neering Laboratories at Fort Monmouth, N.J., and by Continental Electronics, Inc., of Dallas, Tex. The new equipment is almost 50 times more effective than the loudest commercial broadcasting station.

It owes its great power to single sideband design. This is an electronic technique that concentrates the power of a transmitter's signal. Conventional transmitters broadcast three separate signals —a carrier wave and two duplicate sidebands. Single sideband circuits filter out the carrier wave and one sideband, thus funneling all of the power into the remaining sideband. This provides 8 times the strength of conventional transmitters with the same power supply. With ordinary design the World Spanner would have a power of 300,000 watts; with the new single sideband refinements and a new beam antenna now under development, effective power will reach 24 million watts.

Changing channels on a high-power station is usually a major job, but the new transmitter will be almost as easy to tune as a push-button radio. An operator can go on the air at any one of ten previously set frequencies by turning a single switch. The new facility can easily send 64 teletypewriter messages or four separate voices at the same time. It also can transmit at any frequency in the short-wave spectrum from 4 to 30 megacycles, and a second version will cover the range from 20 to 65 megacycles.

Compact design makes the unit smaller than transmitters with far less power; it can be housed in a 50-foot square room. Development of the transmitter was directed by Ralph O. Johnson of the U.S. Army Signal Engineering Laboratories Radio Division.

Proposed Legislation

Of the many bills introduced in Congress, some have a special relevance to science and education. A list of such bills introduced recently follows:

S 1242. Amend National Science Foundation Act to authorize award of scholarships and graduate fellowships to individuals who are not citizens of United States. Jackson (D Wash.) Senate Labor and Public Welfare.

S 1157. Authorize and request President to undertake to mobilize in U.S. an adequate number of world's outstanding experts; coordinate and utilize their services in a supreme endeavor to discover means of curing and preventing cancer. Neely (D W. Va.) Senate Labor and Public Welfare.

HR 4646. Provide for additional research and technical assistance on public health problems created by mosquitoes and other blood-sucking arthropods. Dixon (R Utah) House Interstate and Foreign Commerce.

HR 4820. Provide for research, study and prevention and treatment of effects of atomic and nuclear radiation on human health, development, and living conditions. Porter (D Ore.) House Interstate and Foreign Commerce.

HR 4752. Amend titles I, IV, X, and XIV of Social Security Act to further assist states in extending aid for medical care to persons eligible for public assistance under such titles. Burns (D Hawaii) House Ways and Means.

HR 4638. Provide a defense cloud-modification program. Berry (R S.D.) House Armed Services.

S 1176. Establish on public lands of U.S. a National Wilderness Preservation System and a National Wilderness Preservation Council. Humphrey (D Minn.), *et al.* Senate Interior and Insular Affairs.

HR 4819. Establish a National Outdoor Recreation Resources Review Commission to study the outdoor recreation resources of public lands and other land and water areas of U.S. Pfost (D Idaho) House Interior and Insular Affairs.

S 1262. Amend Federal Water Pollution Control Act to remove $250,000 limitation on construction grants under such act. Allott (R Colo.) Senate Public Works.

Scientists in the News

PAUL C. AEBERSOLD, who has been director of the Atomic Energy Commission's Isotopes Extension at Oak Ridge, Tenn., has been transferred to the commission's Washington headquarters as assistant director for isotopes and radiation, Division of Civilian Application. E. E. FOWLER, deputy director of the Isotopes Extension before his transfer to Washington last year, becomes deputy assistant director. The isotopes Extension was made part of the Division of Civilian Application in January 1956, when administrative responsibility for the isotopes distribution program was transferred to the division from the Oak Ridge Operations Office.

CLIFFORD GROBESTEIN, biologist at the National Cancer Institute, Bethesda, Md., has been appointed professor of biology at Stanford University. He is a specialist in developmental physiology and tissue culture.

ROGER ADAMS, past president of the AAAS and head of the chemistry department at the University of Illinois from 1926 to 1954, will be awarded an honorary degree of doctor of science by the university at its June commencement. Adams, who asked in 1954 to be relieved of administrative duties in the chemistry department to devote full time to research, will retire this fall. He has been a member of the Illinois faculty since 1916.

GAIL M. DACK, director of the Food Research Institute and professor of bacteriology at the University of Chicago, has won the 1957 Pasteur award, which is presented annually by the Society of Illinois Bacteriologists, Inc., to an outstanding bacteriologist in the Midwest.

DESMOND D. BONNYCASTLE, formerly professor of pharmacology at Yale University, is professor and director of the department of pharmacology at Seton Hall College of Medicine and Dentistry.

Another appointment at Seton Hall is that of HUGH G. GRADY as professor and director of pathology, effective 1 June. He is at present scientific director, American Registry of Pathology, Armed Forces Institute of Pathology, Washington, D.C., and professor of pathology (part time) at Howard University Medical School.

EDWARD P. ABRAHAM of Oxford University, Oxford, England, presented the recent CIBA lectures in microbial biochemistry at the Institute of Microbiology at Rutgers University. At present senior research officer at the Sir William Dunn School of Pathology, Oxford, Abraham is known for his contributions to the chemistry of antibiotic substances, especially for his early work on the chemical structure of penicillin and his more recent studies of the chemical composition of peptide and steroid antibiotics, including those of the bacitracin and cephalosporin types.

Distinguished Civilian Service awards, the highest civilian honor in the Department of Defense, have been presented by the Secretary of Defense to six employees. Recipients included WERNHER VON BRAUN and OTTO WALCHNER, German scientists who came to the United States after World War II. Von Braun is director, Development Operations Division of the Army Ballistic Missile Agency, Huntsville, Ala.; Walchner is a physicist with the Air Force's Air Research and Development Command, Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio.

The other recipients were ROBERT E. MIEDEL, deputy director of procurement, Headquarters, Air Research and Development Command, Baltimore, Md.; HARRY KRUTTER, chief scientist, Naval Air Development Center, Johnsonville, Pa.; MAURICE R. HILLEMAN, supervisory bacteriologist, Communicable Diseases Division, Army