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Vol. 1

JULY, 1931

No. 5



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OF, BY and FOR licensed commercial radio men.

M. R. RATHBORNE, Jr.
EDITOR

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NEXT MONTH

In the August issue, we will print another “episode from the unadulterated low-down on the strictly private life o’ Slim Phitts,” in which Slim and Olaf get mixed up with a couple of caliente señoritas in La Union—**anything** is likely to happen in La Union. Slim and Olaf go ashore, become slightly under the weather, meet Consuella and Tonia, and while Slim is “intimately QSO with the allurin’ Tonia,” things begin to happen, with Olaf as the storm center.

In **Cupid Twangs His Bow**, Lew Todd combines all the elements which are likely to give a lonely sea-going brasspounder a violent heart attack—the tropics—lovely, langorous señoritas—jealous swains—a bar-room brawl. If Lew sends us many more yarns like this, we predict that SOS Phitts will soon be as well known among radio men as Paul Bunyon is among the lumbermen of the Northwest. Probably Olaf will have to substitute for Paul’s famous Blue Oxen.

EDITORIALS

Many of us are inclined to take the wrong attitude toward our calling. We selfishly consider radio operating merely as a means of satisfying a desire to travel and "see a bit of the world," without giving any thought to the welfare of the hundreds of our brother operators who have been following the trade for years.

Those of us who have no one dependent upon us for support, or are still young enough to "live on the folks," are disposed to consider only the highly-advertised and practically non-existent "romantic—adventurous—thrilling" side of operating, forgetting entirely the important subjects of wages and working conditions. Seeking adventure, we take jobs at wages which men who are compelled to earn their living as operators cannot afford to accept. Because we are offered a chance to travel "with all expenses paid," we gladly accept extra work without extra pay; thus, unwittingly perhaps, lowering the standards of our calling and making conditions worse for our fellow operators. We are just using radio operating—taking from it a living and an excellent means of travel—and returning nothing. Many of us who plan to quit operating after a year or two of travel, take no interest in increasing our knowledge of radio, in becoming better operators, or in improving conditions.

We cannot hope to secure better conditions until we, as individuals, adopt an entirely different attitude toward our work. We must discard the selfish point of view and consider the rights of the men who have chosen radio operating as their life work.



Considerable criticism has been directed against our efforts to abolish the twelve-hour working day for marine radio operators. A number of correspondents have stated that they would like to obtain an eight-hour day, BUT, they believe its adoption would be a signal for steamship companies to further reduce already meager salaries. This seems to be a rather reactionary attitude.

A shorter working day, even if it were accompanied by slightly lower wages, would be of untold benefit to the operating profession for the following reasons: Its adoption would prove that we have become powerful enough to receive recognition as a group and that we are capable of working together to accomplish a certain end. Once recognition has been secured, the success of our campaign for improved conditions is practically assured, for we will be in a position to obtain additional advantages which will reduce the surplus of operators and bring an increase in wages. In addition, an eight-hour day will create more jobs—thus helping to relieve unemployment—and increase the prestige of operators aboard ship by placing them on an equal footing with mates insofar as working hours are concerned.

If we are to raise the standards of radio operating, we must adopt a positive attitude toward our profession, take an interest in the welfare of our brother operators, and ACT instead of sitting around howling about rotten conditions.—M.R.R.

Radio Trust Put On the Spot

Numerous court attacks have been started in the last few years against the system whereby royalties from almost every radio manufacturer go to the group in control of most radio patents. This group includes the Radio Corporation of America, General Electric, Westinghouse Electric, American Telephone and Telegraph, and General Motors. The Federal government filed suit about a year ago for the dissolution of this patent pool as a violation of the Clayton Act and the Sherman anti-trust law. The chief agitating force behind much of this activity is Oswald F. Schuette, executive secretary of the Radio Protective Association, with headquarters in Washington.

Six weeks ago the Supreme Court of the United States upheld the decision of the U. S. Court of Appeals at Philadelphia, which, in turn, confirmed the findings of the District Court of Delaware, that the RCA had violated section three of the Clayton Act. The suit was started more than two years ago, when a group of independent tube manufacturers, including the de Forest Radio Company, filed suit against the RCA and associated companies, charging that the patent pooling agreements entered into by these concerns constituted a monopoly. Under the agreements the RCA had required manufacturers of receiving sets using RCA patents under license agreements to equip their sets with RCA tubes. As practically all receiving sets are manufactured under RCA patents, on a seven and one-half per cent royalty basis, it was claimed by the independents that the Radio Trust had created a monopoly which was operating in restraint of trade. Without exception, the courts upheld this contention.

Sections thirteen and fifteen of the Radio Act of 1927 state in effect that any company or individual finally adjudged guilty of violation of the anti-monopoly laws shall be required to relinquish station licenses. Because of their importance in this case, these sections of the Radio Act are given here in full.

Section 13.—The licensing authority is hereby directed to refuse a station license and/or the permit hereinafter required for the construction of a station to any person, firm, company, or corporation, or and subsidiary thereof, which has been finally adjudged guilty by a Federal court of unlawfully monopolizing, or attempting unlawfully to monopolize, after this Act takes effect, radio communication, directly or indirectly, through the control of the manufacture or sale of radio apparatus, through exclusive

traffic arrangements, or by any other means or to have been using unfair methods of competition. The granting of a license shall not estop the United States or any person aggrieved from proceeding against such person, firm, company, or corporation for violation of the law against unlawful restraints and monopolies and/or combination, contracts, or agreements in restraint of trade, or from instituting proceedings for the dissolution of such firm, company, or corporation.

Section 15.—All laws of the United States relating to unlawful restraints and monopolies and to combinations, contracts, or agreement in restraint of trade are hereby declared to be applicable to the manufacture and sale of, and to trade in radio apparatus devices entering into or affecting interstate or foreign commerce and to interstate or foreign radio communications. Whenever in any suit, action, or proceeding, civil or criminal, brought under the provision of any said laws or in any proceedings brought to enforce or to review findings and orders of the Federal Trade Commission or other governmental agency in respect of any matters as to which said commission or other governmental agency is by law authorized to act, any licensee shall be found guilty of the violation of the provisions of such laws or any of them, the court, in addition to the penalties imposed by said laws, may adjudge, order, and/or decree that the license of such licensee shall, as of the date the decree or judgment becomes finally effective, or as of such other date as the said decree shall fix, be revoked and that all rights under such license shall thereupon cease: **Provided, however,** That such licensee shall have the same right of appeal or review as is provided by law in respect of other decrees and judgments of said court.

In order to determine whether the station licenses of RCA and its subsidiaries shall be renewed the Radio Commission is holding a number of special hearings, beginning June 15th. The Commission will decide whether it will renew the licenses of six of the seven broadcasting stations owned by the National Broadcasting Company, namely: WRC, Washington; WJZ, New York; WEA, New York; WTAM, Cleveland; WENR, Chicago, and KOA, Denver, as well as an experimental television license held by NBC, and one license each held by RCA Communications, Inc., Radiomarine Corporation of America, and RCA-Victor Company, so that a complete cross-section of all RCA licenses might come before it. The RCA and its associated and affiliated companies hold 1409 of the 3680 (exclusive of aircraft stations) commercial station licenses.

On June twelfth, the RCA attempted to secure an injunction from the District of Columbia Supreme Court to prevent the Radio Commission from holding the special

(Continued on Next Page)

hearings, which may result in the revocation of all RCA licenses. The injunction was denied by Justice Bailey, who kept the case on the docket, explaining that developments might warrant the injunction. Coincident with the Radio Trust's request for an injunction, Oswald F. Schuette of the Radio Protective Association released the following statement to the press:

"An effort to stop the Radio Trust's hearings at the Federal Radio Commission by an injunction will prove a boomerang by arousing an indignant public opinion. It demonstrates to the country that Owen D. Young's six billion dollar Radio Trust is afraid to face the issue in the open. But more important, it is such a defiant challenge of the self-respect of the Federal Radio Commission that the latter in self-defense must immediately order new hearings to determine whether it meets 'public interest, convenience or necessity' to grant the 1409 radio licenses to that law breaking group, and no decision even by a court technically construing the language of section thirteen of the Radio law which forbids these grants can settle that question.

"Let there be no mistake about this—neither the country nor the Congress can be fooled by subterfuge. The issue is a decisive one. Before the Federal Radio Commission can grant a renewal of these 1409 licenses, its members under oath must certify that they believe the grants serve public interest, convenience or necessity. They cannot answer that question honestly until they have held hearings and have thoroughly aired at least the charges of law breaking made after fullest investigations by the Department of Justice. The Federal Radio Commission has not hesitated to take independent stations off the air on such grounds. Why should they be afraid to act against a six billion dollar combination? If Scarface Al Capone came from Chicago to ask for a license, would the Federal Radio Commission hesitate asking general and full information, and then refusing a license in public interest, convenience and necessity?

"Today's petition for an injunction is a challenge to the Federal Radio Commission that can only be answered by an immediate refusal of all pending applications of the Radio Trust and setting them down for an immediate hearing, and not for a technical discussion of Section thirteen, but on the broad issue of 'public interest, convenience or necessity.' If because the Radio Trust has asked the courts to interfere, the hearings cannot be held on June 15, it is the duty of the Federal Radio Commission to set another date at once and to proceed without delay to determine by what right these defiant law breakers shall remain on the air. The Commission had cooperated in good faith with the Trust, but the lat-

ter's request for an injunction releases the Commission and shows anew how important it is for the Department of Justice to intervene and protect the rights of the public. If the Federal Radio Commission in Washington cannot meet the emergency, the President can; if he fails, Congress will. The air must be kept free and the Radio Trust must be destroyed."—M. R. R.

AMONG THOSE PRESENT

By Lew Todd

Introducing, HORACE S. COLLAR: Mr. Collar has so often advertised the fact, that it is hardly necessary to mention the fact, that he is RADIO OFFICER, aboard the S.S. OLSEN MARU, plying between Oakland Creek and Puget Sound. The MARU is one of those relics of a glorious past, commonly known as a WOODEN SHOE, being built entirely of wood and designed by her intrepid builder, to eliminate such HIGHFALUTIN' attributes, as SPEED, LINES, and CLEANLINESS. She is manned by a SNUCE CHEWING SKIPPER, thirty-two SQUAREHEADS, a full complement of COCKROACHES and HORACE. She is equipped with a hybrid radio contraption, which Horace proudly designates as his, "SPARK." He admits that the note emitted by this ETHER CONTORTING MECHANISM, sounds like the tearing of old canvas and that she is a trifle broad. But what is a hundred meters between friends? Horace has practiced all of the known forms of QRM and may be heard at almost any time on 600 and 700 meters, talking to his STEAM SCHOONER FRIENDS.

The charge brought against him by KFS and KPH, that they have never been able to raise him when wanted, is patently an unjust one. It goes without saying, that keeping up on ONE'S SOCIAL SKEDS, leaves but little time for COAST STATIONS.

Recently, Horace made the thrilling discovery, that a regenerative receiver can easily be changed into a low power transmitter. He wrote to the PATENT OFFICE at WASHINGTON about it and was surprised to learn that some RADIO ENGINEER had anticipated him by about TEN YEARS. However, the DEVICE makes an admirable MEDIUM for RAG CHEWING, while laying alongside the DOCK, so Horace does not consider his efforts wasted. Here again, the ODIIOUS KPH and GROUCHY KFS fail to appreciate OUR HERO'S GENIUS. But that is to be expected of coast stations. On the whole, Horace is well satisfied with himself and LOOKS FORWARD to a JOB on one of the ADMIRAL LINE BOATS some day.

THE DECIBEL

By MERVYN R. RATHBORNE

PART TWO

When computing the overall gain of a receiver or amplifier by ordinary mathematics it is necessary to multiply all the gains in individual stages—a rather lengthy and laborious process, especially when the product runs well into the millions. Using the decibel, which, as we know, is a logarithmic unit, it is only necessary to add the individual gains in order to determine the overall gain. Also, large numbers are avoided: A gain of 10 db is equal to a 10-fold increase in power; a gain of 20 db is equivalent to multiplying the power in watts by 100; a 30 db gain represents a 1,000-fold increase in power; a 40 db equals a 10,000-fold increase, and so on. Each time 10 is added to the power level in decibels the power in watts is multiplied by 10.

Because our ears do not respond uniformly according to the intensity of sound, but upon a logarithmic scale, the decibel can be conveniently used in measuring sound intensities. When electrical power, measured in db, is converted into sound, its intensity is roughly proportional to the sensation produced upon the ear. A gain or loss of one decibel represents the smallest change in sound intensity that can be detected by the normal ear. The fact that it presents a convenient way of expressing sound intensities in terms of our auditory reactions has led to the adoption of the decibel by acoustical engineers for use in sound work. The reflective and absorptive qualities of materials, such as drapes for broadcasting studios, and the sound levels of speech, music, noises, etc., are nearly always expressed in terms of the db, which, when used in this manner, is often referred to as a "sensation unit."

The ratio of two powers, as measured in watts and in decibels, may be clearly illustrated by a few practical examples.

Problem No. 1—One amplifier has a power output of 1,000 milliwatts and a second has an output of 800 milliwatts. Find the difference between these two powers in decibels.

$$\begin{aligned} \text{db} &= 10 \times \text{Log} \frac{P_2}{P_1} \\ &= 10 \times \text{Log} \frac{1000}{800} \left\{ \frac{1000}{800} = 1.25 \right. \\ &= 10 \times \text{Log} 1.25 \left. \right\} \text{Log } 1.25 = .0969 \\ &= 10 \times .0969 \\ \text{db} &= .969 \text{ Answer.} \end{aligned}$$

It would seem from the figures 1,000 and 800 that the first amplifier would produce a considerably greater volume of sound than the second. Actually, this would not be true. When the electrical power was converted into sound the difference between the two, being less than 1 db, could hardly be detected by the ear.

Problem No. 2—A certain amplifier has an input of .0015 watts and an output of .96 watts. What is its gain in db?

$$\begin{aligned} \text{db} &= 10 \times \text{Log} \frac{P_2}{P_1} \\ &= 10 \times \text{Log} \frac{.96}{.0015} \left\{ \frac{.96}{.0015} = 640 \right. \\ &= 10 \times \text{Log } 640 \left. \right\} \text{Log } 640 = 2.8062 \\ &= 10 \times 2.8062 \\ \text{db} &= 28.06 \text{ Answer.} \end{aligned}$$

The table on page 14 will be found convenient for computing gains and losses in db when the power ratios are known, also the absolute values of power for a zero level of .006 watts, which is used by the Western Electric in type 203 Volume Indicator Panel.

It is interesting to note that in a modern 5,000-watt broadcasting transmitter the feeble microphone currents, which are at a level of from -50 to -60 db, are amplified from 100,000,000,000 to 1,000,000,000,000 times by the time they reach the antenna, where the power level is approximately 59 db.

An inspection of Table 4 reveals that there are a number of power ratios that can be converted into whole numbers without great loss of accuracy. For instance, the power ratio for 3 db is given as 1.995, by adding .005 to this number it can be made to equal 2 without introducing an error of more than .2 of 1%. The loss ratio for 3 db, which was formerly 1/1.995, now becomes $\frac{1}{2}$. For rapidly estimating gains and losses it is much easier to use loss ratios and, when necessary, convert losses into gains after the answer has been found. The following loss ratios will be found useful for quickly converting lower ratios into decibels:

(Continued on Next Page)

- 1 db=power ratio of $\frac{1}{2}$.
- 3 db=power ratio of $\frac{1}{4}$.
- 6 db=power ratio of $\frac{1}{8}$.
- 7 db=power ratio of $\frac{1}{8}$.

Problem No. 3 — Using the above loss ratios, find the power ratio corresponding to a loss of 4 db.

4 db=3 db+1 db. The loss ratios for 3 db and 1 db are respectively, $\frac{1}{2}$ and $\frac{1}{2}$. Since adding logarithms multiplies the numbers they represent, adding 3 db multiplies the loss by $\frac{1}{2}$ and adding 1 db multiplies the loss by $\frac{1}{2}$. Therefore, a loss of 4 db is equal to two successive losses of 3 db+1 db, or $\frac{1}{2} \times \frac{1}{2}$, which equals $\frac{1}{4}$.

Problem No. 4—Find the power ratio corresponding to a loss of 9 db.

9 db=3 db+3 db+3 db; the loss ratio for 3 db is $\frac{1}{2}$. Therefore, the loss ratio for 9 db would be equal to three successive losses of 3 db each, or $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$. It will be noted that each loss of 3 db is equivalent to halving the power; similarly, each gain of 3 db is equivalent to multiplying the power by 2. The easiest way to calculate gains is to first find the loss ratio and then invert the fraction. For example, we have found that the ratio for a loss of 9 db= $\frac{1}{8}$, inverting this answer gives 8 as the ratio for a gain of 9 db.

Problem No. 5—Find the power ratio for a gain of 5 db:

5 db=3 db+1 db+1 db. The loss ratios for 3 db and 1 db are $\frac{1}{2}$ and $\frac{1}{2}$, respectively. 3 db+1 db+1 db= $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{8}{25}$ — $\frac{8}{25}$ equals the loss ratio, inverting, we get $\frac{25}{8}$, or 3.12 as the gain ratio for 5 db. This agrees within .04 of the value given in Table 4.

For gains or losses greater than 10 db, the loss ratio should be multiplied by 1/10 for each loss of 10 db. For example, the loss ratio for 16 db would equal $1/10 \times \frac{1}{4} = 1/40$. The gain ratio for 16 db would be 40/1, or 40. For 26 db the loss ratio would be $1/10 \times 1/10 \times \frac{1}{4} = 1/400$. The gain ratio for 26 db would equal 400, which agrees fairly closely with the value of 398.1 given in Table 4.

It should be clearly understood that the equations given in previous paragraphs hold only for computations involving power. If voltages or currents are involved, the following formulas should be used:

Voltage—

$$db=20 \text{ Log } \frac{E_2}{E_1}$$

Where E_2 =the larger voltage and E_1 =the smaller voltage.

Current—

$$db=20 \text{ Log } \frac{I_2}{I_1}$$

Where I_2 =the larger current and I_1 =the smaller current.

The Western Electric Type 203 Volume Indicator, which is used in a large number of broadcasting stations, gives a visual indication of power levels in terms of the decibel. In most installations this indicator is connected across the output of a W.E. Type 8-C audio amplifier.

This instrument is essentially a vacuum tube voltmeter calibrated to read power levels from -10 to 30 db. It is composed of the following units: A 233-F input transformer having a primary designed for a 500-ohm input, and a tapped secondary; a tap switch, (ESO-311647) which permits portions of the secondary to be cut in and out of the grid-filament circuit of the vacuum tube. Two 38-W, 100,000 ohm, one 38-AB 30,000 ohm, and one 38-AC 7500 ohm resistors are connected between the movable arm on the transformer secondary tap switch and the arm of a 5-ohm 37-H potentiometer, which is in the negative filament circuit. For a range of from -10 to 16 db a Type 479-GE Key (anti-capacity switch) shorts out resistors 38-W, 38-AB, and opens the circuit of resistor 38-AC, thus placing the portion of the transformer secondary between the tap switch and the negative filament lead potentiometer (37-H) directly across the input of the tube. When the 479-GE Key is thrown in the opposite direction (down), the range is increased from -10 to 30 db. This action places the two 38-W and the 38-AB resistors, a total of 230,000 ohms, in series between the transformer secondary tap switch and the grid of the tube; also, the 38-AC 7500 ohm resistor is cut in between the grid and the arm of the 37-H potentiometer.

A Type 102-D vacuum tube is used in the 203 Panel. It has a 57-A 2 mfd. condenser connected between its positive filament and plate. A 75-B retardation coil, a 19-E 60-ohm center-tapped resistor and a 62-B $\frac{1}{4}$ -ampere fuse are connected in series in the plate circuit. A Weston milliammeter calibrated in db is connected across a 30-ohm section of the 19-E resistor. Connections are provided for hooking-up an additional meter (external) across the other half of this resistor. The Indicator is designed to operate on a filament supply voltage of either 12 or 24 volts, d.c., and a plate voltage of 130.

By using a Volume Indicator, similar to the one described, and a monitor, an operator is able to intelligently operate gain controls. These instruments enable him

(Continued on page 14)

from the loyal "ops"

PIONEER RADIO OPERATORS

By Dr. Lee de Forest
(Continued from June)

Wages were no object to these eager-eyed pioneers. Everyone of them left a good job with Western Union or Postal, or some broker's wire, to join us. And with sad frequency it befell them that, when Saturday noon came the payroll was not forthcoming. ~~Mac, or Barney, or "Pop" Athearn, or Hughes would match to see whose "biscuit" should go to the hock-shop, so that the gang might eat over Sunday. They knew that wireless had a future which would some day handsomely reward them, pioneers all, and all imbued with that spirit of daring and risk which has typed the pioneer, in exploration or in industry, from the beginning of man.~~

It was the game, the fun, the unequalled satisfaction of traversing new lands, of overcoming strange new obstacles, of doing that which no one else had done, which spurred them on—"Wireless!"—messages transmitted without wires, across cities, over waters, wide and ever widening! How their more cautious, less imaginative, less daring friends down on Broad Street envied them.

Harry Brown joined them, and "Sunny Jim" Easton (later to become U. S. Consul at Port Limon, after working there for years as the first wireless operator in Central America). The number of stations began to grow. In the winter of 1902-3 the U. S. Navy wished to test this new American Wireless System, in competition with German "Telefunken" apparatus between Annapolis and the Washington Navy Yard. Without hesitating, I picked Mac and "Pop" Athearn for the job. First, these operators had to help build, assemble, test out, and then pack the new equipment at the Jersey City shop. For keywork was only a small part of the duties of these early wireless operators. They didn't know much of the theory, but they packed a lot of hard-won practical common sense regarding those simple circuits, how to rig an antenna, to patch-up busted condensers, to dig into the black, stinking oil to find and repair a transformer burn-out. If ground plates had to be buried under frozen soil, or lowered under two-foot thick ice, those operators never sat around waiting for some laborer to be brought upon the scene. They well knew that usually there was no more money than time for such idle luxury, and they "damn well" rolled up their sleeves, swung the pick or the ice ax, and hustled the job themselves.

And thereby lies exactly the secret of the swift progress of American Wireless in those early days. It was exactly that spirit of "do or die," regardless of sacrifice or hardship, despite lack of help or material;

BREAKS

by
THE SKIPPER

Operators who are wise will investigate the possibilities of the cathode ray system of television. It has been reported that the Columbia Broadcasting System is ready to equip its stations with apparatus for showing television movies as soon as a suitable receiver is placed on the market. Other reports state that Philco has reached an agreement with Philo T. Farnsworth, San Francisco experimenter—inventor and patentee of the cathode ray tube system of television—for the manufacture of his inventions, and that Philco will have practical radiomovie receivers on the market before the end of the year. Don Lee, owner of KHJ, KFRC and KGB, has recently been issued a permit by the Federal Radio Commission to broadcast television movies. For the past three months a staff of television engineers, employed by Mr. Lee, has been experimenting with the cathode ray principle in an effort to develop a practical method of transmitting talking motion pictures by radio.

Because of its greater simplicity, absence of moving parts, and the narrower band required for the transmission of clearly defined pictures many authorities believe that the cathode ray system will displace the present unsatisfactory methods employing scanning discs, drums and other mechanical gadgets. In order that commercial operators may obtain the latest authentic information on the cathode ray system, CQ has made arrangements to distribute a new book, "Principles of Television," which will be announced next month.

When television becomes popular there will be a number of new jobs for radio operators who know their "onions." Theodore Roosevelt once said: "Nineth-tenths of wisdom consists in being wise in time"; let's get wise now so we will be in a position to grasp the opportunities which the coming of television will undoubtedly create. Remember the talking movies?

(Continued on Next Page)

often in lack of the remotest idea of what to do in some new emergency, but nevertheless, with an intelligent determination, which seemed to lead them instinctively to the right thing at the right time.

(Dr. de Forest's account of the early days of "wireless" will be continued in the August issue.)

The more I ponder over the reasons for the depression the more perplexed I become. In 1929 we had prosperity, now it is gone. Why? We have not experienced any great calamity, such as war, plague, or revolution. We have more money, larger industrial plants, and greater productivity per man. Savings accounts are so swollen that banks have reduced interest rates. Our granaries are filled with wheat, rotting from lack of market. Our warehouses bulge with manufactured products for which there is no sale. In money, natural resources, factories, capacity to produce, and education we are richer than ever before. Yet we are in the midst of the worst depression in the memory of man. Our unemployed number more than 6,000,000 — breadwinners for 20,000,000. Our fellow citizens who are not of the aristocracy of wealth are starving amidst plenty. Our children cannot attend school from lack of proper clothing. WHY? The only reason I find is GREED—the avariciousness of a few to garner and hoard dollars that can never be spent—the pointless desire for wealth and power accompanied by an utter disregard for the welfare of fellow men—the conducting of business to produce maximum profit without thought for the happiness and progress of mankind—blind, grasping, ignorant, inhuman GREED.

* * *

When calling a shore station with a position report never say "P" or "MSG" and then send only a TR. This practice is one of the best ways to secure wastebasket delivery. Incidentally, "P" means "I have a paid message for you," and not "Please."

* * *

When sending TR's to Mackay or RMCA shore stations on the East Coast, it is unnecessary to give the QRD or QRF as these are never copied or sent in to the papers. This information is required by West Coast stations, however, as the newspapers on the West Coast usually publish both the QRD and the QRF. TR'S sent to WYN, WSA or TRT stations are not published in New York papers.

* * *

Operators on ships sailing out of New York who take part in the daily TR/WX festival on 700 meters should be interested in the chart of the North Atlantic, published in the Shipping Section of the New York Sunday Herald-Tribune. This chart is much more convenient to use for finding approximate longitude and latitude than those issued by the H. O.

BREAKS

PERSONAL ITEMS

Is Roy Woods still chief on the "Manoa"?

* * *

With Huotari from Hoboken to Hamburg to Hollywood—I bet the story would be good if Art could be persuaded to tell it. At any rate, Art Huotari is now to be found at the Hollywood Display Co., 4680 Hollywood Blvd., Hollywood. He says, "Sure wish I was in the Zillertal on Repabne Strasse, Hamburg; with Kennedy and Reed putting away some lager, this Los Angeles water is terrible. Where are J. D. Thompson and Don Harris of KTK? I would like to hear from them and any of the US Lines gang would care to get QSO with a lonely brasspounder located in the wilds of Hollywood." Yeah, I bet he's lonely. You ought to see 'em parading up and down Hollywood Blvd.

* * *

John Homsy, Junior RI in the L.A. district, has been assuming responsibilities at a great rate. He was placed in charge on the monitor station at San Pedro in March and was married in May. Congratulations, OM.

* * *

Miss Levy, chatelaine at 75 Varick St., NYC, noted for her ready smile and remarkable memory for names, sends hearty 73 to all her friends.

* * *

Where is Roy Talbot, late of WSA?

* * *

Thomas W. Braidwood, old-timer on the EC, is now on the Yacht "Caroline," tied up at Tebo's Yacht Basin, Brooklyn.

* * *

Among the old-time ship ops at WOR, Newark, N.J., are C. J. Leipert, C. Singer, C. A. Reberger, V. J. Doyle, G. D. Robinson, and C. S. Thevenet. Sounds like a roll call of the V.W.O.A.

* * *

Bill Pond, for whom inquiries have been made, is now stationed at CG Base 10, Seattle, Washington.

* * *

Adrian V. B. Kennedy (KY) is back on the "America" as chief. Vernon Reed is second. These are the boys who did such good work when the "America" went to the assistance of the SS. "Ovidia," in November, 1930.

(Continued on page 13)

Radio School Advocates Wage Reductions

This is an exact copy of a letter, dated June 11, sent by the **PORT ARTHUR COLLEGE**, Port Arthur, Texas, to the managers of broadcasting stations throughout the country:

Station WSIX,

Springfield, Tennessee

Gentlemen:

OPPORTUNITY TO REDUCE OVERHEAD

Can you use one or two Second-Class Operators at a smaller salary than you are now paying?

We have two young men that have to work—I will guarantee they know how to work—and cheerfully. Either of these young men will, if necessary, come on two or three weeks' free trial. The thought occurred that you might be thinking of replacing some high-salaried chap, or it may be that one has grown old on the job.

If you have an opening, or think one might develop, we will appreciate hearing from you at your convenience.

Respectfully,

PORT ARTHUR COLLEGE.

(Signed) Carl Vaughn,
President.

Here is the reply sent to Mr. Carl Vaughn by S. David LeBarre, Manager of **WSIX**, Springfield, Tenn.

Sir:

In your letter of June 11th, addressed to this station, I consider you advocate a cut-throat policy toward all radio operators, including your own. It would affect the graduate from your school the same as any other operator if you did not know he was working at the station you send your propaganda to. It seems to me that you are in the business for the almighty dollar. Get a student through and on the job and you are satisfied, regardless if you are the cause of taking another man, maybe more worthy, off the job.

After receiving such a letter from you, I would not hire one of your men if he was a graduate engineer with fifty years' experience and was willing to work for one dollar a week.

I do not hire price-cutters and such tripe.

Radio Station **WSIX**,

(Signed) S. David LeBarre, Manager.

We had intended to write several columns in praise of LeBarre; it is unnecessary, his letter speaks for itself. A few more men of this caliber and our problems would soon be solved.

SHIPPING NOTES

The largest American-built liner, the Dollar Line's turbo-electric "President Hoover," has just been completed at the yards of the Newport News Shipbuilding Company. Built at a cost of \$8,000,000, the liner is 653 feet long and has accommodations for 1250 passengers. A sister ship, the "President Coolidge," is nearing completion in the same yards.

* * *

The American Hawaiian Steamship Company recently declared a dividend of \$1 a share on its \$10 par value common stock.

* * *

Is the Atlantic Refining Company's new Diesel-electric tanker, "Permian," just launched at Greenock, Scotland, for off-shore trade out of Los Angeles, to be considered an addition to the American merchant marine?

The "Permian's" plates came from Czecho-Slovakia, her Diesel engines from Belgium, part of her electric machinery from the United States, and her main electric motors from England. She was built by Scottish workmen for American owners, will fly the flag of Panama, and will be manned by a Norwegian crew. The "Permian," which is the third vessel to be built for the Atlantic Refining Company at Greenock, is of 8947 gross tons and 471 feet long.

IMPORTANT NOTICE

All professional radio men interested in raising the standards of their trade are urged to join the **EIGHT-HOUR DAY CLUB**, sponsored by CQ. This club was founded in order to secure funds with which to carry on a campaign for improved conditions. Membership costs only 25 cents. **JOIN NOW!** Send your membership fee, and any extra amount you may care to contribute to the cause, to the Editor, CQ. Let's all get together and secure an eight-hour day and the other rights that should be ours.

* * *

EDITOR, CQ:

I wish to enroll in the **EIGHT-HOUR DAY CLUB**, enclosed is my membership fee.

Name

Address (permanent).....

Station.....

CORRESPONDENCE SECTION

Signed communications only will be accepted for publication in this section, names of correspondents will be withheld on request. The publishers of CQ assume no responsibility for statements made herein by correspondents.

★ ★ ★

Editor, CQ:

With the May edition of CQ open before me at the Skipper's column, I am attempting to put into words my own thoughts on the subject of a radio operators' organization. The time is past for vague theorizing . . . Concrete planning and positive action are now in order.

What type of organization do we need, you ask?

A professional association similar to the I.R.E. would hardly suit our purpose. Such an organization exists primarily for the promulgation of knowledge. A radio operator's association might do well to incorporate such a feature into its program, but its purpose above all else must be to deliver us from the merciless exploitation to which we are now subjected, and to protect us thereafter. I see no value in a "league" such as the A.R.R.L. Are we forming a society for brotherly love and cultural uplift? Let us forget these fancy names. Let us forego these timid, sheepish, ingratiating overtures to those who might frown on our activities. We are fighting for our bread and butter. Whatever we call our organization, whether it be "fraternal" or what-not, it must be essentially a union. **IT MUST BE A UNION.** Why get away from the fact? Why be afraid of the word?

Alright, a union. A union of whom? A union of licensed radio operators. This will include ship and shore station radiotelegraph operators, broadcast operators, airways operators (except those in government employ) and commercial radio operators in any special services. Licensed servicemen might be eligible for membership. Most commercial service company repairmen and inspectors are ex-operators and these men generally keep up their licenses. A radio operator's license (of any grade except amateur) should be the necessary requisite to membership. Specifications as to time of employment or type of work would be unnecessary as the Department of Commerce takes care of this in issuing licenses.

Are there enough operators interested in this to guarantee its success, you ask.

If the number of operators who realize the desperate need for an organization is equalled by the number of operators who have the courage of their convictions, suc-

cess is assured. But I am afraid that collectively we are a pretty spineless lot. We have been kicked about so much; we have been the underdog so long, that we are too willing to take a licking and crawl away with our tails between our legs, whimpering to ourselves. This business of getting together is going to be a hard fight. And our deadliest enemies will not be the shipping companies nor the radio companies. They will be the operators within our own ranks who by their willingness to accept meekly the present intolerable conditions place in jeopardy the unity so absolutely necessary to our strength and effectiveness. Can these men be but made to realize that we have everything to gain, and precious little to lose, the battle is won.

73—R.G.

* * *

Editor CQ:

Now that CQ has definitely broached the subject of organization and has asked for suggestions, I'd like to state my views.

My idea of an ideal organization, fit to accomplish the ends we have in view would be one built along the lines of the American Radio Relay League. Its membership would be limited to all licensed operators. The reason I favor the ARRL as a model is because of the similarity between its work and the work which would be required of an operators' association.

As I see it the overcrowded field and the low wages prevailing today are merely the visible result of a low license standard. The only way to raise the standard is by means of constructive legislation. Since the work of the ARRL also concerns legislation, its methods of accomplishing things must necessarily bear some resemblance to those we will have to use, and can therefore be profitably studied.

We can depend upon the Radio Division of the Department of Commerce. It has always been a dependable enforcement agency and places the highest possible construction on the laws it upholds. If the standards are raised the Division will enforce them, curbing this deluge of romantic schoolboys, thereby putting a higher premium on ability and experience.

Furthermore, with an organization of this type nothing would bar that large body of licensed men in the Civil Service. They cannot join a labor union and retain their jobs. The prestige they would lend as a group, would alone be of incalculable value. Admitting service men and other unlicensed workers in the radio field hardly seems advisable to me. It is true that

both groups want to attain better conditions and wages, but the methods which must be used in achieving them are in no way similar. Legislation, the only hope of the operators, would in no way benefit the others.

I'm pleased to note that the complaining type of article in CQ is giving way to those bearing constructive comment and I hope this trend will continue. A problem that has been neglected for a quarter of a century cannot be overcome and converted into an acme of perfection in six months. If there is to be any organization at all, CQ must not only be the kernel from which it springs, but also the root which sustains it. It is the one means of welding the widely scattered individuals into a solid whole.—W.T.S.

* * *

Editor CQ:

I but recently had the pleasure of reading the sample copy of your magazine, "CQ," and I believe that a magazine and an organization such as you have started is the real need of radio men in general and licensed operators in particular.

There is one point which you advocate that I would like to see and hear more fully discussed, that is the one about the eight-hour day. I would like to see what the other operators think about it, personally I am not in favor of it for in my opinion it would mean another drop in wages and they are about at rock bottom now. But nevertheless, I am open to conviction.

Well, I must sign off for this time, wishing you lots of luck and bigger and better "CQ's" with every issue.—A.C.H.

* * *

Editor CQ:

One of the best ways to bring about better conditions for radio operators would be to raise the standard of radio operating from within. Were all marine radio operators good, first-class telegraphers, and kept their apparatus in first-class shape and working order, they would be in a better position to demand better conditions. Of course, there are many marine operators who have these qualifications, but there are also a great many slipshod fellows, who are terrible operators and who know little or nothing about their apparatus and let it get filthy and in poor condition.

The only way to raise the standards of marine operating is to make a change in the license requirements that would be a radical departure from the purely theoretical method now in use.

In the first place, it should be necessary that all applicants for a commercial license be 21 or more years of age. This would keep out a lot of youngsters who only wish

to go to sea for a year or so for the "fun of it," and who usually take little or no interest in becoming first-class operators, and in addition, are a detriment and often a disgrace to their profession by their silly antics aboard ship.

For a second-class license the applicant should be given a practical examination. The R.I.'s office would be equipped with several transmitters and receivers of standard make such as are used on many ships, for instance, an ET-3626, ET-3627, ET-3628, some commonly used type of receiver such as an SE-143, a Navy Standard spark and a 2 K.W. arc; also a set of lead cell batteries and a set of Edison batteries, together with battery charging panels. On this apparatus the applicant would be given a thorough examination by showing the R.I. that he could start the transmitters, bring them to resonance, repair small faults, wire up and operate receiving sets, care and maintenance of batteries, M/G outfits, etc. The code speed test should consist of reading 20 w.p.m. plain language and 16 w.p.m. code, the same as at present, but the reception should be of hand sending, not machine sending. Also the applicant should be questioned much more closely than he is at present RE radio laws and regulations, and he should be asked to give the schedule and procedure of several major weather bulletins, press schedules and time tick broadcasts for both the East and West coast of America.

For a first-class license the applicant should be given an oral examination similar to that of the present time, but he should be questioned a great deal as to laws and regulations, time, weather and press schedules and the figuring of foreign rates. The code speed test should be reception at a speed of at least thirty w.p.m. (on typewriter) plain language and twenty w.p.m. code groups. This reception would be of hand sending.

Applicants who successfully pass the examinations as outlined above, would have to be pretty competent men. They would be good telegraphers; they would have a pretty good working knowledge of their apparatus and would understand and be able to apply radio laws, foreign rates, time and weather bulletins, etc. With these qualifications possessed by men at least twenty-one years of age, a high standard of operating would be maintained by men who were in radio to make a living, and who had a sense of responsibility and who were good operators and maintenance men, who would give the steamship companies and radio servicing companies they worked for the best of service, and who, at the same time, would be striving to better their own working and living conditions.

—A.E.H.

EMPLOYMENT REPORTS

ATLANTIC COAST—

RCA Institutes are to be commended on the notice which is inserted in their new catalog. Here it is:

A FRANK STATEMENT

Owing to the present situation in American shipping, RCA Institutes, Inc., desire to inform prospective students that the field of marine radio (wireless) operating does not, at the present time, offer employment to new men.

In the May number of CQ, the American Merchant Line ships were erroneously reported as running to South America. These vessels are in the trans-Atlantic trade.

Twelve Hours' Work Demanded From Operators Receiving \$40 per Month.

Second operators on the Moore McCormick ships running from the East Coast to Scandinavian and Russian ports are being paid \$40 a month for twelve hours work a day. Chief operators on the same ships are obliged to stand a twelve-hour radio watch and to do clerical work in their "spare" time. They receive \$115 per month. As there is difficulty in getting operators for \$40 per month, the RMCA has to send kids fresh from school out on these jobs, thus helping to further lower the standards of operating.

Mackay Radio has been endeavoring to get a foothold in the US Lines. It almost had control of the "Republic" and "American Trader." Latest reports state that the RMCA has managed to retain these ships.

The first of a fleet of six ships owned by the Baltimore Mail Line, a Roosevelt subsidiary, will be placed in commission on July first.

These ships will accommodate 100 passengers each, carrying two operators, and will be equipped with Mackay apparatus.

The new Mackay medium and short wave transmitter has been installed on four of the Export Line's ships, the "Excalibur," "Exchorda," "Excambion," and "Exeter." This is reported to be a really fine set and is capable of working WSL on two-hour schedules all the way through the Mediterranean. RMCA still retains the Export Line freighters.

NEW YORK—

"Unemployment is greater at the present time in the New York district than at any time heretofore." This statement was made by an RMCA official who is responsible for hiring many operators. The outlook for improvement is no brighter, with many steamship lines cutting wages.

"The Di Giorgio Fruit Company operates a small fleet of ships sailing from New York to Jamaica and Cuba. Two operators are carried on these vessels; they work twelve hours per day. The wages of chief operators on these ships has been cut from \$105 to \$97 per month and second operators from \$70 to \$63."

"The Tide Water Oil Company operates a small fleet of tankers out of New York to Texas ports and sometimes to California. These are all one-man jobs and pay \$105 for

operating and \$10 for clerical work—a total of \$115. Operators in this company receive a vacation of one month after they have been employed for a year. They lay off two trips to Texan ports and receive a \$105 check as their vacation pay."

GREAT LAKES—

"There is very little shipping on the Lakes at the present and I do not believe conditions will improve for some time. At present most cargoes are grain, which is moving very slowly as compared to normal years. Many operators are being made to do deckhand and porter work without extra pay. The pay here is \$105 per month this year as compared with \$140 per month last year. I am advised that radio operators on the tugs owned by the Ford Motor Company are receiving \$150 per month this season, which is \$10 more than they received last year."

PACIFIC COAST—

Employment conditions remain practically the same as they have been in previous months. Unemployed operators on the Pacific Coast still number more than 300, with newcomers entering the ranks every day. Wage cutting continues, the average scale for broadcast operators in Seattle, San Francisco and Los Angeles being from \$25 to \$30 per week. In the Northwest, the lowest wage thus far reported is \$55 per month—the highest, for all except chief operators—is \$172 per month.

There have been very few changes in personnel in any stations, ship or land. A house-cleaning party was recently held at the KNX transmitter. Three operators were fired—reasons unknown. The new staff is headed by Kenneth G. Ormiston. A 20 per cent wage cut has been given to all Warner Brothers employes. This affects sound and studio men, as well as the operators at KFWB.

DOLLAR LINE CUTS WAGES

The wages of operators employed on Dollar Line ships have been cut to: Chief operator, \$104 per month; second, \$95; third, \$90. These salaries were formerly \$115, \$100 and \$90 respectively.

TACOMA ORIENTAL OPERATORS CUT

On June 8 all operators employed on the ships operated by the Tacoma Oriental Steamship Company had their wages reduced \$35 a month. This cut brings the wages down to \$95 per month. There was no reduction in the amount of freight and clerical work, which is a major item on these ships. Wage reductions in other departments ranged from \$3 to \$20.

A report from San Diego indicates that conditions are practically the same in that locality. "Conditions at the two broadcasting stations are nothing to write home about, the pay averaging \$130 per month, with plenty of overtime attached, minus overtime pay. The fishing boats have laid up for a 60-day period, letting several operators out. At present there is only one airport operator."

PERSONAL ITEMS

(Continued from page 8)

Where are George Kolbe ex "America," and "Prexy Harding"?

* * *

Charles Martin and Elmer Stenman, chief and second of the "Harvard" when she went aground on Point Arguello last Decoration Day, handled the SOS traffic occasioned by that disaster in a masterly fashion. If they were nervous it wasn't evident from their sending. Fine work, fellows!

* * *

Ross J. Plaisted of Brecksville, Ohio, wishes to be remembered to his friends ashore and afloat.

* * *

Walter Koch, who took a fling at the Government Airways, apparently could not forget the frauleins. He is back on the "President Harding" as second. "Red" Rogers is chief.

* * *

Operators who have been to Honolulu know that OK is not oke, but oke is OK. If you don't believe me, ask any wahinie.

* * *

Are there many old I.W.T. ops in Hollywood doing sound work? If so, who and where are they?

* * *

Michael J. McDonough and Willard Bliss are now chief and second, respectively, on the "Republic." They transferred from the "President Roosevelt," where they were second and third, with Alexander Stanford.

* * *

Don Shaw took "Minnehada" out when she was recommissioned after her long lay-up.

* * *

Recently overheard on 800 meters: NPX—"QTE doubtful due to night effect."—A certain ship—"What was the night effect caused by, a bottle or a skirt?"

* * *

Paul W. Whitmore, principal of the Radio School of Los Angeles, gives all graduates of that institution a year's subscription to CQ as a graduation present. How about it, Mr. Smith?

* * *

E. A. Williams, Radio and Morse operator since 1908, and in charge of NAA during the war, has landed a relief job at KFI after a long wait on the beach.

* * *

Operators submitting items and articles for publication in this and other departments of CQ are requested to write them on a separate sheet of paper. I have to wade through 200 or 300 letters every month in order to obtain the dope for BREAKS. How about a break? Thanks.

(Continued on Next Page)

New Easy-Working
Genuine Martin No. 6
VIBROPLEX

Reg. Trade Marks: Vibroplex Bug, Lightning Bug



Black or Colored.....\$17
Nickel-Plated\$19
Slightly Higher in Canada

The Choice of GOOD Operators Everywhere

The New, Easy-Working Vibroplex has many improved features not to be found in any other bug. Thousands of delighted users say it is the smoothest, easiest-working bug ever made. Its easy manipulation will surprise you. Its superior quality of signals will delight you. Ideal for the operator desiring a sharper, clearer and more uniform signal. Adjustable to any speed. Built not only to stand the gaff, but to make sending easier and better for every operator. If you want the best—get a **NEW, EASY-WORKING Genuine Martin No. 6 Vibroplex NOW!** Our liberal trade-in allowance on your old Vibroplex makes it easy to own.



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Used by tens of thousands of Radio and Morse operators because of its ease and perfection of sending. Black or Colored, \$17; Nickel-Plated, \$19.

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The Vibroplex Co., Inc.
825 Broadway New York, N. Y.

THE DECIBEL

(Continued from page 6)

to maintain the proper power levels for various types of programs and to keep the input to speech amplifiers low enough so that no distortion due to overloading will occur.

TABLE 4

DB	Power Ratio	Power Level (.006 Watts Zero Level)
-10	.100	.0006
- 9	.125	.00075
- 8	.158	.00095
- 7	.199	.0011
- 6	.251	.0015
- 5	.316	.0019
- 4	.398	.0024
- 3	.501	.0030
- 2	.631	.0038
- 1	.794	.0048
0	1.000	.0060
1	1.259	.0075
2	1.585	.0095
3	1.995	.0120
4	2.510	.0150
5	3.16	.0189
6	3.98	.0238
7	5.01	.0300
8	6.31	.0378
9	7.94	.0476
10	10.00	.0600
12	15.85	.095
14	25.11	.150
16	39.81	.24
18	63.10	.38
20	100.00	.60
22	158.5	.95
24	251.1	1.50
26	398.1	2.40
28	631.0	3.8
30	1000	6.0
32	1585	9.5
34	2511	24.0
36	3981	24.0
38	6310	38.0
40	10,000	60
50	100,000	600
60	1,000,000	6000
70	10 ⁷	60,000
80	10 ⁸	600,000
90	10 ⁹	6,000,000

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PERSONAL ITEMS

KFWB, Hollywood, is kept on the air by Leslie G. Hewitt, chief; John H. Deeney, Harry I. Myers, ex-commercial, and Charles Lang.

* * *

Bert Kearney, formerly assistant - chief with T.&W.A. at Alhambra, is now with the Border Patrol, Immigration Service, El Centro, Calif.

* * *

I wonder why the **RCA News** quit publishing QRA's?

* * *

Vern Taschner, once on KOZC with "Willie" Sommers and Bill Breniman, is now at KFVD, Hal Roach Studios, Culver City, Calif.

* * *

R. B. Walling, former RMCA chief op at Wilmington, is at the new KFI transmitting station. C. W. Mason is chief.

* * *

Bill Briare, who was an operator in the days of P. S. Lucas, Hal Dickow and Forbes van Why, is purser-operator on the Cabrillo, Wilmington Transportation Co., Wilmington, Calif.

CHANGE IN KPH WX

Beginning July first, weather will be broadcast simultaneously on 690 and 2381 meters, starting at 9:00 a. m. and 8:18 p. m., P.S.T., daily. The 9:18 a. m. and 8:25 p. m. weather broadcasts on 2381 meters will be discontinued. CQ de KPH.

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CQ, 1725 Bedford Road,
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I enclose \$1.50 for one year's subscription to CQ, please start with the..... number.

Name.....
 Address to which magazine should be sent

PORT OF BOSTON

By Frank Jordan

Some of you eggs are only vaguely aware of the existence of a place named Boston. Recall your history! The Boston Tea Party, the Evacuation of the British from Boston Harbor, and various and sundry other events of ancient times ought to establish its identity as a seaport town. I grant you that nothing happens nowadays to spread its renown in that direction, if we except the fact that WSBN calls here semi-annually because she can find no other drydock in the country to accommodate her size.

We don't see many strangers around here. An occasional tanker or freighter finds its way into Boston but for the most part our waterfront is congested by familiar fishing trawlers, colliers, and coastwise passenger liners. Of these, the trawlers dominate the scene.

There are normally about forty radio equipped trawlers fishing out of Boston. About a third of these are tied up at this time. The nation-wide depression has knocked the bottom out of the fish market. The depression may also be blamed for knocking a hole in the trawler operator's pay envelope. The standard wage was \$150 until a few months ago. It is now \$135 to \$125. You \$105 and \$90 birds, don't smack your lips over this. A trawler man earns every nickle of \$150 and then some. Not everyone can stand the gaff. You've got to have an iron stomach, a complete lack of delicate sensibilities, and the rare ability to send and receive coded messages while standing on your head. The "fish pots," as the boys at WIM call them, are equipped with modern apparatus. Most of them have converted Marconi P4 and P8 ACW transmitters. Some of you may remember Mr. George Trudeau's excellent article on trawlers in the late lamented "Brasspounders' Department" of Radio. George, now happily situated in the Department of Commerce Airways, was once a leading light in the fishing business and was the prime mover in the successful campaign to increase trawler operators' wages from \$130 to \$150 three years ago. Incidentally, George is a literary cuss and we ought to hear the latest doings in the Airways via George. Mr. Editor, get after him!

There are quite a few colliers running between Boston and Norfolk, Va. The pay on these scows is \$90. One or two of them pay \$80. There are many colliers tied up. Maybe this trade will pick up in the winter.

Coastwise passenger ships out of Boston
(Continued on Next Page)

—no greater magazine published on development of short waves

Published Every Other Month



On All Newsstands

SHORT WAVE CRAFT, Mr. Hugo Gernsback's latest radio magazine, has been called his greatest achievement in radio magazine publishing. It is the one magazine devoted entirely to short waves that you have wished for so long. It is filled with real "live" dope—no theories, no mathematics—only practical and interesting material.

Each issue contains articles by Lee de Forest, F. H. Schnell, Robert Kruse, "Bob" Hertzberg, David Grimes and many foreign authorities as well.

Regular Departments in Short Wave Craft

Photographic Section—pictures of latest short-wave sets and stations; Transmitters for short waves—How to build them; Short-Wave Receivers—Construction data for all types and kinds; The Short-Wave Experimenter; Television on Short Waves; Short Waves for the Broadcast Listener; Ultra Short Waves; Aircraft Short-Wave Sets; How To Build Short-Wave Aerials; Short-Wave Question Box.

Partial Contents of the Current Issue

Two or More Programs on a Single Short Wave, by Baron Manfred Von Ardenne. How To Neutralize Transmitting Amplifiers, by C. H. W. Nason. The Hot-Cathode Mercury-Arc Rectifier and How To Use It. The "Hams" Own Short Wave Receiver. How Hungary's Short-Wave "Police Net" Reduces Crime. Around the World with a 15-Watt Transmitter, by A. Binneweg, Jr. Latest Investigations in Ultra-Short Waves by Dr. Karl Stoye (Berlin). The Technical Story of 7-inch Wave Transmission Across the English Channel. (Int. Tel. & Tel. Co.). A "Suitcase" Portable Short-Wave Transmitter and Receiver.

Over 250 Illustrations, Hookups, Charts and Photographs, etc.—Actual Photographs of Short Wave Receivers and Transmitters.

Full Details in Coupon about Special Offer

SHORT WAVE CRAFT CQ-7
98 Park Place, New York, N. Y.

Enclosed find \$2.00, check or money order preferred, for which you are to send me SHORT WAVE CRAFT for One Year (Canada and foreign \$2.50). I understand that the regular subscription price is \$3.00, and this Special Offer is void after July 31st.

Name.....
Address.....
City and State.....

PORT OF BOSTON

(Continued From Preceding Page)

are operated by the Eastern Steamship Co., the Clyde Line, the Merchants and Miners, and the Savannah Line. Speaking in unclassical but quite comprehensive and wholly descriptive language, these jobs are lousy. With two operators maintaining a continuous watch, the pay is \$100 and \$80. Plenty of traffic is handled on these ships. Living accommodations for operators is terrible on most of them. Operators have as much social distinction as the proverbial polecat at a picnic. It seems strange that operators on these ships stand for more guff than men in any other class of marine service. These passenger ships cannot sail without operators. One would think that the displaying of a little guts on the part of the operators would be sufficient to raise their wages at least to the level of the negro porter's earnings.

There are hordes of hungry brass-pounders in Boston. Most of them, of course, are greenies fresh from the schools. But many of them are greenies not so very fresh from the schools. If some of those guys don't get three months work pretty quick they will have to go back to their schools. Their chances are slim. The Boston Radiomarine office adheres to a fairly decent system of seniority and so long as there is an experienced man handy the newcomer must continue to grace the bench. And there have been plenty of experienced men handy for quite a few months back.

As for schools, there are two here; the RCA Institute and the Massachusetts Radio School. The Institute publishes its usual flamboyant ads in the daily newspapers but lately has been laying off the marine ops. The Massachusetts Radio School's ads in the newspapers, "QST," and other publications contrast sharply with most radio school advertisements. They are dignified and make no extravagant claims. The Mass Radio School deserves credit for this.

Speaking of advertising, some of the radio magazines could save many of their readers much woe and disillusionment if they censored some of the advertising copy presented by radio schools. We know, and the editors of other publications know, that the majority of commercial operators is recruited from the ranks of the amateurs and experimenters, which is right and proper. But most of them become professionals with an entirely false set of notions regarding their work, their wages, and their status aboard ship.

"CQ"

CLASSIFIED ADVERTISING

CQ will accept classified advertising from licensed radio operators and persons employed in allied services at the special rate of five cents per line.

(1) Advertising shall pertain to radio and shall be of interest to professional radio operators.

(2) No display of any character will be accepted, nor can any special typographical arrangement such as all or part capital letters be used which would tend to make one advertisement stand out from the others.

(3) The rate for advertising of a commercial nature is three cents per word.

(4) Remittance in full must accompany copy, closing date for classified advertisements is the first of the month preceding publication date. Provisions of paragraphs (1) and (2) apply to all advertising in this column, regardless of which rate may apply.

BAKELITE PANEL ENGRAVING—Radio and technical; finest workmanship. Established five years. Request price lists. A. L. Woody, Engravers, 19 South Wells Street, Chicago, Ill.

WANTED—Copies of the first issue of CQ. We will pay fifteen cents each for copies of the March number. Our supply is completely exhausted and we are unable to fill the many requests received from operators who desire to complete their files. MRR Care of CQ.

FREE LOG BOOKS—An up-to-date amateur station log will be given to every commercial radio operator having an amateur station. No cost or obligation. Write for yours today. Radio Manufacturers Supply, 1000 South Broadway, Los Angeles, Calif.

OPERATORS—If you have a bug, mill or relay to sell; if you want to obtain parts for an amateur station, advertise in the Classified Section of CQ. Special rates to commercial operators.

FOR SALE—Old style Omnigraph with five dials. First reasonable offer takes it. JMD, care CQ.

CQ CIRCUIT DIAGRAMS—A complete set of five diagrams acceptable for first and second class commercial license examinations. If you are studying for a commercial license examination you cannot afford to be without these diagrams. Each diagram is complete, every part numbered and described. The complete set costs only 75 cents. Order yours today from CQ. Wedel & Co., 520 Second Ave., Seattle, or Radio Manufacturers' Supply, 1000 South Broadway, Los Angeles.

PASSENGER SHIP OPERATORS—Don't forget to recommend the Wonderland Travel Bureau to passengers seeking travel information. For further information write to the Secretary, 603 Fifth Avenue, New York City. See ad on page 17 of this issue.

WANTED—Leach Break-in Relay, 110 volt, d.c. type, Model 118. Geo. Davis, 621 Molino Avenue, Long Beach, Calif.

NOTICE

In order that the work of editing and copy-reading may be made as easy as possible, it is requested that our contributors typewrite and double space all material submitted for publication in CQ. Thank you.

RADIO SCHOOL OF LOS ANGELES

(Formerly Y.M.C.A. Radio School)

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LOS ANGELES—Radio Manufacturers' Supply,
1000 South Broadway.

NEW YORK—Blan, the Radio Man, 89 Cortlandt Street
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Purchase your radio equipment from these concerns and mention
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REPLACEMENT PARTS A SPECIALTY

Kits, Tubes, Midget and Console Radio Sets and Cabinets
Bids Solicited (large or small) for Electrical Appliances and Wiring Material
Technical Advice FREE

Standard Merchandise Only—No Job Lots—No Distressed Imitation Parts

Our Mail Order Department gives you absolutely prompt service in case our traveling salesmen do not reach you.



Wedel Company, Inc.

Established 1888

RADIO AND ELECTRICAL WHOLESALE JOBBERS

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Portland Branch, 443 Washington Street, PORTLAND, ORE.—Beacon 7783

Cable Address, "WEDELCO"—W. U. Code



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Can YOU make a PERFECT copy of WNU press with a pencil or mill?

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Can YOU copy press 3 to 5 words behind without breaking? Can YOU count checks in your head and give the station you are working your "OK" the instant he has finished transmitting? Can YOU send PERFECT code groups at a speed of 30 wpm with a bug or hand key?

If YOU are really a FIRST-CLASS radio operator you should be able to answer "YES" to ALL these questions. If you cannot answer them in the affirmative you should investigate



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The Candler System is a Post Course of intensive training for the development of SPEED and ACCURACY in code work through Scientific Methods. It trains the Brain, Muscles and Nerves to CO-ORDINATE—helps to give you confidence and relieve nervous strain. Our methods are based on fundamental scientific principles of proven worth.



TELEPLEX can be used in learning American Morse Code. We furnish this machine and Morse or Continental tapes at wholesale to operators taking our courses. If you have an automatic machine you can use our tapes.

If YOU want to become a REAL operator it will pay you to write to us, outlining your difficulties and ambitions. We will answer any questions without cost or obligating you in any way, and give you the benefit of our experience helping over 45,000 Radio and Morse operators during the past 20 years. Write or, mail coupon TODAY.

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CQ-4

Do It
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Without obligating me in any way, send information on the course or courses I have checked:

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