

New Substance "Permivar" Used in New Talking Cable

First Submarine Talking Cable Expected to be Laid in 1931 After Tests of Short Lines

By HOWARD W. BLAKESLEE
Science Editor
(Associated Press Feature Service)

NEW YORK. — (AP) — The probable date for laying the first trans-Atlantic submarine talking cable is announced as the summer of 1931 by the Long Lines department of the American Telephone and Telegraph company.

Disclosed also for the first time are details of some obstacles, now overcome, which for half a century blocked linking the old and new worlds by copper talking wire. The cable will extend 1,800 miles from Newfoundland to Ireland.

Carrying spoken words on a wire beneath the North Atlantic is paralleled scientifically, except for speed, to the feat of throwing a stone the size of a house into the water at Newfoundland and recognizing its ripples when they reach the Irish coast.

The cable will deliver to Ireland voice sound waves in the form of electrical impulses that are reduced to the incomprehensibly small figure of one millionth of a billionth part of the power with which they leave Newfoundland.

And that starting power is an amplification not many times greater than the natural voice.

Strangely enough, the big obstacle to talking has not been the minuteness of power reaching the opposite shore. The trouble lay in another resemblance of electrical impulses to water waves. This was the tendency of the impulses to flatten out, lose their shapes and run together in a blur after traveling great distances. It then amplified they would produce only a humming sound.

Telegraph cables escaped this difficulty because the clicks of instruments are a thousand times

more simple sounds than the cadences making speech. Now a substance has been discovered that preserves the original shape of the voice-electric waves even down to the "millionth of a billionth" fraction.

This substance is permivar, named from a combination of the words "permanent" and "invariable," an alloy of nickel, iron, cobalt and a little molybdenum. In the form of tape it is wrapped around the corner cable, and in that position gives permanency and invariability to the contours of the electrical impulses.

The origin of permivar goes back to an incident in 1913. That year G. W. Elmen, of the Bell Telephone Laboratories research department, was looking for better magnetic materials. He tried a commercial alloy of nickel and iron and found it not even as good as iron.

One day he heated this alloy and cooled it, but nothing much happened. Then he tried cooling it rapidly, and a new era in telephone transmission was opened.

For the mediocre alloy suddenly had become better magnetically than iron. In the years since Elmen has developed it into the "permalloys" which speeded up telephony, and which have been credited with solving the trans-Atlantic talking. But permivar now is disclosed as the magic wrapper, the baby of the magnetic flock, Elmen's latest creation, barely a year old.

Theodore G. Miller, general manager of Long Lines department, says that two experimental cables, each about 20 miles long, will be tested this year on the Irish coast. They will be insulated with a new material, paraffin, a combination of gutta percha and rubber substances.

Current Radio Programs From Portland

SUNDAY PROGRAMS

KGW

SUNDAY, SEPTEMBER 22
10 to 11 a. m.—International Bible students.
11 to 12:30 p. m.—Church service.
1:30 to 2:30 p. m.—Organ recital.
2:30 to 3 p. m.—Whittall Anglo Persians (NBC).
3:15 to 5:15 p. m.—Sunday concert (NBC).
4:15 to 4:30 p. m.—Studio.
4:30 to 5 p. m.—Catholic Truth society.
5 to 5:15 p. m.—Dr. Foynt's science lecture.
5:15 to 5:45 p. m.—Atwater Kent hour (NBC).
5:45 to 6 p. m.—Baby Book Club.
6 to 6:15 p. m.—"Book Chat."
6:15 to 6:45 p. m.—Studebaker Trans. Program (NBC).
6:45 to 7:45 p. m.—Negro quartet.
7:45 to 8 p. m.—Enna Jettick melodies (NBC).
8 p. m.—Organ recital.
8 to 8:30 p. m.—Bakers Enna Jettick.
8:30 to 9:30 p. m.—Rollecker.
9:30 to 10 p. m.—"Montag Symphony Hour."
10 to 11 p. m.—Little Firenze orchestra.

KPO

440.5 Meters; 680 Kcs. San Francisco
9 to 9:45 a. m.—Sabbath hour, with Theodore Strong, organist, and the Clarion Four.
9:45 to 10:45 a. m.—Interdenominational East Nonsectarian Church orchestra, Dr. W. T. Sherman, Temple M. E. Church.
10:45 a. m.—Bank of America of Calif.
11 to 1:30 p. m.—Nation's Sunday Forum, NBC.
1:30 to 2:30 p. m.—Afternoon concert, NBC.
2:30 to 3 p. m.—Whittall Anglo Persians, NBC.
3 to 3:15 p. m.—Afternoon concert, NBC.
3:15 to 5:15 p. m.—KPO Saloa Orchestra.
5:15 to 5:45 p. m.—Atwater Kent program, NBC.
5:45 to 6:15 p. m.—Bible Drama, NBC.
6:15 to 6:45 p. m.—Studebaker program, NBC.
6:45 to 7 p. m.—Talk by Elmer Robinson, "What's New in Science and Invention."
7 to 7:45 p. m.—Evening musicals, by Elmer Robinson, with Allan Wilson, tenor.
7:45 to 8 p. m.—Enna Jettick Melodies, NBC.
8 to 8:30 p. m.—North American Building Loan Association.
8:30 to 9 p. m.—Rudy Seiger and his Fairmont Hotel Concert Orchestra, Dr. F. C. Gunning.
9 to 10 p. m.—"A-Bus String Quartet, with Iona Pastori Rix, soprano.
10 to 10:15 p. m.—Narrator organ recital, featuring Theodore Strong.

KHQ

508.2 Meters; 690 Kcs. Spokane, Wash.
9:30 to 10 a. m.—Uncle Billy reads the Bible.
10 to 11 a. m.—Children's Bible class.
11 to 12 noon.—Central Methodist Episcopal Church.
12 to 1:30 p. m.—National Sunday Forum, NBC.
1:30 to 2:30 p. m.—Afternoon concert, NBC.
2:30 to 3 p. m.—Whittall Anglo-Persians, NBC.
3 to 3:15 p. m.—Afternoon concert, NBC.
3:15 to 5:15 p. m.—Triodion string ensemble, NBC.
5:15 to 5:45 p. m.—Atwater Kent, NBC.
5:45 to 6:15 p. m.—Bible drama, NBC.
6:15 to 6:45 p. m.—Studebaker Champagne, NBC.
6:45 to 7:45 p. m.—The Angles Hour.
7:45 to 8 p. m.—Enna Jettick Melodies, NBC.
8 to 9 p. m.—City Service Little Symphonic.
9 to 9 p. m.—All Saints' Cathedral, org.

KGO

379.5 Meters; 790 Kcs. Oakland, Calif.
10:30 to 12:15 p. m.—First Presbyterian Church service, Oakland, Rev. Frank M. Sibley, D.D., pastor.
12:15 to 1:30 p. m.—National Sunday Forum, NBC.
1:30 to 2:30 p. m.—Sunday afternoon concert, NBC.
2:30 to 3 p. m.—Whittall Anglo Persians, NBC.
3 to 4 p. m.—Sunday afternoon concert, NBC.
4 to 4:30 p. m.—Grace LaPallo, soprano; Annabelle Jones Rose, contralto; Carrie Jones Teel, piano.
4:30 to 5:15 p. m.—"What's Happening in the World," John D. Barry.
5:15 to 5:45 p. m.—Atwater Kent program, NBC.
5:45 to 6:15 p. m.—Hudson Bay Fur program.
6 to 6:45 p. m.—Studebaker Champagne, NBC.
6:45 to 7:45 p. m.—Stanislas Ben's Little Symphony.
7:45 to 8 p. m.—Enna Jettick Melodies, NBC.
8 to 9 p. m.—First Presbyterian Church service, Oakland, Rev. Frank M. Sibley, D.D., pastor.
9 to 9:30 p. m.—"The Reader's Guide," Joseph Henry Jackson.

KFI

468.5 Meters; 640 Kcs. Los Angeles
10 a. m.—L. A. Church Federation program.
2 p. m.—Musical program, NBC.
2:30 p. m.—Whittall Anglo Persians, NBC.
3 p. m.—Musical program, NBC.
4 to 4:30 p. m.—Lella Carlberg, "Advanced Thought."
5 p. m.—Genevieve Behrend, "Science of Life."
5:15 p. m.—Atwater Kent program, NBC.
6:15 p. m.—Studebaker Champagne, NBC.
6:45 p. m.—Fred Paul Lamotte, Cantor of High Holiday Service Week.
7:45 p. m.—Enna Jettick Melodies, NBC.
8 p. m.—Concert orchestra, Pryor Moore, director.
9 p. m.—KFI organ ensemble and Zbay Clark, harpist.
10 p. m.—Wally Parrin's dance orchestra; Jean Duane, soloist.

Lincoln

LINCOLN, September 21—Arthur Durham had the misfortune of losing a valuable cow last week and came very near losing a second one by eating some kind of poison.

Many of the men, boys and girls who have been away working in hop yards and berry fields, are returning home.

A. Durham, who was drying hops in the Williams-hop yard, finished his work the first of the week.

THE 1930 CROSLBY RADIO being shown at Radio Headquarters 175 So. High St. Phone 1161

Sixth Annual Radio Show Opens Monday in New York

Cabinet Makers Vie In Producing Attractive Radio Receiving Cabinets

By C. E. BUTTERFIELD
Radio Editor
Associated Press Feature Service

NEW YORK. — (AP) — Dressed in the latest furniture modes, screen grid radio is all prepared for its public debut on mass.

At the sixth annual radio world's fair in New York beginning September 23 and at the eighth annual Chicago show the week of October 21, broadcast radio will take time off to show itself in all its ramifications.

The year's developments center around the AC screen grid tube, most models displaying various combinations designed to make this valve operate better than other types of radio frequency amplifiers.

From an artistic standpoint, the furniture designer seems to have done his utmost to attract the eye. Highboys, lowboys and combinations of the two ideas are incorporated in nearly every model.

Few table sets are to be seen, as the concentration has been on the console with the loudspeaker placed in the same cabinet either above or below the tubes.

One model's radical departure from set design, has the tuning control in one end with the dial window on top. Another line uses the new electrostatic or condenser speaker to advantage. Otherwise the dynamic speaker predominates, with an improved quality noticeable.

Efforts at getting away from the conventional tuning methods have brought the introduction of

remote control, "slide rule" tuning and an increase in the number of types of automatic and semi-automatic operation of the dial. As a rule most receivers contain three knobs, volume, tuning and a disguised switch.

Leading the displays at the New York show is to be a demonstration of television, under auspices of RCA, in which a series of television acts are to be presented. The equipment will give the on-looker an indication of what engineers have done within the last year in producing better television.

Another feature is to be a radio play of various types of equipment from the earliest days of the art. Included will be a Tesla coil, capable of generating 2,000,000 volts of small amperage, to demonstrate transmission of radio power. The coil will light a lamp some distance away.

Besides the quest for the most beautiful radio artist, an award is to be made for the oldest receiver displayed. The winner of the artist beauty contest is to be guest of the show, and will receive various awards. The most elaborate entry blank was that of Irma Glenn from WENR, Chicago. It included seven photographs of the singer enclosed in a leather folder.

Broadcasts are to be made from the show over the NEC and CBS chains daily.

A similar entertainment plan is being arranged for the Chicago show.

MONDAY PROGRAMS

KGW

7:45 to 8 a. m.—Devotional services.
8 to 9 a. m.—Shell Happy Time (NBC).
9 to 9:10 a. m.—News.
9:10 to 9:30 a. m.—Oregonian Cooking school.
9:30 to 10:30 a. m.—The Town Crier.
10:30 to 11:30 a. m.—"Women's Magazine of the Air" (NBC).
11:30 to 1 p. m.—Records.
1 to 1:15 p. m.—U. S. market reports.
1:15 to 2 p. m.—Organ.
2 to 3 p. m.—Thomas A. Edison industries (NBC).
3 to 4 p. m.—General Motors family party (NBC).
4 to 5 p. m.—"Rendezvous"—7:11 (NBC).
5 to 5:30 p. m.—Floyd Gibbons—Headline Hunter (NBC).
5:30 to 6 p. m.—Davidson Bakera, NBC.
6 to 6:15 p. m.—Studio.
6:15 to 7 p. m.—Rudy Seiger's Shell Symphonists (NBC).
7 to 7:30 p. m.—Longway watch time signals.
7:30 to 8 p. m.—Firestone program (NBC).
8 to 9 p. m.—Bremer-Tully program.
9 to 10 p. m.—Ben Sellings' boys and collegiates.
10 to 11 p. m.—Organ recital.
11 to 12 p. m.—Organ recital.

KPO

440.5 Meters; 680 Kcs. San Francisco
7 to 7:30 p. m.—Herald Exercises by Hugh Barrett Dobbs, assisted by Wm. H. Hancock.
7:30 to 8 p. m.—Shell Happy Time, by Hugh Barrett Dobbs and Wm. H. Hancock.
8 to 8:30 p. m.—Dobbs' Daily Chat.
8:30 to 9 p. m.—Hospital hints to housewives.
9:30 to 10:30 a. m.—"Women's Magazine of the Air" (NBC).
10:30 to 11:45 a. m.—Art Talk, by Helen Gordon Barker.
11:45 to 12:45 p. m.—Scripture reading; weather reports and announcements.
12:45 to 1 p. m.—Aeolian Trio.
1 to 1:30 p. m.—Ferry Jerome.
1:30 to 2 p. m.—"Ann Warner's" Home 9 Chats.
2 to 2:30 p. m.—Mormon Tabernacle Choir, NBC.
2:30 to 3:15 p. m.—The Aeolian Trio.
3:15 to 3:30 p. m.—Stock market quotations, missing people, etc.
3:30 to 3:45 p. m.—Department of Com-

KHQ

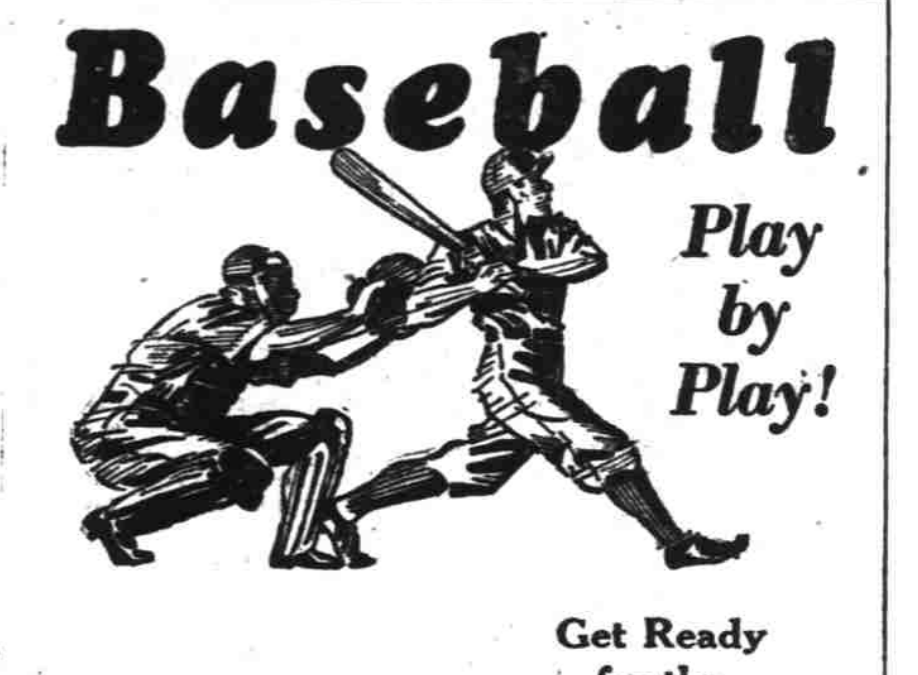
508.2 Meters; 690 Kcs. Spokane, Wash.
7 to 7:30 a. m.—Sunrise Pop Period.
7:30 to 8 a. m.—Model Musical Clock.
8 to 9 a. m.—Shell Happy Time.
9 to 10 a. m.—Home Economics.
10 to 10:30 a. m.—Sunshine Liberty Orchestra.
10:30 to 11 a. m.—"Woman's Magazine of the Air" (NBC).
11:30 to 12 noon.—Farmers' Service Hour.

RADIO BROADCAST FOR FALL GAMES

Announcement has just been made by the Associated Oil company that they have effected arrangements with the leading radio stations on the Pacific coast to present a program of football broadcasts unparalleled in the history of the sport.

In speaking of this intensive tie-up, Harold R. Deal, advertising manager of Associated Oil company, stated that his company was appreciative of the great interest in football and realized that many folks who would prefer attending the games in person were prohibited from personal attendance and consequently were dependent upon the radio to get the play by play reports of these contests. "It is not our desire," said Mr.

Deal, "to recommend radio as a substitute for actual attendance as nothing takes the place of a seat in the stands during the playing of a collegiate football game. We are endeavoring through our advertising to acquaint people with the thrills and color of football and encourage them to attend the games in person whenever possible. To those who must stay at home we afford the opportunity of hearing a play by play report by radio, described by the outstanding announcers on the Pacific coast who have been secured for the Associated Oil company's broadcasts." A great season of football games is predicted by football experts on the coast and in addition to those played between the western teams there is a greater number of inter-sectional games between eastern and western teams scheduled for this year.



Get Ready for the World Series
ATWATER KENT RADIO
Screen-Grid

THERE are many features on the air right now—with the greatest sport broadcasts coming soon. Why miss them when you can own this new wonder set for so very little—and on such convenient terms?
Come today!
See Us at the Fair New Pavilion
GET A SQUARE DEAL AT
The SQUARE DEAL HARDWARE CO.
220 N. Com'l St. Phone 1650



ATWATER KENT RADIO

SCREEN-GRID

WITH POWER DETECTION of course.
Positively the greatest set ever built by the world's leading radio manufacturer.
You must see and hear it. UNEQUALED TONE. REMARKABLE PERFORMANCE. YET REASONABLY PRICED.
Note well: if you don't buy a SCREEN-GRID type radio you are not getting the latest and greatest development in radio. Ask any competent authority.

See our Display at the State Fair
COMPLETE Convenient Terms
C.S. Hamilton FURNITURE CO.
340 Court St.

Selectivity PLUS!

MODEL 60
ATWATER KENT RADIO
Screen-Grid
DISTANCE without interference? Surely! You can tune out the locals with this new super-set—the Screen-Grid 60. That's selectivity plus! For tone and power and simplicity it's a wonder, too. Use it with an indoor antenna, if you like.

A demonstration here will show you all the other remarkable qualities that have made this the finest of all Atwater Kent sets. Let us demonstrate today!

COMPLETE Convenient Terms

EOFF ELECTRIC INC.
337 Court St. Phone 488

RADIO SERVICE

Let us serve you the next time you have "grief" with your Radio.

Our work is guaranteed, our replacement parts and tubes are standard.

RICHLou RADIO SERVICE
L. K. Ballinger
R. V. Weatherford
170 N. Front St. Tel. 487
Standard Tubes and Parts

The 1930 CROSLBY RADIO

being shown at
Radio Headquarters
175 So. High St.
Phone 1161

Turner

TURNER, September 21—The Ogden family, who worked in the loganberries for J. M. Isling, plan to stay in this community through the winter, while the children attend school here and in Salem.

Mrs. J. M. Isling's father, Mr. Taylor, is visiting at the Isling home during the prune season.

Mr. Taylor has been in Washington picking pears and apples.

Mr. and Mrs. H. F. Jory and friends, the Myonahan family, also Mr. and Mrs. Siegmund were callers at the John Jory home Sunday afternoon.

TURNER, September 21—Rev. A. Gilstrap and family of Eugene are moving to Turner and will occupy the Christian church property near the tabernacle. Rev. Gilstrap is the new pastor who will occupy the pulpit of the local church.

Mrs. Thomas Little entertained the ladies work club of the grange Tuesday.

Mrs. L. A. Edwards and young daughter, Ethel Geraldine, came from a Salem hospital Sunday and will spend some time at the parental O. P. Given home.

R. Lee Theissen and G. A. McKay made a trip to the mountains last week and to take their part in buckleberry harvest.

Mrs. W. T. Riches has been on the sick list for some days and is suffering great pain in her eyes.

Miss Faustina Delsell, a high school graduate of last May, is college in Salem.

J. R. Besse died Thursday noon at the home of his daughter, Mrs.