

15¢

\$5.50 A YEAR

November 3, 1956

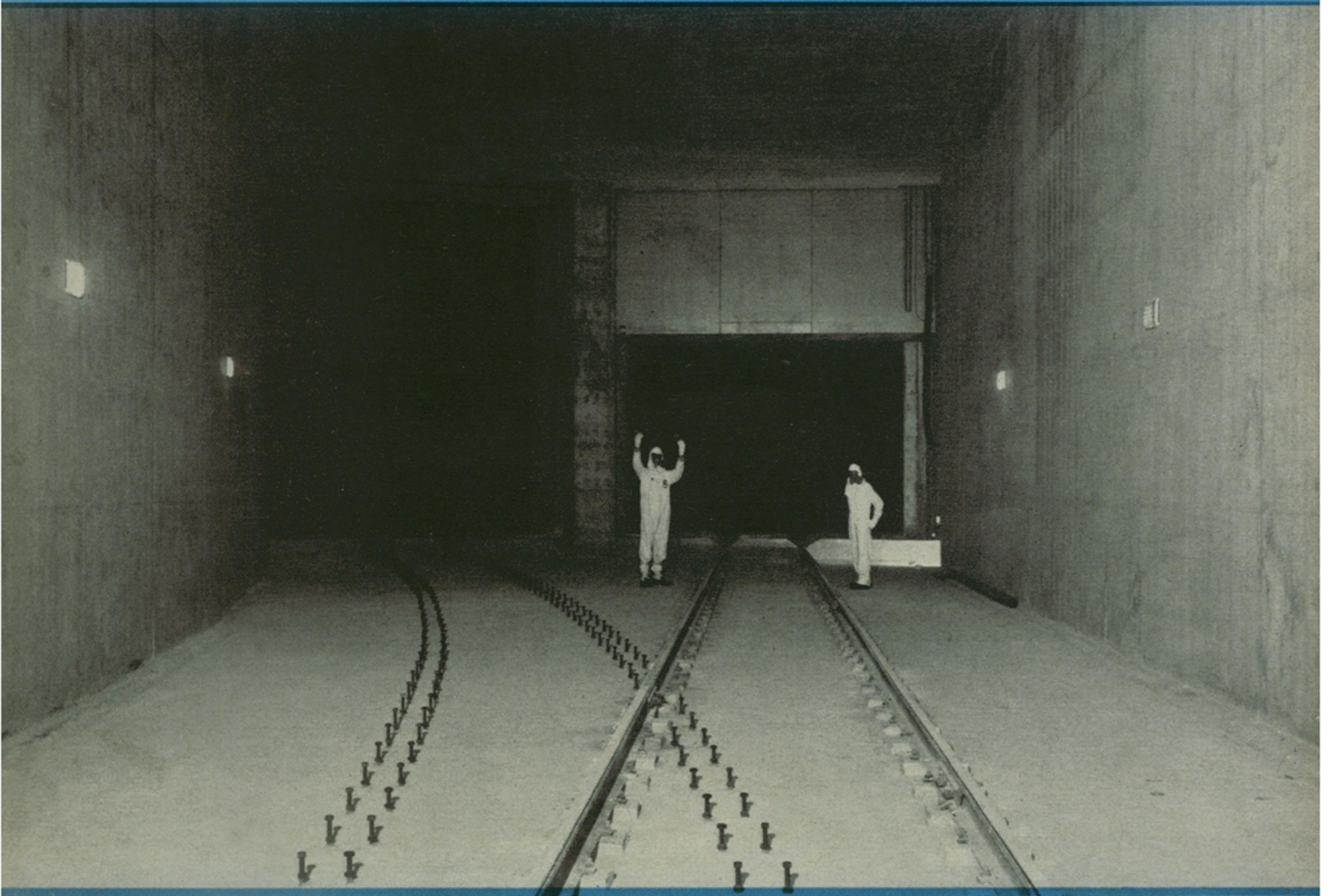
VOL. 70, NO. 18

PAGES 273-288

# SCIENCE NEWS LETTER

®

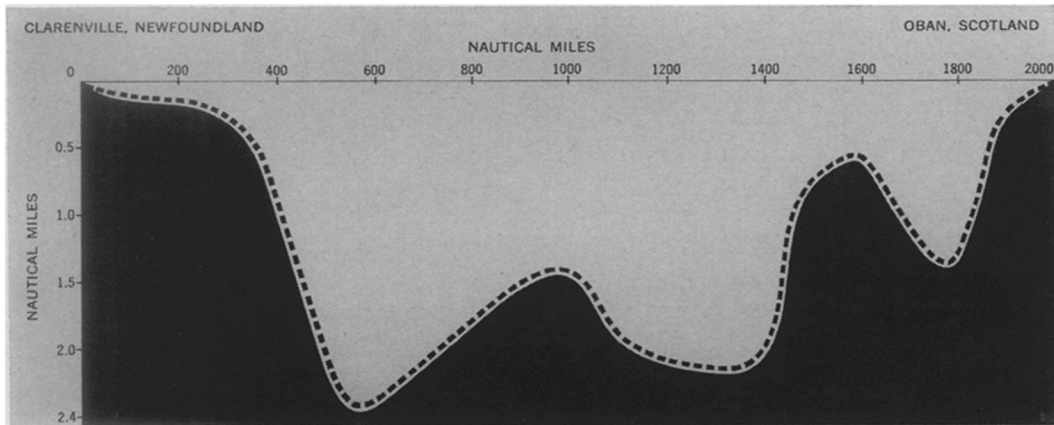
THE WEEKLY SUMMARY OF CURRENT SCIENCE



Atomic Vault

See Page 279

A SCIENCE SERVICE PUBLICATION



Contour of ocean bed where cable swiftly and clearly carries 36 conversations simultaneously. This is deep-sea part of system — a joint enterprise of the American Telephone and Telegraph Company, British Post Office and Canadian Overseas Telecommunications Corporation.

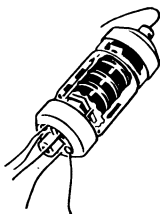
A great new telephone cable now links North America and Europe—the first trans-oceanic cable to carry voices.

To make possible this historic forward step in world communications, Bell Laboratories scientists and engineers had to solve formidable new problems never encountered with previous cables, which carry telegraph signals.

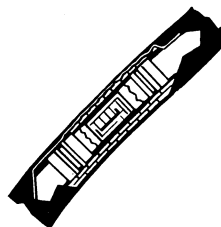
To transmit voices clearly demanded a much

wider frequency band and efficient ways of overcoming huge attenuation losses over its more than 2000-mile span. The complex electronic apparatus must withstand the tremendous pressures and stresses encountered on the ocean floor, far beyond adjustment or servicing for years to come.

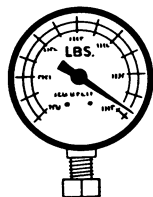
Here are a few of the key developments that made this unique achievement possible:



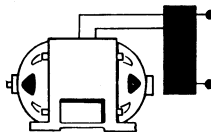
More than 300 electron tubes of unrivaled endurance operate continuously, energized by current sent from land.



Precisely designed equalizing networks and amplifiers compensate for the loss in the cable every 40 miles and produce a communication highway 144 kc. wide.



A unique triple watertight seal protects the amplifiers from pressures as high as 6500 pounds per square inch.



Power supplies of exceptional reliability send precisely regulated current along the same coaxial that carries your voice to energize the amplifying units.



**BELL TELEPHONE LABORATORIES**

*World center of communications research and development*