MEDICINE

Skin Irritation from Contact with Penicillin

➤ THE FIRST case, apparently, of skin irritation from contact with penicillin is reported by Major H. D. Pyle, M. C., A. U. S., and Dr. Herbert Rattner, of Chicago, (*Journal, American Medical Association,* July 29).

The skin trouble developed in the medical officer in charge of the penicillin section of the Gardiner General Hospital. Three hospital corpsmen who have handled penicillin also have at times experienced slight discomfort from itching of the skin, but no signs of dermatitis.

The penicillin itself, not the medium on which the mold was grown, was responsible for the trouble in the officer, tests showed.

Science News Letter, August 5, 1944

OPTICS

Exact Center of Your Eye Is Partially Colorblind

➤ THE CENTER of your eye is partially colorblind, it is indicated by experiments conducted by Dr. E. N. Willmer, of the Physiological Laboratory, at Cambridge University.

If you look directly at a colored object that is so small that you see it only with the center of your eye, you will not be able to tell with any certainty whether it is blue or green, orange or purple. This would be important in observing and interpreting colored signals, because any object becomes small when it is seen at a great enough distance.

You can try it out yourself with an experiment described by Dr. Willmer (*Nature,* June 24). Draw a small circle, two centimeters (about three-quarters inch) in diameter. Divide the circle into four equal parts and color them green, light blue, orange-brown and light red-purple. Set your circle up about ten feet (three meters) away from you. If you have normal color vision you will have no trouble distinguishing the green from the orange, but you will find that if you look directly at the center of your circle, you will have trouble in telling the blue from the green or the orange from the purple.

But now, instead of looking at the center of the circle, fix your eyes on a point about an inch and a quarter away. Then, all the four sections will stand out in their true colors, Dr. Willmer predicts.

The results of this experiment have implications for the theory on how we see colors. Dr. Willmer believes that the center of the eye's fovea may not contain only the night-blind, color-sensitive visual organs known as cones; it may have also those known as rods, but these would be rods differing from those in the surrounding parts of the fovea in that they cannot accumulate visual purple and become adapted for seeing at night. If these rods depended upon visual purple, but did not accumulate it then they would be defective in color vision in the way demonstrated by this experiment.

Science News Letter, August 5, 1944

ORDNANCE

Cost of Small Arms Nearly Halved Since 1941

➤ COST OF small arms and their ammunition has been cut nearly in half since 1941, an analysis reveals, (*Army Ordnance,* July-Aug.). The exact figure, 48%, was obtained by Maj. A. R. Coleman, chief of the price analysis unit, Small Arms Branch, Ordnance Industrial Division, after exhaustive study of production-cost figures on 15 small-arms items, including rifles, carbines, machine-guns, tommy-guns and ammunition for all of them.

Costs were high on all new items, and came down as plants were tooled up and personnel acquired "know-how," the study shows. Raw-material costs have for the most part remained steady or declined very little, so that this factor has not figured greatly in economies achieved.

As a single example in saving of labor; a graph of man-hours expended directly in the making of a Garand rifle shows a figure of about 23 in 1939, a little more than 12 in 1941, and approximately six in both 1943 and 1944.

Science News Letter, August 5, 1944

AERONAUTICS

Removable Belly for Use On Cargo Plane Patented

➤ A NOVEL cargo plane, with its whole belly or "hold" removable, is put forward by John H. Hooker of Miami, Florida, for patent 2,352,323. The entire operating part of the plane—cab for pilot and a few passengers, control mechanisms, etc.—lies in the upper part. The idea is that the plane can alight, have its whole cargo carrying portion removed, a new one with fresh cargo attached, and take off again with minimum loss of time sitting on the ground.

Science News Letter, August 5, 1944

IN SCIEN

ENTOMOLOGY

Cabbage-Worm Pest Is Successfully Attacked

➤ LEND-LEASE aid from the United States to New Zealand, on science's front against the ceaselessly attacking hordes of insect enemies, is reported (*Nature,* July 1). The Americans have sent a swarm of small but doughty flying allies to the "down-under" islands, to be loosed against the cabbage-worm, destructive enemy of cabbage and all related crops wherever grown. Cabbage worms are the caterpillars of the common white cabbage butterfly.

The American aid consisted of thousands of tiny, wasp-like insects, that deposit their eggs in the caterpillars' bodies. The hungry little larvae burrow from within, feeding on the victim's body tissues and killing great numbers of them.

Curiously enough, a similar "planting" of the parasitic insects from England, made a few years ago, was not successful. The American species seems to have found New Zealand conditions better suited to its life habits.

Science News Letter, August 5, 1944

CHEMISTRY

Aluminum Now Available For Manufacture of Cans

➤ ALONG ABOUT the first of the year, or a little earlier, expect to see tooth powder, tobacco, cocoa, medical tablets, ointment and a few other things packed in shiny aluminum cans and boxes.

Because aluminum is now relatively more available than sheet steel, the WPB has made available about 7,000,000 pounds of this white, light metal for what is called "experimental" manufacture of containers.

There will also be large sized cans of aluminum for baking powder, lard, malted milk, pretzels, crackers, biscuits and potato chips, and the door is left open to allow special manufacture of aluminum cans for other products during July, August and September.

Paper and cardboard have been used for packing some of the products that can now be merchandised in aluminum.

Science News Letter, August 5, 1944

CE FIELDS

MEDICINE

Infantile Paralysis Cases Increase Chiefly in East

➤ INFANTILE PARALYSIS cases continued to increase, a total of 568 being reported to the U. S. Public Health Service for the week ending July 22. This is 106 more than reported during the previous week.

Chief increases were in the east. In New York City and State cases increased from 93 to 153, in Pennsylvania from 31 to 56, in Michigan from 10 to 24 and in Kentucky from 67 to 77. Maryland reported 10 cases and the District of Columbia 8. In North Carolina, where the outbreak started earlier, cases dropped from 63 to 62 and in Virginia from 39 to 30.

Science News Letter, August 5, 1944

MEDICINE

Milk Protein Product Fights Malnutrition After Burns

➤ MALNUTRITION following extensive burns, such as may be experienced by surviving victims of the circus fire at Hartford and other civilian and war disasters, may be treated by a pre-digested milk protein product, it appears from studies by New York University College of Medicine scientists.

The scientists are: Dr. Co Tui, Dr. Arthur M. Wright, Lt. Col. John Mulholland, now overseas as chief of surgical service of the Bellevue Hospital Unit, Dr. Irving M. Barcham, Dr. Ernest S. Breed, and Dr. Vincent J. Vinci.

The milk protein product, marketed under the name of amigen, fights malnutrition by serving as a source of nitrogen. About one pound daily given by mouth replaced as much nitrogen as would a daily intake of four and one-half pounds of lean meat or 23 units of blood plasma, the New York University scientists found.

A study of 109 victims of the Cocoanut Grove disaster in Boston showed that all patients with 10% or more of the surface area of their bodies involved in third degree burns became serious nutritional problems. The reasons for this were the loss of nitrogen and the increased requirement for nourishment resulting from infection with fever.

Chief factor in the loss of body weight after severe burns, the studies show, is the loss of nitrogen which can only be replaced by protein intake. In extensive burns, nitrogen escapes through intertissue loss into the burned area, in the substance which oozes from the burned area, increased loss through body excretions and loss through inability of the damaged body to digest proteins.

Science News Letter, August 5, 1944

INVENTION

Cotton-Picking Machine Runs Backward for Accuracy

➤ A COTTON-PICKING machine that normally runs backward is the invention on which A. W. Scarratt, D. B. Baker and C. R. Hagen, all of the Chicago region, have received patent 2,352,291, which they have assigned to the International Harvester Company.

Reason for the seemingly bizarre mode of operation is the fact that the operator must be able to "aim" the opening, or throat, of the picker accurately at the row; and the only way in which this picker can be mounted directly on the frame of a three-wheel tractor is with the throat projecting between and behind the rear wheels. Driver's seat and steering-wheel are of course rearranged for the convenience of the operator.

Science News Letter, August 5, 1944

STATISTICS

Drowning Deaths Have Been Halved Since Last War

➤ DEATHS BY drowning have been cut almost in half since the last war, statisticians of the Metropolitan Life Insurance Company report.

Among the company's white male industrial policyholders, aged one to 74, the standardized death rate from drowning in the war years 1942-1943 was 9.9 per 100,000, or 42% below the 17.2 rate prevailing during the last war. Drownings among females also have decreased.

The present annual drowning toll of about 7,000 lives could be further reduced, it is suggested, by intensifying efforts to get people to learn to swim and to follow the rules of water safety, whether swimming, boating or at work where drowning is a hazard.

About four out of every five persons drowned are non-swimmers or poor swimmers, it appears from a study among men university students.

Science News Letter, August 5, 1944

INVENTION

"Popcorn" Process Fluffs Cellulose for Many Uses

➤ FLUFFING up cellulose acetate and similar plastic materials until it is puffy and porous-like popcorn, useful for lifebelts, cushions, mattresses and felt-like insulation, is the basis of the process on which patent 2,354,260 has been issued to Dr. C. I. Haney and M. E. Martin, both of the Celanese Corporation of America, with headquarters at Cumberland, Md.

The process is basically very simple. The cellulosic compounds are merely soaked in some volatile liquid, like alcohol or gasoline. Then they are placed under high pressure, on the order of three tons per square inch, and the temperature raised to 200 degrees Centigrade—100 degrees above boiling point. When the pressure is suddenly removed, the cellulosic particles blow up like popcorn grains. The material is exceedingly light, having a density only about one-tenth that of water.

Science News Letter, August 5, 1944

GENERAL SCIENCE

Kharkov Scientists Work To Restore Damaged Cities

➤ SCIENTISTS of Kharkov are in the front rank of those working on the restoration of that city that bore the brunt of Nazi destruction.

In addition to general technical aid in order to facilitate production in restored industries, the scientists are setting up plant laboratories and conducting laboratory training courses. Institutes are also being held in chemistry, mechanical engineering, civil engineering, and power plant engineering.

Chemists are making analyses needed by the newly restored plants and mills. The metal testing laboratory organized by Kharkov State University is helping the construction engineers.

Geologists under the guidance of Prof. Dmitri Sobolev are making the mineral resources of the Ukraine available for the reconstruction.

Scientific and engineering laboratories of most of the Kharkov enterprises were completely demolished. The Kharkov Engineering Institute has placed its own laboratory at the disposal of the industries and the Kharkov Power Engineering Institute staff is participating in the restoration of the electrical system and power plants of the city.

Science News Letter, August 5, 1944