AZTEC EAGLE AWARD—At the Mexican embassy in Washington, D. C., Mexico's highest award for civilians was presented to Dr. Alberto Sevilla Sacasa (left), secretary of the Nicaraguan Embassy and Dr. Harlow Shapley (right), director of Harvard College Observatory and vice president of Science Service. The Mexican ambassador, Sr. Dr. Don Francisco Castillo Najera, presented the awards in the name of his Government. The honor to Dr. Sevilla was for his contribution to cultural relations between his country and Mexico; that to Dr. Shapley was in recognition of "su inapreciable colaboracion en nuestro adelanto cientifico" (his invaluable cooperation in our scientific progress) and for his part in developing the scientific interests and activities of Mexican youth. The photograph is by Fremont Davis, Science Service staff photographer.

CHEMISTRY

Steady Light Source

➤ A NEW MODULATING light, a high-pressure mercury vapor lamp with associated controls that permits the operator automatically to adjust the light intensity to various levels for the printing of motion picture film sound tracks, has been developed by the Hanovia Chemical and Manufacturing Company, Newark, N. J. The new lamp is reported to provide a perfectly steady light source for printing sound track on the film.

The new device is designed to replace the incandescent lamps, now in use, which are less efficient, and which frequently produce a hissing sound on the film track.

The new mercury arc vapor lamp, operating at 85 watts input, was designed by Lester F. Bird of the Hanovia research laboratories. It has a specially designed heater coil which permits a wide intensity of range of from 1 to 10. The heater coil prevents the vapor pressure from falling off while the lamp is being operated on low intensity. It is possible, with this arrangement, to change from low to high intensity and vice versa without any time delay.

Since the intensity of the light must change with the density of the film for accurate, clear sound printing that will reproduce well, special electronic tubes and a photoelectric cell automatically control the intensity of the light.

Science News Letter, August 5, 1944

ENGINEERING

Sub Production Speeded By Simple Mill Operation

➤ A NEW METHOD for making strong, corrosion-resistant stainless alloy steel tubes has cut the production time about 15%. Production of the tubes, used for making submarine antenna masts, formerly caused serious bottlenecks in the overall output of U. S. Navy submarines.

A simple and ingenious mill operation introduced into the Babcock and Wilcox Tube Company's specialty tube plant makes possible the saving in production time. Company officials declined to reveal additional details of the exact process.

The antenna tubing is the largest individual piece of stainless steel tubing that has been manufactured in production quantities. The unfinished tube from which the antenna masts are made is 40 feet long, six inches in diameter, has a .600-inch thick wall, and weighs more than 1,450 pounds. It costs $1,500.

The finished antenna mast must be machined to within .002 inch and polished to a very high finish.

In order to insure that the tube will remain straight while being shipped, a special heavy wooden box was designed, with saddle-straps and cradles to keep the tube from jarring. The cost of this shipping box alone is $300. The boxes are returned to the plant for re-use.

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