SCIENCE NEWS

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TELEPHONE WIRE OVER THE GREAT SMOKY MOUNTAINS

AN airplane that looks like one used by commercial airlines succeeded in laying 16 miles of telephone wire over the rough, wooded slopes of the Great Smoky Mountains between Tennessee and North Carolina in 6⅔ minutes, a report from the Air Technical Service Command at Wright Field reveals. Flying low over elevations between 1,500 and 5,000 feet, the wire was laid for use by National Park Service rangers.

The wire-laying project was accomplished last October by a C-47 cargo plane with the aid of the ATSC and the Bell Telephone Laboratories. Rangers used the wire for communication between Gatlinburg, Tenn., and Smokemont, N. C., for five weeks before a sleet storm sheathing the wire with an inch of ice caused a break.

"This development by the equipment laboratory of the division and the Bell Telephone Laboratories represents an immense saving in time, labor, money and, what is more important, lives," declared Brigadier General F. O. Carroll, chief of the engineering division of the ATSC.

Setting up standard telephone poles for 16 miles over the mountainous terrain would have required many men and many days. Applying the method to military operations, a length of wire could be laid over an area open to enemy artillery fire, probably without the loss of a single life. It is common in this war to lose many lives establishing even short-distance field communications.

In operation, the present method of laying wire from the air uses eight wooden boxes, each containing two miles of wire. The wire is boxed and wound so that there will be no snarls, broken wire, fraying of insulation or other troubles. The wire in each box is spliced to the wire in the next box, so that the unit is actually one long line.

From the front end of the lead box extends a long metal tube, like the barrel of a big camera lens. To the lead end of the wire is attached a chain and a parachute, which are tossed from the plane's side door over the spot where the wire is to be laid.

Only four men, including pilot and co-pilot, are needed to handle the 16 miles of wire in each plane. There are no special attachments or modifications to the plane.

In 1942 the idea of laying wire by airplane was presented to the National Development Research Council, which, in collaboration with the Signal Corps, began a six-month project. Although moderately successful, the project lay dormant until last year.

ITEMS

A HUNDRED and thirty billion units of penicillin, or about 6,500,000 doses, are being supplied to the nation's drug stores, hospitals and drug supply houses. By April 1, 130,000,000,000 units will be available for civilian use by War Production Board allocation. (From 5,000 to 40,000 units are needed in each injection, depending on the illness.) This is more than three times as much as has ever been released for an entire month by WPB's civilian penicillin distribution unit in Chicago. For the month of April, the civilian allocation will be increased to 150,000,000,000 units. After that, monthly allocations are expected to be increased each month.

WARNING that great care should be taken in giving blood transfusions to women with Rh negative blood who have given birth even as much as 16 years earlier to Rh positive babies is given in a report by Dr. Lawrence E. Young and Dr. Donald H. Kariher, of Rochester, N. Y., in the *Journal* of the American Medical Association. Some physicians have believed that the antibodies built up in the mother's bloodstream by the Rh positive infant, which may cause a violent reaction to transfusion with Rh positive blood, will disappear in the course of three or four years. "Sensitivity to the Rh factor," these investigators report, "once it is acquired, may persist for many years, probably for life." It is recommended that nothing but Rh negative blood be transfused into Rh negative patients regardless of how long it is since they gave birth to an Rh positive baby or of previous history of transfusions.

JOHN O'HEARN, of the Big "O" ranch, reports that airmen stationed at the AAF Flexible Gunnery School at Laredo, Texas, have found that camouflage suits eliminate the need for blinds or concealed spots when duck hunting. Wearing a green and brown camouflage similar to those worn by commandos, marine and other fighters in invasions, gunners can sit on a river bank and fire away at ducks who even will sit down on the water a few feet away. Their camouflage suits cause the hunters to blend into the natural coloring of the spot they have picked. This does away with the blinds and effectively hides them from the eyes of a cautious duck. Camouflage suits can also be used to stalk deer, hunt coyote, rabbits and other wildlife. A hunter may have a camouflage suit to blend with every season's coloring and every type of terrain where he may wish to hunt.

HEAVY rolling of shoe sole leather, or compression by other means, produces an improvement in wear, it is found by recent tests made by the National Bureau of Standards, in which a regiment of soldiers in an officer candidate camp were used, together with some civilian workers in war industries. The tests showed also that differences in the wearing quality of twenty commercial tannages of vegetable sole leather were very small, with no significant difference in the wear of leather tanned from domestic and from cold-storage hides. They showed further that water-soluble materials and grease are lost from soles in service, the greatest loss being shown by water-soluble ash. The so-called "rubber" abrasive machines are of little use in predicting the wearing qualities of tannages. The wearing quality can be estimated, to a degree, by the water-soluble content, the firmness, and the degree of tannage.