

## LOGISTICS

**Blood Plasma Fired in Artillery Shells**

► BLOOD plasma was successfully fired in artillery shells to Allied troops cut off by Nazis in Europe, reports Maj. Gen. Paul R. Hawley, surgeon to the European Theater of Operations. (*Marine Corps Gazette*, May). This adds a new item to the list of many ways in which blood plasma has been delivered to American fighting men. In the past, plasma has gone to the front by plane, ship, on horseback and in jeeps, and it has been dropped from the air in parachutes.

Gen. Hawley reports also that pre-invasion estimates of the amount of plasma that would be required to fill the needs of the Army were far too low. Instead of one transfusion required for every five men wounded, battle experience has shown the need for one transfusion for every two men wounded.

*Science News Letter, June 16, 1945*

## DENTISTRY

**Tooth Decay Experiment Has First Birthday**

► THE FIRST birthday of a mass experiment to stop tooth decay in two New York cities was celebrated at a luncheon given by the New York Institute of Clinical Oral Pathologists.

Dentists toasted the future success of the experiment, results of which will not be known for another nine years, in drinks of fluorinated water brought in casks from Newburgh, N. Y. After basic examinations starting a year ago, Newburgh's drinking water supply is having sodium fluoride added to it in the minute amounts believed effective in stopping tooth decay.

Kingston, neighboring city of approximately the same size, will continue to have its water supply free of fluorine and thus serve as a control for the study.

All five- to 12-year-old children in the schools of both cities are having their teeth examined every year. Fluorine-containing water drunk regularly during the years of tooth development, that is, through the age of eight years, protects teeth from decay, it appears from surveys in communities where the natural water supply contains fluorine.

At the end of the 10-year experimental period, comparison of the teeth of the children in both cities should give definite evidence on this point. The effects of fluorinated water on the teeth of persons over 50 years will be deter-

mined by examinations on adults in the two communities.

The study is under the direction of Dr. David B. Ast, dental director of the New York State Department of Health.

"There is every reason to believe," he said, "that artificially fluorinated water will produce in humans the same results in kind and degree that are caused by waters in which fluorine is found naturally."

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## ASTRONOMY

**Copenhagen Is Again Astronomical News Center**

► THE END of the European war has had a significant turn in the astronomical world, for word has been received from Denmark of the reestablishment of direct contact between the astronomical clearing house of the Eastern Hemisphere at Copenhagen and the Harvard clearing house for the Western Hemisphere.

Harvard College Observatory received the following wire from Prof. Elis Ström-gren of the Copenhagen University Observatory:

"Please from now on send again astronomical mail and telegrams directly to Copenhagen."

During the European war communication with Copenhagen and the astronomers on the continent was carried on only by way of Sweden, thereby often resulting in serious delays in the transmission of information on suddenly appearing new stars and rapidly moving comets.

*Science News Letter, June 16, 1945*

## ENTOMOLOGY

**Department of Insects Opened at Bronx Zoo**

► A NEW Department of Insects has been opened at the Bronx Zoo in New York, where the more interesting species of this important but small-sized order of animal life will be on public display. For the present, the "insectarium" will occupy part of the Zoo's reptile house, but as soon as postwar conditions permit, a special building will be put up to house the insect exhibits.

Brayton Eddy, former Administrator of Entomology and Plant Industry for Rhode Island, has been named Curator of Insects at the Zoo, and has also become Acting Curator of Reptiles. The late Dr. Raymond L. Ditmars was in charge of reptiles for more than forty years.

*Science News Letter, June 16, 1945*

**IN SCIEN**

## BOTANY

**Russian Botanists Plan To Exchange Specimens**

► AMERICAN scientific museums and universities will soon have opportunity to get seeds and herbarium specimens of Russian plants, in exchange for American botanical material. Large-scale preparations for this scientific cooperation are being made at the Central Botanical Gardens in Leningrad, the Academy of Sciences of the USSR has cabled to Science Service.

Greenhouses and other buildings of the gardens, which suffered severely during the long siege of Leningrad, are being rebuilt, and more than 700 acres of new land has been added to the working area. About 10,000 trees, shrubs and flowers are already growing in the nurseries.

The Leningrad botanical institution traces its origin to a garden of medicinal plants set out in 1713 under the direction of Czar Peter the Great.

*Science News Letter, June 16, 1945*

## CHEMISTRY

**Peanuts Found Useful in Adhesives, Paper Sizings**

► PEANUTS, long regarded lightly as of interest only to small boys and circus elephants, are steadily rising in the scale of industrial and agricultural respectability. U. S. Department of Agriculture scientists are finding new and more efficient uses for them, in addition to their already big-business role as producers of a high-grade vegetable oil.

The high-protein meal left after oil extraction has long been used as livestock feed; but now industry comes forward to compete with livestock for a share of it. Peanut protein has been found useful in adhesives, paper sizings and fabric coatings, by chemists at the Southern Regional Research Laboratory in New Orleans. The sugary liquor remaining after protein extraction can be used as a culture medium for a food yeast, thereby providing an additional source of protein for livestock feeding.

At the Northern Regional Research Laboratory in Peoria, Ill., chemists have developed a method for using ground-up peanut hulls instead of ground cork as a basis for crown cap liners for bottles.

*Science News Letter, June 16, 1945*

# CE FIELDS

## VETERINARY MEDICINE

### Fern Hay Poisonous to Horses, Studies Indicate

► HAY containing the dried leaves of the sensitive fern, a species widely distributed over the eastern half of the United States, is unwholesome for horses, studies at the University of New Hampshire have shown.

Horses are not all equally susceptible to the fern's poison. Old horses fed on hay alone were most frequently affected, while working horses that were fed grain along with the hay were not harmed. Chances of recovery, of course, were best when the trouble was detected in early stages.

Sensitive fern, so called because it is easily killed by frost, is an unattractive, coarse-leaved plant that grows abundantly in damp lowlands, and hence is very apt to be mixed in with hay mowed on wet meadows.

*Science News Letter, June 16, 1945*

## CHEMISTRY

### Willard Gibbs Medal Awarded Dean Whitmore

► THE WILLARD Gibbs Medal Award of the Chicago section of the American Chemical Society goes this year to Dr. Frank C. Whitmore, dean of the School of Chemistry and Physics of Pennsylvania State College. Dean Whitmore was selected as the 34th recipient of this prized medal by a jury of 12 prominent American chemists because of his outstanding contributions to organic chemistry, and his vigorous leadership in the advancement of chemistry for national benefit. The formal presentation will be in September.

Much of the work of Dr. Whitmore has been accomplished during the 15 years that he has occupied his present position. Prior to 1929, however, original investigations made by him in organic chemistry at Harvard, Williams, Rice Institute, University of Minnesota and Northwestern University had attracted much attention. He is the recipient of other medals and of several honorary degrees.

This annual award, regarded by many as the outstanding medal award in the

chemical field, was founded in 1911 by William A. Converse, who named it for the late Willard Gibbs, renowned American physical chemist.

It is awarded to anyone who, because of his eminent work in, and original contributions to, pure and applied chemistry, is deemed worthy of special recognition. Among many notable former recipients are Ira Remsen, Mme. Curie, Irving Langmuir, Vladimir Ipatieff and Thomas Midgley.

*Science News Letter, June 16, 1945*

## MILITARY SCIENCE

### Fewer Unknown Soldiers In World War II

► WORLD WAR II will have fewer Unknown Soldiers than World War I, as a result of identification techniques now in use on every battlefield. Only a little over 2% of the dead soldiers in this war, in our 321 overseas cemeteries, are unknown, thanks to the thoroughness of the Graves Registration Service of the Quartermaster Corps.

This drastic reduction has been brought about through the use of identification bracelets and "dog tags" on all service personnel, and through the development of a small, compact portable fingerprinting kit. Weighing only five pounds, the kit measures 9.5 inches long, 7 inches wide, and 2.5 inches deep.

Normally, the "dog tags" or bracelet establish a man's identity without question. On every report of interment, the raised letters on the dog tags are impressed into the surface of the report form itself, for permanent reference.

However, should the tags or bracelet be missing, the fingerprints are taken and a chart of the upper and lower sets of teeth are made. When these are compared with the master records, the true identity of the serviceman is revealed.

*Science News Letter, June 16, 1945*

## HOME ECONOMICS

### Cold Water Canning Found Unsatisfactory

► COLD WATER canning, sometimes recommended for rhubarb, gooseberries and sour fall grapes, has been found unsatisfactory by home canners. The acid in these tart fruits, according to the U. S. Department of Agriculture, may keep them from spoiling when sealed in jars filled with cold water without heating or processing, but the fruits keep little or nothing to make them appetizing.

*Science News Letter, June 16, 1945*

## ASTRONOMY

### Eclipse Visible to Fighters in Pacific

► A PARTIAL eclipse of the moon on Monday, June 25, will be visible to our fighters in the Pacific, although we in the United States will not be able to enjoy the spectacle.

The moon will partly enter the shadow of the earth for people in the Pacific, Indian and Antarctic Oceans, Asia, Australia and southeast Africa. Instead of light being cut off from the entire moon, only 86.4% of the moon at most will be eclipsed. The moon will enter the shadow proper, or umbra, at about 1:37 p.m., Greenwich Time, and will leave it at 4:51 p.m.

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## AVIATION-MEDICINE

### Mechanical Head Used To Test Oxygen Masks

► A MECHANICAL head that breathes and can smoke, a practical device for testing oxygen masks and heated coverings for use at the extreme low temperatures encountered by airplane crews at high altitudes, was displayed to a selected group of scientists in New York by the General Electric Company, in whose laboratories at Bridgeport, Conn., it was constructed. It has recently been placed in use by the Army Air Technical Service Command at Wright Field, Ohio, where the idea was developed and specifications prepared.

The mechanical head resembles the human head in size and shape. A rigid skull of wood maintains the contour of the face, while a layer of "flesh" made of synthetic rubber sponge simulates the resiliency of the human tissues so that the mask fits closely. Heating wires are laid on the sponge tissue, and over this is placed a synthetic rubber skin. When electrically heated it simulates the thermal properties of the human face. Breathing is simulated by electrically controlled artificial lungs.

When used in testing, the breathing head, equipped with an oxygen mask, is placed in a chamber with a temperature as low as 60 degrees below zero Fahrenheit, if desired, and is operated by remote control from an instrument board in a comfortable room. It replaces human beings formerly used, who often suffered discomfort and danger from the extreme cold. Also it permits testing under conditions much more severe than is possible with humans.

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