



TRANSISTOR FOR AMPLIFICATION—This new ultra-high-frequency transistor can increase an original electrical impulse a thousand-fold when used as an amplifier. To date, frequencies as high as 440,000,000 cycles per second have been generated, about four times that of any comparable transistor. Scientists at Bell Telephone Laboratories foresee use of the device in the family TV set and portable radio sets.

ELECTRONICS

Electronic Golf Device

► PRESIDENT EISENHOWER is using an electronic device especially designed for him by a California scientist to practice his golf, SCIENCE SERVICE has learned.

It is probably the reason why the President's golf scores are no longer mentioned only in whispers as they were until recently, but are now sometimes revealed by friends who have played with him.

Exactly how the machine works has not been detailed. It does have flashing lights, but they show only that the device is operating properly. It does not have red and green flashing lights to tell about the President's stroke, as some versions of the 19th hole telling indicate.

The electronic gadget does, however, inform the President exactly what was wrong with a practice stroke, or that his swing that time was perfect.

The machine also tells the President how far the ball would have gone. It does this by timing the speed of the club head at the moment of impact. Since this speed determines the distance the ball would have gone, the length of the drive can be calculated.

As all golfers know, a sweet swing gives a drive straight down the fairway. By watching electronically as President Eisenhower swings at a golf ball, the machine can tell Ike whether the ball would have

hooked or sliced, whether his shoulders were in the proper position, whether his left arm remained straight throughout the swing, whether he would have hit the ball in the center of the club's face, or would have made one of the many slips that can land a ball in the rough.

When Dr. Luis Alvarez, a physics professor at the University of California at Berkeley and himself a golfer, learned that President Eisenhower played golf, he devised the electronic gadget and presented it to the President.

It is the only gadget of its kind in existence, but demand by other golfers for a like machine is expected to be heavy. It is understood that patent attorneys are preparing to file patent applications on the device. Its use by the President has been a carefully guarded secret. Dr. Alvarez has declined to reveal any details concerning how the device works.

Building a similar machine to help tennis enthusiasts improve their strokes would probably require an electronic computer to do the necessary calculations, since a tennis ball is in constant motion.

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When relieved of insects, cattle on the average are 50 pounds heavier and have 15% to 20% greater milk yields.

MEDICINE

Blood Pressure Cuff Detects Phlebitis Early

► PHLEBITIS, FORERUNNER of an often fatal clot on the lung, can be detected early by a simple test announced by Dr. Robert I. Lowenberg of New Haven, Conn., in the *Journal of the American Medical Association* (Aug. 28).

The test is made with the instrument doctors use to take blood pressure. The pneumatic cuff of this instrument is wrapped around the calf or thigh, instead of the arm, and is slowly distended. If the patient has phlebitis, he will "complain bitterly of pain" when the instrument registers between 60 and 150 mm of mercury.

Normally, patients do not register discomfort below 180 over the thigh or calf, and most can stand 250 on the arm without complaint.

Patients continue to die of pulmonary embolism, the sudden blocking of a lung artery popularly called clot on the lung, in spite of various modern medicines, getting patients out of bed soon after operations and childbirth, and habitual close watch by doctors and interns, Dr. Lowenberg points out.

In a high percentage of the fatal cases, the phlebitis, or vein inflammation, and the clot in a vein were not suspected. The new test, he says, will show up the trouble in such cases and doctors can then take steps to prevent a fatal outcome.

False positive tests may occur at times, but in some 350 patients, Dr. Lowenberg has not had any false negative tests. No patient who had a negative test developed thrombophlebitis or pulmonary embolism.

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PLANT PATHOLOGY

Plant Ills Conquered Reported at Meeting

► PLANT DISEASE fighters heard about these advances at the American Phytopathological Society meeting in Estes Park, Colo.

Sunburn is a necessary prelude to California's Persian walnut trees being infected by branch wilt disease, Noel E. Sommer of the University of California reported.

Golden Cross Bantam sweet corn in Idaho has a new disease, a mosaic virus that probably lurks in the green foxtail plant, A. W. Finley of the Idaho Agricultural Experiment Station announced.

Cracks in oak tree bark caused by growth of oak wilt fungus allow insects to enter and spread this devastating disease, B. Esther Struckmeyer, J. E. Kuntz and A. J. Riker of the University of Wisconsin have discovered.

Keeping qualities of grapes in cold storage can be predicted by testing small samples for decay, after fumigation, under ideal conditions, John M. Harvey of the U.S. Department of Agriculture station at Fresno, Calif., reported.

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