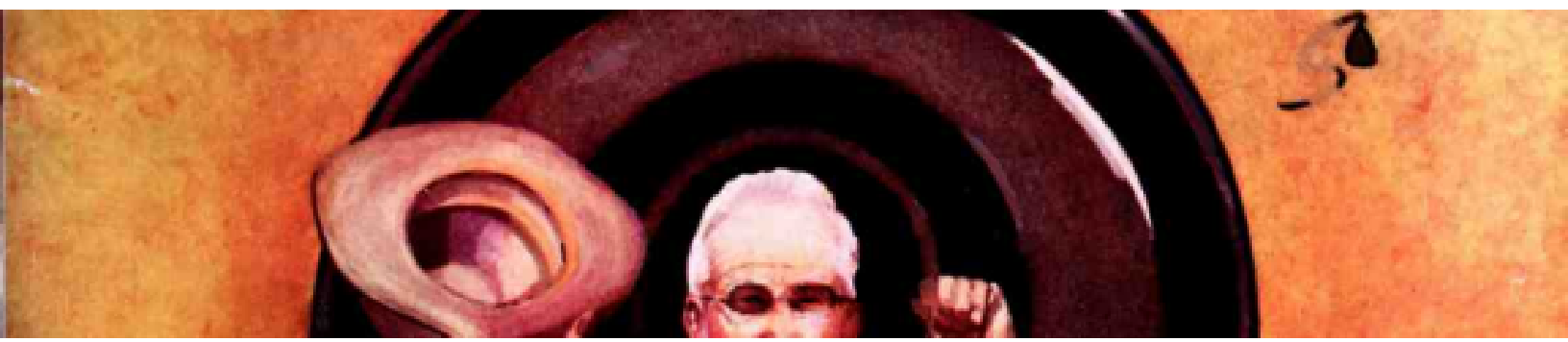
# Wireless Age

MAY . 1925

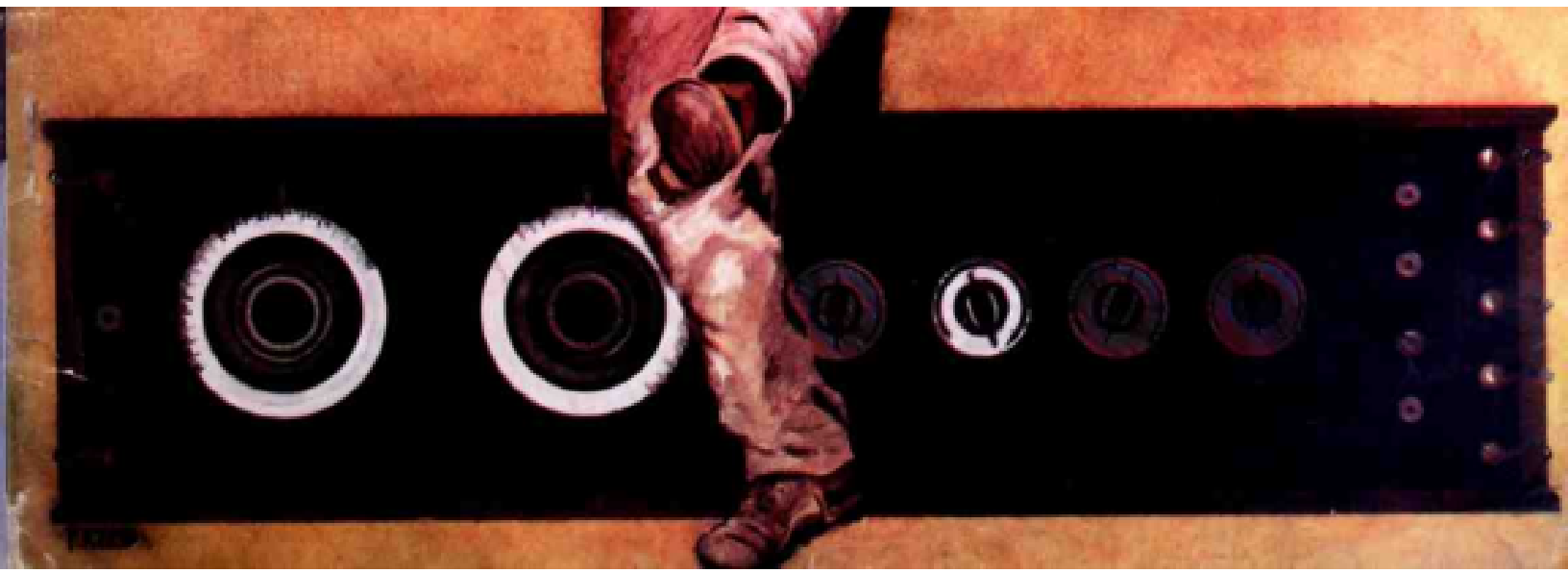
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WIRELESS AGE - THE RADIO MAGAZINE

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## Radio Magazine NIWr

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# Your c4uthors

pAURIE YORK ERSKINE (Me Voice From the Cabinet) is the

author of the famous "Renfrew" stories. In one year Mr. Erskine wrote "The River Trail" and The Laughing Rider." He is also the author of The Confidence Man," "Valor." and In the Event of Death." "The Voice from the Cabinet** written especially for Wirele ss Age-The Radio Magazine, is an attempt to do a worth -while short story that has its locale in the living room of any ordinary American home. You will agree that he has succeeded beyond your expectations after reading the story.

BCD RANDALL (Broadcast Impres sions) is a native of Rancho de los

Bolinas y Tomales, Marin Co., Cal. He graduated from California School of Mechanical Arts in ,go7 and the Col

lege of Mechanics at the University of California in 1415. As civil engineer he had charge of harbor improvement works in Seattle, San Francisco, St. Pedro, San Diego, Galveston, Hampton Roads, Ches- apeake Bay, Newark Bay, Plymouth, s. Boston. and as an outstandi ng caricaturist he has done work for a number of newspa- pers and magazines, as follows: New York Daily News, New York Evening Globe. Evening World, Yachting. Industrial Digest, Commerce, Finance and Indus- try, Playthings, Iron Age, Hardware Age, Progressive Grocer, Groceries Retailer, Talking Machine World, and Wireless Age -The Radio Magazine.

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parts are mounted on panel and e n2d,/ graphic wiring directions

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gets real distance.

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baseboard, and clear photo- ra hic in

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the

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Brass Plates - Soldered Joints-Grounded Rotor Are Standard Feat

ures of the 'Bradleydenser The Bradleydenser is a low -loss condenser with many distinctive features that insure long life and high efficiency. For instance, the brass stator and rotor plates are soldered at all joints. The plates cannot become loose, corrode at the joints or work out of alignment. The rotor is mounted on a long sleeve bearing that supports the rotor plates without the use of an outer end -plate. Therefore, the di- electric material is reduced to two small buttons. This means low loss and sharp tuning. The stator plates are protected with a dust cap that can be detached without tools. The minimum capacity is extremely low, and body capacity effects are greatly reduced. The entire design makes for the highest efficiency in radio receivers.

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and get all the radio fun

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Be sure your set is Brandes equipped i

"Quality Goods for Quality Readers"

# uze Ga.t

into

« ELIA) America! This is the Hotel Savoy Orchestra broadcasting from .5 Savoy Court, London, England, Station 5XX." 'l'hus ex-

istence came the first practical, public demonstration of Lnternational Radio Broadcasting. And it happened only recently - What will the near future bring! Already there is talk of television and movies by radio, and IVIRELESS AGE-The Radio Magazine, this month tells you something about that, but more particularly in "London 'l'alks to U. S.," does it present the possibilities in International Re-Broadcasts. Step along with the tines and inform yourself about this wonderful work.

Radio Fiction

\1'IRI:I.ESS AGE-The Radio 'Magazine, has created a standard in radio fiction stories -our readers tell us so -this month Laurie York Erskine, well known boy's adventure story writer, in the "Voice from the Cabinet," tells you a keenly interesting mystery tale without leaving the comfortable environment of a typical American home -and radio does NOT solve the mystery either. Serio us -Entertaining- Humorous "Radio Tempers the Tornado," describes how, in modern days, cataclysms of nature do not entail the suffering and damage that for merly had to be endured. In the recent tornado organized relief measures were effective within less than 24 hourse, mainly bec ause of radio -WIRELESS AGE is happy to be able to present this picture. The "How -do- you -Do ?" man who conducts by radio, a lost and found service is worthy your attention, and then turn to "N.T.G." to learn about one of the most popular announcers as de termined by public contests and let ters. Ed Randall too, in his "Broadcast Impressions" will stir your risibilities and

f

then, for variety, you can turn to "The H. I. in Broadcasting," which Dorothy Brister Stafford insists you will want to read every month. The Pacific Coast Stations are doing their bit and Dr. Power tells you about it, and Lloyd Graham does the same thing for the WGR ensemble.

## Technical

"Loud Speaker Horns" is Dr. Minton's contribution this month and he tells you all about radiation and reflection. R. A. Bradley's "Quality DX 5- Tube" set will go big -we've heard it work -and he tells you how easy it is to construct. Another "D- Coil" made by one of our readers and what it has done simply bears out our former praise of this receiver. Don't overlook the "One Control Receiver," "Aerials," "Low -Loss Coils," "Radio Cabinets" and the R'IRELESS AGE regular features. The WIRELESS AGE family is increasi

ng rapidly

so don't fail to keep informed about its activities. -THE EDITOR.

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Come from?

RESISTANCE LOSSES are the losses which most serious

The design of General Radio Condensers is based on scientific facts and principles,

ly affect the efficiency of a conden- ser when at working radio fre quencies. They arise from poor

not on style and fancies.

contacts between plates and from

Specially shaped plates always in perfect

alignment give the uniform wave -length variation which permits extremely sharp tuning.

poor bearing contacts. Soldered

plates and positive contact spring bearings reduce these losses to a minimum.

Rotor plates are counterbalanced to make possible accurate dial settings.

Eddy current losses occur in metal end plates and the condenser plates themselves. While not so serious as resistance losses,

In 1915 the General Radio Company introduced to this country the first Low Loss Condenser, and ever since has been the leader in condenser design.

they increase with the frequency,

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and therefore should be kept as low as possible. Dielectric losses are due to ab sorption of energy by the insulat

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Type 247H, with geared Vernier

vary inversely as the frequency, they have less effect upon the efficiency of a condenser at radio

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frequencies than any other set of losses. The use of metal end plates in short -wave reception to

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NUMBER

# London Talks to U

International Broadcasting

The links in the international broadcasting system -- antennae of 5X X. England. IXAL, Belfast. Me. and WJZ New York

# . S.

By J. eddy

o «I old radio days are past. You

I have been in radio more

What with all six telephones ringing at once, two powerful loud speakers

know as well as I that there are too

or less since I was 'knee -high

going full blast with the Hotel Savoy

many in the game now. All these

to a grasshopper,' and many is

Orchestra music announcers in full

high -power broadcasting stations with and everything coldly organized

the spinal column thrill I've had out

evening regalia hanging magnificently

programs scheduled weeks in advance

of the game. There was the first radio signal I ever picked up -what if I

around with absolutely nothing to do, and even AI busy answering incoming

there's no kick in it any more. The

did have only a piece of two -by -four

phone calls, I confess that then and

wound with enamel wire instead of an

(lays of thrills are gone!" And, like

there I realized my error -the days

as not, if the other chap had also been

eight -tube superheterodyne; what if it

when radio could yield me a Big Kick

interested in the game as it was in the

(lid turn out to be only the stock ticker

old days, there followed a sad hand

in the corner saloon instead of the

shake and silent tears.

were not gone. Indeed I scarcely ex aggerate when I say that to me this

The other night -it was Saturday,

Brooklyn Navy Yard? The first time

there came over home -made coils the

March 14--the job that had weaned

faint piping note of the then famous

me from radio led me into the broad

alternator at Nauen, Germany, the first

story of the instantaneous transfer of music and words from a ballroom in the heart of London to the aerial tow- ers of WJZ, and thence into millions

time signal, the first SOS, the first ra

casting rooms of WJZ in Aeolian Hall

on Forty- second Street, New York. It

dio telephone signal picked up -back

of American homes is as truly roman tic as the story of Guglielmo Marconi

was the eve of the first serious attempt

in 1915 -always in those days thrills

and the three faint dots that told that

seemed to lie waiting around the cor

at transoceanic broadcasting, and WJZ,

the Atlantic Ocean had been spanned

from Carl Dreher, engineer in charge,

ner for that died -in- the -wool radio nut,

without wires to Cape Sable that night

myself.

down to ebon -hued Alvin, who wears a janitor's uniform and knows more

Indeed, so fond were my memories

back in 1902.

Several months ago the Radio Cor

about how a broadcasting station is run

of the older days in radio that until

poration of America sent a group of

recently I was in the habit of exclaim

than any other man I can think of, was agog with it. In more ways than one

young engineers up to Belfast, Maine,

ing to such as would listen, "Yes. 'but

and small romance was there in the

there was "something in the air."

to he perfectly honest, old fellow, the



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proposition for them. It was bleak mid-winter. The company had, up there, an antenna system ten miles long, ordinarily used for the reception of signals in transoceanic radio telegraph work. Waves many thousands of meters long were received, not radiophone, but the dots and dashes in which commercial messages are handled.

this radio chain. And the Van Cortlandt Park station was linked with

and women in evening clothes dining, drinking and dancing, and in the center of it all the silent little black box called a microphone.

WJZ in the heart of New York by a leased wire of the Western Union

Telegraph Company, just as Radio 2L0 in London and the 25,000-watt

With their receiving apparatus tuned

station at Chelmsford were tied up by wire.

It was five - forty -five on the evening of the fourteenth and Julius Wein-berger and Raymond Guy, radio engi

These engineers, however, were in-structed to see what could be done in the way of reliable reception from the

.shorter wavelength stations on the

to 112 meters, Weinberger and Guy listened for the sounds which were to be picked up at Belfast and re- trans- mitted. Finally came the faint murmur

of a distant voice. Then, unmistakably, the syncopating strains of a jazz band.

The control room of the Radio Corporation of America. station WJZ through which the London programs were rehroadca,t to millions via WJZ, WGY and WRC other side that were transmitting mu- sic and speech, in particular the experi- mental station 5XX of the British veers, were leaning intently over their It was now all a question if the opera- tors at 1XAL in Belfast,. and if Wein berger himself, could tune in the faint

Marconi Company at Chelmsford, a town some sixty miles out of London, sending on 1600 meters. The Belfast station was assigned government call letters -1 XA L.

apparatus in the Van Cortlandt laboratories. The setting sun was casting its last shadows through the haze of an early spring afternoon in New York; sounds loud enough above the crackle of the ever -present atmospherics to he

nightfall

in London midnight approached. As everyone knows today, brings with it an added power to the "put on the air" at WJZ. As dusk 1XAI. was only a link in the chain

fell, that is as a larger and larger portion of the intervening Atlantic sank

faint radio impulses that will often

that Dr. Alfred N. Goldsmith, Chief

into the darkness of night, the faint

carry them many times farther than

Broadcast Engineer of the Radio Corporation of America knew would

(luring daylight hours.

sounds grew strong. Soon there could be no question about it. At last the

Already it had been dark six hours on the other side of the Atlantic.

eventually span the Atlantic with voice and music. Already well- equipped lis - teners-in on both sides had, by virtue

word came from Dr. Goldsmith, the engineer to whom the inception and success of the experiments are attri- buted-"Go to it !"

Weinberger and Guy, over their assem blage of coils and tubes and condensers.

of ingenuity and patience and imagina- tion, picked up recognizable signals from across the ocean, but now plans

motor generators and switches, visual ized a contrasting scene eight hundred

It is a few minutes later downtown

in the grillroom of the Astor Hotel.

miles to the northeast -not a large brick building in a great city, but a little affair on a barren plain near the

were being laid for something that would be big enough to benefit the general public.

Freddie Rich, conductor of one of Broadway's dance orchestras, finished leading his players through a number, bowed in response to the flurry of

Maine coast ; and, beyond that, three

At the test laboratories of the Radio

thousand miles to the eastward, an other great city, with bright lights and rumbling traffic, somewhere in the

Corporation of America at Van Cortlandt Park South and Saxon Avenue, New York City, was another link in broadcast

handclapping, then turned to the operator in charge of the control unit and microphones by means of

midst of it a brilliant ballroom, men

which Rich radiates regularly Saturday

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MAY, 1925

# LONDON TALKS TO U. S

11

When Right was told that he was wrong -that the distortion was due to to be concentrated. A barrage of tele phone calls over half a dozen trunk nights at six. He demanded, "Haven't

ı got the air yet?" 'Not yet, Freddie."

the music's being re- broadcast from

lines lent clamorous atmosphere to the

London -he seemed to think that a studio attendant was trying to spoof

occasion. No sooner was a receiver

Another number was played through.

hung up than the bell would be at it

Rich waxed impatient. The operator, again.

with an irritating smile, told him,

him, and hung up in a huff.

For the millions of listeners within

"They're putting another orchestra on

"Yes, suh , sho' am one busy eve-

range of WJZ, WGY and WRC the

the air !"

ning !" said janitor Al after convincing

highest moment of the evening came at

an excited fan at the other end of a wire that yes indeedy it was London,

"How come ?" It was more of an expostulation than a query, for Rich

seven o'clock when "Big Ben" in West minster Abbey tolled off the English

scented a rival.

"The Savoy Hotel Orchestra in Lon

England, he had been listening to.

midnight. I don't know much about

Pulling forth a square yard of hand kerchief tinted a dark and dangerous

don, England, is now broadcasting

what they call "showmanship" in broadcasting, but I should certainly

from WJZ," was the momentous reply ;

orange Al proceeded to mop his sombre

and Freddie was left to console him

brow.

like to compliment the Britisher who

The Hotel Savoy Orchestra broadcasting program from London that was rebroadcast throughout the United States

had this idea of putting a microphone

"Some ob de gol darn fyoolishest

self with the reflection that distance,

in the belfry of that famous edifice at

questions what they asks me !" he com- plained. "Nor that ain't all. One of

especially when there are 3,000 miles of it, lends enchantment.

the city end of London Bridge. It tolled off the end of an epochal

It did not take New York and en-

dame say she know Mayor Hylan an'

is gwine come up heah an' hey me dis

virons many minutes to realize that

day in radio, and, I am ready to believe, in the history of relations between the

chahged caze I didn't not put in the

there was certainly something in the

English -speaking nations.

newspapers 's how ı was agwine to

air. All over the East families sitting

When the genius of our radio engineers has brought the two sides of

broadcast London!" Affairs weighed down to dinner in the new American heavily on Al's shoulders.

habit of "Radio while you eat" heard

Just then both telephones in the re-

out of their loud speakers the startling

the Atlantic into nightly contact so that the cultural ideas of either are available

ception anteroom started clanging.

words : "Hello America! This is the Hotel

in the millions of homes of both by the

Keith McCloud, the well -known pianist

and musical director at WJZ, was go

Savoy Orchestra broadcasting from 5

simple process of switching on radio tubes, then there will remain small

ing over an act with two broadcast

Savoy Court, London, England, Station

room for misunderstanding and dis

5XX," followed by recognizable Broad

artists. The popular "A. O. N." was very busy borrowing a match to light

cord. True, such a vast amount of

way song hits rendered almost as satis factorily as Freddie Rich himself could

research remains to be done before

have done.

a cigarette he had just borrowed. Pick ing up a receiver I heard : "Hello, hello! WJZ? Is that

international broadcasting can be per fected that the men who conducted this

From six o'clock until seven -forty

first thorough test are loath to predict

the re- broadcasting continued.

WJZ? . . ."

the length of time it will take. But it

"Well, now, listen, WJZ ; I am Mr.

Up at WJZ where one might have

is not too much to expect that Euro

supposed there was^ñothing much go

Right. Get me? Right ¡ Now I have

pean concerts in Mid -Western homes

want to put you wise to something

such and such a set and I tune in on

ing on save the movement of a number

and Chicago dance music in Riviera

you people every night. Now I just

of invisible ions inside of vacuum tubes and the rotation of a motor generator

villas will be common -place occurrences before two more years pass by and

your apparatus is on the blink. The music isn't as clear as usual -"

or two, the excitement of the entire

broadcast -listening fraternity seemed

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that will mean cultural changes too.

# Qualify and DX

# with 5 -Tubes

Resistance -coupled a. f. makes
this set superb in tonal quality

By `R e/1. Bradley

can't delve far into radio re- ceiver development without

We have here a receiver very much like the DX- Go- Getter which we have designed, constructed, torn down and rebuilt, until now in its finished form,

ONE

coming to the conclusion that tuned radio frequency must be used for knife -like separation of stations

but a moisture -proof cellulose com- pound which renders the finished coil very strong and does not materially add to the very low distributed capac- ity of the winding. These coils are so placed in the receiver that there is no mechanical coupling between them, thus preventing any feedback between

it is a set certainly to be proud of. The tuning units are so designed that the

and a lower static - signal ratio, and that

regeneration applied to the detector

set is easily made stable over the en- entire broadcasting range and this sta- bility remains constant and is entirely independent of the

de

regenerative tector and its tickler feedback, which

tube is the only way to obtain the ulti mate in sensitivity. To combine them means employing tuning units of care ful design to secure successful opera-

tion while those of careless design will

the radio frequency stage and the de tector. The slight capacitative coup- ling inherent in the tube base, elements and socket

is easily counteracted by a small neutralizing condenser which once adjusted can be forgotten. One outstanding characteristic of this

receiver is its superb tonal quality obtained by the use of the super- ampli- fier, a three stage resistance coupled audio frequency amplifier in one

unit, which is placed on the sub -panel. The

give troublesome instability. In the December issue we presented a receiver which proved to be almost as popular and as efficient as the now nationally known "D- Coil." This set incorporated the radio frequency stage ahead of a regenerative detector and was in reality a "DX -Go- Getter." It certainly brought in the far -away stations in fine shape.

The tuning units which include the antenna tuning coil and the detector coupler unit are very novel in their construction and likewise very efficient. These coils are wound in a plain solenoid form from which all dielectric has been removed and the coil supported by two thin Bakelite strips. The coils are not doped with varnish, is essential to the set's correct operation.

amplification secured with this type of amplifier is certainly all that can be

In this illustration only two or three connecting

wires

A are and visible. B battery All leads carrying radio -frequency currents are run above the stib -panel leads are run beneath

and all



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Filament Switch



-,

J

A-

A+ D

6 +4S

g+ IOO,

tidg lis up a See wh t freweconrnections there are to the rest of the set. It

surrounded by dotted

The Super- amplifier is shown in this diagrameurte merely

cially recommended as it is advisable

asked and the reproduction is perfect. It is economical in B battery consump tion and its only disadvantage, if it could be called such, is the necessity for a third tube.

Tuning this receiver is much sim pler than the conventional three -dial tuned R.F. receiver as we do not know of anyone with the necessary three hands for the proper manipulation of

LIST OF MATERIALS Silver Antenna Inductance

One

Coil

Silver Detector Coupler

One

Silver .0005 mfd. variable

Two

condensers

Daven Super -Amplifier com- plete.

One

Two Ultravernier Dials

One 0 -15 Jewell Voltmeter One Knob for tickler control

to burn the tubes at the voltage rating where they seem to operate best, which is the whole reason for includ ing the accurate reading voltmeter in

the set. This is a Jewel Voltmeter reading from 0 to 15 volts. It would perhaps be better to have a scale reading of 0 to 7.5 so that finer gradua tions might be had in the vicinity of 5 volts, where the tubes generally operate best. The UV- 201A's, which we used in the resistance -coupled ampli

this latter type of receiving set. The two condensers are tuned to nearly the

Two Howard Standard Sockets Three Bradleystats

same dial setting and the tickler is adjusted only for bringing up volume, a procedure which, of course, follows

One Bradley switch for filament control

fier, we found gave best results at

the immediate tuning-in of the station.

Two Pacent filament lighting jacks

One Neutralizing condenser

4.25 volts- three-quarters of a volt below the rating of the manufacturer.

The tickler setting remains fairly constant throughout the entire waveband showing unusual care in the design of this coil alone. Volume can be controlled to a great extent by the tickler. When this proves insufficient the rheostat controlling the resistance-coupled amplifier can be turned down for less volume. But this is not to be espe

One .001 mfd. Dubilier fixed condenser. One .00025 mfd. Dubilier fixed condenser

One .006 mfd. Dubilier fixed condenser One 4 megohm Daven Grid leak Six Eby binding posts Two Benjamin Panel brackets One 7 x 24 Radion Panel One 0/2 x 24 Radion Sub-Panel

Under-burning your tubes like this considerably lengthens their lives. The positive lead of the A battery runs directly to one side of the voltmeter, and to the other terminal is fastened a

flexible lead, with a spring clip attached, so that the voltage across any individual tube may be had at any (Turn to page 30)

su ú under ,he those on the amplifier. These latter posts are the

to the battery igposts n running

The battery connections to the receiver are cded to

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loud speaker HORNS

)r. Min

ton tr,Ung loud knt horns Characteristics of reflection and radiation

By 'Dr. John T. Minton

IN OUR preceding article we discussed the acoustical performance of straight pipes, described the method of testing loud speakers with great precision, and discussed the acoustical characteristics of straight conical horns. We saw that straight pipes

This is shown by the curves in the preceding paper. This is another reason why horns give a more uniform response than pipes and are more satisfactory for radio reception than the latter.

We saw in our last article that sound is reflected from the opened end of a pipe or horn back into these sound

are very efficient resonators and with in certain narrow frequency limits,

corresponding to the fundamental

devices. Because of this phenomenon of end reflection resonance is built up which increases the total sound in

tensity. However, reflection of sound

tone, these pipes sometimes may in crease the sound energy ten thousand

times. Outside these narrow fre quency -bands no increase in sound

energy is brought about by the pipes. For these two reasons alone straight cylindrical pipes are wholly unsatisfactory for a loud speaker horn. back into the pipe or horn tends to prevent the escape or radiation of this sound out into the surrounding space. If this reflection could be entirely eliminated or avoided, then more sound

Horns of many varied shapes have

would escape into the outside air. Such a horn would be a good radiator, so to speak, of sound energy. What

been designed and any one of these is better than a straight pipe for a loud speaker. One reason for this is that flounced with the smallest horn and least with largest horn. On the other hand, the radiation of sound should be least for the smallest horn and most for the largest horn. Large sound radiation means no sharp peaks in these response curves, while small sound radiation (and therefore strong resonance) means sharp peaks. Let me say, parenthetically, that both the diaphragm and horn peaks show up in these curves. If a horn and diaphragm peak should by chance

is lost by the absence or diminution of

horns have less pronounced resonant

radiation,

resonance is regained pretty largely by increased as we call it. Let us give some curves for loud speakers which have straight conica

horns in order to see the significance of these two factors, viz., resonance

properties than pipes. If the reader

will recall the heights of the most

prominent peaks of the curves shown

in the last article, he will see that in no case do these heights extend to

more than three or four times the

and radition.

heights of the adjacent minima.

In figure 1 are shown four curves

"Three or four" is a long ways from

for horns one foot long, but with final

"25. to a 100" as observed for pipes. Consequently, horns will give a more

was

openings of different sizes. The initial opening in each case -4 of an

uniform response at the various f re- quencies than pipes will and for radio

be at the same frequency, then the sound would be unusually loud at this particular frequency. This would

inch. These final openings, as indicated in the figure, varied from 2/ to 8 inches. The reflection of sound back

reproduction are, therefore, superior

to pipes.

prove unpleasant and we always avoid this where possible to do so. We observe that there are three main resonant regions in connection

with the fourth curve (d) in figure 1. These

into the horns from their large ends was greatest for the smallest horn and

Between the horn peaks, the response caused by the horn exceeds least for the largest horn. Consequently, resonance will be most pro - greatly that caused by straight pipes.

Length -3i CM. Opening - S CM. - h 10 ó6

Length -34 CM. Opening -15.3 CM. 38

Length -34 CM. ODen ng 20.3 CM. 38

c 31 2

# 11/i111niiMIS

34

30

34

ú 30

i8 14

400 1200 2000 2800 3600 Frequency - Cycles Len th -34 CM. ODenin -10 3 CM.

V 26

22

.7. 18

ó 14 °

10

P'

Ç 26

° 22

18

-d

510

t6 T

b 6

10

"" 6

o

2

A.)

400 1200 2000 2800 3600 Frequency- Cycles

0

400 1200 2000 2800 Frequency . Cycles

3600

0 400 1200 2000 2800 3600 Frequency -Cycles

Figure i



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are at 500, 1100 and 2300 cycles and they are due to the dia

phragm. In fact , there is so little re flection from so large an opening that re

4000



Le. n-122 см 0penm. - 45 см.

# LOUD SPEAKER HORNS

Leo qtn 123CM Ooenin -31CM.

3o

26

a

1

6

15

termined completely the physical constants which are necessary for us to design a conical horn which will give better results than any other con- ical horn, no matter

sonance cannot build up. Hence, there are

o 400 000 000 2400 MOO

400 600 400 2400 3100 4000 Fregeettty- Cycles

what its shape or solid angle may be.

no horn peaks at all, which shows that a loud speaker need not

Frequency Cycles

14

Length -120 CM Optnim -60 CM =E MI.= The layman can com- prehend the signifi-

necessarily have the

NÌÜlhII11113 .ifferitydna

6

cance of such a state ment for it removes

so- called "horn- reson ance." Writers are

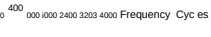
2

119M11111EMPIE1111I

all elements of uncer tainty in our work

incorrect in their

-b










and assures the pur chaser of the best pos

ane Nodal

Diameter

statements that horns are objectionable because of resonance,

as

a4i

Figure 3

Curve snowmq var 24a0n of

said angle of conical horn

sible horn of this type. This optimum

.a

rhh lop of horn for

if they mean all horns. The diaphragm peaks, as explained in our March installment are due to

Tax1mo01 60440 output.

at

horn has a length of five or six feet and a final opening whose diameter is 12 to 15

modes of
different

-C-

inches.

vibration. The three

Circle

mentioned above,

Figure 2

which show up in

Morn Lengths inches

0 03 52 40 64 00 06 Figure 4

Frequency Figure 5

I presume the reader would like to know why such a long horn is required. The

these curves, are first,

the fundamental node, second, one

answer to this question is simple

find that the solid angle gets smaller

enough to comprehend, but perhaps

and smaller as the lengths increase.

nodal diameter and third, one nodal

not quite so easily arrived at. Hence.

circle as illustrated in figure 2.

The exact relationship is shown by the

we give here the result of the rea-

Now, if we observe closely the curves shown in figure 1, we can ob-

curve in figure 4. By means of the

soning we went through to get the

acoustical law represented by this

conclusion. The sound radiated by a

curve we can specify the solid angle

serve just these things mentioned.

loud speaker unit along a conical

for best acoustical results for any

The small horn shows sharp peaks

horn, which extends so far from the

while the big horn shows small, negli

length of conical horn we choose to

unit that no sound energy is ever

use. You may be interested to know

gible, horn peaks. The sound output

reflected back into the horn, becomes

that this is the first time such a curve

from the two intermediate sizes is

more and more the smaller the solid

greater than that from the two ex-

has ever been published and the reader

angle of the cone. If, however, we make the angle too small and the neck

is obtaining the most recent results of

treme sizes. That is, these two factors, resonance and radiation, when

our research in this group of articles.

We not only can determine the op

exerting their united influence give

timum angle for any given length, but

the maximum total sound output at

too narrow, this law is broken down and the radiation becomes less for further decrease in the solid angle.

sizes. Hence, there is the intermediate

we can also determine the optimum

an optimum size, or solid angle, as we

length for a conical horn from our curves. In other words, we have de

Having now settled on the solid angle for a very, very long horn, we must

call it, for which the sound output averaged for all the various fre quencies is a maximum. This is

an important law in loud speaker design and its establishment was of much benefit.

We also established another important law in connection with

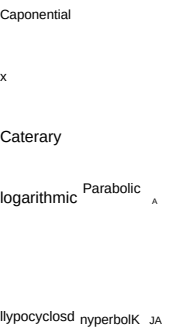
n

cut it off at some point where there will be enough reflection from the large end to build up resonance and thus further in tensify the sound. This open ing is found to be from 12 to 15 inches and the solid angle such

as to give a horn length of about

these tests on conical horns. A comparison of the curves for the four -foot horns shown in figure 3 with those for the one -foot horns (figure 1) illustr
ates this second law. We first compare the curves shown in figure 3 and

see that the horns with the 6- inch and 24 -inch openings are less efficient for loud speaker horns than the two intermediate sizes. Hence, there is an opti- mum solid angle for this group of four -foot horns. We find




five or six feet. Both larger and will produce less sound output

smaller openings for this length

the former because of insufficient reflection and the latter because of too great a reflection. I don't say, of course, that a straight conical horn of the di mensions stated above for the optimum sound output is the best horn. All I say is that it will give the largest sound en- ergy when averaged over the en- tire frequency range. If we are

that the longer the horns, the less is this solid angle. In fact, if

Cissoid

tlyperbo c Sale figure 6

Cubic

more interested in quality than in loudness, then we must take

we select the optimum size for each of the various lengths, we

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unusual precautions and exercise

our ingenuity to produce a horn which will eliminate resonance or at least cut it down to a negligible factor. Then, for this resonance we substitute a maximum

!rponential ₆ cai



Comm preferably deal with shapes such as here illustrated in order that we may have a mathematical basis upon which to study the results. amount of radiation obtainable. To assure this condition the writer must refer the reader to his Cissoidal Other shapes can be studied but no doubt those represented by well known mathematical laws will give results which

formance

article on "The Per and The Insti

ory of Loud Speak- ttypocycloidal er Horns," August, 1924 issue Proceed ings of the tute of Radio Eng

i neers. I believe the theory of this phase of our subject is too compli- cated to be understandable by the aver age reader. However, in figure 5 ar

e

hyperbolic V Parabolic

are interpretable and, no doubt, their performance will be as good as (and probably better

Figure 7 Illustrations of Horns which Conform to well Known Mathematical Equations

than) that for any of the unknown

tained by adding 135 to the preceding one. The experimental facts fit very nicely these theoretical predictions. This theoretical law can be applied quite accurately to any loud speaker horn and we can predict with much certainty its actual acoustical perform ance without even resorting to any tests, whatever. This is a valuable as- set, of course, for it saves much valu- able time and effort.



two curves. The dotted curve repre- sents the sound radiation at various frequencies along a straight conical horn. The solid curve represents how the radiation curve is modified by the "guessed at" shapes. The first of these horns to be con- sidered will be the exponential one. In the photograph shown herewith an exponential horn is seen at the top of the picture. Its cross sectional shape is hexagonal, made so for the purpose of ease of construction. For this rea- son we coined the word "Hexponen- tial" to identify it, although the word does not describe it. These exponen- tial horns have been used for several presence of horn resonance. When we remember, as stated in our April con- tribution, that the ideal curve for a loud speaker is a straight horizontal line it is evident that even the pure radiation loud speaker is not perfect, although it is superior to one with marked resonance. It must be per- fectly clear to any one, who has read these articles, that the advancements we have made in the art of loud speak- er production has come about after a considerable amount of scientific

Let us, now, go over to a consider- ation of horns of other shapes. In mathematics we have certain

years past, but the theory of their performance has only recently been worked out by the writer and independently by Dr. Slepian and Mr. Hanna of the Westinghouse Electric and Manufacturing Co. The results of the labors of these last two authors are well known curves to which names have been given for purpose of identification. Here is a list of some of them: Exponential, parabolic, hyperbolic, logarithmic, sine, cosine, tangent, cotangent, catenary, cycloid,

study and experimentation. Before passing on to consider other shapes of loud speaker horns it is worth while to recall to mew - ory that theoretic

ally the loud speaker horn peaks should occur

square, cubical, trocoid, etc., etc.

Straight Pipe Radiation ; !1 (1 is. r

J

Li

are published in the 1924 Proceedings of the American Institute of Elec- trical Engineers, while the results of the writer were published i

n the 1924 Proceedings of the Institute of Radio Engineers.

The radiation of sound from an exponential horn follows a differ ent kind of a law than that for a conical horn. This is to be ex pected for their shap

es are quite different, as is shown in the photo- graph where a large exponential horn is shown at the top and a long conical horn is shown to

the left of the writer's picture. In the case of the exponential horn, the radi- ation of sound at the various pitches

at regularly spaced frequency intervals. The peaks should be larger over the initial or low frequency register than over the higher .register. That is. the ratio of maxima to adjacent minima should

tRponenhal Radiation

faponen6afRadiation Modified by Resonance

Frequency

Figure 8

In figure 6 are shown a group of these curves. They follow, or are de- defined mathematical termined by certain, well equations. When ap- pli

these

ed to a loud speaker horn, laws determine the manner in which the area cl

be larger over the range covered by the fundamental and the first few over tones than for the higher region. This ratio may be as high as three or four for the region of the fundamental, but it should approach unity (1) for the higher frequencies. A reference to the curves shown in figures 1 and 3

is indicated in figure 8 by the solid curve. The horn will not radiate any sound energy at all below a certain definite frequency. This frequency is known as the cut -off frequency for the horn and is indicated by the point, f. It was shown by the dotted curve in figure 5, that the conical horn continued to radiate sound down to zero frequency where it ceased to radiate, naturally. Below the cut -off frequency, then, of an exponential horn the conical one is a superior radiator and the intensity of the low frequency

the small end to the large end of the horn. The sketches shown in figure 7 illustrate cross sectional views of some of the horns as they would appear if constructed in accordance with these laws. These shapes are very interesting and the results obtained will show both of these effects quite clearly. For example, in the case of the four -foot horn, the peaks should be about 135 cycles apart. This is seen to fit the experimental curves nicely. Furthermore the peaks should

be located at about 200 cycles, 335, 470, 605, 740, 875, 1,010, etc., cycles. That is, each succeeding peak is ob

with some of them, I imagine, would be highly stimulating to the imagina- tion. In our work, of course, we should

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(Turn to page 66)

# Here's a commendable layout of this remarkable WIRELESS AGE Receiver

## By K. M. Macllvain

the filament control rheostats. One is

ı sent him a circuit diagram of the

in the detector circuit, another in the

direct coupled radio -frequency type of

receiver using "D "- Coils.

radio- frequency amplifier circuit, and the third is in the filament circuit of

Then he went ahead and constructed

the audio -frequency amplifier tubes.

the set, allocating the apparatus in the

way that he thought was most ei

The little pilot lamp that you see in the center of the group of filament

cient as well as artistic, and I must

say that it is the best "D" -Coil lay out that I have seen to date.

control dials is connected across the filament supply leads and gives you a visible indication of the fact that the

The panel lay -out in particular is tubes are turned on. This is simply very good. Three of the large dials a flashlight bulb inserted in a socket are located on the shafts of the tuning

THE accompanying pictures are

condensers. One of the large dials is

behind the panel and a suitable re- sistance is connected in series with it

on the shaft of a .00025 mfd. variable

of a "D" -Coil Receiver that was

to limit the current through it so that

condenser which is used as a blocking

constructed by Professor E. B.

condenser in the second stage of ra

Rollins of the Tufts College Engineering department, Tufts College, Mass.

it won't burn out too quickly. This is a very appropriate element

dio- frequency amplification. Making

in a receiving set, because there are

this condenser a variable element in

Some time ago my old friend and

the circuit lends a little more flexi

instructor wrote me that he would like

many instances where the set may be tuned to a particular station and the

bility to adjustments. This tuning

to build a "D" -Coil Receiver and

operator of the set may leave the

asked me if I would send him a

dial is the second from the right.

room for a few minutes.

The three smaller dials in the cen- ter of the panel are on the shafts of

schematic diagram showing the latest

developments in this popular circuit.

Rear view of Professor E. B. Rollins' "D- Coil" receiver



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(Tun to page 30)

AIL

The relationship

# of Ilo to the International Language Problem

`By Dr. alax Talmey

Much correspondence has brought out the fact that there is a widespread desire among radio fans to decide the merits of !lo for themselves. They can only do this by being told what will be done with this Auxiliary International Language if it becomes recognized among radio societies as the only growing auxiliary language. The argument which has hitherto appealed to a majority of radio clubs, has been has this or that scheme a majority of radio users in its favor "iP This is now being displaced -after news of the refusal of the English Radio Club convention to adopt Dr. Zamenhof's scheme -by a new standard. This standard requires exactness of expression, ability to follow European languages closely in translation and the spirit to take the amateur into its confidence by forming new expressions. It is well illustrated by the fact that Dr. Tal ney as Hon. President of the North American International Language Society which has reserved the right to work out new !lo words when needed, without permission front the central "Academy" in Europe -has enriched the language with more than 200 words and prefixes. These are not official and need only be tried out by the amateur. .Vo period of stability -where discussion is interdicted -will help trans- oceanic radio code or speech. The international word "brodkastar" is a good illustration of this. It was used, because it is needed. There are synonyms developed by O. C. Roos and radio amateurs in Europe. but these only enrich the language. Our readers will soon be able to decide

whether improvement or stand - solution of a logical, rich and

ardization on forms, offers the best ultimate

simple A. I. L.

Dr. T aim ey and Dr. Koopman, Librarian

of Brown University, are both

Honorary Presidents of the "N. A. I. L. S."

and have enlisted linguistic edu in support of the new A. I. L.

cators in Columbia, N. Y. U. and Harvard

features.-EDITORS.

Fred Smith. studio di- rector of WLW, broad- casting one of a series of IIo lessons

IT HAS been mentioned in our preceding article on the Auxiliary International Language (AIL) that all solutions of the International Language problem, particularly the projects of Dr. Zamenhof and of Ido, were deemed unfit for the role of the AIL by the Committee knew very little about the logical principles which must prevail in the construction of the AIL and which we shall treat more in detail in a future article. This is the reason why their devices could not withstand scrutiny, but failed of the Delegation. Its preliminary decision read as follows (Compte rendu. pp. 25-26): "The Committee has decided that none of the languages submitted for examination can be adopted with modification. It has named a Permanent Commission with the task of in spite of initial practical successes when criticism was brought to bear upon them. The Permanent Commission, however, was well informed about those principles and applied them

Ilo Lessons Broadcast

strictly in carrying out the task en trusted to it. Since it also resorted to

DURING the fall of 1924 WLW

of the Crosley Radio Corporation promoted an eight-week course of lessons in the international language, Ilo. Fred Smith, studio director of WLW, conducted the classes. Some 450 students enrolled. It is safe to say that many thousands listened regularly. This experiment indicated three things: in the first place it proved that language may be taught successfully by radio. The second thing we learned was that Americans in general are not yet keenly interested in the daily life, and, consequently, the daily language of nations far away on the other side of the ocean. But radio broadcasting

studying and fixing the details of the language which will be adopted."

Reasons of expediency, however, induced the Committee to give to the final decision a wording apparently favorable to Dr. Zamenhof's project which was "adopted in principle under the reserve of modifications to be executed in the sense defined by the report of the secretaries and by the project of Ido." ( Compte rendu, p. 26).

Those wise enough were not misled

by this decision. For "adoption in extensive and radical "modifications," the result of its labors, the Language of the Delegation (LD), was an entirely new system differing greatly from all preceding solutions of the International Language problem and from its faulty basis, the projects of Zamenhof and of Ido. The combined painstaking work, extending over many years, of a number of serious able students of the International Language problem, such as Dr. L. Couturat, Paul de lanko, B. Joenssen, Prof. O. Jespersell, Prof. L. Pfaundler, Dr. Ignatz Hermann, the writer's

principle" is merely a polite form of rejection, which, in this case, had been

is developing with such phenomenal rapidity that it is easy to imagine the early arrival of the time when

humble self and others, has gradually developed the present Ilo out of that

made even stronger by explicitly adding that "modifications in a certain system "removing" (see below) it

sense" would be executed. Through "modifications" an object may be cre ated in which one would look in vain for traits of the one "adopted in prin-

ciple." Language inventors up to 1907

international broadcasting will be as common as national broadcasting. When this day comes it must bring as a companion a common language, and s

o far as our experience teaches us, the most acceptable of languages for this particular use is Ilo.



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still further from those projects. Nobody has ever maintained that Ilo is reformed Solresol, Nov- Latin, Vola pük, etc. But well -meaning Ilists the

mselves, concerned chiefly about the propaganda for Ilo, often assert that the latter is the simplification of Dr.

Zamenhof's project. Thereby they are doing the cause of the Interna
tional Language idea in general and of Ilo in
particular more harm than good. For a system derives more detriment than benefit from being represented as having close relation to another system which has been discredited in the eyes of the public through the judgment of the most capable experts on the whole subject.

For the proper infor mation. of the public the above assertion needs some examination. The vocabulary in all modern solutions of the Interna tio
nal Language prob
lem conforms more or less to the principle of
internationality, which



with by the Permanent
Commission in the elab oration of the Language
of the Delegation. 'In

this regard Prof. Jesper-

sen remarks (Progreso,

V. p. 460) : "Almost

every criticism directed

against the Language of

the Delegation tends to remove it from Zamenhof's project."

* * *

EDITORIAL NOTE

"Progresso" was the

official organ of the Academy and Central Committee of the "delegation" between 1908 and 1914 inclusive. It has been succeeded by "Mondo." There are over 4000 pages of careful analysis, construction of trial tests of new words for the A. I. L., together with exhaustive discussions of the same.

Dr. M. Talmey, Dr. L. B. Woodcock and A. Rostrom on an occasion when conversation was held exclusively in Ilo requires that the words of the International Language should be as much as possible international ; i.e.,

This seems to be the proper spirit of development in order to avoid making mistakes permanently ineradicable

common to the principal living languages, and that no word may be arbitrary. Zamenhof's system violates that

by too many followers at the early stages. It is all the

principle extensively. Nearly 40 per cent. of its total vo-

truer for radio terms. -Ed.

cabulary flagrantly conflict with it. Nov -Latin, Universal, etc., and especially Neutral, are in harmony with our prin

* * *

Ilo is being more and more improved. This holds true,

ciple to a far greater extent. It follows that if Ilo be at all the simplification of some previous system, it would be

in particular, with the improvements proposed by the writer in the last few years (Temi, Raporti) and practically ap plied by him and his correspondents who are able Ilists,

more justified to call it "Simplified Neutral." This view was also held by Dr. Couturat, as stated in our preceding

foremost among them being Dr. L. B. Woodcock of Scranton, Pa., whose delightful letters in advanced Ilo are apt to

article. The original international words common to both

Ilo and Zamenhof's project do not justify, therefore, rep resenting the former as the simplification of the latter. Another common feature is the derivation of words by

convince any student that those improvements are making a real, highly efficient language out of the work left un- finished by its pioneers through the cruelty of fate.'

affixes. This idea is not original with Dr. Zamenhof, but

The assertion that the language of the Delegation was

the simplified project of Zamenhof was justly repudiated

occurs in the works of much earlier authors (Schipfer,

by his followers. This is what they used to say in this

1839 ; Pirro,1868.) Finally,thethird common characteristic,

respect without mincing of words ( Progr. II. p. 749) : "This is a ruse to mislead the faithful ones : the Language

which consists in making the parts of speech recognizable

at first glance through invariable endings, has been em- ployed by language inventors long before Zamenhof

of the Delegation has nothing in common with Zamen hof's system, and is an entirely new language which no-

(Faguet, 1765 ; Rudelle, 1858; Eichhorn, 1887) . Of the

fourteen grammatical endings of Ilo only eight occur also in Zamenhof's device, and three of these have already been used by Faguet as far back a
s 1765; another one, -e for the ad verb is Latin and Neutral ; a fifth one -o for the nouns is very common in the Ro manic languages. The linguistic
details original with Dr. Zamenhof and contained also in Ilo are, therefore, but very few, namely, three grammatical endings and a
small number of affixes. In every other re
spect there are between his system and Ilo differences so substantial and numerous that the two systems are very distinct one from the other, as di
stinct, for instance, as French is from Italian or Spanish, although, like
thesé languages, those two systems resemble
one another a great deal, owing to a large number of common roots.

The project of Ido contains to a great

wise deserves the name of the latter." If this be true of the Language of the Delegation it is certainly more true of improved Ilo.

Enthusiastic Ilo propagandists who make
the above wrong assertion merely misunder stand both the sense of the final decision of the Committee and the similarity between Ilo and Zamenhof'
s device. The former has been clearly explained by Dr. Couturat (Progr. II. p. 277).

There are two systems in language construction. 'In one the gender of the words. in the other their grammatical rôle is made recognizable through endings. The second system has been employed by Dr. Zamenhof, and the Committee also preferred the system of grammatical endings. There upon

1. Dr. Couturat died through an automobile accident in the fall of 1914 at the age of 45. The excellent linguist and best Ilo writer of his time. Paul de Janko, died at Constantinople during the war, and Prof. L. Pfaundler at Graz in 1919; etc.

O. C. Roos, President "RAILS"

extent the same faults as that of Dr. Zamenhof. They have been almost done away

and General Manager the "N. A. I. L. S."

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(Turn to page 27)

NE ONTROL Receiver

# A Real

A three- section condenser makes possible tuning a five -tube set with one contro l

'By Sidney E. Finkelstein

A. M. I. R. E.

THE most popular type of receiving set today is the tuned

MATTER OF DESIGN

member of the coils. They are wound on quartzite rods which are held between two rings of hard rubber, thus

This feat was not accomplished as easily as might appear, but after con- siderable work on the part of engi- neers it has been made possible. The

ne controlling factor in producing a receiver with one control is the design of the radi

radio- frequency receiver and to

date there are many varieties. All follow the same fundamental circuit principles. When two stages of tuned radio frequency are employed and the construction details are in keeping with good engineering practice, all the

forming a cylindrical cage. With this type of winding form the coil is virtually supported on air and only makes contact with glass, which is one of the best of high frequency insulators. The

variable condensers. The variable con- denser must be low -loss and must be a precision made product if it is to

points that make up a good broadcast receiver are available.

windings are so designed that no centralizing is necessary, thus simplifying the construction of the set.

Practically all the battery leads are kept hidden below the socket shelf. The rheo stat leads, of course and the tuning con- denser leads are run in the shortest straight -line route

This type of receiver possesses

function properly. The one used in

selectivity, volume and faithfulness of

the set below is really three condensers

PARTS REQUIRED

reproduction, but has one disadvan tage, that is expressed by many who

Probably the most important unit

in one, that is, there are three separate

for this set is the Bruno "Three -in one" variable condenser, and since

sets of condenser plates. The three

already have a set of this kind, and

stator sections are insulated from one another, while the rotor plates are on the same shaft. This unique construc tion insures that the three cond

ensers

that is the customary three dials for tuning. Because of this disadvantage many fail to obtain the best that is in their set, as they do not seem to be there is but one type of this condenser on the market at this writing, the radio fan should not go wrong in selecting the right one. The radio frequency

are synchronized, thus tuning each

able to master the manipulation of the

portion of the circuit alike.

three dials. In the radio receiver described below, a great step toward the

coils described above are made by the same concern and are designed to be

The radio frequency coils are also

used with the special condenser.

very important in this set and have

refinement of the tuned radio receiver

In order to build the set as shown

been designed to possess the highest

has been taken by reducing the tuning

be re-

in the accompanying illustration, new five "gang" sockets will also quired. The audio transformers

controls to one.

possible efficiency. These coils em- body a new idea in the supporting 20

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This shows how the triple-stator variable condenser tunes the three ta radio-frequency ı transformers Á battery

в <45

Rso

simultaneously. The common rotary plates are

should be of high quality, as well as the rest of the material listed: One panel, 9x24 inches.

two inches from the bottom. This arrangement is very striking and is a departure from present layouts.

In wiring the sockets. the arrange ment that makes wiring easy is to make the extreme right socket, when looking at the rear of the set. the first

Two 20 -ohm rheostats.

Next, the coils and sockets and

radio frequency socket. The centre

transformers are mounted in the rear

One five -"gang" socket (or five

socket should be for the second stage

standard sockets).

of the panel. This may be accom- plished by using the customary base

of radio frequency and the one on the

Three Bruno non -oscillating R. F.

extreme left end the detector. That

coils.

board or by the use of special brack

next to the detector is for the first

ets and sub -panels, which is well

One Bruno ultra -vario condenser

stage of audio frequency and the re maining socket serves as the second

(three in one or four in one).

worth the extra work and is the way recommended by the author.

One audio transformer (5 -1 ratio). One audio transformer (3 -1 ratio).

WIRING

stage of audio frequency amplification. It will be found that this arrange

One double circuit jack. One single circuit jack.

Needless to say, the filament circuit

ment makes the wiring exceedingly

is the first to be wired. Care should

One grid condenser (.00025 mfd.).

simple, and if done in a workmanlike

One gridleak (2 megohms) . One battery switch.

be taken to get the polarity of the fila ment leads correct, as this is so often

manner will present a fine appearance.

Well soldered joints should be made,

overlooked by the radio fan. After

Two special brackets for sub -panel

using only resin core solder and a hot

and "gang" sockets.

this is done, it is a good plan to test

soldering iron.

One micadon (.00025 mfd.).

this circuit by connecting the filament battery to the set an3 inserting a tube

RECHECK CONNECTIONS

Six binding posts. CONSTRUCTION

When the work on the set is fin

in each socket to make sure rheostats,

ished, go over the wiring and check

battery switch and socket contacts are

The panel layout is exceedingly sim

all right.

it carefully with the circuit diagram and see that each lead is correct. This

Proceed with the rest of the wiring,

ple, there being but one control. Thus

making sure to connect the radio fre

it is possible to give the panel a simple

done, connect the batteries to the set. "B" battery voltages should be forty -

quency coils correctly. The antenna

and dignified appearance. The special

five for the detector and ninety volts

tuning coil, or first radio frequency

tuning condenser should be mounted

for the remaining tubes. Six volts

coil, is the one with the largest number of primary turns (eight turns).

in the center of the panel, from left to right and just above the centre from

are used for the "A" battery when 201A type tubes are used.

It should be remembered that the grid

top to bottom. The two rheostat dials

There are no tuning directions nec-

return leads from each coil are connected to the rotor of the condenser.

are placed one on each side of the master tuning dial, these being on the

essary as there is but one dial to turn. Rotate this tuning dial slowly and then

which is a common connection for each

horizontal centre line. The jacks and stage.

battery switch are placed in line about

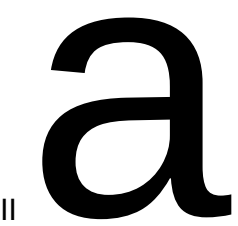
log the station, that come in.

An excellent view of the completed receiver showing the relationship between the instruments mounted on the panel and the tube sockets on the sub-panel www.mrinrihir.m

# Cross Word Contest

First Prize -3 -tube Wireless Age Radio Receiver. Second Prize -Two 201A Radiutrons. Third Prize -Pair Brandes Headphones. Fourth Prize -Ham- marlund Condenser. Fifth Prize -Accuratune Dial. Next Five Prizes - Annual subscription to WIRELESS AGE -THE RADIO MAGAZINE.

HORIZONTAL. -Insect 1- Eurupean blackbird 6- Existing In name urn) 6- Japanese soin (Pl.i 9 -The twelve hods 11-Upright 13- Prepare for publication 15 -Saucy



ai 7 Ti f7 ail i// 8pp f--1 ' ?

VERTICAL.

-South American republic 2 -Lays wager 3-- Girl's name 4-Place when money is coined 5-- Facility 6-One who makes will 7 -Sends out ether waves 8 -Upper face 16- Genuine; honest 11- Ridicule 12 -Exist 14- Aqu atic bird 15-Dlt Da Da Dit; Dit Da DR; Dit Da Dit; Da 16-Collection of cattle 17- Broadcasting station In Alabama 19- Iranian language of ancient Persia 20-Cut away 2l -To put together radio parts 23- Non -conductor of ectricity 24- Uttered 25-Wandering pastoral 27- Self -exaltation 28- Father (Latin) 30-Bar 32 -Short interval 33- Ancient privilege to hold court 34 -High Frequency Current 36 -Body of water 38- Sooner than 45- Exclamation of wonder (Ob.. 47 -Part of motor at rest (PI.) 48- Embellishment 50--- Confidence 51- Religious recluse 52- Earnestly employed 54 -Moved quickly 56- Encounter 57 -See unexpectedly 58- Evolved by ignition 60-D it Da Dit; De Da De; Dit Da Da 62 -Barrel or cask 67 -Reply prepaid radiograms (Code) 70- Without means 71- Breezy; gay 73 -Dit Da De Da Dit Dit Da Dit 74- Composed of two 76-Glide or slide

# DIAMOND c ROSS HenoseDittus C m Prize 3

39

la vs

ill li

16 -To cut with an use 18- Girl's name 20- Introduction to a book 22- I1ackney- coedres (Fr. 25-One who tells 26- Aerial. 28 -Left side of a ship 29-Collector of electrical 31- Excavates 33 -Alike 34- Possessive 35- E

mploys 37- Stupefying drug 39 -Facts granted 40- Belonging to 11 -P enesc 42-Printer's measure 43 -Acid lute 44- Surrender 46--Da Dit Da Dlt; Dit Dit Dit, Da Da Da; Dit Da Dit 49- Extent 52- Pigmente used In

painting 53 -Dress III.) 55 -An American swan 58 -Lead wire Inserted 39 -Total Impedance in 61- Absurdity 63- Toothed 64 -First circuit 65- Judicial sentence of 66- Attempt 68- Attendant (Fr.) 69- Private srhr.d tenting.

abbr.I 71- Prefix meaning before 72- Frozen vapor 74 -Cut into rubes 75- Sharing the crown of the head 77- Suaidiury electric circuit C8- Nothing 79 -Cale for Paid Radio Message

pronour

in circuit circuit

condemnation

II /s... ¡

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/,' lo 1 '7 .1 lid ▪ ▪ ▪ 11111 iiii Í.. `| \li al

w1 ..Zil

VI

ei,

Conditions -Correct solutions accompanied by the best 50 -word letters suggesting improvements in AGE will be awarded prizes in their respective order as specified above. The editor of WIRE- LESS AGE -THE RADIO MAGAZINE -will judge the letters on the basis of practical value, style and legibility. Closing date May 15. Solution will appear in June and winners in July. WIRELESS

MARCH WINNERS.

# SOLUTION TO APRIL'

Abbott, L. S., Pompton Lakes, N. J. Anderson, Geo., Millington, N. J. Becker, Otto R., Milwaukee, Wis. Blakeley, Kenneth F., Rockford, Ill.

# PUZZLE

MARCH WINNERS. Lopez, Lester, Buffalo, N. Y. Meagher, Elizabeth L., Miami Beach, Fla.

Bongura, Mrs. N., Jamaica, L. I.

Brink, Harvey, Round Lake, N. Y.

Winners will be announced in

Michels, Clarence E., Hampton Falls,

Brodhead, E. F., Galveston, Tex. Burritt, L. B., Waterford, N. Y. Coleman, A. E., Watervliet, N. Y.



Rf

AST/41 M© TERDIREcT:iPEDLATG RPAcESE

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Dayton, Mrs. W. B., Bloomville, N. Y E

Munson, Leroy J., Ft. Edward, N. Y. Murphy, Mrs. C. W., Westfield, N. J.

De Hays, William, Elkhart, Ind.

F 5 To PaC TRE DRIEDNS

Nicholls, G. W., Boston, Mass.

Devine, Charles H., Roxbury, Mass.

o T D T E A R S E S o A R 5 T A T

Obrey, Amos, Springfield, Mass.

De Vizio, Joseph, Bronx, N. Y. Diehm, Dewey S., Coatesville, Pa.

T/ HE

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/T/NOR SPAR DONE CORALTRIZ(0,6 BOREDCROODIOEn 8EQ 5OVNDcOEY/EL.7>S A5 d OLDS AIR

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Van Name, C. Eldredge, Port Rich mond, S. I. Walz,' L., Brooklyn, N. Y.

Wickersham, John, South Ozone Park, N. Y.

Wolverton, Dr. W. C., Linton, N. D. Zeh, Arthur P., Beacon, N. Y.

Figure 1

4erial. Tacks -,t

T

to Ground ;.i.1 .

S

Figure 2

ERIALS

THE OUTDOOR AERIAL

THE INDOOR AERIAL

# Outdoor Indoor

'By William 7. Crosby

and Loop

AN AERIAL is frequently the most neglected part of the radio fan's equipment and yet it is

probably one of the most important units in the whole outfit. A glance at any of the roof tops in a city will show just how little attention is paid to the aerial after it has once been put in place. Apparently many of these have been completely forgotten with the result that poles are bent and wires sag in a way which is sometimes positively dangerous to pedestrians. In one or two cases poles have come down in wind storms, injuring people in the street and a recent case in the Bronx led the landlord to put a ban on all aerials on his buildings. The result was that many innocent fans were

Of course this was a freak pure and simple and it could never be duplicated again no matter how we tried. This, naturally, might lead one to believe that galvanized wire is the best for an aerial, but if this is so, it is against all the theories of radio and, in the long run. better results will probably be obtained with a copper aerial. Usually number fourteen bare copper wire will stay up the longest and give the best service. The stranded wire, so popular, has to be put up quite carefully, because it is so flexible, that connections will pull out, unless soldered.

Gold plated aerial wire is, in our estimation, one of the useless things of radio. Silver is generally given

most any kind of wire may be used in

made to suffer for the shortcomings

credit for having the lowest resistance,

of only one of their number.

such an aerial. The writer has carried

with copper only a little higher. Gold,

on experiments along these lines and,

It is just as easy to make a good job

believe it or not, on a one- hundred

of the aerial and at the same time it

on the other hand, comes considerably above even the copper. Gold has only

foot aerial made of galvanized iron

will give far more satisfaction to

one advantage, and that is that it does

know that it is going to stay in place

wire, size number sixteen, KGW in

not corrode, but we believe that the

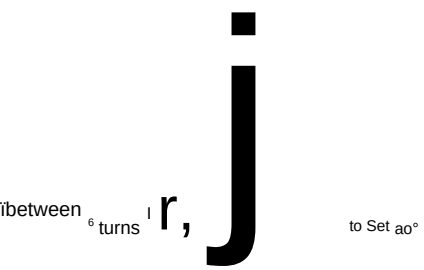
Portland, Oregon, was heard on a one

no matter what happens. Quite fre quently the sagging aerial will change

tube regenerative set!

added resistance will more than offset any advantages to be gained by the

its characteristics to such an extent that signals from distant stations will fade in and out quite badly. This is due to the change in tuning caused by




non -corrosive feature.

The ideal aerial for all around work appears to be a single strand of num- ber fourteen hard drawn copper wire.

the aerial wire swaying back and forth. There are only three different kinds of aerials, outdoor, indoor and loop.

Each seems to have many variations and every one has its particular use. Let us take up the outdoor aerial first. It is generally the most satisfactory with any radio set with the exception of those receivers which are

/I,

one hundred feet in length and reasonably high. The higher aerials are usually credited with picking up more static than the lower ones, but they are better for extreme distance work.

An aerial of this kind should extend in a straight line with the lead-in from one end. The aerial which has several bends in it, together with the lead-in from the center or somewhere

especially designed for loop work. Contrary to the general opinion, al

SPIRAL

LOOP

23

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(Turn to page 601

# 1' O OW-LOSS COILS for the Direct Coupled Regenerative Radio Frequency Receiver described in the APRIL WIRELESS AGE -How to construct them

`B y K. ¿M. facIlvain

I\ TIIE last issue

function of the resistance. Power

of this magazine, I

losses increase directly as the resis tance is increased.

described a radio - frequency receiver hav ing direct coupling in

dielectric, namely, a substance through which it is impossible to set up a con- tinuous flow of electricity by the ap- plication of a constant electric field.

i(

Now to cite the second fundamental

fact that we should know.

the input circuits of the

That is what we want, but sad to say. it is something we cannot have for the

2. Insulating materials in the field

first two radio - frequency

of a coil will increase its radio -fre quency resistance due to "dielectric

amplifier tubes. This feature was augmented by the introduction of absorption."

very simple reason that no such substance exists. Free space may be considered a perfect dielectric and in accepting this conclusion we do not contradict the statement which starts this paragraph. Free space is not a "substance" and differs from a "substance"

So you see, it is not metal alone that should be kept out of the field of a radio -frequency coil, but dielectrics as well. It may be that you don't know what the term, "dielectric absorption" means, so for the benefit of those who do not, I will explain that it is a property possessed by insulating materials of absorbing electrical energy when subjected to the influence of an electrostatic field, and releasing it slowly when the field is removed. Thus, if a condenser is charged and discharged, and then left on open circuit, it will gradually acquire a charge, due to the absorption of energy from the dielectric. This energy is released when the condenser is discharged through a low resistance. Dielectric absorption is a source of trouble in many kinds of electrical apparatus, and it is a source of trouble in radio receivers. It is a source of trouble in the regeneration control circuit of the first tube in the plate circuit of the detector instead of in the plate circuit as is

7 usually the case. The purpose of this

in that it does not contain electricity. All substance contains electricity. From the foregoing analysis we see that we want a coil wound on a per-

fect dielectric and we want to keep all imperfect dielectr

those that are not satisfied with mere terms alone, I will just give you a short description of its meaning. Every substance is a conductor of electricity, at least to a slight extent, but some substances are far better conductors than others. A substance in

article is to tell something of the inherent characteristics of bona

fide low -loss coils and to

explain the method of

5 constructing the coils

field of said coil. The perfect coil, then, should be a self -supporting coil, (Turn to page 68)

used in the above men tioned receiver.

which a con- stant electric field produces

4

There are two funda mental facts about ra dio- frequency coils that we should know right at

only a slight flow

of electricity, is

3 the start.

called an "elec tric insulator" or a "dielec tric." Due to

2

1. Metallic objects in

the field of the coil will

the fact that all

increase its radio -fre quency resistance, due

dielectrics a r e imperfect from

to the fact that said

an insulation

metallic. objects will

standpoint, they will, when

have eddy- currents in duced in them and these

placed in the

eddy- currents will absorb

field of a coil

power from the circuit.

carrying cur rents of radio - frequency ab sorb energy

To prove this, just try one simple experiment. When you have your re ceiver in operation, tune in a station

and put it on the loud speaker, Then

from the cir cuit. If they were perfect,

take a pen -knife or a pair 4f pliers and insert either in the center of the

magnetic field of one of your tuning coils. When you note the decrease in

they wouldn't.

This is what is

output volume it should convince you of one thing and that is that "metallic

termed "dielec tric absorption."

objects in the field of the coil will in crease its radio -frequency resistance,"

What we want

although I don't know whether you

in the field of

will be satisfied about that "eddy -cur rent" theory or not.

our radio - fre quency trans former, then, is

It might be well to note right here,

also, that power losses are a direct

a 100 per cent.



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The form used in winding the coils

# Broadcast Impressions

'By fd Y(anda ll.

Wilfred Glenn, singing the "Rosary"

at Eveready Hour of Music, broadcast

from WEAF and a number of other

stations

Joseph Pasternack, Director of Victor

Concert Orchestra, broadcast from

Station WEAF

Ethyl Hayden, singing "Mighty Lak a Rose" in Eveready Hour of Music,

broadcast from a chain of stations

Chas. Harrison, singing "The Quest" in Eveready Hour of Music, broadcast from Station WEAF and eight other stations

"The Man in the Silver Mask," tenor soloist with the Silvertown Cord Orchestra -His name is never divulged, and he comes masked to the studio in

a closed limousine; even the announcer being kept in ignorance of his identity

Reinald Werrenrath, genial and robust baritone, sang the "Gypsy Love Song," "On the Road to Mandalay," and the prologue to Pagliacci, in the concert by the Victor Talking Machine Co. Mr. Werrenrath is of the Metropolitan Opera Co., a graduate of New York University and a member of Psi Up silon. At college he was a star swim-mer and he still is



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Rose Bryant singing "The Little Toy Dog" in the Eveready Hour of Music, by Ethelbert Nevin, broadcast from WEAF

Max Jacobs, leader of Orchestra, Eveready Hour of Music, by Ethelbert Nevin

# RADIO

By

H. T. Strand

THIS article Is intended for those who have a fair knowledge of woodwork and a little cellar or attic shop and the general tools usu ally necessary in such a place. The writer made the cabinet described, un der those conditions the stock for the main parts of the cabinet being milled out to size by the local mill, which gives accuracy to the start of the job. It is made entirely of ma hogany. To economize so called "shorts" can be obtained at a much less cost per foot than regular lengths. One inch rough stock by widths up to 15" was selected, and some 3" or 2" stock for the corner posts a nd milled down to g" for panels. 5/" for doors, h" for top rails, 3/16" for cover top and l%" square for corner posts.

All stock can be cut to size by the mill except cover top, top rails and doors, and these had best be fitted by hand later. The first process is to dowel the

# ABINETS How to build an artistic ho using for your receiver, loud speaker and batteries

where the dowels are to go, about half way in and cutting off, leaving about %" out. Now place corner post up to meet brads using a 3/16" piece for a guage to set panel back from face of corner post that much, and when all is ready give edge of panel a sharp blow to make brad impressions on corner post, and after pulling out brads

you will find the exact places to bore your holes for the dowels. Use a sharp ha" auger bit for this and be sure and bore the holes straight. This operation can be repeated on all four sides, and then the dowels and hot glue can be used to advantage. Figure 2 and 3 give an idea on arranging the parts.

When the three sides and the front rails have been doweled, glued and clamped, put it away to set for a day. The next job is the h" top rail, I%" wide, that finishes off the top. This is glued and bradded down, mitreing the corners and slightly rounding the edges, 3/16" projecting

The finished cabinet

posts. This can best be done by driv- ing short brads, at the four places

side and back panels to the corner

(Turn to page 62)

"a) t.f)

t

Y

PANEL

LAYOUT

Horn made from wood .. enflamed in egg mites,:

Gumwood moulding used_ of ormiers inside finish

TOp-12}xl3i'.

2 aTSO Sn'C.fs

Directors of gram ;,-

tV |

fOr B Ba' tan

- 'Oral .... ...

% G 16,

fnoles drilled and maple dowels glued in to pre-

Figure 4

Ari panels set in r from 'ace of corner posts

Corner Post

Doors 9x61

-.

-Mired at Corners j Top Rail w ,

vent warping ',

isM=lici ,,t

jjI!_1 id

ceued in I r

T" far

x'..

Panel ll, al.:._,'

, 1 Dowels

SIDE DETAILS

Same for back except Tai" wide panel

Face of Horn ana

closet set In for .

tnickness of doors

StetROd of holding

Ñ

4s:_crrsr

Leage

11`

ll

'slats of horn

V LI* il

xeli 44i-44r44444

\J' J

Figure 2

i

Figure 5

-'Saw cuts Dowel"

Leisttery Closet

ISf

Figure 3

Legs are turned separate ana put on by dowels

ana glue

Constructional details of the radio cabinet z(

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MAY, 1925 INTERNATIONAL

 (Continued from page 19)

that project the resemblance is still greater because they have in common some affixes and grammatical endings. The enthusiasts do not know all th

is , they simply notice

the sympathizers of the doctor in the Committee argued that if that system were adopted, it would be unfair not

the great resemblance and therefore honestly believe that Ilo is a simplified project of Dr. Zamenhof.

to mention his project in the final decision. Through

A few phrases and sentences that may occur in every

day life will best show the relation of these two systems

"such moral and sentimental arguments they succeeded

to one another. See the three -column text below.

in obtaining the wording of the known decision. This explains in which sense the Committee adopted that project; it means that the Committee ha adopted the system of grammatical endings." It cannot be expected that

Finally we shall give an illustration of Ilo by translating

enthusiasts should understand all this. They take the de cision at its face value.

Considerable similarity is bound to exist between Ilo and Zamenhof's project because of the large number of

into it an exquisite piece of English literature. It will be seen that the beauty of the original is fully preserved in the translation, which is possible only

with improved Ilo, but with no other system. This is another important feature distinguishing the former from all previous solutions of the International Language problem.

The reader is reminded to look up the rule of grammar

Romanic roots common to all modern solutions of the International Language problem. They all resemble one another very much on this account.

Between Ilo and

and pronunciation given in the preceding article shortly before the illustration.

English

1. All this.

2. All those whom.

3. Always and everywhere. 4. Until here and no further. 5. For even here you make a mistake. 6. For you forgot all this.

7. Do you live here?

Ilo

Omna co.

Omna ti quin.

Sempre ed omnube.

Til hike e ne plu fore. Nam mem hike tu facas un eroro. Nam tu obliviis omna co. Ka tu lojas hike?

Zamenhof's Project

Chio tio -chi.

Chiujn tiujn kiujn.

Chiam kaj chie.

Ghis tie -chi kaj ne pli malproksime. Char ech tie -chi ci faras ero.

Char ci forgesis chion tion -chi. Chu ci loghighas tie -chi?

8. Do you know all your lessons of to day? 9. She just learned everything. 10. For her voice seemed to change. 11. Does she always blush?

Ka tu sayas omna tua hodierna lecioni?

El jus saveskis omno.

Nam elua voco semblis chanjar. Kad el sempre redeskas ?'

Chu ci scias chiujn ciajn hodiauajn leci- ono jn ? Shi ghus sciighis chiots.

Char shia vocho shajnis shanghighi. Chu shi chiam rughighas?

Shi havis la plej graciajn malgrandajn

El havis la maxim gracioza mikra blanka

12. She had the most lovely little white

blankajn piedetojn kiujn bela lambin() nur povas havi.

dainty feet which a beautiful girl can ever have.

pedeti, quin un bela puerino ever povas

havar.

Ma el esis tote nuda, e pro to el envolvis su en sua densa longa hari.

13. But she was all nude and therefore

she wrapped herself up in her thick

long hair.

Sed shi estis tute nuda, kaj tial shi envolvis sin en siajn densajn longajn harojn. Multaj kompetentaj personoj estas konvinkitaj, ke multaj shanghoj kaj plibonigoj

Multa kompetenta liudi esas konvinkita, ke

14. Many competent people are convinced that many changes and improvements of the language are desirable and even necessary.

multa chanji e boniorigi di la linguo esas dezirinda e mem ncesa.

de la lingvo estas dezirindaj kaj ech necesaj.

Esas forsan posibla solvar omna ica pro blemi altre.

15. bt is perhaps possible to solve all these

problems differently.

Estas eble eble solvi chiujn tiujn -chi proble mojn alie. La letero de la profesoro ricevita de la

La letro di la profesoro recevita fro la

16. The letter of the professor received from the secretary by the scholar

sekretario de la lernisto per sendito al portis nur neklara klarigo de la malfa cileco.

sekretario da la dicipulo per un senditu

through a messenger brought only an indistinct explanation of the difficulty.

bringis nur un neklara expliko di la des - facilezo.

Hhloral- hidrato kaj hhloroformo estas

Kloral- hidrato e kloroformo esas kemiaji

17. Chloral hydrate and chloroform are chemicals justly liked by all physicians

hhemiajhoj ghuste shatataj de chiuj kur acistoj kaj hhirurgiistoj.

and surgeons.

juste prizata da omna mediki e kirurgiisti.

Spirite hlindaj, iel au alie, estas chiuj tiuj,

Mentale blinda, ule od altre, esas omna ti,

18. Mentally blind, somehow or other, are all those who, having read all these

kiuj, post kiam ili estas legintaj chiujn

qui pos lektir omna ica simpla omnadia

frazi e zaci, ne vidas statim, ke Ilo esas tre distingita fro la projeto di Dro. Zam enhof ed imense boniora e superiora.

plain everyday phrases and sentences,

do not see at once that Ito is very

distinct from the project of Dr. Zamen hof and immensely better and superior.

tiujn -chi simplajn chiutagaje frazojn e frazojn, ne vidas tuj, ke Ilo estas tre dis - tingita de la projekto de Dro. Zamenhof kaj treege pli bona kaj supera.

La navo sur la sturm- pulsata maro The Ship on the Stormed-Tossed Sea da Washington Irving, Skiso -libro. by Washington Irving, Sketch Book.

la sonaja dezerto di aqui e verdis ekizata e prolongara the wild waste of waters, and were echoed and prolonged da la monta ondi. Kande sue vidis la navo rulanta e

by the mountain waves. As I saw the ship staggering and precipitata inter ica nutjanta kaverni, semblis mirakloza,

La sturnzo kreskis kun la nokto. La maro esis fogata

plunging among these roaring caverns, it seemed miraculous

The storm increased with the night. The sea was lashed

ke ol riobtenis slfa equilibro, o retenis sua natokapablezo. that she regained her balance, or preserved her buoyancy.

ad enorma konfuzezo. Esis un pavorplena, depresanta into tremendous confusion. There was a fearful, sullen

Olua yardi plunjadis aden la aquo: olua pruo esis preske Her yards would dip into the water: her bow was almost

sono di moveganta ondi e ruptita maramasi. Abismo

sound of rushing waves and broken surges. Deep

obruita sub la ondi. Kelkafoye un intpendanta marantaso

renkontris abismo. Kelkafoye la nigra amaso di nubi

buried beneath the waves. Sometimes an impending surge

called unto deep. At times the black volume of clouds

semblis pronta destruktar ol, e nulo altra kanz un habila appeared ready to overwhelm her, and nothing but a dexterous

supere semblis dislacerita da erupti di fulmino, qui tresayis

overhead seemed rent asunder by flashes of lightning. which quivered

movo di la guvernilo prezervis ol fro la shoko. movement of the helm preserved her from the shock.

alonge la spunzifanta tetnpestondi, e rendis la sucedanta along the foaming billows, and made the succeeding

The first Radio Lexicon in French. English, Spanish, Italian. German and Ilo is the work of John Nordin of Finspong, Sweden. Kurt Feder of Frankfort (Main) Germany and Mr. Roos. It may be obtained fro m the

obskurezo duople terorigiva. La tondri strepitis super

darkness doubly terrible. The thunders bellowed over

latter by writing him care this publication.

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# A Radio

Madeleine

Mac Guigan, violin

virtuoso of
the air

WHEN you tune in on the elo quent strains of Miss Made leine MacGuigan's violin to night from WEAF, or tomorrow from WJZ, or another day from WOO, don't be misled by the facile announcer into taking for granted that she is a sweet young thing who knows only how to draw a rather smo oth bow and pluck an occasional G string. Of course, Miss Madeleine does know how to pluck and bow -and that consum- mately, and Miss Madeleine is young and sweet. But there's more to it than that, you know.

Behind the exquisite music that comes to us out of the ether on the nights when she plays for her large radio audience is a life short, but crammed w ith experiences. In fine, her music glows with life because the girl who plays that music has lived. Not many young ladies of the twen tieth century can tell of long ocean voy ages when scarcely out-or into !L short skirts, of fiery -and vain -woo ings by Hungarian noblemen, of duels



# TA R interviewed

By

J. @Addy

I have a radio and have heard you play the violin over the air from Station WEAF from the Mark Strand Theater. I have seen your name and picture in the paper many a time, and was always wishing for the time that I could hear or see you again after all these years. Now you are wondering who is writing to you. Well, I wonder if you would remember me. Of course you were a little tot only seven or eight years old when I left Monaghan. I am, or was, rather, Louie Kelly, and went everywhere with my twin sister, Lena. We lived in Market Street. Many a time was I in your home in Glasscough Street. I was taking violin lessons from Mr. Rocks at the time you were, and well I remember your dear mother saying, "Madeleine will be a great violinist some day." Her words came true, for you are certainly a wonder. I have started my oldest boy with violin lessons, and I only hope he will be like you. ...

Wishing you all success,

from Mrs. O'Connor, formerly Louie Kelly, of Monaghan, Ireland

As a little girl in pigtails, and wielding a violin almost as big as herself, Madeleine made her first public appearance as a musician. All she now recalls of this momentous event was that the kind ladies all clapped and her mamma was very, very proud. The elder MacGuigans, just before the outbreak of hostilities in 1914, decided that, after all, America was the world, of long concert tours, of triumphs as soloist to world-famed symphony orchestras, and last but not least, of a star position in the newest artistic fields, radio broadcasting. Umsteen years ago in the hamlet of Monaghan on the Emerald Isle a baby girl was born to an American mother inaugurated for one's mere favor, of gypsy inamoratos; and, in a different of

and an Irish father. Linked in her were the vivacious charm of Old Erin, the initiative of the New World, so that at the early age of five years the girl decided she would be a great musician. From the tutelage of the village fiddler she graduated to a conservatory in Dublin.

place for them. So we see Mistress Madeleine, blossoming now into charming young ladyhood, vivifying the mortuary city of Philadelphia with herself and her music. But not for long.

Another trip across the Atlantic; and this time, past the great rock of Gibraltar, and on across the Mediterranean, she and her mother traveled.

Fictionists are fond of uniting long-separated chums by radio. Things that ought to happen in books have a way of occurring in real life to Madelein e MacGuigan. Here is a letter she

Quaint Buda-Pesth, in Hungary, the

land of the folk who "enjoy life with

Miss MacGuigan in various poses

found in her mail the other day. Throgg's Neck,

New York.

My dear Madeleine,

I take great pleasure in writing to you to let you know that at last 28

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tears in their eyes," was their destina tion. Hubay, famous teacher of the violin, lived there. Mrs. MaoGuigan had to return to her family in the Unite d States, but Miss MacGuigan stayed on, and perhaps in this country of hills and woods and gypsies, of offi cers and mountebanks and comic -opera

princes. learned things outside her mu sic or her school books.

"I love to walk in the woods, where little gypsy fiddler boys grow on the very bushes and follow you endlessly until you give them a, few pennies to ru n away ; and where every few feet you come upon a cozy inn," Miss Mac - (;uigan told me. Then, "The young men of Hungary, to say nothing of the old, are a very amorous lot. They are terribly persistent and ingenious, and cannot possibly believe you when you would tell them No.

"One day I was sipping tea in one of the cafes where you eat and drink at little tables on the sidewalk instead of inside. A dashing young man saw m e, seated himself opposite me, pulled a notebook from his pocket and com- menced to sketch. Every once in a while he would look up, study my face as if in deep contemplation, chew his pencil stub, and -got at it again. It got to be so embarrassing that I was blushing furiously. I left, though I w as rather fascinated by him. Where he got my name I can not imagine, but a day or two later I received a letter reminding me of the little event, a nd begging me in most pathetic terms to end his anguish by marrying him.

"Another time I was strolling along with a girl friend of mine, a school mate, when a young officer brushed against me as if by accident, then pro c eeded to make a gallant and long drawn out apology. Finally we got away from him. I have always sus-

pected that it was my girl friend who gave him my name ; at any rate, I received a passionate love letter the next day. The lieutenant insisted that I meet him somewhere. I happened at the time to number among my real friends a boy of twenty, whom, as I was a very young woman, you know,

I regarded as a big, strong man, one who could advise and protect if I happened into a difficulty. I showed him the letter and asked him what I should do. "Upon reading it he grew red in the face. Perhaps he himself liked me better than I had ever let him tell me I do not know. At any rate, he pocketed the letter, and without a word



The versatile Mus Madeleine as the "Gypsy Fiddler" in "Salome of the Tenements"

witching, graceful, seraphic, exquisite,

took his leave.

thought I detected a note of disappointment in her voice as she replied: "The challenge was never an

delightful, captivating, physical and

"That evening he called on me. " ' Meine Fraulein,' he announced,

with his chest puffed out, but his face

swered."

terribly pale, `Mein Fraulein,' the

magnificent womanhood ..." Envy the stars their stacks of letters, but thank the Lord you don't have to

American men are not quite like this,

matter is arranged !"

Miss Madeleine finds. They have a way of their own of going about it,

read them all ! "People have some stupid ideas,"

" 'What is arranged? What on earth

Miss MacGuigan told me, changing the

do you mean ?" I asked.

as some of her fan letters rather keen

subject. "They say, 'It is too bad you

ly attest. Here are a few words picked

'"Tomorrow,' he said, 'and you shall

don't sing over the radio, and tell jokes,

more or less at random from a letter

know the outcome. I wrote the scoun drel a note giving him the choice of

for then you would get your personal

sabres or pistols at thirty paces.' "

that is almost as long as this article.

ity across to all the people that listen

The poor chap had heard her way

to you.' Now I think that persons who

down in New Orleans, had seen her

Miss MacGuigan stopped abruptly at this point. Anxiously I asked what

talk like this never could have listened

picture in the paper, and -succumbed.

had been the outcome of the duel.

"You are enchanting, alluring, be www.mrinrihir.m

(Turn to page 76)

i0 WIRE

## Quality and DX with 5 Tubes

the last mentioned -on the under side of the panel. These are mounted as dose as possible to the leads to which

(Continued from page 13)

time. The filaments of the amplifier tubes are controlled by one rheostat, and the filament of the detector by one, and the filament of the radio frequency tube by another. This was found

two variable condensers and approximately 2%" down from the top of the panel.

they are connected, and it is much better to bolt them through the sub-panel by means of two 6-32 screws where

to be the best arrangement and gave the best results.

they will be fixed, than to have them hanging in the air supported only by bus wire.

Of course you must remember to connect the rotary plates of the vari- able condensers to the filament side of the circuit and the stat

plates to the grid side of the circuit. The detector jack is not necessary and may be omit- ted if desired. The amplifier jack has extra springs for

automatic filament lighting of the resistance coupled am- plifier. If the detector jack is used It is inserted in the B battery lead running from the

nput posts of the resistance -coupled amplifier to the B battery binding post of the set. The jack merely breaks this circuit

when the phone plug is inserted and closes it

RANGE

If the set is constructed exactly like the original it will be found to be

WE WERE certainly pleased with

respe

very steady and able to withstand con- siderable rough treatment. In reality it can stand more banging around than should be accorded any

ctable

ra- dio set. This rigidity is to be desired as it makes for accurate calibration of

the way this receiver brought in

Schenec

Philadelphi

distant stations. Its most spectacular performances were WGY of tady at noon time with good strength and WFI

a

vicinity

about the same time. As anyone knows, in the of New York, DX in the day time is

your dials and an assurance that the

set will always operate. The con- structor will do well to lay in a sup- ply of 6 -32 machine screws and nuts, of various lengths from %" to 1/" which will

be of valuable assistance in the assembly process. Place every-thing upon the sub -panel that is to eventually be there and locate your ap-paratus s o that best connections and shortest leads may be obtained. When this arrangement is found center punch all holes and then start drilling. After t holes are drilled, mount all your apparatus on the sub -panel, then on either en

out of the ordinary to say the least.

Mid- Western stations can be relied

upon for loud speaker volume through

local broadcasting. The dials can be calibrated quite accurately and if tubes

and batteries are not changed the same station may be brought in repeatedly

at their regular dial settings. Its very great selectivity was con- spicuous while the set was in opera- tion in the heart of the "congested air"

of the metropolitan district. With

tour stations operating full blast, with in a radius of two miles -all 500 -watt

'cations, this receiver just stepped right out and brought in the distant ones without a whisper from local in terference. We consider selectivity param

ount in a receiving set and our laborat cer- tainly there is no better place to dem onstrate a receiver's ability or short comings in that respect than in

ory. If we can't tune out WEAF on 492 meters entirely and bring WOC on 484 then that receiver

two excellent additions to the radio constructor's equipment, the two Ben- jamin panel brackets.

again when the phone plug is re- Remember when using resis- tance- coupled amplification immedi- ately after a detector tube that it is necessary

to use about twice the de- tector voltage as one would ordinarily use with transformer amplification. The 100,000 -ohm resistance formin

g the input to the amplifier cuts down the ettective voltage on the plate of the detector tube and to compensate for this a higher volt

age must be used. This amounts to about 45 volts for a L\-200 and 45 to 67 volts on a UV- 201.-k. This receiver has given us keen pleasu

re in constructing and it DOES WORK. moved.

In the past three or four years of the radio art there has been no greater need than for just such a piece of apparatus as this panel bracket. We have used wooden baseboards and fastened the panels to them and we have used hard rubber or Ibakelite sub -panels fastened by a cumbersome angle bracket which would have served better supporting the Brooklyn Bridge and we have used pieces of brass bent

D -Coil

is not up to par. Perhaps we should not say "par" here as too many of the lower class receiving sets are not capable of that degree of selectivity. However that is our own personal par and we govern ourselves accordingly. "fry as we would we could not make

(Continued from page 17) While he is gone the station in question may sign off and when the operator comes back into the room he may forget that he has left the set turned on and the cover being down, he doesn't notice that the tubes are lit. If there is a little bug lamp on the front of the set like Professor Rollins has, it will be evident immediately that the tubes are on. The interior view of this receiver shows the tubes and the coils mounted on a little platform at the rear of the assembly. The bus-bars carrying the "A" and "B" battery potentials run along under this platform. The audio-frequency transformers

in the shape of an inverted Q -all this improvisation when the Benjamin pan- el bracket was all that was needed.

The all around efficiency of the set is increased perceptibly by the use of a sub -panel such as this and by fasten ing everything down ship -shape.

this five -tube set more selective than

our "DX -Go- Getter" of December, 1924 fame -but why make tuning a task ? We can reach limits in this respect beyond which it is not desirable

PANEL

to go.

## How To BUILD IT

N0 SCALE drawings will be necessary for drilling and laying out the panel as the illustrations are excellent. The apparatus on the panel includes the two variable condensers, the detector coupler unit, the three Bradleystats, the two jacks, voltmeter

are also located under this platform, directly under the audio-frequency amplifier tubes. The terminals for antenna, ground and battery connections are all mounted on a piece of bakelite at the back of the set. There is an opening cut in the case so these terminals protrude through the rear when the case is in place, leaving them easily accessible.

IN BUILDING a set of this type it is absolutely necessary to procure all the requisite parts before starting the construction. The apparatus on the sub-panel should be mounted and fastened to the sub-panel according to the illustrations. The resistance coupled amplifier is placed to the extreme right of the set and nicely fills up this end of the sub-panel. On this panel and fixes the "up and down" position of the two variable condensers.

Following our usual practice, a center line is drawn the full length of the

The jacks and filament switch are mounted 1/" up from the base of the

shelf must go the antenna tuning coil, the radio frequency tube socket, the

A careful study of the lay -out that Professor Rollins has created should give us all some mighty good sugges- tions- for the next' receiver we b

uild or even for revamping the

panel equally distant from each other, and the detector coupler is mounted so that the shaft centers between the detector grid condenser, the detector socket and two by -pass condensers

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# World Wide News

By C. S. eAnderson

Dr. Latour's Patents - Hearst -Schenck Radio

Managing Editor of \VIRELESS Act.

Chain - Radio Hits Florence - South Africa's Stations -Radio Millenium League -New Station

for Australia- French Invention Stands Tests

# Dr. Latour's Patents

by the Italian Broadcasting Company, while Rome was too far away to be of general

LCENSES to use the Latour patents have

been acquired by the American Tele

interest; but the number of listeners -in is now increasing by leaps and bounds. The

phone and Telegraph Company, the Radio

Corporation of America, the Postal Tele

Company has now issued regular time schedules for broadcasting in Florence; and

graph Company and the Freed -Eisemann

this seems to be one of the main causes for the stimulated interest which grew

Radio Corporation. Dr. Latour estimated

these agreements would have a capital value

of more than $1,000,000.

slowly at first.

Hearst- Schenck Radio Chain

South Africa's Stations

SOUTH AFRICA has made a habit up to

WILLIAM RANDOLPH HEARST and

now of figuring in the current wireless

news as a party to long distance reception

Joseph M. Schenck, moving picture

and transmission records , but it is inter

producer, have combined to erect a chain of

four broadcasting stations, stretching across

esting to note that this distant part of the British Dominion has developed extraordi

the United States, whose daily program will

Premier Baldwin broadcasting an appeal for the Y. M. C. A. through station 2LO

narily in the broadcast field as well. Three

be available simultaneously to every radio

fan in the country, according to an announce-

stations have been in operation there for some time, at Cape Town, Johannesburg,

ment made through Universal Service.

should be done , and a notice was run in

and Durban, and now two more have been

New York, Chicago and Los Angeles have

the paper inviting everyone who owned a

added. The new stations are gifted with

been selected as three of the cities where

receiving set in Great Britain to join. The

the remarkable names of Slang Kop and

the radio stations, to cost $1,000,000 in all,

Walfisch Bay.

will be located. The fourth city has not

yet been chosen.

response has been so great that the news- paper offices have been fairly swamped with applications for membership and an appeal has had to be sent out asking the fans to

Radio Hits Florence

Radio Millenium League

please wait until the league officers can

AN unsuspecting London daily has found

dig themselves out from under the ocean of letters.

ONE after another the old world cities

that millenial plans are far easier to

start than to handle; and now they are

have been succumbing to the spell of

calling for help. A few days ago it was

wireless; and now Florence, Italy, has taken

decided to form a Wireless League to do

radio to its heart. It was only a short

everything for Britain in a radio way that

## New Station for Australia

time ago that a station was erected there

Viscount Shimpeo Coto. former Home Minister and Foreign Affairs Minister of Japan. echo is now President of the Tokyo Radio Broadcasting Bureau, listening in at his office 31

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PLANS have been laid by the Queensland Government, in conjunction with Amal gamated Wireless, Ltd., for the erection of a broadcasting station at Brisbane. The sta

tion, which will be a "Class A" broad caster, will be provided with a 5 KW trans mitter.

## French Invention Stands Tests

THE entire elimination of parasites in the transmission of wireless messages, and secrecy in transmission as well, have at last been attained by the new apparatus developed by M. Charles Verdan. Some time ago M. Verdan made the claim that he had accomplished these two results, and now the official tests, just completed by the Admin istration des Postes, Télégraphes, et Télé phones verify all that he has said. The invention, which is attached to the Baudot ap paratus, permits the latter to func tion by the Hertzian waves just as if it were operating over telegraph wires. The apparatus acts as a filter so that the para sitical currents are eliminated.

The P. T. T. experiments were between Nice and Ajaccio, Corsica, and have just been completed with entire success.

The extensive anttnna system at Schenectady. N. Y.

# Giant Radio Lab.

Electric Co. - Some problems of radio transmission

The 53 -acre radio transmitter laboratory of the General

By W. T. OVleenam

TEEL towers and wooden masts, S interconnected by wires and an chored in concrete or by cable,

of steel and brick, will be housed the

main power plant. Space is provided for two additional experimental transmitters.

are sprouting all over the field in which

the General Electric Company is erecting a giant radio transmitter laboratory. Among the masts which hold a variety of antenna systems, are large and small

The main power house is connected by cable for the transfer of power to several smaller buildings constructed of wood. These buildings will be used for the development of particular types of transmitters and must be located a distance from other equipment. Very small buildings are located at the foot of the steel towers and in these will be housed the tuning systems for particular types of antenna.

the problems

buildings in which radio specialists will seek to solve some of of radio transmission.

The power plant includes a number of high -powered rectifiers for convert ing the alternating current supply into a direct current source with a maxi-

mum voltage of 30,000. In addition to the rectifiers there will be direct current and alternating current machines for

The fifty- three -acre laboratory is filament energy, biasing and for low - powered amplifier operation. The

located six miles south of the city of Schenectady, the home of WGY. In

Due to their familiarity with receiving equipment most people interested

space allotted for the two experimental transmitters is sufficient for equipments rated at a maximum of from 50 to 100

this laboratory the engineer will endeavor to find means of improving transmission quality and reliability, and

in radio think of an experimental radio laboratory as a room in which radio receivers, associated circuits and apparatus are developed. In fact

many amateurs experimentally inclined have, on a small scale, a receiving laboratory of their own. In general, most people, due to lack of contact

with transmitting equipment,. fail to realize that radio transmitters

he will test theories of static and fading, in the hope that these twin terrors of radio listeners may be banished.

kilowatts. The power building also includes a dark room for the development of oscillograms and a fully equipped storage battery plant. Here also is located a central pumping system which provides circulating

The antenna structures include three towers 300 feet high arranged in the form of a triangle. From these steel masts almost any type of antenna may be strung capable of operation between 600 and 3,000 meters. A fourth steel tower, 150 feet high, may be connected to any of the trio of masts for work on wavelengths from 200 to 600 meters.

In addition to the steel towers there are numerous wood- en masts for anten na systems for ex perimentation on wavelengths from 15 to 200 meters.

water for all transmitters.

are just as important as receivers. The research, development and design of the two lines of equipment, while es- sentially different, are quite dependent

This water supply is used for the water-cooled power tubes.

upon one another.

Experimental transmitter work, especially if high power is to be used, is beyond the scope of the amateur on account of the space and equipment required. The cost of establishing and

In the largest building, constructed

The building where research work in transmission is con

ducted

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maintaining an experimental transmit - (Turn to pogo 73)

# Radio tempers the

By

e/4lbert Laird

HAll a doubt ever existed as to the practical value of radio this

doubt is removed when one

# ORNADO

Relief measures hurried for
ward in the recent catas
trophe by means of radio

officials iurgot their daily routine and
began the important task of organizing
relief measures. Special trains were hurriedly loaded with supplies and dis

views the miraculous aid that radio gave the victims of the tornado which swept over the Middle Western states of Missouri, Illinois, Indiana, Ken

STORM LS 19TH OF TORNADO DISASTERS

patched to the devastated areas. Other trains equipped for cooking, sleeping and hospital use followed the supply train and almost before the smoke had

tucky and Tennessee on Wednesday, March 18th.

We still have radio for entertainment

IN U. S. SINCE 1884

cleared away from the wreckage, medi

cal relief, hot food, bedding, clothing

1Xeateraay's storm was the nine teenth such disaster since 1884. Fol

and for pastime in the home. It furnishes us with market and weather

and temporary housing were made available to homeless hundreds.

lowing is a list of the worst storms

The response was prompt, for radio

reports for use in our daily business ;

since that time

had brought a realization of this dis aster home to thousands who would

but this is only a faint hint of its constructive and educational possibilities.

Feb. lb. 1884 -Six hundred killed in

southern states

April, 1692 -Forty killed in Kansas.

Socially, radio circles the globe and

June 14. ]892 -Fifty killed in Minnesota.

back, many times over in one night.

We use to travel far and pay money

June 20 1893- Sixteefi killed in Kansas river valley.

for entertainment that yielded us far

have read mere newspaper reports of it more or less casually.

Such a catastrophe as this writes it self indelibly for generations upon the human mind. The Chicago fire, the

less pleasure than we now receive over the air through our ear phones or loud

Sept. 20, 1894- Seventy -five killed

Iroquois Theatre disaster, the sinking

speaker without leaving our fireside.

in Iowa and Minnesota.

of the Eastland have written them

May 27. 1896 -Five hundred killed

But it remained for a great catastrophe to awaken the world to the prac

in St Louis and East St. Louis.

selves into the memory of those in the Middle West states. But in modern

tical utility and human helpfulness of

March 30. 1897 -Three -fourths of the

times nothing so colossal as the loss of

towr. of Chandler. Okla., destroyed

life and property brought about by this

radio. In an incredibly short time a tornado crossed the southern regions

May 9. 190 Thirty killed at Mar

quette. Kas.

tornado has been known by people in

of Missouri, Illinois, Indiana, Kentucky

May 11, 1905 -One hundred and

this country.

thirty killed at Snyder. Okla.

The only pleasant thought in connec-

and Tennessee leaving the heart of

March 2. 1906 -Twenty -five killed at

these states paralyzed, torn and bleeding.

Meridian Miss.

tion with this catastrophe has been the fact that radio has made it possible to

Men, women and children were

April 24. 1905 -Five hundred killed

alleviate pain and suffering many hours

In Mississippi. Louisiana. and Alabama

swallowed up in death as their houses storms.

in advance of the time other methods

crashed about, their ears, and fell be fore the furious onslaught of this terri

June 5, 1908 -Twenty -seven killed In

of communication would have made

southern Nebraska and northern Kansas March 13, 1918 -Heavy damage and possible.

fic tornado. Telephone, telegraph, rail road and highway service, which a moment before functioned perfectly,

loss of life in Illinois, Indiana, Tennessee, Louisiana, and Texas.

More than $10,000 was raised by radio in Chicago alone, on the same afternoon the storm struck. Programs were cut into and in many cases discontinued in order to turn over to the

with hardly an instant's warning were

May 26. 1917 -One hundred lives lost

In tornado that swept Coles county, Illinois.

completely wiped out. Public utilities,

broadcasting stations the work of ap

churches, schoolhouses, business blocks were splintered and twisted in one end

March 28, 1920 -Thirty killed in and near Chicago. One hundred and thirty dead in seven other states.

pealing for help. That and keeping the outside world informed of the

less scrap -heap. The crashing light ning, the over turned stoves, and the

April 26, 1923 - ready 100 kfilcd in

progress of relief measures, and the

Oklahoma.

task of acquainting the public with the

high wind resulted in dreadful fires

July, 1923 -Sixty -three killed at Porn

names of the dead and the injured con- tinued throughout the afternoon and

which completed the havoc that the tor nado had already wrought.

eroy, la.

The most recent storm disaster was at Lorain, O., on June 28, 1924, when

iIn ordinary times long hours would have elapsed before any semblance of night.

On the fateful night of the storm

67 persons were killed and scores in Jured during a. heavy wind which

assistance could have been organized

radio started to work in character of a youngster. In the cold gray dawn of

swebt the southern shore of Lake Erie.

and sent to the scene. But through

The property loss was placed at $26;

radio the news was instantly spread

000,000.

throughout all the adjoining states.

Immediately doctors, nurses and public



the following morning, it emerged from the storm ridden area begrimed and fatigued, but a full grown man.

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# OW -do- you -do ?" M

eet the original " How -do- you -do" man, and learn something about the unique service he renders By eAnn Lord

Do YOU know what the "How Do You Do" song is? Well, it's a song of greeting and salutation over radio which is proving a wonderful medium through which

THE STORY OF THE 'HOW -DO- YOU -DO" SONG By HARRY GEISE

ally announced the "How Do You Do Man," said Quinn Ryan, now crier for WGN. All these statements are true.

During the latter part of April, 1924, a certain gentleman and my- self were booked to sing at the

friends and kindred, lost to each other

according to the seven "How Do You Do" men, and it came about in this

are being reunited.

Sears Roebuck Station, WLS at 6:30 in the evening. At 6:00 P. M.

manner.

In the spring of 1923, Harry Geise

When you tune -in on the different

that night, this gentleman and my- self conceived the idea of writing a little original ditty to sing to the

Chicago stations and hear world criers

announcing rather proudly, "This is

station ABC and you are now listening

became a radio enthusiast after visiting the KYW studios -Chicago's pioneer station. He delivered an original entertainment which was so successful

to John Doe, the original 'How Do

staff at the Station. We wrote six verses about the different members of the staff, including one verse to

that he decided to give up his music

You Do' man," you begin to wonder

store and go over to the radio.

how this can be true, since so many "How Do You Do" men claim to be the original.

Then when you investigate the facts

the Loop

London, England, while at my of fice, which was then at End Building. We immediately went over to WLS and put on the song.

Mr. Geise was walking northward on Michigan Avenue, toward Monroe Street one afternoon a year ago this month planning a program for the

laid before you in reference to the

We were introduced that night on the air as having originated a new song, the "How Do You Do"

"How Do You Do" song, you will

readily see that the public has forced

song, being sung for the first time

to the radio audience, by the corn - posers. The requests were so tre mendous that we repeated the song about ten minutes later. The song continued to mount in popularity, and

we approached a member of the

it into each broadcasting station. A

great many men, women and children,

have in some unknown place. a lost

relative ; through radio, the "How Do

You Do Man" is the connecting link.

opening night for station WLS. As he strolled aimlessly along, an old friend of his came up from behind, slapped him on the shoulder and ex claimed, "Greetings and salutations,"

as men will ? He explained that since he had accumulated a nice fortune, he had been spending a lot of time and

In Chicago alone, there is a list of

Ted Brown Music Corp. to publish

money chasing around over Missouri,

it. We were informed, however,

seven "How Do You Do" men. Either

that the song was not commercial,

through legal rights or popular demand, these men are nightly forced to

and that it could not be published. Time went on and this gentleman and myself broke up the partner- ship, he obtaining a new partner, and they went under the name of

go on the air with additional verses to

the already long "How Do You Do"

Kansas, Oklahoma and Arkansas searching for his elderly father and mother from whom he had run away when a mere lad. This gentleman,

song.

the "How Do You Do" Boys. I

whom we shall call Jack Lowell, be- cause that is not his name, had heard

Heart after heart crying out for lost

kept on using the song at WEBH, WTAY and occasionally at WGN.

ones -and in some cases finding them through radio -and in other cases being cheered on by word from someone

This gentleman and his partner were using it, and Ford and Glenn at WLS were singing it every night. Eventually there was such a demand created that this member of

about the radio and suddenly exclaimed, "I wonder if you can help me find my folks over the radio ?" There isn't a thing about this that

who has known of the lost person. This confusion about the authorship of

happened by accident, chance or caprice. It started because Jack Lowell

"How Do You Do" song has not been

the Ted Brown Music Co. took it

settled until now -and to be accurate,

upon himself to publish the song, claiming he was re- publishing the

wanted to make amends to the father

I must say a final decision is now pend ing in the courts of Cook County. But everyone is satisfied about the assured outcome. Harry Geise, is the

old, old "How Do You Do" song with new verses. No contract was given me, but with the assistance of Jerry Sulli van, Director at WQJ they were

and mother whom he left on a lonely farm in his younger days. Jack had hated the farm and its solitude. He feared the purple shadows, the dark

only man who has received royalties from the song. Phil Flemming, a singing partner appearing with Harry forced to make a compromise settlement and give me a contract.

pines, and the lonely valley. As his parents succeeded at farming they moved farther inland. This for some reason was distasteful to Jack, and he

Geise at the time he first sang the "How Do You Do" song, has claimed

Beginning in the spring of 1923 I became a "Bug" after listening to the mid-night programs, and visited the KYW Studio, going on the air

made up his mind to go to the largest nearby city, where the lights were

a part of the royalties and this claim

from this station. I gave up my music store and went into the radio

never out. He came to Chicago. "Mother and Dad were never much

has resulted in throwing the matter

into the courts.

The other singers using the song

game to entertain the public. Now I am at WQJ, having made connections with that studio, on June 8th, 1924, as Assistant Director, Accompanist, Assistant Announcer and entertainer.

on reading newspapers or magazines," he continued, "but if I could run an advertisement in a seed catalog, I'd be

make no further claims than, "The 'How Do You Do' song was first introduced from station WLS." "I origin

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apt to locate them the first week." Harry Geise promised to see what

MAV, 1925 "HOW -DO- YOU -DO ?"

Harry Geise, the original "How -do- you -do" man

college song of the 1492 vintage. It is

announced by the popular bachelor of

could be done about locating the old

reasonably certain that it started before

"Uncle Walt" fame, Quinn Ryan.

folks over the radio. Arriving at his

Harry Geise was born in a little college

Afterwards, Mr. Flemming became

office, Mr. Geise talked over the matter

town in the Middle West and just like

with his singing partner, Phil Flem

associated with another singing partner

the song "Annie Laurie" "How Do

and they began to use the song. Mr.

ming. Feeling that they had better

You Do" started from a small beginning. It was originally called "How

Geise became associated with Wendell

practice on the staff before trying it

out on the public, they composed six

Hall, with whom he has written nine

Do You Do Mr. Johnson ?" and Harry

successful popular songs. The demand

verses to a tune called "How Do You

for the "How Do You Do" song, how

Do Mr. Johnson." The words gave

Geise recast it into a 1942 mould and put it to work.

ever, increased. As it was the opening

the "air audience" a pretty good idea

feature originally broadcast from

of what was going on in the station

As an example, few of us probably think of "Annie Laurie" as having existed in real life, but she did. If we

WLS through its usefulness and popular demand it became necessary for

and what each member did. One verse

even was dedicated to distant London.

Ford Rush and Glen Rowell, the "lulla

In a few hours they were on the air

go to Dunfries today we may see her "last will and testament" in one of the

by twins" to sing it, and so that's that.

again, by popular demand and from

institutions there. We know that the

There's a grain of truth in everybody's

coast to coast was heard Jack Lowell's

song begins, "Maxwelton braes are

statement, and except for the crossing

request begging for word from a lonely

of wires -no, I must retract that, this

old man and woman somewhere on a farm -a prosperous son was searching

bonnie," and Maxwelton is near Dun -

is a wireless story based on facts -but

fries. Well, Annie Laurie was born at

aside from a little static between sta

for those dear to him and yearning for

Maxwelton in December, 1682 ; and to day she lies at rest in Dunscore church yard about which Carlyle often writes

the chance of caring for them in com- fort for the rest of their lives.

tions now and then regarding the mat ter, each is justified more or less in

in his letters, for he, too, belonged to

The "How -Do- You -Do" song was

what is claimed.

that district. Annie Laurie had a sweetheart -a certan Mr. Douglas -

Harry Geise admits that he didn't

born that night. Harry Geise and his

"originate" the song, his manager,

singing partner, Phil Flemming sang

and it was he who wrote the original

Jerry Sullivan in a recent interview

it for the first time on the opening

gave proof that the original is an old

night at broadcasting station WLS

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(Turn to page 64)

# The

By Laurie

York Srskine

CIVILIZATION and progress work strange transitions. Twenty years

# DICE

from the CABINET

# The mystery that was NOT solved by the radio

thoughtful, contemplative manner, and

shook hands with the older man.

LAURIE YORK ERSKINE, author

ago Sarnac was a lumber camp. Today Sarnac is the suburb of any great

"Come to fix up the ole dofunny ?"

of "The Voice from the Cabinet," is the

city which the inhabitants of Sarnac may

LeRoy Meredith had lost none of the simple, bluff good nature which distinguished him

author of the famous "Renfrew" stories.

choose for their shopping, visiting and

The success of "RENFREW OF THE

recreation. We don't think anything of

before he was persuaded to stick that capital R in his first name.

ROYAL MOUNTED," led editors and

running down to Detroit, three hundred

publishers to demand in hysterical chorus

miles away, or spending a day or two in

"Yes," replied Early. "We'll get it work ing tonight, all right." He placed his par cel on the gate legged table.

for more and yet more books like it; with

kl hicago, which is even further. The

daughters of no fewer than seven of our families have been educated at . \nn Arbor

the result that because Mr. Erskine had thought his boy readers might be interest ed in some stories about the Mounted

or Northwestern, and one at least can boast

Thereupon Kate's father sank into a chair and would have embarked on a so- ciable evening with this young man whom

Police, he found himself apparently doomed to write about nothing else for

of an education in European universities. That is because in Sarnac we have made

he liked for his straightforward, unaf fected manner, but Mrs. Meredith achieved

the rest of his life. In a single year he

money out of timber. \\'e continue to live

wrote "The River Trail," and "The

in Sarnac, but the conveniences of travel

extraordinary signals from the doorway,

and the fatness of our pocketbooks make us merely a suburb of all the world.

Laughing Rider." He also wrote "The

and he reluctantly arose. "Well, I guess I better get along up stairs," he murmered clumsily. "Leave

Confidence Man," "Valor," and "In the

Event of Death."

Kate Meredith was the girl who went to Europe. There she learned just enough

"The Voice from the Cabinet" written

you young folks together."

especially for Wireless Age -The Radio

of the difference between Sarnac and the

Magazine, is one of several attempts of

Ignoring the wince with which his

rest of the world to be distinctly dissatis

daughter received these homely sentiments,

the writer to prove that he can write a good short story without leaving the living room of an ordinary American home.

lied with Sarnac. The young people of the little town she found lacking in the things of the world which you learn about in

he followed his helpmate up the grand staircase which swept about the panelled hall, and retired into a roomful of books

You can judge for yourself how well he

European universities. \ \'hat we consid

has succeeded.

which he never read.

ered "society" in Sarnac -a pale imitation of society in Detroit -did not merely bore Kate, it was incomprehensible to her. This was regrettable because Kate was exceed

"Let me know how it sounds when you got it ready," was his passing adjuration; and Early promised him that he would.

Left alone with the girl, Early turned to her with a smile.

'l'ltis story really begins two years after

ingly pretty and there was not a young man

the advent of Trimble. It begins on an evening when Jack Early made his way through the snow covered streets of Sarnac

"We'll soon have the old radio in work

in Sarnac who did not aspire to be her escort to the delectable social functions which tilled our season. The only one who

ing order," he said gaily, "and then you'll have a vaudeville performance whenever you want to turn the handle."

to the large and ugly stone house which

made any headway at all, howes er. was Jack Early, the science teacher at the High

In a very business -like manner he un- wrapped the tools from his brown paper

represented the fact that LeRoy Meredith had made three million dollars out of timber lands. Jack carried a small parcel

School , and he won his way further into her regard than the rest of us because he

parcel and carried them over to the long cabinet at the end of the room which was Sarnac's second radio set ; the first had been

wrapped in brown paper. Mrs. Meredith had taken some courses at the Sorbonne.

and of course knew Europe.

opened the door for him, and her somewhat tired eyes brightened when he entered.

Unfortunately Jack fell hopelessly in love with the fair Katherine Un fortunately, that is, for Jack because Kate installed by Early at the High School.

She followed him with her eyes, thought fully, contemplatively dwelling upon him,

"I'm so glad you've come, Jack," she

whispered as he entered the hallway. "You

as though he might hold the answer to a question which seemed to occupy her mind

know I can't leave her alone, I really

had not been back in Sarnac a year when

Rodney Trimble came and opened his of

can't."

to the exclusion of all else. But this was not for her the expression of the moment.

fice in the opera house block. Rodney not

This somewhat embarrassed Early.

"Oh, she's all Tight," he murmered cheer fully; and with his paper parcel under his

only knew Europe, but he possessed a certain distinction, and ease of manner which

arm, he cheerfully invaded the living room.

far outshone the graces of Sarnac's younger

Her eyes had held that far seeing, contemplative look for many months now. It had become habitual with her.

It was a very large room, and like the

set. He dressed with blithe disregard of

house, it was designed for effect. Hand

If he was conscious of her gaze he did

middle western ready made clothes, and he

painted murals panelled it, and the furniture suggested the corridors of an expen

spoke with a modulated tenor that suggested

Piccadilly without imitating it. He sold

not betray the fact. His way was a studious one, his manner was infinitely calm, Iris clean out features serene. With an almost imperceptible lift at the corners of

sive hotel. Kate Meredith occupied one of

bonds and had come to help the retired

the roomiest of many roomy, overstuffed

timber barons of all the little Sarnacs which

his mouth, he seemed to smile as he worked

lie secreted in the Michigan woods to prop

chairs, and LeRoy himself arose rather

at his self imposed job. He did not look

sheepishly from an overstuffed davenport.

erly invest their money. He achieved this

He had been napping.

at her until he had probed about for some minutes inside the cabinet, and then he

altruistic mission with singular ease. Also he achieved Jack Earlÿ s place at Kate

"Hello Jack!" he boomed.

turned to her as a doctor might turn to

Meredith's side.

Early turned from the girl who, having

greeted him, stood gazing at him in a

But we are leaping ahead of our story.



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the mother of a child he had been exam- ining.

# FROM THE CABINET

## MAY, 1925 THE VOICE

"Now what would you like ?" he asked

her whimsically. "The Detroit Symphony

Orchestra, or the Roseland Marimba Band?

Gabrilowich, or Irving Berlin ?"

She came and sat down upon the colorful

Ottoman which her father had conceived

was fitting to the estate of a lumber baron.

"Jack, you're the kindest man

I've ever met," she said. He greet

ed the serious note of her voice

with a smile which parried the

compliment she paid hint. "But

you don't seriously

suppose that a new

kind of canned

music can

she halted with a

shadow of pain in

her eyes, at which

he frowned ...

"can . . . take

my mind away

from him . . . ?"

She was like a

little child who

pleaded for some-

thing which she

could not have.

Then she noticed

his frown and was

immediately peni

tent.

"But I appreciate

it!" she cried. "I

do! It's a fine

thing if only be-

cause it brings you

,ìi

emotion he permit

ted her an ever so

fleeting glimpse of his percipience. She felt it without un-

derstanding it.

"You think that I'll forget!" she cried. "Well, I won't, I shall never give him up! I know what the people of this horrible little town are saying. They say he jilted me and that it serves me right, Well he didn't! Somewhere he is thinking of me and trying to come back and fulfill his engagement with me! I know it! And I'm going to wait for him. This isn't any school girl romance, Jack! It', real. I'm a woman now. And I shall stick to my part of the engagement. Why I can see him now as he sat where you are sitting on the night before he

here ! I don't know

what I'd do if I

were left alone!"

She arose impetu

ously from the ot

toman and impetuously dragged forward a

"Now, what would you like ?" he

asked her whimsically

rupted the sequence of her thought. "But

voice ... !"

he left. I can re- member his face: I can even remem- ber the tone of his

"But you can't live all your life with

I didn't!" There was a shade of pride

light chair in which she seated herself close

this infatuation!"

to him. "Mother and dad get on my nerves

in that. "When Rodney Trimble disap peared from Sarnac, and the days and

Early's voice crashed in upon the silence

so!" she confided to him , and there was an

which followed her attenuated regret with

weeks passed, and we never heard from

intensity of feeling in her voice which

him again, everyone said he had gone for

caused him to glance quickly and keenly into

the harsh ring of reality. She started and turned white with astonishment and pain.

good. And you know the mean and beastly

her eyes. "They seem to be watching me!"

things they said of him!"

she protested. "Always watching me! As

She stared at hin. with mingled anger an-1

Early nodded. He knew, and although

if I was crazy or something. And I'm not!

he himself had never mentioned those mean

I'm not crazy, Jack ... It's only that I

distress.

"What do you mean ?" she cried. He clenched his teeth. It had been an

can't forget him! They think that they can

and beastly things, he knew also that there was some foundation for the dark stories

do things and take me places to 'take my

outburst of all that he had held repressed

mind off' !" This she said with elaborate sar-

which had clouded Trimblé s name after

since she had returned from that trip

his abrupt departure. Trimble, in fact,

casm. "But they can't do that because my

abroad. He had not meant to so betray

had been a young man who knew how to

mind isn't 'on' anything. It's just that he

himself.

pay two different kinds of attention to two

is in my mind, and they can't take him

different sorts of girl at one and the same

out of my mind! Nothing can take him

"I'm sorry, Kate," he cried impulsively. "But that's true, isn't it? You can't go on all your life moping over this man',

out!"

time. Early was not alone in his suspi cion that the man's unheralded disappear-

disappearance!"

Early did not seek to interrupt her. he

ance might have been traced to the com-

just sat and received all that she had to

She stood erect, disdainful and yet

plications which are so often the result of

say to him without betraying the trouble

strangely disconcerted. She felt in that

such heroic enterprise. But Early did not

that he felt. He was convinced that this

moment an uneasy suspicion that not a

mention these things because Early loved

infatuation which filled her mind was the small part of the legend she had built upon creation of her fancy; the fabric of a Kate Meredith so deeply that he was able her shattered romance had lain in the de to divine in her lovelorn devoticn to the romance which her own hunger for it had votion and sympathy of this young suitor.

departed gallant an element of which Kate

conceived and nurtured. But he couldn't

She experienced one of those disturbing

tell her that.

herself was ignorant. He knew that Kate

glimpses of the truth which revealed a peep

grieved not for the departure of a lover,

"I suppose you're right," he admitted.

but for the dissolution of her romance.

"I suppose nothing can take this out of

Only by grief could she keep that romance

your mind; but I don't see any reason why

of how largely her distress for the van ished Trimble constituted a hold upon the devotion of Jack Early. But that glimpse

alive. So she grieved, without knowing

you can't listen to the radio." He smiled

was immediately obscured by the resent

that her grief was wasted on a shadow;

whimsically. "The raido never took any

that her romance was merely a dream.

ment it aroused. Of course she took the

body's mind off anything but trouble," he said.

Of course a man can't carry a knowl

resentment out upon Early.

"Yes !" she cried defiantly. "All my life! Oh, Jack! if thought that you understood!.

edge of that sort into the living presence

"Last year when Mother took me over

of the girl he loves without betraying some-

to Italy, she thought I'd forget everything,"

I thought that I could rely upon you out of all the rest of them to ... to respect

thing of it in his eyes. As Jack Early

said Kate. And Early noticed that his

my feelings!"

gentle protest had not so much as inter

nodded his assent to the girl's outburst of www.mrinrihir.m

 wooden screen which fronted it.

There was an instant when both of them

"You have just heard the Rose land Marimba Band in a series

surrendered to a perceptible thrill as his

eyes met hers. She was the first to com- pose herself.

of selections from refined jazz

melodies. This has been a great

treat to- -"

'U don't think much of that," she said. And her superb poise completely deceived

"Turn it off !" she

him. He decided that it was not possible that this brown haired girl with her eyes still moist from crying could have felt the same emotion which he had experienced

cried "Turn that terrible

thing off!"

Early quickly obeyed her. "How dare you turn on that terrible noise, when I'm speaking to you ?"

in that instant when their eyes had met.

"Of course you are all eager to hear

the orchestra as we promised to broadcast

it," the voice of the announcer moved

She frowned upon him

with snapping, dazzling

unctuously onward. "But we're going to

eyes, and an uneasy pre- monition that she was going to cry.

take a few moments before the program begins to ask your kind co- operation in a matter of serious importance." The voice became suddenly and profoundly grave. "He talks through his nose," she pointed out witheringly.

didn't know it was going off," he pleaded penitently. "I was

"Shall I turn it off ?"

just fooling with it."

To his horror she

"No." She halted him as his hand

moved toward the instrument. "Let's hear

answered this with a sudden melting. The

what the important thing is he's got to speak about." She endeavored to conceal by her

angry and rather attractive sparkle of her

casual tone the surrender she was making

to her curiosity.

anger left her eyes which became abruptly

"Politics, I suppose." Early murmered

the remark on the heel of the announcer's

filled with an entrancing suffusion of soft, sorrowful twilights. Then she sank abruptly

portentious voice.

"It has been our hope," quoth this invisible master of ceremonies, "that the radio might some day be made a medium of

into her chair and burying her face in an arm which

vital usefulness to relieve distress and

she laid on the back of it,

she wept.

alleviate the sorrows of this strange thing called life." His tone was now deeply philosophical. "Tonight," he continued, his

"Let him speak! Let him speak"! cried the girl to

the cabinet

"Why, I do, Kate! You know that "But you don't !" she cried. She was determined to make him suffer. "You don't! You're just like the rest of them! You're laughing at me , Yes, you are !" She flung

"Oh, don't Kate !" he

voice brightening perceptibly as though to

hovered helplessly over her. "I'm sorry! Please

convey that all might not be as dark as

it is painted. " \ \'e believe we have the

don't think that I wasn't

opportunity of putting this to the test. We are going to ask all our friends to listen

listening. . ." Abruptly

he became conscious that

in closely upon this acid test of the radio

he had nothing to be sorry

and do all in their power to help us carry this good work

to a successful conclu

sion . . A pause,

dramatic and instinct

with suspense. The young man and the girl in that living room at Saranac, three hundred miles from the cham ber in which the an- nouncer was speaking, felt themselves under the influence of the peculiar romance with which the sound of

for. That he had done nothing to offend her. This was a relief to him, and since she

them

away from him and turned -a picture of Trimble which smirked pleasantly at from its silver frame upon a carved table. Early turned in despair to the cabinet

that suspended voice permeated the air about them.

gave no sign of accepting his meretricious

"Standing here at my side," boomed the sure tones of the speaker, "is a young man whose memory has failed him. Three

penitence, he turned again to the cabinet.

and toyed with the disk which controlled

"Listen, Kate," he said. "I'm going to

the mysteries it contained.

get the Symphony Orchestra." And he

months ago he was taken seriously ill in

became so intent upon the shining disks

that

"You're laughing at the very idea I'm serious !" she continued. "You think

the lobby of the Tulliver Hotel. Since

that he did not see her peep toward him from her dewy hands. He did not detect

it's just a pose! Well, I'll show you! Some day Rodney Trimble will come back then he has fought for his life in a hospital bed suffering from a grave and complete nervous breakdown. He is now in

the mingled pleasure and perplexity which was in her eyes. And he did not notice

into my life again, and you'll find that it

seeming good health , his body is strong and his cheek is flushed with healthfulness.

that she turned about in her seat to gaze at him once more with that thoughtful, contemplative gaze with which all unknowingly she betrayed an interest in him of

has been only circumstances which he couldn't control that have taken him away. Then you'll see! ... Are you listening to me? You'll see then, that you have done him wrong.

In addition to that his mind is in tip -top condition. But -and here, my friends, is the point at which you can be of aid per - haps -his memory is a blank. He can re- member nothing of his life b efore he col lapsed in the lobby of that hotel. He

which she was not yet consciously aware. When the portentious, baritone voice of

"DOUBLEYOU JAY ELL EMM!"

the announcer responded to his manipulation of the disks, Early looked up to find

boomed a voice from the cabinet; and she broke off to stare in confusion at the

cannot remember his name, nor the town from which he came. He believes that his

her sitting there quietly observing him. www.mrinrihir.m

loved this girl, and he had felt keenly the

home was in a small city, but even of

there was something more than pathos in the words she heard. The voice was a

that he is not sure. He remembers noth

ease with which Trimble had displaced him

ing. And yet it is certain that in some

at her side.

soft and rather musical tenor, and there

home over this broad land there is a family

was in it a peculiar inflection , a drawling

-a mother, or wife or sweetheart ; per

A few discordant, grating sounds pro ceeded from the cabinet, only to be re-

head note which is seldom heard in Michigan. "I only hope that there is something in

haps there are some little ones -who have

placed by an infinitely faint and halting

voice. And Early, who with cool and

lost him and who have given up hope of

it," continued the speaker. "To live on

scientific complacency had accepted this

his return. On some day of the vanished

like this is like living in a nightmare It was a cultivated, distinguished voice.

past this man left his home, no doubt ex-

ethereal intercourse of the radio as a thing of mechanical precision, knew for the first

pecting to return that very night, only to

time with what magic he had dealt. With

be swallowed up in the oblivion of this

It had a singular refinement, a certain polish.

disease which has afflicted him . . . "Even while I am speaking there is per

out any tangible means of conveyance here was a voice speaking in his ear , the voice

"It's Rodney !" she cried out suddenly.

of a man hundreds of miles away was ap

haps someone listening to my voice who

"It is, Jack , It is , I can see him now as he sat here. I can hear every little in

pealing to a hundred thousand homes for

has grieved for long months and sought in

flection !" She was on her feet. crying

vain for this lost man ...

the place in one of them which fate had

Early, glancing quickly up from the car-

stolen from him.

out her discovery with a shrill, high ex- citation which had something of hysteria

As Kate Meredith strained every faculty

pet which had held his gaze, saw suddenly

for the faintest hint of the accents she

that the man's words were all too true.

so ardently desired to hear, Early sat dumb

Kate Meredith was hanging upon the sound

in it. "Go to the telephone Jack , Ring them up ! Get to them , Get to them! That's Rodney Trimble talking to us now!"

of that voice with a singular fire in her

founded and tortured by the menace to his

The voice droned on, but Early had no

happiness which thus came uncannily out

eves. Here indeed was some one who had

ears for it now. He had leapt to his feet,

already visualized who that lost man was.

of thin air from far distances. The voice

Early perceived with alarm that the girl's

of an invisible man.

thrilled to the marrow by the discordant note with which she had broken her tense

"He speaks so faintly," murmered the

romantic nature had already prepared her

for the conviction that this lost one must

girl. And certainly the pale shadow of a

silence. He put an arm about her. "No !" Don't lose control of yoursel f !

voice which emerged from the cabinet

be the vanished Trimble. He divined that

Kate! Listen to me! You are mistaken.

amply justified her plaint. So faint it was,

to her mind fate was now playing out the

You're over- excited. That might be the

and so infinitely halting in its cadences that

last act of her romance. She hung on the

voice of almost any man in the world.

it seemed like a voice from another world.

voice from the cabinet as ancient devotees must have hung upon the words of the Delphic oracle. Then, as if in response to the girl's complaint it rang suddenly louder and more plaintive. Catching his glance, she cried, "Oh, can't you must control yourself."

"Don't touch me!" she

(Turn to page 70)

smiled with her eyes and breathed a com- mand through half opened lips. "Listen !" she murmered.

firmly. The speaker had been turned to the microphone.

I cannot remember that," came the new, firm tone.

"And now this man is going to speak to you," declared the announcer. "He has

Kate Meredith threw herself back in her

chair, her eyes wide, her lips a little parted.

consented to come here this evening and broadcast his voice over the length and

"I don't

breadth of this land in the hope that it

may reach some loved one who will rec- ognize it as the voice of he whom they think of any- thing I can say," contin

are seeking. If there is anyone who does

this -"

ued the voice. "B e cause there isn't

"Oh, why doesn't he let him speak !" The

anything I can

girl sat tensely on the edge of her chair.

talk about, and

Her fingers gripped the arms of it. Her

it seems queer

bright eyes were glued upon the cabinet

to stand here

from whence came that smoothly flowing

voice.

and speak to a piece of ma-

if any of my listeners recognize

chinery

his voice, I am authorized to say that this

like talking to

station will be ready and willing to pay

yourself. They

the fare of this forgotten man back to the

hearth which claims him ; and we'll see that he is properly escorted to his destina

tell me that thousands of people are lis

tion · "Let him speak ı Let him speak !" cried

tening to me,

and that if I

the girl to the cabinet; but the voice from

talk a while

the cabinet proceeded without a break in

'there is a

its suave accents. Early for his part could

only watch the girl.

chance t h a t

someone who

"Now I won't hold you in suspense any

knows me will

longer," quoth the oracle. "You can all

recognize my

understand the importance of this thing the

voice ... "

radio is about to execute under the auspices

of station WHKY. I am now going to

There was an

give my place at the microphone to this

u n co nscious

man who has forgotten who he is. I thank

you."

There followed a moment of electric si

pathos in the plaintive sound of those

lence. Early found that he had so far

words. Early,

hearing them,

fallen victim to the thrall of this strange

situation as to feel his forehead, damp with

frowned in

sweat. The room seemed unbearably hot,

sympathy for

"Standing here at

the speaker.

and the sight of the girl, sitting tensely

my side is a young man whose memory has failed him"

expectant with shining eyes, did not alle

But for the girl who sat

viate his discomfort. For he knew in that

moment the pleasure and security he had

so tensely opposite him

derived from Trimble's disappearance. He

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N.T.G.

Speaking:

"Ready Boys?

Let 'er Go!"

NILS 'I' H U 1: t;k:1NLUND!

must have laughed as he looked down,

"N. T. G." with his Aire- dale "Rhode Island Boy"

# WHN's

popular announcer as he is in real life

By

Golda OIL Goldman

The name alone takes us into

the deer would go throwing up huge

not so long ago, on the little village,

the far spaces of the north,

chunks of snow with their hoofs while

on the boundary line between Sweden

where the surges of the sea beat against

the sledge skimmed across the frozen

and Lapland, and saw his tiny, squirming, name-sake, The spirit of his

the shores and the great wide spaces lie bare under the open skies. It is

surface like the winds themselves. It is a far cry from a life like this

laughter must have gone into the baby

neither the name nor the inheritance

to the black and white velvet studio

who has found his mission in life to

that one might expect as a back-ground for the famous N. T. (;., whose name

in Loews State Building, at 45th Street

he the spreading of smiles and chuckles

that ripple out over the world as far

has come to mean the personification

and Broadway, New York City. The life that filled the intervening years

Mrs. Granlund ha; caught her husband's love of fishing. Here she is off Wickford, a little fishing village of Rhode Island

as thought and air can reach. But the

was incredibly active. At the age of

Thunder God gave him more than the gift of laughter; he gave him an exuberant joy of living, and a daring, adventuresome spirit. He must have

nine, young Nils was brought to the

United States. Until his voyage to

said as he looked down on the little

snow-covered village, "This child shall

travel where the winds go and he shall

feel the elements no more than do my

own thunderbolts, and far as he goes,

he shall take with hint a spontaneous sense of humor that shall prove a boon

to all mankind."

The child's father was a baron, and

kept a little trading lost in the frozen, beautiful country. His mother was a northwoods woman, with eight sturdy brothers and one strong sister. The

little community in which they lived was crude, but it developed men and

women who could buffet their way' through life. Into the trading post so near the Arctic Ocean came the Lap landers with enormous herds of rein deer, ten thousand at a time. They

were quite without the knowledge of

how to coin the untold wealth which

their herds represented. This the baron

Little June loves Daddy's Airedale too -and he

taught them how to do, and so his trading post was a center for the activity of that vast region. His small son rode around in sledges built like

loves her

of Broadway, the concentration of the white lights and the music of jazz writers, but it fits him perfectly for

America he had never seen the sea, and yet the sea was to become his

the modern canoe. They were skin - covered and lined with strong woods.

no drop of the Viking blood of his ancestors has been wasted in N. T. G.

greatest love. A friend of his father's owned a boat which was going down

The boy would slide inside, lace the

How Thor, the God of Thunder,

to Turks Island, near the end of the

coverings around his waist, then all

Bahama group. The nine -year -old boy



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elegant in his perfectly fitting gray

little idea of what to do with it. Gran ˙ lund's imagination centered upon this

shipped as part of the crew. They went after a cargo of rock -salt to this

clothes, his gray silk shirt, and his gray :ie, as much at home before the micro

and he wove around it a romance of

barren little dot in the Atlantic Ocean.

Australia, brought the ship to Provi

Nils had a very important job. The

phone at WHN as any host in his drawing -room, affable to the great and

dence, and sailed it around the Cape.

natives brought huge baskets of the

He had the boat on exhibition in Provi

dirty, rocky salt and dumped it into the

near- great, with a constant jest on his iips and a spontaneous humor which

dence when Marcus Loew came to

hold, and into each emptied basket the

bubbles all over the world, it is almost

youngest member of the crew dropped

town and so begins a new chapter.

inconceivable that his back- ground is

Loew ,made Granlund Press Agent

a little coin worth one -fifth of a cent.

what it is. To see him now is to see

for "Hanky Panky" and for one month

Five baskets of the heavy stuff the

the personification of civilization and

he 'went on tour doing this work. He

natives brought for a cent and he was their pay-master. Here, too, they

his life has been spent in the wildest

didn't like it though. He had to be

nice to people whom he didn't care

bought coral for next to nothing. This was the first of a series of innumer able voyages to South America. In

places of the earth.

His work with the Loew theatres

about anti so he left, but when he

has shown much real ingenuity. He

between and during his trips, he attended school. As he grew older he spent his summers on racing vessels in Narragansett Bay and here he made the good money. He had been in every hell-hole in South America, where men were killed every two minutes, and now he transferred himself to society of the Newport millionaires, and became friends with the best of them. At seventeen, amazingly enough, he graduated from high-school, and although he calls his education "sketchy" I understand that in his delirium several years ago it was Greek that he recited.

At seventeen after graduation, he got married with the intention of giving up the sea. He found, however, that he could not make enough money in other lines and that he enjoyed the sea-life too much to give it up entirely so he shipped aboard a Portuguese schooner, the Louisa Silva, and fished in the North Atlantic. After several trips his writings became known and he became Sporting Editor of the "New York Tribune." The years here are crowded. He drove race horses in amateur sprints. He became a boxer and then handled prize-fighters. He wrote sea stories and spent his summers following the sea. He was at the wheel of some of the most famous yachts in American waters. He was friends with Hollis Burgess, and was Skipper on the Dorothy Q. With Thomas Fleming Day, America's foremost yachtsman, evolved the system of opening theaters with movie stars which is to some degree responsible for the fact that he is extremely delicate looking today. Three years ago he was taken with appendicitis and peritonitis set in. At that time several Loew Theatres were being opened so he refused to stay in the hospital. He would come out in the morning. direct the opening of a theatre. and go back to the hospital at night. Any temporary improvement was of course overcome. Three attacks took him into four hospitals. The doctors gave him up.

but probably the God of Thunder, always admiring the Viking spirit

of his protege, protected him and so N. T. G. did not disappear from Broadway. During this work, of course, he has developed an enormous acquaintance with movie and musical comedy folk and through him hundreds of actors, actresses, song- writers, etc., got their start. Clara Bow, for instance, now drawing one thousand dollars a week, got her first job through "Granny" as did Mary Miles Minter, etc. The walls of his office are covered with photographs of every one from Mary and Doug down.

I referred before to some of his writings. As you tune -in at night you are apt to hear one of his songs being sung, probably by request, as this is one of the favorite numbers of WHN.

It is called "Rose of the Evening" and to N. T. G.'s words Al Piantodosi.

and editor of the "Rudder," he was

(Top) "Granny takes the wheel when off shore

author of "The Curse of an Aching

to sail to Rome in a twenty -one foot

Heart," etc., wrote the melody. The

280 miles outside of Boston. (Center) A trip during winter in Boston Harbor. (Bottom) N.

boat but was unfortunately taken ill

T. G. landing a 14-foot sword fish that weighed 480 lbs.

song is dedicated "to our own Broad way"; or you may have been fortunate

so that Day made the trip with another crew. Many a yacht he took

a couple of years ago to see a poem called "The Liner Speaks to the Fisherman" in the Ocean Number of the

around Cape Cod on a commercial basis. Canoeing to Block Island, seven-

drifted into New York, Loew got hold

of him again and showed him all his

"Mentor." Perhaps you would like to

theatres and so for the last eleven

teen miles off the coast, was an incident

hear N. T. G. tell how this poem came to be written: "Three years ago in the summer i

years the name of Nils Thor Gran - lund has come out on all publicity for

in his life. In the course of his wan- derings he discovered the old Convict

the Loew Theatres.

Ship in Boston harbor. There it lay

To see him today, tall and slim, and

at the wharf and it's owner had very

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(Turn to page 56)

WGY Players running a horse race scene in "The County Fair." It doesn't look much like a horse race, but it sounds like one over the air

# Broadcasters giving us ducation via Radio

Dr. Frank H. Vizetelly, Dr. Clifford Smyth, Prof. Godfrey Ludlow, Vitali Koretsky, and other educators constantly on the air

By Mrs. Christine Frederick

talks on words." Ile has been bulle

IT HAS long been an established

tined as "the man who never mispro

fact that most people learn by word

the largest vocabulary in the world — 455,000 words."

nounces a word" and "the person with

of mouth and by listening, a great deal easier than by reading. Since this is so, I can conceive of no greater boon to education than radio. It has practically taken the English language by the ears and turned it upside down. Nothing since the war has had such a startling effect upon our basis of communication. One of the most interesting peo ple who have brought to us educa tion from the air, is Dr. Frank H. Vizetelly, LI,.D., Litt.D.

encyclopaedia man - lit

He is a dictionary and

erally ; yet he is delight

ing a multitude of listen

ers. I wanted to see per

sonally this man of

learning who is a feature

of the \VOR programs.

I consider the popularity

of his talks a striking

sign of the times. A

radio reviewer in one of

the New York papers

has said that "there is

nothing more interesting

in the whole world of

I had rather a definite set of uncom fortable qualms about meeting this dean of lexicographers, feeling that his bookish attitude might overwhelm and intimidate me. But not this word wizard . Back of a barricade of books and papers about his desk in the office of Funk & Wagnalls, of

whose N e w Standard Dictionary he is managing editor. It seemed to me likewise that he was a regular good fellow.

Dr. Vizetelly looks upon words as an artist upon his palette of color. "The dictionary is the color box of speech," he said, "and speech is the force that sets the wheels

of action in motion; it is more than that. 'It is the medium that steers the ship of human affairs."

"A dictionary is like some great ocean trader -a Leviathan just arrived in port. It is laden with cargo from every

Godfrey land, with the harvest of Ludlow of the WJZ staff and his priceless De Rougemont Stradivarius

radio than Dr. Vizetelly's



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# EDUCATION VIA RADIO wizardry-this new invention -radio !"

every clime. It resembles a vast clearing house where one meets all sorts of men. After all, words are not altogether un

mental picture of this charming man who has with good reason been called

"Radio , Never in the history of

the "King of Your Vocabulary."

science has an invention gripped the

like the persons who use them. In the

fancy and interest of the people as has

dictionary we come into contact with

the magic

a multitude of words that seem like

of the air.

the shadows of men -scholars, dandies,

Naturally a

spectacled professors of science, anti quated words, the querulous archeolo gists grumbling at modern times and

brand new

AT o c abulary

had to spring

men; new words, fresh and like saucy

into being

boys just launched into the world with

letters of recommendation from some

to cope with

well accredited source ; common words ; malignant words ; bombastic words -

the shad ings of

technique in

the bullish phrases of the braggarts, the

affected nobles of recent rank ; shame less words -the dwellers in Babylon -

this new

field t h a t

that are barred from polite speech; for eign words - travelers who have lost

had to be

labeled and

their way."

expressed." "Radio

I was charmed with the manner in

which Dr. Vizetelly brought out this

has peppered

Dr. Clifford Smyth, Editor, the International Book Review array of words as personalities. I was breathless at being surrounded by so many

people I had known so long -yet

Frank H. Vizetelly, LL.D., Litt.D., Managing Editor of Funk & Wagnalls' New Standardized Dictionary

IN THIS wealth of "larnin" that is so plentiful through the air -almost as plentiful as the very air we breathe, there is an interest in this education to me because it not only gives you "isms" or technical, detailed studies, but also because one jumps from such a "class in words" as I have just outlined by Dr. Vizetelly, to-by a mere turn of the dial -a famous tenor who has just made his debut via radio through

the whole dictionary with new words

\VEAF recently. Hearing tenors, how ever, is not enough for me. I like to

from 'auto -dyne' to 'zymo -dyne' like a charge of buckshot. There are over

see them, and I like to bring them to

two hundred words with the prefix

who remained in the background of

you, and so here is Mr. Vitali Koret sky, of the Moscow Opera Company.

'radio' alone which would spread over my mind to be picked out like a special at least a page of the dictionary. I

dress for a special occasion. I wanted to become better acquainted with these

Mr. Koretsky is a product of the Italian

don't think it would be amiss to state

School and finished his studies in the

that the language has been enriched by

fellows whom I really knew back in my

Imperial Petrograd Conservatory of

unconsciousness.

about five thousand vocabulary terms

Music. He was engaged in the Petro grad Opera and also appeared in opera

by radio. The modern dictionary has

"Tell me more about words," I

become almost a code -book of radio.

urged Dr. Vizetelly, and he continued : "One points to the mistakes that we

in Odessa, Kief, Moscow and other

Also the average person has increased

large cities of Europe. His repertoire

his vocabulary through radio. How

many? Well, I don't know -I think

make ; another gives friendly advice ; a third shows us historic facts; a fourth

includes twenty operatic roles in five different languages. He has sung be fore many of the crowned heads of

the fan -the dyed -in- the -ether variety

explains popular tradition. And as we proceed, we dream, and learn language,

Europe , has given concerts in Constantinople and London, Athens, Paris,

has enriched his fund of words by at least two thousand."

history, morals, poetry, science, sports,

"I'll never miss you over the radio,"

and trades. Where can more be found

Nice, Monte Carlo and many other important cities. His most unusual appearance was a radio program given

I told him as I was leaving, and I knew

in any book ? Believe me, the romances

it was true. I can't afford to-for in

of all written history are bound within

from Paris and broadcast especially for

the covers of the dictionary."

addition to what I could learn, I knew

"What ?" I asked him, "about air

each time I listened there would be a

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(Turn to page 54)

# The

..I )own in Park Row's inky grime Where I used to spend my time, \- servin' of his majesty, 7'hc Press -"

# in Broadcasting y Dorothy Brister Stafford

From l'iltsburq -"We are playing the next

of one's fellows to everything under the sun resulted in accurate notes being taken the

number for Mr. J. C. Green, who sailed

this morning on the Olympic."

morning after the fifth Victor concert, when,

From Canada- "Anyone finding a brief -case

we llAI) a god yclept Human Interest. One Kelley, a red -headed tyrant who

lost possibly on Tenth street, containing

as you recall, no attempt was made to play down to the listeners -the entire program

reigned supreme on the city desk, was the cult's high priest, and many a sob- sister

a marriage license, will confer a great favor on the groom by returning same

consisting of standard selections of the high

est class, without a single popular number.

From l /at'ana- "One may now ride- -

contemplated a hasty dive off the bridge in an attempt to satisfy his voracious hunger

to 44 Blank street."

The waitress who brought our toast, whispered,

for the Human Interest Story.

cars for the small sum of - - -" leagues on the Ah- vat -na. Coo -ba tram-

"I'll say that was some swell concert last

Kelley now runs a chicken farm out in Michigan, and if by any chance he owns a

night. I never heard a woman sing like a bird before."

We forget how far or for how much, but

it sounded like cheap transportation.

radio set, one can imagine the turmoil of his

"Did you listen the entire hour ?" "I'll say we did. I don't know much about

At Christmas time, a father and mother

soul as he listens to the wealth of "H. I."

sending greetings to a son somewhere at a mission on Hudson Bay.

pouring from his loud speaker, only to waste

itself on the desert air. Life and death, joy

that kind of music, but it was great." The musical critic unfolded his paper.

To our way of thinking, the outstanding

and sorrow, quirks and twists of the dizzy

round we call existence -all roll out upon the

touch of that week, was the catch in the

"Superb," was his comment. "De Luca

voice of the eminent, old statesman, as he

listener in a never- ending medley -surely the

was in fine voice. But do you suppose it got over ?"

The postman, a notorious D-X-er, "Well,

strangest conglomeration that has ever as-

rose to respond to the eulogies of his friends, on the occasion of the dinner in honor of his

sailed the ear of mortal man. Even the

eightieth birthday. We almost felt it was a

cynic admits there is something new under

my wife was sold on radio last night. She said it was the first whole concert I ever

shame for the microphone to be there to

the sun, and pauses in his amused tolerance

let her listen to. That Italian was great."

of an expensive plaything, when some

register every inflection of his emotion as he

The teller in the bank confessed, "I've

tried to steady his voice for a dignified re-

strange, wandering meteor of unfamiliar

sponse. And yet, we suppose many a dial

thought dashes across his orbit and brings

fallen. Just ordered a radio set. Heard the concert last night, and if that is the kind of

him up standing.

t wister wondered when Schenectady would

entertainment you get, I have been missing

a lot."

finish broadcasting that interminable dinner

and give them some jazz!

Tom was shining my shoes.

DEAR Daisy Dumbbunny rendered her

Sentimental slop? Possibly. But if you're

verdict the other day.

human. the radio will get you.

"Did you hear da nica music last night?"

"We got tired of our radio in a month. It's all the sane old stuff, and then it kept

A

lie asked, between rubs.

"Why, have you got a radio set, Tom ?"

IT SEEMS to an innocent bystander that

"Sure. Joos a two -tube. But, my, she

Charley from going to the pictures with Poor, clear Daisy! What can she find in

coma in swell. Like -a they sing in the old

much of this hullabaloo in regard to poor

country."

radio programs might be cleared up by a little missionary work among the listeners,

the movies to compare to the slices of real life that cone to us who twist the dials?

( No, Tom is not an Italian. He's a Greek.)

rather than by the continued harping upon

We recite a few vagrant memories of a time

the stupidity of station managers. If Owney Oleson, of Bird Center, could be

The laundryman, who builds a set a month.

before we began to make notes -any one of

"Say, do you know I never turned a dial for an hour. Just tuned in New York and

which would have sent Kelley nose -down on a red -hot trail for half a column.

restrained from rushing to the nearest ate it up."

Western Union office, and wiring his ecstatic

Came this from Texas- "The Smith Drug

reaction to "Doodle Dee Do," played upon

"But did you like the program ?"

Company is sending out a call for blood

I)id we? \ \'ell, it was the first night in a long time that ı gave Zion City the go by.

the harmonica from the O. K. Plumbing

to save the life of a young woman."

Shop, the manager of that station might re- train from repeating the offense. The moving

( Name and address given.) "Any healthy person between the ages of 25

But 1 never heard that kind of singing before."

picture producer who went on record with

and 40 who will submit to a transfusion,

The music lovers -they now frankly fish

call their store at 118 Main street."

the immortal confession that his success was

for invitations to a radio party, when there

due to making pictures for a clientele with

From somewhere south-"Anyone knowing

is a real concert on the air, but it is the

John Robinson. 26" ( description fol

the intellect of a nine -year old child, evident ly knew his business; and compilers of radio

reaction of the many who have never had

lowed 1. "tell him to come home at once.

programs doubtless started out with the

l lis wife is dead, leaving a day -old baby.

an opportunity to hear good music that causes one to wonder. It seems unnecessary

same idea. Anyone who thinks that the

Robinson frequents race -tracks and pool rooms."

majority of the stations are not themselves

to worry about the future of radio. If the peuple want the best, as they apparently do,

aware of the awfulness of their brand of

touch of comedy front Memphis-"George

they are going to get it.

hokum, should have heard what issued from

Brown, and William Johnson, left

A A 6

our parchment speaker the other night.

D ()l.:, the advertising that comes along

home yesterday in a Ford car with red

The studio we privately call "WW,"

sport body. Notify their parents. They

( World's Worst), read a long list of lauda

with radio programs like the lettuce in

were accompanied by two shot -guns and

a chicken sandwich, bother us so muchly?

two hound clogs."

tory telegrams, and then, in a perfectly seri- ous voice, the announcer said,

We scarcely think so. One writer waxes warmly indignant over the statistics that the

From Detroit -"Our orchestra will now play the Lohengrin wedding march for Miss

"This is the world's greatest station

Gussie Daly and William Betz, who are

broadcasting one of its refined, sacred con-

radio public is paying $1,000,000 per day to listen to advertising. BUT -the publication

certs. Tommy Tubbs will now sing, in

being married at the bride's home in

response to many requests, 'The Old Horse

Toledo."

Fly.'"

in which this article appeared carried 99

From Kansas City -A request to search for

But do they want better things? Unquali

pages of advertising to 82 of reading matter. The advertising paid for the meat in the

fiedly, yes -after they have heard them.

two brothers, whose parents had been

magazine, just as it pays for the talent in the

killed in an automobile accident.

One's insat'ahle curiosity as to the reaction 44

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(Continued on page 72)

The trials of

a song -writer Mr.

# T. P. Alley

By Earl 'Keeves

MR. T. P.- otherwise Tin Pan

had slipped on a banana, tossed out by

some insignificant western house.

-Alley put his feet on his

pulling the quick stuff that keeps him on the payroll. "We gotta collect, that's all."

A VERY slick lieutenant burst into

desk, stuck his thumbs in the armholes of his vest and tilted his cigar

the room.

"Collect from an ether wave, Son ?" says Mr. T. P. Alley, rising to the

ceilingward.

"Moron," said T. P.

"Lissen," said the newcomer, pass

heights of irony that generally goaded one worth money in his pocket.

He smoked cigarettes in the days

his hirelings into thinking up a good

before uplift- our -youth magazines be

ing the insult. He sprang from the unrennovated portion of the Village

gan writing him up. He prefers

"Think again. This is a game of put, this broadcasting, ain't it ?- There's no

himself, but "moron" wasn't currency

them yet, but a fat cigar was Front.

when he left, and he didn't get it.

Mr. T. P. Alley's feet were on his

take to it. Everything's give away,

"Lissen. Boss," he said. "I gotta

desk because he was Thinking. He

ain't it ?"

good one. Ever hear of radio ?" This

needed Front and he needed Thought.

"Sure, boss, but it says here that a hundred and fifty million dollars worth

was, oh, ever so long ago -over two

Outside, beyond sound -proof walls,

there was much chatter. That was as

years."

"Yeah," said T. P. "Go away. ı

of radio sets has been sold in a year.

it should' be. In the long room many

An' where they's that much money,

passed in and out, giving the appear-

got troubles."

they's always a way to get our'n. We

ance of busy -ness. An insignificant

"Sure, I oughta know I carry 'em,"

ought have anyway three to four

was the come -hack. He held his job

lad largely embellished in not- too -quiet

million mita radio."

by being quick, like that. "You oughta

raiment exchanged persiflage with a pair of pippins. They were flattered.

Mr. Tin Pan Alley put his feet on

have 'em, spending millions pluggin'

the floor suddenly.

songs like you do, and you never

Several times a year he dragged down

"Torrid Tillie," he said, and writ

thought of radio. W'y, hundreds of

checks bigger than the Secretary of

that one down, quick, for amplification

thousands lissen at night already, an'

State gets for a year's diplomacy. His

later. "Hop to it. Sic 'em."

its gonna grow. Get your songs sung

"Hottentot Tot" was a scream. And a ride in an elevator with a West Indian

by wireless. It's the biggest hunk of

III.

free advertising y'ever saw."

darky or a trip as far south as the

AYEAR passes, bringing us almost to NOW. Mr. T. P. Alley sits

Battery was likely to inspire him to a

Mr. T. P. Alley's feet came down.

with his feet on his desk and his

"Hot Poppa," he said. And wrote

new Mammy song hit most any time.

thumbs in the armholes of his vest ; but

that one down quick, so his mechanics

The pippins were advisedly flattered.

the bold, tip -tilted cigar has been re-

He spent painlessly.

could build a musical vehicle around

Down either side of the room were

it. Nothing was wasted, here.

placed by a cigarette, which droops.

enclosed cubicals containing pianos

II

The long room outside is almost quiet.

A YEAR passes. Mr. T. P. Alley

and open mouths. In such a setting

birds- though they may be hungry

( Turn to page 73)

open mouths do not denote hungry

sits with his feet on his desk, his

thumbs in the armholes of his vest and

but "artists" trying out "hits." The

his fat cigar tilted. He's waiting for

stickier hits go into vaudevillian circles

and elsewhere -for us.

his slick young lieutenant to come in and think for him. That's what he's

Still further back, hidden away -a

hired for.

busy mailing room, from which 23,000

He bursts in, waving a paper.

theatres, 17,000 orchestra leaders and

"S- a -a -y, Lissen," he says. "This is

7,000 music dealers get free copies.

This eats up a President's salary in a few weeks.

moider. It says here they's ten millions lissen to the radio every night. An' the big screams is using our music for nothin'. A prize lotta saps

Mr. T. P. Alley was burred in

Thought. All this was terribly ex-

we been."

"Yeah, we're often that,"

pensive. For a moment his faith wavered: Barnum did not seem to be right.

The public was a what was that

from T. P. A., thinking of

overhead, and things. "It's

a habit. Break it."

word that had come up out of the

Village lately ?-oh, yes, Moron. The

'Sure, that's what I came

in for," says the young fella,

public wasn't buying. Moreover he

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Tune into some of the

feature pro grams at

has

been re- sponsible for

RADIO

many things but

probably no stranger

story has been told

than that of Norma

Gregg, dramatic so- prano, who is once more singing from

KHJ and KFI in

Los Angeles.

After years on vaudeville circuits

Miss Gregg made a study of noses be cause hers didn't exactly suit her needs and so she had a new one fa shioned by I)r. Wil ham E. Balsinger, famous Hollywood

A I a s ti c surgeon.

Now she has an im perial nose along the design bestowed by nature on Queen cl3y

# Dr. alph L. `Power

a fire warden and has charge of Stur tevant's Camp dur ing nine months of the year. Thirty -five years ago old man Sturtevant located his claim and the original log building, now the property of the United States Forest Service, still stands.

During the long winter evenings Heideman was wont to hitch his little radio set to the

portable phonograph for use as a loud speaker. The radio programs brought him the best in music and two years ago, he began to buy all sorts of musical instruments and books of instruction.

Mary of England.

Dave Heideman, denizen of forest and stream, spends his life in the Sierra Madre Mountains and tunes in to radio programs to which he adds his own accompaniment on a variety of instruments

Norma Gregg has composed some fifty song hits, her most famous number being "Margharita" and many

Now he can give a good imitation of a one man band for he plays the

will be heard on many KFI and KHJ programs and already radio fans on the Pacific Coast are demanding a personal appearance so they can see the

Chinese and East Indian operettas as well. She has composed for Eva Tanguay, Julian Eltinge, Louise Dresser

new proboscus.

and the late Lew Dockstadder. Her

banjo, guitar, French harp, Spanish mandolin, wind whistle, ocarina, man-dolin, and Jews harp -not all of them at once, of course. The photo doesn't show all of his musical accoutrements

JACK BAIN'S voice is pretty well

best known song hit is probably "Please Don't Forget Me When I'm

but he's playing the mandolin and the

known out west. His engagements as vocal soloist with orchestras includes

Gone," which she composed for Eva Tanguay.

French harp. He learned to play the various instruments by studying the

Radioland got its greatest thrill in

instruction papers and then he tuned

and with the orchestras directed by Paul

hearing about the farewell nose party

in on stations and accompanied the

Ash and Max Dolin in San Francisco.

held at the home of Rex Goodcell, collector of internal revenue in Los Angeles, the eve before the operation.

various orchestras that he heard every night -playing up in the stillness of

Five nights a week Earl Gray and

his orchestra broadcast via remote

the night in the great out -of- doors.

control from the Butler Hotel, Seattle,

The crowning feat of the party was when Norma sang Tosti's "Good -By"

The last seen of Heideman he was on his way to civilization to entertain

to KFQX and Mr. Bain does the announcing as well as furnishing the vocal refrains for most of the selections.

in memoriam to the nose that was fo be totally transformed the following day.

his mountaineer friends and others with a varied musical program from

At this writing he is the only male

The climax of the party came, however, when a cablegram was received

Los Angeles radio stations.

announcer of this 1,500 -watt Seattle station which has a woman as program

from Fred Duprez, producer of the

manager and announcer.

Manhattan Follies playing in London.

TWO radio favorites of the West

have gone to the Great Beyond and will be heard no more from KHJ, KFI and KNX. Harry Hahn, bari tone, who appeared in many prologues

IN THE Sierra Madre Mountains of

Until the next season, when she will

probably go to England. Miss Gregg

South California Dave Heideman is 46

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and who has been a radio favorite for

played every week either from KNX,

more than two years, recently died as

man Symphony Orchestra for three

KHJ or KFI. At this writing he is

seasons, and for two years concert

the result of a leaky gas jet.

master of the Chicago Symphony Or chestra.

on the way to the San Francisco Bay

Marguerite de Forest Anderson, flutist, who appeared with Nordica,

District where he will be located for a year and will there be heard from

Mr. Lipschultz has often been called

Melba and others will play no more

KGO and KPO.

via radio. Miss Anderson played in New York, Boston, Paris and London a few years ago. In the English City she played many times at Covent Garden and Queen's Hall and was a member of the royal family's private orchestra.

Once a member of world famous musical groups she earned a small stipend the past year playing via radio and leading cafe and cafeteria orchestras. Death came as the result

Jack Bain. soloist at the Butler Hotel

of much brooding over circum stances and inadequate funds for living.

LIPSCHULTZ, violin virtuoso, has been billed everywhere as such, but his first name is George. The son of a well known Chicago musician, young Lipschultz won a music scholarship when fourteen years old that gave him his start towards a career. He was soloist and orchestra

the American Kreisler because he (Top and boftpm) Miss Norma Gregg of KHJ and KFI who has adopted the latest style in noses

KJR, in Seattle, is the Pacific Northwest's newest station operating on 1,000 -watt power at 405 meters wavelength. Most of the programs are sponsored by the Seattle Post -Intelligencer, they being on the air afternoons from 4:30 to 6 and Monday, Wednesday and Friday evenings from 8:30 to 10, Pacific time. The 10 to 11 -hour evenings brings music from Ray Robin - son's Orchestra via remote con

Prof. George Lipschultz, famous

violin virtuoso

trol from the Willard Cafe. Aunt Bunny has a story for the youngsters afternoons at five o'clock and the Blind Boys Orchestra plays an hour program daily at 12:30. KJR has become very popular in the brief time it has been on the air and its programs are worthy of this popularity.

KFQG, Los Angeles, the new station of the Southern California Radio Association, was constructed entirely by its

leader for four years in various

members. They operate a 100 -watt

toured with Kreisler for twenty -six

Milwaukee theatres and later, for two

station on 226 meters from the Ex position Park Armory Buildings,

weeks and received daily instruction

seasons, concert master of Victor Herbert's orchestra. He has played as many as a hundred and twenty -five

from him. For nearly a year this violinist has been leader of Loew's Mu

Monday, Thursday and Saturday nights from 7 to 8 only.

sic Masters in Los Angeles and has

concerts a year when with the Ball-

# lityGR Ensemble

A stringed quartet that has become very popular on the air

'By Lloyd S. Graham

ANY student of feminine psychology knows that it is rare indeed

As the first notes floated out over the

that is almost white in pleasing contrast to her hair. Altogether there is

dining room of the Statler, fourteen men entered by the main entrance and

for three or four women to work together amiably on any sort of a proposition unless they happen to be

something about her which reminds one of Raphael's Sistine Madonna.

solemnly marched in single file. The

coincidence was too much for the group and it must be admitted that during the

Musically, Martha Gomph is "there."

under the guiding influence of mere

All of the group are, but she is especially favored in coming from a highly

man.

mirth that followed there was a little

Ili contradiction of that theory

Lett to right) Martha Gomph,

Mary Reynolds, Agnes Millhouse and

Rather nc S.ang

hitch in the rendition of the selection.

rule – we present the Hotel Statler perhaps an exception which proves the

musical family. Carlos Salzedo of

Several of the (liners thought it was a good joke also. The group of fourteen men who appeared so unexpectedly on the first beat of "The Parade of the

New York was her teacher of the

Concert Ensemble which broadcasts with the regularity of the clock from \VGR and is one of the station's most

harp.

Katherine Stang js the violinist of the group. Everyone around the Statler consider Martha Gomph and'

popular regular features. Moreover, none of the four have bobbed hair.

Wooden Soldiers" were members of

the federal grand jury then in session,

Katherine Stang as the inseparables.

accompanied by two court officers in

Here are four decidedly feminine

See one and you are bound to see the other not far away. Miss Stang, too,

uniform. The uniforms improved the

musicians who have worked together

joke.

day in and day out for months without

has been a part of the musical organi zation of the hotel since it opened. The

This ensemble has been on the air

the slightest show of friction and with

Gomph -Stang combination is an old

daily except Sunday for more than three months. It goes on the air from great satisfaction to the radio audience.

There is only one time on record in

one. As children they were playmates

the main dining room of the Statler,

which the musical zeal of the four was upset even for a moment and then the

together. They studied together, did

promptly at 12:45 and continues until

concert and movie work together, al though it would be difficult to find two

which

1:15. Its fan mail is constantly grow ing and the number of requests come in is increasing constantly. What

cause was from without the group rather than within.

It happened this way. They had been

persons more nearly opposites in temperament and appearance than these

better proof of popularity could there

broadcasting a radio program when

two young ladies. While Martha

be? In this connection it may be interesting to note that the group is especially popular with the Canadian

Kenneth Pickett, then announcing for \ \1GR, noted that there would still be some air time to go. He asked them what they wanted to play as an added audience.

Gomph is calm and serene in the face of the most disturbing events, Miss Stang gives one a suggestion of dash and fire, a highly- strung mental organ ism. For instance, Miss Stang lost her purse one day and soon had the whole number. None of them had any sug gestion to offer so he asked for "The Parade of the Wooden Soldiers" hav hotel looking for it. She got action with the utmost swiftness. Like the

We introduce them. There is Mar tha Gomph, harpist. She has been on the Statler musical staff ever since the

hotel was opened. Clever little lady

ing received a request for the number

with hair black as the blackest night

well known old lady with the lost spec

in the morning's mail.

tacles resting upon her forehead, the

and a countenance marked by a calm- ness and serenity rare in this day and

That was agreeable so they struck up-if a stringed quartette can be said

purse was found in plain sight on her dressing room floor.

age, particularly in such a sophisticated

to strike up-the well known selection.

place as a modern hotel. A fine skin

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( Turn to page 741

# TELEVISION a Reality

Seu.ds o

lectrical transmission of colored and moving pictures 'By `Theo. FM. Se-wards

THE problem of television has òc

with the addition of an agent to slight

pulses received. The screen can be made in various sizes, according to

ly retard the reaction. Wonderfully

cupied the minds of scientists of

the size of the picture desired, the individual cells and bulbs being smaller

steady and clear pictures are obtained.

every country for many years,

One of the cells is shown in figure

but so far, it has not been possible to

or larger as the case may be. The

transmit moving pictures in the same

lA which represents the picture break-

sketch shows the picture builder A, the

er. The cell C consists of a mantle

simple manner as sounds and speech.

cell H with lamps I. The light rays

which acts as one electrode, a second

A German engineer, Alfred Heinze, who has been experimenting in the electrode E and the photoelectric sub pass through the screen in the direction of the arrow. Either D.C. or A.C. can be used to furnish the current required for transmission.

stance D, which is struck by the light

field for over sixteen years, has just

rays travelling in the direction of the

perfected apparatus which was recently

arrow. The second organ of the transmitter is the "picture breaker," an apparatus actuated by a small electric motor, and possessing 40,000

contacts, all

tested with very satisfactory results. In most methods of long distance transmission the picture to be sent is transmitted and received line by line. In a general way, the principle of the instrument, as outlined, was already known, but various difficulties had so far proven insurmountable in

of which can be closed and opened

In Heinze's system, the picture appears

practice. It was impossible, for in

again one after the other in one -fif teenth of a second. Each cell of the camera background is connected to

as a whole in the receiver, the instant it acts on the transmitter. The most important part of Heinze's invention

000

Figure 1 -A

stance, to build a contact apparatus which could open and close 600,000 in

from Transmitter

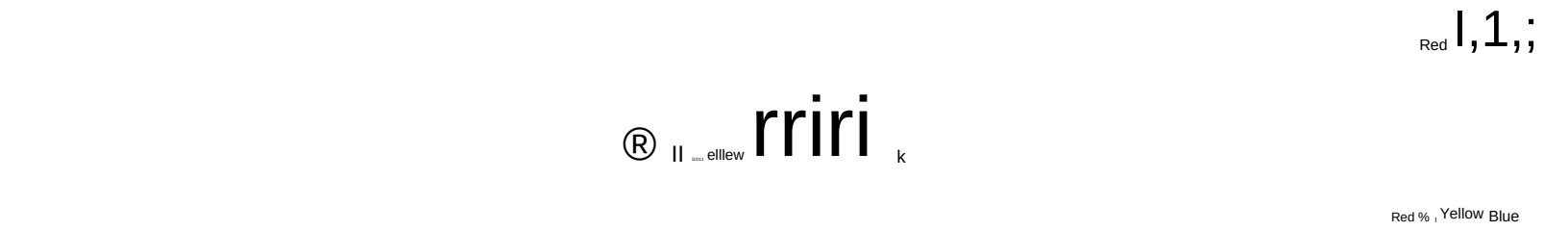



Figure 2 to Receiver Arrangement of three colored cells The various parts entering into the radio television system

is the creation of a synchronism be

such a contact point.

Figure IA shows the schematic ar rangements of the breaker B the con-

dividual circuits in one second. That is where Heinze's work fits in. This

tween transmitter and receiver and a contact apparatus, which closes and

contact system works satisfactorily, without moving large masses and with out an excessively high rate of revo

tact points F and the rotating contact

opens 40,000 circuits in the fifteenth

part of a second.

tongue G which opens and closes the

The process of transmission is as

40,000 circuits.

lution.

The inventor has further endeavored

From this sender the picture, which

follows . The transmitter is equipped

has been broken up into minute sec-

with a photographic camera on the

to transmit colored pictures. His method is illustrated in figure 2. The

tions separated by an interval of time,

background of which the object to be

is transmitted to the receiving appara tus figure 1B, which is absolutely iden

sent is thrown by a strong lens. This

background is divided into tiny unit

light rays passing through the sending lens E, strike the sensitive photoelec tric cell C. A revolving color filter

tical to the sender, but is now called

cells (40,000 to a square meter), which

which consists of three segments of

break up the picture into minute sec-

the "picture builder.'.' This receives

the picture sections which arrive as

tions. The cells are so constructed

the basic colors -red, yellow and blue -is interposed between lens and cell.

that any variation in the light thrown

electric impulses of varying current in tensity, each of which corresponds to

This disc is geared to the contact ap paratus C in such a way that the disc

on them, changes their conductivity,

one of the photoelectric cells. The same contact apparatus groups these

and thus produces current fluctuations in the circuit to which they are at

revolves once, to every three contact series of the apparatus. Thus the cells

tached.

To produce this effect Heinze uses

picture parts on a screen made up of

can receive only the rays of one color

the corresponding photoelectric cells,

at a time. as the others are held back

each of which is connected to a bulb

a substance of his own manufacture,

of low voltage, lit by the current im

composed of various alkali metals,



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by the color filters.

# Appliances and Devices

## The Acme Battery Charger

THE battery charger which performs its

more compactly -identically the same 5 -tube

This circuit, while neither new nor radical

tuned radio -frequency circuit that is well

duty in excellent style and which is thor- oughly reliable and a finished looking in strument is the new Acme 1925 model. Some models of this line are inclosed in a case which is made of sheet met al with the sides and top pierced for ventilation purposes. The cha rccr i. mounted on rubber feet and noise

in principle, has been developed to the high- est state of perfection by the use of air core radio -frequency transformers, in which the usual losses due to the use of cardboard, fibre or bakelite t ube forms have been elimi nated. These transformers are tuned by three highly efficient condensers with plates rigidly connected together to further de- crease electrical losses, which accou nts for the purity of tone and the extreme amplifi- cation produced by the Stewart receiver.

known for its extraordinary selectivity and

range with ease of operation and which is manufactured by the Marwol Radio Cor poration.

## The Blair Receiver

THE Blair Six -Tube Receiver employing two stages of tuned radio frequency, a detector and three stages of resistance audio amplification is now available to the Ameri- can market.

The cabinet is finished in dark walnut, and its sloping panel permits easy manipulation of the dials.

## The Kellogg Trans -B- Former

IlE Kellogg Trans -B- former is the re- sult of considerable scientific experimen tation conducted in the laboratories of the Kellogg S witchboard & Supply Co. With the Trans -B- former the problem was to

and vibration generally attending such a

of years

The Blair Receiver is the result of experimentation in both British and Am erican Laboratories and represents the per

fected combination of two highly efficient

manufacture an instrument that would ef

fectively take the place of B batteries and

by means of which 60 -cycle 110 -volt house

current could be smoothed out and all noises

ra-

methods of amplification, namely, tuned dio frequency for distance and selectivity,

device is considerably lessened. There is a switch so connected as to easily change from A to B battery and the owner of this bat

tery charger may charge his storage 13 bat

tery by merely throwi

ng a switch. The Acme Chargers are equipped complete with a plug, cord, and battery clips.

## Rigid Battery Connectors

THE ESherman Battery Connectors fill a

removed so that the current would be adapt

able to radio. This B battery eliminator employs two UV- 201A's as rectifier tubes. Tests on this Trans -B- former, a model of which was sent to

our office, indicated that Kellogg has completely eliminated the line

hum. It costs approximately one -fifth of a cent per hour to run and can be used wherever the house lighting supply is 110 - volt 50 to 60 cycle. The advantage of a constant supply of B battery v

oltage such as this delivers, is that the receiving set

and resistance- coupled audio for tone quality. The result is the exceptional clarity of delivery for which resistance -coupled amplification is noted, together with distance and volume in any quantity desired.

long felt need for a suitable means of connecting up dry cells. They provide a strong, neat, simple mechanical means of securing perfect contact with each cell and operates at maximum efficiency all of the time. The Trans -B- former may be used

eliminate the danger and nuisance of a con

Heretofore, the manufacturers of the Blair Receiver have confined their sales efforts to the British market, and they are nosy one of the largest exporters of radio receiving sets in this countr

y. In choosing a receiving set for His Majesty King George V, the British engineers chose resistance - coupled amplification.

fused tangle of wires. They are made in two styles, a short clip for series connections and also parallel types suitable for connecting two or more dry cells in parallel. The slotted openings have spring contacts similar to a lock nut so that the battery nut cannot loosen. The slots are so spaced that the individual cells are prevented from

This set is being manufactured by the Blair Radio Laboratories.

## A Stewart- Warner Receiver

THE Stewart -Warner Speedometer Corporation, recently placed on the market, the Stewart -Warner, Aeromaster, Type TRF -5, radio receiver. The set consists of

touching and a bridge formation prevents connectors from touching the metal battery casing.

## A Portable Summer Set

ARECEIVER that is particularly light and compact and easily convertible into an ideal portable set for summer use, is the Marwol Baby Grand. This efficiently de signed, well-built set comes equipped for storage battery use, but may easily be made to operate on dry cell tubes. While the with all types of sets. It is provided with four taps including a common negative and a variable detector tap ranging in voltage from 5 to 35 volts with the variable detector feature of the Trans -B- former the exact voltage necessary to properly balance and stabilize the detector tube. This is of particular advantage when a soft critical tube is used as a detector. For the amplifier tube two taps are provided one for 45 volts and one for 100 volts. The instrument is inclosed in a walnut cabinet of very attractive design. It is small enough

two stages of tuned radio -frequency ampli fication, detector and two stages of audio

Marwol Baby Grand is much smaller than

the Marwol Model A -1, it contains -only

amplification.



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to stand behind the receiving set or rest inconspicuously on the floor near the storage battery.

# Recommender

EVEREADI IiOUR

EVERY TUESDAY AT 9 P. M. (Eastern Standard Time) For real radio enjoyment tune in the "Ever - eady Group." Broadcast through stations - WEAF New York WFI Philadelphia WJAR Providence WCAE Pittsburgh WEEI Boston WGR Buffalo

WEAR Cleveland WOG Davenport WWJ Detroit woo) i Minneapolis

l St. faul

4. RADIO iAy

E VE. .:NOY

LUMBIA

IGNITOR

D:RY Ç;l–yLL

FOR RADION .IGNITIO 4ND AL- GENERAL PURPOg5

nresD

ySn1eeLIAala Awr.eeDMW

Eveready

Columbia

Ignitor

Dry CeU "A"

Battery

for all

Dry Cell

Tubes 1'/ volts

# good batteries

IN AN effort to reduce the first cost of a radio set, a newcomer in radio often buys inferior batteries. You know such "saving" is really wasteful. Tell your friends who are about to buy receivers that the best batteries obtainable will prove to be the most economical. Tell them to buy

Eveready Radio Batteries -they last longer and, because they are greatly superior, they give complete satisfaction.

There is an Eveready Radio Battery for every radio use.

Manufactured and guaranteed by

NATIONAL CARBON COMPANY, INc. New York San Francisco

Canadian National Carbon Co., Limited, Toronto, Ontario

# EVEREADY Radio Batteries they last longer

.Vo. 770

45 -volt

Extra

Large

Vertical

Price x.75

For use

on multi

tube sets /.

1

No. 767

45 -volt

Large

Horizontal

Price

$3.75

With

variable

taps

"Quality Goods for Quality Readers" www.mrinrihir.m

T

# radio stations

Four Danish stations being constructed to advance communication in the North Atlantic

TliE erection of %virc less stations in Green land is the fulfillment of plans dating from before the war and designed to bring Greenland into more direct connection with the rest of the world. The cir cumstances of war caused the Greenland authorities to put their plans aside tempo - rarily, but as soon as possi

ble after the war was over the preparatory work and necessary investigations were taken in hand, and it is inter esting to observe that it was duri

ng the I)anish Royal visit to Greenland in 1921

that connection was for the first time established between the west coast of Greenland and the international tele graph services. connection being n

tatle by means of the wireless aboard the King's ship.

`By O. Lund -Johansen

tection to fishers in the Ice landic waters by giving them

advance information of corn- ing storms and hard weather originating to the west of Iceland. The stations are being built according to the quenched spark system, with an energy of 1/ kilowatt in the aerial, which latter is constructed in the shape of an inverted L suspended be tween two wooden masts each 42 meters high.

Almost exclusively Danish materials are being used throughout and the erection is being done by Danish workers under the guidance of Danish technicians.

Owing to the great distan- ces and isolated location of the stations, the lack of avail able materials and skilled workers on the several sites,

the task in hand is quite a difficult one. The poor transport facilities in Greenland and the short season available in which to work - being quite impossible in the

The stations are to he erec- /

ted at Julianehaab, (60° lati tude ) Godthaab (65 ° and

Godhavn ( 70° ) on the west

coast and at Angmagssalik

(65 °) on the east coast of

Greenland. The contract for

the erection of the stations

Map show

has been placed in the hands

to be ere the west points as mg the location of the four Danish wireless stations about cted in Greenland at Julianehaab. Godthaab and Godhavn on coast and also indicating the distances between these various well as the

distance from Copenhagen to Greenland via the Faroe Islands and Iceland

of the Danish Radio Com pany, Ltd. (Dansk Radio

the necessary

A /S), who have already commenced to despatch materials, equipment and workers.

winter -increases the diffi culties, but in spite of every- thing there is no question that the scheme will be car ried out according to plan and that the stations will soon be in operation and sending out communications,

hagen, distant about 1500 km.

especially of a meteorological nature.

The stations at Godthaab and God - havn will be of a smaller size, as they have to cater only to local traffic. They

It is anticipated that all four stations will be in operation before the end of

fore

This service will be of the greatest significance in compiling weather cast for the eastern part of Europe, and

the year.

an energy of / kilowatt in the aerial, which latter are similar in form to the are being built as tube- stations, with

The station at Julianehaab is being built according to the Polusen- arc -system, with an energy of 5 kilowatts in

will add to the security and safety of shipping traffic fisheries, etc. The new stations will also form an additional

aerial at Julianehaab, but are suspend- ed from a main mast of only 52m. in

the aerial. This is in the form of an umbrella frame suspended from a mast 82 meters high to 6 smaller height.

connecting link between the mother country of Denmark and her far distant Greenland colonies.

The stations at Angmagssalik on the

masts surrounding it in a circle with a radius of about 175 meters. The

Work is proceeding rapidly at this

east coast is being erected at the special request of the Danish -Icelandic

time and there is very little reason to

stations are designed with a view to

believe that the end of the year will

Committee, the intention being first

communicate with the Faroe Islands,

not see the stations completed and in

and foremost that this station should

a distance of about 2100 km., and under normal atmospheric conditions it operation. When that happens a new era will undoubtedly dawn for Greenland in commerce and economic development.

will probably be able'to reach Copen

send meteorological reports to Reyk- javik, Iceland, distant about 750 km., and so afford the utmost possible pro 52

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# Lacault Scores

# Alain/

PATENT

PENDING

The new Ultra -Lowloss condenser is

the latest improved radio device de- signed by R. E. Lacault, formerly Associate Editor of Radio News, the originator of Ultradyne Receivers and now Chief Engineer of Phenix Radio Corporation.

# ULTR7I-bOWbO$$ CON DENSER

LIKE every Lacault development, this new Ultra -Lowloss Condenser represents the pinnacle of ultra efficiency -over-comes losses usually experienced in other condensers.

Special design and cut of stator plates produces a straight line frequency curve, separates the stations of various wave lengths evenly over the dial range, making close tuning positive and easy.

With one station of known frequency located on the dial, other stations separated by the same number of kilocycles are the same number of degrees apart on the dial. In the Lacault Ultra -Lowloss Condenser losses are reduced to a minimum by use of only one small strip of insulation, by the small amount of high resistance metal in the field and frame, and

ZILTR71 VCIZINER

TUNING CONTROL Simplifies radio tuning. Pencil record a station on the dial- there after, simply turn the finder to your pencil mark to get that station in- stantly. Easy -quick to mount. E

liminates fumbling, guessing. Fur. nished clockwise or anti -clockwise in gold or silver finish. Gear ratio 20 to 1. Silver $2.50 Gold $3.S0

This seal on a radio product is your assurance of satisfaction and guar- antee of Lacault design.

by a special monoblock mounting of fixed and movable plates.

At your dealer's, otherwise send purchase

price and you will be supplied postpaid.

Design of low loss coils furnished free with each condenser for amateur and broadcast frequencies showing which will function most efficiently with the condenser.

To Manufacturers Who Wish to Improve Their Sets The Ultra- Lowloss Condenser offers manufacturers the oppor tunity to greatly improve the present operation of their receiving sets. Mr. Lacault will gladly consult with any manufacturer regard ing the application of this condenser to any circuit for obtaining

maximum efficiency.

PHENIX RADIO CORPORATION, 116 -A EAST 25th ST., NEW YORK

"Quality Goods for Quality Readers"

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## Education Via Radio (Contsnued from page 43)

staff of \\'1Z and \ \'JY, New York.

thereafter, by special command, he

He gives recitals accompanied by Keith

gave a concert at Buckingham Palace.

McLeod, at least once a week. Mr.

the King of Italy to an assemblage

Later he went to Russia and studied

Ludlow is an Australian, who, at the

gathered by royal invitation to celebrate

with Leopold Auer. Mr. Ludlow came to New York in 1924, making his de but at Aeolian Hall, after which he

age of ten was awarded the Gold Medal

the entrance of Italy into the World

for New South Wales. At fourteen

War. For this occasion Senor -Mar coni had prepared a special receiving

he left Australia, to spend three years

gave many concerts, the last two of

set for the king.

in Prague and two years in Vienna

which have been broadcast by WJZ.

studying under the great master

Mr. Koretskv is a charming, reticent

His violin is one of the six finest in the world. It is the priceless De Rouge - mont Stradivarius, dated 1703, and

type of man and one would hardly sus- pect that so voluminous and powerful

Sevcik. When he was seventeen he entered the Maester -Schule (Master School) of the Imperial and Royal

a voice were lodged within him. He

Academy of Music at Vienna. During

has the kind of manners that sometimes

valued at $50,000 by those who know such values. Mr. Ludlow not only

a two -year tour of Europe, he played

put us brusque Americans to shame.

plays entrancingly, but the feminine contingent of radio listeners would, if

before many crowned heads of Europe,

F YOU want another musical treat,

making his debut appearance in London

they saw him, be quite susceptible to

the wonderful permanent wave he

at Queen's Hall, and creating such a furore in musical circles that shortly

tune in on Godfrey Ludlow, famous

concert violinist, recently added to the

# 5ilverflarskall -

wears! Real!

`HERE is no greater educational force in the world than music and literature. In considering this, then, we have available, for the listening, talks by Dr. Clifford S myth, editor of

RADIO EQUIPMENT 105 South Wabash Avenue, Chicago, Ill.

the Literary Digest International Book Review, one of the foremost literary journals of America and recognized as an authority in its field in Europe. Before Dr. Smyth settled into journalism, he did a great deal of traveling. One of the most interesting trips was, with

# Low Loss Parts That ARE Low Loss

Silver parts are not just "low loss" in name only, for they have been designed by McMurdo Silver, Assoc. I. R. E., to meet the most exacting requirements -to be absolutely right. Each piece of apparatus embodies the soundest of design principles -the accuracy of each detail has been verified time and again in research laboratories throughout the country. R. A. Bradley, Technical Editor of the "Wireless Age," selected s -M low -loss coils and condensers for his five tube receiver. Just as they are the heart of Mr. Bradley's design, so are they the prime factors in the success of the Four -Tube Knockout described in the March "Radio Broadcast."

No. 301 -A Low -Loss

a knapsack on his back, hiking through England, with Shakespeare's grave as his goal. Serving as newspaper re porter and editor, he was later ap pointed U. S. Consul at Cartagena, Colombia, where he became an inter ested student in Spanish literature. After serving his term as Consul, he returned to Colombia on various n ews paper and political missions. A re markable background, and a wealth of valuable material, which later evidenced itself in Dr. Smyth's novel : "The Gilded Man." Si nce then, Dr. Smyth has been a newspaper man, special writer for Sunday editions of the New York Times, and served as Assistant Sunday Editor. He later beca me edi tor of the New York Times Book Re view, completely and radically chang ing its policy and making it a live, strong influence in literary life. There is no do ubt of the personality of Dr.

F. Coupler, provided with fixed primary secondary with neutral izing tap and adjustable

Condenser. Grounded

F. Antenna Coil. A

rotor type with straight line curve. Capacity

single coil self support ing, (as in No. 105)

range .00009 to .0005.

Smyth, which reaches out to an understanding of people, whether through books or through the radio.

rotor. Range with No.

with antenna tap. Range

A NOTHER gentleman who has done

Ideal for use in con- junction with No. 105

301 -A condenser 200 to

200 to 550 meters with

delightful things for us over the

500 meters.

and No. 205 coils.

No. 301 -A condenser.

Price $5.00

Price $2.50

Price $4.50

"THE FOUR TUBE KNOCKOUT"

This booklet is a complete description of the Four Tube Receiver described by Mr. Silver in "Radio Broadcast." It contains valuable data on low -loss receiver and coil design in addition to detailed build ing instructions. It is invaluable to any one inter ested in low -loss receivers.

Price 25c.

DEALERS: Write for the name of your nearest jobber.

Circulars on these and other S -M products mailed upon request.

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air is Dr. Sigel Roush, whom it is one of the keenest pleasures to hear from \VGY, for you get a sense of travel to foreign places almost real. Dr. Roush may easily be ranked among the lead ing radio broadcasters of the East. It is well known that the air is filled with talk these days -much without appeal -but that is the joy of radio -if you don't like it, you just tune out. But to listen

to Dr. Roush is to have a real treat, his radio travelogues are indeed important to our "air" education.



Turn the inner knob of your Jewett Micro -

Dial a full half -circle. The main dial -and
the instrument within the set -would move
only two degrees of calibration.
Move the inner knob but slightly and you

cannot even see the movement of the main dial. But what a difference in reception! Stations you would other wise pass over, without hearing at all, come in clearly and with surprising strength.

"Fuzzy" reception ceases to be a problem. On high powered, selective sets, marvels of tuning can be accompl

ished with Micro - Dials. Less modern sets prove selective ability their owners never suspected.

Make these benefits yours! You simply can't afford to be without them.

Needs only a screw -driver to install -no butchering of shaft or instrument. At your deal er's or, if he is not supplied, send to us direct, enclosing list price, $3.50 each. We will prepay carrying charges.

EXCLUSIVE!

Mounts where any four inch dial will mount -Absolutely self-contained Nothing to be attached to panel- Slight eccentricity or angularity of instrument shaft of no conseque nce; Micro -Dial will not bind -Absolutely noiseless -Knob mounted on substantial bearing, which prevents wobble -No metal to tarnish or cause body effects; no rubber to deteriorate -Microm eter and coarse adjustments turn complete circle -Calibration zero right or zero left as desired- Mechanism lubricated for life -Lasts forever -Improves with use.

JEWETT RADIO & PHONOGRAPH CO.

5678 Telegraph Road, Pontiac, Mich.

"THERE IS NO SUBSTITUTE

# cro Dial

Trademark Registered

FOR THE BEST"

"Quality Goods for Quality ladrr >

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From the time he was a youngster, almost, Dr. Roush has been a traveler and his travels have taken him into innumerable out -of- the -way nooks and

obtaining numerous subscribers. Some in Europe and a few in Australasia. His letters soon began to attract atten tion and his next effort resulted in

N. T. G. Speaking (Continued from page 41)

corners of the earth, places seldom seen by the average traveler. Besides being a member of a polar expedition a few went on my last voyage. We sailed south over Nova Scotia on a little,

doubling his papers. If you want to take a trip to Tahiti or some unknown part of the world with out leaving your job-or your comfy couch some e vening -tune in on Dr. Roush - spending hours in foreign parts of the world -and getting ba

smelly, dirty fishing vessel out of New

years ago, Dr. Roush has drifted on many an isolated isle in his goings and comings and criss-crossings of the seven seas. At first it was difficult to meet the necessary expense for these

Bedford. I went up to Boston to ship as a sailor for my vacation, but nothing was moving at the time as there was a fishermens' strike on, but I found

the Natalie ready to start on a sword-fish hunt. Three days later we were one hundred and eighty miles away, up

Stoner calls the "kiddies" to bed. True, most of us want our travels,

travels, but at length the ingenious I)r. Roush hit on a scheme of commercial izing his "wanderlust" and making it

near the Georges Bank. There were six of us in this forty -seven foot boat.

our lectures and our music first -hand.

captain was

two Frenchmen, two Yanks, a Portu guese and myself. The an ex- whaler, and he could stand more

But how many hundreds of thousands

self -supporting. So he organized a newspaper syndicate and succeeded in

of people cannot travel. What a mar velous thing radio is for these.

# Only specialists can make

than any man I have ever seen. Be fore we struck the sword -fish, we struck a gale that blew us south so that we were lost a week. We were nine day s out before we saw a fish and then we got seventeen of them. If you know anything about sword - fishing you know it is done just like whaling. One of those I landed weighed four hundred and eighty pounds. I caught him at eight- thirty in the morning and it took a two and one half hours struggle to finish him. I drove an eight -foot lance through his eye. The sword -fish fight furiously. And three times in one voyage they ran their swords thro

ugh the bottom of our boats. When you go into the Hotel Waldorf and order sword -fish you get the finest eating in the world. It is too rare and expensive for most

# good fixed condensers

of us. In the two weeks and a half that we were out I didn't have my clothes off and I came home with two broken ribs and had run a grapnel hook

THE small fixed condensers in your radio set are there to help you get clear reception. If these little condensers are not made most accurately the may be excellent in all other respects - will be

quality of reception you get -even though your set

greatly impaired.

You will find that nearly all sets made -in fact over 90% of them -are equipped with Dubilier Micadons. This is the name by which all Dubili er fixed con densers are known. Be sure your set -whether you buy it or build it is equipped with Micadons. They are made by

through my foot. One night after we had been butchering, a gale blew up. When you butcher sword -fish you cut off the head and the tail and throw them over to the sharks which are following your boat. The decks were slippery and bloody and we were in a state of exhaustion. Through the night a great ship bore down toward us ; it was the Aquitinia coming home. She was alight from stem to stern and standing almost on end as she took the huge seas. The men and women inside who were dancing and dining, had they looked over the railing and seen us

# Dubilier

specialists.

CONDENSER AND RADIO CORPORATION

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floundering around in our tiny boat would have said, 'What can possibly drive men to go out like that when they might be stewards or a porter on s

omething much nicer and safer.' And as we crouched there in danger of our lives, the lines formed themselves in my mind of the poem that was late

r called "The Liner Speaks to the Fish erman ,Men who do work like sword - fishing, do it because of the love of independence, the desire to protect

their families and all the other elemen tal passions that can influence men. Most people have no conception of the

Judging from the inquiries we have been receiving from our readers we are sure you will say "JUST WH

AT I WANTED !"

Log Your Stations - Get Your Distances By Call Signals, By Cities, By States, By Countries, For the United States, Canada, Cuba, Mexico, The World

KNOW THE OWNERS OF ALL STATIONS

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4 BIG MAPS Each 2 Pages

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Mexico Cuba Porto Rico Alaska The World

Each map is best and largest that can be shown in convenient form. Red dots show Radio Centers.

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Signals, by States, by Cities

Latest Wave Lengths Kilocycles Locations Names of Operators

Liberal space for your private log and new stations.

CONTENTS

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commercial and govern

oadcasting, leading mental Radio Stations. Lists of all United States and Canadian broadcasting and leading commercial stations by location also alphabetically by call signals, with wave l engths and ownership. World Radio Stations, Lists, Etc., Time Divisions, Radio districts and Headquarters, Americ an Radio Relay League Districts with Map and Explanation. THE LATEST LISTS -TfIE COMPLETE LOG: in th e most comprehensive, most easily consulted, and most complete form that can be made. Price 50c. SPECIAL OFFER THE RADIO ATLAS described above FREE with your new

or renewal subscription to WIRELESS AGE.

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New readers

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osed.

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bravery of men who go down to the sea in ships."

When I first entered the studio at

WHN, N. T. G. was reciting "The Rhyme of the Rescued Ones," by Robert W. Service. I took it for granted that he had been an actor in his day, but this is not true. Quite by accid

he says, he found that he could recite.

"One night I had to fill-in so I picked up a book and read. They liked it. It became one of the most popular features, so we have become very much

"I selected it for its high insulating qualities It cuts down the losses in the circuit" `HOSE were the exact words

est fear of chipping. Radion resists

warping. It's strong. It's moisture

of a prize- winner in a radio

proof. It comes in eighteen stock

set -building prize c on i e s t,

sizes and two kinds, black and

when asked why he used a Radion Panel. Like thousands

mahoganite.

Radio dealers have the exact size

of others, he had found by ex perience that there is nothing

interested down here in the popularization of poetry over the radio. Those of us who remember Clifton Crawford with affection are glad to welcome t

o Broadway a successor who can handle "Gunga Din" and "Boots" with ability and sincerity. You have undoubtedly heard Mr. Granlund recite

some of these. Do not be surprised to know that he is going to make Okeh records of them, something which has never been done as a series. Perhap

s the success of WHN is directly attributable to the fact that N. T.

quite like Radion for real re sults.

you want. The use of Radion by the manufacturers of ready -built sets is almost invariably a sign of general good quality in that set.

G. has worked always on a definite policy. He says,

"The policy of the station is not to

Our engineers developed Radion Panels especially to order for radio.

Send for booklet

educate the masses. People like lyrics that they can understand and music

"Building Your Own Set"

Losses from surface leakage and di electric absorption are exceptionally low. And low losses mean clearer

Our new booklet, "Building Your

that is really tuneful. Let somebody else elevate them. What I want to do

reception, more volume and more distance.

Own Set," giving wiring diagrams, front and rear views, showing new set with slanting panel, sets with

is to entertain the people and to bring some frivolity into their homes."

proof - resists warping

Easy to work -moisture

the new Radion built -in horn, lists

I once read an article about N. T. G.

Radion is easy to cut, drill and saw. You need not have the slight

of parts and directions for building the most popular circuits- mailed for ten cents.

in which the author stated that one of the remarkable things about him is that

AMERICAN HARD RUBBER CO.

Dept. GS, II Mercer St., New York City

Chicago Office: Conway Building

Pacific Coast Agent: Goodyear Rubber Company, San Francisco, Portland 1RADION

AMERICAN HARD RUBBER CO. Dept. 65, II Mercer St., New York City

Please send me your new booklet "Building

he so rarely smiles himself. All I can say is that N. T. G. must have had a severe attack of indigestion that night for if anyone has a good time over his own humor as well as that of other people, this is the man.

We are rather used to thinking of fat men being funny with round, jolly, ruddy faces, but the mirthful N. T. G.

?lie Supreme Insulation PANELS

biais, Sockets, Bindin &Post Panels, etc.

Your Own Set" for which I enclose 10 cents stamps or coin).

Address

is long and lean and lithe, quite jaunty and a bit debonair. His fund of hu- mor is apparently inexhaustible. He can see a joke in everything and his jest s spring so irresistibly to his lips that the contagion of his humor is quite irresistible. Imagine my amazement in discovering his Lapland origin. I

091 Aiieuiii1e aho

The MOZART GRAND CO.

Manufacturing fine

O IMPPO"E P'rrPTION `O Easy to Install. Not attached to. but merely placed under the telephone. Sold with a money -baek guarantee. AT YOUR DEALER er sent by mall complete with Insulated wire upon receipt of One Dollar. ANTENNAPHONE CO.

said, remembering the usual reserve that is the inheritance of cold mother

countries, "Is it typical of Laplanders

at 235 -49 Elizabeth Ave.

to have such a fund of humor ?" And he answered, "I don't know, I never

90 West St. New York City AIMS

Newark, N. J. U. S. A.

met any of them socially." Those of you who have known N.

T. G. only through the microphone do

not know just what it is that has endeared him to the hearts of the workers

PERFECT REPRODUCER Tone loud and pleasing. Hand- some material and design.

BAKELITE

of Broadway. It is his constant desire to protect the reputation of the chorus

Black -$22.50 Sbe11-$25.00

# RADIO PANELS

girl, and to reveal her to the people

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SPAULDING FIBRE COMPANY INC. TON AWAN DA, N.Y.

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as she really is. From Station WHN he says,

"As the friends of the `Great White

Way' down here, we broadcast Broad way and we respect and protect Broad way girls. There are thirty-six girls in various cafe shows which I have used in my appearances on the stage, and none of them smoke or drink, and most of them support their mothers. The Broadway girls are fine girls ;
I

have them at my home, and at my parties. Especially Mine are the Zieg feld girls. Mr. Ziegfeld is really won derful in his choice of girls for char acter as well as looks. I like to show these people as they really are. I take my microphone back into the dressing rooms of some of the cafes and put on s pecial programs and get them to talk about themselves, their lives and their experiences so that this impression that they are wild and dissolute sh all

" i/wo

there that Thordarsons are best?

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dd C L/1

Leading set makers use more Thordar sons than all competitive transformers combined.

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Exclusive!

THORDARSON SQUARE COIL

LEAKPROOF CONSTRUCTION

T HERMIODY L

ZILTIV{'DXnE MURDOCK

Qz FR KA Ofct4t,

be destroyed and they shall be seen in their true colors as girls who make their living by jazz, but whose morals are above reproach."

WHN has many titles. Among others it has been called the "Birth place of Song Hits." In the one evening that I spent in the studio I met Lew Brown, who wrote "Last Night on the Back Porch," and `'Georgette," Lou Davis who wrote "Will You Remember Me," and "I'm Sittin' Pretty in a Pretty Little City," Abel Baer, author of "Mamma Loves Papa," and "The Wabash Blues," Ira Schuster, and Johnny White, who collaborated

MICHIGAN

Deresnadyne MALONE LEMON

MASTER RADIO

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HARTMAN

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EAGLE

GLOBE AND

T he Thordarson -made layer - wound SQUARE coil fits snugly around the square core. No air space between coil and core (ex clusive ,) -no lost energy, no lost volum e (especially on low notes), no leaks from primary to cause howls in set. Oversize core pro vides 50% larger magnetic cir cuit- minimizes core losses, pre vents over - saturation. No rivets or screws through core to cause short circuits or eddy current losses between laminations (ex clusive !) Do you wonder Thor - darson produces more tra nsform- ers for more makers of quality sets than all competitors cotn bined?

on "Mr. Radio Man," "Ten Little Fingers," Ray Henderson, of "Follow the Swallow," Henry Santley, Al Wohl man, and a half dozen others. WHN has direct wires in over thirty Broad way restaurants, cafes and ball- rooms.

MANY OTHERS d

lea

Uniformity Guaranteed!

i1 ther

W " ,Ì,U ▪

Thordarsons run absolutely alike, absolutely uniform: always match up" perfectly: always amplify evenly over the entire musical scale. Satisfaction unconditionally guaranteed by the world's oldest and largest exclusive transformer makers (transformer

N. T. G. is in and out of them all the time and their leading spirits come and go at WHN and among them you will find many of his discoveries. It was

he who brought to light Harry Richman, of the Club Richman, and Al Wohlman, of the Wigwam.

!

lit oRDsON SuP -a, TRANSFORMERS

specialists for 30 years). For the finest amplification obtainable at any cost, follow the lead of the leading set makers -build or replace with Thor - darsons. Audio Frequency: 2 -1. $5; 34-1. $4: 6 -1, $4.50. Power Amplifying, pair $13. Interstage Power Amp., each $8. Any store can supply

voti. if dealer is sold out, order from us.

Don't think that N. T. G. does with out any home life. To be sure Mrs. Granlund in her home in Narragansett Bay is a "radio widow" but "Granny" as he is so affectionately called, runs home to see her and his ten -year -old daughter as often as possible, some - times dropping down on them in air planes. There he has his boats. He

Write for latest hook -up bulletins free!

THORDARSON ELECTRIC MANUFACTURING CO. WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS Chicago, U.S.A.

Australian Representatives: Wallart Electric Mfg. Co., Ltd., Sydney

has owned Ingontar, one of the most famous cat boats, and on the occasion

of his visits home he and his daughter have great times. She is a chip of the old block, driving a canoe over miles of the ocean fishing, canoeing and climbing just like her father does. Next summer will see him sword -fishing again. What is there more I can say about him? He has known life in more phases than practically any one

Register-ad Trade Marks V,hrople. Bus Lightning Bus

It's always the operator with a Vibroplex th.0 gets the job. Martin's New and Improved VIBROPLEX

Transmits perfect signals at any desired speed and with the least effort. Easy to learn. Makes every operator a good sender. Used by over 85,000 operators. Special Large Contacted Vibroplex Has 3/16 inch contact points to break high !25 current without use of relay. Special model.. J Agents Wanted -A Money Maker

on Broadway. He knows its rough

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places and he knows its smooth places.

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Perhaps that is why we love him.

Japanned Base, $17 Nickel -Plated, $19

Simply press the lever --the machine does the rest.

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# Aerials

(Continued from page 23)

near the center, is generally considered far less efficient.

Every connection in both aerial and lead -in should be carefully soldered.

"By rnerlt raised to an eminence"- 1! ,t 5

RADIO

S. S. Santa Teresa of the Grace Line. The Radio operator is a graduate of the Radio Institute of America.

as

Do not overlook this point, or you may find yourself using only the lead-in the aerial after the wire has been out in the weather for a few months. A connection which is not soldered may become corroded and set up such a high resistance that incoming signals will not get past it at all. Make sure, also, that the aerial is insulated carefully. The side of the house or

# The Career for You!

NATIONAL Velvet Vernier

Sailing on ocean steamers - with good pay and excellent

branches of trees will not help any if

they are touching the wire.

CONDENSERS and DIALS are used by LIEUTENANT FREDERICK H. SCHNELL ITraglr Manager. American communication Radio Relay League) for the a lieutenant. with amateurs on wave leng 20 to 125 meters from the Pacific Fleet during the cruise to Australia and return. In recognition of his splendid achlesements in short- wave experiments. Mr. Schnell oas invited to join Pacific Fleet anti was commissioned For his short -wave transmitter he has chosen NATIONAL Condensers with NATIONAL Velvet Vernier Dials.

quarters -at liberty when ever the ship is in port -big opportunity for advance ment along a score of dif- ferent lines: all thes e help to make radio operating a lucrative and highly re spected profession.

Particular care should be taken where the lead -in comes into the house. The wire should not only be insulated, but should also be run through an insulator of some kind. If the building has steel frames around the windows or metal frame screens, this metal will have a decided

effect on the uninsulated wire and also on the radio set.

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NATIONALS won this high honor only after th, severest tests. one of which was the application of 6,000 volts A. C. at 90 meters without a breakdown. That tells the triumphant truth of the merit of NATIONAL Condensers. What further proof of t

heir efficiency and dependability could you ask? If your dealer is not yet stocked with NATIONAIS send us his name. We III see that you are supplied here are the prices:

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Only skilled men can succeed in radio. But with the course of instruction offered by the Radio Institute

The connection between the lightning arrestor and the lead -in should

be taken care of by soldering, in fact

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that all connections in the aerial, lead - in and ground shall be soldered. Thus

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ot

steps of 7,000 successful

it will be seen that you have a double barreled affair. You should do it to

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Sole Licensees for the manufacture of the National Regenafornter under the Browning -Drake

get the best results and you should do

it anyway to protect your own insur- ance.

patents.

Radio Institute graduates.

So much for the outside aerial. We next come to the inside aerial. This is not a loop aerial despite the fact

f,

that a loop also works inside of the

Even though employed at present you can qualify for your U. S. Government Commercial Radio License in a few months of study in your home. Because Radio Institute is conducted by the Radio Corporation of America, you are assured of a thorough course that embraces every phase of modern radio. Mail the only

house. An inside aerial is exactly the same thing as an outside aerial it is put up inside of the house instead of outside.

Of course the straight span of wire cannot be secured and for this reason the inside aerial is usually slightly inferior, but with a powerful receiving set the difference in results will be so small as to be hardly noticeable to the average listener.

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As for the aerial itself it may take on many different forms. The favor ite seems to be a wire fastened to the picture frame moulding in such a way th at it runs around the room and down

or more to have an aerial spoil the appearance of your home? Ante - nella eliminates all unsightly wir ing, lightning arresters, etc., and

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precludes the possibility of dangerous grounding on a power line. It also stops "canary bird" re-radiation from nearby oscillating sets interfering.

(formerly Marconi Institute, Established in 1909

the hall or around several rooms. Only one end of this wire is fastened

Cur HERE- -1

to the aerial binding post on the set

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and the ground connection is made in

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Address

the usual way. The wire may be either insulated or bare or for that matter a metallic tape, one will work just as well as the other and the fact that the wire is insulated will make not the slightest difference to the in coming waves.

Some very particular fans use small insulators to hold the inside aerial from the wall while others simply

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is not only real dr-S.n ice getter, but also overcomes troublesome static. At your Dealer, otherwise send purchase price and you will be supplied postpaid.

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# Earn50 to $200 aWeek in RADIO

tack the wire to the moulding where it will not show. Glass pins of the kind used for hanging pictures are particularly effective for this work, and will present a neat appearance.

If these are used with a fine cotton covered wire the aerial will be practically invisible, especially if the walls

are finished in a light color.

You can! Hundreds of ambitious men are already earning thousands of dollars in this wonderful new industry — you, too, can get your share. Mail coupon below for Free

Of course, if the building in which

Book which describes fully the amazing moneymaking opportunities in Radio and tells how YOU can earn from

such an aerial is used, happens to be

$5,000 to $10,000 a year.

all steel construction with metal lath

The astounding growth of Radio has created thousands of

under the plaster, the aerial may be

big money opportunities. Millions of dollars were spent during the past year on Radio and thousands of young men are needed right now to meet the ever-increasing demand of work.

'completely ineffective. In one or two

Men are needed to build, sell and install Radio sets -

cases where this has been tried, the

design, test, repair -as Radio engineers and executives

radio set has been so completely

-as operators at land stations and on ships traveling

shielded that not a single thing pene trated, not even static.

the world over -as operators at the hundreds of broad casting stations. And these are just a few of the wonderful opportunities.

For the usual non -fireproof apart ment house or the home in the sub urbs, such an aerial is excellent pro vided an outside antenna cannot be

No matter if you know nothing about Radio nos,, you can quickly become a Radio Expert by our mar- velous new method of practical Instruction- instru:

tion which includes all the material for building the

erected. The latter will. however,

course

latest up-to-date Radio apparatus. Scores of young men who have taken our are already earning from $75 to $200 a week. Merle

always give superior results and is to

be recommended wherever possible.

Wetzel of Chicago Heights, Ill.. advanced from

lineman to Radio Engineer, increasing his salary 100% even while taking our course! Emmett Welch, right after finishing his training, started earning $300 a month and expenses. Another gradu

ate is

now an operator of a broadcasting station -PWX of

Of course any type of receiving set

which will work on an outside aerial

will also work on the inside kind, but

Havana, Cuba, and earns $250 a month. Still an- other graduate, only 16 years old, is averaging $70

the distance will be somewhat cut

down. If you get good results with

a week in a Radio store.

an inside aerial, rest assured that you will get better results on the outdoor

Wonderful Opportunities

for a government first.class commercial license. It gets you the bigger paying jobs in Radio.

kind.

Hardly a week goes by without our receiving ur- gent calls for our graduates. "We need the services of a competent Radio Engineer," "We want men with executive ability in addition to Radio knowl edge to

become our

Sond for FREE RADIO ROOK

The loop aerial is in another class as it works on a somewhat different principle. It can only be used with

Pay Increases

Learn more about this tremendous new field and

its remarkable opportunities. Learn how you can quickly become a Radio expert and make big money

local managers,' "We

require the services of

in Radio.

several resident dem- onstrators" -these are

We have just prepared a new 32 -page booklet

sets which are designed to operate with

Over $100 a Month I am aver- aging any ˙ here from

which gives a thorough outline of the field of Radio -and describes our amazing practical training in detail.

such aerials. Usually it takes a set of

i75 to $150 a month more than I was making before enroll ing with you. I would not consider $10.- 000 too much for the course.

just a few small indi cations of the great variety of opportun ities open to our grad- uates. Take advantage of our practical training and the unusual con- ditions in Radio Io

This Free Book, "Rich aV

five or six tubes using either the re- flex or the super- heterodyne principle.

# 1E

Sets such as the neutrodyne or other

tuned radio frequency circuits will not

Rewards in Radio," will be sent to you without the slightest obligation. Mail coupon for it now! For a short time we are offering a re- duced rate to those who enroll at once. Act promptly and save

work successfully unless the first in ductance is entirely cut out of the cir cuit and even then the results are gen erally far from satisfactory. The out side aerial is best for such sets.

(Signed) A. N. Long, Greensburg, Pa.

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step into a big paying position in this won- derful new field. Radio offers you more money than you probably ever dreamed possible -fascinating easy work -a chance to travel and see the world if

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I can very easily make double the amount of money now than before I enrolled with you. Your course has benefited me approxi- mately $3.000 over and above what I would have earned had I not taken it.

Radio Institute

The loop, like the other aerials, may

you care to or to take any one of the many Radio positions all

assume many different forms, but there are only one or two really effic ient arrangements. One of these is

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known as the spiral wound and the other the box loop. The latter is

The National Radio Institute is America's Pioneer Radio School -established in 1914. Our course is an absolutely complete one which qualifies y o u

generally considered slightly better. The spiral wound loop is exactly what its name signifies. A wooden frame in the shape of an X is made up us ual ly about thirty inches across. The wire is started on the end of one of

(Signed) T. Winder, Grand Junction, Colo.

Name Age Address

City State

CRESCENT LAVITE RESISTANCES

JEW LL

these crosspieces and wound around in such a way that it is secured to each of the legs. This continues in a spir ally diminishing square. The wire may be held in place on the wooden frame by either small brass screws or better yet threaded through holes in a piece of rubber or bakelite which has been fastened to the woodwork. Al most any kind of wire may be used

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successfully with a loop aerial, but stranded green silk covered wire is

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good as it is more easily handled. The

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size need never exceed sixteen and in

the low wave stations and if you do

MAY, 1925

many cases smaller wire will work just as well and will put up a neat appearance. In the box type of loop, the Bakelite or rubber strips are laid cross

cept in cases where it is close to a regulation aerial or a large mass of

not have enough wire, you will not

hear the higher wave broadcasters.

metal. The others are decidedly non-directional unless the amount of wire

Provision should also be made for

turning the loop aerial so that it may

is most extreme. In actual experiments the writer has found that a one-hundred-foot aerial running east

be pointed in any direction. Loops

are directional in their effects and un

ways to the spokes of the loop frame

less this is taken care of you may completely miss some of the distant stations.

in such a way that the end of each

one forms a T. Slots may be cut in

and west is just as effective as one running north and south. If a differ- ence exists, it is so small that it can not be detected. Therefore why worry

these pieces of insulating material and

In order to turn the instrument it

the wire laid through these. The

may be either suspended from the

ends, in both types of aerials should

over the direction in which your aerial

be brought to binding posts some-

ceiling near the set or mounted on a

points? If it is 300 or more feet in

pedestal with a three or four -inch

where on the frame -work of the loop.

length of brass rod running up into

The amount of wire in an aerial of

one of the legs acting as a pivot.

this kind is most important. With the

length, it is a diffierent story, but such an aerial as this is worthless in the crowded air these days. The longer

From the foregoing it will be seen that there are three general types of

usual .0005 mfd., variable condenser to tune with it is usually necessary to

the aerial the more interference it will pick up and the harder the set will be to tune. Fifty feet should be the

receiving antennae, the outdoor, in door and loop. The two first named

use about ninety feet of wire. A few

lower limit and 150 feet the upper.

turns one way or the other may make

are the most commonly used while the

a big difference in the wavelength

Use the proper aerial with your receiving set and half of your troubles

latter is primarily for the larger sets.

range. Too much wire will cut out

The loop is extremely directional, ex Radio Cabinets

will be ended.

all around. If you possess a small

(Continued from page 26)

firmly, but glue, long brads, and some

lathe you will be all "set" for the next

This now is secured in the cabinet

small brass angles on the inside will

job, that of turning the feet. If not

by blocking and brads. Make a strip

do the job. The top of cover is 3/16"

around the front of same about %"

mahogany glued and bradded down,

you can get them turned at a small

wide after it is in cabinet. Before put-ting these in, make diagonal saw cuts

cost, according to the general dimen sions on figure 3.

and then all sanded nicely. The cover is secured to the cabinet by two 2"

These are drilled with a %" auger

brass butt hinges at the back.

on side strips as in figure 5 to take four slats.

It should project out over the top

and with the aid of glue and ' /a"

This whole assembly should be a little over Yg" from front edge to al low for doors to close. The battery

doweling are made a part of the cor ner posts. Let me warn you here to

rail 3/16" all around.

The doors are held fast closed by

use nothing but hot boiled glue of the

snap fasteners recessed in bottom cor

compartment is covered by two more

ner of each door and cross rail. Brass

best grade or some day your cabinet

doors, likewise set 54" from front sur

may take a notion to fall apart.

knobs are placed on each door to open

I am presuming that you are care fully smoothing all parts by scraper them.

face, and fastened shut by snap fas teners. These should not be hinged

and sandpaper before assembling.

The radio panel is placed in upper

directly to sides or they will not open

very wide. Rather screw pieces 4"

compartment back of small doors. A

The doors can now be made and

ledge should be made about 2" back,

wide to sides and hinges will work

to allow for dials and knobs, for panel

fitted. These are cut and fitted for

nicely from this.

to screw to. Do not make panel full

opening, very carefully, leaving about 1/32" for clearance and varnish.

On finishing the cabinet make sure

size of opening or it cannot be got

Next drill two holes with a h" bit

that the surface everywhere is perfect

into edge of door ( hinge edge), al

in place. Fill in space between panel

and free from dents and imperfections,

and front of cabinet with some pieces

as every one will show up later. You

of stock 2" wide. The panel is 3/16"

most through to other side. This will Bakelite.

be found a job that must be done very carefully or you will break through

cannot spend too much time on this item with scraper and different grades

The under compartment is used for

the side. However, with a little care

of sand paper, and filler.

the horn and below that the closet for

it can be done O. K. Cut some pieces

When you are sure the surface is

the batteries. The horn is made of

of h" dowel and coating same with

stock from egg boxes, clear sides being selected. This wood is used be-

hot glue drive into hole, cutting off

O.K., apply a mahogany stain of the penetrating type to the color and shade desired. Next apply a good paste fil

cause it is thin and bends ,easily, and

flush with edge. Two of these in the

ler, leaving it on for about 10 minutes

that characteristic being necessary on

small doors and three in the larger

ones will prevent them from warping,

the elbow of the horn.

if your stock was kiln dried in the

The sides are cut to the shape as

first place, and will not be seen.

and then remove with a rag. Apply four coats of clear varnish, rubbing each coat with pumice and water, and when you are done, if you

The doors can be hinged to the cor

shown in figure 4, the grain of the

have been careful of every detail, you

stock being as the arrow shows up

ner posts now, cutting all of thickness

and down. The dimensions can best

of hinge out of door and none out of

have a radio cabinet, unconventional in regard to the usual design, and one

be obtained by measuring the opening.

post. Use loose pin hinges with fancy

that will make a good -looking piece of

The other sides are placed on the first

ball ends for this, 1%" for small doors

furniture for any room.

sides and secured by brads and glue. If the grain of these pieces are cut

and 2" for the large ones. The cover is made by aid of the mitre box. Pro

The circuit used can be any 3 -tube or more, variety. I would recommend

according to the other arrow, figure 4, it will bend around elbow; slightly

cure some gumwood moulding from a mill making builders finish, of a de

wetting it at this point will help. Glue

one of the latest 3- circuit type, using a two rotor tuning coil, as the controls

a block on the end with a 4" hole and

sign suitable for the cover, and mitre

are few, and can be used with the

the corners carefully. There will be

piece of Yt" brass tubing about 2" long

will complete the horn.

a hard job to secure the pieces together

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comparatively short panel necessary, and the efficiency of this type is high.

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How -do- you -do? By ANN LORD

which started modestly with six verses, now totals more than six thousand.

cure for misplaced affections and it still leaves her pride untouched.

(Continued from page 35)

Recently Fred Gartung, a mine operator out in Montana asked a station

"I manage to keep a step ahead of

the radio man, and my plays have the

here to locate his wife, Florence, whom

song about her. But his lines were not

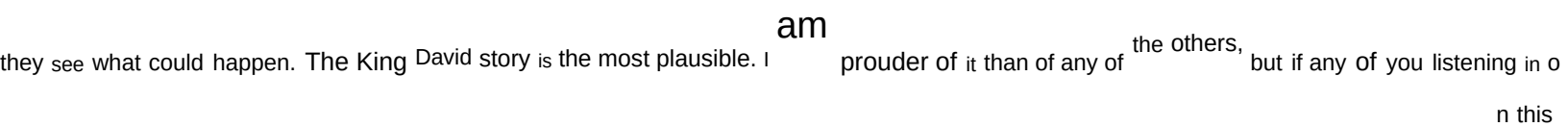
tendency to make husbands and wives more contented with each other when

he alleges he "still loves and wants

very refined, and so they were recast

back." An SOS was sent to Lew Cody, then appearing at a local playhouse. As

by Lady John Scott. She had no idea that her version of the old song would



they see what could happen. The King David story is the most plausible. I am prouder of it than of any of the others, but if any of you listening in on this

be the one known through the ages instead of the original.

you know he is an artist at the art of influencing errant wives to return to forgiving husbands. Mr. Cody prepared the following for the air, and he

And out of Jack Lowell's desire to find his father and mother, the present "How Do You Do" song was born.

program know of any better alibis for a bachelor, please send them in to sta tion WQJ, Chicago." Immediately the armchair bachelo

asks to be pardoned if he leans over backwards in doing his duty in the matter.

Letters and telegrams began to pour into the station. They came from every

took possession of the air -that is, they began to telegraph in and make de mands of the "How Do You Do" mars. Among the first messages was one

from Dowagiac, Michigan.

"For years," said Mr. Cody, "I have been playing bachelor types on the screen and stage -I'm the gay dog whose life work is to 'understand' the 'misunderstood' woman. Somehow, directors have come to depend upon me for ideas as to how a bachelor gets into a flirtation, usually with a married woman whose home life is dull and stupid, but more particularly he is interested in how to get out

corner of the globe. This necessitated the installation of a permanent "How - Do- You -Do" man at WQJ and Jerry Sullivan satisfied himself that Harry

Geise was the original and employed him.

At the very beginning, a brother and sister separated when mere babies through misfortune were happily re- united through radio after fifteen ye ars. The other day I was inquiring about

admitted the girls liked him, and would the "How Do You Do" man tell him why. So WQJ broke in on the air at midnight with : "Hello, A. R. Greer, how do you do? Hello, Allie Greer, how are you? You're a rich old bach so they say That's why Dowagiac girls flock

The outcome is that the wife goes back

this and other cases and I met two

your way,

to the husband : it's a subtle `How Do

How do you do Allie Greer, how do

dodges, -ways'

You Do' song of which I shall tell you. I use the following alibis, ruses, subterfuges, evasions, and 'get -a from matrimony

it does a lot of

cousins, the only living relatives of their respective family tree, who had been introduced by radio. Fathers, mothers, brothers, sisters, sweethearts, you do!"

The latest report from Mr. Greer is to the effect that he is learning all of Lew Cody's alibis by heart, in the event of needing them.

good in reuniting husbands and wives

friends began to make use of the radio as the best means of finding their lost one. Many of the facts surrounding

-so try it on the air:

The letter which follows was not given any attention. I culled it from a host of others, because it will prove with what courage a farmer faces a

"No. 1 -Tell her that she should not

desired in

these queries are confidential -SO much so that even the "How -Do- You -Do" man will only give you the formation if you satisfy him

with

give up such a fine man as her husband

for a mere idler like yourself. Tell her

she is too good for you, and that the

loss. The writer of this letter lives

memory of her dear, kind husband sit ting at home alone hurts you and would

proof that you are either sought or are

near Dry Glaze, Mo., and reads: "Dear W. Q. J.: -Will you please help me find my Bessie? She is seven-teen years old, large for her age and

seeking some lost one.

keep coming between you.

"No. 2 -Read her a stern moral les- son out of the Bible. That love story of King David and Beth -sheba is very attractive and effective. Show her how

Mrs. Ora Hughes, 229 North Collett St., Lima, Ohio, wrote in last week that she would like to find her father and never gave mother and me any trouble from the day she was born, until the day she disappeared. She seemed to be contented oh the farm, and with neither of us suspected that it was different her until she was gone and we couldn't find a

mother, neither of whom she can re member.

you are like King David, intensely in

"My own mother," she writes, "was

born Jeanette Davis, in 1873 at Piqua, Ohio. My father's name is William

love with another man's wife, but that

death and disaster would follow her

divorce and remarriage to you. I make

good use of this in `So This Is

Schweck. He was born in Columbus, Marriage.'

Ohio. Shortly after I was born my mother divorced him and remarried a Mr. Spriggs, who has since been re-ported dead. This left mother and my-

self with step -Grandmother Spriggs. Mother qualified for the stage and her

"I've advertised in the country papers and put up hand bills at the

"No. 3 -Tell her your doctor has

grocery store, but nothing has come of

just told you that you haven't long to

it. It is now going on two months since

live, that your heart is weakening under

whereabouts,

she left home. She used to run with Hiram Benton's Gertie, but Gertie doesn't act as if she knew anything of Bessie's and I

don't be- lieve she does.

the strain of gayety and though you love her dearly, you can't think of ty- ing her for life to your cadaver. This

work took her abroad, but I was left

behind with Grandmother Spriggs who

puts a damper on her romanticism.

placed me in the Franklin County Home, at Columbus. From there I was adopted by a family by the name

"No. 4-Pretend you can't quit drinking, even for love of her, confess

"Please help me find her if you can. Mother says I'd better add that Bessie

your dipsomaniac tendencies and ask

of Ross who took me to Toledo, Ohio

is our old cow."

to live.

her to help you overcome them. This will frighten her back to any kind of

Respectfully,

( Signed) F. F. CARREY.

"Through this brief history of myself, I am trying to locate my father, husband.

Many children write, wire and telephone about lost cats, dogs, birds and

"No. 5 -Have a sudden bankruptcy.

William Schweck, or my mother

Go broke and tell her that you have

Jeanette Spriggs."

pets of various kinds, but these, too,

been neglecting business, thinking of

WQJ is still radioing the request on the air along with many others adding a verse for Jeanette Spriggs and

are ignored by the busy broadcasting stations, while the much more import- ant task of reuniting families and friends go on nightly from various

her, dreaming of her, and that the crash has come. You will have to live in a kitchenette apartment if she marries you. This I find is an excellent

William Schweck, so that the song

stations.

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eYnlYaMAMi.`G7..G7.(iMYOwv.CAOL?9ca]tr..C1`XMILVOI.tihOM.`V7fiíuJhSMO.e,lwVrtr`.u.fl32.11e1w0.wu:fp. The DAVEN

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own. Sold in three or four stage kits with complete in structions for assembly.

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# The Spirit of C1d10

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(Continued from page 16) tones from the latter horn will exceed considerably that from the former one. As the frequency is increased above the cut-off frequency of an exponential horn, the sound output increases quite rapidly for a while, after which it increases but slowly, gradually approaching a straight horizontal line. This is a very desirable characteristic for it helps to give the flat, ideal loud speaker curve. This is the second distinguishing characteristic of the exponential horn -the first being the low frequency cut-off point. The third distinguishing characteristic of an exponential horn is that the sound radiation can be increased over the low frequency region by proper design. The controlling factor is the

use of this law continually in expon- ential horn- design. This also has an- other desirable effect, because the slower the horn opens up the more nea

y the pressure and air velocity are in phase, as we call it. This fur- ther augments the energy radiation from an exponential horn.

rate at which the area (size of the horn) increases as we go from the small to the large end. This rate of

area- increase can be made smaller simply by making the ratio of the small end to the large one larger. That

Of course, we must not make the small end too large for several rea- sons. One of these give us the fourth distinguishing characterist

ics of exponential horns. This is, that the sound radiation from this type of horn becomes larger the smaller we make the initial opening. This

argues for a small initial opening, but the third characteristic mentioned above argues for a large initial opening in order to reduce the cut -off

frequency to a lower value. There must, therefore, be a mutual adjustment to obtain the best results.

area / sq. in. and a second one starts with an initial area of % sq. in. and both have the same final area, then the former horn will have a lower cut-off frequency than the latter. This is very desirable, of course; and we make is, if one horn starts with an initial

Another reason why the opening cannot be too small is that the flow of air out through a small orifice is too much retarded by the smallness of such an opening. Everyone is familiar with the difficulty of attempting to make a liquid flow through small necks, orifices, etc., and we need not illustrate our idea further.

While on the subject of the initial opening, let us indicate in another manner why a horn has to be small at the end attached to the unit. The reason why the large end needs to be large is to prevent too sharp resonance and permit more radiation, as has been explained above. There must be large pressure changes and high air velocities at the small end of the hor

n in order to have a sufficient amount of sound energy enter the horn. The pressure is made large (that is, the sound pressure), by having the unit diaphragm vibrate in a small cavity with a small exit into the horn. The

Even a genius cannot draw flats less music from an untuned violin. Just so -even the best radio receiver cannot reproduce clear, natural music if it is not sharply tune d.'

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the heart of Accu- ratune Controls. Au tomatically locks gear train for roan ail . iuetment and throws train into operation

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horn opening must be made small to match the opening to the unit cham ber in which the pressure variations corresponding to sound are generated. It is exactly analogous to the electrical case of matching impedances for max imum transfer Of electrical energy. Then, the horn must open up gradu- ally -that is, abrupt changes in the area must be carefully avoided to pre- vent the sound being reflected back instead of transmitted out. Then, too, the horn must be carried to a fairly large opening to reduce the pressure gradually and thus avoid an abrupt chang e to the surrounding air outside

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the horn. All this amounts to, is to adjust the acoustic impedance, as we call it, of the horn to fit the loud speaker unit at one end and the open air at

for

the other end. That is, we match the impedances in acoustics maximum sound enegry- transfer just as we do in electricity for maximum

energy- transfer. The principle is the same in both cases, but the mathemat ical theory has been only partially worked out in the acoustical case since it is much more difficult to handle,

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both theoretically and experimentally, than the electrical case.

Now, it is impossible to have very large loud speakers in the home, so that the size of the horn is limited by home conditions, consequently, the final o pening will not be large enough to avoid end reflection.

Resonance will, therefore, enter and more or less sharp peaks will show up. So the solid curve shown in fig ure 8 is never obtained in practice. On the contrary, the dotted curve in the figure is typical of what is ob tained. This curve is further modi

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fied, of course, by the loud speaker unit characteristics, and the result is a curve much like those obtained for a conical horn and no space need be

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given in this place for a loud speaker

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with this type of a horn.

The discussion for horns of other shapes will be carried on in our next installment and we shall be able to introduce other phases of our subject,

light circuit." DEALERS NOTE

J. THOMAS RHAMSTINE 5) Mail This , 504 E. Woodbridge odbr id St., Detroit, Mich. Send me your "B" RECTIFIER by express p C.O.D. subject to inspection, at $25. It is dts tinctly understood that if I am not entirely satis Today fled, I will return it within 5 days and receive a i returd of the full purchase price.

which is, I believe, one which well

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interest in DX reception ; and I believe that there are many fans like myself who would like further and regular opportunities to get a try for Europe.

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meters. For instance, let Monday eve be a silent night for all stations broadcasting between 200 and 275 meters. Let Tuesday night be silent for stations operating on 275 to 350 meters, and let Wednesday night be silent for those stations from 350 meters to 425. Thursday would cover the balance up

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to 600 and still have Friday, Saturday and Sunday open to all broadcasting stations. By that plan we would open the channel to England's 2L0 every Tuesday and would be able to tune for some other European station on each silent night.

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Hoping that you will be able to start something that will give us a chance at

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fn WIRELESS AGE - THE RADIO MAGAZINE

MAY, 1925

LOOK] HERE FOR THE RED STRIPE

Low Loss Coils (Continued from page 24)

wound with wire having zero resis tance, the coil being isolated in free space without any material support. \Ve can wind such a coil, with a few modifications, 1. \Ve can wind the coil on an air core and make the supports as small as mechanically possible. 2. We can keep all imperfect dielectrics as far from the strongest part of the field of the coil as feasible. 3. We can minimize the ohmic re- sistance of the winding by avoiding the use of too small wire for the winding. Before going ahead with the construction of the radio-frequency transformers there are a few more pertinent points that we should bear in mind. 1. Dead end turns in a coil will increase its radio-frequency resistance.

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2. Terminals of radio - frequency coils which are embedded in insulating material introduce resistance due to

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our old friend "dielectric absorption." 3. Insulating material between the turns of a coil increase the radio -fre quency resistance, again due to "di- electric absorption." 4. Actual leakage of radio -fre quency currents between successive turns in the winding of the coil will also incr ease the radio - frequency re- sistance.

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Now, considering the last four facts mentioned, let us see what we can do toward eliminating the causes for ra- dio- frequency resistance as put forth in those four paragraphs. As far as No. 1 is concerned, we can eliminate that entirely by not hav- ing any useless turns in our coils. We c an take care of No. 2 very nicely. Instead of bringing the ends of the primary and secondary wind- ings of our radio- frequency transfo r mers to terminals which are embedded

Coil mica

fixed condensers because they improve selectivity, DX recep- tion, musical quality and re duce noise and distortion. They will do the same in your set. All capacities 35c to 75c. NEW YORK COIL CO.

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]

(distinguished by its red stripe)

in the bakelite form on which the coils are wound, we will, in the first place, bring the ends of the windings directly out to the bus -bars to which th ey are to be connected and in the second place, we won't have any Bake- lite form. No. 3 brings up the point that we must exercise our better judgme nt in the choice of the insulation we have on the wire we use in winding the coils. It is just as essential that we check the quality of the dielectric in- t roduced in the field of the coil by the insulation on the winding as it is that we be careful of the dielectric we would put in the field of a condenser

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if we were constructing one. In the latter case, if we wanted the best results, we would use air for a dielectric, but in the case of the di- electric between the turns of wire on "Quality Goods for Quality Readers"

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our coils it is not feasible to have air as we want the wire to be covered with some material substance. It is not ad

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LOW RI-:L LOSS

visable to use enameled wire as enamel is a poor dielectric and another thing, too, owing to the thinness of the enamel, a coil wound of this kind of wire would have a high distributed capacity.

Cotton insulation is good because it is a good dielectric (as long as it is kept dry). Single cotton covered wire is not feasible due to the lack of insulation. Double cotton covered wire is good insulation and also pro vides plenty of spacing between turns. Double silk covered wire is good, also,

# this Book

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514 PAGES

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HARRY F. DART,

E.E.

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and U S. Army In- tructor of Radio.

Technically edited by

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1 inch out from the rim. Don't make this a driving fit because it will be nec- essary to remove the dowels, after the

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To facilitate the description of the method of winding these coils, a view is shown of the rim of the winding form, with dowels inserted, rolled out into one plane as shown in figure 2.

In this view, the entire rim of the winding form is shown as it would look if it could be unrolled and laid out in one plane. The 15 dowels are numbered from 1 to 15.

Starting the winding at dowel No.

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TIMES APPLIANCE CO., Inc.

1, pass the wire to the left of No. 1 and No. 2, then cross over and pass No. 3 and No. 4 on the right, now cross back again and pass No. 5 and

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No. 6 on the left, etc., always passing the wire around the left hand side of two successive dowels and then around

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PENNSYLVANIA

the right hand side of the two succeeding ones, criss- crossing back and forth in this manner until you have completed 40 turns. When the coil is completed, take out the dowels, carefully, and then tie the winding securely at strategic points to keep it from unravelling.

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The next coil is wound in a similar

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manner. The only difference between this coil and the first is that this second one is tapped at the fifth turn.

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first coil and when you have completed 40 turns you will have completed the

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first winding. Start the second winding right where you end the first and proceed until you have wound on 5

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turns. Then end this winding. Thus you have completed a transformer composed of a 40 -turn secondary winding and a 5 -turn primary winding, the two windings being separate. This completes the story on the winding of the coils for the "Direct coupled regenerative radio-frequency receiver" and the story of the receiver was in last month's issue of this magazine.

I will be glad to hear from all you fellows regarding your success with this circuit, also, any suggestions for improvement which you care to sub mit wi ll be most graciously accepted.

## The Voice from the Cabinet (Continued from page 39)

EMPIRE .e..ae, Oiled Tubing Radio Sets of to- day -the kind that last ..."14 long and work best -are insulated with genuine Empire Oiled "Cubing.

The only scientifically selected detector miner. als on the market today are the genuine N.A.A.

you hear him? He's speaking to us now! Go to the telephone! Quickly! Call them up now, before he leaves! Oh, you'll be too late !"

He did not notice that her mother and her father were in the room; had come at the girl's first cry; he noticed nothing, knew nothing except that this girl whom

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he loved was trying to invoke a rival who would slay the little happiness he had for so short a time enjoyed.

"You just imagine it, dear!" he cried, and without thought he gathered her into his arms. She tore herself away from him.

"You don't want to help me !" she cried accusingly. "You want me to lose him forever !"

Before the fire of her accusing eyes, he stood for a moment speechless, then, with

# BURGESS

out a word he turned on his heel and plunged blindly out to the hall where he

## RADIO BATTERIES

clutched the telephone as though he would have strangled it and grimly demanded a wire to Detroit. At his departure she turned with wide, harried eyes to her

at Every Price Cabinet or table space many temes determine the size and type of radio batteries selected by the user

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mother and flung herself into her arms. "Rodney! He's there! He's talking to us! On the radio!" she cried; and she buried her face in her mother's breast, weeping.

Her father turned to the wooden cabinet in perplexity and deep concern. Only a slight, almost imperceptible grating noise issued from it.

With the same grim determination with which he had called Detroit that night and conveyed to a gratified official of the Michigan State Bulletin (which housed station WHKY) his suspicion that the lost

man was Rodney Trimble of Sarnac, Early saw the matter to its conclusion. He could not forget the passionate accusation which had flamed in the eyes of Kate Meredith as she had sent him t

o the telephone, and the memory aroused in him a spirit which had not before existed in his relation to the girl. Hitherto devotion had been the keynote of his wooing; now it was as though h

e fought in active combat with an unscrupulous, merciless foe. That foe was the intangible substance of a romantic infatuation which existed in the heart and mind of a girl, and Early fo

und himself battling against it grimly, desperately.

He obtained from the distant sponsors of the unknown man's destiny a detailed description of the lost one. lie also de rived a complete summary of the man's habits, mannerisms, peculiarities

and traits. All these he found were satisfactory, but he did not give the results of his inquiries to Kate Meredith or her parents.

He devoted the entire morning to this untiring quest for information and at luncheon with the Merediths he told them only that they could expect the man who had lost his memory to appear at their house that evening. Kate, who tensely endeavored to appear no more than quietly interested in the development of these strange circumstances, exerted all her self control to question him.

"Did you get his description?" she asked in a tense staccato.

He gazed very straightforwardly into her eyes.

"As far as I could," he said. 'tI think he is the man." And she dropped her knife and fork with a little clatter on her plate, turning deathly pale.

He persuaded them to await the hostage of fortune in their home. He argued that they must at all cost avoid a scene at the station, and it was not convenient that all Sarnac should know of Trimblé s return. Mrs. Meredith assured him that she would manage that, which left nothing more to do than for four people to contain their various emotions until they were put to the ultima te test by the singular denoue

ment of the strange adventure which had enmeshed them.

Finer

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It was dark evening when Early brought his two guests to the Meredith home from the station, and the door being opened as usual by the capable Mrs. Meredith, the three of them strode fo rward immediately to the living room. There, in the light,

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All steel construction. complete with guy wires esd masthead pulley. We pay freight. II. W. NULL 5 CO., Dept. 04

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Kate Meredith stared at them with her brown eyes sparkling amazingly in her tense, white face.

moment he never knew for in that moment the stranger had leapt across the room and pounced like a bird of prey upon the pic- ture of Rodney Trimble which. smirked at them from the table.

Kate

After their strange guest had departed with her parents for the library, Meredith found herself alone once more with Early beside the cabinet which con- tained the radio.

"Where is he ?" she cried. And Early very deliberately placed his hand upon the shoulder of the frail young man at his side. 'This is the man," he said steadily. She dre

w back as though he had indi-

cated a wild beast.

"It's him , It's him !" cried the stranger with a peculiar ferocity in his voice; and seizing the picture frame in his hands as though he would have torn the smirking face it fram

ed asunder, he sank into a chair at the table side. "My God !" he murmured.

"I suppose that before I go tonight, I must ask you to forgive me," he said. He spoke without penitence however, and there was in his voice the essence of resignation and regre

t. He recalled the tone with which she had voiced her discovery of the deception he had wrought. "Forgive you for what ?" she asked. He glanced at her swiftly. There was in

her voice the incredible sound of a play-

fulness, an assured coquetry, which he had

"No !" she faltered. "Oh, no !" For whereas Trimble had been tall and pecu- liarly graceful, this man was small and thin and stooped. \Vbereas Trimble had been graced with a profusion of curling black hair, this man was sparsely crowned with iron grey. And the tired face of this

"My God!"

They crowded about him, plying him with questions, while he stared at them as though in a trance.

stranger was drawn and wrinkled. He stood there and blinked at them. "I can't remember," he said weakly. And his eyes wandered about the room. "Jack Early," the voice of Mrs. Mere dith boomed ominously. "Who is this man ?"

"Who are you all ?" he cried. "What am I doing here ?" Then suddenly he arose, the picture in one hand. "WHERE CAN I FIND THIS MAN ?" he shrieked. "Where is he ?"

not heard since the day when Trimble dis- appeared. "Don't look so astonished," she laughed; and instantly became deeply serious. "What is it that I have to forgive you, Ja ck ?" she asked.

"I don't know," admitted Early. "But you had his description ?" snapped Meredith. "Yes."

With a swift movement the girl con- demanded; inte

nsity of her emotion.

And they knew that he had remembered.

"Surely you haven't forgotten!" he cried. "Oh, Kate, I- It was the only way - You forced me to do it, Kate !"

The story he had to tell them was not precisely a new one; and his emotions at regaining his memory of the past were not completely happy. It seemed that Trimble

He was standing over her now . stand- ing close to her chair. And she arose. "Yes," she said. "I know. I forced you to do it. And there is only one thing I should never have

forgiven you." "What's that ?"

had met the unfortunate fellow for no other

purpose than to swindle him, and that hav- ing become intimate with him, he had de- parted not merely with his money but with his wife as well. The unhappy victim had devo

ted many months to pursuing Trimble

and brooding over his troubles until he suf- fered the inevitable effects of such an en- terprise in complete collapse. When he de- parted from Sarnac the following morning he

had procured not merely his identity, but he had procured the friendship and financial backing of LeRoy Meredith; but those things are hardly of interest to us inasmu

ch as the story ended for Jack Early this very night.

"Yes, I knew. I knew." He frowned in the depths of his despair. "Oh, don't you see, Kate?" he cried. "It was the only way! The only way to convince you!" But she stood there with a peculiar glitter in her eyes.

"But you knew it! You knew it all the time!" she said.

What Early would have done in that "Oh, Jack, I was afraid! I was terribly afraid that it was really him! I should never have forgiven you if you had brought him back again!" He held her in his arms and wondered what it was he ought to say. "Let's ...Let's try Chicago," he ventured. So they tried Chicago, and heard a suite of dulcet love songs while they learned the true usefulness of the vast davenport which epitomized LeRoy Merediths in furniture.

# The H. I. in Broadcasting

## Understand Radio

(Continued from page 44)

radio programs; and when it is first-class entertainment, as a great deal of it is, the listener doesn't care a tuppenny -bit if they do tell us who is paying for it.

I wonder that all these people with something to sell have overlooked the possibilities of Sunday. Roxy is the only oasis in the Sabbath desert, and furnishes about the only program I hear all week."

AN INTRODUCTION TO RADIO i

In 2 Volumes Leather Bound FREE TO YOU

Father has an idea at any rate.

## What's In Them?

We never bought a Silvertown Cord, but we like to dance to their orchestra; nor have we ever seen a box of Gold Dust, but that doesn't keep us from tuning in on Goldy Dusty occasionally, and while we enjoy the Book- Cadillac orchestra, when we go to Detroit, we stay at the Statler. It is just as easy to turn a dial as a page in a magazine, and the American public at this date is surely too immured to advertising to lose much

* * *

HOW can we gauge the educational value

VOLUME 1 An Introduction to Radio Telephony The Various Instruments Used in Radio Transmitting and Receiving Outfits VOLUME 2 Technical Terms Explained How to Set Up Receiving Outfits Primer of the Vacuum Tube How to Set Up Radio Transmitters International Morse Code and Conventional Signals

sleep over it.

* * *

of radio? It is almost infinite. One perturbed father, who had viewed, somewhat with dismay, the avidity with which his small son was lapping up all that came out of the air -good, bad and commonplace - was agreeably surprised when the young hopeful piped, "That was the aria from Samson and Delilah," with faultless pronunciation and accent. He had apparently been listening in on the right man. It is to be regretted that some of the announcers of the hinterland have not the time for similar enlightenment. One was sorely puzzled to hear a broadcaster, who shall be nameless, intone,

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City

State

LINew Subscriber n I am now an

COMES a wail from Father in the middle

west;

"Why in Sam Hill don't some of these stations that are forever quarreling about their time, get busy and broadcast a few chirps on Sunday, when I, and a few thous- and hundred ever beasts of burden like me, have time to listen to them? I've got some three dollars invested in that outfit and all I hear are dinner concerts and bedtime stories, because I am so tired every night I can't sit

"You just heard Lay Ape Rus My -Dy," until he added, in a most apologetic tone, "That's French for 'afternoon.'"

The Man Who Buys the Batteries writhed with glee on the Davenport, and vowed he had spent his last penny for tickets to a vaudeville show. We might add that thi; statio n is a 'continuous joy; for the un- believably funny things that it tells the world night after night have no parallel in our recollection. We cannot, however, recom- mend it for its educational value.

up. I go to my own church Sunday morning, and I am not terribly excited over listening to forty-seven brands of religion at night. Sunday afternoon I am in a mood to listen t o anything, but aside from one dinky little

concert, there is not a vffration on the air. "Quality Goods for Quality Readers"

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Giant Radio Lab.

(Continued from page 32)

company.

ting plant is beyond the hope of any except a large In the receiving laboratory the engineers are interested in developing the various unit parts which comprise radio receivers. They study the characteristics of the tubes for each piece of apparatus making up the receiving set to make sure that each part is capable of functioning properly. Ordinarily, an experimental receiver laboratory might take up a space equivalent to an ordinary house.

In a transmitter laboratory the engineers are interested in such features as the conversion of the ordinary 110-volt lighting current to 15,000 or 20,000 volts direct current. They must study means of converting this direct current into radio frequency currents. In so doing the efficiency of each part is of vital importance. This is especially true if the transmitter is to have an output above 10 kilowatts. New means must be discovered for holding the radio frequency supply constant. Again, the engineers must study continuously the problem of modulation whereby the audio frequency energy may be accurately and efficiently superimposed upon the radio frequency energy. These are but a few of the problems the transmitter engineer must study and when it is appreciated that he may be dealing with transmitters up to 100 kilowatts in power some idea is gained of the size of the plant that must be placed at his disposal.

Besides transmitter circuits and their associated equipment the transmitter engineer must also make a study of the propagation of electromagnetic waves, that is he must determine theoretically, if possible, and then check these results by experimental tests, the wavelengths that are most desirable for any given type of service. He must determine the power required to cover any given distance under any specified condition.

It is for the purpose of carrying on this intensive work in transmission development that the General Electric Company is erecting its great laboratory near Schenectady.

Mr. T. P. Alley

(Continued from page 45)

# Physicist Tests

# B -T Condensers

G. M. Wilcox, Professor of Physics at Armour Institute of Technology, recently conducted tests on B -T Condensers taken from stock. The test included a comparison of readings obtained by interchanging a B -T Condenser with their "laboratory standard" in a circuit through which a current was passed at radio frequency.

The results show that B -T Condensers have less resistance than the laboratory standard. Part of Professor Wilcox's letter is reproduced below:

B -T Type L Condenser

Clockwise Reading

Chicago, Illinois,

February 27, 1925.

"When Bremer -Tully Condensers were in the circuit, the current was from 1 to 2% greater than that obtained with the Laboratory Standard. It was necessary to introduce about 0.1 ohm in the circuit to bring the current down to the same value as that obtained with the "Standard." The equivalent resistance of B -T Condensers is therefore less than that of the standard by approximately 0.1 ohm. "Better Tuning"

The 7th edition of "Better Tuning" is ready, -48 pages of hook ups, helps, and information valuable to all radio fans, including section on B -T " Nameless." At all high -grade dealers or by mail on receipt of 10 cents.

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" DURHAM

Gone is the Mammy -lad who was several times a Secretary of State -

Grid Leaks Q

financially. The trend of T. P. A.'s thought is : If there is a handy word lower in the scale than moron, what is it? The only single thing the public has noticed in months is an obscure western weather forecaster who bellows promises of drought. "Drought" is a mild word for what's happening.

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WIRELESS AGE - THE RADIO MAGAZINE

MAY, 1925

fairly clutter the pavements of the one-time Lilting Forties.

"Saylissen." The brainworker of the firm makes the password snappy. He is having to work faster every day. "Lissen, we been awful dumb. Pullin' this moron stuff an' thinkin' the public's so nix -witted. Give us 'nawful black eye. Even Varieties comes out an' prints a list of snappy song writers who've hadda go back to sellin' neck ties, jerkin soda 'n' clerkin' in cigar stores."

"They's twenty million in the radio audience now, and they can't stand so much sugar, that's what. Sticky songs won't sell any more. I got the low down today. Good old -timers and

e f3,gqesf ?Jim' irr %adio.

high -brow stuff is sellin' faster and faster. We was the morons. I'm

learnin'. The public was buyin' what it knew about, and now it's hearin' the hash we give 'em so often it sickens

No matter what instrument you purchase violin or piano or loud speaker, the first essential is tone quality -next volume -then design. It will p ay you to hear a BEL -CANTO.

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'em. But the public's findin' out they is some pieces you can't ever get too much of."

"An' say, did you know that John McCormack was makin' twice as much as many of the jazz kings, all the time? That oughta told us something about

what the puhlic'll pay for -" "Say, Lissen," T. P. A. himself en- tered the conversation with his hire ling's counter -sign. "What's the mat ter with you anyway ? Have you got bit by Culture, or something ?'

"Me ?" said the fast worker. "No, I finally woke up and got me a radio set. An' I been hearin' our stuff too offen. But Lissen, tomorrow night they's t o be a symphony orchestra con- cert. Y'oughta hear it. I donno what it's all about ; but say, it's hot stuff."

There was only one thing he could do. Although but thirty -five years old, Mr. Tin Pan Alley retired the next day. He said he had been a king on Bro ad way for more than five years ; that

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made him an old man, and an old dog can't be taught new tricks -and so on. But everybody was engrossed with cross -word puzzles so nobody listened to what he had to say.

## WGR Ensemble

(Continued from page 48)

Perhaps it takes this sort of a per- son to get the most out of a violin, the instrument with such an infinite capacity for the portrayal of emotions. Noah Webster is credited with saying that the violin is "distinguished for the

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the orchestra," he further says, "it is

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the leading and most important instru ment." Then, there is Agnes Millhouse. This lady may be termed the come dienne of the group. Probably there are few people in the world who get as much real fun out of the joys and

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New York City

sorrows of this old world as Agnes Millhouse. If you happen to be low in your mind Agnes Millhouse could cheer you up. Give her five minutes and she would have you in a spasm of laughter over some happy yarn of her concoction. Naturally, the incident of the "Parade of the Wooden Soldiers" was a great mirth-provoking event to her and she made the most of it.

The group is complete with Mary Reynolds, who manipulates the pipe organ. \Vhat ? We hear someone ask. A pipe organ ? You must mean piano. That is the instrument to complete such a group. But, no. Here's some inside stuff. It is no secret but E. M.

Statler has a very warm place in his heart for the pipe organ. He thinks that it is true of most of the public. Perhaps he is right. He ought to be. having spent a life -time finding out

KEEP reception dear!

what the public wants. And if there is any doubt about the four instru ments blending splendidly -harp, vio lin, 'cello and organ -you should tune

The Tungar is a G-E product, developed in the great Research Laboratories of General Electric. The New Model Tungar charges radio A and storage batteries, and auto batteries. Two ampere size, East of the Rockies, $18.00. A Tungar is also available in five ampere size, design unchanged (East of the Rockies) $28.00. 60 rye/es-HO volts

Keep it clear. Keep it loud -with all the volume your set should have. Keep the battery at top notch -fully charged- peppy. The Tungar charges your storage battery over- night while you sleep and at a cost of hardly more than five cents. It's easy! Just two clips -and a plug for the house current. Or you can make a permanent connection, and just throw a switch. Keep your set at its best all the time -with a Tungar.

Tungar a registered trademark --is found only on the genuine. Look for it on the name plate.

Merchandise Division

General Electric Company, Bridgeport, Conn.

in on WGR and hear for yourself. So Mary Reynolds plays the pipe organ. She is a quiet sort of person, interested in everything that happens, but perfectly willing to let Agnes Millhouse add the jazz to the group and take her fun out in observatory laughs. That's the Hotel Statler Concert Ensemble.

Is it any wonder that M. A. Rigg, Jr., general manager of WGR, Announcer Becker and Fickett, watch its work with great pride and care? Aside from this pride in good music, there's the fan mail, always the fan mail which proves beyond anything else what a good feature it is for the noon-time audience.

## A Radio Star

(Continued front page 29)

to me themselves, or else they simply do not understand. I do make my personality felt. It is the personality in

# GENERAL ELECTRIC

my music that makes it art -and that

enthusi

brings people to write these enthusias tic letters. You can't arouse asm with machine -like, personality less

playing, can you ? No. Others use the voice to tell you of themselves, while I can say all kinds of thoughts with my little old fiddle."

## Learn the Code at Home with the Omnigraph

teach )ou both the Wireless and Morse Codes - right In your own home -Quickly, easily and in- expenvlvely. Connected with Buzzer, Buzzer and Phone or Sounder. it will send you unlimited mes- sages, at any speed from 5 to 50 words minute. THE OMNIGRAPH is not an experiment. For more than 15 years it has been sold all over the world with a money back guarantee. THE OMNI- GRAPH Is used by several Depts. of the U. S. Govt. -in tart the Dept. of Commerce uses THE OMNIGRAPH to test all applicants applying for a radio license. THE OMNIGRAPH has been successfully adopted by the leading Universities. College: and Radio Schools.

And, speaking of personality, glance back at that string of photos. Is it

teat ping- THE OMNIGRAPH Automatic Transmitter will

not a fact that if under each of the six

of them were a different name, you would never think to question, but

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THE OMNIGRAPH MFG. CO.

what they were so many different individuals! Half a dozen vivid personalities wrapped up in one personable girl, that is Madeleine MacGuigan, violin virtuoso of the air. What wonder that we radio fans find her music fascinating, even though it comes over a hundred or a thousand miles of

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