

PHOTOGRAPHY

Amateurs' Camera Film To Have Size Standards

► **BETTER PHOTOGRAPHIC** films and assurance of correct fit in the amateur's camera is promised by the first amateur roll film standards just prepared by the American Standards Association.

Camera and film makers have heretofore relied on their own ideas and measurements of supplies already on the market for designing new equipment such as cameras, photographic paper, films and spools. As a result, the American Standards Association points out, some cameras did not operate properly or functioned best only with a certain brand of film.

The new standards apply to spools, films and backing paper for ten sizes of snapshot films. Films conforming to the standards will function smoothly in cameras now in use and the specifications point the way for designers of new cameras and accessories. Development of other photographic standards is now under consideration.

Sizes and tolerances have been set up in centimeters, as well as inch measurements, to aid manufacturers exporting to countries using the metric system.

Science News Letter, October 2, 1943

MEDICINE

New Skin Grafting Method Uses Chessboard Pattern

► **THE CHESSBOARD** pattern and sticky paper feature a new method of skin grafting devised by Dr. P. Gabarro, former secretary of the Society of Surgeons of Catalonia, Spain, and now plastic surgeon in charge at an emergency hospital in England. Details of his method are reported in the *British Medical Journal* (June 12).

A piece of skin the desired size and thickness is cut from the donor area and laid, raw side up, on sterile, stiff, sticky paper. Skin and paper are then cut vertically into strips. These are placed, at the desired distance apart, on another piece of the sticky paper and then are cut horizontally into strips about the same size as the first strips. The result, Dr. Gabarro explains, is to obtain strips of paper with square grafts well spread and evenly spaced. These can be arranged in any design, but the chessboard pattern, he says, is easy to arrange and very even in distribution.

The method was designed as an improvement over the "pinch graft" technique. Pinch grafts are taken by picking up a cone of skin with a needle, cutting the cone at its base with a knife, and conveying the graft with the same needle to the recipient area. The pinch grafts are dotted over the recipient area with enough space between to allow for possible discharge. Grafting on a large area by this method is a "very long and tedious job." The sticky paper method is much faster, is easier on the donor area, and avoids danger of infection being carried by the needle from recipient to donor area.

The results with the new method have so far been "striking," Dr. Gabarro states, although he adds that it is too early to draw final conclusions.

Science News Letter, October 2, 1943

MEDICINE

Blood Circulation Test Aids Skin Grafting

► **ARTIFICIAL SUNSHINE** and a dye have been enlisted as a new aid to the plastic surgeon for certain types of skin grafting. The method, developed by Dr. James A. Dingwall, 3rd, and Dr. Jere W. Lord, Jr., at New York Hospital and Cornell University Medical College, is reported in the *Bulletin of the Johns Hopkins Hospital* (August).

The dye, sodium fluorescein, is injected into a vein. Under ultraviolet light, the area of the body through which the blood flows becomes a bright yellow green. In the test devised by the New York doctors, this phenomenon is used to show when blood circulation has been established between the patient's body and the tubed flap of skin being grafted onto a burned or scarred area.

In the first stage of this type of skin grafting, one end of the tubed flap which will become the graft is left attached to the place on the patient's body from which the graft is being taken. Once blood has started to circulate freely into the flap through the end in the new position, the original attachment can be cut and the tube opened out and attached entirely to the new position.

If this second stage of the grafting is carried out before blood circulation has been established, the graft will not get enough nourishment and will die. With the fluorescein test, it appears from the report, doctors can tell accurately when blood circulation is well enough established to carry out the second stage of the grafting.

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IN SCIEN

ANIMAL HUSBANDRY

Experts Warn Stockmen Of New Swine Disease

► **DISCOVERY** of the first natural epidemic on record of vesicular stomatitis among hogs has brought a warning from the U. S. Department of Agriculture to the nation's stockmen.

"Owing to the present importance of protecting the livestock industry from every possible source of danger," the warning reads, "stockmen are urged to observe their animals closely and frequently, and to report symptoms of dangerous diseases promptly to their nearest veterinarian."

Vesicular stomatitis, characterized by high temperature at the start, and by sore feet and blisters on the snout, affects horses chiefly, sometimes cattle. When the disease first broke out among hogs in an anti-hog-cholera serum-producing plant at Kansas City, Kans., the symptoms suggested foot-and-mouth disease, a foreign plague non-existent in the United States since 1929.

Veterinary research experts of the U. S. Bureau of Animal Industry, Dr. H. W. Schoening and Dr. A. B. Crawford, flew to Kansas City, made various tests, identified the disease as vesicular stomatitis, and saw to it that all known measures were taken to eradicate the infection and to insure the purity of all biological products prepared in the establishment where the outbreak had occurred.

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ENGINEERING

Mining Administrator Awarded Institute Medal

► **CORNELIUS FRANCIS KELLEY**, chairman of the board of directors of the Ananconda Mining Co., has been awarded the Charles F. Rand Memorial Medal for "distinguished achievement in mining administration" by the American Institute of Mining and Metallurgical Engineers.

A son of a mine superintendent, the new medallist began copper mining when 17 as a member of a survey crew. Later he studied law and rose to head a large group of associated companies.

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CE FIELDS

GEOLOGY

Certain Germs Help In Locating Oil Deposits

DISCOVERY that certain germs which feed on hydrocarbons, such as oil, will absorb particular wavelengths of light has led to a new method of finding petroleum deposits. Ludwig W. Blau of Houston, Texas, who has just been granted patent No. 2,330,026 on this unusual procedure, names the Standard Oil Development Company as the assignee.

To locate oil, soil samples are collected near the surface at spaced points over an area. The oil-consuming germs, and by-products which may be formed by their feeding, are extracted chemically from the soil. The extract from each sample is next placed in a light beam. The transmitted light is then split into its various wavelengths. When the tell-tale wavelengths are missing, results from the various samples may be interpreted to help locate oil deposits.

It is not yet known whether this phenomenon is due to the light's being absorbed by the germs themselves or by organic compounds which result from the germ action on the hydrocarbons.

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CHEMISTRY

Store Potatoes for Keeping At Correct Temperature

► IF THE POTATO shortage last spring led you to plant potatoes in your Victory garden so you would have a supply for this winter, you should be careful to store them at the correct temperature. For good keeping of potatoes, the U. S. Department of Agriculture recommends a storage temperature at from 40 to 50 degrees Fahrenheit.

Each potato in storage is a chemical factory in miniature, the Department scientists explain. How the factory will work and what product it will turn out depends on the storage conditions, especially the temperature.

If potatoes are kept too warm, they will use oxygen and literally burn themselves to death, so that decay follows. In this they are like most fruits and vegetables. Their activity at too low a temperature, however, is unlike that of

most other foods. As you know, a potato contains lots of starch. At a temperature below 38 degrees Fahrenheit, the potato chemical factory turns some of the starch into sugar.

This makes the potato less appetizing. It also accounts for the unattractive dark brown color that potato chips sometimes develop, whether made at home or in factories. The potatoes stored too cold develop enough sugar so that some of it caramelizes in hot fat, giving the dark color.

This starch to sugar change, fortunately, is reversible. Removing the potatoes from the cold and leaving them at room temperature for two weeks before using causes the sugar to turn back to starch and restores the high cooking quality of the potatoes.

What with Victory gardens and the big commercial crops of potatoes this year, we shall probably all be eating more of them than ever. Besides the fuel and energy value of their high starch content, potatoes furnish vitamin C. The amount per potato is small compared with tomatoes and citrus fruits, but when large quantities of potatoes are eaten, it mounts up.

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GEOGRAPHY

Mont Cenis Tunnel, Pass Should Not Be Confused

► MONT CENIS tunnel through the Alps connecting Modane, France, with Bardonecchia, Italy, reported to be partly destroyed by Nazi-hating Italians to render it useless to the Germans, is sometimes confused with Mont Cenis Pass, 17 miles to the east. Both are of strategic value.

The tunnel is used by the railroad from Paris and Lyons in France to Turin and the rest of Italy. It is eight miles long and approximately 26 feet wide. It is the earliest of the Alpine tunnels, having been opened in 1871 after 14 years of effort in its construction.

Mont Cenis Pass crosses the mountains at an elevation of nearly 6,900 feet near the junction of the Cottian and Gracian Alps. This is about 1,600 feet higher than Denver, Colo. A carriage road was built through it 140 years ago and a railroad was constructed along the carriage road in 1868. This railway was destroyed in 1871 when the tunnel was put into use. Hannibal, the Carthaginian general, used this pass, it is claimed by some historians, in his invasion of Italy in 218 B.C.

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NUTRITION

Vitamin C Now Retained In Evaporated Milk

► A NEW method of preserving vitamin C in evaporated milk which makes it possible to ship the milk to any part of the world and to store it without vitamin deterioration for six months or more has been developed at the Pennsylvania State College by Prof. F. J. Doan and D. V. Josephson, dairy manufacturing specialists.

Because vitamin C quickly oxidizes and vanishes in contact with air, it has never been easy and often impossible to store or maintain it for any length of time in foods at the level needed for healthy living. Even the body cannot store it, and we must eat our quota of about 75 milligrams each day to keep well. Babies, however, need only about 30 milligrams daily.

Sealing the evaporated milk tins in an atmosphere of nitrogen or under vacuum, the investigators at Pennsylvania State College found, increases by 50% the vitamin C retained after six months storage. If the milk is first fortified with 50 mg. of vitamin C, and then sealed without air, the milk will contain well over the desirable daily infant allowance, or the minimum adult allowance, of 28 to 30 mg. per can after six months storage and presumably longer.

The process follows the commercial practice closely, except for sealing, and could be easily adapted for commercial use, Prof. Doan explained. The cost of such fortification is slight, estimated at approximately 7.2 cents per case of evaporated milk, or 0.15 cents per 14½ oz. can.

The new method would insure that our soldiers, and the babies and peoples of reoccupied countries might have all the vitamin C they need every day.

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MEDICINE

Army Mule Carries Wounded In New Guinea Field

See Front Cover

► MECHANIZATION has not replaced the Army mule in such terrain as the New Guinea war theater. The photograph on the front cover of this week's SCIENCE NEWS LETTER is an official one of the U. S. Army Signal Corps. It shows a new pack-mule litter being tested by a Field Artillery unit in New Guinea.

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