

Do You Know?

Though *acacia gum* can be used for food it has but little nutritive value.

New U. S. *battleships* have 50 complete separate cooling systems.

Next to oxygen, *silicon* is the earth's most abundant element.

There are no unrationed *foods* in Japan.

Walnuts have been found around the Swiss lake dwellings of the Neolithic Age; date, 7000 B. C.

The outlook is good for seeds, fertilizers and insecticides for 1945 *Victory gardens*.

North America has over half the world's known supply of *bituminous coal*.

Very fine *garnet powders* are now being used in optical glass polishing because of the war shortage of corundum.

The Texas *nighthawk* is the most northern member of a tropical species that ranges widely through Central and South America.

Titanium and zirconium, best known for their alloys with steel, are also used to alloy with copper, producing a substance comparable with tin bronzes.

Phosphorus burns are treated successfully with a solution of 1% permanganate of potash and 3% bicarbonate of soda, it is reported.

Porcelain *enamel* can be called a glass-metal combination, that is, metal coated with glass for its protection and decoration.

Eggs, coated with a film of highly refined, colorless, paraffin-base oil, may be preserved for months at 31 degrees Fahrenheit.

The speed of *sound* is somewhat less at high altitudes than at the surface of the earth because of the lower temperature and lower air density.

Termites that feed on wood are able to do so because they have within them one-celled animals known as flagellates that live in their intestines and digest the wood for them.

From Page 267

storehouses of war equipment and for underground factories was suggested in 1935 by a German magazine, the report states. Before the war the foreign press frequently mentioned German construction of underground stores, oil dumps and hangars. The new structures were built by one organization and with a uniform plan. These were operated by forced labor from overrun countries and controlled by the Gestapo.

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CHEMISTRY

Tent Cloth Wears Longer, Has Greater Strength

► TENT CLOTH has been developed which, through the use of new synthetic resins, wears longer, has greater strength, and resists weathering and fungi better than prewar duck.

The compound in which the cloth is bathed makes it waterproof by sealing the relatively open weave. By acting as a binder and carrier for the flame-proofing and fungus-resisting agents, it protects the cloth against fire and deterioration.

A group of resins known as the paraplexes were used to coat the canvas, which remains flexible at sub-zero tem-

peratures. These resins, one of a group of tacky, adhesive resins made from unsaturated fatty acids and glycerol, are more rubbery and non-oxidizing than the oil-modified type.

A rosin-modified phenolic resin was used to carry the pigment. It possesses a high melting point, intrinsic hardness, and releases solvents rapidly, of particular importance to the manufacture of tent cloth.

In all, over ten different ingredients were used in carefully controlled quantities.

In the early stages of the war, mildew destroyed one-fifth of all fabrics shipped to the South Pacific. The wide range of weather and service conditions found in various theaters of war called for a material that would remain flexible at sub-zero weather, be completely water- and weather-proof, and retain color well. Already familiar with synthetic resins from their earlier experience in making book cloth and artificial leather, the L. E. Carpenter Company, with the cooperation of the Resinous Products and Chemical Company, devised a coating compound for tent cloth that would fill the bill.

By unrolling the fabric as it comes from the textile mills and stitching the end to another roll, a continuous coating operation has increased the output 40%.

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