

ENGINEERING

Food Coolers Tough

A 10,000-pound refrigerator which withstands a drop to a concrete platform, whose parts are unaffected by ocean dunking, protects fighters' food.

► A NEW MILITARY refrigerator crashes to a concrete platform with the full impact of its 10,000-pound hulk. Naval inspectors open the doors to reveal the insides of the unit still intact; the motor starts with a purr at the throw of a switch.

How this same test was successfully met a half dozen times by the same giant portable refrigerator in a day's testing at a naval base was described to the meeting of the American Society of Refrigerating Engineers in Cleveland by Mark Mooney of the Carrier Corporation, Syracuse, N. Y.

Several companies are now building these portable units for use in carrying frozen foods and perishable medical supplies to the armed forces, Mr. Mooney announced.

After a shipload of perishable supplies reaches the battle arena, facilities must be available for cold storage. The Army, Navy and Marine Corps were all faced with this same problem.

The demountable walk-in cooler was the answer cooperatively devised by engineers of many manufacturers.

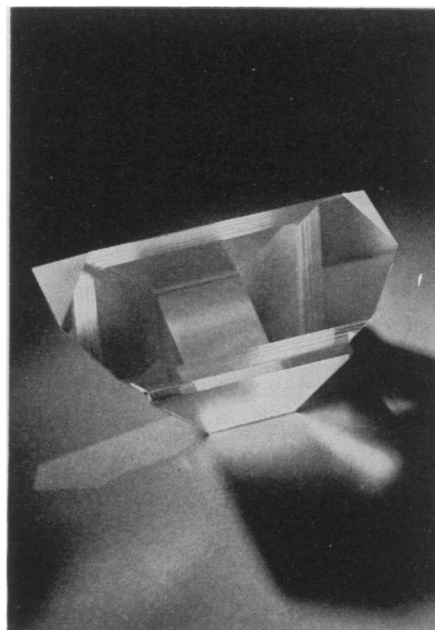
Designed for use under battle conditions, these coolers have interchangeable parts. If a strafing plane knocks out the condenser unit of the camp's cooler, replacement can be made from a spare part made by any of the companies and the vital boxful of arctic cold goes right on with the job of protecting food and drug supplies.

In the early days of the war, Mr. Mooney revealed, the importance of spare parts and tools to repair disabled refrigerators was overlooked, with resultant supply problems.

Now spare parts must be rustproofed and individually packed to withstand rust and corrosion for at least three years in any climate. Parts must be often dumped overboard into shallow water along with other cargo, to be fished out by the armed forces when it is convenient and safe to do so.

Praising the refrigerator industry for the job it had done, Mr. Mooney called for still more research to find better ways of protecting perishable supplies for soldiers in the field.

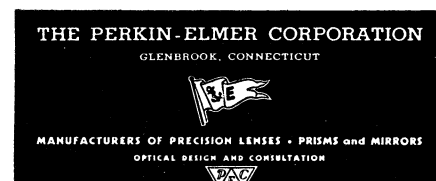
Science News Letter, June 12, 1943



**THE MOST "PRECISE"
ARTICLE MANUFACTURED
IN QUANTITY ANYWHERE**

Illustrated above is a roof prism, the most accurate of all optical parts, used in military instruments for our armed forces.

Roof prisms are being made by a number of manufacturers by methods first developed at The Perkin-Elmer Corporation, and gladly shared in the interest of winning the war.



MEDICINE

Color-Blind Aided

"Alleged cure" for inability to distinguish colors is said to teach, not cure those afflicted, but it did enable men to pass service tests.

► AN "ALLEGED CURE" for color blindness is actually succeeding in getting into the Navy and the Air Force men who had been previously rejected by these services, an investigation by the American Medical Association reveals.

Color blindness is a congenital defect for which no "cure" is known to medical authorities. The success of the method just investigated is a matter of teaching, not of treatment or "cure", it appears from the report of the investigation (*Journal, American Medical Association, June 5*).

The "alleged cure" is said to have been developed by J. H. Lepper, optometrist, of Mason City, Iowa. Following

criticism of the claims for the method in a previous issue of the medical journal, Mr. Lepper submitted complete details of his method and a list of men "now in the Navy and in the Air Force who had previously been rejected but were accepted after having followed his technic."

The information as to these men was verified by appropriate agencies in Washington to whom the American Medical Association referred the material.

Investigators for the medical association then visited certain optometrists in the eastern United States who follow the Lepper technic and studied their results. These investigators believe that the Lep-

per method is educational rather than curative. Apparently the men learn to associate something about the appearance of test objects with its color as given by name or by a non-color-blind person.

Reexamination of these men at a later date, using a different technic, would probably, the medical journal states, show that they still are color blind.

Obviously, it is up to the armed services, the journal editorial comments, to determine whether the color blindness tests now are sufficient to screen out

enough color blind persons or whether or not a young man willing to put in the time and effort required to learn enough about the tests to pass them "would not qualify because of superior learning ability or intelligence to meet the needs of the armed forces."

As to Mr. Lepper and his followers, the medical journal advises them to limit promotion of their method to the statement that they teach men to pass the tests for color vision and to avoid carefully the use of the word "cure."

Science News Letter, June 12, 1943

eye as follows:

"Operating only 40 weeks annually, one Birdseye freezer weighing five tons can freeze in paper cartons 375,000,000 pounds of peas which would require over 4,500,000 cans comprising eight tons of pure tin and 500 tons of steel.

"One freight car of Birdseye frosted spinach contains as many edible portions as 11 cars of fresh spinach. If this saving could have been applied to all fresh vegetables moved by rail in 1942, there would have been a saving of 138,200 carloads."

Public acceptance of quick frozen packaged foods has advanced by at least five years because of the war, Mr. Birdseye said, giving as reasons the increased public buying power; large purchases by the armed forces; shortages of canned foods; excellent vitamin retention; and rationing.

Science News Letter, June 12, 1943

NUTRITION

Post-War Grocery Store

Few "fresh" vegetables will be sold in the post-war grocery, but hundreds of frosted foods, some ready-cooked, will be available for the housewife.

► CORNER GROCERY STORES, particularly those in small villages, will be different after the war, Clarence Birdseye, of Gloucester, Mass., pioneer in developing modern frozen foods, predicted at meeting of the Institute of Food Technologists in St. Louis.

Instead of bins full of tomatoes, spinach and other "fresh" vegetables, it will have a series of low-temperature self-service cabinets. There the housewife even in a remote village, will find frosted cooked vegetables, including tropical and Arctic delicacies. When she gets home, she will put them in the frosted food compartment of her post-war refrigerator.

Probably very few unprocessed fresh vegetables will be sold, Mr. Birdseye said. Where at present only about one American grocery in 11 carries quick frozen foods, later all of them will. Instead of the 65 frosted food items at present available, there may be several

hundred, including scores of frosted cooked foods. Every home refrigerator will have its frosted food compartment.

With lowered trade barriers and world-wide refrigeration facilities, Mr. Birdseye said, there will be no international boundaries to perishable food distribution.

"Huge mechanically operated farms and processing plants," he continued, "will center around such virgin areas as Grand Coulee dam and produce unbelievable tonnages at very low costs, thus seriously affecting less efficient farming. Low-temperature locker plants will multiply in urban and rural communities.

"The perishable food business of the future offers an unlimited field for technical research and large scale development."

Present importance of frozen foods for saving both tin plate and transportation space were described by Mr. Birds-

ENGINEERING

New Process for Making Tin Cans Here to Stay

► THE ELECTROLYTIC process now employed in making tin cans will continue in use after the war, Dr. Charles Olin Ball, technical director of the Owens-Illinois Can Company, told members of the Institute of Food Technologists meeting in St. Louis.

This revolutionary change in the process was evolved because of the necessity of conserving tin, but is more efficient, more economical, and produces a better quality can than the old hot dip method, Dr. Ball stated.

Science News Letter, June 12, 1943

Soybeans, a good meat substitute because rich in proteins, contain ten times as much fat as ordinary household beans.

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