

TEXTILES

Cotton Fabric Has Fibers Of Glass to Resist Fire

➤ BEAUTIFUL draperies that defy fire are now available from the looms of Plymouth Fire-Guard Fabrics. They are woven of a combination of noncombustible, very fine glass fiber and flame-proofed cotton yarn.

While these fire-resistant fabrics are suitable for homes, they are designed especially for hotels, night clubs, schools and other places where people congregate and where considerable fire hazard exists. The first installation is in a new dining room and in a cocktail lounge in a New York Fifth Avenue hotel.

The fabric has been approved for use in New York by the proper city authorities. Before approval it was tested with the gas flame from a Bunsen burner. Practically no burning continued after the flame was removed.

The new fabric is available in a wide range of colors, designs and shades. It can be dry-cleaned, do not stretch, and can be cut, sewed and ironed as easily as all-cotton fabrics.

Science News Letter, April 12, 1947

ASTRONOMY

Thirteen Scientists Start Trip to Observe Eclipse

➤ THIRTEEN scientists, all hoping for clear weather and not at all superstitious about the number in the party, have left by plane for Brazil. Their ultimate goal is an "eclipse town" near Bocayuva, Minas Geraes State, Brazil, about 400 miles north of Rio de Janeiro.

Although the sun will not be hidden by the moon until Tuesday, May 20, these astronomers and physicists of the Army Air Forces-National Geographic Society Expedition are making their way to Bocayuva in time to get their outstanding array of new and valuable instruments set up and in working order.

At the camp site, picked last August and now equipped with many modern conveniences, the total eclipse will last three minutes 48 seconds. It is near the center of the path of the eclipse, that extends from near Santiago, Chile, to Kenya Colony on the east coast of Africa. Here the chances of clear weather are better than at most points along the path of totality.

Weather, which must be accepted "as it comes" on the day of the eclipse, plays an important part in the success or fail-

ure of the expedition. Of the dozen projects which the scientists hope to carry out, only three can be accomplished, clouds or no clouds. Radio observation of the changes which take place in the ionized layers of the earth's atmosphere is the most important of these, the others being largely incidental projects.

The scientific leader of the expedition is Dr. Lyman J. Briggs, chairman of the research committee of the National Geographic Society and retired director of the National Bureau of Standards. He and one or two other scientists will leave for Brazil at a later date.

Science News Letter, April 12, 1947

MEDICINE

Cancer Cells Are Not Sticky Which Makes Travel Easy

➤ SCIENTISTS have discovered why cancer cells can spread so easily and invade other parts of the body.

It is because they are not sticky, and thus can break away and travel.

Normal muscle, bone and brain and skin cells adhere to each other more firmly and can't roam around.

The new facts may explain some of the mysteries of metastasis, as the doctors call this disastrous spreading of malignant cancer cells. Dr. Dale Rex Coman of the University of Pennsylvania Medical School made the experiment, reported in *Science* (April 4).

Two of a pair of cancer cells can be pulled apart by one-third the force necessary to tear apart two normal skin cells. The stickiness of skin tumors that are not cancers is closer to that of normal skin cells.

The decreased stickiness, or adhesiveness, of cancer cells which makes it possible for each of them to strike out on its own is due to low content of calcium.

Once a cancer cell gets free of its neighboring cancer cells, it can ooze into surrounding tissues like an amoeba, the one-celled organism every high school biology student peers at through a microscope. Amoebae, cancer cells, and normal scavenger cells of the body move by extending little finger-like edges and then squirming themselves up to meet the new position in line with the finger.

The cancer cells may be helped in their progress to new parts of the body by a chemical which may act on the cement substance between cells to open a space for the cancer cell invasion. This chemical, called a spreading factor, is hyaluronidase.

Science News Letter, April 12, 1947

IN SCIENCE

MEDICINE

BCG Vaccine Against TB To Be Tested in Georgia

➤ COLUMBUS, Ga., and surrounding Muskegee County have been selected by the U. S. Public Health Service as the first community in which BCG vaccination against tuberculosis will be started as part of a long-range study program.

Preliminary tuberculin testing of the 16,000 children in the city and county schools is now under way. Following the tests, those children who show no sign of having been infected with tuberculosis germs will be given the vaccine which should protect them against the disease. The vaccine will be given to both Negro and white children when approval has been secured from their parents and physicians.

BCG was developed in the early part of the century by two French scientists, Albert Calmette and Camille Guerin. It is a strain of bovine TB germs which have lost their power of causing disease but are able to induce immunity to it.

Science News Letter, April 12, 1947

BIOCHEMISTRY

Date Tree Pollen Contains Chemical Like Sex Hormone

➤ SOMETHING having the same physiological effects as the female sex hormone has been discovered in the pollen of the date tree by two Egyptian scientists, Dr. Ali Hassan and Dr. M. Hassan Abou El Wafa of Fouad I University in Cairo. They report their results in *Nature* (March 22).

An extract prepared from the pollen was injected into laboratory rats. At the same time, ordinary female sex hormone was injected into another set of rats. Both sets responded with the same physiological reactions.

Although the substance has not yet been obtained in pure form for analysis, preliminary physical and chemical tests indicate that it is closely similar to sex hormone extracted from animal sources.

It is interesting to note that pollen, from which this female sex hormone has been extracted, is the male element in plant fertilization.

Science News Letter, April 12, 1947

E FIELDS

PHYSICS

Non-Glare Rear View Mirror to Aid Drivers

➤ A NON-GLARE rear-view mirror, that will not annoy following drivers at night with dazzling reflections, is the invention on which W. H. Colbert of Brackenridge, Pa., and W. L. Morgan of Columbus, Ohio, have been granted patent 2,418,335, which they have assigned to the Libbey-Owens-Ford Glass Company. High reflecting power in rear-view mirrors is unnecessary; the inventors reduce the reflectivity of theirs by chemically spattering it with minute spots of lead sulfide.

Science News Letter, April 12, 1947

ARCHAEOLOGY

Shensi Pyramid Estimated To Be 2,000 Years Old

➤ THE GIANT pyramid reported discovered by an American aviator flying over Shensi province in China is in a land of pyramids, the heart of ancient Chinese civilization.

If the pyramid is located by exploring parties on the ground, it will probably never rival the famous pyramids of Egypt as a tourist sight. The Chinese pyramids of that region are built of mud and dirt and are more like mounds than the pyramids of Egypt, and the region is little-travelled.

American scientists who have been in the area suggest that the height of 1,000 feet, more than twice as high as any of the Egyptian pyramids, may have been exaggerated, because most of the Chinese mounds of that area are built relatively low.

The location, reported 40 miles southwest of Sian, is in an area of great archaeological importance, but few of the pyramids have ever been explored. Scientists who have sought to excavate in the region have had difficulties with the local authorities. Like the pyramids of Egypt, it is expected that the mounds of this area have been looted for centuries by the natives.

Pyramids, such as the one reported by the American flyer, are the tombs of ancient peoples, with the biggest pyramids containing the tombs of the kings or emperors.

In the same area but east of Sian, ancient capital of several Chinese dynasties, is the pyramid believed to be the tomb of Ch'in Shih Huang-ti, the emperor who built the Great Wall of China some 2,200 years ago.

Best estimates are that the newly "discovered" pyramid is at least 2,000 years old.

Science News Letter, April 12, 1947

MEDICINE

Vitamin B Treatment Aids Victims of Tick Disease

➤ DEATHS from Rocky Mountain spotted fever, a tick disease, may be wiped out by modern treatment including doses of one of the B vitamins, para-aminobenzoic acid, Dr. Samuel F. Ravenel, of Greensboro, N. C., declared in the Journal of the American Medical Association (April 5).

Rapid recoveries occurred in four out of five patients for whom Dr. Ravenel used the new treatment. The fifth patient also recovered, but almost died due to what Dr. Ravenel terms "improper handling" of the case as regards the use of para-aminobenzoic acid.

"The astonishing thing about these patients," Dr. Ravenel states, "was the amazing speed with which the temperature dropped, the rash faded and recovery ensued as soon as adequate concentrations of para-aminobenzoic acid in the blood were achieved."

One boy who might have been expected to be extremely sick for two to three weeks had a normal temperature and rapidly fading rash on the sixth day of treatment. An exceedingly ill, delirious child who, before the days of para-aminobenzoic acid treatment, would have been expected to have high fever for two weeks, had a normal temperature and rapidly fading rash on the fourth day of treatment.

The drug was given by mouth in a solution of sodium bicarbonate. A preparation of it that could be given by hypodermic injection at the start of treatment in unconscious or vomiting patients would be extremely helpful, Dr. Ravenel points out.

Para-aminobenzoic acid alone is not the "sole answer" to the problem of treating Rocky Mountain spotted fever patients, Dr. Ravenel points out. Supportive treatment in the form of fluids, other vitamins and salts should be given. Possible toxic effects of the drug and complications of Rocky Mountain spotted fever should be watched for.

Science News Letter, April 12, 1947

SOIL CONSERVATION

Rose-Bordered Fields Make Good Erosion-Check

➤ FARMERS' FIELDS may be edged in pink, in the Junes of years to come. Hardy, fast-growing, tough-stemmed roses are recommended instead of wire fences by the U. S. Department of Agriculture. Added beauty will come from the fact that in new erosion-checking field layouts the boundaries follow the curving contour lines of the hills, instead of running intolerantly straight and crossing at right angles, as wire fences too often do.

Most suitable species for hedge purposes, say Department botanists, is the multiflora rose. It is as hardy as the proverbial iron poker, and puts down strong, soil-retaining roots. Its stems are 20 times more spiny than barbed wire; they grow to a height of six or eight feet and never require pruning.

In addition to their dual principal job of keeping stray animals out of the fields and the soil in, rose hedges will also serve as shelter for birds and smaller animals. The rose hips, though scanty-pulped, have at least a minor food value: they are rich in vitamin C and are good for jelly-making.

Science News Letter, April 12, 1947

ENGINEERING

B-29 Is Flying Laboratory For Gas Turbine Testing

➤ AN ARMY bomber, a B-29 Superfortress, has found a peacetime job—it is now a flying laboratory, in use in Schemmady for altitude testing of aircraft gas turbine engines.

The use of flying laboratories has proved to be a safe and expedient way of conducting tests under altitude conditions, General Electric engineers stated, and more economical than establishing altitude wind tunnels. Their use has been highly satisfactory, they declare.

They explained that the powerful jet plants are installed as an auxiliary unit of the flying laboratory instead of a substitute engine. Flying laboratories in one type of plane or another have been used by General Electric since 1942. One great advantage over wind tunnel methods is that there is space for design engineers on the plane to observe operations under actual flight conditions. They also are provided with a means of learning problems attendant to flying.

Science News Letter, April 12, 1947