

MEASURES WAVES WITH YARDSTICK

Simple Way Found to 'See'
Motion.

By NFA Service
HARTFORD, Conn., Sept. 22.—

The invisible radio waves which carry broadcast programs and messages through the air have been measured with a simple yardstick.

S. Kruse, technical editor of QST, journal of the American Radio Relay League, has accomplished this feat. It was prompted by the desire to find a means of measuring the short waves below 80 meters, of those permitted to amateurs by the latest Department of Commerce ruling.

Wave motions can be compared to the curves in a rope fixed at one end and moved up and down steadily at the other. When two parallel wires are connected to the oscillator that produces these wave motions, the oscillations or wave motions would conform and practically be superimposed.

A neon-filled tube connected across the ends of these wires opposite the oscillator will light when this resonance is obtained.

If a "sliding jumper" or piece of copper wire is connected across the parallel wires, at some points the tube will glow, and at others it will go out. The places where the tube glows are the points of no voltage. The distance between two such neighboring points equals half a wavelength.

It is a simple matter, then, to apply a yard stick to measure the wavelength.

The Voice From WJAX



The Night Caps of WJAX have become famous throughout the

country. The man responsible for this is Elmer Johnson, announcer, shown here. Beginning at midnight the first Saturday night of each month, Johnson gets the famous WJAX alligator to sing and inaugurates the Night Cap concert. Fans tune in especially to listen to the "Wave from Lake Erie."

Radio Storm Warning

Approach of anything like a storm around New York is warning enough to the electric light company. A special radio receiver is set up for the reception of the static that accompanies an approaching storm. The ringing of a bell is the warning.

Radio Against Rebels

The Brazilian government has been using radio to spread their propaganda against the rebel forces. The broadcasting stations warned the population of Sao Paulo to abandon the city, "leaving the rebels to their fate."

Amateurs in Spain

The Spanish government's decision to permit amateurs the use of wavelengths below 150 meters and power up to 100 watts has resulted in increased interest in this science. At present there are about 10 amateur transmitting stations in that country.

FUND PUBLICITY HEAD ANNOUNCED

Walter Pittsford to Advertise Campaign.

Walter Pittsford will head the publicity organization of the Indianapolis Community Fund campaign in November, it was announced today by J. K. Lilly, general campaign committee chairman. Pittsford has subdivided the publicity work of the campaign into the following divisions with these individuals assuming specific tasks in connection with the campaign:

Slogan and copy appeal policy: Fred Mills, chairman.

Newspaper advertising: B. W. Lewis, chairman; Tracy W. Ellis, Alfred O. Evans and William D. Keenan.

Newspaper stories: Storey Larkin, chairman; Felix F. Briner, William Herschell, Earl Muhlitz and Kate Miller Rabb.

Outdoor advertising: Isaac Kornblum, chairman; T. K. Canfield, W. Dudley Pratt, F. D. Stanley, R. W. Wishard, R. L. Tretton.

Club publicity: Wallace O. Lee.

chairman, R. Webb Sparks and Harry M. Franklin.

Copy preparation: Howard Caldwell, Horace E. Ryan and Ellis Baker.

Poster contest: Carl H. Lieber, chairman; Ed W. Hunter, Paul Hadley, Florence Fitch and Dick Patterson.

Church cooperation: Arthur Wolf, Window display: W. E. Balch.

Director of newspaper publicity: Blaine McGrath.

Today's Best Radio Features

WCAP, Washington (469 M); WEAF, New York (492 M); WMAF, South Dartmouth (363 M) 7:30 p. m., EST—United States Navy Band.

WOR, Newark (405 M) 9:30 p. m., EST—Fiske O'Hara, tenor.

WFAA, Dallas (476 M) 8 p. m., CST—Mozart Choral Club.

WCBD, Zion (370 M) 7:30 p. m., CST—Semi-weekly concert.

KGO, Oakland (312 M) 8 p. m., PST—Educational courses.

Finland Progressing
Amateur interest in radio is progressing to a stage at which that country may well compare with the rest of Europe. An organization like the American Radio Relay League is advancing the science here.

Rewards of Old-Fashioned Drama Are Same for Mrs. Fiske and Blanche Sweet

By WALTER D. HICKMAN

An old-fashioned drama, or, rather, a heart melodrama, served Mrs. Fiske to good purpose many, many years ago.

Am speaking of "Tess of the D'Urbervilles," by Thomas Hardy.

The rewards seem to be the same for all people who play this part.

Mrs. Fiske will always be remembered for her work in this play. Now comes a new Tess.

Blanche Sweet, in a Metro-Goldwyn movie version of the play. Regard-

less of what age a theater patron belongs to, he seems to become interested in the suffering of Tess, who could not grow up to be a woman of quality because of one fatal moral mistake.

Take a mistake for which she was blameless. This mistake shaped

her life into one of misery and even shame, terminating even in murder. Of course there is a happy ending. A world jury seems to have ordered such an affliction. This play is a little more logical than the usual pattern. The suffering of Tess seems to have universal appeal. The role gives fine dramatic chances to any actress, although these scenes are essentially melodramatic.

This version of "Tess" will be remembered for the splendid showing made by Miss Sweet, and also reflects credit upon Marshall Neilan, who directed it. There is not much sunshine in this story, but it has strong heart appeal. Miss Sweet makes Tess a character study. She registers suffering with as much power as she reflects faith in the love scenes. Miss Sweet comes into her emotional own in this picture.

She is fine, very fine, although the story is old-fashioned melodrama most of the time, the "Emo" brand of broken-hearted "Emo" years ago.

The entire cast is people by men and women who know their business.

I give the cast as follows:

Blanche Sweet..... Tess
Alfred O. Evans..... Alec
John Durbeyfield..... John Durbeyfield

Joan Durbeyfield..... Victory Bateman

The Priest..... Joseph Dowling

You will enjoy Stuart Holmes as the villain. He is a regular devil sheik of this sort of a thing. Nagel is satisfactory. Understand part of the picture was filmed in England.

"Tess" in modern clothes is still good entertainment, well acted and directed.

You will find "Tess" at the Apollo all week in addition to a Sennett comedy, music and a news reel.

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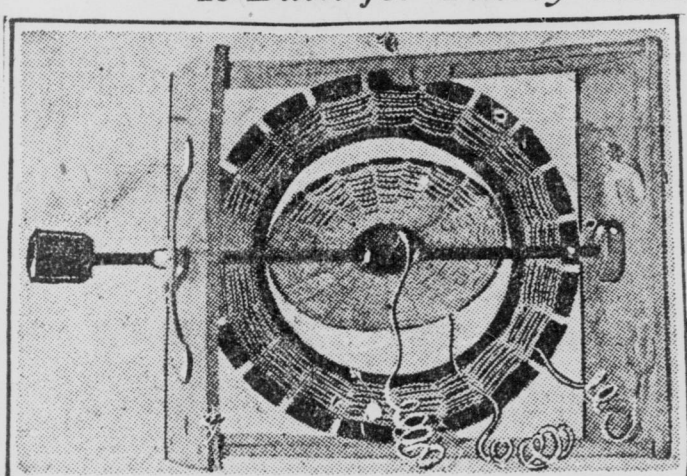
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Low-Loss Vario Coupler Is Built for Thirty Cents



SKETCH OF SPIDERWEB VARIOMETER, SHOWING DETAILS OF CONSTRUCTION.

By ISRAEL KLEIN

NEA Service Radio Editor

LITTLE expense and little effort is required to build a low-loss variometer that will prove an effective tuner with an ordinary crystal and in regenerative circuits.

All that is called for is a small spool of wire, two discs, a discarded cigar box, a thin shaft, knob and dial.

Altogether it should cost about 25 or 30 cents.

The stator of this variometer can be cut out of cardboard or fiber, in the form of a flat ring, 3 1/4 inches inside diameter and 4 1/4 inches outside diameter. From the outside, an odd number of slots are cut, 1/4 inch wide, evenly spaced, may number 7, 11, 15 or even 21, so long as they total an odd number.

The rotor is a three-inch circle cut out of the same material as the stator. The same number of slots are cut into this, one inch

The easiest way to lay out these pieces is to draw a circle 4 1/4 inches in diameter and divide the circumference evenly into the number of slots you want to cut. Draw lines from the center to the circumference, after which the stator and rotor may be cut out. These radii can then be used as guides for cutting the slots.

The stator is wound in and out

in spiderweb fashion, with 24 turns of No. 22 DCC wire. The rotor gets 60 turns of the same wire.

Connect the inner terminal of the stator to the outer terminal of the rotor, leaving the inner terminal of the rotor and the outer end of the stator free for connection to the rest of the circuit.

Take the top and bottom off the cigar box, leaving a frame for the variometer. Drive a small nail through the exact center of one end, and bore a hole the size of the shaft you will use through the exact center of the opposite end.

How It's Attached
The shaft may be length of dwelling, 3-16 inch thick, that will reach through the hole to the opposite end of the box, and leave enough for the attachment of a knob or dial. A brass rod may also serve the purpose.

This shaft is made to run through two brass rings attached to each end of the stator. The rotor is attached firmly to it by wire, so that when it is turned, the rotor will turn with it and stay within the open circle of the stator.

Corks may be attached to each side of the stator to keep it in place.

In order to allow the rotor all the room it needs for turning on its axis, the connection between it and the stator should be made loose enough for the movement.

Radio Capital Sales Co.

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