

## CANNING WILL SAVE US FROM STARVATION

THE modern industry of canning is one whose statistics are enormous, and nothing could be more fitting than that its introduction should be ascribed to the man of titanic conceptions, Napoleon Bonaparte.

More properly the first great name in the history of canning food should be that of Francois Appert, who died in 1840. It was he who, subscribing to the Emperor's famous dictum, "An army marches on its stomach," conceived the idea of preserving animal and vegetable substances in hermetically sealed tins.

In 1795, Napoleon, perceiving the necessity of energy-preserving food in portable form for his troops, offered a prize of 12,000 francs for a successful method of preserving supplies. Nine years elapsed before Francois Appert, brother of the philanthropist Nicholas Appert, came forward with his idea. Appert did not use tins, but wide-mouthed bottles, which he corked and sealed. He knew nothing of the modern method of cooking under pressure, which is the secret of successful and rapid canning. Not much

food preserving was carried out after his discovery, despite the fact that he was successful, and won the reward offered. Glass jars were fragile and expensive.

The impetus towards a canning industry came next from Peter Durand, an Englishman. He discovered the invaluable properties of tin. Tentative experiments in canning oysters, salmon, and lobsters were being carried out in America.

It was he, however, who used the first can, or "canister" as he called it, though it was a later inventor, Thomas Kensett, who took out the first patent for tin cans. He had them cut out by hand from sheets of metal. A rapid workman of his could produce sixty cans a day.

Appert published a book on his methods of preserving food. Among his experiments was one by which he had attempted to condense milk by evaporation. Concentrating on canning solid food, his imitators forgot this line of inquiry.

Fifty years afterwards, in New York, Gail Borden learned how to produce a tinned concentrate from fresh milk. His

discovery was not a purely scientific one, but he was moved to it by pity for young children in sailing ships who were often deprived of their vital food when the cow on board ran dry. This accident had so many fatal results that he set to work to produce condensed milk. The remarkable religious sect of "the Shakers" financed him. He worked in poverty for many years, and suffered ridicule, but in the end he prevailed.

America had cause to thank Borden when this method of condensing milk was used for supplying the Northern armies in the Civil War. During that war a certain press correspondent named Charles Page was struck by Borden's idea. When, in 1865, he went to Switzerland as United States consul, he took it with him and started a factory at Cham. It was the foundation of the Nestlé Company.

A man named James D. Dole also took to canning out of necessity, for he went to Hawaii to farm pineapples only to find that he could not export the ripe fruit. He began canning in a small way; within twelve years he was exporting 5,000,000 cases of cans a year.

At the same time a young man named Heinz was experimenting with horse-radish in western Pennsylvania. He found

it growing behind a deserted house. He added beans and other vegetables, and gradually evolved a great canning concern.

Food preserving began with the necessity of supplying troops in war-time. It became a science for experimenters popularly regarded as cranks. Then the industry grew and canned foods of one sort and another became indispensable. Now its original purpose appears to be on the way to fulfilment, for England and other countries see in canning a method of reducing the danger of one of the less spectacular but very real war dangers, blockade. According to Miss Janet Bond, head of the Canned Foods Advisory Bureau in this country, Britain could live on only a moderate reserve of canned food in war-time.

The question of preservation is easily answered, for recently a primitive tin of food intended for soldiers during the Crimean War was opened and discovered to contain bacon, peas, and beans in excellent condition.

The proposed method of storage is in food dumps, in cellars through which currents of air would be continually passing. The view that a diet of canned food would be monotonous and perhaps deleterious to health is out of date to-day. The number of commodities

which can be put in tins and preserved appears to be unlimited. Cannerymen have gone beyond fruits, vegetables, and meat, and have come to beer, bread, and cheese. In the eighty British factories during the canning season recently ended, 100,000,000 cans were used for storage.

Bristol University led in the research work on canning, in 1930, made necessary by the law which made the use of certain coloring substitutes illegal; since that time the industry has steadily developed. About 2,000,000 tins a day can be produced by English factories.

It has been estimated that the nation would need 350,000,-

000 tins a week on which to live. Thomas Kensett's workman could produce only sixty cans a day. To-day an automatic machine makes them at the rate of 300 a minute and cooks 1,000 at a time.

Will there be enough tin to go round? Tin producers are being pressed to discover new sources of tin. The cost of tin has risen. True, one pound of tin covers 25 square yards of metal. Whether new metal substitutes will be found is a question asked anxiously not only by the canning industry, but by all other trades interested in tinplate.—*Condensed from Evening Despatch (Birmingham, England).*



## *Razors of the Ancients*

BRONZE RAZORS, over 3,000 years old, have recently been unearthed in Austria, proving that man has shaved himself for many centuries. Although somewhat affected by the passage of time, these razors are believed to have been as sharp as those of today. One of the archeologists shaved himself successfully with this razor.—*Science Digest.*