



WHAT'S IN THE ICE-BOX

IT has often been said that the rich man's pleasures of today are the poor man's necessities of tomorrow. Ten years ago this could rightly have been applied to the refrigerator, for, with the ever-increasing research in the field of bacteriology, it has become evident that if disease is to be successfully combated then the food of the working man must be kept clean and wholesome. Pasteur in his struggle against tuberculosis brought home to the masses the importance of bacteria-free food.

As yet, prices and war-time conditions have denied the majority of New Zealand housewives this kitchen necessity, but with the cessation of hostilities the day may not be far distant when refrigerators will be almost as common among domestic appliances as the iron or the saucepan.

The refrigerator, or, as it is sometimes called, the "ice-box", is to most people the place where perishable foodstuffs are kept—few stop to think just how it works. In the commercial sense "refrigeration" is the science of maintaining a space at a temperature lower than that of its surroundings. The science of refrigeration came into prominence when, in 1928, a Food Act came into force prohibiting the use of all chemical food preservatives. Certain specified exceptions, however, were made. This left but one other method of arresting the breeding of bacteria in food, and that was sterilisation. However, this method is not always convenient and may affect the flavour of the food. Immediately after sterilising, food must be completely

sealed off from the air, as bacteria would be introduced into the warm food—an ideal breeding ground. Refrigeration does not kill the bacteria, but keeps them in a comatose condition. At 50 degrees Fahrenheit breeding practically ceases and becomes progressively slower as the temperature falls.

There are four types of domestic refrigerator—water cooled safes, ice-boxes, compression-type refrigerators and absorption-type refrigerators. The basic principle on which they all operate is that when any liquid evaporates heat is absorbed, a phenomenon which is met with in many ways in our daily life. Any soldier who has removed his "tin hat" from his head after a hot route march and then stood in the breeze will have noticed how much cooler the breeze seems on the moist area of the face than on the dry. The explanation for this is that the evaporation of the sweat absorbs heat rapidly from the skin and lowers the temperature.

The simplest type of refrigerator to be found in New Zealand homes is the water-cooled safe, consisting of a box with porous sides covered with material such as flannel, which will absorb moisture. The flannel is kept wet by a water reservoir or a sprinkler system and as the water evaporates the temperature inside the cabinet falls below that of the surrounding air. This type of refrigerator works