

## ETHNOLOGY

**Find Indian Tribe Survivors Formerly Thought Extinct**

➤ TWO LIVING members of the Lassik, an Indian tribe thought extinct many years ago, have been found by Dr. A. L. Kroeber and Frank Essene, University of California anthropologists. They are both women, named Lucy Young and Mary Major, and they are living with Indians of other tribes on the Round Valley Reservation in Mendocino County. There is no doubt, however, Dr. Kroeber and Mr. Essene declared, that they are of the "vanished" Lassik tribe.

Lucy Young is about 90 years old, and is possibly the oldest Indian in the state. Certainly she is the only one left in Mendocino County who can tell of the ways of her people before they made contact with white men. Discovery of these two Indian women makes possible the recording of ancient tribal culture patterns long since given up for lost.

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## MILITARY SCIENCE

**Washington First To Urge Uniform for Concealment**

➤ GEORGE WASHINGTON "was probably the first general to give serious consideration to a uniform which would be inconspicuous to the point of concealment," states Col. John F. Rowan of the Army Quartermaster Corps (*Quartermaster Review*, July-August).

Washington took special notice of the comparative invisibility of one of the colonial units dressed in buckskin. It was not merely a matter of color, although the natural dun color of the skin garments, perhaps stained with use, did blend into the background far better than the blazing red of the Britishers' coats and the scarcely less conspicuous blue-and-buff of his own Continentals' uniforms. The loose coat, with fringes on its skirt and on the short shoulder-cape, blurred the outline and gave the garment a foliage-like sway when the wind blew.

A loose garment served another great soldier, Marechal Ney, to the probable saving of his life at the Battle of Waterloo. The Marechal wore a great, cloak-like, flowing coat; it was fairly riddled with bullet-holes, yet Ney was not injured. Col. Rowan suggests that its very looseness and floppiness made the distinguished soldier a deceptive target.

"Soldiers fire at fixed shapes, at silhouettes, at figures resembling men," the colonel points out. "Nearly always they look for definite, geometrical proportions. Their visual memory is trained accordingly. They do not see other objects distinctly."

Col. Rowan proposes that advantage be taken of this peculiarity of visual psychology by making soldiers in battle into floppy, loosely draped, vaguely outlined "things of shreds and patches." This naturally is a "horrific" idea to traditionally-minded military men for whom a soldier is not a soldier unless he is trimly and tightly uniformed.

To get around the difficulty, the colonel suggests that a light cotton "patched" pull-over be carried, to be donned before going into action.

Col. Rowan also recommends other breaks with old-time Army traditions. He would substitute rubber or leather cleats for hobnails, which he declares are uncomfortable, noisy and scratchy, besides tending to make the soldier's feet cold. He would give up the time-honored long woolen underwear for lighter, double-layered cotton garments. He thinks, too, that a multiple-layered fabric head-pad under helmet or hat would give the Western soldier some of the heat-insulation over his head that the Eastern warrior gets from his turban.

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## NUTRITION

**Rice Hulls Without Food Value Used for Testing**

➤ FOOD WITHOUT nourishment has recently been developed for use in animal experimentation. Like the chemist who makes certain his analytical solutions do not contain the substance he is testing for, the biologist will now have a bulk diet without nutritional value which can be used as a carrier for exact quantities of vitamins, minerals, or other food constituents with which he may be experimenting. The food without nutritional value is prepared from rice hulls, resulting in a fluffy meal consisting of various forms of cellulose, the inert stuff which makes up the solid part of plant structures. Agar, a substance obtained from sea weeds, was formerly used for this purpose but many workers report that it is not nutritionally inert. Furthermore, our main source of supply of agar has now been cut off by our war with Japan.

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**IN SCIENCE**

## INVENTION

**Air Raid Sirens May Bark To Compel More Attention**

➤ AIR RAID sirens that bark instead of howling may be next in the defense equipment of our cities. A Washington D. C., inventor, Harvey C. Hayes, points out in the description of patent 2,292,376 that it is not the length but the intensity of a sound that compels our attention. Accordingly, he plans his siren to be powered with an explosive mixture of gasoline or similar fuel, and to emit a succession of sudden, loud, short noises. The signals can be just the "bangs" of the explosions, or the expanding gases can be sent through a whistle to give brief, loud yelps, or (in his preferred form) they can cause brief, comparably loud blasts from a siren.

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## ASTRONOMY

**Streamlined Navigation Taught 100 in New Course**

➤ EXCELLENT progress made by a graduating class of 100 students in a new "streamlined" course in celestial navigation, conducted at Buhl Planetarium in Pittsburgh by Dr. Fitzhugh Marshall, shows that interested persons spending 15 hours in classroom and laboratory practice can acquire sufficient skill to become proficient at navigation. The course given is not abridged. Although it is modernized, nothing is left out.

Results of a thorough objective test, Dr. Marshall explains, show that interested persons can acquire enough knowledge of celestial navigation to be of immediate help in the war effort without having to spend two years passing prerequisite courses, such as mathematics, laboratory science.

All persons completing the course and passing the final examination received the Buhl Planetarium award certifying "proficiency in celestial co-ordinate system, star identification, use of the sextant, use of the air and nautical almanac, and the reduction of observations."

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# E FIELDS

## ENGINEERING

### Metals Are Strongest When Most Cracked Up

► METALS ARE strongest when most cracked up, strangely enough, and the strength can be calculated from the size of the pieces, it is announced in *Nature* by Sir Lawrence Bragg, Nobel prize winner. The pieces, however, are microscopic crystals within the metal which are broken during the hammering, forging and rolling of the metal. Down to a certain limit, the smaller the fragments, the stronger the metal. Once the fragment size has been determined by X-ray analysis, the strength can be calculated. This is the first time that a calculation of this sort has approached success. But agreement with actual tests are still not highly accurate and so far the method can be applied only to yield point of elementary metals.

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## PHYSICS

### Colors of Flag Standard; Length Twice the Breadth

► NO LONGER will the flags carried by our ships and soldiers or floating from our government buildings be of various hues and shapes. Rigid federal specifications have been drawn up to insure that all government and military flags shall henceforth be alike. Manufacturers are also applying the specifications to flags for civilian use, although that has not been required.

But it was not so easy as it sounds. The specifications are based on research dating back to 1923, carried out by the National Bureau of Standards in cooperation with the Commission on Fine Arts.

The Commission experimented by making paintings of the flag in various colors and proportions. They brightened up the red and lightened the blue, and made the length twice the width. At last a sample flag was made according to the approved shape and colors and hoisted on a pole at Arlington Cemetery where it was studied under all condi-

tions of lighting, wind and weather. It was enthusiastically accepted.

But then another difficulty arose. The colors were not fast. More research and more experiments. At last the present specifications emerged. The colors are not exactly those originally proposed, but they are close to them, and they are highly resistant to the effects of light and weather on cotton and wool bunting, and meet the needs of the Army and Navy all over the world.

Now the Government has a technical committee on color, established by the Federal Specifications Executive Committee, to handle color problems connected with all fabrics intended for military use, to see that the colors are right at the start and that they stay that way so far as is humanly possible.

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## AERONAUTICS

### Paddle Blade Propeller Increases Plane Power

► A WIDE STUMPY PROPELLER blade, nick-named the Paddle blade, has been developed for our airplanes, making it possible to increase the power without increasing the diameter of the propeller. The problem arose, writes Spencer Gregg (*Flying*) when 2,000-horsepower engines were to be used and plane design restricted the diameter to that usually employed for only 1,200 horsepower. The problem was solved by increasing the width of the blade and making it nearly the same throughout the whole length. This made the blade look like a paddle, whence its name. The new design is not pretty but experts believe it will help to make U. S. planes markedly superior to those of the Axis.

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## ZOOLOGY

### Turkeys Destroy Harmful Insects, Eat Much Grass

► WILD TURKEYS appear as great destroyers of harmful insects, in a study reported to the *Journal of Wildlife Management* by Paul D. Dalke, W. K. Clark, Jr., and L. J. Korschgen of the Missouri Cooperative Wildlife Unit, with headquarters at the University of Missouri. Turkeys in the Ozark region fed on grasshoppers, stinkbugs, beetles and ants to the extent of 25% of their diet. In the vegetable 75%, grasses, including grass seeds, and acorns were the principal elements.

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## ENGINEERING

### Moisture-Proof Wrapping May Replace Grease on Gun

► MOISTURE-PROOF wrappings may soon replace the usual heavy grease coatings to protect guns, ammunition, tanks, planes, and spare parts, from rust and dust during transportation or while awaiting assembly. Many valuable man hours can thus be saved which would otherwise be spent in removing the grease and cleaning the parts. Any World War I soldier who received a grease-coated rifle will appreciate this.

The tough new wrapping material is made by laminating a cellophane film to a light cotton scrim fabric, and impregnating with moisture-proofing materials. The wrapper was developed by the Dearborn Chemical Company of Chicago. The cellophane is made by the E. I. du Pont de Nemours and Company of Wilmington.

The finished machine parts may now be thoroughly cleaned at the factory and then wrapped. The ends of the package may be twisted together or may be sealed by a heat-sealing device. No other protection is needed, the manufacturers state, except a light coating of oil which in many cases need not be removed, or a lump of moisture-absorbing silica gel placed inside the package.

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## INVENTION

### Plastic Stock Replaces Wood in Small Firearms

► FORESEEING the rapidly approaching time when there will not be enough hardwood to make all the gunstocks needed for military and sporting small-arms, Marvin Carpenter and Frank T. Green of Chicopee Falls, Mass., have invented a rear stock assembly of plastic, with special arrangements to hold the butt plate firmly in place, yet providing the slight degree of resiliency inherent in solid wood.

The rear stock is hollow, and the butt plate is held in place by rods secured to a metal plate at the front end of it. This in turn is secured by a bolt, under the head of which there is a strong spring. It is this that introduces the necessary modicum of elasticity.

Rights in the patent, no. 2,292,351, are assigned to the Savage Arms Corporation.

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