PHARMACY

Quinine Pool Project Yields 6,500,000 Doses

➤ THE NATION'S stockpile of quinine, potent and in some cases preferred weapon against malaria, is richer by more than 6,500,000 doses of 10 grains each since the National Quinine Pool project closed its books after Pharmacy Week, officials of the American Pharmaceutical Association announced.

The pool was started last February as a cooperative project between the association and the Defense Supplies Corporation. The largest single contribution was 100 pounds of pure quinine sulfate, sent by the president of Peru and turned over to the pool by President Roosevelt. Most of the contributions, however, came from retail pharmacists all over the United States.

The quinine came in many different compounds and many different containers. Those with unbroken seals were forwarded to the armed forces as received. All others were emptied into barrels and sent to a chemical refinery for reprocessing to assure complete purity.

Science News Letter, November 6, 1943

NUTRITION

Calories Flavor Main Value of Jams, Jellies

➤ THE FACT that jams, jellies, preserves and fruit spreads are now rationed should not cause any worry on the nutritional score. The chief contributions these foods make to the diet are the flavor and general appetite appeal they may give to bland foods and the calories their high sugar content furnishes.

So far as calories are concerned, nutritionists teach that it is far better to get these from foods that supply vitamins, minerals and protein along with the calories for energy. Such foods are cereals, bread, potatoes, meat and legumes such as dried peas and beans. Fat is another good source of calories which also contributes nourishment in other ways.

Jams, jellies and the like are made from fruit, but they are not a good substitute for fresh fruit, as are canned and dried fruits. Canned and dried fruits retain some if not all of the vitamins of the fresh fruits. Jams and jellies have a completely blank score for vitamins, according to a table of the vitamin values of foods prepared by home economists of the U. S. Department of Agriculture.

If you have ever made jam or jellly, you know how much sugar goes into them. This added to the sugar originally in the fruit is what gives these sweet spreads their high calorie content. You get about two and one-half times as many calories from a little over three ounces of jelly or jam as from one medium-sized baked potato.

Jams and jellies are generally used as spreads for bread and in these days of butter and other fat rationing, many persons have doubtless been using jam or jelly to spare the butter or margarine. Nutritionally, this is not entirely sound practice, because jam can not take the place of necessary fat. It can add flavor, which is important, especially for wartime meals that may become rather monotonous. Flavoring, like seasoning, however, should be done artistically, and not overdone.

Science News Letter, November 6, 1943

PHYSICS

Newly Designed Card Game Teaches Students Physics

➤ WORK is sugar-coated for physics students in a new card game designed by Prof. R. I. Edwards, physicist at Miami University at Oxford, Ohio. The game embodies all the elements of an honest-to-goodness card game (including bluffing) but at the same time gives the players a stiff workout in recognition and identity of physical dimensions and fundamental constants.

As explained by Professor Edwards in the new issue of the *American Journal of Physics* (October), the deck consists of 126 cards divided into 21 categories of six cards each, no two of which are alike. The first 20 categories are physical dimensions such as length, mass, force and pressure; the twenty-first is a category of six fundamental constants, such as the velocity of light, the Avogadro number or the charge of an electron.

From two to eight players are needed for the game, and the trick consists of knowing physics formulae and categories well enough to identify them at sight, or within five seconds, the maximum concentration period permitted.

As in a good old-fashioned card game, the sporting angle of this version consists of the traditional "bluff." But there is a catch. To call an opponent's bluff, the challenger must be up on his physics, as the burden is then on him to give the correct category and properly identify the card in question within five seconds. Simple, if you know ow. And such fun for the physicists!

Science News Letter, November 6, 1943

IN SCIEN

CHEMISTRY

Glass Fibers Reinforce Plastics Used in Aircraft

➤ GLASS FIBER is now being used to reinforce plastics employed in aircraft construction, Games Slayter, of the Owens-Corning Fiberglas Corporation, announced at a recent meeting of the American Institute of Mining and Metallurgical Engineers in Wilmington, Del. The plastic with fiber glass reinforcement has strength in proportion to its weight hitherto unattainable.

The new material has been produced in samples with tensile strength of over 80,000 pounds per square inch. It can be molded into aircraft structural parts with low pressures and without the use of expensive molds. The material can be machined and has the dimensional stability of metals.

Science News Letter, November 6, 1943

METEOROLOGY

Daily U. S. Weather Map To Be Distributed Again

➤ THE DAILY weather map, with its old familiar isobars and isotherms, plus the newer symbols indicating the location of fronts and air masses, will soon be available again, the U. S. Weather Bureau has announced.

Various questions have been cleared up with Army and Navy authorities. It is felt that with recent easing in the U-boat situation, weather information can be distributed in this way, as well as through press and radio, without giving out information useful to the enemy. Should Dr. Goebbels make good his recent threats to loose a full fury of wolf-pack attacks, it might become necessary to renew the restrictions: but at present this does not appear to be too serious a prospect.

Return of more detailed and easily accessible weather information is welcomed especially because of the approach of winter, which enhances the value of full warning of such things as blizzards and cold waves to people in general, and to shippers, fuel merchants, snow-clearing crews, and Southern orchardists and truck farmers in particular.

Science News Letter, November 6, 1943

CE FIELDS

METALLURGY

New Heat-Resistant Alloy Uses Little Scarce Metals

➤ DEVELOPMENT of an "emergency" heat-resistant alloy has been disclosed in a report by Oscar E. Harder, assistant director, and James T. Gow, assistant supervisor of Battelle Memorial Institute, Columbus, Ohio, to the convention of the American Society for Metals in Chicago.

This alloy is low in nickel and chromium, two of the metals high on the wartime scarcity list. After a laboratory study of nearly 100 alloy compositions, the two metallurgists report finding a heat-resistant alloy that possesses adequate toughness for handling in the foundry and low enough in hardness to be machinable.

The new metal can be used at temperatures up to 1,400 degrees Fahrenheit. The best results have been found with an alloy containing 0.30% to 0.35% carbon, about 2% silicon, with 10% to 12% chromium, nickel in the range of 4% to 10%, manganese in the range of 2% to 12%, with the nickel and manganese supplementing each other and used in amounts to produce an alloy which is ductile and adequately resistant to corrosion and heat.

The new alloy retains its strength and pliability on aging and does not become too hard and dangerously brittle, nor does it soften up.

Balancing the amount of nickel and manganese against the chromium content seems to be the most important requirement for obtaining a heat-resistant alloy of this type.

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METALLURGY

Method for Direct Rolling of Molten Metals Patented

➤ ELIMINATION of the slab or bloom stage in rolling-mill operation is the objective of an invention by Adolphe Schwarz of Baden, Switzerland, to whom patent 2,332,759 has been granted. He proposes to flow molten metal directly from the furnace between the rolls, to produce sheets, beams, rails and other shapes.

The metal, Mr. Schwartz explains, is to be sent between the rolls at a temperature just above its solidifying point, and worked while its exterior is somewhat doughy and its interior still fluid. This kind of process has been proposed before, but attempts at application have not succeeded because rolls operating at constant speed have at times pulled the metal too thin, and at others have permitted it to pile up. He overcomes these difficulties by means of a set of electrical controls which automatically keep the rolls turning at the correct rate to handle the mass of material present between them at any moment.

Science News Letter, November 6, 1943

MEDICINE

New Flu Serum Vapor Is Inhaled Into the Lungs

See Front Cover

➤ THE NAVY MEN breathing from the tank pictured on the cover of this SCIENCE NEWS LETTER are an experimental group in Seattle, Wash., testing the value on human subjects of the new serum vapor against influenza. The serum was developed by a group of officers in the Navy Laboratory Research Unit No. 1 at the University of California in Berkeley, Calif.

Earlier experiments on animals were successful, and it is now hoped that the group immunization method will be successful in preventing influenza among men in the armed services.

The cover picture is an official U. S. Navy photograph.

Science News Letter, November 6, 1943

ZOOLOGY

Coyote Outruns Auto In 47-Minute Chase

➤ COYOTES are noted for their speed and endurance in running but what is believed to be a new record is reported by R. Scott Zimmerman of the U. S. Fish and Wildlife Service.

A party of four men, driving in a light car across the desert floor of an ancient lake bed, flushed a coyote and gave chase. The animal, a two-year-old in prime condition, during one straightaway dash reached a speed of 43 miles an hour as indicated on the car's speedometer.

Turning, doubling and dodging, it led the wheeled pursuers for a chase lasting 47 minutes before it was overtaken and killed.

Science News Letter, November 6, 1943

METALLURGY

Safety Method Devised For Grinding Light Metals

➤ A SAFETY METHOD for grinding and machining light metals like aluminum and magnesium, to minimize fire hazard from their accumulated dust and fine chips, is the subject of patent 2,331,876, obtained by H. J. Walpole of Grantwood, N. J., and assigned by him to the Bendix Aviation Corporation.

As the workman stands at his grinding-wheel or lathe, a jet of air plays over his hands and the metal object under work, blowing all particles down into a trough underneath. A hood over the top furnishes further protection. A blower sucks all particles through a conduit and past a series of gas flames, that burn them as fast as they come, thereby rendering them harmless.

Science News Letter, November 6, 1943

INVENTION

Newly Invented Briefcase Has Double Slide Fastener

➤ THE WAR can not be run without briefcases—as a moment on any Washington, D. C., street will abundantly witness. Slide fasteners make excellent closures for briefcases and similar containers, but their use necessitates double handles, which many persons do not like. Jacob Roth of Brooklyn has solved this very neatly. He supports the case on a solid partition through the center, with the handle at its upper edge. On either side of this is a slide fastener, so that the result is a double briefcase, each half wholly independent of the other. The invention is protected by patent 2,332,757.

Science News Letter, November 6, 1943

CHEMISTRY

German-Born Chemist Selected to Receive Medal

➤ DR. JOHN J. GREBE, of the Dow Chemical Company, will receive the Chemical Industry Medal awarded by the Society of Chemical Industry. This medal is given for outstanding achievements in the application of chemical research to industry.

Dr. Grebe was born in Germany 44 years ago and came to this country in 1914. His notable work relates to the solution of problems connected with the automatic control of chemical reactions.

Science News Letter, November 6, 1943