

## CHEMISTRY

## Removal of Milk Vitamins Improves Plastic Buttons

► SCIENCE, having put vitamins into nearly every conceivable food, has now been asked to take some out.

The milk vitamins in casein, used for plastic "pearl" buttons, made colored buttons instead of the more expensive clear white ones which manufacturers wanted.

Science came to the rescue in the persons of Harold Fick and H. H. Sommer, University of Wisconsin chemists who found that the offending riboflavin could be removed by treating the casein with either warm alcohol or acetone.

It is predicted that this improved clear white plastic may help keep the dairy market from slumping too suddenly when war demands stop.

*Science News Letter, March 13, 1943*

## GEOLOGY

## Ancient Ocean Beds Found to Contain Vanadium

► DEVELOPMENT tunnels to tap a jackpot of the war metal, vanadium, are being driven into the canyon walls of Sublette ridge. This formation, running off the southeastern tip of Idaho into Wyoming, is the site of old ocean beds which contain millions of tons of vanadium ore, geologists estimate.

From it comes the light gray metal used as a toughener for armor plate, guns, machine tools and other victory ingredients.

Discovered by the U. S. Geological Survey, the deposits will go far toward making the nation self-sufficient in this war necessity. Up to this time an important part of our vanadium came across submarine-infested sea routes from foreign mines, mainly in Peru. Utilization of the newly found deposits would free much needed shipping space.

More than two years ago phosphate miners in this region began to recover vanadium as a by-product without knowing of the richer beds which lay nearby. But about this time, W. W. Rubey, a Geological Survey geologist searching for phosphate fertilizer, sent in some unimportant-appearing dark shales and mud-stones for analysis. Back came the report on vanadium—a much higher percentage than appeared in the phosphate rock itself.

Then came a tedious period of explo-

ration and sampling. Along a gulch at the foot of Sublette ridge, the searchers came upon the long-abandoned diggings of an old fertilizer prospector. Here a vanadium-rich sample was found which led them to still others. Most of the better analyses seemed to come from one particular bed.

After Pearl Harbor the work was pushed with renewed vigor. Hundreds of old samples were reexamined. With this correlated data, Mr. Rubey again went into the field last spring to test his theory that a single workable vanadium bed of wide extent had been discovered.

Establishing a field laboratory, he took more samples and analyzed them on the spot. Engineers from the Bureau of Mines then came in to cooperate. Finally it was proved that the bed was vanadium-bearing nearly everywhere and its position was carefully mapped.

Results were turned over to the Bureau of Mines, the War Production Board and the Metals Reserve Company for action. Secretary Ickes has banned speculative claim-staking to insure rigorous testing and proper public control of this important war project.

*Science News Letter, March 13, 1943*

## PUBLIC HEALTH

## Smallpox Vaccinations Given to 36,000 in D. C.

► ABOUT 36,000 residents of Washington, D. C., most of them employees of the federal government, have been vaccinated against smallpox since last December, the District of Columbia Health Department announced. About 10,000 of these vaccinations were given by physicians of the health department and the rest by the medical staffs of various federal and District agencies.

The outbreak of smallpox in nearby Pennsylvania stimulated the current vaccination drive, but Dr. George C. Ruhlman, health officer of the District of Columbia, is still urging that all persons living there who have never been vaccinated should take this health protection immediately.

The reason is that Washington is the crossroads of the world in war activities. People are coming not only from the entire nation but from all over the world, many of them from regions where vaccination against smallpox is not practiced, and this increases the danger to unvaccinated persons there.

No case of smallpox has been reported in Washington in the past 10 years.

*Science News Letter, March 13, 1943*

# IN SCIEN

## PHOTOGRAPHY

## Snapshooters Told How To Use Ordinary Lights

► TO KEEP the amateur photographer from being blacked out by the war, the Eastman Kodak Company has published a chart of exposures for using ordinary house lighting lamps. The government has restricted the sale of flash bulbs, and amateurs are having difficulty obtaining them for pictures indoors. The flood type photographic lighting equipment is becoming hard to obtain because of the metal needed for its manufacture. Pictures can still be taken, however, with home lighting lamps of 60 to 300 watts—the bulb commonly used in the six-way floor lamp.

To take a picture with a box camera, for example, you can use one 100-watt lamp near the camera and a 60-watt lamp at one side with an exposure of one second. Or you can use a 300-watt in combination with a 150-watt for only a fifth of a second.

*Science News Letter, March 13, 1943*

## INVENTION

## Simplified Air-Cooling Unit Developed for Post-War Car

► A SIMPLIFIED air-cooling unit for that car you are going to get after the war is covered by patent 2,311,224, obtained by Richard E. Gould of Oakwood, Ohio, and assigned to the General Motors Corporation. It gets away from the difficulty of circulating the refrigerant itself through special, hard-to-install coils by keeping the refrigerating medium and all necessary mechanisms within a single, sealed casing. Power is applied through the motor fan belt to a pulley on projecting shaft.

Chilled water is circulated from the unit to cooling coils under the seats or in other convenient places, and air is blown over them by small electric fans. Since the only outlets are for ordinary water tubing, instead of the special tubing required for refrigerant liquid, the inventor claims that any garage mechanic can install and service the unit.

*Science News Letter, March 13, 1943*

# CE FIELDS

## MEDICINE

### Vitamin C for Lead Poisoning Called Failure

► HOPE that daily doses of ascorbic acid, the synthetic vitamin C, would help prevent lead poisoning among workers exposed to this danger is reduced by a report from Dr. E. E. Evans and Dr. W. D. Norwood, of the medical department of the DuPont dye works, and Dr. R. A. Kehoe and Dr. Willard Machle, of the Kettering Laboratory at the University of Cincinnati College of Medicine (*Journal, American Medical Association*, Feb. 13).

Careful study for one year of a large group of lead workers taking daily doses of the vitamin failed to show any effect on lead concentration in the blood or on lead elimination through body wastes. There was no difference in the physical condition of the men, nor any significant change in red blood cells or hemoglobin.

"No reason has been found," the scientists conclude, "for recommending the use of ascorbic acid to minimize the effects of lead absorption."

*Science News Letter, March 13, 1943*

## RESOURCES

### Balsa Wood Production In Costa Rica Boosted

► Balsa WOOD yield from Costa Rica will be raised to around 3,000,000 board feet this year through a cooperative project of the Board of Economic Warfare, government officials in Washington believe.

All of this featherweight wood obtainable for war use will be purchased and production further developed. Balsa is being used in large quantities by the United Nations in plane construction, such as the British Mosquito bombers, and in buoyant marine devices, such as life rafts, mine floats and life preservers.

Called a "tree weed," balsa grows wild in the forests and moist lowlands. When 6 to 12 years old, the trees are felled and floated in log rafts to sawmills.

Three new portable sawmills are expected to be in operation along the east

coast by next spring. Similar operations may follow in other parts of the country, BEW officials report.

Final operations will be centered at Puerto Limon. The plant will include finishing equipment, warehouses and drying kilns.

Efficient drying of the wood is important since green balsa wood is highly perishable. Kiln-drying facilities are being expanded as rapidly as possible by the Board of Economic Warfare.

Costa Rica has supplied little balsa previously, Ecuador producing 98% of the world's supply. Now, to meet wartime demands, balsa programs are also under way in Colombia, Nicaragua and Guatemala.

*Science News Letter, March 13, 1943*

## PUBLIC HEALTH

### War Industries Urged to Save Workers' Eyesight

► INDUSTRIAL CONCERNS should give much more attention to workers' eyesight, "not only for humane reasons, but to increase production, to reduce spoilage and to add manpower," Charles P. Tolman, consulting engineer for the National Society for the Prevention of Blindness, declares.

Front-rank companies provide good general safety facilities, but for the most part appear unaware of the importance of eyesight in industry as a managerial responsibility, Mr. Tolman found in a study of 50 typical plants employing 167,000 workers.

At least one-fourth of industrial workers, he estimates, have defective, but correctible, vision. More than three-fourths of the plants studied, moreover, make no effort to determine what visual requirements are necessary or acceptable to qualify a worker for any particular job.

"This means," Mr. Tolman reports, "that these plants do not know how many color-blind or one-eyed men, or men with subnormal but correctible vision can be utilized.

"On the other hand, they may be employing men whose vision is a hazard on the particular job. For example, a man may be working as a crane operator who has deficient 'depth perception,' and so cannot judge the height and placement of the crane load. This would make him a menace to life and property, while if assigned to another job for which his eyesight is suited, he could carry on safely and effectively."

*Science News Letter, March 13, 1943*

## CHEMISTRY

### New Alcohol Process For Recovery of Glycerin

► A NEW ALCOHOL process for the recovery of glycerin, basis of nitroglycerin, from domestic fats saved by housewives and butchers, has been developed and is now being satisfactorily used commercially by soap manufacturers, du Pont chemists have disclosed.

Recovery of the glycerin by this new method is said to be more economical than by the older processes, and also more complete. Equipment used is smaller and more compact. Iron vessels, instead of the more costly vessels of stainless steel or other alloys, may be used because the reaction is carried on at ordinary temperatures and pressure. And the glycerin produced is water-free.

Because of the critical need of glycerin for making nitroglycerin and dynamite for the use of the Army Engineer Corps, for mining essential metal ores and coal, and for necessary highway construction, any steps that add to the available supply are an aid in the war effort.

Soap manufacturers are permitted to continue to make soap only if they recover the glycerin from the fats for the government's needs in war activities. Coconut oil, formerly imported from the Pacific islands and used in large quantities in making soap, is no longer available. For this reason every ounce of animal or other fat not consumed as food must be saved and made available for the explosives based on glycerin.

*Science News Letter, March 13, 1943*

## CHEMISTRY

### Nutrition Specialist Receives Pittsburgh Award

FOR OUTSTANDING work in chemistry, Dr. Charles Glenn King, scientific director of the Nutrition Foundation, Inc., was given the Pittsburgh Award of the American Chemical Society's Pittsburgh Section.

Dr. King isolated and identified vitamin C and has done work on enzymes and the chemical structure of fats and sugars.

On leave from the University of Pittsburgh, Dr. King is now visiting professor at Columbia University and scientific director of the Nutrition Foundation to which 16 food companies have subscribed more than a million dollars "for improvement of the diet and health of the American people."

*Science News Letter, March 13, 1943*