



GLASS, REAL GLASS

CHEMISTRY

New Glass Bends Far Before Breaking

FLEXIBILITY far beyond that of ordinary glass is claimed for a new German safety glass produced by a manufacturing firm at Herzogenrath near Aachen. As a demonstration of its strength and capacity for bending, three full-grown men stand on a sheet about the size of an automobile windshield, which sags under their weight, and then comes back to normal flatness after they get off it.

The glass is a real glass, the manufacturers state; not an organic plastic or artificial resin. Neither is it a laminated or "sandwich" glass, insured against splintering by cementing a layer of plastic material between two sheets of ordinary glass. It is a solid sheet, like plate glass, except that when broken it does not shatter into sharp, daggerlike splinters. If it receives a blow sufficient to break it, it breaks into rounded "crumbs" which are far less dangerous to persons whom they may strike.

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In the hope of producing watermelons that will resist wilt, West Virginia experimenters have been crossing two high-flavored varieties susceptible to wilt with Russian watermelons that are not edible but resist the wilt.

PHYSICS

Use of Ultraviolet Light Spreading Rapidly in Industry

Well-Known Producer of Vitamin D Now Bleaches Clothes, Detects Forgeries, Dries Fruits and Tests Paints

THERE is no question about the value of ultraviolet light in producing the anti-rachitic vitamin D, but this application is gradually giving way in importance to other applications of the invisible light. New applications are being made with such rapidity that no one can hope to predict what product will be subjected to ultraviolet treatment next.

Like most new applications of science to industry it is being used to prey upon the credulity of the uninformed purchaser, and he has been persuaded to pay a premium for irradiated goods that are not improved and perhaps partially spoiled by the treatment. It is such practise that has given the ultraviolet treatment a black eye and has caused many people to shy away from it and not take advantage of the many real advantages that it possesses.

Ultraviolet light is now being used extensively to test the deterioration of substances exposed to sunlight. Since ultraviolet sources can be made much more intense than sunlight it is possible to test paints, varnishes, papers, dyes, rubbers, and glasses by very short exposures to this artificial sunlight. Other products that have been tested for spoiling on the exposure to light are gasolines, foods and tar products.

It is now definitely established that dairy cows properly treated with ultraviolet radiation produce milk rich in vitamin D. The radiation is absorbed through the thin skin on the under side of the cow. Agricultural experimental stations are growing crops in the winter in ultraviolet illuminated greenhouses. Seeds that would not otherwise germinate are changed so that a larger percentage will grow.

The use of artificial sunlight in the preparation of various kinds of food is gaining in popularity. Such short wavelengths as are in ultraviolet radiation will kill many kinds of bacteria particularly if they are applied in large doses. The dehydrating industry that dries fruits which keep without the addition

of preservatives have found that irradiation with artificial sunlight is a surer method than exposure to sunlight. Bread that has been treated after wrapping in a transparent paper will keep for at least ten days without molding. This is especially valuable with low carbohydrate breads such as are used by diabetics, for a central bakery can supply this special product to a wider region without spoilage.

Laundries have recently adapted the practise of bleaching by use of sunshine lamps. Many chemical processes that depend upon light are now substituting ultraviolet lamps for sunlight. Legal authorities have seized upon it as one of the surest methods of detecting forgeries and counterfeits. As many engineers have said, there is every reason to believe that the next few years will witness a many-fold increase in the application of radiant energy to the needs of the industrial world.

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ASTRONOMY

Meteors Shower Earth At Increased Rates

THE PERSEID meteor shower kept amateur astronomers throughout the United States and Canada particularly busy this year, it is shown by reports received by Dr. Charles P. Olivier, Director of the Flower Astronomical Observatory of the University of Pennsylvania.

The number of meteors seen from 133 stations located in 31 states and 5 Canadian provinces showed that the earth was in the midst of this meteoric cloud during the night of August 11-12, with a sharp falling off the next night. Meteors were seen at the average rate of more than 40 per hour which is greater than the usual annual average. Some stations reported as high as 82 meteors observed per hour.

Conditions for observations throughout the Eastern States were not favorable due to cloudy weather, but Central