

NUTRITION

Milk For Babies Crucial In Europe's Food Problem

American Red Cross Waiting Possible Arrangements To Ship Vital Supplies Through Britain's Blockade

PROVIDING milk for small children to drink is a major worry in Europe's food dilemma.

The American Red Cross, taking note of the plea of the French government at Vichy, that milk for children is the most urgent relief need, is awaiting arrangements that would make it possible to ship supplies through British blockade.

Two trainloads of food for children purchased in Switzerland by Red Cross officials have recently gone to Paris and Vichy. The trainload to Vichy, which included quantities of condensed milk and dried milk and other baby foods, reached there in July and had already been distributed in unoccupied France when the Petain government's plea for more was issued. The trainload destined for children in German-occupied France, in Paris and vicinity only, arrived Aug. 7.

Relief officials in Europe have sent word that they would like milk shipments to run approximately 70% condensed milk, 20% unsweetened evaporated milk; and 10% powdered milk.

The Red Cross relief ship McKeesport succeeded in getting 15,000 cases of canned evaporated milk and 200 cases of baby food to unoccupied France in July and also 1,800 cases of molasses and 400 cases of dark corn syrup, useful in baby feeding formulas.

Nutritionists estimate that one case of this evaporated milk would provide one child with a fair ration of milk for two months. This would be at the rate of drinking nearly a pint and a half a day.

To England, American Red Cross shipments recently sent or booked include 44,000 cases of evaporated milk, and 25,000 pounds of dried milk. It is estimated that 500,000 people are evacu-

ated from their homes in Great Britain, and Britain is sheltering 100,000 refugees from other countries.

No comprehensive figures reveal the fate of dairy herds in European countries. In the United Kingdom dairy cattle have been increased as a wartime food measure, and dairy farmers have been given priority in use of feed. Yet reports this summer have indicated that milk production has been falling off, probably the result of short rations for cattle.

Denmark, whose dairy herds are noted for milk production, is recently reported as making ready to ship 10,000 live cattle to Germany. Denmark, like other invaded countries, is hard pressed to feed its herds. Slaughter of cattle is believed to be large in Europe this summer. In the World War, agricultural economists recall, European cattle were reduced about 8% through four years of war, Belgium being the land worst hit in this respect, with loss of one-third of its cattle.

Science News Letter, August 24, 1940

A trend toward lighter weight *bottles* is noted in the glass industry.

HISTORY

Ancient Blitzkriegers Always Left Their Victims to Starve

IF NAZIS want to steal food from invaded neutrals and other trampled countries, leaving masses of people to grapple with hunger, they can find plenty of precedent from darkest chapters of human history.

Standard technique of conquerors in ancient times was to thoroughly pillage a land, said Dr. Waldo H. Dubberstein of the Oriental Institute of the University of Chicago, in response to a Science Service inquiry. A conqueror, he added, would then leave those inhabitants fortunate enough to escape with their lives, and not enslaved, to shift for themselves until the next harvest.

As recently reported, one Nazi commentator asked derisively: "Now, who in the world ever expected a victor to provide his enemies or former enemies with food?" This echoes prevailing sentiments of Assyrian and other ancient blitzkriegers, hundreds of whose exploits bear out this viewpoint.

"I believe it may be generally assumed that ancient peoples and conquering na-

tions never recognized a responsibility of providing even a minimum of food for conquered nations," Dr. Dubberstein finds.

Typical of kings engaged in imperial conquest 3,000 years ago is this boast of Assyrian Tiglath-Peleser I:

"I conquered the land of Kutmuhi in its length and breadth. Their booty, their goods, and their possessions I brought out. I burned their cities with fire, I devastated, I destroyed."

Assyrian King Assurnasirpal of the ninth century B. C. similarly went on record as to his tactics, adding:

"All the men who had fled from before my arms came down and embraced my feet, and I imposed enforced labor on them."

Egyptian records of conquest show the same disregard for the immediate or more remote future of conquered nations, says Dr. Dubberstein. Egypt's greatest militarist monarch, Thutmose III, in the fifteenth century B. C. even ordered the fields of the fertile Megid-

"461 TIMELY PICTOGRAPHS"

The TELEFACTS you frequently see in SCIENCE NEWS LETTER have been collected in a 154-page booklet, indexed and conveniently arranged for reading or clipping.

Teachers mount these charts on 3" x 5" cards for classroom study. They tell at a glance facts that ordinarily would require hundreds of words of explanation.

Authors and magazine and newspaper editors use TELEFACTS to illustrate books, editorials and special articles on social and economic subjects.

Price \$2.00. For description and special rates for republication privileges write to

SCIENCE NEWS LETTER

2101 Constitution Ave.

Washington, D. C.

do plain—traditional Armageddon in Palestine—to be harvested for the benefit of his troops.

Likewise true to form with ancient blitzkriegers, runs the oft-reported Nazi concern for their own people. Many

ancient rulers, says Dr. Dubberstein, insisted that they were deeply concerned about general economic welfare of people of their country, and particularly the poorer groups.

Science News Letter, August 24, 1940

trical current which is fed into the radio transmitter.

Thus, to anyone listening with an ordinary set, the noise completely drowns out the message. The deciphering equipment makes use of a disk identical with the first one, which moves in synchronism with it. This is fed into the receiver in such a way that it exactly counteracts the noise, and the message can be clearly heard. The Telefunken Radio Telegraph Company, of Germany, has been assigned the rights to the invention.

A new kind of photographic film is covered by patent 2,211,323, granted to Charles R. Fordyce, of Rochester, N. Y. Instead of gelatin, usual material for the emulsion which holds the light-sensitive silver bromide, this uses a synthetic resin of the vinyl acetate type, which is soluble in cold water, but not in warm. Thus, it can be applied when near freezing. When the film is developed, in solutions at room temperature, it is unaffected.

Two other patents for photographic films, which, like the one to Mr. Fordyce, were assigned to the Eastman Kodak Company, were granted Gale F. Nadeau and Alfred D. Slack, also of Rochester. These were numbers 2,211,346 and 2,211,347. A common photographic trouble is halation, in which the back of the film reflects light to the front again, and the picture is blurred. This is prevented by covering the back of the film with a layer of a dye or some material that absorbs the light, but it must be removed in the processing. To hasten the removal of the coating, these patents call for the use of certain chemicals in the coating that increase the "wettability" of the material. Then the water of the developing solution is very quickly brought into contact with the dye and its removal is hastened.

Science News Letter, August 24, 1940

Boys who *quit school* early almost invariably wish they had not, according to a ten-year study of a Pennsylvania educator.

INVENTIONS

Air Electricity Warns Planes When Approaching Mountains

Other Inventions of Week Include Improvement In Automatic Rifle Mechanism, by Browning

ELECTRICAL differences in the atmosphere will, even in a fog, warn air pilots of their approach to a mountain, if the invention of Dr. Ross Gunn, physicist of the U. S. Naval Research Laboratory in Washington, D. C., is put into use. The Patent Office has just granted him U. S. Patent No. 2,210,932 for the discovery.

"It is well known," says Dr. Gunn in the specifications accompanying the patent, "that the earth's surface normally carries a negative electrical charge and that an electrical current constantly flows toward the earth. This current sets up a potential difference of such a magnitude that near the surface of the earth two points separated vertically by about a meter are at a difference of potential of approximately 150 volts."

Because of the uniformity of this effect, there are surfaces in the air, parallel to the ground, along which the voltage is the same. These are called "equi-potential surfaces." They curve up and over a mountain, or other rise in the ground.

In his apparatus, Dr. Gunn makes use of instruments for measuring this voltage. One detector is placed at the front of the plane, the other at the tail. As long as the aircraft is flying along one of these surfaces, there is no difference between them. If, on the other hand, it passes over a rise in the ground, the equi-potential surface slopes upward, and the forward detector being nearer the ground, indicates a lower voltage than the rear. Even over level ground, says Dr. Gunn, the method can be used to tell whether the plane is flying on a level or not.

To Jonathan E. Browning, of Ogden, Utah, inventor of the Browning machine gun, went patent 2,211,405, for an improvement on an automatic rifle which

is operated by the expansion of gases from the explosion. Usually, in such automatic firearms, the gases, after the bullet has passed, are admitted to a cylinder below the barrel, where they push back a piston that operates the breech, ejecting the used cartridge and inserting a new one. In the new gun, however, the piston consists of a tube in a chamber surrounding the barrel. This scheme, it is claimed, prevents any cramping or binding of the piston, which would jam the gun. Mr. Browning has assigned the rights for his patent to the Western Cartridge Company.

Invisible contact eyeglasses, which are worn under the eyelid, are covered in a patent (2,211,086) issued by Edgar D. Tillyer, of the American Optical Company, Southbridge, Mass. Such lenses have been extensively used in the past, but their close contact with the eyeball prevents the tear solution from circulating properly, and also interferes with the circulation of blood in the outer part of the eye. As improved by Mr. Tillyer, the part of the lens that is in contact with the eyeball is not perfectly smooth, but pebbled, like an orange peel. The roughness is not enough to be felt, but, he says, it does permit the blood to circulate and the tear solution to flow freely, and prevents discomfort and possible injury to the eye.

Two German inventors, Paul Kotowski and Kurt Dannehl, both of Berlin, received patent 2,211,132 for a system of transmitting secret messages by radiotelephone. This superimposes on the voice an extraneous noise, generated by a rotating disk, marked with a saw-toothed pattern. Light passes through this, as it does through a sound movie film, and, in the same way, is converted by an electric eye into a changing elec-

● RADIO ●

Dr. Cassius Way, president of the American Veterinary Medical Association, will tell about "Keeping Animals Well," as guest speaker on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Aug. 29, 4:00 p.m., EDST, 3:00 EST, 2:00 CST, 1:00 MST, 12:00 PST.

Listen in on your local station. Listen in each Thursday.