caliente. The hotel kitchen alone cost \$250,000. Ingle installed the batteries of broilers, dishwashers and ranges. Ten of these latter were built to special order, being elaborated from pure monel metal and stainless steel at a cost of \$1,016 each.

When Don Lee, agent for the Packard motor car in San Francisco and Los Angeles, planned the equipment for his new yacht, an Ingle range was specified. The stove was made of "Enduro" stainless steel at a cost of \$550, and is of the same exquisite workmanship as the Agua Caliente ranges. The new Morton yacht, now nearing completion in the yards of the San Diego Marine Construction Company, likewise will be commissioned with an Ingle—this one to be swung in gimbles, like a compass. All of the Standard Oil tankers plying between Seattle and Alaska have Ingles. In June the "Itasca," "Saranac," "Sebago" and their fourth sister ship, all were outfitted by the San Diego manufacturer. These four coastguardsmen, 250 feet long, of 2,000 tons displacement, and costing more than \$1,000,000 each are the finest craft of their kind afloat. They will carry oil sufficient to guarantee an 8,000-mile cruising range, and since the ranges will feed from the same tanks as the big Diesels, the cooks will have no worries over inadequate fuel.

Recently a fancy range was constructed to meet a special requisition originating with the insular government of the Philippines. This piece of furniture was wanted for the Governor's Palace in Manila, and was manufactured in panels of black enamel and white enamel. When completed it presented so pleasing and striking a sight that F. M. Drummond mounted it upon an automobile truck and entered it in the San Diego industrial parade, where its appearance produced uncounted thousands of "Oh's" and "Ah's" from the miles of sidewalk spectators.

F. A. DAVIS CO.

CANNED FOODS BROKERS

Specializing in Canned Fish

112 Market Street

San Francisco, Calif.

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THE C. J. HENDRY CO.

PIONEER SHIP CHANDLERS AND FISHERMEN'S
SUPPLY HOUSE OF CALIFORNIA



TENENTS OF BUILDER

*Not the biggest but the best;
Not the longest but strongest;
We, who build for all of them;
Know what fishing masters want;
Effectiveness a word meaning much.*

Parke & Kibele, Shipwrights, Put
**A 120-FOOTER IN
A 95-FOOT HULL**

FOUR years ago the Gabelich cruiser would have been the Goliath in the fleet today it is smaller than the average being built. Altho modest in linear proportions this vessel is a giant in what it can do.

THIS tuna game is wide open, the sky is the limit and it's everybody's turn to bet, for Captain John Gabelich has raised the ante on all his fellow skippers and produced a big ship in a medium-sized hull. Clever designing has imparted large carrying capacity to the new vessel, and a shrewd plan for distributing the weight of the fuel tanks has invested it with a cruising range far in excess of the abilities of many craft that are larger. The Captain magnanimously credits the builders.

"Parke & Kibele designed the 'Belle Isle' for me," says he. "I told them what I wanted, and they figured it out. I'm certainly satisfied."

"The reason John has a fine job," explains one of the workmen on the boat, "is that he knew what he wanted before he started in, and didn't change his mind afterwards. He has stuck to the original plans and specifications, so there has been no tearing-out and botching-up of the engine room, as so often happens in this

class of work. Besides that he's a prince of a man, personally, and we all have done our best to turn him out a good vessel."

Massive Construction

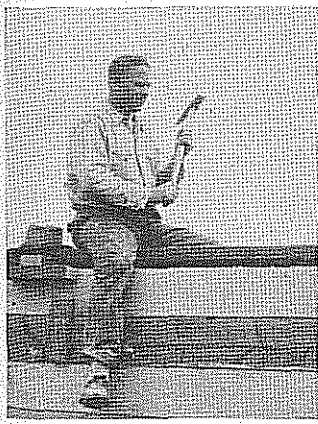
The "Belle Isle" has incorporated in it many elements that place it in the front rank of fishing ships, but in two special particulars it takes the palm from all others and is in a class alone. The first of these is the strength of its timbering. Built to exceed American Bureau of Shipping structural specifications, it has for a back-bone a 14"x16" keel and a 12"x14" kelson, both of which extend aft between the sternpost and are carved away so as just to clear the propeller. The "sisters" are 14"x16", the engine bed 18"x24" and the fillers 14"x18". Upon these immense, cross-bolted members the double 5" frames are set, spaced only 18" between centers. The strength of this timbering is best comprehended when it is known that the vessel has frames of the same dimensions as those that went into the

"Chicken of the Sea", but instead of placing them along the keel at distances of 22 inches between centers, the Gabelich boat has them every 18 inches. Considering that the "Belle Isle" is some 25 feet shorter than the other, it is seen to be far stronger, and beyond question the sturdiest tunaman thus far launched. It's tremendous built-in stamina, which distinguishes it from all others, is suggestive of the massive timbering of such northern-built craft as are designed to battle ice floes in the Arctic. As a matter of fact, for every 10 inches of solid frame there is only 8 inches of intervening space; that is to say, the frames constitute 55.5 percent of the sides of the hull, whereas the interstices comprise but 44.4 percent of the area.

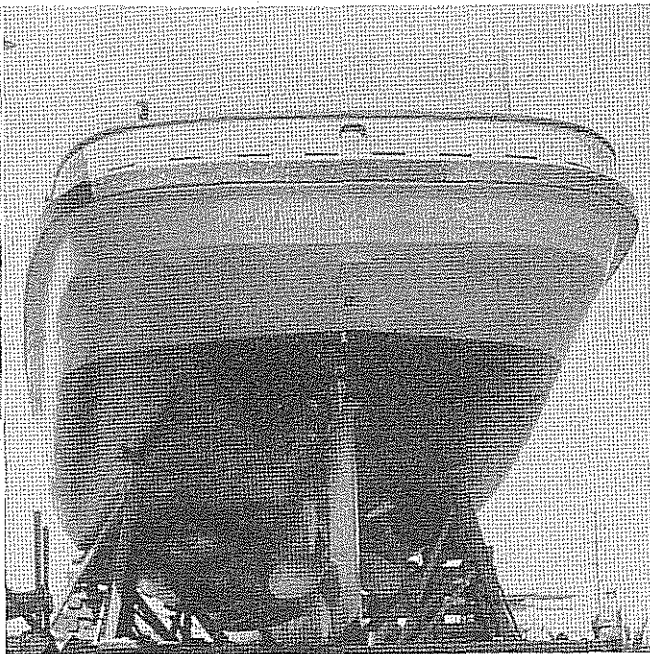
Big Fish Hold

The second chief feature of the Gabelich cruiser is its large fish capacity. It has stowage in 15 double-decked fish bins

(Continued on Page 38)

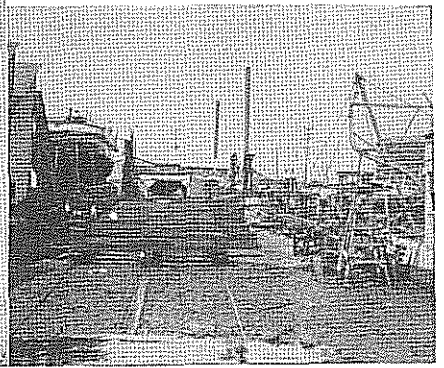


Captain John Gabelich helped to build his own vessel. You see him here wielding a top-maul while driving home the long drift-bolts with which the planking of the live-bait tanks is bound together. The skipper was a universal favorite with the Parke & Kibele shipyard gang. "John's a white man—he's one of us!" they declare.



Shored-up on the three-rail carriage of the Parke & Kibele yard, the "Belle Isle" is here shown ready for launching. Note the Oertz rudder, the first such to be installed on a West Coast fishing ship.

Wilmington yards of Parke & Kibele. The "Belle Isle" is seen resting on the blocks where she was built. House-movers slid her sideways and aft until she sat squarely in the center of the massive marine railway carriage seen in the background. The first frame of a new tuna ship is seen being jinned into position on the right.



for 125 tons of iced tuna. In cargo carrying its abilities are greater than those of any other refrigerated vessel of the same length.

Viewed as a whole the "Belle Isle" presents the unique instance of a small but superlatively staunch ship that can cruise 6,500 miles and bring home 125 tons of pay load. Skilled designing made this possible, and the Captain is more than gratified with the compactness and neatness with which the Parke & Kibele architects contrived to correlate a hull-full of diesel and electric machinery within the limited confines of a most conservative engine room.

Stream Line Rudder

In one other regard the Gabelich tuna cruiser takes the lead from all others of its kind—it is the first fishing ship on the West Coast to be equipped with the patented Oertz "stream-line rudder". A considerable royalty was paid the inventor for permission to use his patented design; Parke & Kibele did a handsome job of fashioning the rudder entirely out of welded steel. It is claimed for this sort of rudder that it offers less resistance to the wheel stream than the conventional sort, produces less "drag" or retardation, hence adds about ½ knot to the average speed of the vessel.

Actuation of the rudder is effected by means of direct shaft coupling. A chain running over sprockets transmits the impulses given the steering wheel to the long steering-shaft which is run aft underneath the deck. Where the hatch cuts through the deck in line with the true course of the shaft, an off-set is effected by use of a short section of shafting placed alongside of the hatch. Two sets of chains and sprockets connect this off-set shaft to the main one. The device is of Parke & Kibele design.

Wireless Aboard

To carry the idea of modernity to its superlative degree, Captain Gabelich has installed wireless telegraphic instruments in a special top-deck room of his ship. The operator will be signed aboard on a share basis, will have charge of the wireless as well as of all generators, motors and electrical machinery aboard, and during the times when tuna swarm around the ship he will give a hand at the fishing or help in throwing out the live-bait, to tease the big yellowfin nearer.

Structural Details

The "Belle Isle"—named for the French Sardine Company's fancy tuna brand—is 95' over all x 24' x 11.5'; one wa-

ter-tight bulkhead aft of the engine room and another on the fore part of the fuel tanks in the stern, section the hull into three major compartments. These bulkheads are the strongest ever built in the harbor, says the Captain, being of 4" plank overlaid with 4" of sheet cork and this covered with a 1½" ceiling on the engine room side.

In excess of 85,000 feet of lumber has been used, this being accounted for in 3" planking, 3" ceiling, 3" deck, five 5" stringers and one 6"x12" deck-clamp on each side, 4½"x12" garboards and 3¼"x12" second garboards, 4" bait wells and a bait tank as large as a cottage. There are 12 hanging knees built into the hull, and 12" x 8" strongbeams border the 7.5' x 6.5' hatch.

Quarters are provided in a house-on-deck that has been built so far forward, in the bows, as to seem to the casual observer to be a "raised-deck" or billet-headed job. Protection is given to the outside passageways by a high, flared bow whose bulwarks are extended aft as a shield. A raised deck in the peak adds great buoyancy and houses the tanks that carry the ship's fresh-water supply.

Power Plant

For his main engine Gabelich selected a 6-cylinder Western-Enterprise 340-h.p. diesel turning a Western-Enterprise propeller. The principal auxiliary is a 2-cylinder Western-Enterprise 35-h.p. diesel, directly-connected to a 25 kw Westinghouse 110 v generator. Another 25 kw generator will be actuated by the main diesel through the medium of a jaw-clutch attached to a forward extension of the engine's crank shaft. Both dynamos will be used to charge an 18-cell, 32 v bank of Ironclad storage cells, suitable resistance being provided to reduce the current pressure. The vessel will be wired throughout with both 32 v and 110 v electric circuits.

Hydraulic System

Two 5" Fairbanks-Morse ball bearing pumps, each driven by a 10 h.p. Westinghouse motor, provide the sea water supply for bait tank and wells. These are cross-connected so that either or both can be put into service. Two dozen large Walworth "air tested" valves were used, together with L's and T's of the same make.

A 3" Fairbanks-Morse ball bearing general utility pump has been installed on a base plate carrying also its 5 h.p. Westinghouse motor. This unit drains the bilge and also places water on deck through high-pressure lines having hydrants conveniently located on both the bridge and main decks.

In the peak, under a high fore-castle head, 3 galvanized tanks have been stowed, their combined capacity being 1400 gallons of fresh water. Here is placed a 1" Oberdofer electric pump which will be used to throw the water back to a 400 gallon tank shipped on the top deck, just aft of the stack. From this elevated tank the water flows by gravity into the galley and wash rooms.

Refrigeration Unit

An 8-ton ice machine has been bolted to the base timbers in the fore part of the engine room. It is driven by a 15 h. p. General Electric motor, the transmission being that of a multiple-strand V-belt. Three thousand four hundred feet of ammonia pipe hangs in coils beneath the overhead, along the bulkheads and down the vessel's sides as far as they are practically verticle. Two long pipes run the full length of the hold in the shaft alley—where much trouble has been experienced by other boats in losing their ice. Air channels have been left purposely between the sheathing and the inner walls, to permit of a free circulation of chilled air currents thru the hold.

Bait wells, overhead, side-walls and bulkheads all have been insulated against heat penetration by 4" thicknesses of sheet cork, set in asphaltum. Three coats of Patterson-Sargent's paint cover the entire vessel, inside and out, with Woolsey's copper paint on the bottom.

Other Equipment

All of the galvanized and black-iron tanks on board are Parke & Kibele's own make. They are of ¼" steel, built upon frames of angle-iron, and are both rivetted and welded. Three galvanized tanks in the bow contain 1400 gallons of water; 8500 gallons of fuel are tanked in the engine room in addition to a supplementary quantity of 3500 gallons carried in 2 tanks in the stern.

Thomas Laughlin hardware is to be seen all over the ship, the old familiar "Circle-Diamond-L" brand being conspicuous on the chain-plates and back-stay turn-buckles, on the rigging thimbles, the galvanized iron steering wheel, anchor shackles, chain shackles and on the mast clamp 40 feet above the deck. The anchors are from Laughlin, too, there being 3 of these weighing 250-, 400-, and 600-pounds. Anchor chains will be from the American Chain Company, but probably they will not be of the stud-link type. The shrouds are of ¾" special galvanized rigging cable, manufactured by the Wickwire-Spencer Steel Company—3 cables to the shroud, and a ⅞" wire for forestay.

Let the Sun Shine
and the Wind Howl !
and the Rain come down in sheets

they will have no ill effect on decks fitted with

KUHLS'



Other

Kuhls' Products

Elastic Seam Composition No. 2 provides perfect, positive protection to the hull. Elastic flat yacht white; elastic gloss yacht white and trowel cement—complete season-long protection is assured.

Elastic Composition No. 3 for laying canvas on decks housing and hatches. Also for canvassing and repairing canoes.

It is pliable and elastic under the most severe conditions. Even after your boat has been laid up all Winter, you will find her decks as good as new if Kuhls' has been used. In five colors, white, gray, black, yellow and mahogany.

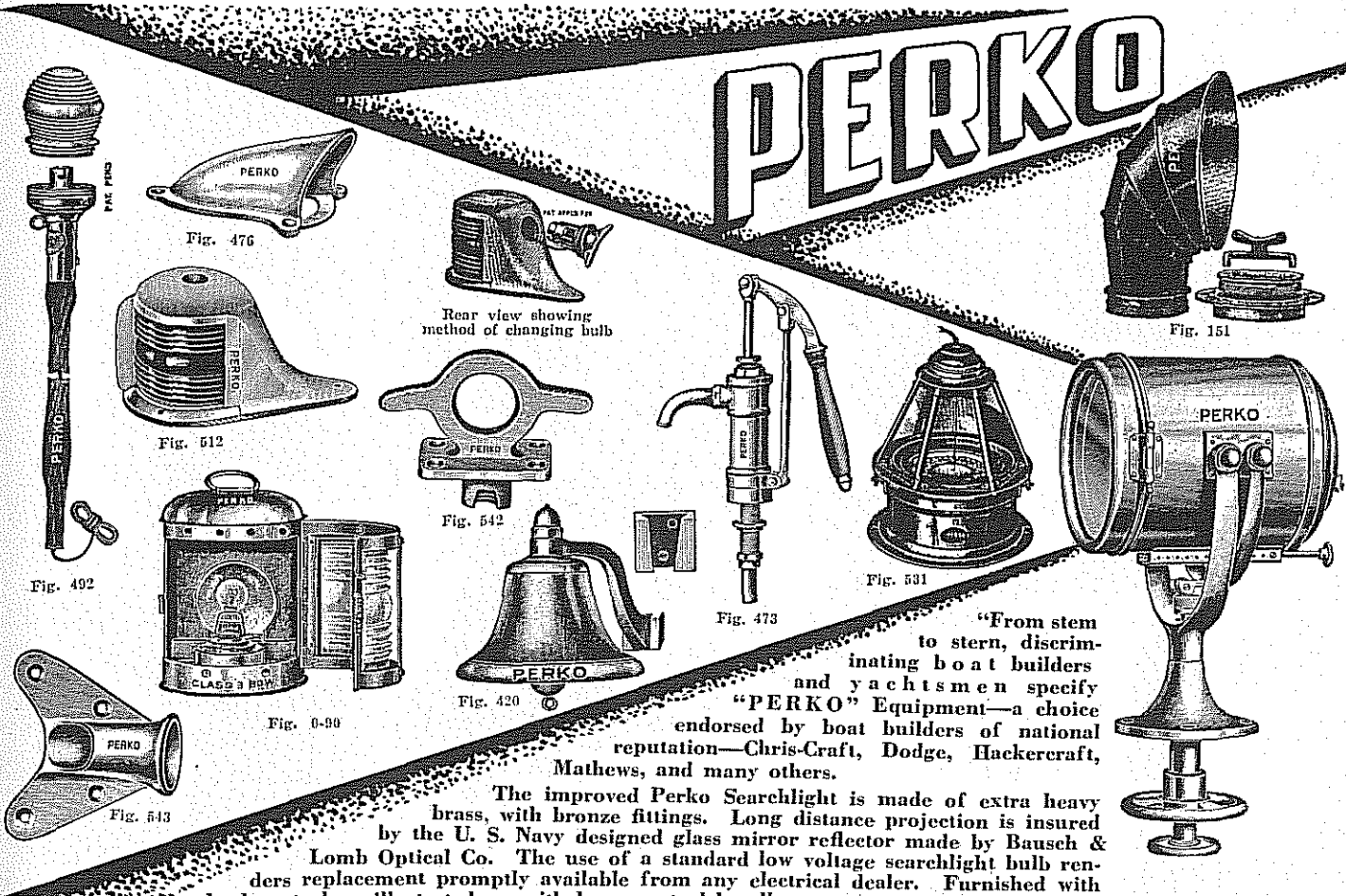
H. B. FRED KUHLS

Sole Manufacturer

65th Street and 3rd Avenue, Brooklyn, N. Y.

Established 1889

All Marine Supply Dealers carry Kuhls' Products



“From stem to stern, discriminating boat builders and yachtsmen specify “PERKO” Equipment—a choice endorsed by boat builders of national reputation—Chris-Craft, Dodge, Hackercraft, Mathews, and many others.

The improved Perko Searchlight is made of extra heavy brass, with bronze fittings. Long distance projection is insured by the U. S. Navy designed glass mirror reflector made by Bausch & Lomb Optical Co. The use of a standard low voltage searchlight bulb renders replacement promptly available from any electrical dealer. Furnished with wheel control, as illustrated, or with lever control handle.

It pays to keep in touch with “PERKO” progress through your nearest source of supply. Write or ask for the 68-page catalogue describing many other styles of marine lights and hardware accessories guaranteed by the name of “PERKO.”

PERKINS MARINE LAMP CORPORATION

923 E. 3RD ST., LOS ANGELES, CAL. NORMAN S. WRIGHT & CO., AGENTS 41 SPEAR ST., SAN FRANCISCO, CAL. 608 PIONEER BLDG., SEATTLE, WASH.

The
Patterson Sargent Co.
 MANUFACTURERS
**MARINE PAINTS, VARNISHES,
 SPECIALTIES, COPPER PAINT,
 RED, BROWN, GREEN,**
Products the Trade Have Learned to Respect
 Distributed by
C. J. HENDRY CO.
 San Francisco—San Pedro—San Diego

OILASTIC
FINE MARINE VARNISH

Serves best where the wear is hardest. Waterproofs and preserves the surface. Does not sun-check, crack, blister, or easily mar. Produces a tough, long-lived yet pleasing, velvety finish. Most effective for finishing and re-finishing of all kinds of hardwood and inlaid flooring and all fine wood finishes. OILASTIC is a firm and lasting finish for all woodwork and metal on SHIPBOARD. OILASTIC is proven the most effective coating against the action of SALT AIR, SEA FOG AND SALT WATER. OILASTIC effectively retains and protects color for a long period of time.

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Mfgs. of Speed Putties
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A. J. Morse & Son, Inc.
 221 HIGH STREET, BOSTON, MASS.
 Manufacturers of
DIVING APPARATUS
 Pacific Coast Representatives
The C. J. Hendry Company
 San Francisco San Diego

A 125-FOOTER IN A 95-FOOT HULL

(Continued from Page 35)

C. J. Hendry, manufacturers' distributing agents, provided much of the hardware and fittings for the ship, the above listed materials being in part their contribution to the fitting-out and commissioning of the fine-looking craft.

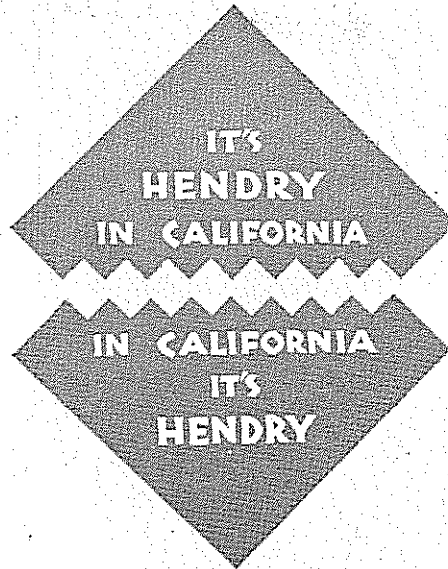
The Western-Enterprise cargo hoist is driven by a 10 h. p. Westinghouse motor, a duplicate of which latter is used to run the Western-Enterprise anchor windlass. In connection with the latter a Pacific Gear reducing unit is in use; this steps down the revolutions as delivered by the motor to about 70 r. p. m. when applied to the winch.

The cruiser is to have Perko lights, and Captain Gabelich states that after one or two successful trips he purposes to put aboard a powerful searchlight such as is manufactured by the Perko people. Since electricity will not be conducted into the fish holds, it will be necessary, when "icing down," that the men carry with them an extension light. C. J. Hendry stocks a full line of Perko electrical appliances, from illuminated jack-staffs to searchlights, tea-kettles and coffee pots.

An Ingle oil-burning range is the conspicuous feature of the "fishermen's club"—the galley. Ample ventilation and many cupboards and bins make the place a convenient one for the cook as well as a commodious rendezvous for the crew.

Bait Tank Unique

Something ought to be said about the



bait tank. It measures 24'x14'x6' overall and 22'x12'x6' inside, being divided into 2 equal compartments.

"We can carry 600 scoops of bait," declares Gabelich. That, incidentally is 9 tons of living, swimming sardines, more or less. New water is introduced into the tanks at diagonal corners, and in such wise as to set up a circular current.

Finally, it should be pointed out that whereas it has been considered adequate heretofore to calk fishing craft with but one yarn of cotton overlaid by another of oakum, in the case of the "Belle Isle"

two strands of cotton were driven into the seams before the oakum was calked down upon it. Kuhl's elastic seam composition by the barrel was paid in upon the oakum, sealing the sea-going refrigerator ship as hermetically as a stoppered flask.

Little remains to be done before the Gabelich cruiser goes into commission. Appearances all point to an early advent of the doughty vessel into actual production. No doubt Captain John Gabelich will receive delivery of the vessel in season to permit of his taking his family and friends on a holiday expedition aboard her.

GARBOARD LEAKS

The garboard seam is the most troublesome part of many boats. At that point all the stresses and strains must be equalized. It is the backbone of the craft and whether the boat is moved by power or sail the chances of leaking are usually greater at the garboard than at any other part. The first inclination is to drive in caulking where the leak appears to be. This act will often result in spreading the seam. The newly caulked portion acts as a wedge, causing the seam to become wider and wider as other spots are caulked, until it becomes impossible to get any caulking to stay in the seam.

Important—Do not drive the caulking in hard. Saturate cotton wicking in Jeffrey's C Quality Liquid Marine Glue; remove the excess by drawing between the thumb and finger; caulk lightly, but firmly, into the seam; allow it to dry for a few hours, then fill up the seam with Ferdico Seam Filler.

WOOLSEY'S

WOOLSEY has kept faith with the fishermen since 1853 and has never produced better Paint than **NOW**.

WOOLSEY'S COPPER "BEST" Paint, the World's Standard for Wooden Bottoms. It contains more copper than any other paint on the market.

WOOLSEY'S COPPER OLEATE Fish Net Preservative. Strongest on the market. Used by those who know True Value.

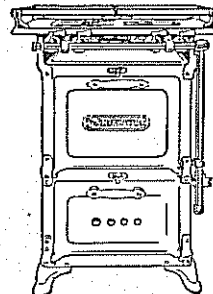
WOOLSEY'S TUNGSPAR VARNISH will Not Turn White, Crack or Blister.

*Distributed by all the
leading Ship Chandlers.*

C. A. Woolsey Paint & Color Co.
JERSEY CITY, N. J. SAN FRANCISCO, CAL.



*...Forty-nine
years ago!*



in the days of the square riggers, SHIPMATES were first manufactured. Then, as today, their excellent qualities were recognized, and through the transition from sail to steam SHIPMATES have held the lead which they won so many years ago.

THE STAMFORD FOUNDRY CO.
STAMFORD, CONN.

SHIPMATES

ROPE

HOW TO TAKE NEW ROPE FROM THE COIL

On the inside of the coil, or center aperture, find the end where the coil begins. Turn this side down. Reach down in the coil and draw this end up through the aperture. By so doing, the rope comes out of the coil the same as it went in, and does not put in any additional turn or twist which causes kinking and buckling encountered when attempting to take rope off the wrong way.

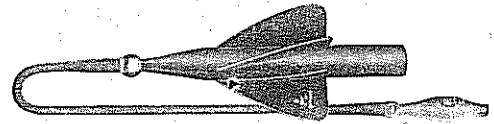
TUBBS

CORDAGE COMPANY

San Francisco, California.

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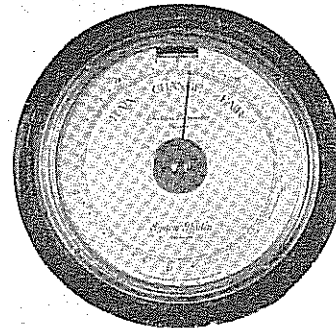
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Finest Logs and Parts Obtainable

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NOW YOU CAN FORECAST YOUR OWN WEATHER



With this Accurate Barometer

Why risk your profits—your boats—and your men—when for a few dollars more you can have the most accurate weather forecasting instruments made—the “Paulin” Weather Bureau Barometer. You can’t afford to guess wrong about weather. Inspect Paulin Barometers at our store.

C. J. HENDRY CO.,
111 S. Front St.
San Pedro, Calif.

NUNES HELPS INVENT NEW INGLE STOVE

Captain Francis Nunes, of the boat “Bom Jesus”, recently decided on modernizing his vessel. He commenced by tearing out the old and antiquated engine and substituting a new Atlas-Imperial diesel. Secondly, he undertook to bring his galley up to date which meant, according to his ideas, to “Ingleize” it.

Manuel Nunes, the skipper’s son, went to the Ingle people with a demand for a stove that would fit into the meagre galley of the “Bom Jesus”. None small enough existed, wherefore Finlay M. Drummond, president, and C. H. Marvin, engineer, set about designing one that would serve. The result is said to be a veritable marvel of compactness, which, despite its diminutive dimensions retains the oil-burning carburetor and the heat-distributing properties which are the famed, patented features of Ingle ranges.

“This new stove is a beauty,” declares C. H. Marvin, of the Ingle firm. “It is exactly the article that the owners of small boats have wanted for years. It measures 13x23x12 inches, including the height of the storm rails. The whole top of the stove is composed of a hot-plate on which frying can be done. Then there is a warming compartment, which is something the men really appreciate.”

Land Warming Oven

Ingle engineers at first planned on putting an oven into the stove, but when boatmen were called into council concern-

ing the matter, they advised against it. The warming-oven idea met with their instant approval, however, hence was adopted. Thus fishermen themselves have had a hand in designing the latest small-boat Ingle stove.

Installing the new stove aboard the “Bom Jesus” was simple. A copper tube was run from the fuel pump of the diesel to a 3-gallon tank, shipped on the roof of the galley. When the engine is running the tank can be filled in two or three minutes, the supply being enough to last about two days. Simple gravity flow carries the oil down into the galley, where the stove does the rest.

NECESSITY OF BOTTOM PAINT

The necessity of making certain that the fishing boat is properly preserved with bottom paint is pointed out by Geo. of the C. A. Woolsey Paint & Color Company.

Mr. Dwelle advises that bottom of craft be painted in the spring and again in the fall to afford them proper protection. In painting old boats he says never to scrape off the copper paint, but to apply new paint on top of it, thus building up a greater surface of protection to the hull.

Copper paint is particularly important to keep out the Tereido navalis, a borer which is considered most harmful to boats on this coast. This borer enters the timber and soon grows to a diameter of about one-fourth inch, and may grow to a length of 16 inches between the months of July and October. Its larvae are produced in these latitudes between

June and December, and therefore one may see the importance of properly painting bottoms in the spring.

INSTALL SHIPMATES

Shipmate stoves are winning great popularity among California fish boat owners, according to the C. J. Hendry Company, which has installed many on the boats built in recent years. Most of these stoves use the Hendry bottled gas, although the Stamford Foundry Company of Stamford, Conn., builder of the Shipmate, also manufactures stoves to use coal and wood.

Among the boats recently to install a Shipmate range are the “Costa Rica II,” “Commander,” “Sunkist,” “Rainbow,” and “Senator.” Capt. Steve Gargas, son of Frank Gargas, owner of the “Costa Rica II,” declares that he is very satisfied with the performance of the stove. Although the “Costa Rica II” was completed last year, the Shipmate range was but recently added to the galley equipment. The “Commander” is owned by Bernard Carr and Roy Katenich, and the “Sunkist” by John Hargesich and Tony Felando. The “Rainbow” belongs to Anton Cordich and the “Senator” to S. Ivancich.

ORDERS HENDRY’S GAS

Capt. J. Shioji of the “Asama” returned to port June 18 and told Joe Brannon of the C. J. Hendry Company to put a No. 61 all-enamel, combination “Shipmate” stove aboard his new vessel. At the same time the skipper also ordered a large supply of Hendry’s bottled gas.

ROBERT JOHNSON DIES

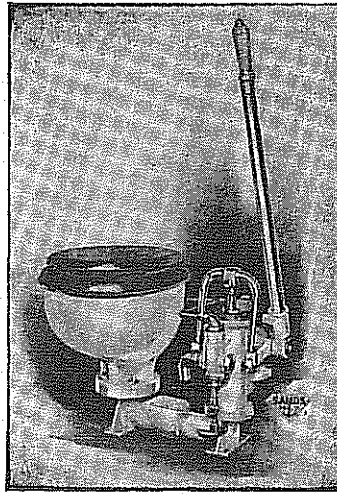
Robert Charles Johnson, formerly employed by the Western Enterprise Engine Company of Terminal Island, California, died suddenly June 22. His passing was a severe blow, not only to his family, but to his many friends on the local water front, by whom he was universally admired for his initiative and thorough knowledge of the diesel engine for which he was the local sales representative. Mr. Johnson was a brother to Miss Maude Johnson, circulation manager of WCF.

Funeral services were held at the Cleveland Parlors at 2 p. m., Thursday, June 26. The Reverend Tanner Brown officiated.

NEWPORT CALIF.

The Newport Boat Builders, Inc., have had their marine ways kept constantly filled during recent weeks by fishing boats that have been hauling out for bottom cleaning and painting. Whatever the admitted odds may be against it, the possibility that albacore may return again is not going to be overlooked or disregarded by the Newport men, most of whom are old-timers in the Long Fin game. They all are ready, now.

Mrs. Frank Cotta is demonstrating what can be done with a high-grade product, properly merchandised. Her specialty is smoked fish, the varieties offered being bonito, mackerel, barracuda and sea trout. A growing trade is resulting from the consistent care exercised in producing a uniformly prime article, the product being delivered to the customer in a wrapping of odor-proof, moisture-proof waxed paper.



Sands "Frisco" Pump Water Closet

IT'S A BOY

Frank Johnson, manager of the insurance department of the Van Camp Organizations, wore a million dollar smile on June 23, and announced to the world that Frank Jamison Johnson had arrived at the Good Samaritan Hospital, Los Angeles. Everyone on the municipal wharf, San Pedro, was smoking "White Owls" before noon.

The West Coast Fisheries publishes a diversified issue each month and in December an odd number known as The Annual De Luxe. Subscribe now!

CRABMEN'S GUILD OF THE BAY REGION

FOR NEARLY 20 years there has been functioning in San Francisco a Fishermen's organization which has been a model for all similar associations formed in the State during this period: The Crab and Salmon Fishermen's Association. When organized in 1912, it was designed purely for marketing the local crab catch. So well did the association succeed that it was not long before the salmon fishermen and rock cod fishermen became affiliated with it and at present its membership comprises all of the fishermen in the San Francisco bay area excepting those aboard the drag-boats of the wholesale fresh fish companies.

In the eighteen-year period the Association has grown from a small group of fishermen seeking to improve their marketing method to an organization controlling over 300 boats whose annual catch is valued at more than \$300,000. **Provide Many Benefits**

Business offices and club rooms occupy the upper section of a two-story building on Fishermen's Wharf; the lower floor provides space for handling and distributing the catch of the members.

The Association markets the entire catch of its membership, deducting a percentage of the returns for this service.

In addition to the benefits derived from collective marketing of their catch, death benefits are provided for and boats are insured to one-third their value.

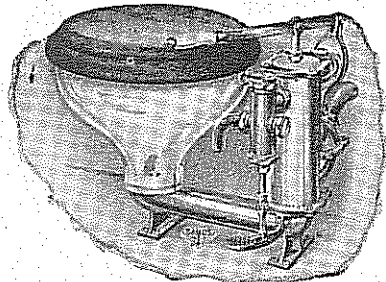
Charlie Ciancimino is president, a position that he has occupied intermittently since 1913; G. Amenta is secretary, and A. Farina manager.

The Durability and Low Maintenance Cost of

SANDS PLUMBING FIXTURES

adapts them for the strenuous service demanded on

FISHING BOATS



For more than seventy-five years Sands Plumbing Fixtures have been preferred for craft of all kinds from the little work boat to the most palatial yachts and ocean liners. There is a Sands Fixture to meet every plumbing requirement no matter how exacting it may be.

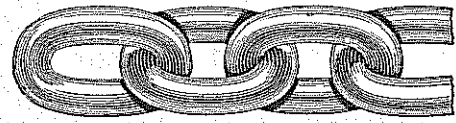
Illustrated is the Sands "Winner" Pump Water Closet for use above or below the water line—a most attractive and serviceable fixture.

Prices of the various finishes in which this closet is supplied will be sent on request together with catalog of other Sands Closets, Lavatories, Showers and accessories.

C. J. HENDRY CO.
SAN PEDRO, CALIF.

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22-24 Vesey Street, New York City

B. B. COIL CHAIN



This is a strong chain for general use. BB grade is made of shorter links, is more flexible and receives a higher test than the proof grade. It is regularly furnished in black finish.

Trade Size	Size Material	Inside Length	Inside Width	Links per Ft.	Wt. per 100 Ft. Pounds	Breaking Test Pounds	Proof Test Pounds	Safe Working Load Pounds
3/16	7/32	55/64	3/16	42	42	2310	1155	580
1/4	9/32	29/32	7/16	33 1/2	75	4050	2025	1010
5/16	11/32	1 1/32	3/4	24	112	6190	3095	1525
3/8	13/32	1 5/32	7/8	18 1/2	162	8350	4175	2090
7/16	15/32	1 19/64	1 1/16	14	215	11250	5625	2810
1/2	17/32	1 13/32	1 1/8	10 1/2	285	14850	7425	3710
9/16	19/32	1 5/8	1 1/4	8	345	18450	9225	4610
5/8	21/32	1 3/4	1 3/8	6 1/2	425	22500	11250	5625
3/4	23/32	1 7/8	1 1/2	5	605	31800	15900	7950
7/8	25/32	2	1 5/8	4 1/2	815	42200	21100	10600
1	27/32	2 1/8	1 3/4	4	1030	52800	27900	13950
1 1/8	29/32	2 1/4	1 11/16	3 1/2	1300	70200	35100	17550
1 1/4	31/32	2 3/4	1 7/8	3	1585	86100	43050	21600
1 3/8	1 1/32	3	2	2 1/2	1910	103500	51750	25875
1 1/2	1 1/16	3 1/4	2 1/8	2	2265	122100	61050	30600

Dimensions and weights are approximate

“GREEN ROPE”—AT LAST!

Every boat owner and fisherman will concede the fact, so little room remains for argument that, except in unusual cases, copper oleate is the best net and fabric preservative yet discovered. Long experiments by the U. S. Bureau of Fisheries, corroborated by subsequent practical tests during actual fishing, have proven that copper oleate has the property of conserving the tensile strength of textile fibre, twine, or rope, while at the same time causing no shrinkage incident to its application. Other benefits of importance are that the material treated is not stiffened, no weight is added to it, and its softness to handle is in no degree impaired. Indeed, the only detectable change in the twine, webbing, or rope after it has been “oleated” is that it is a pale green in color.

When copper oleate first had its proven virtues extolled by the U. S. Bureau of Fisheries (which did a fine work in popularizing it among the skeptics of our sea-going huntsmen), no net and twine manufacturer offered either webbing or unknit cotton already treated with the strange chemical. If a fisherman wanted copper oleate on his gear he was forced to the expedient of applying it himself. Later, however, net manufacturers generally took to coating “green twine” (oleated) and “green web.”

But nobody did this for rope. Until recently every boatsman has had to souze his new cordage into a keg of the oleate himself—or use it raw, as it was.

The fact that oleate does not shrink rope, does not stiffen it, and does not make it harsh to handle, all recommend it to the sea-faring user. However, he is

also interested in the fact that the oleate impedes the adhesion of marine growths, and prevents organic matter from fouling and rotting the textile. Knowing all of these things he most certainly wants “green” or oleated rope, but in many instances he does not want to be bothered with having to dip it himself.

From now on he won't have to. He can buy it already “greened” or oleated. The Tubbs people of San Francisco (Tubbs Cordage Company), have come out with a full line of already-treated “green” rope. They have facilities for treating miles of cordage at a time, and have experts to do the job exactly right. The oleate is driven through the strands so uniformly that if you cut a chunk out of one of their “green” ropes and then separate the threads and strands, you cannot tell which fibres originally were laid to the outside. Best of all, the future strength of rope is re-doubled, for by delaying decay and preserving the fibres, oleate makes “green” rope out-work and out-wear all other sorts.

It was a long time in coming, but at last “green” rope is permanently here.

AUGMENT TANK CAPACITY

The “Conte Verde” has recently installed a Chevrolet auxilliary, and with it added two new galvanized gasoline tanks holding 400 gallons. Lewis, of the Central Sheet Metal Works, did the work.

The Hendry sales force state they are at the present experiencing a big run on the new style Perko cast-bronze cabin fixtures due to unusual boat-building activity and reconditioning prior to summer cruises among the yachting fraternity.

C. J. HENDRY NOTES

John Arthur Robertson, shipping clerk, purchased himself a new Chevrolet Sedan for use on his vacation spent around the San Francisco bay district.

* * *

H. K. Knight, salesman, who prior to joining the C. J. Hendry organization was a policeman at Fresno, visited his former stamping grounds while on his vacation. However, someone had turned on the heat and forgotten to turn it off, so for this reason Bill cut his vacation short.

* * *

Anthony Ghio, receiving clerk, tried to lift the rear end of an auto truck, and this unusual display of strength put him in the hospital for a week. However, he is expected back on the job, soon.

* * *

Mary Grant, billing clerk, is looking things over at Catalina Island, and has promised to bring us each a flying fish.

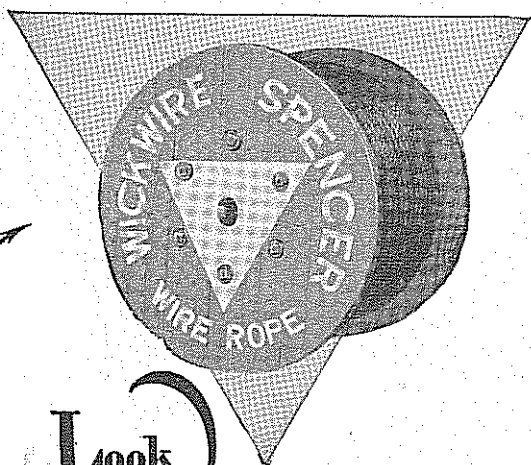
* * *

The Hendry organization was well represented at the annual Bilge Club Tournament held at Royal Palms, June 27.

* * *

A. W. Johnson, purchasing agent, placed second at flag play and placed fifth in low net scores. J. A. Logan, A. P. A., finished in thirteenth place. W. J. (Billy) Maggio was the “High Cockalorum” at the Barbecue Pit. All hands reported this barbecue as being one of the best that was ever served at this popular club.

For **STRENGTH** and
UNIFORMITY Use—



Look
for the
triangle
on the
reel

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C. J. Hendry Co.
San Pedro, California

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WIRE ROPE



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JEFFERY'S
Waterproof
MARINE
GLUES

Tenacious—Resilient
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proof—Non-
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Modern boat construction demands a waterstop embodying the qualities of Jeffery's Marine Glues
Three quarters of a century of satisfied users is its own endorsement.

There is a **Jeffery's Glue** for any leak
Send for free booklet “Marine Glue Uses”



Fishermen !!

We recommend and guarantee

**Porterdale Superior
Seine Twine, Sail Twine
and
Cotton Rope**

Porterdale Superior Seine Twine and Cotton Rope are made in the largest Seine Twine mill in the world by people who have made a life study of the requirements of the fishermen.

Only strong fibre and carefully selected cotton is used, which makes Porterdale Superior Seine Twine outlast any other brand.

C. J. HENDRY CO.

FISHERMEN

can always depend on

**Tower's Fish Brand
WATERPROOF OILED SUITS**

Favorites because they last longer



Special Pants No. 751 for Tuna fishermen are reinforced in front with duck patch making a three ply wearing surface. Eyelets on bib (no buttons to catch on nets)—waist straps.

Insist on garments bearing this mark



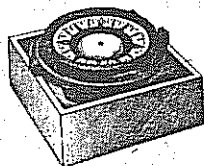
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San Pedro, Calif.

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THE SAN DIEGO SECTION

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THE AMERICAN FISHERMEN'S PROTECTIVE ASS'N.

AFPA

Portuguese React "Feast of Holy Spirit" in Colorful Fiesta

Old Legend of Their Ancestors Is Recalled as "Queen Isobel" Places Crown on Altar in Commemoration of the End of Days of Famine That Delivered Her People from Death and Rejuvenated the Nation—Fiesta Will Bring Bountiful Catches to the Devout Participants, It Is Believed.

LA FIESTA del Espiritu Santo" outranks all other fishermen's celebrations known to the continent of America. It is an annual affair, staged on San Diego harbor, is supported and conducted exclusively by the Portuguese fishermen of the Point Loma colony known now by the name of "La Playa", and is of deep religious significance to its proponents and participants.

Great preparations are made far in advance to insure its unflinching success; thousands of dollars of the fishing people's money are expended in entertaining the multitudes that gather to witness the gala happenings; the entire Portuguese colony takes personal part in the festivities in some way or another, and the music, the dancing, the display of fireworks, the feasting, and the brilliant processions are such that many persons who appreciate sincere and genuine pageantry are drawn from hundreds of miles to witness the earnest ceremonies with which the sea-faring Portuguese punctuate their otherwise industrious year.

Unique Celebration

The fiesta is unlike any holiday or occasion of observance known to American people. It merges into one three-day event the cheer of a New Year anniversary, the boisterousness of a Fourth of July, the feasting and drinking of a Christmas, and the intense religious fervor of an Easter. Within its brief period, and by virtue of its license, the fishermen celebrate the termination of a rich tuna year with music, dancing and dining while coincidentally manifesting their recognition of, and gratitude for, the divine providence that has befriended them so well. Moreover, it may not be very wrong to suppose that more than one good tunaman believes that by assisting in the devout rites he will, during the year to come, inexplicably discover more schools of yellowfin than otherwise might be.

An Old Legend

Better to understand the present practices of this people, the tradition on which "the Feast of the Holy Spirit" is predicated must be known. The story, then, runs somewhat to the effect that in the year 1288 a terrible famine was decimating the people of Portugal. The dead lay unburied in the gutters of empty streets and churches were clogged with perishing humanity, praying for relief. Queen Isobel—now sainted and much revered—at this juncture emerged from the royal



Fred Shellin, President American Fishermen Protective Association, who participated in colorful fiesta.

residence, and, accompanied by her maids-in-waiting, made her way to the public square.

There, in the midst of a multitude of her suffering subjects she knelt and made a vow to the "Espiritu Santo" (Holy Spirit), that were help brought to her people through the execution of a divine miracle, she would deliver her crown to the cathedral in token of gratitude and as an expression of devout benignity.

At the very moment that the oath was made three ships sailed into the harbor—for all of this is related as having happened in the capital city of Lisboa—and the rich cargoes of foods that they were found to contain put a summary end to the distress of the populace.

According to the traditional recounting of this event, not one man was to be found on any of the ships—they had arrived entirely without crews. Queen Isobel, true to her word, then walked to the cathedral, carrying the crown which she deposited upon the altar in fulfillment of her pledge. On leaving the church a white dove flew down out of the sky to alight for a moment upon her head or shoulder. This was interpreted as a visitation of the Holy Spirit itself, and was accepted by the people as a further proof that their queen was, in fact, a saint.

The Fiesta in America

Portugal is far away, and a majority of

the so-called "Portuguese" now resident around the shores of San Diego's "Bahia de los Esteros" are native Americans who never have seen the Land of the Vine, but they are keeping alive the special and distinctive customs which their forefathers, who landed in California about 1885, brought with them from the Azores. However, the Monises, Madrugas and Soares, who pioneered the road to the new land, were far too few in numbers and much too reduced in circumstances to undertake a group celebration. Instead, they had observances within their own homes, and awaited the coming of their day of affluence.

In 1910 the colony found itself both numerous and well-to-do. It had its own church and a priest who spoke the language. The time seemed propitious, so the first public celebration was held. A "Queen Isobel" was chosen by popular vote from among the unmarried girls of the colony, and a pageant produced wherein the "Queen" carried her crown into the church to deposit it there upon the altar. Each year the festival was repeated. Each year it grew in size and consequence. Finally it became so stupendous a thing that men could not be found who could afford the weeks of time necessary to make the detailed preparations that were necessary.

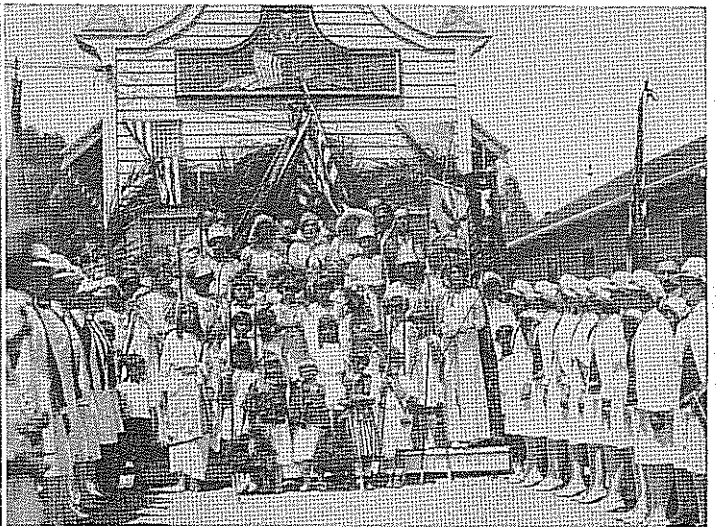
Tuna Ships as Hosts

This dilemma arose at the same time that tuna fishing became a great business. The Portuguese had given up their former small-boat work and had discontinued the salting of fish—their chief activity theretofore. Tuna paid them unheard-of profits and the ships were carrying crews of more than a dozen men instead of the two or three that used to man a salt-fish craft.

Manuel O. Medina was then (1928), captaining one of the newest diesel cruisers in the fleet—the "Grayhound". It was he who came forward with the practical suggestion that the fiesta be sponsored each year by some vessel and its crew, and so as to put the new plan into effect he offered to undertake that year's obligations himself.

The "Grayhound's" proposal was accepted by the colony, and thus it happened that for the first time a tuna ship became host and sponsor of the festivities. Unfortunately, the "Grayhound" was wrecked soon afterwards, but Medina thereafter became master of the cruiser

(Continued from Page 45)



Captains Monise ("Invader"), M. H. Freitas ("Navigator"), Jos. S. Soares ("Abraham Lincoln"), and M. O. Medina ("Atlantic"); Misses Betty Salter (American Flag), Evelyn Monise (Queen's Maid), Elizabeth Silva (Queen), Deutilde Medina (Queen's Maid), and Alice Silva (Portuguese flag.)

"Queen Isabel" and attendants proceed from the little chapel to the church on the hill above. The Queen carries the crown while both of her two maids likewise bear gifts to the altar. A band, playing the slow-tempo "Hymn of the Holy Spirit," succeeds the royal party.

The four-squad, sixteen-girl drill team organized by Mrs. M. O. Medina in 1929. Joe Azevedo, drill captain, is seen standing at the left. Aldina Madruga was the "top sergeant" who issued the commands that wheeled the team through its maneuvers.

After returning with the crown to the chapel—mass having been said in the church—the marchers were arranged for photographic record. Captain Joe S. Soares, 1930 president of the fiesta, is seen towering above everyone, directly behind the Queen.

Arrived at the church, the procession halted while a ceremonious welcome and entrance was made, the priests blessing the principals and sprinkling those who entered with holy water. No part of the throng of spectators could gain admittance to the little wooden edifice.

Many groups of little children, all dressed according to fixed plan, marched in the pageant. Note the beautiful homes of the Portuguese tuna fishermen in the background. American flags were widely used in the decorative scheme.

**COLORFUL FIESTA
MARKS OBSERVANCE**

(Continued from Page 43)

"Atlantic". In 1929 this latter volunteered as vessel-host for the fiesta, and with its serving as such the practice initiated by the "Grayhound" was converted into fixed tradition.

"Abraham Lincoln" in 1930

Months ago Captain Joe S. Soares and the crew of the "Abraham Lincoln" commenced plans for the 1930 affair. Exercising his prerogative as this year's president of the fiesta he chose Elizabeth Silva, a niece, for queen. Each member of the crew of the "Abraham Lincoln" was placed in charge of some department of

the celebration and made a committee of one to provide for music, food, fireworks, program or some other department requiring administration. Fullest co-operation was had on every hand, everyone in the colony giving liberally of time and means that the communal observance might want for nothing necessary to its success. Thousands of dollars in money was available to meet the expenses to be incurred, for among the Portuguese there is a self-imposed tax of fifty cents a ton on all tuna brought to port, and many a cruiser, after a lucky trip, has paid seventy-five or eighty dollars into the festival fund.

Well Chosen Occasion

This year the fiesta was planned for the seventh, eighth and ninth of June. It was a convenient time since the winter cruising-season was then past and practically all of the vessels had returned from their tropical voyagings. The crews availed themselves of the opportunity to lie in for a few weeks while overhauling in preparation for local summer fishing. Not one would miss the fiesta.

Saturday afternoon, June seventh, the celebration began. Crowds of people gathered around the buildings which house the Portuguese fishermen's association, and the twenty-piece band of the American Federation of Musicians commenced a concert. Dozens of persons visited the tiny chapel that stands beside the Association's long halls, to decorate its altar with wreaths or blossoms or for the purpose of saying prayers in the presence of the tall silver crown that represented the original belonging to Queen Isobel 642 years ago.

This crown, by the way, had been brought to the chapel earlier in the afternoon by the Queen, her maids and retinue, all of the girls being garbed in long, flowing costumes of peach color excepting the Queen herself, who was in pure white. Throughout the year the crown rests in a permanent situation especially dedicated to it in the Catholic church of the colony. It is transferred to the chapel of St. Agnes only on the occasions of the fiestas, and then with much gravity and ceremony.

Fireworks Shown

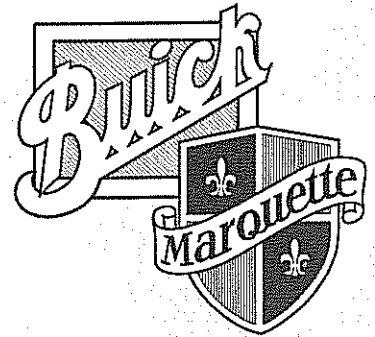
When darkness fell a gorgeous display of fireworks was set off, the exhibition lasting for more than an hour. Rockets and bombs and special mechanical pieces of every description were shown, there being several of unusual beauty. One of these was a large representation of the American flag, during which display the band struck up the national anthem. This was followed by a replica of the banner of Portugal, accompanied, of course, by the national air of that country.

Finally, international honors having been concluded, the shield or escutcheon of the Portuguese Association was displayed, four or five separate colors being built into the designs. Loud applause and much tooting of parked automobiles' horns followed the waning of every fiery picture or design, and loud "Oh's" and "Ah's" from the engrossed spectators were evidence enough that their enthusiasm was genuine had there not been better proof in that couples became separated and this fisherman leaned over to that fisherman and whispered excitedly: "Look, Honey! Look at that one!"—meaning a sky-rocket.

The Three Miracle Ships

Moored tandem, three tuna ships lay in the bay just off the fiesta grounds.

**The Fisherman's
Friend**



**Robert D.
Maxwell Co.**

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SAN DIEGO

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**AMERICAN
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Always Ready

**Two Automatic Ice
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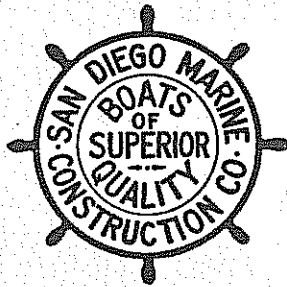
Instant Service

New Fishermen's Wharf
San Diego

These were the "Patria," the "Invader" and the "Navigator. Each vessel was dressed out in bunting and code-flags which the "Patria" was strung with pure white lights that set her profile off like a Venetian cameo; the "Invader" was festooned with red and white lights as numerous as any Christmas tree, and the "Navigator" was not only lined with strings of colored globes, but had automatic intermittent signs as well as a powerful searchlight in play. Abroad this latter vessel a number of men were assisting in the fireworks display, they having abroad a large assortment of sky-rockets, Roman candles and sky-bombs that exploded at high altitudes with a crack that have waked up the pelicans on the Coronado Island roost.

And then Everybody danced all night.

(Continued on Page 58)



Builders of

TUNA CLIPPERS DIESEL TUGS
YACHTS CRUISERS
COMPLETE MODERN BOAT WORKS
300 TON MARINE RAILWAY
EXPERT
HULL REPAIR ENGINE REPAIR

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ASSOCIATED

DIESEL FUEL GASOLINE
FULL LINE OF LUBRICANTS
FISHERMEN'S WHARF
STAR & CRESCENT OIL COMPANY
SAN DIEGO, CALIFORNIA

Pacific Coast Fishermen



**USE
TURCO
CLEANER**

Unsurpassed For
Engine Room,
Galley and
Deck

Bay View Supply Co.

All Night Commissary

Service Startles Sea-Going Chef!

MEN WITH LONG memories may recall the date exactly, but for present purposes it should suffice to say that it was probably some time in 1928 that the U. S. Bureau of Fisheries' patrol boat and luxurious stateroom yacht, the "Brant," came south from Alaska to make a cruise into waters off Baja California. Distinguished personages were aboard, wherefore it followed as a corollary that the cuisine had to be of the finest.

A base was established at San Diego, that seeming to be a strategic point for the departure, and a hurry-up call was issued for stores. Provisions of every description were needed, for the long trek from Juneau, Alaska, had spent the last that the larder contained. The vessel's cook drew up a lengthy grub list, expressing profound misgivings lest much of his requisitioning would meet with the rejoinder that "we ain't got —" and so forth.

What happened set the maritime chef to talking along the length of the coast. His order-sheets were turned over to the Bay View Supply Company where they were handled by

John H. Tregilgas, personally. Without exception his requests for standard foods as well as for finest-quality delicacies were met in full. The monarch of the galley was astonished.

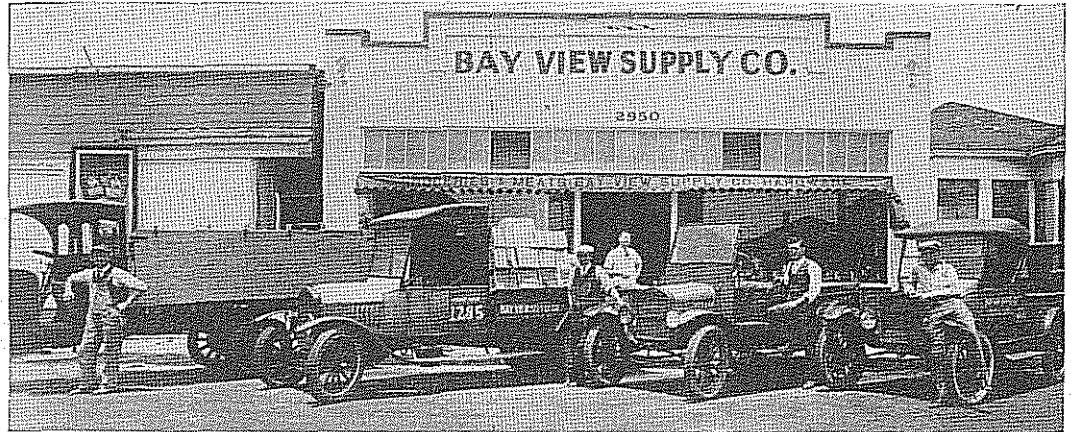
"I never saw such service as they gave us down there," he declared on getting back to San Pedro. "Their goods are all up to standard, too, and exactly the same as are used ashore. What surprised me

most was the cheap prices—they delivered the last of our stores in the middle of the night and didn't charge us extra for it. I wish that there was some place in Alaska where we could buy at such low prices—but there ain't. If I had a yacht of my own I'd outfit and provision at San Diego all of the time."

This is but the practical introduction to a continuing story that had its beginning about 10 years ago.

"We started our commissary and chandlery business here in 1921," said John Tregilgas. "In those times the fishermen had only 40, and 45-foot boats—and not very many of those. I remember the 'St. Agnes' and one or two others of about

(Continued on Page 50)



Here is the Fleet of Trucks and the Men That Man Them, that make Bay View Supply Company Service Unique on the Pacific Coast. In Background the Base of Supplies.

MISSION BELL PETROLEUM CO.

BEVERLY S. COOPER, Mgr.

Distributors of Western Gasoline and Diesel Oil, and Sinclair Lubricating Oils.

Operating the most modern and fastest Ice Crushing plant in San Diego.

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Shockey Boiler Works

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J. TREGILGAS Res. Main 0544
F. E. STAPLES

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LOCATED ON FISHERMAN'S WHARF, SAN DIEGO



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FROST'S

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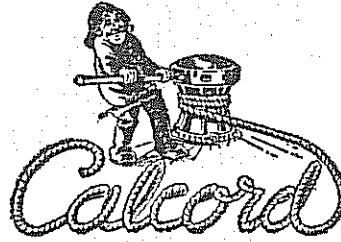
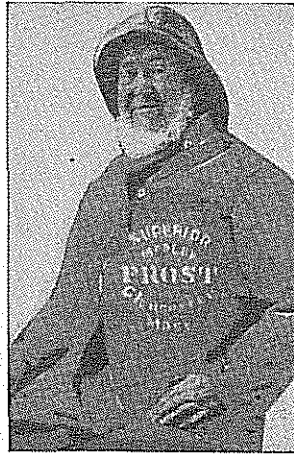
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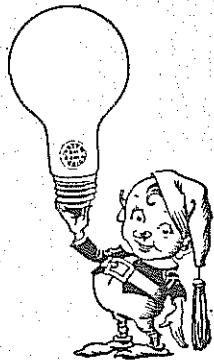
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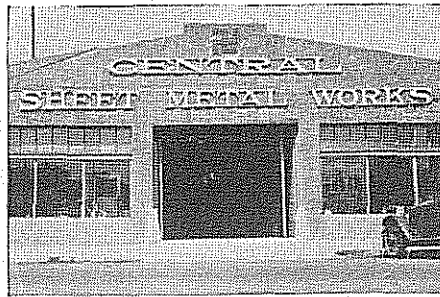
THOUSANDS JOIN IN HYMENEAL FEAST

ONE THOUSAND friends and invited guests took three days off and joined in the celebration when Frank San Filippo, one of the officers of the West Coast Fishermen's Association, escorted Miss Josephine Patraggino, of Los Angeles, to the altar. The wedding took place on the first day of June, the ceremony being performed in the Sacred Heart Cathedral of Los Angeles.

San Diego was represented by a numerous concourse headed by Joe Camillo and Frank Bompensiero, the latter being best man. Four maids-in-waiting attended the bride, while four honorary ushers backed up the groom. Three hundred and eighty guests feasted at the post-nuptial banquet that was prepared and served at the Ray West Cafe, in Westlake Park, at the conclusion of which a throng of 700 gathered at the Virginia Ballroom where the festivities wore out the night.

An event in the general celebration was the cutting of the mountain-like wedding cake, one of many gifts made to the pair by the groom's parents. Four feet high, and built up of ten separate layers, each the size of a wagon wheel, the mammoth creation of the pastryman's art furnished a luscious dainty for the immense assemblage.

On June third the wedding party returned by automobile to San Diego, where the San Philippos will make their home.



C. S. LEWIS, chantey-man around the Central Sheet Metal Works, San Diego, has just gotten back from a fishing trip to the Colorado River. Arriving home with a half ton of ichthyological plunder, his recipe for catching fish has at last been wheedled from him.

Lewis baits his hook with black perique chewing tobacco—most potent weed grown. The ravenous fish takes the bait off the hook, and the strength of the leaf soon fills his mouth with saliva.

"Everybody knows that you can't spit under water," declares Lewis, "so when they come to the top I knock them in the head with a hammer—got an auto load that way!"

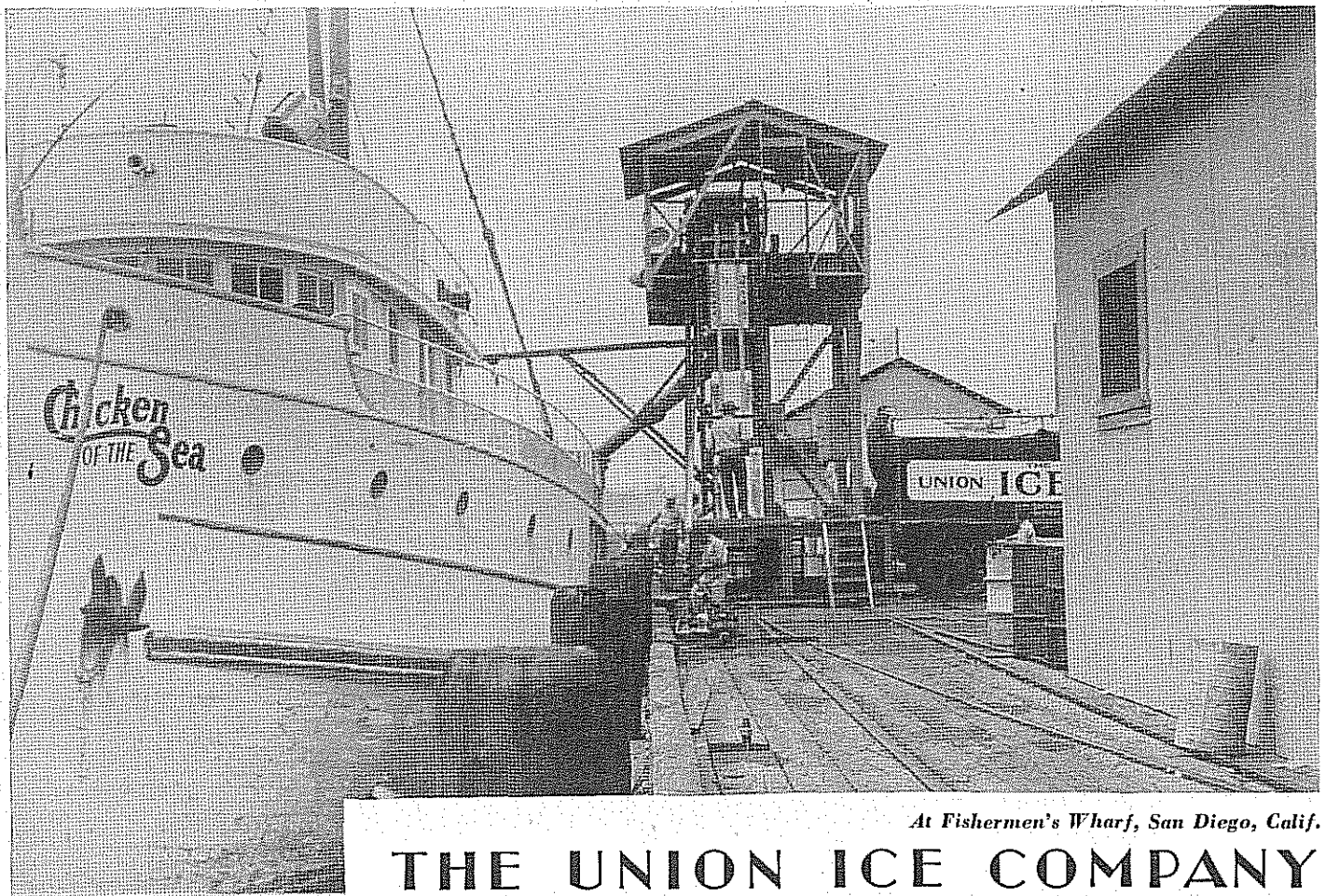
Sinclair lubricating oils, greases and related products are distributed by Beverly S. Cooper, owner of the Mission Bell Petroleum Company. Cooper likewise stocks a full line of Western Oil and Refining Company fuels, gasoline, kerosene.

ELECTRICAL SPECIALISTS PERFECT WIRING TABLE

Line-shaft jobs are going out. Not only are few tuna-ships being built on the line-shaft principal, but more and more of those already in commission are converting to all-electric installations. Take the "St. Therese," for instance.

This business of converting vessels to an individual-motor basis is not as easy an engineering accomplishment as many a man might think. In the first place, neither engine manufacturers nor anyone else knew with any exactness what quantity of power was requisite to drive fuel pumps, air compressors and the other units that formerly were energized from a single mechanical source. The result of this lack of information was that in some instances motors too small for the work were placed in vessels, while in other cases over-size waste occurred. Wherever an under-estimate of power was made, the wiring that was put in was too small to carry the necessary current, for a disproportionate amount of "juice" is needed to turn a 10 h.p. motor when it is laboring under a 50% or 100% over-load.

"GILDA GRAY" has fungus. It certainly is too bad. Now, "Gilda" is a he-fish despite his name and all; and albeit he's called a "Goldfish" he is entirely white. Mrs. Julia C. Brewington, who keeps all the records neat and tidy in the San Diego office of the Fish and Game Commission, has Old Man "Gilda" in a big glass jar at home. She is doctoring him up, but says that "the fungus" is a tough disease.



At Fishermen's Wharf, San Diego, Calif.

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
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COOPER, OF "MISSION BELL" TO BE TANKED UP

A large steel barge is being constructed in San Pedro for the Western Oil and Refining Company. Mammoth in proportions, the great multiple-tank affair is to cost \$90,000. It will be sectioned into as many separated compartments as the company has different fluid products, and each of the containers dedicated to some one of these. Sea-going tugs will tow the barge between the firm's San Pedro refinery and San Diego. Beverly S. Cooper, president of the Mission Bell Petroleum Company of that port, is agent for the "Western" products. We expect to see the gigantic steel scow made fast to his dock any day now, while his storage tanks are replenished by direct pumping from the various chambers in the barge's hull.

NOT GOING TO BURN UP

Both of the big tuna cruisers now nearing completion in the yards of the Campbell Machine Company have been provided with CO-Two fire-extinguishing apparatus, according to Clem Stose who sold them the equipment. In addition to these two installations, the Fish and Game Commission's new patrol boat, the "Bluefin," likewise has the automatic fire-fighting apparatus aboard. This latter fact is looked upon as something in the nature of a triumph, for it is a matter of common knowledge that the specifications and details of the "Bluefin" were worked out with the most painstaking care, and only the best of everything requisitioned.

Stose reports a lively business in CO-Two apparatus, numbers of yachtsmen and pleasure boat owners having recently protected themselves against the dread accident of fire at sea by putting in these automatic combustion-killers.

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SERVICE STARTLES SEA-GOING CHEF

(Continued from Page 46)

her size. Now they have this big fleet of 100-foot ships, and more being built every day. Crews are larger and the trips are longer—especially during the winter season when the vessels cruise southward into the tropics. Our business has grown with the fleet, and has redoubled in the same proportion. The boatmen have been very faithful to us; we are old-time friends now; mutual fair dealing has built up the business."

In the days of its infancy the Bay View Supply Company occupied a small room that used to have its walls just about where the center of the great display room now is located. Gradual growth made it necessary to rent an additional amount of space but this, too, soon was outgrown. In rapid succession still another room was acquired, then the whole place was re-organized, re-built, and the unified structure was added to in the rear to increase storage space. John Tregilgas relates that at that time he and his brother James Tregilgas has a stock of merchandise on hands exceeding \$40,000 in value.

As it exists at present this provision and chandlery house is an imposing institution. Its catalog of commodities ranges from green onions and olive oil to oakum, underwear, shotguns and liver pills. It has a large fresh meat department, with a skilled meat-cutter in charge; a 1½-ton refrigerating machine chills a 20-foot glass exhibition case in addition to a large insulated room through the plate-glass front of which tasty arrangements of beef, veal, mutton, pork and cured meats can be seen, clearly. A separate show case contains an appetizing assortment of cheeses, sausages, butter, eggs and spiced specialties. The Tregilgas Brothers indicate with pride that their meats are the freshest to be had, being obtained directly from the modern packing house in National City, only a mile or two distant.

"We operate six trucks," says John Tregilgas. "We sell wood, coal, live pigeons, live chickens and live rabbits. We have sold as high as 100 Rhode Island Red hens a day to the San Pedro purse-seine boats that come in here in the spring. During the time of the albacore buy-barges we used to dispose of 1500 to 2000 loaves of French bread every day. You know, we have a day and a night 'phone and we make up orders at any hour, week days, Sundays, holidays or any other time. I have bounced out of bed as many as six times a night."

James Tregilgas is the "outside" or "contact" man—he cruises along the waterfront, meeting the vessels as they come

in. The orders that he takes from the captains and cooks he telephones in to the store where the goods are quickly assembled into company trucks for immediate delivery to the fishermen. To be able to put stores aboard craft swinging at moorings in the stream, the Bay View Supply maintains a launch with which to complement its truck fleet.

"It is the San Pedro purse-seiners that make us demonstrate our abilities," declares John Tregilgas. "They come in at night and always are in a hurry. Plenty of times we have made deliveries to them at 1:30 and 2:00 o'clock in the morning."

There might have been more to this story, but the telephone kept ringing so incessantly that John Tregilgas could not well continue the interview. Too much business. Which is a happy sort of punishment.

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Campbell Yards Establish Record In Tuna Ship Construction

**THREE HUNDRED AND FIFTY THOUSAND DOLLARS WORTH
OF 115-FOOT TUNA KEELS LAUNCHED IN FORTNIGHT**

WEST COAST vessel construction has reached such proportions that little notice now is taken of the completion of a new ship. It might be said that in this regard our fishing people have become blasé or sophisticated, for the announcement that a group of men has invested \$100,000 or more in a new tuna cruiser no longer stirs the imagination or occasions extensive comment. New keels one hundred feet in length or longer are being slid into the water with almost the same monotonous regularity as the recurring days of the week.

Incipient Mass Production

But when a boatyard commences building ships in groups or batches, and even progresses so far as to standardize frame-sizes so as to saw its timbers in multiple lots for the building of whole groups of vessels to identical form, then indeed, even the most sophisticated must take heed and recognize the unprecedented scale on which West Coast fishing ship construction is now progressing.

Three at a Time

Several of the larger boatyards of the Coast have launched 80- or 90-footers at the rate of one or two a month, but it has remained for the Campbell brothers of San Diego, proprietors of the Campbell Machine Company construction yards, to demonstrate an ability whereby three giant ships, each one of them measuring far beyond one hundred feet in length, can be completed simultaneously and all gotten afloat within the brief space of a few summer days. Such has been the accomplishment of the San Diego builders who, during the final days of June, consigned to the sea three large and handsome fishing craft such as characterize the tuna industry of the southern West Coast.

Question of Names

To the builders, the vessels took form under the names of "Hull 36," "Hull 37," and "Hull 38." No other designation was applied to them until they were almost completed, and even within the last few days before its launching the name that the largest of the three was to bear had not been decided upon by its owners. Now, however, and henceforward "Hull 36" will be known as the "Continental," "Hull 37" has become the "Defender" and "Hull 38," biggest of them all, has been christened the "Santo Amaro."

115-Footers

The "Continental" and the "Defender" are sister ships, and each is an exact replica of the other. Their dimensions are 115 x 25 x 11.5 feet (116.5 feet over all). They have been designed to afford a capacity of 175 or more tons of iced fish each, which is the equivalent of a payload exceeding \$20,000 in value per trip. The "Continental" has been powered

with a 6-cylinder Atlas Imperial 350 h. p. diesel which, because of the fine lines of the vessel, imparts to it a maximum speed in excess of 12 knots, and a normal cruising velocity of 10 knots. A feature of the engine-room installation is that twin 3-cylinder Atlas Imperial, 50 h. p. auxiliaries, directly connected to 30 kilowatt Westinghouse direct-current generators, have been installed to provide energy with which to operate the all-electric equipment on board. Westinghouse motors have been used throughout, there being two of 7½ h. p. connected to the 6 in. Fairbanks Morse ball-bearing bait-pumps, one of 5 h. p. driving the Campbell-made cargo winch, one of 5 h. p. energizing the Campbell-made anchor windlass, one of 3 h. p. attached to the 3 in. Fairbanks Morse ball-bearing bilge-and-fire pump, and one of 10 h. p. belted to the 8-ton ice machine which provides refrigeration throughout the ship.

Thick Insulation

In this connection it might be well to mention that 3,000 lineal feet of 1¼ in. freezing pipe have been installed in the ship, and that the ammonia storage will accommodate 300 pounds of fluid. Sheet cork insulation 4 in. thick has been provided on bulk-heads, and 3 in. on overhead and sides. This insulation is supplementary to the 7 in. thickness of wood which is built into the hull, the ceiling on the inside being 3 in. thick—identical to the outside planking—and calked water-tight.

Bulk-head Protection

Two water-tight bulkheads, one forward and one aft of the engine room,

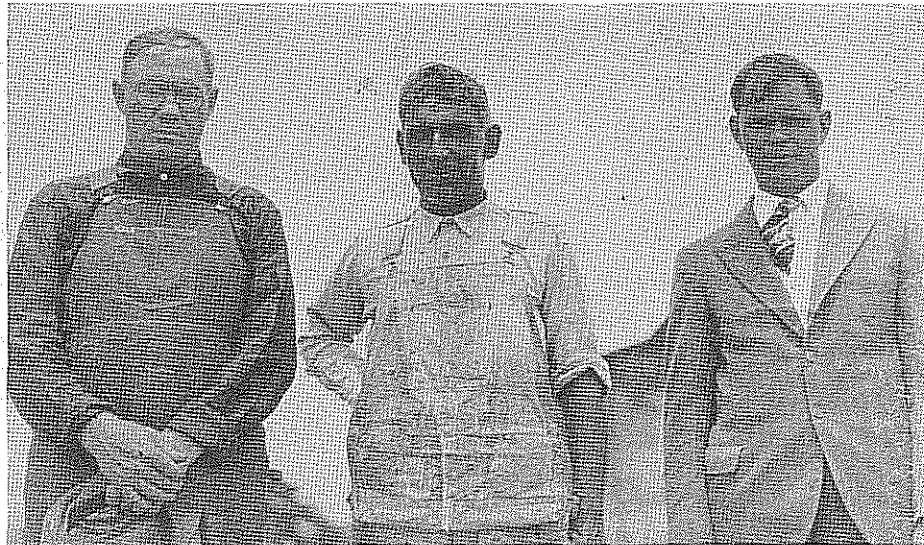
section the ship into three compartments. Water-tight stuffing boxes have been provided around the main shaft, as well as around all pipes passing through these bulkheads.

Special Fittings

The "Continental" has a lignum vitae stern-bearing furnished by the Atlas Imperial company. Its stack was built by the Central Sheet Metal Works of San Diego, and the Campbells themselves constructed the muffler. They also designed, built, and installed the steering mechanism, which is described as a "worm and gear" placed in housing at the top of the rudder post. George Campbell tells that he assembled this device by using parts of Fordson tractor rear axles together with shafting which he provided himself. The shafting runs forward from the rudder, passing through "pillow block bearings" to a sprocket directly beneath the wheel-house. A chain runs up to another sprocket, fixed to the hub of the steering wheel. An off-set shaft, with sprockets and chains at each end, is used to carry the steering gear around the square opening of the hatch.

Ship Chandlers Assist

Both the C. J. Hendry Company and The Mc Caffrey Company assisted in fitting-out the ship, each supplying large quantities of hardware and equipment. The Isaacson Iron Works, Seattle, supplied the galvanized anchor chain, and Mc Caffrey provided the 450-pound and the 500-pound navy-type patent anchors. Fuel in the quantity of 12,500 gallons will be carried in five black iron tanks manufactured for the Campbell brothers by the



George E. Campbell, Manuel Madruga and David Campbell, the 3-man team that has developed the little garage and machine-repair business of the Campbell Machine Company to its present position of largest builder of high-seas tuna craft.

Shockley Boiler Works. The Central Sheet Metal concern built the three galvanized-iron fresh-water tanks having a total capacity of 2,000 gallons, and also the single 500-gallon container for lubricating oil. There will be no gasoline carried aboard.

Dave Campbell designed, built, and installed two natural-draft ventilators which carry large volumes of cool fresh air down into the engine room.

"C-O Two" Protection

The "Continental" has been furnished with one mast; it has five 50-pound tanks of C-O-2 fire extinguisher on board, and has been provided with a fancy white-oak steering-wheel trimmed in mahogany made by the joiners in the Campbell wood working shop. All of the electric wiring on this vessel was done by the builders themselves, who likewise manufactured the four 4-man outboard standing platforms with which the ship is provided. These platforms, or "baskets," are of sturdy construction, all joints being electric-welded before being shipped to the Junior-Norris Galvanizing Works of Los Angeles, for the galvanizing which was to protect them from the action of salt water. A 21-foot Campbell-built skiff has been placed on board as provision against emergencies, and as a work-boat with which to seine bait and make open-coast landings.

Mahogany Shrine

The "Continental" was built by a partnership headed by Captain J. José. All of the owners are Portuguese and therefore Catholic. It followed as a corollary that they specified the building of a chapel-room in connection with the pilot house, the miniature shrine or church be-

ing handsomely furnished in hard woods, and having a hand-wrought altar of fine design. The oak, teak, and mahogany for this beautiful cabinet and finishing work was procured from White Brothers, hardwood specialists of San Francisco.

Miss Rita José christened the ship on the occasion of its launching.

Introducing the "Defender"

"Hull 37," now known as the "Defender," is, as has been said, an exact duplicate of the vessel just described in so far as lineal measurements are concerned. In one important regard, however, it is outstandingly different, this being in the make of machinery placed aboard.

The main power plant is a 6-cylinder, 350-h.p. Union diesel. A 2-cylinder, 34-h.p. Union auxiliary directly-connected to a 25-kilowatt Westinghouse generator completes the installation, excepting for a 4-cylinder, 45-h.p. Hercules gasoline engine which can, in emergency, be belted to the 25-kilowatt D. C. generator normally operated by belts running off an extension-shaft in front of the main fly-wheel. This ship also has a *lignum vitae* stern-bearing, in this instance provided by the Union engine company. It is similar to the "Continental" in that bunks for twelve men are built-in forward, while two additional beds are provided in the Captain's quarters on the top deck.

Bait Tanks and Wells

George Campbell gives the specifications for the bait containers as follows: "Hulls 36 and 37 have two bait-wells each, which measure 10 ft. x 8 ft. deep x 17 ft. long. Each well holds approximately 40 tons of water, or a total of 80 tons per ship. Hulls 36 and 37 also have one bait-tank each, on their sterns, these

measuring 14 ft. wide x 25 ft. long x 5 ft. high, and carry 50 tons of water. In other words, each vessel will have 130 tons of seawater in its bait-carrying compartments."

Another Chapel

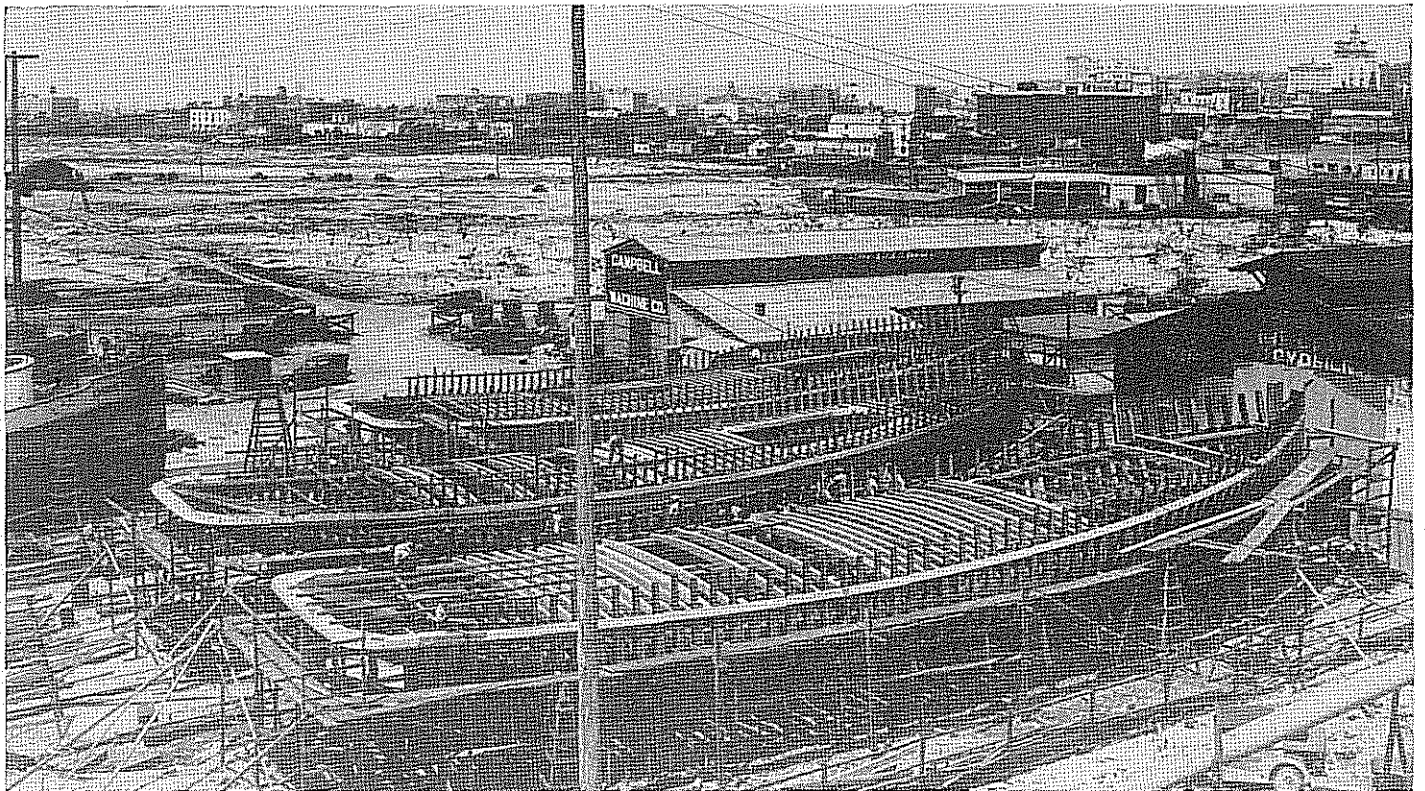
The "Defender" is the property of Captain Manuel S. Monise and Anthony S. Monise. Both are descended from the original family of that name, which braved the unknown vicissitudes of a strange and foreign land some sixty years ago, and crossed the ocean from the coast of Portugal to found new homes under the protecting shoulder of Point Loma's hill. By family and national tradition both men profess the Faith of Rome, wherefore they instructed the builders to provide for them another such small-scale place of worship as is common to the Portuguese fleet of the south.

More "C-O Two"

Their ship has but a single mast. It is equipped, like the "Continental," with five 50-lb. tanks of C-O-2, and like its sister ship is outfitted with a 32-volt bank of Edison alkali storage cells, that is charged through resistors from the main 110-volt generators. McCaffrey furnished the water-proof running lights, the sanitary plumbing, and the rods and bolts that went into the hull. The Marine Hardware supplied Stratford Oakum, Sargent locks, hinges, and door-pulls, as well as the Woolsey's copper paint, which went on the bottoms of both the "Defender" and the "Continental."

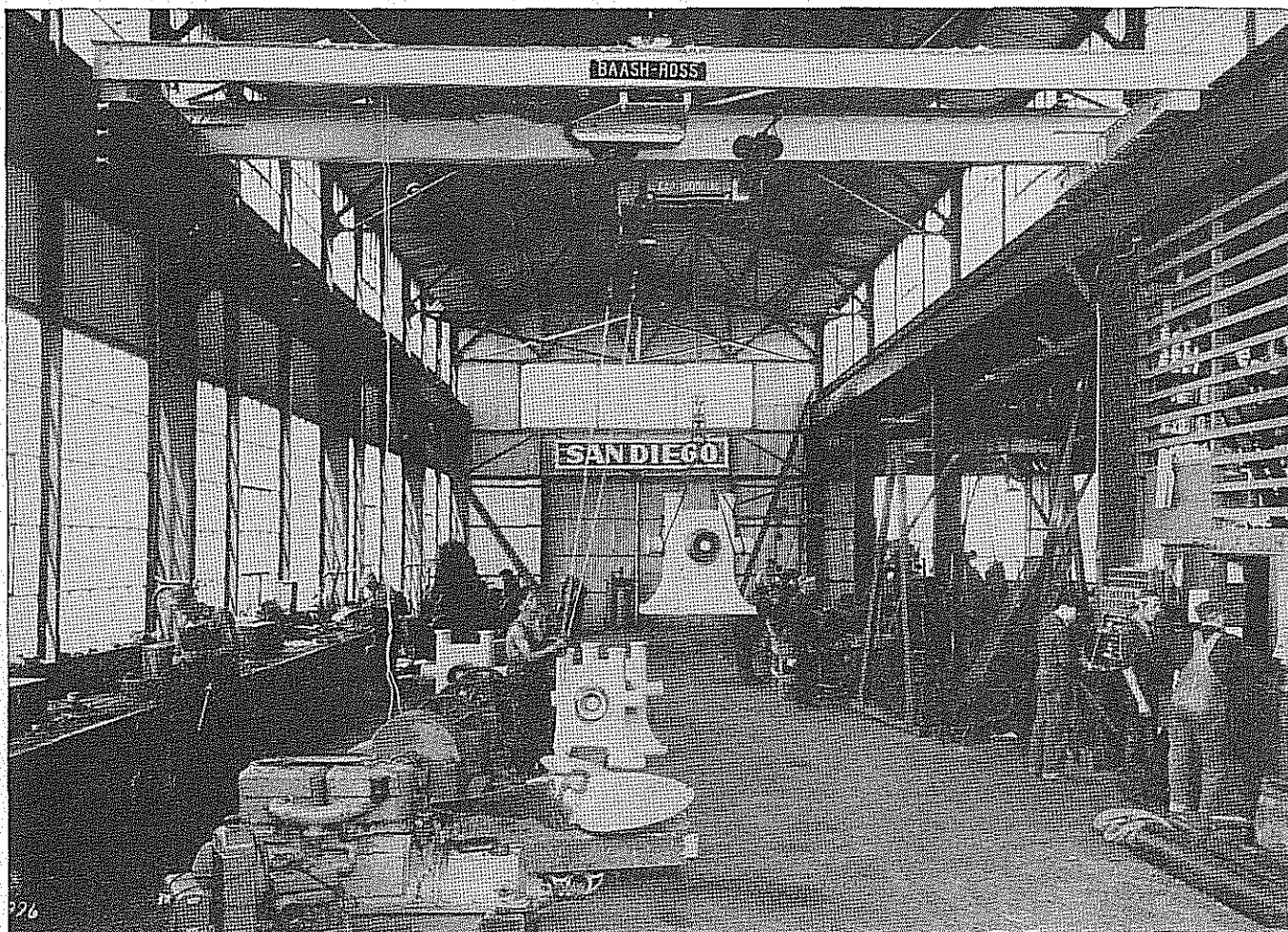
"Ingleized" Calleys

C. J. Hendry outfitted the sister ships with manila rope and with thousands of pounds of ship spikes, and galvanized



Partial view of the spacious yards of the Campbell Machine Company, showing the "Hulls 36, 37 and 38" under construction. These later were named the "Continental," the "Defender" and the "Santo Amaro," the trio that were

launched practically contemporaneously, during late June. This picture shows the "boat shop" and wood-working sheds in the background, but neither the machine shop nor the several marine railways are included in the view.



One section of the interior of the machine shop of the Campbell Company, showing the Baash-Ross electric traveling crane recently installed. Suspended from the crane is seen one of Campbell's own makes of deck winches, others of the same pattern being seen on the floor. Other individual products of

the firm are its steering-mechanisms, reduction-gears for stepping down electric motor revolutions for application to deck machinery, anchor windlasses, and specially designed bronze sea strainers designed by Dave Campbell after long experimentation and study. This man, by the way, is here seen standing at stock window, back to the camera.

boat nails that went into the construction of these bottoms. The Ingie Manufacturing Company sold to each of them a Model 118, "Valjean-process," oil-burning range, having the patented "carburetor" that burns regular diesel fuel without smoke, smell, or the accumulation of soot or carbon.

At the time of the "Defender's" launching Miss Alice Silva acted as sponsor, christening the vessel with its well-chosen name.

House-movers worked day and night to skid these tuna ships onto the ways. Incredible as it may seem, both were launched in the brief space of four days.

Manual Madruga's Largest

The "Santo Amaro," largest of the trio of Madruga-designed, Campbell-built ships, was launched on Sunday evening, June 29. This date was chosen for the reason that it was Saint Peter's day—Saint Peter being the patron saint of all sea-faring Portuguese. Father Sylvester Rabagliati, in surplice and white lace vestments, blessed the crew, said prayers, and started the vessel on its long career. Little Mary Frietas, dressed all in white, was she who broke the wine bottle across the cut-water of the big boat. Captain John Freitas, World War veteran and ex-navy man, stood smilingly watching his little daughter perform her part before a

gathering of 1,000 people, while the band played "Going Home."

Garlands Galore

No vessel ever launched in San Diego had such garlands of blossoms hung about its bows. It was a great day for the florists, for wreaths of roses, special emblems, and flower-covered anchors hung from the big boat's prow, as she entered the sea. "Good luck to Santo Amaro," all done in \$18.00 worth of flowers, was the champion single piece on exhibition. A big celebration in which everyone joined took place immediately after the launching, tuna men and citizenry joining in the feasting and drinking, which was done in the way that only fishermen know how.

Record Specifications

The "Santo Amaro," erstwhile known as Campbell's "Hull 38," measures 120 x 28 x 12.5 feet (122 ft. 4 in. over all), is powered with a 6-cylinder, 400-h. p. Union diesel. It has for main auxiliary a 3-cylinder, 52 h.p. Union directly connected to a 30-kilowatt Westinghouse D. C. generator. For emergency equipment the vessel carries a 4-cylinder, 55-h. p. Hercules gasoline engine belted to a 30-kilowatt Westinghouse generator that can at will be driven by the main power plant.

A Car-Load of Fuel

All pumps and other equipment in this ship are identical to those described as installed in the "Defender," excepting that 17,000 gallons of fuel will be carried, and there will be provision for 500 gallons of gasoline. It is interesting to note that the stem-band on all three ships were sent to Los Angeles for galvanizing by the Junior-Norris concern.

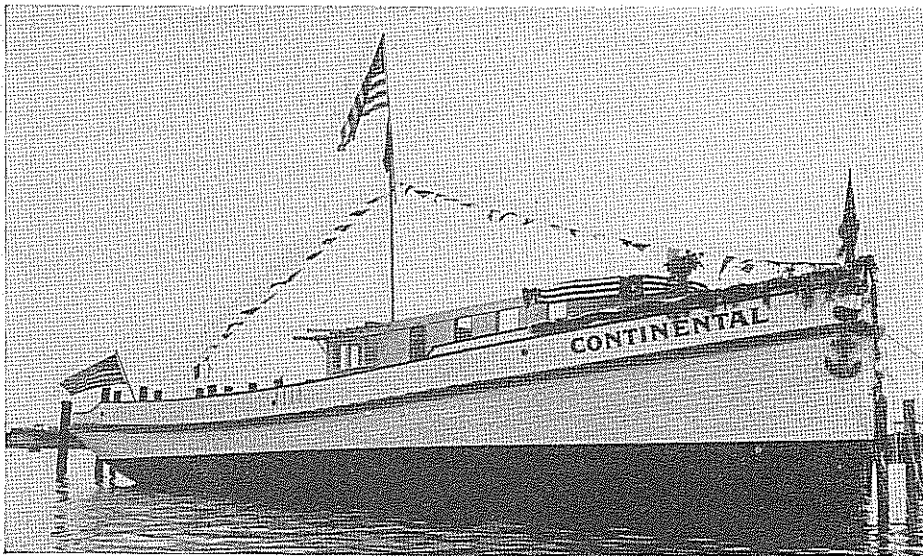
Best of Equipment

Ingie sold a third range to this cruiser, C-O-2 supplied it with extinguisher equipment, Woolsey's copper paint was applied to its bottom, and C. J. Hendry was called upon for deck equipment and fittings.

Bait Tanks and Wells

Commensurate with her other more ample dimensions, the "Santo Amaro" will have the largest bait-carrying abilities of any vessel yet built in the south. Greater stability in carrying this load is secured by accommodating the major part of it within the hold of the ship, rather than above the deck-level.

"There will be two bait-wells constructed integrally with the hull," says George Campbell, "each of these being of a cubical content to allow for carrying



Campbell-built, to Campbell plans, this 115-foot dieseled tuna cruiser is the delight of Captain J. Jose and associates. It is of the same hull specifications as its sister, the "Defender," but is engined and equipped differently. The San Diego Portuguese now have a large fleet of vessels similar to this; the Campbell brothers have built many of them.

50 tons of sea water. The two, therefore, will hold a total of 100 tons.

"Then, the bait-tank or bait-box that will be built on the stern will contain another large quantity of water. Its specifications figure out at about 56 tons."

Asked concerning the measurements of these three tanks the builder quoted the following specifications:

Bait-wells (2): 10' wide x 10'6" deep x 17'6" long; 50 tons of water each.

Bait-tank (1): 14' wide x 5' high x 28' long; 56 tons of water.

Silva in Command

This vessel will cargo not less than 180 tons of tuna and will, no doubt, bring to port many a record-making fare of fish under the able management of Captain Manuel Silva and his ten Portuguese partners.

Thus we come to the end of the first event of its kind in West Coast boat-building history—the constructing and launching of three 100-foot keels in the same yard at the same time.

Extraordinary Abilities

Having a fuel storage aboard which would enable the "Santo Amaro" to cruise to the gold port of Perth, Western Australia, without having to stop for refuelling, and having such capacity for the carrying of bait that enough live lure can be taken along to insure the capture of a pay load of tuna, the big cruiser has nothing to stay its inevitable success, unless it be an ability to keep its fares. To make provision for this factor of risk, an 8-ton mechanical refrigeration plant has been installed in the vessel, with suitable coils for chilling the holds.

Not only the "Santo Amaro", but also the "Continental" and the "Defender" are of such large size that it has seemed impracticable to attempt loading their open holds with fish. To do so would certainly result in large losses from crushing, the weight of the fish above doing damage to those on the bottom of the load. Accordingly, the holds have been sectioned into two levels by the device of a false or between-deck, and the space so divided is further sectioned off into

bins about six or eight feet square. Pen-boards, inserted in slots in upright posts, accomplish this dividing of the hold space. Shifting of the cargo is in this way prevented and no part of the fare need endure serious pressure from fish loaded on top of it.

Spacious Ship Yard

The Campbell brothers are fortunate in that they have an ideal situation for their vessel-building institution. Their yards are located directly on the ship channel of San Diego Bay and are close to the very heart of the city. Most of the fishing-boat traffic passes their pier-heads, so that it is but a stop in normal courses followed for the boats to halt there and make fast for repairs or new equipment. Early in June of this year some 10 or 12 tuna ships were moored in front of their properties, this group of Portuguese

boats representing a total investment far in excess of one million dollars. All were experiencing their annual overhauling, and were waiting their turns to be received on one of the several marine railways operated in conjunction with the yard.

Especially in the building of the larger vessels, the Campbells enjoy a decided advantage, for the unequalled roominess of their property enables them to lay down as many 100-foot, 125-foot or even 150-foot keels as conceivably ever will be demanded by the fishing skippers who see greener fields farther and farther distant across the rolling blue prairie. It is a simple thing for the Campbells to receive by barge the great beams and timbers that are required for these major craft, and their close proximity to foundries and chandleries greatly simplifies the quick requisitioning of materials, and supplies of heavy hardware.

The Personal Equation

Added to the fortunate circumstances of a correct geographical location, and a strategic position on the routes most travelled by the tuna fleets, is the even more consequent and pertinent factor of the character and abilities of the men themselves. As has been mentioned before, the Campbells are master machinists who have been in the business for more than 20 years. Their experience runs back to the days of Prest-O-Lite lamps on \$6,000 Franklin touring cars—indeed, the Campbell brothers of yore held a record for a cross-country road race from San Diego to Arizona. They have grown with the expansion of the internal-combustion engine business, and were among the first to see the inevitable monopolization of the commercial fish boat field by the diesel-type heavy-oil motor. Early in the development of the present fishing-ship fleet they obtained the agency for the Union diesel, and have installed that make of power plant almost exclusively ever since.

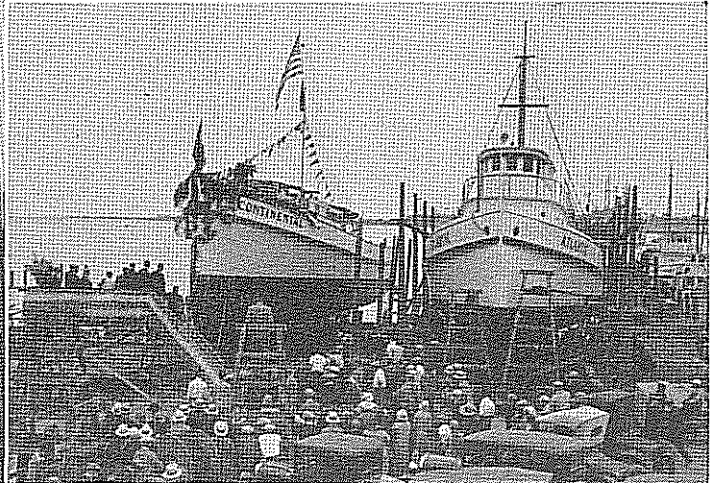
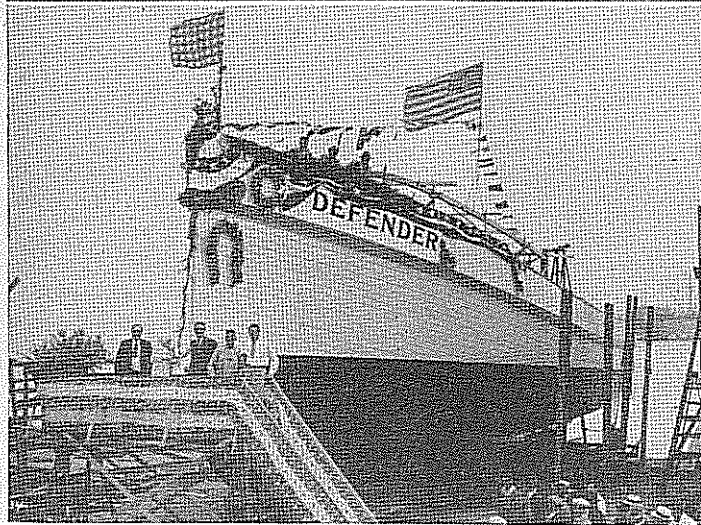
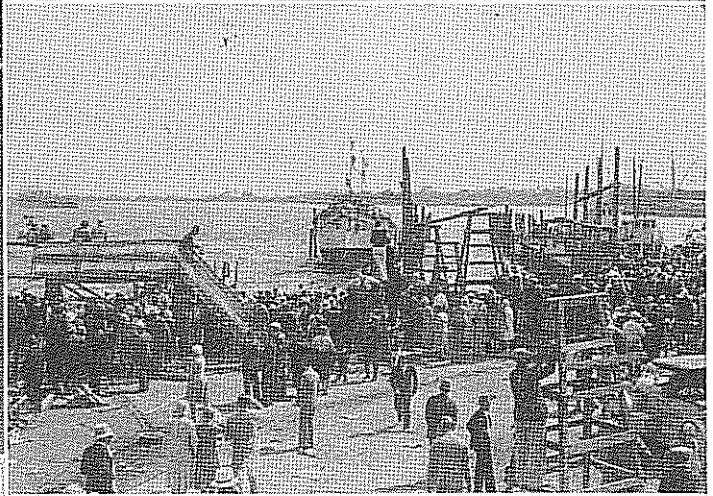
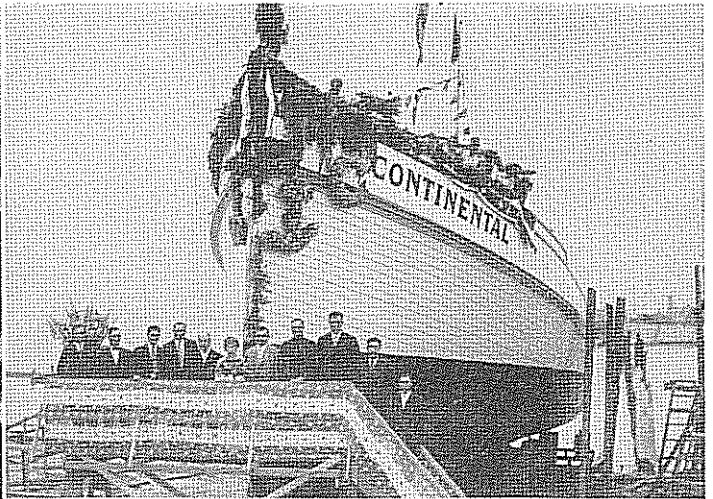
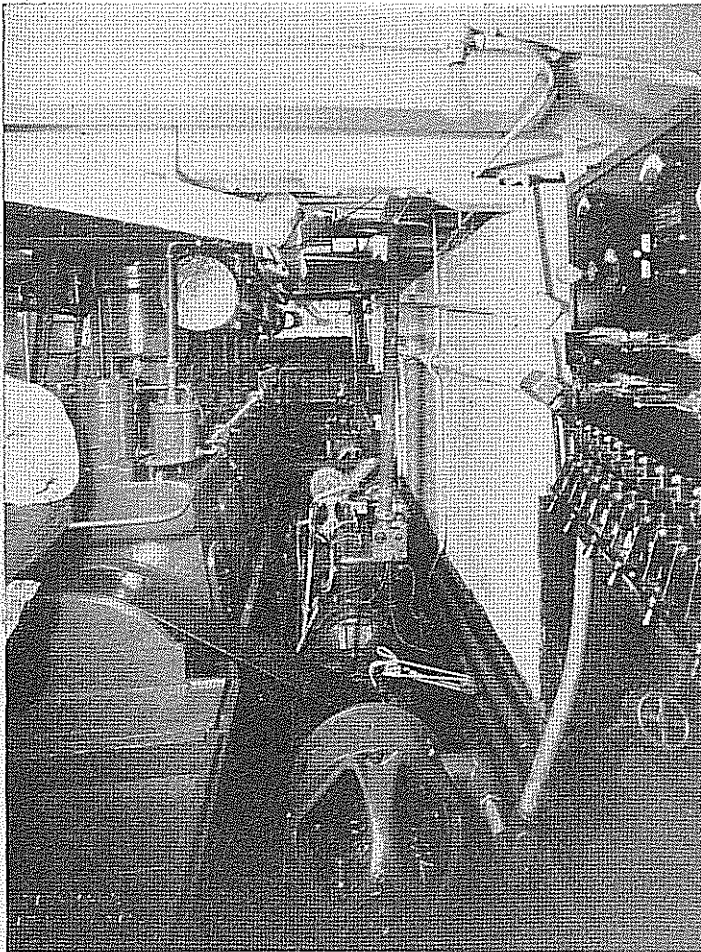
Champions Excel Own Record

Let no-one suppose that the instance just described is the first in which three

(Continued on Page 56)



Miss Mary Freitas, sponsor, flanked by the owners and crew of the vessel of which Manuel Silva will be captain. The Campbell brothers are seen standing half way down the stairs leading up to the bunting-covered platform.



UPPER LEFT: The engine room of the Campbell-built "Navigator," showing Campbell switchboard. Westinghouse 30-Kw. generator in the foreground, belted to the main diesel and also directly connected to 4-cyl., 50 h.p. Hercules gasoline engine. In the rear are seen 2 Westinghouse 7½ h.p. motors directly connected to a 6-inch and an 8-inch Byron Jackson bait pump.

LOWER LEFT: Launching the "Defender." Flying a large American banner, and with the naval "jack" at the bow, the flower-decked fishing ship was sent down the Campbell ways after receiving a resonant thwack across its rounded stem. Miss Silva, here seen holding the bottle, was sponsor.

UPPER RIGHT: Christening the "Continental." Miss Rita José is standing with Capt. J. José and partners just prior to the backward slide of the 115-footer into the bay.

RIGHT CENTER: The "Santo Amaro" starts its career. Only a few days after its two smaller contemporaries were launched, the 122-foot giant of the Point Loma Portuguese colony was also named and floated. The 300 spectators all made common celebration with the owners when the hull had completed its precarious backward slide to the sea.

RIGHT BOTTOM: The "Atlantic," hauled out on the marine railway on the day of the launching of the "Continental." "The Atlantic" is the most famous tuna ship ever built. It was built by the Campbell brothers who delivered it to Capt. M. O. Medina on July 24, 1926. Since that time it has been phenomenally successful, and was the ship that precipitated the present big-vessel vogue. It measures 112 feet long and was the first keel in the fleet to exceed the 100-foot mark.

CAMPBELL LAUNCHES TUNA CRAFTS

(Continued from Page 54)

tuna craft have been built, completed, and launched at one time. The contrary is the case, for during 1929 the same shipwrights did that very thing. However, on that occasion the boats were not at all comparable to the trio just completed, but were of the intermediate or evolutionary type that has marked the march of progress from Captain M. O. Medina's original "Oceana" to the present "Santo Amaro."

Eighty- and 90-footers have been built in legion, but the case of the "Continental", "Defender" and "Santo Amaro" is the first such in which 3 great cruisers, all of them 115 or more feet in length, have been launched from a single shipyard in so rapid a succession.

200-Footers Next?

What the Campbell yard may produce next is a subject of pure conjecture. It is known that the trio of designers and engineers that heads the firm has ideas far in advance of present practice. Already there have been rumors of 140-foot twin-screw jobs that are to incorporate the sharp-freezing principles that every far-sighted fishing skipper knows must eventually be instituted to make certain the perfect preservation of vessel fares.

However, ships such as these require large finances, and although it is a matter of comparative simplicity to federate 10 to 14 men for the purpose of building a 115-foot ship, the day has not yet quite arrived when 20 or 24 men will unite resources to the extent of a quarter of a million of dollars and build a 150- or 175-foot sharp-refrigerated fishing cruiser that will have practically no time-limitations to circumscribe or dwarf the extent of its activities.

ABOUT CAPTAIN MUNSON OF THE S. S. "WILMINGTON"

Operating on the tide-water of one of the rivers of Carolina is a small iron steamer that was built before the Civil War and has run more than a million miles. The captain of this little craft is proud of her condition of perfect preservation, and in demonstration of her avowed "youth," has a habit of cutting down through her many superimposed coats of gray paint to the red lead which lies next to the pure, shining iron.

"Real open-hearth iron, real red lead and real linseed oil!" the Captain used to exclaim when making the exhibition described. "I tell you, man, she'll last forever!"

Until recently no protection to hulls was equal to that afforded by genuine red lead, ground in unadulterated linseed oil. Now, however, a contender for equal or better laurels announces its candidacy for election to popular approval, the new claimant being "Lionoil" paint, made by the Berry Brothers. Ets-Hokin & Galvan, of Wilmington, California, enthusiastic proponents of "Lionoil" products, have made the announcement that:

Rapid Adoption

"Many boat-builders have adopted Lionoil battleship gray in preference to red lead to seal the interiors of their hulls against decay. It has remarkable penetration and resists the action of salt water."

The distributors describe the manner



Lowering the 6-cylinder, 350-h.p. Union diesel engine into the Monise brothers new tropical cruiser. The "Defender" has all Union machinery, including the auxiliary plant. One cannot but speculate on what hundreds of thousands of miles this vessel will travel before its years of useful service are done. No Union diesel ever installed in a fishing craft has yet worn out.

best suited to gaining a permanently fine finish with the Berry paint:

"We adhere to the manufacturer's recommended procedure of priming with Lionoil 'First Coater' which is a clear liquid that seals the surface to be treated and contributes inestimably to the life of the succeeding applications. Any shade of color is available for the finish, which is a semi-gloss."

It is explained that the special vehicle of the paint is the compounded oil called by its makers "Lionoil." It is declared to be much superior to linseed oil, because creating a thin, tough, elastic and impervious film. The exceeding thinness of the layers impedes the accumulation of heavy coatings of old paint on vessels that are frequently freshened with new applications, while the density of the dried oil is such that water-excluding properties are enhanced.

ELECTRIFYING OF BOATS

A certain electric contracting firm of Wilmington, California, has been a principal operator in the electrifying of boats, and has to its credit such installations as went into the "Panama," "Bremen," "Chicken of the Sea," "Asama," "Johnny Boy," and "Lucky Star." This firm is Ets-Hokin & Galvan, dealers in engines, marine hardware, and every kind of appliance. Through much experience in the work it has worked out a table of related ratios between different sizes of motors and the wires necessary to supply them with power. These specifications give wire and pipe size, thus making it impossible for the wiring to effect the power operation of any under-sized installation.

The company's engineers say that they believe that at last the manufacturers of engines have come to appreciate the folly of using too small electric motors, and that vessels now being outfitted will function much better than those that were commissioned some time ago.

MONTEREY BUILDS ANOTHER

Stanley Clifford, Monterey, was a happy man on July 5, at which time his niece, Miss Edith Robinson, cracked the champagne bottle against the bow of the "Serrá," as the new vessel slid down the waves at the foot of Spence street.

The boat was named in honor of Fray Junipero Serrá, the good padre whose indefatigable missionary work led to the founding of the earliest Christian settlements on the Monterey peninsula.

The vessel is a 77-footer, of purse-seine type, has a 20-foot beam and draws 9 feet of water. It makes 10 knots, is registered as 55 tons net and can cargo 160 tons of sardines in its hold and on deck. It was built by Orlando Pasquinucci, that famous master carpenter who has, perhaps, laid more fish boat keels in California than any other living builder, and cost \$36,000.

The launching and christening were unusual. The Reverend Paschal Merola blessed the ship as the crew knocked out the wedges and caused her to glide into the bay.

Captain E. S. Lucido is skippering the new turn-table craft.

ONLY GAS PROOF PAINT

The distinction of producing the only gas proof marine paint is claimed by the Patterson Sargent Company, according to the C. J. Hendry Company, distributor of the paints, which states that hulls painted with the Patterson Sargent Company product will not turn black or become discolored by the acids from canneries, engine fumes, or other such discoloring elements with which a boat comes in contact.

Fishermen take great pride in their boats, according to William J. Maggio, manager of the C. J. Hendry Company, and therefore demand Patterson Sargent Company paint to keep their boat neat appearing.

San Diego Aids Fishing Industry

An enlightening exposition of a city's Efforts to aid an especial business, as told by Thomas F. Bomar, manager, Industrial Department, San Diego Chamber of Commerce

SAN DIEGO BAY is the logical base of operations for the tuna fishing fleet. The fact that San Diego is the closest port to the southern fishing banks where tuna and skipjack abound, and that two days' travel per trip is saved by basing at San Diego, should be of interest to fishermen and cannery officials alike.

The fishing and fish canning industry is the largest single industry in San Diego at the present time. The Chamber of Commerce and city officials hope to increase the present extent of this industry by providing additional facilities for the fishermen, boat builders and canneries. An important item in the plans for the development of San Diego harbor is the construction of a fishermen's harbor at the foot of Twenty-eighth Street. Plans call for the construction of two mole-type piers, each having an area of nine acres, on which the fish canneries and the wholesale fish establishments will be located. The area between these two piers will be bulkheaded and filled and allocated to boat building plants with their docks and ways. This will also form a protected berth for hundreds of fishing boats.

Employ Thousands

At present there are six fish canneries on the San Diego water front. These canneries employ 3,000 people, most of whom are wives and daughters of the men on the fishing boats. These canneries, in many cases, have materially assisted reliable fishermen in paying for new boats.

San Diego has five shipyards, three of which are engaged, primarily, in the construction of fishing boats. These yards are equipped with docks and ways and are prepared to make complete overhauls of fishing vessels. At the present time these yards have seven new fishing boats under construction, ranging from 100 feet to 120 feet in length and equipped with Diesel engines and refrigeration plants.

San Diego has thirteen fresh fish concerns which purchase the catch of market fish, shell fish, etc., brought in. Fishermen's pier at the foot of Market Street affords facilities for docking, gas, oil, and water, and is also equipped with apparatus for icing outbound boats.

City Aids Fishermen

Besides the docking facilities at the canneries and the boat yards and at the municipal piers, there is ample anchorage and berthing space along the bulkhead north of the municipal piers. This area has recently been dredged to a depth of 15 feet.

During the fishing season a number of barges are anchored off Ballast Point at the entrance to San Diego Bay to supply the fishing fleet with oil, gas, and water.

San Diego is a permanent Coast Guard base, the cutter "Tamaroa" being based here in readiness to render assistance to any ships in distress south of San Diego. As an additional safety and service measure, the American Fishermen's Association proposes to establish a short-wave



THOMAS F. BOMAR

radio station at San Diego in the near future in order that contact may be maintained with the ships at sea.

Supplies Plentiful

San Diego is headquarters of the Mexican Fish and Game Commission. There is also here a permanent office of the California State Fish and Game Commission. San Diego has recently been declared a separate customs port. All of these are factors advantageous to the fishing industry in this area.

Ship chandlery concerns and sail makers, et cetera, in San Diego are equipped to supply every type of fitting or accessory needed by the fishermen for their boats.

From the foregoing it is apparent that San Diego offers every facility necessary for the economical and satisfactory accommodation of the fishing industry. The city is alive to the possibilities of this industry and efforts are being made to improve present facilities and develop the present industry.

HERE ARE SOME IDEAS OF A PRINCE EDWARD ISLANDER

Tom Downey, Newfoundlander, who brailed herring weirs, seined mackerel, and hauled cod and haddock over the gunwales of bouncing dories for some 30 years or more, has parked his suitcase and sea bag in a San Pedro hotel and adjusted his spy-glass for tuna. The mere fact that these wiley kin of the humble mackerel manifest an increasing inclination to shy clear of our canning ports disturbs Downey not at all, for he has his own ideas about fish.

"When I was a lad," he commences, "we did not know how to catch cod the modern way. In those times we set surface gear or them, and, funny though it

sounds, we actually went out for them with big purse-seines that we set from open boats, 12 men rowing. I have seen a cod-school that extended along the beach for 20 miles in Newfoundland, the fish jumping and milling around in a way that was astonishing to see.

"But those conditions did not last. The weather seemed to change, and we always attributed the gradual disappearance of the fish, which soon followed, to the unstable temperatures that prevailed. Up to that time there had been thousands of schooners in the fish business at home, and everybody was prosperous. But then the fishing became poorer each year until the end of it produced what we called a 'crash.' The wholesale houses had been advancing credit to the retailers and the retailers had been carrying the fishermen—not only for nets and boats and supplies, but for food, provisions, and everything else. It was a system that we had.

When the collapse came everyone went under, banks and all. I doubt if there were five companies in all Newfoundland that weathered the crisis. Creditors finally got together and compromised their claims; a new start was made. The Canadian banks, that had until then not been known in our country, came in and re-established credits. Well, when it was all over there remained only a couple of hundred of vessels from the once extensive fleet. The rest had left or been sold. Of course, many of our people then migrated into Canada and the United States. We thought that the fish was gone.

Fish Not Gone

"But that is where we were mistaken," Downey goes on. "The cod were there all of the time, but we drew the mistaken inference that because they were not in evidence on the top of the ocean that they were not there at all. Why, I remember how we used to sail our schooner all the way around Newfoundland, from the north and east to the west coast, making the 1,000-mile cruise under winter canvas so as to get to where we could see fish breaching. Even as it was, four big and costly purse-seines, knitted of pure hemp twine imported from England, were piled up and allowed to rot in my father's yard thru disuse. Had we only known it, during all of those long voyages we were sailing over miles and miles of rich fishing ground.

"After a long time somebody discovered by accident that cod were abundantly present in the intermediate depths," says Downey, "and that they could be netted there. We next learned about bottom fishing, and that at last became the greatest method of all. We have been

May Solve Problem

Downey is a trap man. He gained experience in trap building in Newfoundland and in Maine, he says. He believes that a properly constructed trap would capture tuna at profound depths even when not a fish could be seen jumping at the surface. To test out his theory that tuna are present even when not manifestly visible, Downey went out to the Cortez Bank last summer and drifted across it with the currents.

"I saw numbers of fish in the depths that I could clearly distinguish to be tuna, altho I could not in any instance identify the species," he says. "I then became confident that my hypothesis is correct, for on all the trip I did not see a fish of any sort break water, with the single exception of mackerel."

WELDER TALKS TANKS

San Diego's business and manufacturing districts were thrown into an uproar a year ago by two successive alarms to which the fire department responded by roaring through the streets in the general direction of the water front. Arrived at the point of call, it turned out that the apparatus was required as a protection to the lives of workmen who were undertaking to repair certain fuel tank in the belly of the tunaman, "Grayhound," since wrecked.

"Those tanks were made up north," states H. K. Shockey, head of the Shockey Boiler Works, "the specifications were not sufficiently concise, so when the vessel was surveyed for insurance they were condemned. Our company undertook to re-build them, so as to bring them up to our structural standards, but the job was not an easy one. You see, the tanks already had contained oil, so they all had to be plosion from accumulations of gas. We had the bilges thoroughly cleaned, too, but even so the danger to the men was so great that we had the fire department down twice to protect the lives of the welders who were working in the tanks."

Shockey, himself an artisan with the electric arc, relates that the problem was further complicated by the fact that the northern-built tanks had been provided with manholes only 15 inches in diameter.

Hot and Bothered

"Everything had to be passed in through those little holes, and put together inside," he says, "the men welding in the needed baffle-plates while working their way out backwards. It was hot work and dangerous; we were afraid that the bilges might take fire and burn the men to death inside the tanks. We had to be exceedingly careful; the work was tedious because so awkward; it was an expensive job, and cost the 'Grayhound' much more money than had the work been done properly in the first place."

After this story was told, the writer asked some detailed and pointed questions:

"Why, the way we build them they are more than strong enough. Actually, we put more steel in the baffles inside our tanks than goes to make up the shells," explained Shockey. "Come on out into the yard and I'll show you!"

Strong and Sturdy

He made this scribe climb all over big sheet-steel tanks destined to carry the fuel for the "Continental," "Mederia" and "Defender."

"We build all of the tanks for the Campbell Machine Company's vessels," he continued, "and, in fact, have constructed every black-iron tank that has been built in San Diego during the last three years. We take pride in the fact that insurance inspectors never take the trouble to investigate the tanks that are built by us; it is our standard, and we are going to maintain it."

Beverly S. Cooper, of the Mission Bell Petroleum Company, is local agent for the San Pedro Tugboat Company (the well known "Red-Stackers") as well as for the Shipowners' and Merchants' Tugboat Company, Ltd., both Thomas Crowley organizations.

COLORFUL FIESTA MARKS OBSERVANCE

(Continued on Page 45)

Early Sunday the religious observances took place. In long procession, moving at slowest gait, the Portuguese bore the crown from the chapel to the church. Elizabeth Silva, the Queen, and her two maids of honor appeared in beautiful new gowns of exquisite fashion. Deulilde Medina, seen in the illustrations as on the Queen's left, carried a braquet of rose buds, while Evelyn Monise, attending the Queen on the right, carried a mace-like staff, evidently a part of the symbolism. The maids were of the Queen's own choosing, and it is interesting to note that the cultured Miss Monise was the "Atlantic's" choice for Queen, last year.

The "Ships' Queen"

But there was other royalty present than the official highness. Little Alice Rogers, accompanied by five other small girls in white, proceeded in front of the official queen with a crown of her own. This second crown is a miniature bit of jewelry and belongs upon the altar of the private chapel-room of the tuna ship "Atlantic." Several Portuguese vessels have their own chapels aboard, and the custom was inaugurated in 1929 of having the ship's crowns represented in the annual religious observances.

Mora Music

In addition to the twenty-piece band that had been used during the evening before, the Bonham Brothers boys' band of 64 pieces participated. These youngsters, some of them very young indeed, acquitted themselves admirably, rendering marches in slow tempo that could not be considered as other than entirely equal to the music produced by the professionals.

All who witnessed the pageant commented upon the special musical composition that was played again and again and seemed to form a sort of emotional background that defined the religious caste to all of the happenings. This was an air called "El Hymno del Espiritu Santo" or the Hymn of the Holy Spirit. Its deep minors and deliberate movement were impressive, and entirely effective.

A Bishop Says Mass

The route followed by the marchers measures perhaps a half mile. As many of the principals as could be accommodated were admitted to the church by the visiting bishop and priests from other Portuguese settlements. Captain Soares, 1930 president of the Sociedad del Espiritu Santo, Captain Manuel O. Medina, permanent vice-president of the Society, and Captain M. H. Freitas all were greeted at the entrance to the church by the ecclesiastics, and received the benedictions of the gorgeously robed priests. The overflow, that could in no wise be accommodated within the church, returned towards the chapel and Association rooms, where the feast was to be held. Eventually, after a service lasting perhaps two hours, the procession re-formed and retraced its route to the chapel, where the crown was returned to its original position of honor.

Food for an Army

And now the feast. Hundreds were fed. Long tables were set up in the main hall of the Association and hundreds were seated at a time. Three different times the covers were entirely changed, but

finally everyone was cared for. Most of the fish merchants of San Diego were present, and there were representatives from San Pedro and Los Angeles. Fred Schellin, Joe Camillo, Gus Johnson, Martin Quama. Fred Schellin, President American Fishermen Protective Association, who participated in colorful fiesta, were but a few of the many who came to join in the festival.

Then there was another dance that lasted all afternoon, all night, and late the next day when this chronicler returned to the place the music still continued.

Addendum

No description of the fiesta could be complete without mention of the girls' drill team that was organized by Mrs. Manuel O. Medina and trained by Joe Azevedo. Four squads of four girls each composed the team, which was uniformed in white with scarlet facings to their capes, red buttons down their skirts, and the initials "S. E. S." in red across their long-visored caps. Not one error was detected in all of the numerous marching maneuvers that they executed constantly during the otherwise slow march to and from the church.

"The sponsor-ships for the next ten years already have been chosen," said Captain Medina, on being asked what ship would be next to follow. "We all drew lots, and now new vessels are being built so fast that it almost appears that no boat is likely to get a second chance within twenty or thirty years."

Every keel that is launched places that possibility a whole year hence, and between the time that the fiesta came to its 1930 close, and the publication date of this July issue of the WEST COAST FISHERIES, three more 115- and 120-foot craft have been added to the growing Portuguese fleet.

St. Agnes and St. Isobel both have been good to their followers.

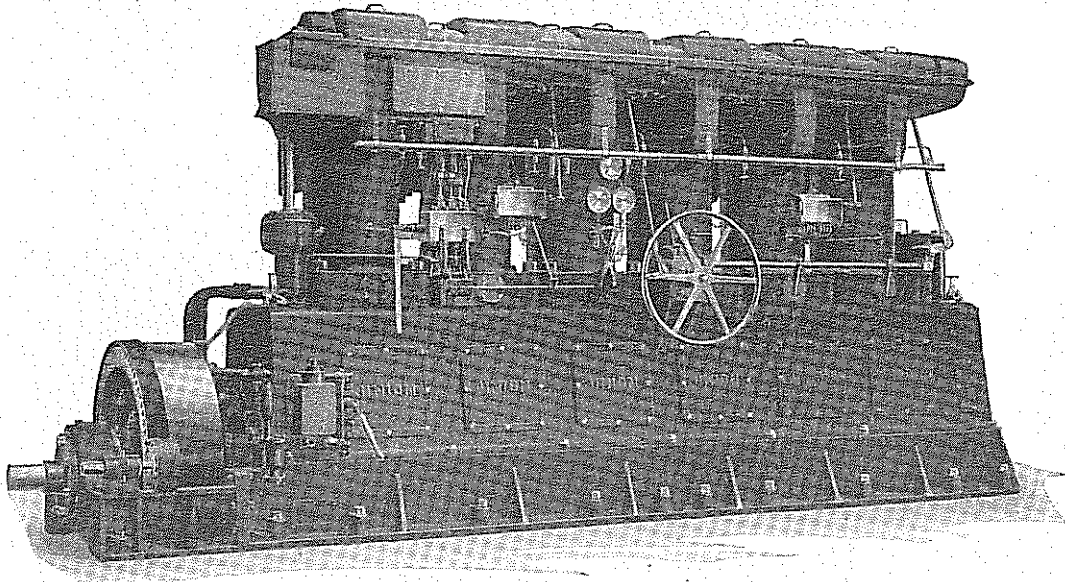
"EMMA R. S." HAS FIRE

Guy Silva's smart tuna-ship had a close squeak with fiery fate while taking oil at a San Diego fuel dock recently. The skipper has written a letter about the occurrence to Ets-Hokin & Galvan, Wilmington distributors of the O-O-Two apparatus that was used to extinguish the blaze. Read what Capt. Guy says:

"Yesterday, while taking on 3,000 gallons of diesel oil a drain in one of the tanks was left open, allowing 650 gallons to run into the bilges. The force with which the oil escaped from the tank generated a gas which ignited on coming in contact with a generator that was running at the time. An explosion and fire followed. I immediately discharged the C-O-Two cylinder, the fire being extinguished immediately, and even before the cylinder was completely discharged. There was absolutely no damage done by the fire, or by the C-O-Two."

Increase Water Supply

Exigencies of long-cruise, tropical fishing have caused the "Atlantic" to increase tank capacity. C. S. Lewis of the Central Sheet Metal Works has completed a new 300-gallon galvanized water tank, which increases the vessel's storage of this fluid to 1,000 gallons.



400 H.P., Six Cylinder, Direct Reversible UNION Diesel Engine, equipped with the UNION Patented Fuel System.

DEALERS

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- CALIFORNIA**
The Campbell Machine Co.
San Diego
Harbor Boat Building Co.
Los Angeles Harbor
- LOUISIANA**
Canulette Shipbuilding Co.
New Orleans and Slidell
- OREGON**
John L. Koontz, Marshfield
O. A. Maunula, Astoria
E. G. Tuck, Portland
- UTAH**
F. C. Richmond Machinery Co.
Salt Lake City
- VIRGINIA**
Gas Engine & Boat Corporation
Norfolk
- WASHINGTON**
Ivar Chilman, Hoquiam
Seattle Marine Supply Co.
Seattle

The success of UNION engines is largely due to the fuel system patented by us. With this system more of the fuel is burned per cubic inch of piston displacement with clearer exhaust. Because of the UNION overhead camshaft design, injection valves maintain their adjustment under all operating conditions, insuring equal distribution of load among the different cylinders, and reducing noticeable vibration to a minimum.

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- BRITISH COLUMBIA**
Burrard Iron Works, Ltd.,
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- GUATEMALA**
C. H. Logan, Guatemala
- FIJI**
Burns-Philp & Co., Levuka
- HAWAII**
Hawaiian Tuna Packers, Ltd.
Honolulu
- MEXICO**
L. C. Badouin, La Paz
Howell & Schumacher, Tampico
- PERU**
Ronald and Company, Lima
- PHILIPPINES**
Atkins-Kroll & Co., Manila
- SOUTH SEA ISLAND GROUPS**
Burns-Philp & Company
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Charles Brown-Petersen, Papeete

Union Diesel Engine Co.

Forty-fifth year

OAKLAND

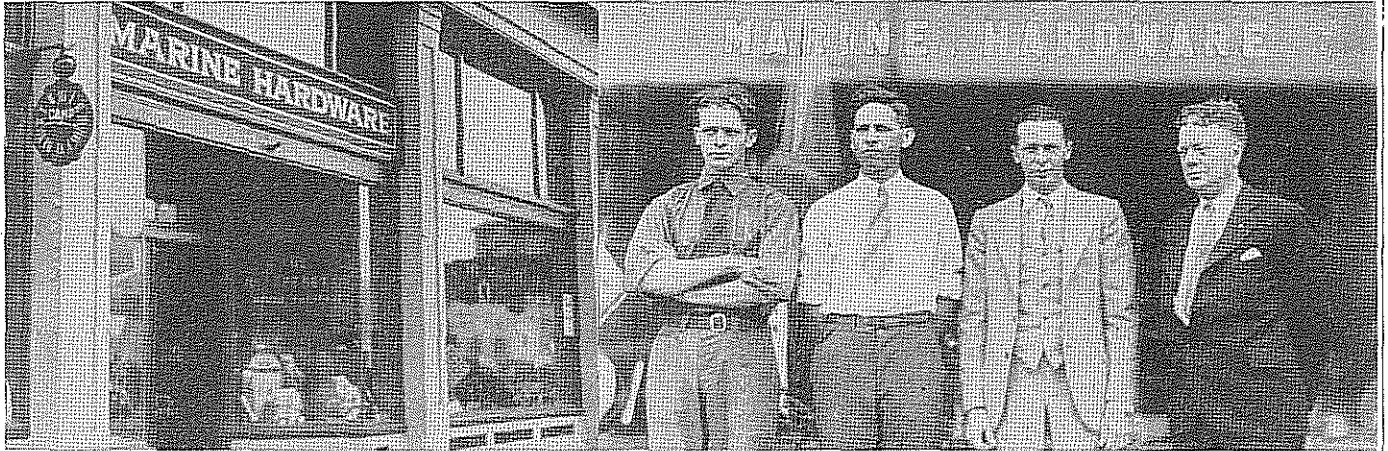
CALIFORNIA

U.S.A.

THE McCAFFERY CO.

Ship Chandlery—Marine Hardware

311 WEST BROADWAY, SAN DIEGO



WE REPRESENT the below manufacturers for San Diego and the articles listed in their ads were sold to the Campbell Machine Co. and were installed by Campbell on the Santo Amaro, Defender and Continental large Tuna fishing craft launched July 1930.

Marine Hardware

WILCOX CRITTENDEN & CO.,
MIDDLE TOWN, CONN.

All Galvanized Bar Iron, Drift Bolt
Stock, Guard Iron, Etc.

Harold McCalla Co.

PHILADELPHIA, PA.

Navy Type Anchors

ISAACSON IRON WORKS
SEATTLE, WN.

OAKUM

GEO. STRATFORD OAKUM CO.
JERSEY CITY, N. J.

All Solid Bronze Ship Locks and
Cabin Hardware

Sargent & Co.

NEW HAVEN, CONN.

Chains for Boat Santo Amaro

COLUMBUS McKINNON CHAIN CO.
TONAWANDA, N. Y.

WOOLSEY'S

Woolsey's Copper "Best" Paint brown, the world's standard, was selected by the Campbell Machine Co., a long established firm of boat builders, because of its outstanding and protective qualities proven by many years of experience in its use.

The McCaffery Co., San Diego distributor for the C. A. Woolsey Paint & Color Co., supplied Woolsey's "Best" Copper Paint because they know it means 100 per cent protection to the owners. And satisfaction

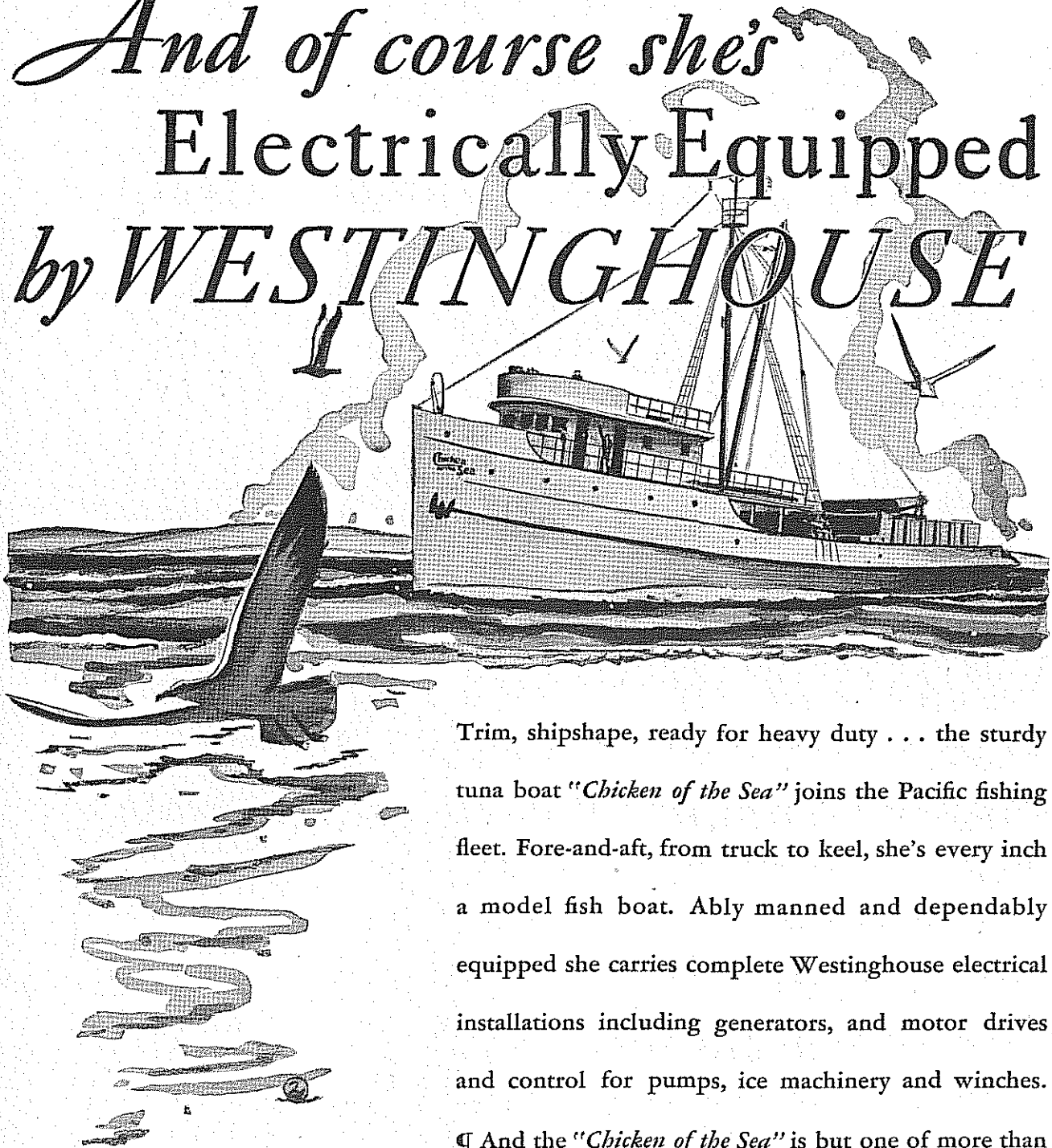
to themselves and the builders in knowing that they are not risking their reputation by supplying cheaper inferior paint.

Woolsey's Copper "Best" Paint brown is known and demanded in every seaport in the world, therefore, there must be a reason. Its reputation as a retarder of the destructive teredo is unquestioned. Why risk your hull by buying cheap paints? Remember, the most expensive is the cheapest in the long run, WOOLSEY'S is NOT a cheap paint. Send for circular about marine borers and other valuable information to boat owners.

C. A. WOOLSEY PAINT & COLOR CO. JERSEY CITY, N. J.

San Francisco Office, 24 California Street

And of course she's
 Electrically Equipped
 by **WESTINGHOUSE**



Trim, shipshape, ready for heavy duty . . . the sturdy tuna boat "*Chicken of the Sea*" joins the Pacific fishing fleet. Fore-and-aft, from truck to keel, she's every inch a model fish boat. Ably manned and dependably equipped she carries complete Westinghouse electrical installations including generators, and motor drives and control for pumps, ice machinery and winches. ¶ And the "*Chicken of the Sea*" is but one of more than twenty-five fishing vessels in southern waters to be Westinghouse equipped within the past year.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse



C O L D T H I S I S E R N E

HOW tuna boats load it. Overweight, overcold refrigerant stowed aboard ship by B. S. Cooper's power-driven centrifugal distributor. Water chilled until it is far below ice in temperature makes good measure for fishermen who stow it.

By GEO. ROGER CHUTE

EVERY TUNA-SHIP yet built has had its capacity specified in terms of "tons of iced fish." ICED FISH. The two words are inseparable, for their can be no tuna without attendant refrigeration. And ever since the beginning of West Coast tuna fishing "refrigeration" and "ice" have been almost synonymous.

Except for men intimately concerned with the business, few persons have even a vague concept of what vast ice-masses that are carried south, piece-meal, by the 100-foot tropical cruisers. Moreover, the eccentricities of the boat schedules are not commonly appreciated, and many men connected with the packing industry do not realize the immense storage that is imperative in order that all vessels may be supplied on instant notice and dispatched with no loss of time.

More ice is in storage in late June than during any other period of the year. At that time the winter run of tropical fish is past, and the storm season is on in the hurricane-belt, so that careful captains prefer not to voyage southward of the Revilla Gidedos. This is the opportunity selected by the Portuguese for their annual "Fiesta del Epitito Santo," during which all of the Portuguese craft lie in, while the crews make holiday. Since local fishing has then not yet commenced, few departures occur during about a month, the boatmen employing the respite to repaint and overhaul their vessels. Meanwhile there is no demand for ice, and the unvarying daily production of the Union Ice Company, manufacturers, accumulates at a rapid rate. To provide for this exigency the "Union" has a large insulated warehouse, wherein the surplus is stored, for its executives know that, once the fiesta is over, the overhauling completed, and the fish appear again in local waters, there will be such a rush for ice as will keep all of their delivery crews working double shifts for days and nights on end. It always happens so.

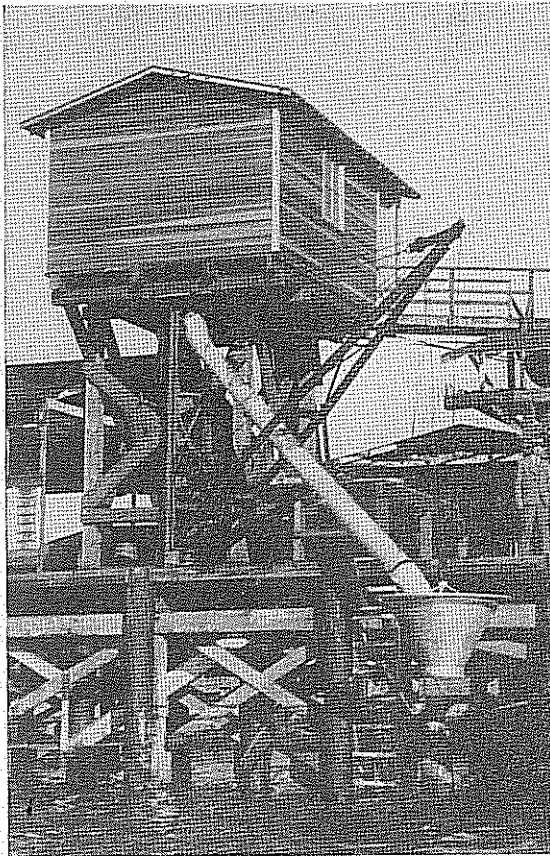
Store the Surplus

"Our daily production is 400 tons," says R. W. Smith of the "Union" organization. "At present (June 10) this is considerably in excess of market requirements, since all of the Portuguese boats are in port for the fiesta, and many of the other vessels are on the ways, being reconditioned. We store our surplus."

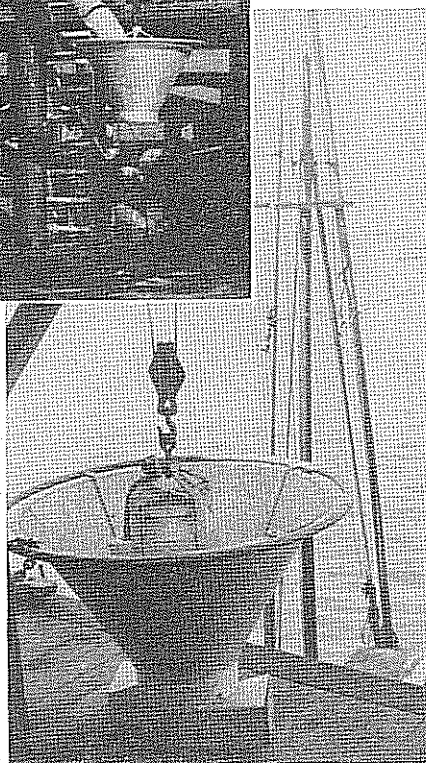
Smith explains that the storing begins

Beverly S. Cooper is here seen standing on the wharf of the Mission Bell Petroleum Company, which, by the way, is soon to have its name painted on the top and sides of the tower house. Note the 40-foot tube thru which the broken ice is gravitated from the crusher overhead. The steel crane from which the electric distributor is seen suspended is at present operated by a hand power windlass, but this is to be replaced by an electrically-operated winch. One hundred tons of block ice can be crushed in an hour's time by the Cooper plant, but since

boat crews rarely are able to stow so vast a quantity, the speed of the machinery has been reduced to conform to a 60-ton per hour rate. By bringing the long delivery tube into play three vessels can lie abreast at the dock at one time and all receive service. Cooper has applied for a patent on the principal embodied in his mechanical ice loader, which enables the crew of any large fishing vessel to stow its supply of ice and trim ship with almost no hand labor at all.



Closeup of centrifugal ice distributor showing the two discharge ports—one of which is kept closed. The cast steel housing, seen directly beneath the iron pulley-block and sheave, contains the small electric motor which imparts velocity to the broken ice. A surprisingly modest amount of power is sufficient to shoot the ice through the space, the length of a vessel's hull.



H. K. SHOCKEY, Prop.

Shockey Boiler Works

FUEL OIL TANKS

Also Fish Cookers for the Canning Trade

125 Market Street

San Diego, Calif.

Phone Main 4448

CENTRAL SHEET METAL WORKS

C. E. LEWIS, Prop.



Marine Work a Specialty

Tin, Sheet Iron, Copper and Brass Work

718 Front St., Cor. G

San Diego, Calif.

Phone Main 5405

Boat Tanks

Junior-Norris Galvanizing

INCORPORATED



Hot and Electro Galvanizing
Cadmium Plating

WE stmore 1064



1823 E. Washington St.
LOS ANGELES



Indiana Bending Oak
--absolutely the best Bending Oak grown!

All boat builders who have used it, acknowledge it to be the best, and they insist upon it. We also specialize in highest quality hardwoods for boat trim, Spotted Gum, Ironbark, Keels, Plank and Timber—also all Philippine Hardwoods

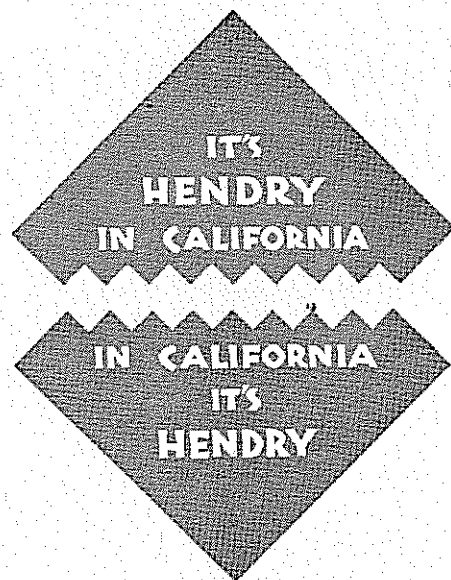
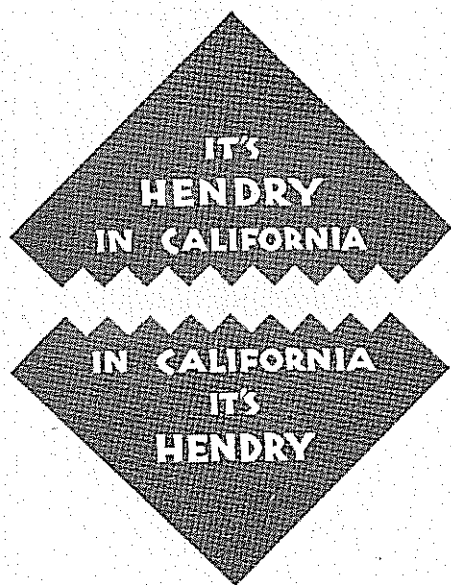
Fifth and Brannan
Streets
San Francisco
California

White Brothers
Hardwood Headquarters

500 High Street
Oakland
California

Pioneer Ship Chandlers of the West Coast

Established in 1872



DISTRIBUTORS FOR:

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| Tubbs Cordage | Perko Lamps |
| Columbia Cordage | Duratite Putty |
| Sands Plumbing | Tar and Net Preservatives |
| Shipmate Gas Ranges | C & G Charts & Books |
| Cuno Oil Filters | Schebler Carburetors |
| Columbian Propellers | Paulin Barometers |
| Laughlin Hardware | Walker Logs & Parts |
| Oberdorfer Pumps | Lunckenheimer Lubricators |
| Big Chief Gloves | Kingfisher Boots |

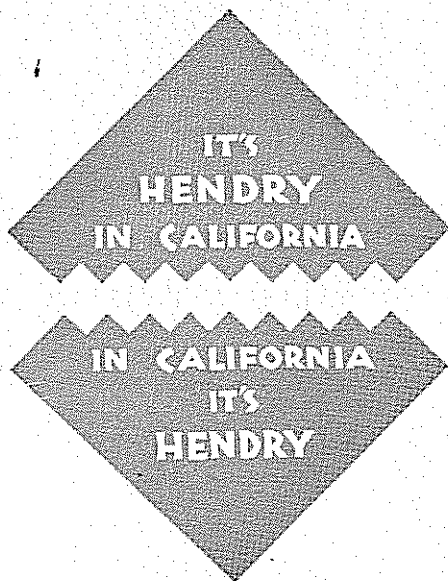


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| Morse Diving Equipment | Mustad Hooks |
| Seth Thomas Clocks | Ferdinand Glues |
| U. S. Electrical Tools | Oilastic Copper Paint |
| Western Block | Towers' Oil Clothing |
| Woolsey's Copper Paint | Patterson Sargent Copper Paint |
| American Chains | R. J. Ederer Web |
| Kuhls' Seam Composition | Bibb's Twine and Rope |
| Ritchie Nautical Instruments | Wickwire Spencer Wire Netting |

Cook With HENDRY Bottled Gas

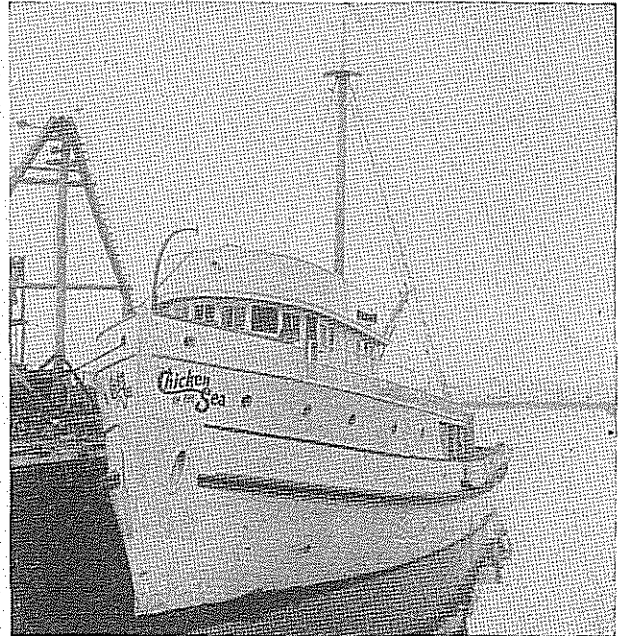
Convenient — Safe — Clean
THE NEW AND PERFECT FUEL FOR BOATS

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| C. J. Hendry Co.,
27 Main St.,
San Francisco | C. J. Hendry Co.,
764 Tuna St.,
East San Pedro
(Fish Harbor) |
| C. J. Hendry Co.,
111-121 South Front St.,
San Pedro | C. J. Hendry Co.,
930 State St., San Diego |



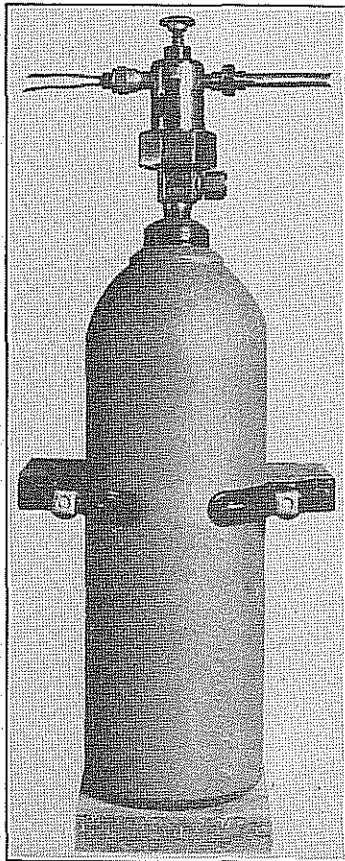
The 24th Fish Boat in Southern California C-O-TWO PROTECTED

The C-O-TWO SYSTEM (carbon dioxide fire extinguishing equipment) will extinguish any gasoline or oil fire almost instantly. With your boat C-O-TWO protected the saving on the reduced insurance rate will soon pay for itself.



CHICKEN OF THE SEA

The Morgan tuna cruiser is the handiwork of the Parke & Kibele yards; it is hailed as the best-built and most capable craft of all the tropical fleet; and C-O-Two Protected.



C-O-Two (carbon dioxide) tank ready for action

For additional information consult your nearest dealer.

C-O-TWO SALES AND SERVICE

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Pacific Marine Supply Co.
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Ets-Hokin & Galvan
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PORTLAND
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WILMINGTON
Ets-Hokin & Galvan
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SAN DIEGO
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Manufactured by

THE C-O-TWO FIRE EQUIPMENT COMPANY

3700 Mines Avenue

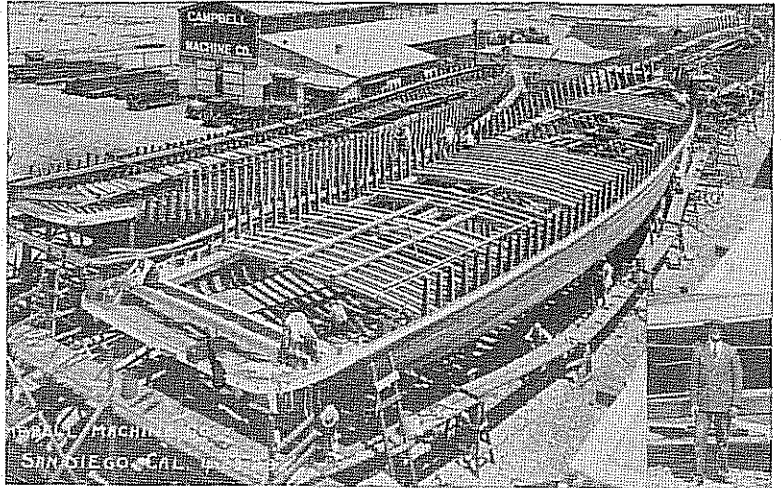
Los Angeles, Calif.

CAMPBELL Leads Again!

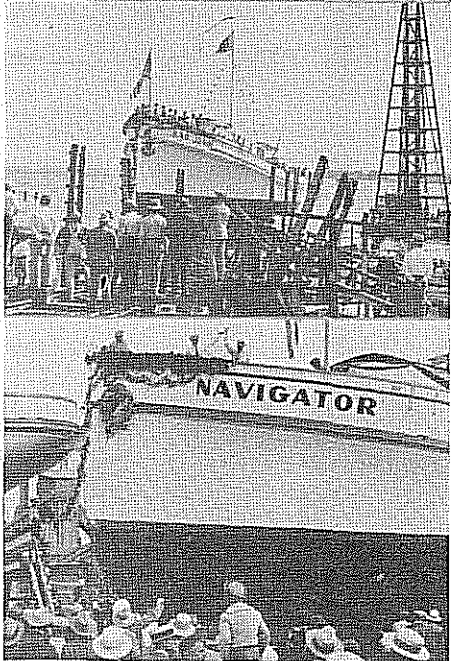
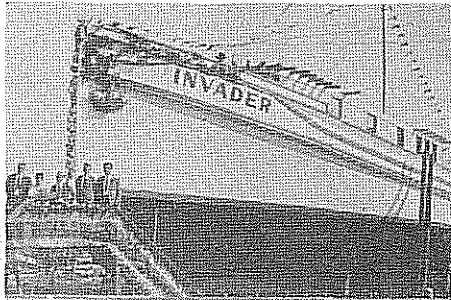
Three More Tuna
Fishing Craft Launched
in June, 1930

The "DEFENDER,"
"SANTO AMARO"
and "CONTINENTAL"

(See Illustrations Elsewhere, Our Section)



General View Campbell Yards Showing the three Tuna Fishing Boats, Invader, Navigator and Sao Joao under construction, June, 1929.



All Three Above Tuna Fishing Boats Were Launched at Our Yards, July, 1929.

YEARs of exacting experience have taught us the fundamentals of TUNA FISHING BOAT Construction. Fishermen of California have since 1917 recognized us as leaders—we have upheld our reputation to the remotest detail.

A Master is known by his work—our vessels are monuments and we are proud of them—the following boats were constructed by us:

Atlantic, Mariner, Del Monte, California, Olympia, San Joaquin, St. Veronica, Abraham Lincoln, Balboa, Navigator, Invader and Sao Joao, etc., and now we have launched the Defender, Santo Amaro and Continental.

The Campbell Machine Co.

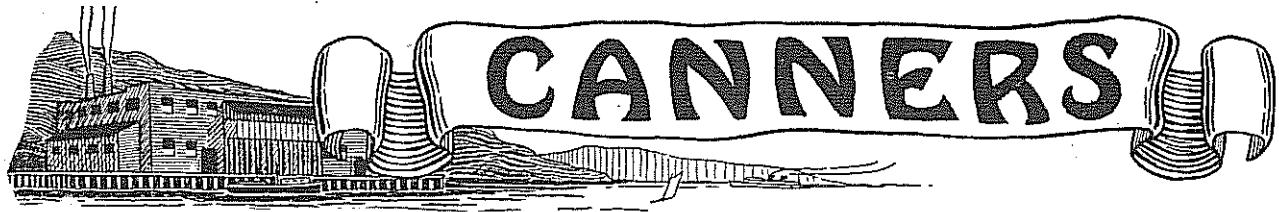
David C. Campbell

Established 1906

George E. Campbell

Marine Railway Service, Marine and General Machinery Repair

SAN DIEGO, CALIFORNIA



Mid-Pacific Tuna Packer Writes— A LETTER FROM HAWAII

TUNA skippers of two different sorts have Honolulu in their minds as a likely base-port from which to operate on long fishing cruises. The first of these are the men who believe that a properly conducted live-bait activity would result in the re-discovery there of the vanished albacore.

"Don't tell me that we caught them all that last half season!" argues one of the old-timers in the "game". "I was out on the Catalina grounds the last day of the fishing—the day before we called the strike—and I'm right here to tell you now that there were more albacore still jumping around in this man's ocean on the evening of that day than have ever been caught in all the years since—yes, and then some! It's my belief that they have gone south into warmer water, which is why they are now being caught off Japan and out of Honolulu. If we go over to the Islands we'll find them there, alright."

Fish Creed On The Wane

Gradually those who have clung to the old faith that the Sabre Fin will have a second coming—are dropping away into the scepticism of confirmed agnostics, but a few of the veteran jig-men still affirm that one of these days the wandering prodigals will return.

Owners of big fishing vessels cannot well wait for this annually-predicted arrival, so are considering the likelihood of making a profitable thing out of a trip to Hawaii. Most of the skippers weigh lightly the chances of finding albacore there in quantity. They deem that eventually an inconsiderable factor; what they have in mind is yellowfin and skipjack.

Dame Rumor Lies Again

On several occasions it has been noised

about that the "Glenn Mayne" and the "Hermosa" and even the "Adventure" had plans for cruising the Oahu-Molokai-Hawaii area, but in each instance investigation disproved the rumor. The reason is this: That boatmen as a class are loathe to take the first chance—characteristically they wait for the leadership of some Guy Silva who will guide them, without risk, to sure profit. Unfortunately the industry is somewhat short on Guy Silvas, and since the one that it has receives no subsidy or support from those who benefit through his discoveries, it is not reasonable to expect that he can conduct the pioneering for all, alone. However, there can be little doubt that were he skippering a 120-foot keel, the Kanakas of Lahaina would long since have learned what a West Coast tuna cruiser looks like.

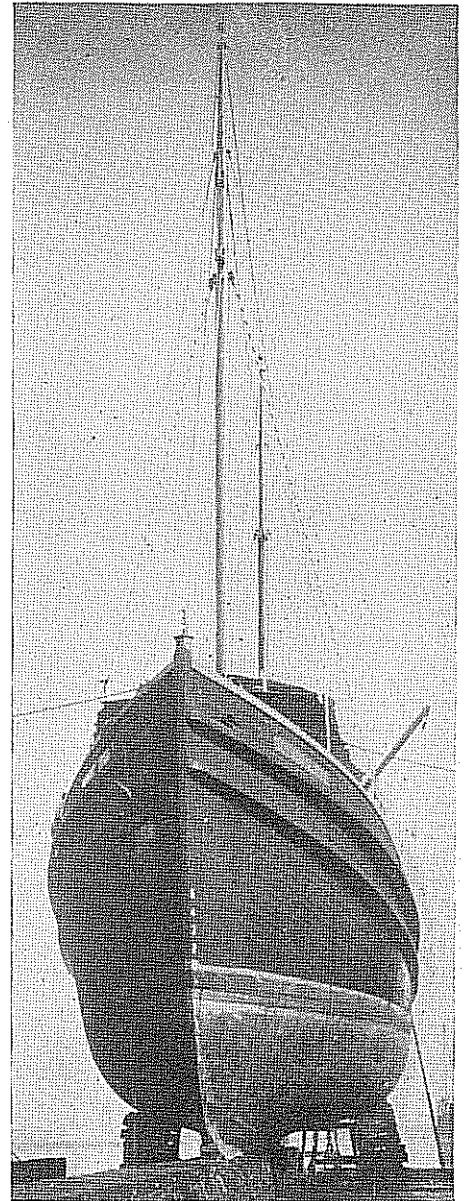
Only the Plucky Deserve the Fares

Timidity has prevented the proving up, or the disproving, of the Hawaiian grounds. As things have been, a captain could run south, scouting along Turtle Bay, Tanner Bank, the Cabo San Lazaro bank and the San Juan bank until arriving off Cabo San Lucas and its adjacent shoals. If nothing were discovered there, the mariner could elect between a run northward, into the Sea of Cortez, or scout along to the Revilla Gigedos to see what might be present around Socorro Island. Should this prove a disappointment he had the prerogative of visiting the Alijos Rocks, Clipperton Island, Clarion Island and the shores of middle Mexico and Guatemala.

Finally, in ultimate extremity, there al-

(Continued on Page 68)

The "Glenn Mayne," largest of the tuna cruisers, has twin 350 h. p. Diesels, carries 20,000 gallons of oil, can run 9,500 miles without refueling, averages 13 knots and carries 22 tons of living bait in the 160 tons of sea water with which its tanks and wells are filled



If Your Customer Demands Quality—There is Only One Solution

CAL-REY Brand



California Sardines

Also Packers of
Custom and Feature brands

Custom House Packing Corporation

MONTEREY, CALIFORNIA

"The Sardine Port of the West Coast"

NOW WE HEAR FROM HAWAII

(Continued from Page 67)

ways was open to him the possibility of finding fish at Cocos or among the Galapagos, and failing also in this he could steer a return course over the same route and almost surely find something on the way home. The chances for "luck" multiplied themselves by this routing, and no man had curiosity and daring enough to undertake to half cross the Pacific to the Hawaiians on the mere chance of finding something when he got there.

If ever one boat will do it, then they all will follow, but while the thing remains yet unaccomplished 95 percent of the fleet will "play safe". It is because daring and initiative are at such a premium in the fisheries that we hold it as a principle that any courageous pioneer merits general acclaim and lasting recognition for his contribution to the calling in which he signallizes himself as a leader.

Paul Beyer Says This

Now there comes a letter from Paul Beyer, manager of the Hawaiian Tuna Packers, Ltd., whose address is Honolulu. Beyers writes to correct the impression that his firm is in the market for either purse-seine boats or live-bait craft. He explains his estimate of the local situation by saying:

"The Hawaiian tuna pack will never reach any large proportions, the main difficulty in the way of its expansion being that of obtaining supplies of bait. At present there is not sufficient bait here to supply our 15 boats, and for that reason it is illogical to expect any considerable pack of tuna. Of course, if we had supplies of your California sardines down here, it would be a different story.

"A second deterrent to large-scale tuna production is that our fish do not school as do yours in California. They are incessantly on the go, and are encountered mostly in small schools. Our local sampans catch the tuna—which is nearly all skipjack—by following them at the rate of about 3 miles per hour, which is a method radically different from yours.

"Purse-seines are not successful here. We ascertained this by actual experience some 10 years ago when we imported a group of well-known California expert fishermen from San Diego. These men, skilled in purse-seine fishing, absolutely failed in their efforts to capture fish in our local waters.

16 Years Of Experience

"The writer has been connected with the fishing industry in the Islands for the last 16 years, during which time he has made repeated trips to Southern California, wherefore he feels himself competent to talk about the fishing industries in both localities. We believe it necessary for the welfare of the entire tuna industry, and for the benefit of the West Coast fishermen who read the articles in your magazine, that no one be enticed into spending good money (of which no fisherman ordinarily has any to spare), for the purpose of making an experimental fishing trip to the Hawaiian Islands. In view of the true circumstances we certainly must discourage any such venture."

Plan To Carry Bait

The shortage of bait in Hawaii is recognized by all informed men as a truism. It seems to be something of a natural law that where tuna is, there bait is not. Bait is scarce all along Mexico, it seems to be entirely non-existent at Socorro, at Clipperton, at Alijos Rocks, at Clarion and at tropical Cocos. West Coast fishermen are accustomed to bait scarcity, and have developed the most astonishing abilities that ever have been known in the way of carrying live bait with them wherever they go. Even Japan takes official cognizance of our dexterity in handling live bait, and sends her scientifically-trained and experience-skilled envoys to California to find out how we do it.

Tuna ships such as the "Hermosa" and the "Glenn Mayne" carry 10 tons or more of live sardines in their tanks and wells. Granted that

no undue mortality occurs and that tuna are encountered reasonably abundant, such a supply is adequate to fill the ship. Revenue derived from skipjack alone is not particularly attractive at present scales of price, but with sufficiently large capacity even the striped tuna can be made to pay—just as in the case of the cheap bonito that are brought north from Mexico in large lots each winter.

Bait Is Lacking

If we are reasonable we must expect that local tuna eventually will become less abundant; with vessels cruising farther and farther from home, and with certain sources of bait being discovered along Central American beaches, it will have to be expected that one of these days some skipper will find himself at the Galapagos with a tank full of sardines and no tuna in sight. If he has wireless aboard, and so is enabled to ascertain from other similarly-equipped craft that none are finding tuna anywhere along the homeward course, like as not he will try a long shot, and cruise northwest past the intervening islands until arriving at Hawaii.

On the other hand, local capital has long considered the Hawaiian field as a possibility, and there is ever re-curring discussion of sending vessels there with adequate supplies of bait aboard. This is certain: That every man who entertains any scheme for drawing upon the tuna schools known to inhabit Hawaiian waters, must take into consideration Paul Beyer's warning, and not trek half way across the Pacific expecting to find bait supplies adequate for his needs when he gets there.

ARDEN SALT COMPANY SAN FRANCISCO

Specializing in all
Industrial Grades of
SALT

Selling Agent
W. S. Craig Brokerage Co.

923 E. Third St.
LOS ANGELES
Telephone TRinity 8282

COUNTS SEALS BUT NOT BAD BITES

Paul Bonnot, of the California Fish Commission, boarded the new patrol boat "Bluefin" at Monterey late in June and voyaged southward with it while exercising his old specialty of counting seals and sea-lions on the breeding rocks. The boys along "Wholesalers' Row" are wondering whether, if Bonnot sees some of the chopped-up barracuda and sea bass now coming in to market, the suspicion that seals may chew on fish—whether they eat 'em or not—may occur to him as an explanation for the mangled and mutilated state of many boat loads being landed.

That Salty Salt
99% PURE

WESTERN SALT CO.
Rewashed Course Salt
SAN DIEGO, CALIF.

General Fisheries Corporation

Sardines and Mackerel
CANNERS

P. O. Box 998 San Pedro, Calif.

Long Beach Salt Co.

"The Dependable Salt"

DIRECT FROM OUR PLANT TO YOU
Long Beach, California
All grades crude and refined salt for the
Fishing Industry



MONTEREY BAY SARDINES

Leading Fancy Brands: EL CAPITAN, GRILL, EL MAR
FISH OIL and MEAL

E. B. GROSS CANNING COMPANY

Sales Office and Plant, Monterey, Calif.

Cable Address "GROSS"



Add 30,000 - Case Capacity To Hovden's Tuna Plant

K. HOVDEN, large packer of Monterey sardines, is expending some \$30,000 or \$40,000 in expanding and modernizing his specialized tuna manufactory on San Diego Bay. E. M. Nielson, superintendent, has been busy supervising the work for more than two months. It is planned to have the new plant completed and ready for heavy receipts of fish before the beginning of the usual mid-summer run.

Have Four Vessels

"We are doing the work ourselves," says Nielson, "and we have planned so that we can be ready to receive fares from our fleet by July 15. You know, we have four fine ships of our own now—the 'Sao Joao,' the 'Point Loma,' the 'Atlantic' and the only steel cruiser in the business, the 'Orient.' We acquired the 'Orient' from the San Diego Packing Company," he explained.

Features of the new installation are:

1. A new packing line, complete with two of the latest-model American Can Company, half-pound-flat closing machines. Increased output due to this addition will be a step-up from 115,000 to 140,000 cases a day.

2. A new Standard Boiler and Steel Company dry-cooker of 25 tons capacity. This machine is of the regular "Standard" type, measures 16 feet in length, weighs 13 tons, and cooks its contents without saturation with steam and water. Nielson is out to produce a higher quality meal.

3. Two 110-horsepower water-tube boilers set into a new power house built entirely of concrete, steel and brick. The two added steam units will be able to raise a working head within a few minutes' notice—"quick steam, and plenty of it," as Nielson himself puts it. This elasticity in steam-generating will permit of the instant handling of unexpected arrivals of 100-ton vessel fares.

4. A new building, 100x60 feet, has been erected. This structure was poured, from concrete all in one set of forms, the piling, the floor beams and the floor itself being cast in a single piece around a reinforcing frame of steel. Fireproof steel bridgework supports the roof, while the sides of the building are of corrugated galvanized metal. Fire in this place is inconceivable. Electricity has been carried to the various units requiring power, the new "Standard" dry-cooker being energized by a large individual motor.

Furnish Unloading Gear

5. Three new 9-car tuna-cookers have been added to the battery already in service. With this trio in operation a whole shipload of tuna can be handled without pause, the stock being cared for as rapidly as the boat's crew can put the fish ashore.

"We take the fish from them at the average rate of 15 tons an hour," says Nielson. "Furthermore, we furnish the equipment and the power with which to discharge the vessels—we are the only cannery that does that. It may be of interest to your readers to know that we have an electric hoisting winch in service in conjunction with suitable automatic dump-boxes in which to lift out the skipjack and smaller specimens of yellowfin. We mounted the mast and boom of the old 'Bergen' at the head of our wharf when she was taken out of tendering work and made over into the tug 'Cuyamaca.' We attach considerable sentiment to the old sticks, which are our fish-derrick now."

Yellowfin Tuna R. R.

An interesting variation of prevailing practice is seen in the mode of conveying tuna from vessel-side to the butchering tables, some 200 feet distant. A miniature railways is in service here, a Ford locomotor handling two alternate trains of small dump-cars. Each car of tuna is weighed separately before being drawn away in the train by the geared-down Ford.

It is entirely plain that Hovden intends to pack some tuna. With the splendid new concrete addition to his plant, the increased steam, tuna-cooking, closing-machine and meal capacity, linked with an augmented fleet of four 100-footers, Nielson can be expected to have a train-load of fancy stock in his warehouse this fall.

CALIFORNIA PACKING CORP. NOTES

Miss Mary Alesso, Secretary to Superintendent Roberts, spent her 1930 vacation at Lake Arrowhead.

H. D. Stockham, bookkeeper, has returned to his desk after a pleasant vacation spent at Avalon. This gentleman has a thousand dollars' worth of tan, and reports tuna fishing excellent.

Miss Grace Duffy, stenographer, has returned to her duties after visiting friends in the Ontario grape district, for the past two weeks.

W. G. Gillis of the Van Camp Seafood Co., Inc., Terminal Island plant, is vacationing with his family at Eureka, California.

Gillis is combining business with pleasure while on this trip and expects to place in escrow his extensive redwood acreage, which will be designated as one of the first State of California parks, early in 1931.

TUNAMAN FOULS NAVY TARGET

It is reported that the "G. Marconi," tuna cruiser of San Diego, collided with a U. S. Navy target off Coronado Beach while on a hunt for live bait. A steel cable with which the target was anchored became entangled in the blades of the fisherman's propeller. The disabled craft was towed to the destroyer base, where a diver removed the wire.

FATAL ACCIDENT

John Medina, 23, member of the crew of the tunaman "Patria," was killed in a collision with a municipal garbage truck at Kettner and Ash streets, San Diego. Miss Frances Verner, 17, who was riding with Medina, escaped uninjured by sliding to the floor of the car at the instant of the crash. Medina was dead when the ambulance arrived.

MOVES OFFICE

Paul W. Hiller, M. E., representative of Lux, Ingle ranges and other equipment used by the fishing industry, announces removal of his offices from East "C" street to 334 Broad Avenue, Wilmington, Calif.

Wire Products Corp.
LOS ANGELES, CALIF.
Fish Baskets
for
West Coast Cannery
947 E. 12th St. Phone VAndike 9070

**"OUR TANKS ARE
RIVETED AND LAP
WELDED"**


All Tank Joints are riveted and electric welded. This is found to be the only joint that will stand up in the new type of fishing boats.

**HEAVY STEEL FUEL OIL
AND WATER TANKS OUR
SPECIALTY.**

Experience teaches us such construction is demanded by the fishermen. We have replaced several Tanks installed at Northern ports during recent weeks.

**MARINE SHEET METAL
WORKS**
Chas. De Vries, Prop.
Terminal Island, Cal. Phone 2740

CALIFORNIA MACKEREL



"Panama Goes to Sea"

MESSRS. Itoishi and Shindo, prominent members of the Japanese fishing colony of Terminal Island, California, realized a life-long ambition when, on June 15, they accepted delivery of their new 115-foot live-bait tuna-ship from the Al Larson yards.

Approximately 150 friends, relatives and equipment representatives embarked aboard the "Panama" as it started on its trial run. Departure was made from Al Larson's wharf, at 8 o'clock on the morning of June 15, Captain K. Ozawa heading the vessel across to the Santa Catalina "Isthmus."

Joe "Oils 'er Up"

Joe Lippe, representing the Western Enterprise Engine Company—which manufactured the diesel power plant in the ship—was in the engine room to see that all of the new machinery was properly adjusted and lubricated. However, as the big diesel never missed a shot under any of the various speeds at which it was tested, he had ample time in which to enjoy himself and participate in the festivities.

Other equipment men making the run were: J. O. Scott of the Gilbert C. Van Camp Agency, which supplied the General Petroleum diesel fuel, with which the tanks were filled; Earl Hughes of the Diesel Filter Company, Astoria, Oregon, who installed two filters aboard the cruiser; and L. G. Wallace of the York Ice Machine Company. Engineer Ito is especially proud of his 11-ton York compressor, and called our particular attention to the 4,000 feet of ammonia pipe with which the overhead, bulkheads, sides and shaft-alley are fitted. He claims that the "Panama" has the best refrigeration plant in the Van Camp fleet.

"Ingle" Oil-Burner

Before arriving at the Isthmus the owners and hosts broke out a wonderful buffet lunch which was served in the protective shade of large tarpaulins that had been spread overhead. Meanwhile, in the galley T. Tanaka, cook, was performing miracles with his new Ingle range. Tanaka was the busiest man aboard, for in addition to preparing hot and appetizing foods he supervised the serving of the

buffet lunch and allowed no one to escape from his galley without being freighted with an abundance of everything that was dispensed in his department.

Discover an Island

On arriving at the Isthmus a diplomatic committee composed of Al Larson, builder of ships, and Hubert Houssels, of the great tuna firm, was sent ashore to parley for permission to land. This boon was graciously conceded by the good folk on the Island, and the entire party boated in to the beach or went overboard, head-first into the surf. Adolph Larson, coming skipper of the Larson family, had his racing boat, "Horsefeathers," along. Everyone hungry for a thrill had their appetite more than assuaged, for Adolph took all whom he could get into the racer for a fast ride. The Lockwood Chief outboard engine, with which the "Horsefeathers" was powered, shot the wierdly shaped creation along at torpedo speed. Larson, Jr., had more patrons than a Coney Island concession on the Fourth of July.

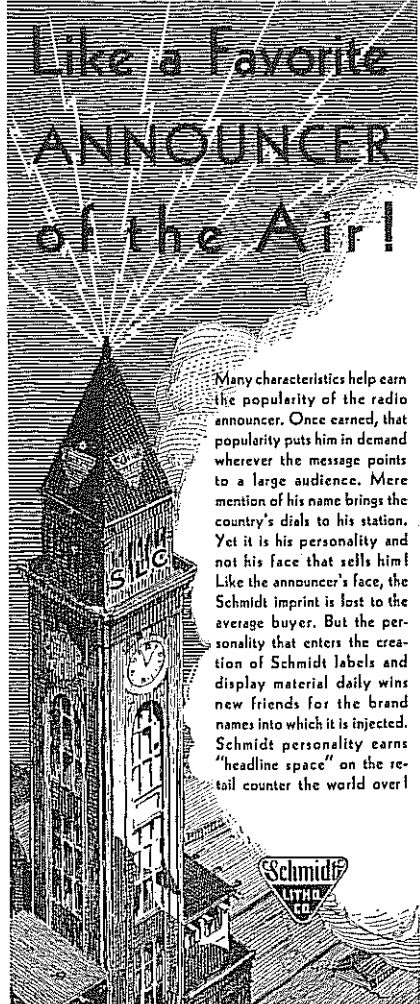
While the party was ashore the hosts again proved themselves wonderful entertainers, particularly for the children, of whom there were many.

Out on First Trip

In the brief period that has elapsed since the trial trip, the "Panama" has been commissioned and already is plowing the southern tuna banks, hunting fish. Its future success is conceded, for not only is it a splendid vessel, but the crew is composed of expert tunamen. T. S. Ito went as engineer. During the first two trips, while the machinery still is stiff and in process of being broken in, Joe Lippe of the Western Enterprise company will accompany Ito to help him in caring for the big 450 h.p. diesel and the various auxiliary installations.

The "Panama" will fish for the Van Camp Sea Food Co., Inc., which has high hopes for the success of the vessel. The deep interest that cannery officials feel in these modern-type fishing craft was evidenced on the evening of the "Panama's" trial run, when Bismarck Houssels, vice-president of the Van Camp corporation was present on the dock to greet Capt. Ozawa and the owners upon their return

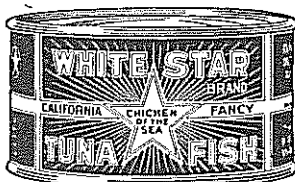
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Terminal Island, California, U.S.A.

CALIFORNIA SARDINES

SARDINE SPAWN 150 MILES AT SEA

SCARCELY A MONTH has passed since the launching of the new patrol boat "Bluefin," but already numerous discoveries have been made. The latest of these was the finding of sardine eggs and larvae (young fish), 150 miles to sea, off the Southern California coast. Through this momentous find the value to West Coast fisheries—research of the Bureau of Commercial Fisheries boat has been proven beyond question. With the "Bluefin" in commission, sardine and mackerel investigations this season have gotten off to a running start.

"Bluefin" At Work

On June 16 the "Bluefin" sailed out of Los Angeles harbor under the command of Captain Walter Engelke with two young scientists from the California State Fisheries Laboratory aboard—E. C. Scofield, in charge of the sardine spawning investigations, and Milton J. Lindner, who is making the life-history of the Pacific mackerel the subject of his especial study and interest. These men were making the voyage in an effort to find out undiscovered facts relative to the breeding of the two sorts of fish that were their concern—what they wanted to know was how far from land the species are spawning.

The "Bluefin" stood out to sea some 140 miles from Point Firmin, thereafter continuing northward to a locality some 100 miles west of Monterey. Scofield and Lindner put fine-meshed collecting-nets overboard all during the trip and picked up numbers of sardine eggs and larvae in both localities named.

Finding eggs and young fish at such distances from shore confirms the belief held by many people connected with the sardine industry, that sardines (besides spawning close to the land) also spawn in the warm, offshore California Current.

Finds Mackerel Eggs

Mackerel eggs again were found off Point Conception and near Anacapa Is. by Lindner, who accompanied the "Bluefin" on the return trip from Monterey. This marks the second occasion that mackerel eggs have been found on the California coast. The first time was in May when Lindner discovered them in a haul made 10 miles off Point Conception.

CHANGE BASE

Captain F. W. Dedrick brought the whale oil factory-ship "Lansing" into San Pedro harbor on June 23. The "Lansing" is owned by the California Sea Products Company which operates it at various points along the West Coast, according to season. Dedrick arrived from the Baja California harpooning grounds to take fuel and supplies aboard before sailing for the San Clemente Island summer rendezvous. The master whaler reports that the season, thus far, has not equalled that of former years.

ALIEN TAX LAW

Assistant Secretary of the Treasury Lowman issued orders on June 27, instructing that fish caught on the high seas by alien residents of the United States be admitted into this country free of custom duties.

The orders previously outlined in Treasury Decision 43988, issued May 8, 1930, caused great consternation not only among the alien fishermen, but the canners and fresh fish distributors for whom they were fishing. The excitement occasioned when this order was first made has gradually subsided, customs officials having been at a loss to know just how they were to enforce this law and make the collections. Chief collectors have stated that it would be necessary to add from 4 to 14 extra men to each of their forces in order properly to supervise the discharging and weighing for the arbitrary charge of 2c per pound.

Investigation disclosed that fishermen all along the West Coast would be more or less effected by this order, particularly in the Monterey and San Pedro sections, where 50% of the fishermen are alien.

* * *

CAPTAIN T. TOYOZAKI, skipper of the "Southern Cross," fishing for the Coast Fishing Company, Wilmington, California, brought in one of the largest loads he has caught this season when, on July 2, his crew took off the hatches and displayed 150 tons of high grade baby yellowfin. It now looks as if the season were on in earnest.

ELLISON COLLECTOR

President Hoover presented the name of Wm. S. Ellison to the U. S. Senate on June 24, proposing him as a candidate for the office of Customs Collector of the re-established 25th District. Ellison was recommended for the post by Senator Shortridge of California and was appointed without opposition.

The 25th Customs District comprises Imperial and San Diego Counties. During the Wilson administration the entity of the district was abolished, it being placed beneath the direction of the Los Angeles office at that time. Recent increase in totuava and other fish traffic crossing the line at Calexico together with large lots of Mexican tuna that are being landed in the port of San Diego have so swelled the business of the old district as to make advisable reviving its old individuality. Ellison will maintain headquarters at San Diego.

FISH HARBOR DREDGE

Fish Harbor is to be deepened, so as to be better suited to the use of the tuna cruisers that each month are being built longer and of increasing draft. Through Bert Edward, its general manager, the Harbor Board of Los Angeles awarded a contract to the Standard Dredging Company on June 25, whereby 300,000 cubic yards of silt are to be removed from the Fish Harbor area, the entrance to the mooring basin to receive special attention. The cost of the work will be \$75,000.

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Ammonia Tanks Burst Aboard Purse-boat "Senator"

THAT NORTHWEST GALE that took out piers and breakwaters all along the West Coast gave the crews of the homeward-bounders from "the Cape" something to head into that was worthy of their diesels. Probably about a dozen purse-boats and tenders were enroute north when the gale descended upon them. From what is being told it would seem that all except one or two were content to take cover beneath the lee of high Cerros Island or within the protection of Turtle Bay, San Martin Island or inside Magdalena itself.

Ivancich Keeps Going

At least one boat in the fleet essayed to fight on home through the storm. That was the "Senator," captained by Slavo Ivancich of San Pedro. The 90-footer had only 10 tons of yellowfin aboard, but after a 53-day cruise the men were weary of bleak shores and featureless sea and anxious to get into port again.

"We headed into the weather anyway," declared the captain, shortly after reaching home. "There can be no doubt at all that the wind was blowing 75 miles an hour—especially between Sacramento Reef and Point San Juan. When we came up to San Martin we found the "Sunrays" there, with anchor paid out and drifting astern with the engine going slow ahead. 'Looks like you're going to the mountains,' they shouted to us, it was so rough. That was the same day that the Santa Monica pier went out."

Ammonia Tank Bursts

In the midst of the blow the ammonia tank aboard the "Senator" burst, liberating the unbearable fumes into the engine room. The engineers were driven out on deck, and no one could go into the place to care for the machinery. This serious situation finally was overcome by the unearthing of an old army gas-mask that happened to be aboard, and thereafter the machinery was kept oiled and in service by the crew taking turns at diving down into the engine room, gas-

masked, to squirt oil around for as long as the poisonous fumes could be endured.

"Lucky that we had that thing on board!" commented the captain.

On passing Cerros Island the "Senator" made out three other purse-boats lying-in under the land. One of these was the "Western Spirit," another was the "Louise Ray," and the third was at such a distance (down at the east end of the island), that its name or identity could not be made out.

"We were the only ones to proceed that day," says Ivancich.

A Trusty Diesel

"What sort of power plant have you, Skipper?" the fishing captain was asked.

"A Western-Enterprise—6-cylinder, 260 h.p., he replied. "Our engine ran fine. It works like a clock. We have had no trouble with it at all."

The "Senator" carries 9,000 gallons of fuel, of which it brought back with it 3,000 gallons.

"We can run to the Galapagos, stay there three weeks, and come home with the 9,000 that we carry," declared the captain. "To make money fishing tuna nowadays you have to be able to go places," he concluded.

STATE FISHERIES LABORATORY NOTES

J. B. Phillips, representing the Fish and Game Laboratory, headquarters at Terminal Island, now situated at Monterey, California, is vacationing in the San Francisco Bay District.

S. S. Whitehead left July 1, for northern California points. "Whitey" intends

to do some heavy, plain, and fancy fishing and hunting while taking his two weeks' vacation.

G. H. Clark and S. S. Whitehead returned June 28, from Stanford University, where a conference was held with Professor Working of the National Food Research Commission. Clark and Whitehead are working on analyses of boat-catch reports, to determine whether or not there is a depletion or an increasing abundance of the species of fish they are checking. Their work is thorough and exceptionally interesting.

THANKS MR. WARD

WCF receives many gratifying letters, a recent one of these being an amiable note from our good friend Dana Ward of Boston:

WARD FISHERIES, INC.
25 Boston Fish Pier
Boston, Mass.

My dear Mr. Eley:

Enclosed find check for \$3.50.

I want to say that you are doing a good job with your publication. Keep up the good work, and best wishes to you and to your organization.

Very truly yours,
(Signed) DANA F. WARD.

H. YOKOZEKI, Secretary

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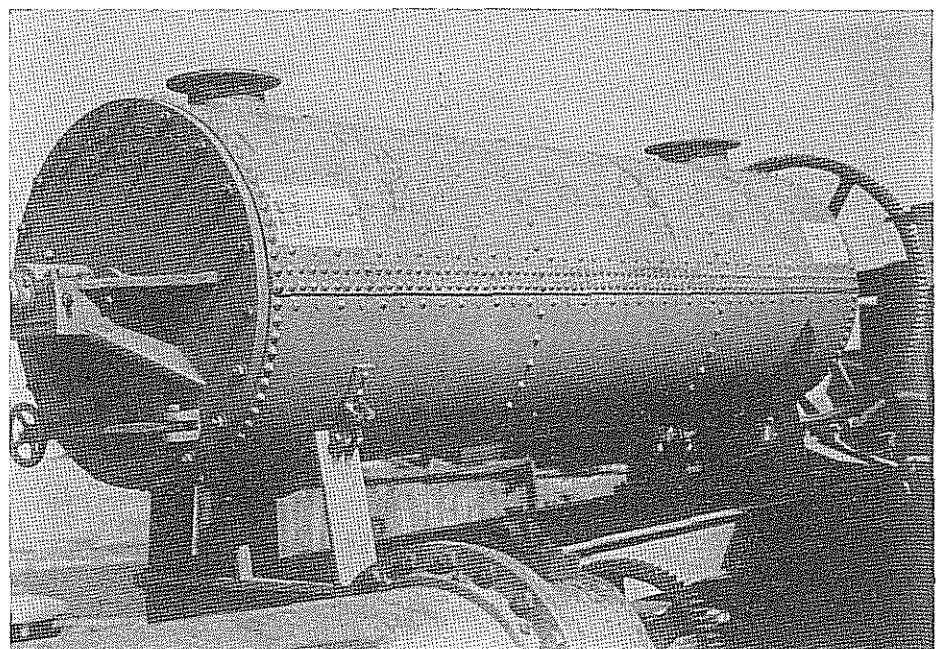
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The largest single piece of equipment going into the K. Hovden plant at San Diego is this 16-foot Standard Boiler and Steel dry-cooker. It is a steam-jacketed machine that both cooks and partially dries its contents. Instead of turning out a soggy, water-soaked mass of offal that must subsequently be dehydrated, it produces a firm, waterless mass immediately ready for the press. Tests that have been run with the Standard dry-cooker show better oil recovery than by other methods, and the oil produced is exceedingly low in free fatty acid content.



THE "MINDANAO" NOW FISHING BARGE

THE "MINDANAO," four-masted "bald-headed" schooner of 466 net tons, long a familiar spectacle as it sailed up and down the West Coast on its voyagings in various businesses, has been taken out of mobile service to do duty while anchored to an outside mooring. Cubbin & McFarland, of Newport Beach, owners and operators of the flat fishing barge that has succeeded so well at that point during the past season, have acquired the grand old vessel to supplement their "fleet," and have re-fashioned its accommodations to suit the new trade.

This schooner is one of much history. Built at Aberdeen, Washington, in 1902, it went into commission as a lumber carrier in the extensive fleet of the Charles Nelson Company. It engaged in the Eureka-to-Australia trade for more than 15 years, making its last cruise on that run in 1919. Thereafter it was laid up, and posted as available for charter.

An Early Tuna Tender

In 1920 the "Mindanao" was recruited by the fisheries, being employed then for the first time as a tender in the Mexican tuna trade. Hundreds of blocks of ice were stowed in her hold, drums of gasoline, barreled water, provisions, gear and a sort of general commissary were placed aboard and the doughty craft dispatched to Mexican fishing centers. W. C. Crafts, now in charge of the ship, was then mate of her; he tells that one trip was made to Turtle Bay and two to Cabo San Lucas.

"She has had a mixed-up life since she quit the lumber trade," says Crafts. "We have hauled fish and we have hauled salt and we have laid up for months at a time."

In 1925 the schooner commenced barging salt for the American Salt Works. The world-famous "saltire" of Carmen Island, lying in the Gulf of California, close to the shore of Baja California, was worked by this corporation, the crystallized salt being carried north, to San Pedro, by the sailer.

"Customarily one of the San Diego Star and Crescent tugs towed us back and forth," relates Crafts. "The 'Palomar' worked with us most often, but sometimes alternate tugs were used!"

Van Camp Hires The Ship

In 1928 the Van Camp Sea Food Company, Inc., signed a charter party for the vessel and put her into tuna tendering again. Some sort of partnership arrangement had been entered into between the big packing firm and George Fauset, owner, says Crafts. The schooner coasted down to Cabo San Lucas where she lay for a considerable period, receiving and icing down yellowfin. Finally when a total of 168 tons of fish was gotten aboard, the vessel made sail.

The northward trip was beaten through under canvas, and without powered attendance. "Two days out we ran into a head wind that soon turned into a

gale," tells Crafts. "Right away she began making water, and we were kept busy pumping her out. It was a big mystery to us—her leaking that way—because we knew that she was tight as a bottle, but the water certainly kept coming in on us. Then the gale died out, and we had a 14-day calm. Our ice melted, the fish rotted, and before we could work her into port we certainly had a mess below our decks!"

A further, and more colorful event in the experience of the tall schooner was when, during the late summer of 1928, she became a cafe, cabaret and dance hall. When the Long Beach Exposition was in the nebulous, the "Mindanao" was leased for entertainment purposes, being moored alongside the fair grounds, in one of the harbor channels. Covered

with large protective awnings, decked out in flags and bunting, and manned by a crew of jazz musicians, the old wind-jammer became a rendezvous for diners and merry-makers. The glamor of the rich setting had a wide appeal—the public responded to the rude but real charm of the veteran ocean carrier, weathered, scarred and worn but tough and able still.

Finally a "Prop"

Within recent times the "Mindanao" has been acquired on numerous occasions for short-period use by motion picture producers. It has had all sorts of weird and flowery name-boards nailed over its legitimate carven designation, but none have seemed more full of romance than that of the greatest of the Philippines—the largest island in all creation. However, changing the name deceives no one who knows ships. The "Mindanao" cannot be disguised from anyone who ever has seen her, for her mighty 72-foot hoist of canvas at the throat of all her sails, her imitation top-masts, and the tell-tale splints on her re-inforced bowsprit betray her identity to all sea-wise men.

"This vessel has a perfect bottom," declares Crafts. "She was surveyed in 1925 and pronounced sound as a bowling ball. She was adjudged to be 100%. I have seen to it personally that she has been kept so, and have cut out 2 or 3 spots where toredoes got in at butt-ends and started to eat out the planking. It was exactly that that caused us to lose that load of tuna off Cabo San Lucas, in 1928. When we got in I found the hole—a place about the size of a stove pipe—where the wood had been weakened by worms, and allowed the water to come in. It wasn't a leak through the seams—we knew that at the time—but a regular little hole the size of a coconut."

Early in May the "Mindano" was taken was taken into dock at the Los Angeles Shipbuilding and Drydock Corp., and entirely gone over. Another such weak spot was then discovered, and immediately burned out with fire. She is declared to be fit for many years of future service.

May Become a Freezer

It is understood that the "Mindanao" is not to be counted as definitely out of the commercial fisheries field. The fact that it is a pre-war, lumber-trade schooner, well-built, in splendid condition, and capable of giving good service for many years to come, makes of it an object of especial interest for the canners who are commencing to outfit refrigerated vessels for South Sea service. In connection with the "Mindanao" the Van Camp Sea Food Company, Inc., has been mentioned, but that large organization of tuna packers says that as yet it has nothing definite to say with regard to whether or not it actually will insulate and refrigerate the big vessel for further duty as a tropical tender.

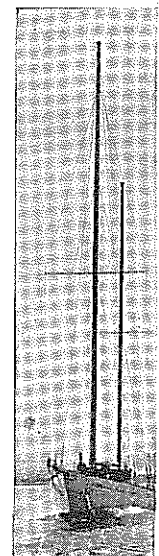
Should the freezer-mother-ship idea succeed, no doubt the "Mindanao" will be requisitioned again for that service.

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The prices are approximately one-half the cost of the equipment new before installation one year ago. Owner is now getting a larger engine. The engine, generator, equipment, etc., may be seen at the Craig Shipbuilding Co., Long Beach. For particulars call Los Angeles — TUcker 2398.

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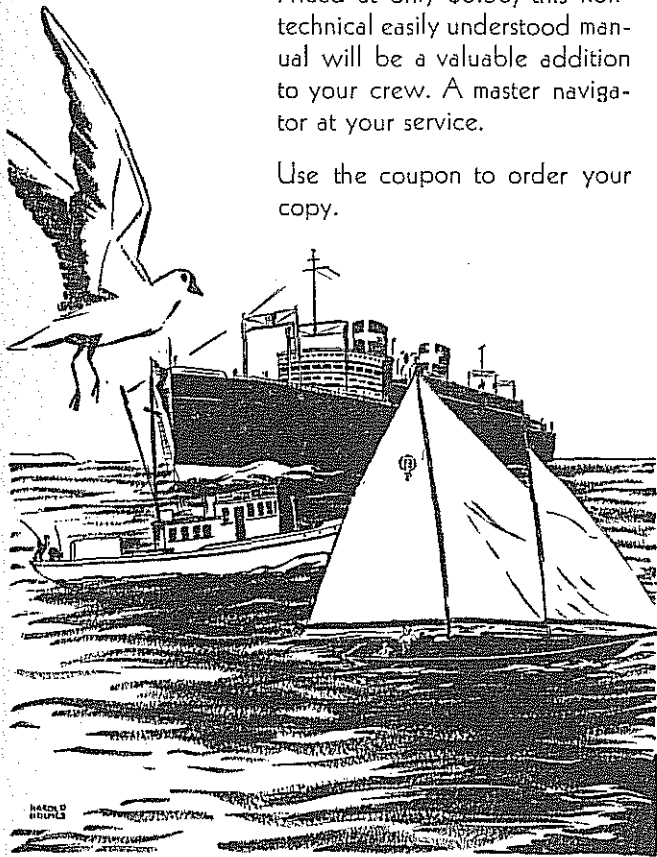
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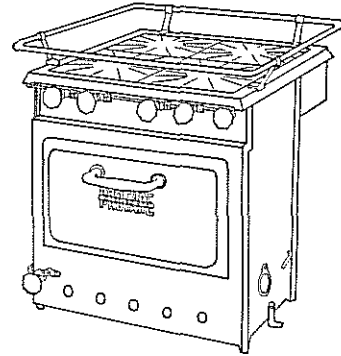
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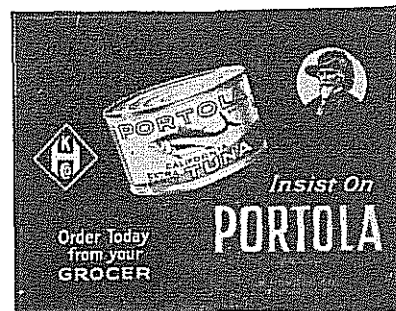
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MONTEREY, - CALIFORNIA

Salmon Running in South —Oregon Catches Shad

Santa Cruz

Salmon were in evidence here for two months before the fishing season opened, but since commercial operations commenced the catch has been disappointing. Black cod and mackerel have been the chief support of the boat men.

Monterey

Abalone diving is good, as usual. Local salmon catches have been poor.

Pittsburg

There will be no fishing here until August 1, when the salmon and striped bass seasons re-open. However, there is much activity around the local plant of the Northern California Fisheries Company where many tierces of mild cure are being headed up, the fish being brought in from the different stations that the firm maintains along the coast.

Sacramento

Fishing in the Sacramento River has been at a complete standstill during the past month. All fishing in the stream is closed by law until August 1. Meanwhile, Sacramento wholesalers are purchasing their supplies from outside sources.

San Francisco

King Salmon is the center of interest in San Francisco at present. The silvery fish have been running in good-sized schools off the Cliff House and Point Reyes. About 65 per cent of the landings have been of specimens weighing 15 pounds or more. This being fine mild-cure stock, the last few weeks have seen many tierces added to the pack. Because fishermen and wholesale dealers failed to arrive at an accord concerning prices until June 5, fishing did not commence until that late date. However, operations have been so successful that the month turned out to be a profitable one nevertheless.

The flat-fish catch has been substandard for 30 days past. Jordan Flounder, called by market men "round nosed soles" have been unaccountably scarce, only a few hundred boxes having been seined up in all of the month's paranzella work.

Rock cod and black cod catches declined during June, due to the concentration of a major part of the men and boats in salmon trolling. Crab supplies have been constant, but generally considerably short of the market.

June weather was generally fair, as usual, the boats losing only a few days of work because of high winds.

Eureka

Fishermen have been bringing in salmon all spring, but the real season began June 1. By the end of the month 125 boats were fishing. Catches have been good, and Herb Mersiage, local manager of the Northern California Fish Company, reports that the "big ones" are now being caught in large numbers. The halibut situation remains unchanged. Black cod is plentiful.

Fishing on the tidewater of the Klamath will begin July 1.

Shelter Cove

The run of salmon has not reached here yet. Volumes of fish landed still

are small. About 25 boats are fishing here at present; the few that are long-lining for black cod are bringing in good fares.

Next month should be a good one, for fish are reported as plentiful around San Francisco and Pt. Reyes.

Fort Bragg

June was a poor month in this port, the boats being south and the main run of salmon not yet arrived. Things ought to pick up in about 15 days.

Portland, Oregon

J. H. Reeves, merchandise broker of Portland, states that the shad season is practically finished in his district. The run has been exceptionally good in the Umpqua River. Several car-loads were transported East, these being routed via Seattle.

The Columbia River is having a dull season. Chinooks are running poorly despite the fact that this is the season when the seining grounds should be producing heavily. Catches are far below normal.

Washington trollers were much discouraged during the closing fortnight of June—a condition extending also to the halibut men. They complain that large numbers of sharks are working up the coast, causing the fish to abandon their usual grounds. The situation is aggravated by the presence of unusually numerous bands of seals that disperse the salmon schools, and prevent their reassembling.

During the first 10 days of June the Portland Fish Company received several good trips of halibut which were sold largely to California buyers. During the latter part of the month there were no arrivals although the "Clarion" came in on June 25 with a mixed load of halibut, ling, red snapper and rock cod.

LARCO BUILDS ANOTHER

The Larco brothers, Santa Barbara's wholesale fish dealers, still are building new boats. Already they have a splendid fleet, but within the next few days will add still another to the flotilla that rides at anchor off the bathing beaches of their handsome port.

Anderson & Cristofani are building the vessel in their yards near Hunter's Point, San Francisco Bay. The new trawler will be christened the "Sebastian L.", in honor of the oldest of the brothers, and Chico Larco states that he expects to take delivery about July 15. The Larco port engineer, Umberto, is now at the northern yards to be present to witness the performance of the "Sebastian L." during its dock work-out and trial trip.

The "White Star," owned by Capt. K. Cesareo and Nick Baskovich, put in at Fish Harbor during June for the purpose of removing its famous turn-table and seine. The "White Star" is declared to have been equipped with the grandfather of all turn-tables—a square of timber big enough to build a house on. Likewise its seine-boat is said to have been the most mammoth yet built. Bait tanks are to be shipped on her stern immediately, the yellowfin season being here.

Phone 2740

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"AMERICAN FISHERIES" Stages Salt-Water Party FOR TWO-COAST TEA HOUSE

BRIGHT and early Sunday morning, June 15, the good boat "Maryetta," skippered by Capt. D. F. Nault, took Otto Weissich's party of the Great Atlantic and Pacific Tea Company officials aboard and shoved off for the local fishing grounds.

R. Mott, representing Coldwell, Cornwall & Banker, investment properties of Los Angeles, drew the undivided attention of everyone when, around 8 bells, he heaved his herculean physique over the rail "a la natural" for a swim. Those of the party not previously advised of his intentions were quite sure a gigantic swordfish was working out alongside.

R. Horneman, brother-in-law of G. K. Gartman, vice-president of this great chain store concern, proved to be the conscientious, persistent fisherman of the party. He only took time off to visit "Cabin A," but invariably upon his return to his rod and reel found the fish that had been caught during his absence had died from exhaustion or by drowning.

Some Board!

Dr. C. M. Harrison of Napoleon, Ohio, accompanied the party. "Doc" has been sojourning in the Southland for the past 60 days. W C F is quite sure that after this trip he will issue plenty of prescriptions to his hometown patients, suggesting a similar trip as the panacea for all ailments, regardless of their nature. We anticipate "Doc" will return to the local herd early next summer.

High noon found Otto Weissich and his guest, James Kennerson, acting as hosts around the festive board. **SOME board!** Everyone in the party thought it was New Years Eve.

Time came, as usual, for toasts built around the future. Weissich assured his guests that on their next trip (planned for late this summer) he would have an adequate supply of larger live bait aboard, thus insuring a more bountiful catch.

After lunch Bob Horneman again proved to be the life of the party. Besides being fully capable of filling the position of Assistant Superintendent of Stores, he proved his prowess as a lecturer and demonstrator on subjects whereof he was exceptionally well informed. W C F never goes into detail in such matters. However, Bob covered his subject like nobody's business.

Carry Fresh Fish

The Great Atlantic and Pacific Tea Company of New York City, which is a comparatively new operator in Southern California, has given the natives plenty of action. It has opened 30 retail stores in Metropolitan Los Angeles since May 1st.

Officials handling these installations all are from the Eastern headquarters, are

tried and true, and know this angle of merchandizing perfectly. Their program for further expansion during 1930, while somewhat indefinite, indicated that stores will be opened as rapidly as desirable locations can be obtained.

"American Fisheries," of which Otto Weissich is president and general manager, is furnishing all of the Tea firm's Southern California stores with fresh fish stock. H. A. Moudy, buyer, after a careful survey of the several sources of supply, chose the "American" and its splendid organization.

All G. A. & P. T. Company markets

THERE was good cause for celebration: A great New York chain-store firm had just come to the Golden West, where it opened 30 retail stores in rapid succession. Finding Los Angeles folk to be large consumers of fish and fancy fish products, the executive decided that it would be well to feature ocean foods in their new stores. The "American Fisheries," fresh fish firm, was chosen to supply the entire chain with prime stock, direct from the sea. WCF predicts that this is the beginning of a great wave of improved retail marketing.



Left to right: Capt. Nault, Messrs. Kennerson, Weissich, Jean, Nitche, "Doc" Harrison, Berry, Gartman, Mott, Cortner, Moudy and Horneman

not only feature fresh fish, but dispense it from cases equipped with the finest in mechanical refrigeration, thus insuring a perfect product for their customers.

Is Bright Spot

G. K. Gartman, vice-president of G. A. & P. T. Co., upon his return to the Wilmington dock at 4 P. M. was handed a wire calling him immediately to Detroit, Michigan. In leaving, Gartman stated, "I'm going, but I'm coming back; not only at the first, but at every opportunity. This land of yours is not only the world's playground, but, in my judgment, it is one of this country's business bright spots."

The following gentlemen returned to their respective homes and hotels tired, happy and well laden with fish:

G. K. Gartman, Vice-President of the chain store firm, New York City; H. A. Moudy, buyer; H. A. Berry, Superintendent of Operation, S. L. Cortner, Superintendent of Stores, and his two assistants, R. Horneman and G. Nitche, members of the Great Atlantic and Pacific Tea Com-

pany of Los Angeles; R. Mott, representing Coldwell, Cornwall & Banker of Los Angeles; Dr. C. M. Harrison of Napoleon, Ohio; J. E. Jean, friend of Mr. Nitche; Otto Weissich, president of the American Fisheries of San Pedro, California, and his guest, James Kennerson.

LARGE SWORDFISH CAUGHT

The largest swordfish of the season was brought in port the week of June 1 by Tony Souza with one of the smallest swordfish boats on the run. Tony says he "had a hell of a time landing the 615 pounder with his little thirty foot double ender" but "here it is." Tony caught the first swordfish of the summer.

LEG FRACTURED

Babe Falconi of the Ocean Fish Company, San Pedro, Calif., on May 8 slipped while unloading a truck and fractured his leg, requiring an enforced vacation for several weeks.

WEST COAST TUNA SHIP VISITS PANAMA CANAL ZONE

EVERY TROPICAL TRIP of a West Coast tuna cruiser is an adventure and romance within itself. The business is new and the waters strange; it is the age-old story all over again of "the roving men from the north," and so forth. A recent account of more than usual interest was that brought into port by the tunaman "Progress," an ex-halibutter of the old dozen-dory type having bunks for 14 men in her spacious forecabin.

"Yes, we've been places, and seen things and done things — but we lost our fish," declared Captain A. W. Radcliffe, master of the big billetter. "We left San Pedro on April 4 and got back here June 9, and we didn't sell a pound of tuna. You know, we had an accident, lost our ice, and the cargo spoiled before we could get in."

That is a satisfactory digest of the economics of the trip, but it by no means exhausts the experiences of the crew. From the standpoint of the men aboard, the event most worth telling was the vessel's visit to Balboa, C. Z.

Royal Welcome

"They certainly received us royally," volunteered the cook, "we never have met finer people, and would like to go back there again. We were the first tuna-boat ever to enter the place."

After leaving San Pedro at the commencement of the voyage, the "Progress" ran southward to San Diego where live-bait was seined up. The next stop was Socorro Island, in the Revilla Gigedo group, from which it continued to Clipperton Island. There first fish was taken, but the supply being scant the vessel proceeded to the Galapagos, finding a few tuna in the vicinity of both Culpepper and Wemmen islands. Having by this time run low on fuel, the captain decided to go into Balboa, to the oil docks there. This bunkering experience turned out to be a social event, for news of the novel visitor spread quickly thru the near-by city of Panama, and newspaper men, business people and yachtsmen came trooping aboard.

Thus the "Progress" discovered the Panama Canal Zone, which all hands have since been advertising as a capital country peopled with capital folk of western mould.

"We took aboard 7,000 gallons of fuel there, and 200 standard 300-pound blocks of ice," relates the skipper, "then we seined up about 200 scoops of good bait off the entrance to Balboa Bay and stood across for a 2-day stay at Cocos Island."

Consider Ice Machine

Tuna were scarce, and after waiting around for anxious hours, and trying to forget the dragging of time by landing and exploring the densely-wooded sides of Cocos' mountains, the crew finally re-embarked and laid a course for the bank that lies between the island and La Union. When still 1,500 miles from home the engine suddenly burned out main and wrist-pin bearings, forcing the crew to make use of the old halibutting sails

while repairs were attempted. Five days later the ship was gotten under the headway of her partially repaired diesel, and eventually arrival was made off San Pedro. Investigation there showed that all of the 35-ton fare of tuna had spoiled in transit, the ice having wasted away during the delay and exposing the fish to the high heats of the southern latitudes. All of the \$4,200 fare had to be dumped as putrid beyond use.

The "Progress" went into the yards of the Los Angeles Shipbuilding and Drydock Corporation at once, where its machinery was overhauled completely. At the time of this writing it is expected that the vessel will be ready to put to sea again on a short-range, local voyage about June 30.

"Our experience has convinced us of the necessity of having mechanical refrigeration aboard," declared Captain Radcliffe. "Probably at the end of our next trip we will install a 5-ton ice machine."

SHARK BITE FATAL

Sannoshiki Ueno, expert Japanese fisherman of the crew of the brand new tuna cruiser "Alert," died in a San Diego hospital, on June 8, as the result of having been bitten by a shark. According to Lee Davis, chief engineer of the vessel, Ueno was endeavoring to gaff a shark that had been enmeshed in the ship's bait net when, being thrown off-balance, he missed the fish while at the same moment the angry animal lunged at his hand and almost

severed one of the digits. Immediate aid, rendered by Davis with the assistance of a medical kit, kept the wound clean for a number of days during which the boat stayed on the grounds.

According to Davis the wound was pronounced entirely clean at the time that Ueno was taken to the hospital in San Diego. Four days later amputation was deemed necessary and on June 8 the sufferer died from tetanus arising out of infection that had set in.

The fatal happening made a dismal beginning for the career of the "Alert"; the vessel was on its maiden voyage at the time, Captain T. Abe being in command. Ueno is described as the most active and useful man aboard. He was only 25 years old.

DEODORIZER TESTED AGAIN

The San Carlos Canning Company's plant at Monterey was the center of interest on July 7, when the deodorizing apparatus recently installed by the inventor, A. A. Bonzagni, was given its second test.

Floyd Tuttle of the San Carlos organization had secured permission from the California Division of Fish and Game to take 20 tons of sardines out of season to make the test. The sardines were permitted to lie in the bins two days, which insured the most disadvantageous conditions possible for the experiment.

The apparatus has been reconstructed since the test made late last month, and the results are expected to be conclusive in demonstrating its efficacy in solving the local fish-reduction odor problem.

The changes made in the equipment since the last test as announced by Angelo Lucido, president of the San Carlos Company, are as follows: "The capacity has been doubled, the original 12 batteries having been increased to 24. The condenser has been enlarged and the volume of water to be pumped into it increased. The mixing tank has also been augmented in size.

"The process is a simple one. All the odoriferous air from the cannery is pumped through a single pipe into a condenser where its temperature is lowered. From the condenser it passes to the mixing tank, where it is mixed with a gas manufactured by the set of batteries. This gas is supposed to neutralize the odor. From the mixing tank the neutralized air goes out through a single vent.

Providing this test is successful and entirely eliminates the obnoxious odors to which persons resident in the vicinity of canneries object, undoubtedly every mackerel and sardine packer on the West Coast will wish to install apparatus of this same sort. All communities having fish canneries near them are demanding that the operators eliminate the unpleasant odors which characteristically originate in the reduction plants.

When it becomes known that equipment actually is available for effecting the desired result, most packers will of their own accord wish to install it so as to remove popular objection to the continuance of their operations within or adjacent to residential regions.

T. Takahashi, 183-D. Cannery Street, sold his fishing boat, the "Cedros II," to Hori Brothers on June 15. The purchasers are the owners of the "Daiho," hence now have the nucleus of a family-owned fleet.

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Fish Marketing By Route Truck Proves Success

WHILE OUT-WORN methods fail, new schemes, shrewdly devised to meet the changing requirements of the public, bring large profits. The cellophane-wrapped candy bar has taken the place of the striped-paper gum-drop sack, the fresh filet has supplanted round rough stock, and the circuit-wagon is affecting better service to the public than the old fish-stall has done. M. H. Isenberg of Los Angeles has proven this latter assertion. He has built up a more than satisfactory trade largely upon the basis of a fleet of fast route-trucks that carry his goods to the very kitchenette-door of his urban patrons.

12 Mobile Markets

Headquarters for this wholesale company is at 1812 Central Avenue of the city named. From this as a center a dozen pedlar-trucks radiate into all parts of the big town. Plotting the routings for these machines is one of the chief considerations that determine the success of the whole plan, and in the aptitude to sense where good business is to be found the head of the firm has developed an ability that is almost clairvoyant. The trucks follow regular beats, make calls exactly on time, and housewives, restaurant keepers, and dwellers in apartments can depend with certainty on the scheduled arrival of the purveyors of sea-grown delicacies each day. The company amplifies its trade considerably by catering to the special needs of Jewish food stores, supplying Utah carp, fresh-water scale-fishes, and the cured herring so extensively used by Hebrews the world over, incident to their observance of religious occasions. This particular business is further enlarged by a route-truck that calls upon the wealthy Jews of Hollywood's motion picture industry. As a result of these combined demands the concern is one of the largest dealers in fresh water fish in Southern California. However, it is not to be inferred that other varieties are not dealt in, for the general market demands principally the salt water species, stocks of which are obtained through San Pedro water-side houses.

Personnel and Equipment

Louis Isenberg, son of the owner, has recently become sales manager for the firm. This releases the elder man from concern with that field, and enables him to devote undistracted attention to office detail, general management, and policies.

The company has an able staff of energetic men. Bruce Martin drives the Hollywood route-truck, is a cheery chap who knows how to please trade, and has the faculty of wheeling a truckful of fish through municipal traffic in the audacious style of a Yellow Cab signal-jumper. Charles Travers is floorman at the Central Avenue headquarters; he is an "old head" in the fish business who is known by, and acquainted with everybody in the trade. Travers is a stickler for punctuality and service while at the same time having that business-getting attribute accorded laud in the old war-song: "Smile, smile, SMILE!" Sam Rupert is bookkeeper. The company "inherited" him when it purchased the es-



Morris H. Isenberg, head of the firm operating under the unique plan of fish truck distribution.

tablishment and accounts of the Zaiser Products Company, its lineal progenitor. "Sam" is an institution; he is the office's *sin qua non*.

Business is good. The house is making money like a New York stock brokerage last October. Should anyone question the fact, let him call in and see the new Ford trucks that recently have been acquired to meet the demands of the circuit-car idea. Philip Silver is handling one of these. "I'm simply running the wheels off this machine trying to fill all my orders promptly," he says.

The senior Isenberg wishes for the formation of a West Coast wholesalers' organization that will stabilize and systematize business to the end that the present profitless and demoralizing price-cutting may be curbed.

SAN FRANCISCO'S FISHING INDUSTRY

San Francisco has fished since it was a little boy. Fish have been friendly to San Francisco, have brought pleasure, food, wealth to its door. Perhaps, Sir Francis Drake, as his ships bore past the Golden Gate three hundred and fifty years ago, caught fish, or Don Jua Manuel Ayala, when he sailed the first ship "San Carlos" into San Francisco Bay, in 1775, dropped a line to taste of the spoils at his feet. Then came de Anza, who founded the Presidio and Mission Dolores, Padre Junipero Serra, and the Argonauts, all of whom undoubtedly found refreshment and food in the fish of San Francisco Bay. Thus, from the earliest days, fish have meant something to San Francisco. As far back as 1860 commercial fishing commenced and from that time

on San Francisco has become famous the world over for its choice sea foods until, today, it is one of the leaders on the Pacific Coast in the fishing industry, which is valued at close to \$4,250,000.

Touch of Modernism

The fishing industry in San Francisco has a romantic background, having first spawned, one might say, at Fishermen's Wharf. Fisherman's Wharf, on the north shore of San Francisco at the foot of Union Street, is the harbor of the Italian fishing fleet. It is known to many as "Italy Harbor" and comprises a colony numbernig about 500, nearly all of Italian birth or heritage. Today, the efficient internal combustion engine has taken away much of the old, romantic, colorful, picturesque atmosphere of the days of the lateen sails when fishermen, true to traditions, attired themselves in costume. They were a colorful group in their picturesque dress of the countries bordering the Mediterranean with gaudy tam o'shanter, knitted jersey, broad sash and sturdy sea-boots—a cheerful dash of color darting to and fro from boat to wharf and venturing forth in their old world craft. Their Neapolitan homes now cling to the rocky slopes of Telegraph Hill that leans over the sea, sheltering the fishing fleet from the tides and the winds that blow in from the Golden Gate.

San Francisco's fishing fleet, numbering about 350 vessels, is grouped according to the particular kind of fish to be caught. For instance, there is the crab fleet, bringing in their catch of shellfish and salmon in season, to Fisherman's Wharf, where it is sold. There are about three hundred men, each operating his own boat, belonging to the San Francisco Crab Fishermen's Protective Association. There is also a group of about twenty men constituting the San Francisco Rock Cod Fisherman's Union. There is a fleet of 22 trawlers operated by wholesale dealers and engaged exclusively in sole fishing. This is the backbone of the fishing industry in San Francisco and San Francisco leads the entire Pacific Coast in the production of this particular variety of fish with a total production of 8,845,078 pounds for the year ending June 30, 1930.

Diversified Industries

Shrimp fishing is carried on mostly by the Chinese off Hunter's Point. These fish are either sold as fresh shrimp; are sundried for export to the Orient or are ground into shrimp meal for poultry food. A modern plant for the mechanical drying of shrimp is located at Berkeley.

The oyster industry lays claim to the fact that it raises its own products. Seed oysters are brought to this coast from Baltimore and planted on the "farm" of the Consolidated Oyster Company opposite Millbrae. When oysters have attained the proper size for market they are harvested, brought to San Francisco, packed in shipping containers and distributed in the fresh market. The fishing operations carried on by the wholesalers and the cooperatives from Fisherman's Wharf employ a fleet of boats valued at \$1,425,000. These boats brought in a total of 44,737,850 pounds of fish and shellfish in the twenty-two varieties sought during the year ending June 30, 1929.

The five major companies in the fishing industry in San Francisco, F. E. Booth Company, A. Paladini, Inc., Standard Fisheries, Inc., Western California Fish Company and the San Francisco In-

(Continued on Page 90)

Haines Gets Large Fat Crabs From Westport Branch

GRAY'S HARBOR is becoming a considerable crab-producing point. The development of unusually fine mooring and unloading accommodations at Westport, together with the transportation facilities which the place affords, has led the Haines Oyster firm of Seattle to establish a branch crab-depot there. This cookery operates and ships under orders received directly from the head office on Pier 12, Seattle. E. J. Whitman, manager of the concern, states that crabs are plentiful and of exceptional grade now.

"These big King Crabs or Cancer magister that we get at this season are fat and heavy and full of solid meat," says Whitman. "You see, most of the summer catch is taken from the ocean, in deep water, beyond the 3-mile limit. Out there no closed season is in effect, and those big sea-crabs are the finest that can be had. Only the males are taken, thus the public is assured that the quality is in no way impaired by the coming or passing of the spawning season."

Whitman goes on to explain that during the comparative calm of summer weather the crab boats find it possible to venture out and exploit grounds that the boisterousness of wintry seas closes to them entirely during the greater part of the year. It is from these lightly-fished areas, where Nature itself imposes an in-

violable closed season, that the big "jumbos" come. Recent operations have resulted in so abundant a catch of these two- and three-pound giants that the boatmen have been able to work only about a half of the time, there being insufficient market to occupy them constantly.

"Scallops are plentiful, too," says the Haines manager, and here again the boats are fishing only part time because of the limitations of demand. As to oysters, Rock Points (transplanted Japanese stock), have been selling at a lively rate in spite of the supposed lateness of the season. Right now they are in the very pink of condition—large and fat. Most of the Olympia houses have closed for the summer, but a few 'Natives', imported from Canada, came in afterwards to sell at \$7.50 a gallon.

"This year the season was remarkable for the big catch of jumbo shrimp, but the catches have been tapering off somewhat."

JAPANESE BROKER TOURS AMERICA

J. Emy Tsukimoto of Tokyo, Japan, arrived at San Francisco, June 20, being ex the S. S. "Chichibu Maru" of the popular N. Y. K. Line.

Tsukimoto is an extensive broker of fresh and frozen fish in his native country. He is also rapidly developing a highly remunerative Import and Export Department in connection with his business.

Accompanying this distinguished visitor, who was interviewed at the Hotel Ogawa, San Francisco, were two substantial trial shipments of scallops. One of these was consigned to the Henry Dowden Company of San Francisco. The scallops arrived in splendid condition, which insures further traffic in this delicacy.

Tsukimoto visited Los Angeles and Wilmington, Calif., June 22 and 23rd. While in the Harbor District he stated that his firm is making regular shipments of frozen tuna to the Coast Fishing Company of Wilmington.

No grass is growing under this gentleman's feet, he having departed June 24th for Seattle via San Francisco, from which point he will embark for Japan about August 15th.

PALADINI GETS TRUCKS

A. Paladini, Inc., is sporting two new Ford trucks. The snappy little machines have been decorated in the green-and-gold colors which are those of the company and can be seen scampering all over town making swift deliveries of fresh fish orders. These two cars are much more mobile and agile than larger vehicles and are regarded with great favor along Washington and Clay streets.

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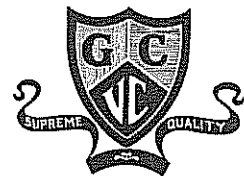
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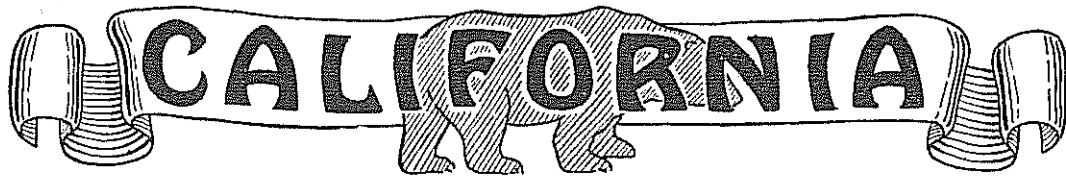
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S. LARCO FISH COMPANY HOST TO FOUR HUNDRED

OLD-TIME California lived again when, on June 14, the Larco brothers entertained 400 invited guests at another of their celebrated barbecues.

"Every wholesale fish dealer of Los Angeles was there," declares Geo. Shapiro, who, together with Mrs. Shapiro, was one of those who attended from San Pedro. "Besides the Los Angeles fellows there were men from San Francisco, Monterey and intermediate points. Everybody was there—and what a party!"

Under the tall sycamores and enormous oaks of the Stowe Ranch—widely famed as the setting for many such gala events—the Larcos prepared two great trenches for barbecue pits. Over glowing embers of spent log fires dozens of fat spring fryers were toasted to a deep, baked-turkey brown. Appetites to the number of nearly half-a-thousand were annihilated with this delectable ammunition.

Stowe's Ranch lies some 12 miles from Santa Barbara, northward, against the mountain-side. Great spreading trees are a feature of the place and deep beds of green grass cover the ground, but there is no stream or other water to drink.

So as not to omit the flavor of the industry, Chico brought along a few sacks of clams and such suitable cock-tail stock as hulled shrimp and Olympia oysters. As emblematic of the Italian descent of the S. Larco Fish Company, an enormous fish "chupin" was prepared and served, in the inimitable style of which the Santa Barbara brothers seem alone to possess the secret.

"We danced all day," declares Jack Deluca. "They had a hot-shot 7-piece orchestra there that kept the open-air floor crowded all the time. Yes, it certainly was a great party."

M. N. BLUMENTHAL, wholesale fish broker of Los Angeles, digressed from business on June 23rd, giving Messrs. Small, Musants and Carroll some hot shots of his young manhood days.

SANTA CRUZ DEALERS BECOME "ICE-MINDED"

"SANTA CRUZ has a fishing industry which is concerned solely with fresh fish and frozen fish," writes a WCF correspondent there. "We have no 'cannery row,' no packers, no reduction plants. Our boats are of but two classes—the one or two-man launches, and the paranzella trawlers, which latter are visiting craft from San Francisco and do not belong locally at all. The four large northern fish concerns that maintain branches here ship out their stocks in ice, but seldom frozen.

"Our dealers feel keen interest in improved refrigeration, for they all realize that there must soon be a complete change in the present situation. However, as yet freezing on a large scale has not been undertaken. Recently, the 'International' proposed to install an extensive frozen-filet plant on the municipal wharf here, but the plan did not materialize owing to controversy with the city authorities over wharf rights. The fish house had intended renting half of the wharf for its freezer. The fishermen's association objected to the allocation of so much space because it has boat davits in the area to be leased, and hence considered the terms detrimental to its members. The outcome of the altercation has been that no filet freezer has been built, and none can materialize until the fishermen and the 'International' reach an agreement.

"Failing in its object of constructing a large filet plant at Santa Cruz, the 'International' nevertheless improved the facilities in its branch here by installing a Cyclops refrigeration unit which provides ice for fresh fish shipping as well as affording facilities for freezing rock cod filets. Seeing the advantages that have resulted from this installation, the 'Western-California' also is putting in a mechanical ice plant."

DE LUCA—NICARRO PARTY

Miss Jennie De Luca of the San Pedro plant of the Los Angeles Fish and Oyster Company, entertained at a surprise affair early in June, honoring Mr. and Mrs. Bob Pavkovich, nee Marie Padovan, at the residence of Mr. and Mrs. M. Niccaro, 622 West Eighth St., San Pedro, California.

The home was attractively decorated in lavender and green and the evening was spent in playing "Bunco." Mrs. Ritter and Miss Erma Malano distinguished themselves by obtaining high and low scores and the prizes for same.

Midnight saw everyone comfortably seated before a delicious repast. The guests were Mr. and Mrs. M. Niccaro, Mrs. A. Trani, Mrs. F. Padovan, Mrs. Ritter, Mrs. Katherine Lickwar, Mrs. Mate Glmore, Mrs. Lola Vitalch, Louis and Sam Niccaro, the Misses Violet Nelson, Erma Malano, Gladys and Lucille Crepi, Josephine De Maestri, Annie Padovan, Mr. and Mrs. Pavkovich. The hostess, Miss De Luca, being assisted by Miss Mary Niccaro.

"ROLLS IN WEALTH" ROLLS ON TRUCK

A. B. Jaconi, one of the owners of the Pioneer Fish Company, San Pedro, returned with his family from a ten-months' trip throughout practically the entire extent of Europe. The objective of the 25,000-mile journey was "the old home town" of Komiza, that famous little fishing port of Jugo-Slavia, situated on a small island in the Adriatic Sea.

"Tony"—as his many friends call him—recounts an incident that occurred during his stay in his boyhood seaport, Komiza. He had occasion to visit an acquaintance or relative who lived about four miles out of town, so requisitioned the only automobile in the place—an old Ford truck—to provide the transportation. The canny operator of the 1-ton taxicab enforced his demands for a fare of \$6, insisting that so nominal a fee was as nothing to the "American millionaire" of the fish business.

BART A. GHIO of the Oakland Fish Company, Oakland, California, recently trotted the publisher of WCF over to the Athens Athletic Club for lunch.

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OCEANOGRAPHERS CONVENE

Oregon University, situated at Eugene, was host to the Western division of the American Association for the Advancement of Science, June 18 to 20 inclusive. This meeting proved of unusual interest due to the many and varied subjects covered. It was especially noticeable that increased attention was paid to fish, which was the major consideration behind the discussions and conferences on oceanography.

Representatives from both the United States and Canada, Pacific Division, were in attendance. F. Wayland Vaughan of the Scripps Institution of Oceanography, a branch at the University of California, located at La Jolla, represented the United States. C. McLain Frasier, Canadian delegate, alternated with Vaughan as presiding officer.

Dr. Becking of Stanford University read a unique report covering the Monterey Hydro-Biological Survey which is being conducted jointly by the California Fish Commission and Stanford University.

W. L. Scofield of the State Division of Fish and Game represented the California interests, and read a report on this situation as it is found by him and his staff. Scofield's comments on the meeting are as follows: "I was pleased to note the intense interest that was evidenced in the fisheries of the West Coast of America. The increase in the public's concern during the past 2 years is unbelievable."

FISH COMMISSION NOTES

Dr. H. C. Bryant spent his vacation this year in King's River Canyon and returned to San Francisco July 1, at which time he took up his new position as Assistant Director of National Parks in charge of education and research.

Leo K. Wilson succeeded Dr. Bryant and is now Acting Director of the Bureau of the State Division of Fish and Game at San Francisco.

The Bureau also has increased its force and Earl Soto is now handling publicity matters.

Madeline Monell, secretary at San Francisco, had an interesting experience recently when a Chinese woman invited her to participate of a generous dinner served in the Chinese quarter of that city. Miss Monell attempted to handle the chop sticks in true Oriental style. However, she reports as follows: "No hits, no runs, plenty of errors."

As the W. C. F. goes to press the word arrives that the major portion of the small-boat fishing fleet of Newport is operating in waters adjacent to the west end of Santa Catalina Island. Barracuda is what they are after. Boat owners report frequent catches of 600 pounds per craft, daily.

Arcadian Seafood Company

FISH, SHRIMP, OYSTERS,
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Sportsmen Join Commercial Fishermen In Live Bait Fight

ACCUMULATED general dissatisfaction has at last taken corporate form in that all classes of Santa Cruz fisherman have joined forces to remedy the bait situation that has been a trial to them for more than a year. Sportsmen and commercial operators have seen that their interests in general are identical, and have pooled their strength to the end that present aggravations may be alleviated.

Within the last two or three years the sardine fleets of Monterey Bay have experienced far-reaching alterations. Lampara boats, once the exclusive operators in the fishery, have been largely supplanted by purse-seiners of several times their size. These vessels make headquarters in the famous cannery port of Monterey, but voyage across into Santa Cruz environs, to exploit the schooling-grounds there. Santa Cruz has no canneries, it has neither lampara nor purse-boats, it derives no benefit from packing operations of any kind, and is foreign to every phase which is consequential to its neighboring port of Monterey. Santa Cruz fishermen are market operators who net for crabs, troll for salmon, long-line for rock cod and engage in hook-and-line fishing of all sorts during season. They wish to see the sardines preserved because it is the food of the species that are exploited by their market fleet.

Join Hands to Fight

It has been claimed that the large purse-seiners from Monterey are depleting the supply of bait in the Santa Cruz locality, thus causing skipjack, yellowtail and other hook-and-line species to abandon their old haunts to go elsewhere in search of food. Conditions have become greatly aggravated recently, and the market men discern a direct relationship between this fact and the concurrent increase in big purse crafts at Monterey.

Sport fishermen, who make a joyful hobby of going out in out-board-motored skiffs, or in launches of any sort, to angle with live bait for the gamey food fishes that used to throng the waters of the famous bight, are making common cause with the commercial men. They, too, want the yellowtail and the skipjack and the salmon to return in abundance. Accordingly, the Santa Cruz Rod and Gun Club has declared its sympathies as being with the commercial boatmen, and has subscribed its support to a program of improvement.

Floyd Uhden, head of the organized commercial fishermen, is also an active member of the Santa Cruz Rod and Gun Club. Largely thru his endeavors and abilities as a harmonizer of purposes, the sportsmen's club has been enlisted in support of the commercial men's program.

Propose Sardine District

The movement now on foot is to create a sardine district within which all cannery fishing will be forbidden. In other words, it will be a reservation in which the pilchard schools will congregate to

feed or to spawn unmolested by the big purse-boats that theretofore have seined them up and carried them in to the factories in 100-ton fares. It is believed that the presence in the bay of dense sardine populations will attract masses of the larger, predacious sorts that pursue the pilchards for food, and that soon the waters will again yield the rich catches which in past years imparted fame to them as a sportsmen's locale.

One sole exception will be made to the inviolability of the proposed closed area: It shall be permitted that anyone may go there for the purpose of netting such small quantities of sardines as are required for bait. At present bait is difficult to find, a handicap said to be increasing in seriousness.

As at present urged, the closed-to-purse-fishing area will be all waters lying shoreward from a line drawn between Light House Point, Santa Cruz, and the mouth of the Salinas River.

Eight drag-boats engaged in flounder fishing used Santa Cruz as their base during June. Four of them were from "Western-California," and two each from the "International" and "Paladini" companies. Heavy smelt and rock cod hauls and light variable salmon hauls were reported by launch fishermen.

EXPLOIT FISHING INDUSTRY

Chisato Takahashi, Japanese fisheries' expert, who has been travelling along both coasts of this continent while making observations of American fishery methods and of market possibilities, will not return to Japan with his companion, Kojiro Abe. Instead, it is understood that Takahashi will join the freezing-ship expedition of the International Marine Products Co., Inc., going to Mexico aboard the Halfhill refrigerator ship "Oceanic Vance." N. Tatsukawa, the entrepreneur behind the "Oceanic Vance," venture, has offered Takahashi the facilities of the ship. It is expected that the successful operation of the Japanese plan will presage large developments by the energetic Orientals in the fisheries of Mexico and the West Coast generally.

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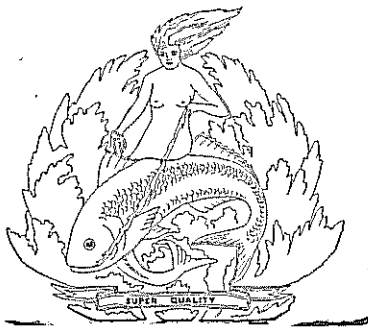
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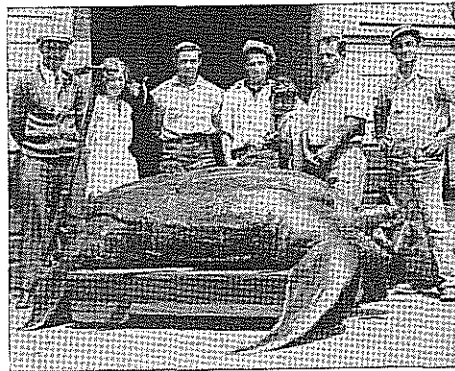
To Institutions, Hotels and Restaurants
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Some Turtle, Says Joe

The Los Angeles Fish & Oyster Co.'s receiving station, located on the Municipal Wharf, San Pedro, drew the attention of all who were in that vicinity, July 8th, when that firm received a 760-pound, Leather Back Turtle, from the vicinity of Catalina Island.

This enormous turtle was the largest caught, of which there is a record on the Pacific Coast. It is reported a turtle weighing 750 pounds was picked up dead in Monterey Bay last summer.

Little is known of the habits of the turtle, where or when they spawn or hibernate.



Left to right: Frank Glynn, Miss Jennie Deluca, Tony De Meglio, Jack Melussi, Joe Di Massa and Jack De Meglio

This big fellow is still alive on the docks. Hundreds having heard that he is on exhibition for a few days are visiting the local plant and it is necessarily a fact that Joe Di Massa, manager, Frank Glynn and the rest of the force are required to answer many and varied questions.

This old timer's days are numbered, however, as it won't be long now before he will be flavoring some turtle soup at one of California's resort hotels.

Henry Dowden, San Francisco's popular fish broker, has joined the ranks of commuting San Franciscans for the summer months. Dowden, like many another San Francisco business man, has a summer home on the slopes of Mt. Tamalpais, Marin County.

H. G. Maxson, general manager of the F. E. Booth Co., has returned to San Francisco after an absence of several months in Europe. Maxson was in Europe on company business.

Theo. Weissich, formerly Pittsburg manager for the Western California Fish Co., has taken over the operation of the Fort Bragg branch of the Northern California Fisheries Co. during the salmon season.

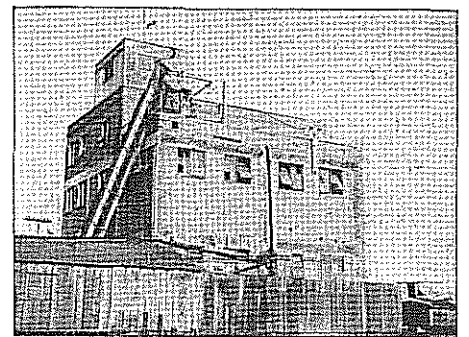
Al Larson, the popular boat builder of Terminal Island, is an inveterate fresh water fisherman. He leaves July 12th for Cottonwood Lake, on a ten-day trip. He expects to hook the limit of golden trout each twenty-four hours.

CRAD MEREDITH

Crad Meredith, the up and coming producer of fresh fish of Newport, Ore., advises that on June 15th he put on a good old fashioned clam bake, and invited all members of the fishing industry to participate. He had made provision to feed 10,000 in the event that they accepted the invitation, which had been broadcasted. In addition to the tempting clam bake, Crad stated that there would be available all the crabs and fish anyone would care for.

It is needless to say that "a good time was had by all" and WCF's comments on this instance are that the industry needs more Crad Merediths.

Lawrence Oliver, owner of the Oliver fish-meal plant, San Diego, reports his reduction plant has been quite active dur-



Oliver fish-meal plant, San Diego. One of the most modern in reduction factories in the state.

ing the past thirty days, because of large fares of tuna from Mexican waters. Oliver takes practically all of the waste from the canneries and fresh fish markets. In addition to the fish meal business, Mr. Oliver has other extensive operations, namely, automatic ice crushers that supply fishing boats with ice, ship chandlery store and fish saltry, etc.

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FISH

VANDIKE 3067

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Protane Bottled Gas

IRRESPECTIVE of however worthy a new product may be, its introduction to the market is a trying procedure, even under circumstances where it is needed greatly. This initial difficulty always has been serious, for to penetrate the static resistance of those who should be buyers is the paramount single sales' accomplishment to be effected in the history of the product.

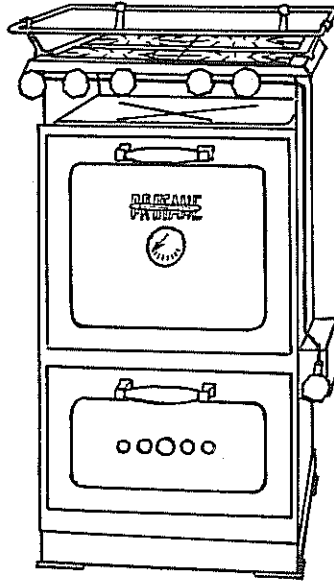
Getting Started

The experiences of the Protane Bottled Gas agency at San Diego constitutes an illuminating instance in point, for as recently as four years ago the fishing people in the southern port had not yet been made acquainted with the special advantages which have since caused the Protane range to become a wide favorite in the tuna fleet. The story is told that in the beginning none of the fishermen knew anything about bottled gas, and rather than take a chance with an unknown and untried combustible, they preferred making use of such inferior equipment as already had been proven usable, even though not entirely satisfactory.

Small Boat First

Credit is given Manuel Medina, captain of the "San Joachim," for having had the

initiative to install one of the new stoves in his ship. Captain Medina, being a man whose example is widely followed, soon afterwards had an emulator in the person of Captain M. Correia, master of the "Supreme." Both men purchased small stoves for the sole purpose of experimenting with them. The entire waterfront soon became interested in the success of the trials, and when the two skip-



Protane vitreous-enamel stoves are cold all over except for the intensely hot regions directly above the open burners. No lingering heat is given off by the metal itself—turn off the gas, and the stove is cold.

You bet it's FRESH

Fish from

HIGASHI FISH COMPANY

Monterey, California

I. TAKIGAWA, Pres., Mgr.

PACIFIC MUTUAL FISH CO., Inc.

Est. Since 1902

Producers and Distributors of
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Specializing SHELL and SLICED
ABALONE, MILD-CURED SAL-
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Try the

Central California Fish Co.

Wholesale Fish Dealers of every variety
of Fresh Fish caught in Monterey Bay
CITY WHARF, MONTEREY, CALIF.

pers announced to all inquirers an intention to replace their old galley equipment with the new-type and superior Protane furniture, the entire fishing population commenced seriously to consider following their lead, and do likewise. Within a few months literally dozens of the beautiful white enameled cooking-utilities had been marketed to the small-boat fleet. Today almost all of the lesser keels carry the bottled gas equipment which was unknown to them until Manuel Medina demonstrated its superior qualities.

The "Oceana" Next

Louis Camillo deserves mention for having taken the Protane range into the bigger ships. On the sixth of June, 1927, he installed one of the models of this make of stove in his recently-purchased "Oceana"—the first large live-bait boat to be built on the West Coast especially for fishing tuna. This was the ship that set the example for all subsequent lengthening keels, and its phenomenal success caused later craft to be patterned after it, even to the details of its galley.

Then the 112-Foot "Atlantic"

On the twenty-fifth day of April, 1928, Captain M. O. Medina, master of the "Atlantic," and at present the permanent secretary of the Portuguese "Sociedad Del Espiritu Santo," installed the first large-sized range to be placed in the galley of a tropical tuna cruiser. The "Atlantic" was the first West Coast tuna ship to be built upon a keel more than one hundred feet long, and it is significant that the venturesome man who foresaw profits in long-distance fishing was

also the first fishing-ship master to recognize the virtues of the Protane Range, as especially suited to equatorial regions where temperatures are high.

And Finally the "Sao Joao"

Now the Protane Range has a wide vogue, and no better indication of its recognized merit need be cited than the instance of the "Sao Joao." This 122-foot cruiser was launched a few months ago by Joachin Medina, who specified emphatically that a Protane be installed. When asked concerning his positive stand in this regard, the high-line navigator explained that aboard tuna ships the mess room and galley serves as lounging room or club for the crew, and that when working in the tropics these quarters must be kept as cool as possible.

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FRANK McGINLEY

FRANK McGINLEY, assemblyman, 71st district, California legislature, 48th session, 1929, writes to WCF from Wilmington, Calif., under date of June 16, 1930, as follows:

"Realizing the importance of the fishing industry in the 71st District, your intimate contact with same, and the value of your publication as a voice to the men in the trade, I am taking this means of advising that my Kelley is heaved into the ring, and that I do choose to run again.

"Fortunately, under our system projected legislation has a rough course to travel. Nevertheless, frequent attempts are made to introduce and foster bills that would destabilize industry. In general, bad bills are the result of our greatest human fault—misunderstanding. Of particular interest to the 71st District is the fishing industry, and each session finds the packers lined up in defense of their institutions. The last session was not

an exception, and it was my privilege then to play a part in the protection of our commercial fisheries.

"At the present time conditions are less threatening than then. The 'powers'



FRANK McGINLEY

now are back-peddling. Until recently the authorities professed to know everything about the sardine. He was being depleted, later a modification in the statement was made and the sardine was then

BEN HILL

BEN HILL, well known lawyer of San Pedro, has announced his candidacy for the office of Assemblyman, Seventy-Second District, at the primary election, August 26, 1930. Mr. Hill came to Los Angeles twenty years ago, and has been a resident of San Pedro for seven years, where he is an active practitioner of law, maintaining offices in the Bank of San Pedro Building, Seventh and Mesa Streets.

Mr. Hill is well known to the men of the Fishing Industry, many of whom are his clients and friends. It seems safe to say that, if he is elected and goes to



BEN HILL

Sacramento, the Fishing Industry will have in him a valuable friend and supporter, and a law-maker of recognized ability. Through long residence in Los Angeles and San Pedro he has become conversant with the fishing industry, with its especial problems and requirements, and has become eminently fitted to champion the interests of the Harbor District.

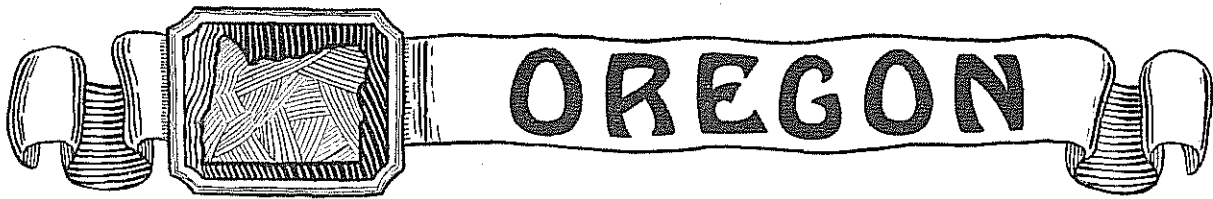
In commenting on his race for the Legislature, Mr. Hill has said: "The fishing industry is one of the most important and vital industries in the Harbor Area. It has millions of dollars invested in fishing boats and canneries, and it provides a livelihood for more families than does any other industry in the district. It

(Continued on Next Page)

only diminishing. About a month ago we learned that 'there may be danger signs that the sardine is not at par.' The fact is that no one in California knows whether there is one more, or one less sardine, than in previous years.

"The contention of the packers is absolutely correct. They welcome regulation after scientific research has determined that the sardine is decreasing in number.

"During my experience in the Legislature I was a member of the Building and Safety Commission which required my judgement and vote 5,000 times each year. My belief is that special training is not necessary for this type of service—the only requisite is the ability to apply plain common sense to every problem."



BENSTRUP HEADS ASTORIA BRANCH

F. Benstrup, resident manager for the Astoria branch of the Vendsyssel Packing Company of Seattle, advises that his firm has a 200-ton cold storage plant located at Astoria, on land leased from the Tallant Packing Company. Benstrup states that his firm buys only large Chinooks, which it mild-cures for the German and Danish markets, principally.

The company owns and operates its own ice machine, which has a daily capacity of 5 tons. It has three cold storage rooms of 45 x 30, 50 x 40, and 35 x 62 feet inside dimensions.

Fish are bought direct from the fishermen, the firm having an agreement with all canners in the Astoria district to take only large, select salmon such as are suitable for mild curing.

The Booth Fisheries Company at Astoria is at present installing a new ice crusher for icing trollers at their cannery wharf. This crusher will handle block ice as large as 27½ x 18½ inches and has a capacity of 25 tons per hour.

The Union Fishermen's Cooperative Packing Company of Astoria operates a private cold storage plant having 78,116 feet of cubical content.

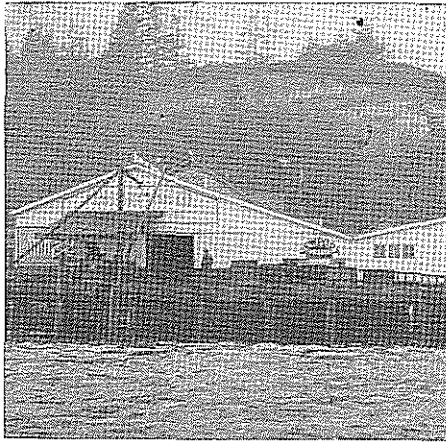
In addition, the institution is equipped with air freezing machinery having a capacity of 11,000 pounds of ice every 24 hours. A separate machine manufactures block ice at the rate of 4 tons per day. There is storage space for 300,000 pounds of frozen fish.

ASTORIA HOUSE OVERHAULS

The Columbia River Packers' Association is installing a 25-ton ice crusher at Astoria for icing salmon trollers at its cold storage plant, which has a 100-ton storage capacity. P. M. Hansen, superintendent, states that the entire properties have recently been completely overhauled and repaired. The freezing and pickling rooms are now in readiness for the summer and fall runs.

ZOOLOGIST STUDYING FISH PARASITES

Dr. A. P. Jamson, head of the Zoology Department of Mills College, Oakland, California, is spending the summer at the State Fisheries Laboratory at Terminal Island, California, while investigating the life-history of certain protezoan parasites of the kind called Myxosporidia. These parasites are minute one-celled organisms that infest the viscera, particularly the gall-bladder, of many fishes. They are most numerous in slow-moving bottom species. Dr. Jamson has been working at several points along the coast, meanwhile maintaining headquarters at the Laboratory, which has afforded him all of its facilities.



Newport Fish Co. Plant, Newport, Ore.

MILD CURE SPECIALISTS

The Barbey Packing Company of Astoria offers its cold storage service to the fishermen. Its plant is equipped with three storage rooms measuring 25 x 30 feet each. There is also a 2-ton ice tank, and an electrically-driven ice machine with a 25-ton capacity. The ice crusher handles ordinary 200-pound blocks and serves the company's own needs as well as the trollers that come to the wharf for the purpose of icing-up.

The Barbey Packing Company plant is used exclusively to mild-cure Chinook salmon. No steelheads are frozen by the company, which makes of mild-curing its sole activity.

NEWPORT

J. P. Horman, the popular fresh fish wholesaler having headquarters at Newport Beach, California, is capitalizing on the great influx of summer population that invades his Newport-Balboa beach region each summer. He has opened a snappy-looking retail store in the Balboa dance pavillion, which is located directly on the waterfront at the focal point of traffic. The shop is in charge of K. Vetkas, who can filet a bass in 44 seconds.

JAPANESE FISHERMAN SUCCUMBS

G. Kodani, 64, manager of A. M. Allen's abalone-packing cannery known as the Point Lobos Canning Company, died of heart trouble in a Carmel hospital on July third. Kodani's funeral was directed by the Japanese Fishermen's Association, of which he was the original organizer.

The deceased came to California more than 30 years ago, arriving direct from Japan at the head of a small group of his countrymen who were seeking a place to settle. Monterey Bay and its adjacent region offered them their opportunity, and the party eventually became specialists in abalone fishing and in lampara fishing for sardines. Kodani was a man of influence among his people and a close friend of A. M. Allan, Carmel capitalist. He is survived by a wife, Fuku Kodani, a brother, T. Kodani, and eight children: Hideo, Seizo, Fusako, Kuniko, Dakeko, Yosiko, Satoko and Eugene.

TERMINAL

Alfred Rados, student, matriculated at the University of Idaho where he is pursuing a study of business methods and administration, is home for the summer months. Young Rados will co-ordinate the theoretical with proven practicality at the Harbor Boat Building Company's yards at Fish Harbor.

BEN HILL

(Continued from Page 88)

must receive, therefore, the fullest protection, in order that it may continue to grow, and continue to help build a bigger and greater Harbor District.

"The conservation of ocean fish is a commercial fishing problem, and should be solved by commercial fishermen. The only real conservation measures, the closed season for sardines and barracuda, originated with commercial fishermen. I pledge myself to true conservation, protection and scientific investigation of ocean fish. Since the commercial fisherman pays the bill, he should be entitled to assistance in his efforts at conservation and to preserve intact for all time his means of livelihood."

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and
Canned Crab-Meat

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Prices Quoted on Request

Coast Fisheries
REEDSPORT OREGON

SAN FRANCISCO'S FISHING INDUSTRY

(Continued from Page 79)

ternational Fish Company, employ approximately two hundred men and have an annual payroll of about one million dollars. While they also have individual branches at Monterey and Santa Cruz, they operate splendid local plants where fish are cleaned, packed in ice and made ready for shipment to the local trade, throughout California, the West and in certain seasons, as far as the Atlantic Coast. Each concern also has huge refrigerator rooms to accommodate the catch while awaiting shipment.

Shipments Inland

Throughout the year shipments of rock cod, codfish, sole, crabs, shrimps, salmon and other varieties are shipped during the respective season of each to points as far distant as Denver, Colorado, and New Mexico. In July, entire refrigerator carloads of this species are shipped to Chicago and middle western and eastern markets. Although there are no fish canneries operating in San Francisco, some of the leading canneries of the Coast are maintained at Pittsburg, on San Francisco Bay and at Monterey. San Francisco is not only the fresh fish center of the Coast but is also the operating center for the fish canning industry located in the immediate vicinity (at nearby points). In San Francisco also the business and winter headquarters of the Alaska Packers Association is likewise maintained.

There is in existence a State Fish Exchange, a department under the California Director of Agriculture which was originally formed to regulate the fish business including the selling price of fish, and in addition to this the Exchange also does a splendid piece of work in developing new demands for fish. The fishing industry in San Francisco is indeed a big one, which is really just in its infancy even though it has been of long duration. The future will see tremendous improvements in both handling and distributing methods. To what extent the fishing industry in San Francisco will develop cannot be guessed but, from all indication, it has a bright, prosperous future in store for it, as bright as that of California and the Pacific Coast.

VAN CAMP REBUILDS

(Continued from Page 31)

three such unloading all at a time, the volume of raw tuna entering the cannery building is 1000 pounds a minute. To Quama there is nothing dismaying about these figures. Only recently he refused to set the plant in motion one evening when a small boat landed 7 tons of tuna, representing \$840, telling his men to ice them until morning.

"Why, that was only 14 to 17 minutes' work at the very most," he said, when asked about it, "we couldn't ask our people to come to work for so brief a stay as that!"

It is anticipated that this summer the San Diego factory of the Van Camp interests will far surpass all packing records ever made in the tuna industry.

COAST FISHING CO

H. W. Beach, cashier, was severely slashed by a Mexican ex-employee June 26. Mr. Beach was cut across the chest and right arm, necessitating a fast run to an emergency hospital. It will be some time before he will be able to resume his former work.

* * *

The mackerel pack was inaugurated July 2, when a 30-ton supply of that variety was received. Several previous attempts have been made to start this pack, but to date this specie of fish has been very scarce.

* * *

Miss Laverne Holland, stenographer, returned after a very pleasant vacation spent at Long Beach and Catalina Island. She has a real sun-tan.

* * *

Joe Bivington, with the accounting department, is vacationing at Long Beach.

Miss Mary Hightower, stenographer, is taking her annual vacation with friends at Seattle.

* * *

As we go to press, Miss Mary Rittenhouse is starting on her vacation, to be spent at Yosemite and San Francisco.

W. L. Marston of the Sharples Specialty Co., San Francisco, spent the month of June visiting his home office and factory at Philadelphia, Pa.

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WASHINGTON

Vancouver Has New Terminal

By TOM MacINNES

VARIOUS terminal facilities of the Port of Vancouver are being much enlarged and diversified this year to meet the rapidly enlarging and diversified overseas trade of Western Canada, as well as the increasing local trade to and from Vancouver by coastwise shipping. Among the new features now in course of construction is a special terminal for fresh fish from the sea.

Zoning of streets and localities for the handling of certain lines of business prevailed to some extent in ancient Rome; and it has been the rule sanctioned by custom from earliest times in the majority of Chinese cities. Of late years this municipal zoning of trades and occupations has found favor with American town-planners; in their case the sanction being sought not in custom or persuasion but in definite regulations with powers of enforcement.

Expert Prescribe

Municipal fathers of Vancouver City recently engaged expert town-planners to tell them what to do about their city which was growing so fast out of its short pants that they no longer felt that they had experience enough of their own to provide a proper new lay-out of it as it is and is to be. So the experts came and were paid and went away; and now it seems quite probable that some of their suggestions, including the zoning of certain trades, may gradually be adopted.

But it was not because of all this that Vancouver will be zoned so supremely as it is going to be for fresh fish. The Port of Vancouver, as distinguished from Vancouver City, is governed and administered by a Board of three Commissioners. These Commissioners can in no way whatever be called to account by Provincial or municipal authorities; being answerable for their procedure and expenditure only to the Government of Canada. The affairs of the port are thus carried on with efficiency and dispatch.

Create Fish Zone

The Harbor Commissioners have already zoned the grain trade of the port; same by its nature being confined to the water-front here, and most of the water-front being under supervision of the Commissioners for all projects which will operate therefrom. There is one trade

which for many years has been zoned by custom in Vancouver City, and that is the wholesale fruit and vegetable trade. This has been brought about by practically all of the dealers in this line confining their business to a certain part of Water Street. And now there will be a fresh fish zone established on Harbor Board property, equipped with the latest devices for receiving and disposing of sea-fish as they are taken direct from the fishing-boats.

Included in this year's outlay of \$10,000,000 for extension of harbor facilities there is a generous item for a Fishmarket Terminal. This terminal will be located at the Burrard Inlet end of Raymur Avenue; immediately east of the Great Northern Pier. It will have a spread along the water-front of 340 feet. The terminal plans provide for the most approved type of fish-booths; each booth complete in itself as to sanitary appliances and ventilation, and each having its own cold-storage accommodation, with an individual capacity for taking care of from two to three tons of fresh fish. No other storage plant is being provided immediately on this site, but an ice-shed capable of holding 350 tons of ice will serve both the railway-cars and the boats which will come to the terminal.

Plan for Fish Boats

Notable features of the terminal will be the two basins for the accommodation of the boats engaged in fishing. There are two divisions of these, the one consisting of tug-boats, and constituting what is called the mosquito fleet; the other of the smaller boats from which the actual fishing is done in the sea.

The tug-boats are usually from 100 to 180 feet long; and the fishing-boats from 35 to 45 feet long, with from eight to nine tons capacity. From the outer basin, which is for the mosquito fleet, there will extend northward into Burrard Inlet a modernly-equipped float for a distance of 800 feet, having a width of 20 feet, and capable of carrying 5-ton trucks.

The inner basin, into which the fishing-boats may enter, will have a minimum depth of 10 feet at low tide, while there will be a minimum depth of 20 feet in the outer basin. The dimensions of the inner basin will be about 300 feet long by 200 feet wide, and around the perimeter of which floats, ramps and light cranes will be provided for handling the fish direct from the boats as they enter.

Supplies Are Close

For the convenience of the fishermen
(Continued on Page 92)

Karl I. Sifferman Earl N. Ohmer

Alaskan Glacier Sea Food Company's HIGHEST QUALITY SHRIMP MEAT and CRAB MEAT

Can Be Procured from
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Fish Dealers:

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- Sebastian-Stuart Fish Co.
- Edwin Ripley & Son
- American Sea Food Co.
- Dressel-Collins Fish Co.
- New England Fish Co.
- Booth Fisheries Co.
- Haines Oyster Co.
- Ripley Fish Co.
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PUGET SOUND
COLUMBIA RIVER
ALASKA
BRITISH COLUMBIA

"PACKED
WITH THE
WIGGLE
IN ITS TAIL"

VANCOUVER, B. C.

(Continued from Page 91)

there will be one separate building containing a general store at which, within a few yards of where the tug-boats and fishing boats will be anchored in the basins, they may purchase all supplies and tackle needed in their business. There will be administration offices in this building, and also a compressor plant for operating the cold-storage facilities. At the inshore end of the terminal there will be a smoke-house, equipped with the latest and best devices for smoking and curing various sorts of sea-fish. It will be a two-story building, semi-fireproof in construction, with ten separate smoking compartments. For the entire terminal, and buildings in connection therewith, the general construction material will consist of corrugated iron for the walls and roofs, concrete for the floors and ice-houses, and creosoted piling and timber for the piers and floats. Apart from the shipment of smoked fish, and fresh fish in cold storage, from this terminal, it will be made to serve also the thrifty house-keeper of Vancouver who will take the trouble to go down to it with a basket on her arm; getting her pick of the fish at less cost than up town. She may come to much advantage of this zoning.

Varieties Abound

So far as fish goes there should be three Fridays in every week. The North Pacific off the coasts of British Columbia is teeming with many varieties of wholesome fish which are seldom offered in the standardized hotels and restaurants, where shellfish, salmon, halibut and one kind of cod seem to be the only fish known. Considering the cheapness of the fish, the prices appearing on menu cards are much too high; while the fish in the Greek and English fish-and-chip places with which the city is plagued are usually cooked rankly in smelly and worse-tasting vegetable oils. Fish as cooked in true Chinese style is much better, but few know where and how to go for the right service of it.

Proper Way to Cook

Girls in the domestic science classes

would be more valuable hereafter if they were given lessons by competent persons as to the proper ways of cooking and serving fish, and discriminating among the various kinds, and knowing when their freshness is beyond question. Because fish is as good a food as meat, and when sold honestly it is much cheaper. Apart from salmon, halibut and the five varieties of cod on this Coast, there are seventeen other kinds of edible fish, including small pan fish, which are to be had the year round in great quantity; all of them tasty and nourishing when properly cooked.

Well, the Vancouver Harbor Commissioners are doing their part. Sanitary reception and keeping and forwarding of fish fresh from the sea is one of the minor, but nevertheless important services which they will render the general public from the Port of Vancouver.

Vincent Di Meglio, president of the Ocean Fish Co. of San Pedro, reports that his recently-installed 3-ton "Arctic" refrigerating plant is functioning 100 per cent or better. Because of the new equipment he is providing his trade with firmer and better-quality fish stocks than has ever been possible before.

ECHO SOUNDS

As an echo to their recent vociferous launchings we learn that in the cases of both the "San Rafael" and the "Bluefin" the stacks, water tanks and gasoline tanks were produced by the Central Steel Metal Works.

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Throughout the Year of

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ABERDEEN, WASHINGTON

GRAY'S HARBOR BUILDS MODERN FISH WHARF

NEW LIFE has been given the fishing industry on Grays Harbor this year through the establishment at Westport of a modern \$30,000 fishing dock by the Port of Gray's Harbor, Washington. It is estimated that during the 1930 season 1,000 tons of fish—mostly salmon with some red snappers, ling, cod and halibut—will be discharged across this dock and bring about \$30,000 to the fishermen. Deep-sea crab fishing also is proving a profitable business, and the year is expected to net its operators more than \$150,000.

Protected Roadstead

The Westport dock is in a sheltered cove just inside the Gray's Harbor entrance, one mile from the community of Westport, and 25 miles from the city of Aberdeen. An excellent highway to the dock offers opportunity for trucking the fresh fish to Aberdeen where a part is canned and the remainder shipped to the Columbia River and Puget Sound by truck and rail for fresh market distribution and processing.

Good Communications

Fishing boats desiring to go into Aberdeen for repairs have only a 12-mile jaunt up Gray's Harbor. Fishermen wanting to go into Aberdeen or Hoquiam, the twin Harbor cities, without taking their boats, are offered transportation by a stage line that makes two return trips to Westport daily.

Accommodations Unlimited

There is no limit to the number of boats that can find shelter in the cove at the Westport dock. Recently 485 boats assembled there at one time. A hard, sandy bottom offers good holding ground, the water depth varying from 10 to 24 feet. Due to a sandy ridge between the cove and the Pacific Ocean the water is quiet and there is no difficulty because of winds.

Every Convenience

The port dock is a creosote pile structure 30 by 40 feet in dimensions, with an approach 500 feet long. On each side of the pile structure are floating docks each 12 by 80 feet. On shore immediately at the end of the approach is an electric light plant furnishing electricity to the dock and to anyone desiring this service. A water pump and water storage tank, and storeroom facilities, also are offered the fishermen at no charge. The port office and an oil and gas service station are located on the dock. One man is maintained by the port to supervise the facilities and to aid the fishermen and buyers.

Nominal Fees

A wharfage charge of \$1.00 per ton on fresh fish, and 25 cents per box of 250 pounds on crabs, is made by the port against the buyers. There are five fish buyers and four crab buyers doing business at the dock. One crab cookery located on the port property at the shore end of the approach is cooking a part

of the output at this point before shipment.

Some of the fish buyers have scows and supply ice shipped in from Aberdeen at a minimum charge. A ship chandlery, and three grocery and supply stores are located at the dock for additional service to the fishermen.

Port-of-Entry

Westport dock was established early in May as a customs port and one man is on duty.

Boatmen Are Prosperous

The early season run for the trollers this year has been excellent, single boats bringing in catches of King salmon that gave them up to \$1,500 in cash. Most of this stock went to fresh fish markets throughout the country after being iced at the Westport dock for rail and truck



The Westport dock cost \$30,000; it has an attendant constantly on duty to assist the fishermen and to protect their boats when they are ashore. Water and electric current are available on the wharf, while at its shoreward end stand three provision stores, a chandlery, and a fuel depot. A thousand or more boats can lie in this windless, wave-less cove.

shipment from Aberdeen. The trap- and gill-netters' season has not yet begun, and there is no way of prophesying what this run will bring the fishermen. Trollers in large numbers are working outside the Gray's Harbor entrance on a good run of the medium-priced mid-season-run salmon.

Competing Markets

There are three salmon canneries located on Gray's Harbor, two in Aberdeen, and one at Hoquiam. These plants, which include the Pioneer Packing company, Strand Fisheries, and the Pacific Sea Foods company, handle a part of the run, the remainder being shipped to Puget Sound and the Columbia River for canning.

Winter Mooring Under Construction

Plans have been under way by the Port of Gray's Harbor to establish a small winter mooring-ground for the fleet in one of the slips at the main port dock be-

tween Aberdeen and Hoquiam, but this idea has been given up because of a private development being made by the Endresen shipyard located in Aberdeen. This company has an ideal place for handling a large number of boats and will have a watchman on hand at all times. One ship-way already is constructed and another is being built for use in repair work, and expert chandlers will be available to assist the boat owners. This mooring-ground is located on quiet water and is only five minutes by street car from the city center.

Establishment of facilities for the fishing fleet has been a boon to the development of this industry for Gray's Harbor. The port feels that it has made a good investment for the district and citizens are well pleased with the results.

SHIP-OWNER HELD LIABLE

As the result of the disastrous wreck of the "Commonwealth," banks fishing schooner of the North Atlantic, which was destroyed by fire while at sea, relatives of the 12 men who lost their lives in the accident have brought suit for

damages, charging the owners with negligence in not having provided modern fire-fighting equipment aboard with which to protect the lives of the crew. In the decision recently rendered by a Circuit Court of Boston it was held that vessel owners are required to furnish such equipment as shall be reasonably necessary to safeguard the lives of their crews.

Because the owners of the "Commonwealth" knew of the hazard of fire aboard ship, yet permitted the craft to go to sea without such safety appliances as were requisite, the court held the owners financially responsible for the loss of life that resulted.

Massachusetts and New York court decisions are followed generally thruout the United States; there can be little doubt that Washington, Oregon and California judges will follow the Boston case, hence the owners of fishing craft should take notice of the obligation now definitely imposed upon them by law, and see to it that a repetition of the tragic East Coast incident does not occur here.

ICLY PARADOX AND MUCH COLDER

(Continued from Page 62)

in the fall and continues all winter. Maximum demand occurs only during June, July and August, both for the fishing fleets and for the San Diego municipal supply.

"We have 2,200 tons stored in one room and 800 tons in another," he continued, "or a total of 3,000 tons. After the fiesta the Portuguese will no doubt send out a scout vessel. When that boat returns with fish they will all outfit and go to sea on short notice. On the average they take about 250 blocks each, or 37.5 tons; 50 cruisers would require approximately 2,000 tons. Of course, if there are big tenders in service the amount will be more, as for example in the instance of the 'Homer,' one of Van Camp's tenders, that iced-up here in 1928. It took aboard 1,496 blocks of ice—224 tons. That was the largest vessel-ice-order ever handled in San Diego."

Handled Mechanically

The "Union's" warehouse is a spectacle worth going far to see. In the room containing 2,200 tons, one has the rare opportunity of viewing a cubical iceberg measuring 25 feet high, 50 feet wide and 100 feet long. Automatic machinery stacks the blocks in tiered array and with as much accuracy as a brick wall built by master masons.

"Fishermen have told us that there is more actual refrigeration in our ice than in any other that they have tried," states Smith. "We attribute this to the fact that our ice is colder than ice—that is to say, it is much colder than freezing."

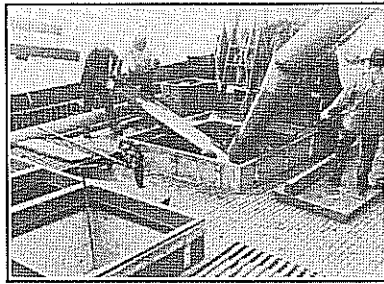
Colder than Cold

Smith explains this seeming conundrum by pointing out that ice is merely water made cold. When warm water has the heat taken from it to the point where its temperature declines to 32 degrees it turns to ice. However, it still has 32 degrees of heat in it before it is as cold as zero, and if you put ice in a room that is down to zero temperature you can pull this "latent" heat out of it and make it zero-cold. You can even do more than that, for with sufficiently good machinery and cold-rooms ice can be made as cold as 40 or 50 degrees below zero—indeed, as cold as a natural North Dakota blizzard. If ice were delivered to a tunaman at a temperature of 40-below-zero it would mean that it was 72 degrees colder than freezing, and the fish skipper would be getting at least one-third more refrigeration than he was paying for.

Now, as explained by Smith, that is exactly what happens when boats ice-up at San Diego, for the reason that the "Union" keeps its warehouse ice at a temperature of 20 degrees, or 12 degrees below freezing. When the tuna skipper taken on 40 tons of this "colder-than-ice" ice he actually gets 960,000 B. T. U.'s of "cold" given to him free by the company. Before his ice can start to melt it has to absorb 960,000 pound-degrees of heat. No wonder that it keeps a week longer than mere 32-degree ice!

Crew of Huskies

"We have six trucks that carry 5½ tons each, one that carries 4½ tons, and one that carries 9 tons. These are



Here is the American Fisheries' Company's Ice Crusher loading ice onto a Tuna Boat at San Diego

manned by husky crews that take joy in exercising their strength, and that know how to handle the blocks in rapid fashion. Our men are ready for call day or night, and we take pride in the boast that we can't be swamped. We have only a short haul to either the Oliver crusher or Cooper's plant, and we can get our ice there before it loses any material part of its 'surplus' or 'extra' cold. Moreover, since there is no melting, our blocks all are over-weight. The fishermen pay for 300 pounds of ice, but actually we give them 16 pounds free in every cake—at 12 degrees colder than freezing."

Modern tuna craft carry none of their ice in block form. Difficulties of loading, the hand labor required to break it at sea, and the necessity for large quantities of it already cracked on very short notice has caused the entire fleet to follow the plan of loading only broken ice at the provisioning docks.

Two firms make of ice-breaking a regular business. One of these is the Oliver organization, which operates a number of plants; the other is the Mission Bell Petroleum Company, which, in addition to handling fuel oils, gasoline, greases, fluid lubricants and petroleum products of all descriptions, also has in service a singularly efficient ice-breaker. The features wherein the installation exhibits superiority, and which entitle it to mention for having improved the fishing method, are entirely the product of the inventive imagination of Beverly S. Cooper, the owner. Cooper is a man of much experience in the ice business, in addition to which he knows boats, boatmen and the fisheries. When he decided to add ice-breaking to his previous business of fueling the tuna craft it was only after he had schemed out a way of bettering existing processes and making the procedure easier and quicker for the boat crews.

Sixty Tons an Hour

"My crusher will handle 100 tons an hour, but no vessel can stow it that fast," says Cooper, "so I have it geared down to one ton a minute. With the help of my crushed-ice-distributor the men can load up at that rate conveniently enough. The average vessel requires less than an hour to take on ice."

The "distributor" mentioned by Cooper is a device invented by himself; papers have been filed petitioning U. S. letters patent in protection of the principal. The machine is a large metal funnel, into which the flexible metallic delivery-tube discharges the fragmented ice. This fun-

nel is lowered into the hold of the vessel by means of wire cable, steel blocks and a small windlass that is presently to be fitted with electric power. A motor mounted well out of the way, above the funnel, turns a vertical shaft that passes downward thru the throat of the funnel to a horizontal disc set at the base of the funnel's spout. The motor spins the shaft, the shaft spins the disc, and when the ice tumbles down upon the whirling plate it has a tendency to fly off at a tangent. This inclination is accentuated by metal fins that are welded to the top of the disc. These impart terrific centrifugal velocity to the ice particles, which whirr around in a circle, seeking exit. All that remains to do is to make a small opening in the side of the funnel, the ice being thrown out thru this aperture with such force that it flies thru the air for 30 or 40 feet. The fishermen have only to hold the distributor firmly in their hands, while "aiming" it so that it will "shoot" the ice into the distant corners of the holds, filling them to the very deck beams and without the usual tedious labor of raking, shoveling and hand stowing.

Aim Tube; Ice Flies

For small vessels that do not require the automatic ice-thrower, a 40-foot flexible iron pipe is called into service. This tube can be bent as much as 45 degrees, so it can be carried around inside a boat and adjusted to almost any position. By using both the distributor and the pipe, two vessels can be iced at one time at the Mission Bell dock.

"Before installing the heavy steel tower, the conveyor and the two 7½ horsepower electric motors that were assembled into the crushing unit, it was necessary to drive new piling and replank the dock," says Cooper. "The outlay amounted to something in excess of \$15,000. However, I am well satisfied with the result, for now we can fuel and ice vessels of any size—the bigger the better!"

It should be stated, however, that "Mission Bell" does not concern itself solely with the large keels of the tuna fleet. On May 21 a record day for small craft was had. From morning to night there was a constant procession of market craft running in to the Cooper crusher for week-end supplies of ice. Many wanted only two or three blocks; few required more than seven, but in the aggregate the tonnage was considerable and a record of its kind.

NEW REFRIGERATION PANT

A new freezer and enlarged ice box were installed during the past month by the Ocean Fish Company, San Pedro, Calif., according to Jack Cuomo, manager. The freezer was equipped with a three-ton Arctic ice machine and will hold from five to ten tons of fish. The ice box has been remodeled and re-insulated so that a truck may enter its door.

BOOTH PACKS MILD CURED

The F. E. Booth Co., Inc., has packed slightly over 100 tierces of mild cured salmon this spring at Northern California plants, it is announced.

DIVING FOR SEA WEED IN MEXICO

JAPANESE DIVERS ORDER NEW EQUIPMENT

A GAR AGAR MAKING at San Diego has resulted in a resumption of sea weed fishing in Mexico. During the World War this was a big business, the traffic in kelp and in edible sea weeds at that time developing into considerable proportions. Subsequently, however, the industry waned.

Luis M. Salazar, ship broker and Mexican intermediary, advises that a Japanese named Y. Oba has recommenced the exploitation of marine algae somewhere in the vicinity of the port of Ensenada—presumably around the Todos Santos Islands. Oba is an old-timer in the diving business, having operated in the abalone fishery for a protracted period, as, indeed, he still continues to do to a limited extent.

"Mr. Oba is Japanese, but he has become a Mexican citizen by naturalization," explains Salazar. "He has in service five or six pangas (divers' skiffs) and maintains a considerable camp where the products of his fisheries are prepared suitably for sale."

Much success has accompanied the sea

weed diving, say observers. On May 22 a shipment of 5½ tons of baled weed was delivered at the San Diego wharf by the little Mexican coast-wise freighter, the "Gryme." This lot was consigned to the American Agar Company of San Diego, which has a contract relationship with Y. Oba, and which manufactures commercial products from the dry leaf received from him.

"The sea weed is shipped in bales such as are produced by a hay-press," says Salazar. "It is reddish-brown in color and is a valuable product."

Prosperity is attending the algae-diving operations, as is evidenced by the fact that Oba has just purchased two new diving suits from agents representing A. J. Morse & Son, Inc., makers of deep water diving apparatus. The sub-surface workers have been so well pleased with the new suits that a third has been ordered. Supplementing this equipment a new 3 h. p. Fairbanks-Morse gasoline engine has been purchased to drive one of the big air pumps which are kept in constant service. With public appreciation of the worth of marine algae foods constantly growing, the future of the new diving seems bright.

on the San Pedro fish wharf. Two or three weeks ago he bought a sea tortoise from the boat "San George" for only \$2, and has kept it ever since in one of the fish tanks of the market. The animal is uninjured and is a large specimen of the precious-shell sort. It is supposed to have been captured somewhere near Santa Catalina Island. The species called by the Mexicans to southward "tortuga caray," is exceedingly rare in San Pedro waters. Frank wants to know what to feed him.

FISHERIES LABORATORY ISSUES BULLETINS

Four new publications treating of fisheries matters in California will soon be available for free distribution and can be had by applying to the State Fisheries Laboratory at Terminal Island, California. The first of these is a complete bibliography of the literature on tuna, in English and in all foreign languages, and in ancient as well as in modern times.

Mrs. Genevieve Corwin Wheeler, librarian of the Laboratory, compiled this work, which is cross-indexed alphabetically both as to authors and as to the periodicals in which the accounts appeared. The treatise is known as Fish Bulletin No. 22; it fills 106 pages; it now is available.

What may be considered a most helpful feature of the compilation—especially in the instance of the foreign-language references, is that Mrs. Wheeler has presented brief synopses of each article listed. The booklet will be the key that will be used by all students and scientists who will hereafter investigate the tunas.

Three other bulletins are now in the hands of the printer. J. B. Phillips is author of one of these, which treats of the effectiveness of purse-seine fishing in Monterey Bay. Another, by Joe Craig, presents an analysis of catches of striped bass in the San Francisco Bay district, and gives an idea of how the supply of bass is holding out. The third treatise is prepared under the joint authorship of Dr. Frances N. Clark, Milton J. Lindner, and H. C. Godsil; it is devoted to the fishing areas frequented by the sardine fleets of San Diego, San Pedro and Monterey.

W. L. Scofield, director of the Laboratory, has written the introductory pages.

EXTEND CONDOLENCES TO M. P. SUGLIAN

W. C. F. regrets to advise the many friends of M. P. Suglian that he suffered an irreparable loss Sunday, June 15, when his wife, Mrs. Helen Suglian, passed away after a ten-day illness due to blood poisoning.

Final tribute was paid Mrs. Suglian at St. Peter's Episcopal Church. The Rev. E. Tanner Brown, rector, conducted the services. Beautiful floral pieces, heaped in profusion all about, bespoke the affection of many bereaved friends in the Los Angeles Harbor District.

Pall bearers were prominent members of the fishing industry of the Southern California fishing industry: Nicholas M. Baskovich, Joseph V. Lamore, John Gibilaro, S. P. Stambuk, Walter Radmilovich and A. P. Kovocevic.

Tony Kordich and J. V. Jaconi, owners of the "Jugo-Slavia" which vessel fishes for the French Sardine Company, recently made fast at John Rados' plant to install a new turn-table.

"PROGRESS" BREAKS DOWN 1500 MILES FROM LAND

With bearings burnt out, wrist-pins knocked loose, and the whole engine hammering like a circus clown's rattle, the big 210 h. p. diesel of the veteran fishing ship "Progress" was shut down while the craft was running home, 1500 miles from shore.

"Oh, I tell you it wouldn't have been funny at all if we hadn't had sail—and known how to use it," said Captain A. W. Radcliffe, on reaching port. "We had no way of knowing what condition the engine was in until we had it taken apart. It would have been a scare if we hadn't had the sails, for we have no wireless aboard and no where near gasoline enough to run our little power-skiff to shore."

The crew turned to and tore down the big diesel, bringing the pieces up on deck for inspection and repair. Five days of feverish labor got the machine together again and on five of the six cylinders the boat limped back to port.

Was a Pretty Sight

"I wish that we could have taken a picture of her under sail," wistfully said the canvas-bred skipper. "Yes, for she was a pretty sight. We had all the rags on her—fore staysail, foresail and mainsail—and we knocked off as high as 4.5 knots! You know, the winds are not very good down there in the doldrums," he concluded, in defence of his vessel's deliberate pace.

If Cap. Radcliffe is a duly grateful heathen he will burn nine dozen camel-dung joss-sticks on the altar of Fair Ladie Luck for his rather miraculous deliverance. It is not every tuna cruiser, ramming away over distant seas all alone, that has emergency canvas aboard. Indeed, there are not two more in the whole fleet that are similarly equipped.

In the language of the scrimmage, it was a "break." Who can tell what it is that keeps good luck so persistently with the tuna fleet?

Lack Safety Devices

Dozens of able ships are prowling around the equator, on this ever-lengthening tuna quest, without lifeboats aboard, without wireless telegraph, without auxiliary sails and without motors for propelling their solitary bait-seine skiff. What speculation and conjectures would not have been made on the fate of the crew of the "Progress" had it chanced that the engine had been broken beyond repair, and there have been no way to sail the ship?

Most of our large tuna cruisers actually are going on 6,000 and 9,000-mile trips with no better provision against ill fortune than was deemed adequate for the jig boats that sputtered around Santa Catalina Island during the albacore days, 15 years ago. Fair Ladie Luck has been more benign than any reasonable fisherman can expect; let's not tantalize and aggravate her too far, else we'll have a tragic lesson to learn.

CAPT. WESETH TO SKIPPER ALBACORE

L. J. Weseth is the new skipper of the patrol boat "Albacore." Weseth is Scandinavian. He began his marine career as a sealer in Greenland waters, later going long-lining for cod and halibut. During his years of residence in California he has alternated between navigating yachts and operating in the commercial fisheries for albacore, sardines, barracuda and yellow fin.

WHO KNOWS WHAT TO FEED TORTOISE?

Frank Tomich, of the "Pioneer," is breaking in a new mascot for his market

Fishy and Otherwise

ARTHUR L. JOHNSON, broker for the Coast Fishing Company at Providence, Boston, and New Haven with headquarters at Providence, decided on the spur of the moment that he would visit home base, and left his home city at 5 p. m., Saturday, July 26, by T. A. T. plane, arriving at Glendale Airport Tuesday the twenty-ninth. Some speed! But Brother Johnson is a speed-ball himself. Several days were spent in going over sales' matters with President S. R. Hornstein.

* * *

RUTH PRIFOGLE, switchboard operator at the Terminal Island, California, plant of the Van Camp Sea Food Company, Incorporated, spent her vacation with friends in dear of Frisco. Ruth HAD a vacation.

* * *

THOSE JUNE wedding bells pealed in Santa Cruz for Louis Canepa and Miss Lola Moses. Louis works in A. adini's Santa Cruz warehouse.

* * *

ALBERT E. JONES, general foreman and H. J. McCaffrey, foreman of Fertilizer plant at the California Packing Corp., Terminal Island plant, took in Zion National Park while on vacation. Both of these gentlemen report our National parks as becoming "Bigger and Better".

* * *

CLAYTON MONACS, bill clerk, Traffic Department, Van Camp Sea Food Co., Inc., spent his 15 days off at San Diego and adjacent resorts. It is a safe bet the fall semester at the local nite high school will find him enrolled as a Spanish student.

* * *

JOSEPH UDELL of the Udell Brokerage Co., of Chicago, returned from Honolulu and picked out room 5340 at the Los Angeles Biltmore, for local headquarters. Mr. Udell's firm represents the Franco-Italian Packing Corp. He left the West Coast, July 8th, via Salt Lake City and Denver.

* * *

FRANK COONEY, Butte, Montana, broker and politician, visited his old friend Roy Harper, Sales Manager of the Van Camp Sea Food Co. Mr. Cooney ran for Lieutenant Governor of his home state last fall, but acknowledges he prefers to sell "Chicken of the Sea".

* * *

G. H. EAKIN, Purchasing Agent for G. Western States Grocery Co., Dallas, Texas, visited Wilbur Wood's So. Calif. Fish Corp. cannery on Terminal Island, during late June.

* * *

SAM KAPPER of the Central Fish and Oyster Co., Los Angeles, is taking his semi-annual workout at Gunthers Murrietta Hot Springs. Upon his return, July 6, Saul Baker leaves for Lake Arrowhead.

* * *

FLETHER, WIEST & CO., merchandise brokers, are carrying on despite the fact that their secretaries are rejuvenating on vacation. Miss May Hibson is taking her annual at Big Bear Lake, and Miss Eva Levin is riding surf boards at Ocean Park,

A. K. KOULOURIS and his daughter Miss Thena are spending a large portion of their week ends at the Koulouris summer home situated at Big Bear Lake.

* * *

MISS LILLIAN WALTMAN, secretary to M. N. Blumenthal, Los Angeles wholesale fish broker, is well and favorably known to K. F. I. radio fans as the leader of the "Harmony Girls Orchestra", designated by the announcer as "Hot" music by Peppy girls. We'll say the Blumenthal organization is loaded with pep.

* * *

M. SCHBIN, superintendent of deliveries for Young's Market Co., left for parts unknown, July 7. Schbin reports the game as pretty fast during the past 12 months, and he needs a rest.

* * *

FRANK SEALE of Dallas, Texas, broken for the Southern California Fish Corp., Terminal Island, visited his source of supply. Frank had some trip. Southern Pacific agents en route indebted to him for Traffic broke out the home town bands, cigars and packages, at each division point.

* * *

A. W. EDWARDS representing G. Batchellor Hall Co., wholesale grocers of San Francisco, California, visited the East San Pedro, California, canneries, June 21st.

* * *

FRANK LENK, sales manager of Young's Market Co., Los Angeles, is giving the San Francisco section the East and West.

* * *

L. B. TAFT of the L. O. Taft Co., merchandise brokers of Salt Lake City, visited the Southern California plants of Van Camp Sea Food Co., during June.

* * *

W. M. B. ERICKSON of Brigham, Utah, in charge of the State Fish Hatcheries, visited the Young's market organization in the interests of commercial trout.

GERALD HARRINGTON, representing the Sanitary Oyster Co. of Port Norris, New Jersey, wired the A. K. Koulouris Co., Ltd., Los Angeles, that he would be on their spot about July 10, and to hold everything.

* * *

M. J. BOGDONOVICH and Ingvard Martin of the French Sardine Company, ardent wrestling fans, tore up their Panama's during the Marshall-Wyckoff bout at the Olympic Club, June 25th.

* * *

JOE LAWRENCE of the Oakland Fish Company, is vacationing at Yosemite. Who's got the low-down?

* * *

M. S. YOSHIDA, Mutual Fish Company, San Pedro, Calif., visited the trade in Sacramento and San Francisco during the week ending June 21st.

* * *

R. E. HILTS, traffic manager of the Coast Fishing Company of Wilmington, California, returned to his offices June 16 from a vacation of three weeks spent in Seattle and Yellowstone Park. Popular "Doc" Williams pinch hit in the 1,000 class during Hilt's absence.

* * *

STEVE CANEPA, wholesale fresh fish dealer of Monterey, California, visited the Los Angeles and San Pedro markets during the latter part of June.

* * *

H. C. DONNELLS, Norman S. Wright & Company representative in Southern California, visited the C. J. Hendry Company houses in the interests of the new "Perko" searchlight. Mr. Donnels says this light will penetrate a movie star's make-up.

* * *

R. ROBBINS of Chicago, Illinois, who represents the Atlantic Coast Fisheries Company, spent several days visiting with members of the Van Camp Organizations, San Pedro offices.

* * *

A. SCHUMAN, representing C. E. Van Landingham Co. of Los Angeles in New York City, visited the California Tuna plants during June.

RESOURCES EXCEED \$8,300,000.00

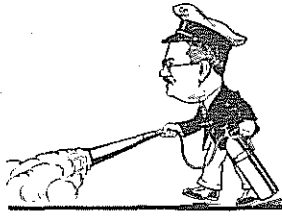
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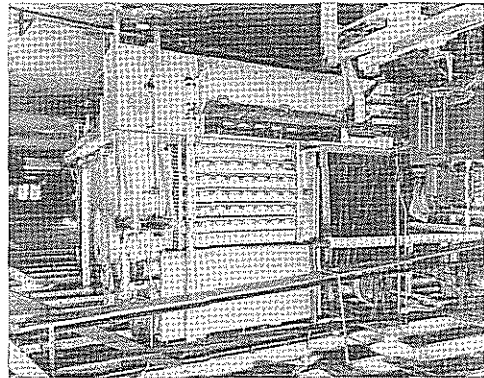
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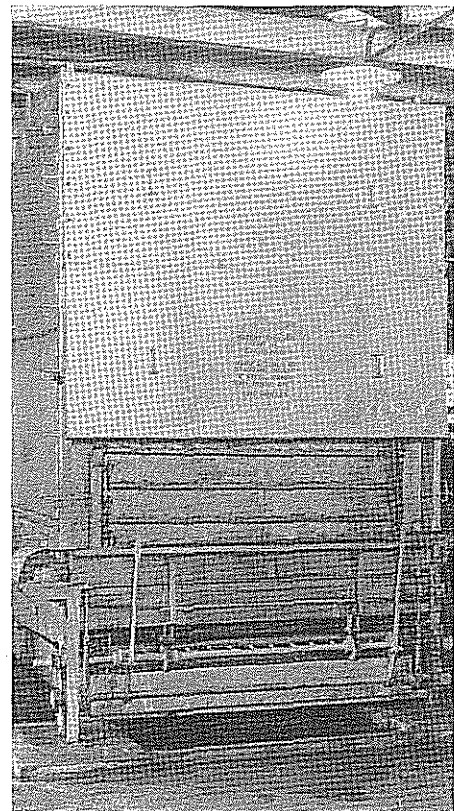
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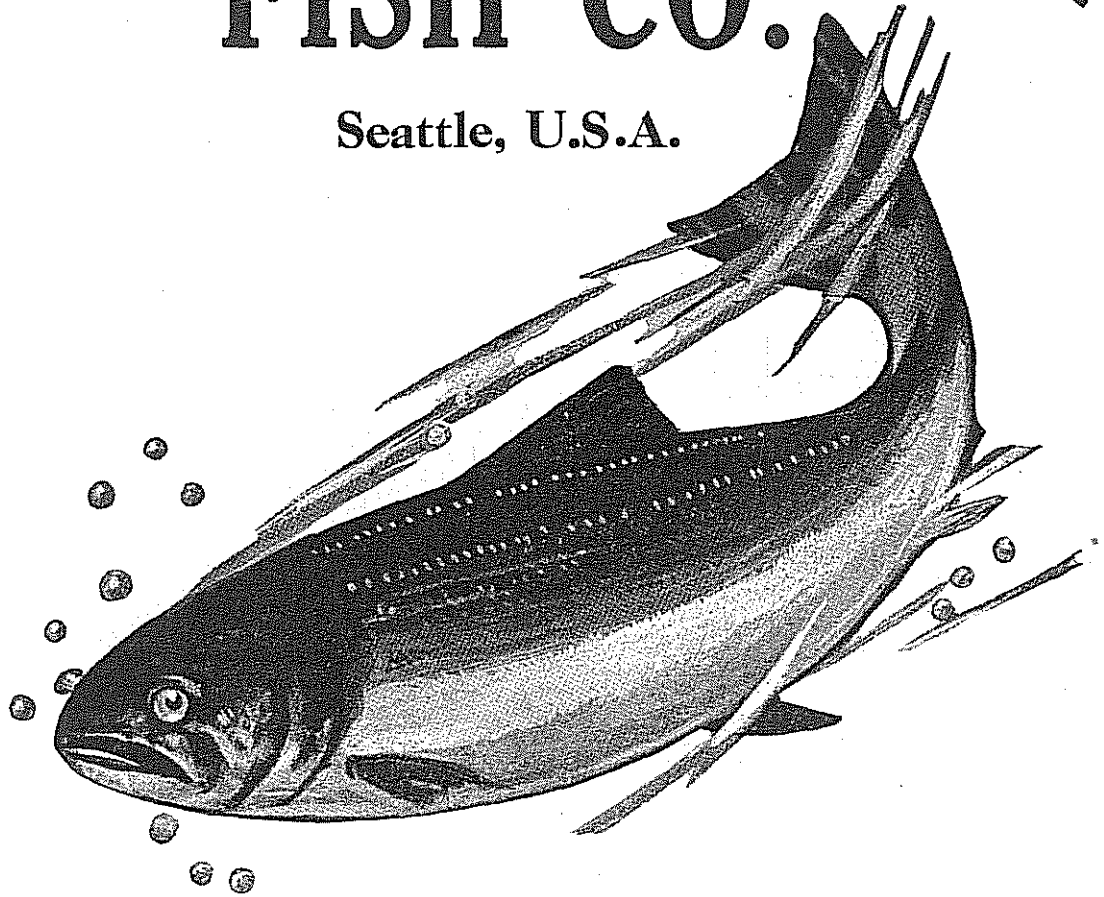
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