

HEINL RADIO BUSINESS LETTER

INSURANCE BUILDING

WASHINGTON, D. C.

ISSUED TWICE A WEEK AND CONTAINING THE LATEST INFORMATION REGARDING THE RULINGS OF THE FEDERAL RADIO COMMISSION, RADIO LEGISLATION, DEPARTMENT OF COMMERCE REGULATIONS, CHANGES IN WAVELENGTH, CALL LETTERS AND POWER, PATENTS, EXPORTS, FEDERAL TRADE COMMISSION RULINGS AND OTHER MATTERS OF INTEREST TO BROADCASTERS AND MANUFACTURERS. :: :: **CONFIDENTIAL—NOT FOR PUBLICATION.** :: ::

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No. 402

CRAVEN PROPOSES RADIO REVISIONS

An increase, rather than a reduction, in the number of broadcasting stations in the United States through the enforcement of the highest engineering standards and the widening of the broadcast band, is recommended by Lieut. Commdr. T. A. M. Craven, Naval Reserve, consulting radio engineer, in a lengthy report to the Federal Radio Commission.

Commander Craven, a former technical advisor of the Radio Commission, and an expert in the Communications Section of the Navy Department, suggests a general, but evolutionary, revision of the entire broadcasting structure in the technical, legislative, and administrative fields.

Sharp criticism of the policies of the Federal regulatory body, chiefly because of its failure to insist upon the most modern engineering methods, is expressed by the engineer. The report declares the Davis Equalization Amendment has lost its usefulness and at the same time denounces General Order No. 92 because it "does not take into direct consideration either the wave propagation characteristics of a frequency or the selectivity features of all receivers."

Raps Frequency Tolerance

"Recent technical developments make possible a closer geographical separation between stations", the report says. "If the Commission would encourage the use of these developments, not only would broadcasting be improved as to quality, but progress would also be made toward meeting the ever-increasing demand for self-expression on the part of a large portion of the public.

"For example, the Commission permits a frequency tolerance of 500 kilocycles deviation from the assigned frequency, while there is being manufactured today, frequency control equipment guaranteed to maintain the frequency to within better than 25 cycles. Almost any responsible manufacturer is in the position to guarantee 50 cycles control."

Heterodyne interference would be greatly reduced by a "highly accurate and constant frequency control", Commander Craven asserts, and cross-talk might be diminished by greater selectivity of receivers and by assigning stations of equal power according to the "bloc" frequency method, viz., placing the high and low power stations in separate categories.

The report also advocates higher power "or high percentage modulation", which is the technical term, and the adoption of synchronization methods.

Other means suggested for achieving more economy in the use of channels are: the utilization of technical developments to reduce the number of channels used for transmitting the same program simultaneously, application of the advantages to be gained from using the difference in time over the country, and organization of the broadcast facilities so as to conform to the political, economic, and social organization of the people of the United States.

Would Reclassify Stations

Commander Craven would classify broadcasting stations into three categories: Zone, State, and County.

These classifications would replace the present categories of cleared channel, regional, and local stations.

The report suggests a revision of the boundaries of the Five Zones so that full advantage might be taken of the differences in time. It also sets forth a scheme of distributing facilities according to the station classification, proposing an equal numerical assignment of frequencies to the zone stations "without limit to the number of zone stations utilizing the same frequency, providing that no objectionable interference will result from such use."

Broadcasters themselves come in for a stern rebuke also because many of them "have failed to pay the same attention to the engineering organization of their stations as they do to the program department."

Commander Craven also notes that "the spirit of cooperation which existed between broadcasting stations in the early days is fast disappearing. . . This results in a continuation of interference that need not exist and acts to retard improvements to the service of all concerned in broadcasting."

The theory that a service area extending thousands of miles beyond the trade area of the community in which the station is located is labeled "fallacious" because it is "detrimental to the public interest as a whole."

Among other proposals offered in the report are the following:

Congress should appropriate funds to conduct experiments with regard to precise frequency control and sky wave repression antenna.

The Department of State should negotiate a more permanent and satisfactory arrangement relative to the use of broadcast frequencies with Canada, Mexico, Cuba, and other North American nations.

All receiver manufacturers should give added attention to the selectivity characteristics of receivers and to this end, if cooperation is not forthcoming, the Department of Commerce should publish the characteristics of all types of receivers manufactured for general sale to the public.

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LABOR'S RESOLUTION BEFORE SENATE

A resolution urging that three broadcasting channels be set aside by the Federal Radio Commission for use of the Departments of Agriculture, Labor, and Interior was introduced by Senator Brookhart, Republican, of Iowa, this week following the offering of a similar proposal in the House of Representatives.

In submitting the resolution, which was prepared by the American Federation of Labor, attention of the Senate was called to the fact that 12 channels are assigned to corporations formed for the purpose of broadcasting, seven to manufacturers of radio equipment, ten to merchandise dealers, 11 to newspapers, three to public utilities, five to insurance organizations, while none is assigned to "the great body of American labor."

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FIFTY STATIONS GET TEMPORARY LICENSES

Fifty broadcasting stations were given temporary licenses on Tuesday when the licenses of all stations in good standing were renewed from January 31st to April 30th under General Order No. 103, which follows in full text:

"The licenses of all broadcasting stations with the following exceptions are hereby extended subject to the terms and conditions provided in said licenses for the period beginning 3 A.M., Eastern Standard Time, January 31, 1931, and ending 3 A. M., Eastern Standard Time, April 30, 1931:

"(a) WLBX, KFQU, WJBW, KTSA, WHK, WCGU, and KZM, which have been heretofore designated for hearing. The licenses for these stations are hereby extended until decision of the Commission as a result of the said hearings but in no event later than 3 A.M., Eastern Standard Time, March 31, 1931;

"(b) KFXV, KGB, KWKH, WJAY, WRUF, WMRJ, WIBR, WJW, WALR, WWL, WHBC, WRBL, WQCM, KRLD, KONO, KFYO, KLRA, WLOE, and WMBG, which are pending investigation. The licenses for these stations are hereby extended until the completion of said investigation or until decision of the Commission if, after a result of said investigation, the applications are designated for hearing but in no event later than 3 A. M., Eastern Standard Time, March 31, 1931.

"(c) WBRE, WCLS, WELL, WEVD, WHEC-WABO, WKBO, WKQB, WLTH, WMBJ, WMBQ, WWRL, KBPS, KFUL, KGAR, KGBZ, KMPC, KTNT, KTRH, WNJ, WAIU, WREC-WOAN and KFQW, which have been heard and are pending the decision of the Commission. The licenses for these stations are hereby extended until decision of the Commission, as a result of said hearings, and in no event later than 3 A. M., Eastern Standard Time, April 30, 1931;

"(d) WAWZ, WDRC, WKAQ, WOAX, WDBJ, WGAR, WHP, WACO, WDAG, KGCR, KFVD, KFXJ, KOL, KSEI, and KUJ, which have not filed applications for renewal of station licenses.

"No authority herein contained shall be construed as a finding by the Federal Radio Commission that the operation of these stations is now or will be in the public interest beyond the dates specified in this order.

"It is further ordered: The operation of General Order No. 97 is hereby postponed to 3 A. M., Eastern Standard Time, April 30, 1931."

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U. S. HAS 45 PER CENT OF RADIOS

More than 24,000,000 radio receiving sets, representing a value of approximately \$1,500,000,000 are in use throughout the world today, according to Lawrence D. Batson, of the Department of Commerce, who has just issued an analysis of world markets for radio equipment.

Forty-five per cent of these sets, or 10,500,000, valued at \$676,000,000 are in the United States, he further reveals. The total investment in broadcasting stations over the globe is approximately \$29,000,000, of which one-half is represented by stations in this country.

Radio programs are much the same the world over, Mr. Batson states, in speaking of foreign broadcasts. Both here and abroad, the principal features are music, addresses, informative talks, and sports and news events. The major difference, of course, is that American programs are interspersed with advertising, while foreign broadcasts are sponsored by the governments.

Because there is little chain broadcasting abroad, selectivity is a primary requisite in radio sets designed for Europe, he said, whereas in this country this attribute is of lesser importance.

There is a definite trend in some foreign countries toward adopting the American system of a sponsored program, Mr. Batson said. Most foreign countries, however, prefer to retain the license fee system, having a prejudice against mixing advertising with radio entertainment.

American radios, according to Mr. Batson, are generally regarded as superior to the great majority of foreign makes. In European manufacturing countries, his report shows, most of the sets in use are of domestic origin. After the United States, England and Germany have made the greatest advance in radio development and each has built up a substantial export trade in radio sets and equipment.

The United States today is the world's largest exporter of radios and during the last three years has made striking gains in this field. Foreign sales rose from something more than \$9,000,000 in 1927, to \$12,000,000, in 1928, while the export figure for 1929, was more than \$23,000,000. Figures for the first ten months show total sales of radios and equipment in foreign market had a value of \$17,800,000.

Socket-power sets account for 52 per cent of the total number in use in North America, for about one-half of the sets in Europe, and one-quarter of those in South America. Crystal sets are fewest in North and South America, representing 1 and 2 per cent respectively, and highest in Russia and Turkey where the ratio is around 20 per cent.

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S. C. RADIO TAX HELD INVALID

A sweeping decision prohibiting taxation of radio receiving set owners, as proposed by a South Carolina law, was handed down in the Federal District Court at Columbia, S. C., on Tuesday in the first test case brought at the instance of the Radio Manufacturers' Association.

An interlocutory injunction against enforcement of the South Carolina law was granted by the Federal Court and restrains collection of the proposed taxes on radio receiving sets. The decision was made by three Federal Judges, Circuit Judge Parker of North Carolina, and District Judges Cochran and Glenn, of South Carolina.

The Court's decision was made in the test case of a North Carolina broadcast station, WBT of Charlotte, which contended that radio is interstate commerce and not subject to taxation by a State. The Court's decision sustained the contention that the South Carolina law is unconstitutional as an interference with interstate commerce and cannot be enforced.

John W. Van Allen, of Buffalo, General Counsel for the Radio Manufacturers' Association, had charge of the contest litigation.

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NEW YORK-WASHINGTON BROADCAST REPRODUCTION PROVES SUCCESS

A few minutes after Helen Corbin Heinl, Washington pianist, had played as soloist with the United States Marine Band in a Columbia coast-to-coast broadcast from the National Capital, Wednesday night, she had the unusual experience of hearing her selection replayed over the long-distance telephone from New York City from a record of it which had been made there.

While Mrs. Heinl, with the Marine Band, played Liszt's "Hungarian Fantasy", the experimental laboratory of the Natural Sound Amplifying System, located in New Jersey about 30 miles from Station WABC, New York, picked it up from that station. Although Uriel Davis, President of the company, reported that atmospheric conditions were not good for the test, he was able to send Mrs. Heinl and Capt. Taylor Branson, leader of the Marine Band, a very excellent reproduction of their selection over the telephone to Washington.

Mr. Davis, who is a brother of Meyer Davis, the orchestra conductor, employed, instead of a wax disc, a tiny steel wire wound upon a spool, recording by means of an electrical process which he has been developing for sometime.

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BRIEF FILED IN PATENT CASE

In a brief filed in the Supreme Court this week on behalf of the Chemical Foundation, Inc., and others in the vacuum tube case of the DeForest Radio Company against the General Electric Company, it was contended that the result of the decree in the lower courts would "put into the hands of the Radio Corporation of America and its associates, a complete monopoly over the vital part of all such radio apparatus and permit it to exact tribute from almost every family in the United States."

Others joining in the brief were the Radiological Research Institute, Inc., and the Federal Telegraph Company.

The lower courts decided the Langmuir patent case in favor of the General Electric Company, and the DeForest Company is asking for a review of the decision by the Supreme Court.

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: BUSINESS LETTER BRIEFS :
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Only a third of the programs heard over networks of the National Broadcasting Company during 1930 were sponsored by advertisers, according to announcement by the Press Relations Department.

Denial of the applications of the Enquirer-News Company, operator of Station WELL, Battle Creek, Mich., was recommended by Examiner Elmer W. Pratt this week in a report to the Federal Radio Commission. The requests were for a renewal of license and a modification of construction permit. Several deli berate violations of regulations were charged.

Argentina leads all South American countries in radio developments and ranks fourth among the countries of the world, according to the Department of Commerce. There are 43 stations in the Republic, of which 20 are in Buenos Aires. It is estimated that about 400,000 receiving sets are in use. American sets are the most popular. Argentinians insist upon having latest model receivers.

A lecture will be given before the National Geographic Society in Washington, Friday night, January 23rd, by Sergius Grace, Vice-President of the Bell Laboratories.

Vice Chancellor Fallon ruled this week that Louis Hazeltine, wealthy radio expert, acted illegally in obtaining a Reno divorce after he had been served with a New Jersey restraining order, according to an Associated Press dispatch from Jersey City. Hazel-tine, now honeymooning with Elizabeth Darrett, whom he married in San Diego after he had obtained the Navada decree, was held in contempt of court.

A series of midget type tuning condensers, ranging in capacity from 19 mmfd. to 322 mmfd, and having the "Midline" characteristics, has just been developed in the laboratories of the Hammarlund Manufacturing Co., 424 West 33rd Street, New York City. A series of straight line capacity models has also been produced.

Because of the growing interference caused by high power broadcasting stations in adjacent countries, Germany is making plans for the erection of larger radio stations, according to advices received by the Department of Commerce. Ten high power stations are to replace transmitters now in operation.

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N. A. B. FILES BRIEF IN COPYRIGHT APPEAL

Contending that the development of broadcasting in the United States will be seriously hampered if it is determined that reception on a radio receiving set of a copyrighted musical selection is an "actual performance" of that copyright, the National Association of Broadcasters has filed a brief in the Supreme Court as a friend of the court in the case of the American Society of Composers, Authors and Publishers, vs. Jewell-LaSalle Realty Company.

Louis G. Caldwell and Philip G. Loucks, counsel for the Association, ask that all questions certified from the Circuit Court of Appeals of the Eighth Circuit at Kansas City be answered in the negative.

Terming the case of vital importance to broadcasters, because it invades the fields of network, international, relay and remote control broadcasting, the brief states that an affirmative answer to the question certified "would seriously endanger judicial and legislative recognition of the right of the broadcaster to protect against unauthorized commercial exploitation of his programs by persons receiving those programs by means of receiving sets."

The brief is solely directed at the question, certified from the intermediate court: "Do the acts of a hotel proprietor, in making available to his guests, through the instrumentality of a radio receiving set and loud speakers installed in his hotel and under his control and for the entertainment of his guests, the hearing of a copyrighted musical composition which has been broadcast from a radio transmitting station, constitute a performance of such composition within the meaning of 17 U. S. C. Sec. 1 (e)?"

The communication, by means of a radio-receiving set and one or more loud speakers of a broadcast musical composition to listeners, is not a performance of the musical composition, the brief contends. The proper construction of the word "perform" with reference to the operation of a receiving set, depends on the physical acts constituting the alleged performance and is independent of whether the broadcasting station is, or is not, licensed by the copyright owner, it is added.

Adoption of the "multiple performance theory" of the copyright owners, it is contended, "will necessarily effect some reduction in the radio audience by making hazardous the operation of receiving sets in hotel lobbies and hotel rooms, restaurants, retail

radio stores, railroad club cars, dance halls, theaters, moving picture houses, hospitals and other public places. The copyright owners, who are given complete monopolies for the term of protection, without regulation as to rates and without restriction against discrimination, will be given power to impose burdensome, arbitrary, and discriminatory license fees on persons operating receiving sets in such places."

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COURT DENIES MOTION IN KOMO CASE

The District Court of Appeals this week denied a motion of the Federal Radio Commission to dismiss the appeal of Fisher's Blend Station, Inc., operator of Station KOMO, Seattle, Wash., on the ground that the words "construction permit" were left out of Section 16 of the Radio Act.

Littlepage & Littlepage, counsel for KOMO, then filed a memorandum in support of the appeal in which it was contended the Seattle station was asking for a modification of its license and not a new construction permit.

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APPLICATION RECEIVED BY FEDERAL RADIO COMMISSION

January 17 - WGAR, The WGAR Broadcasting Co., Cleveland, Ohio, modification of C. P. to extend commencement and completion dates to 1/20/31 and 4/20/31 respectively; WCKY, L. B. Wilson, Inc., Covington, Ky., modification of license amended to request unlimited hours on 1490 kc., instead of to request 6/7 time sharing with WORD, station at present uses 4/7 time, sharing with WCHI, WJAZ, and WORD; WFAN, Keystone Broadcasting Co., Philadelphia, Pa., C. P. to move studio to 8th and Market Sts., and to use WIP's transmitter at 9th and Market Sts., Philadelphia; also, license to cover C. P. listed above; KGBZ, Dr. George R. Miller, York, Nebraska, modification of license to change hours of operation from sharing with KMA to limited time on 930 kc.; WCAL, St. Olaf College, Northfield, Minnesota, C.P. to change equipment; KPQ, Westcoast Broadcasting Co., Wenatchee, Wash., C. P. to change equipment.

January 20 - WHEC-WABO, Hickson Electric & Radio Corp., Rochester, N. Y., modification of license to change frequency from 1440 kc., to 1430 kc., and increase hours of operation from sharing with WOKO, to unlimited; John H. Doane & Harold E. Doane, d/b as Stamford Broadcast Service, Stamford, Conn., C. P. application amended to request a change in name of applicants from Paul C. Brown and Harold E. Doane to John H. Doane and Harold E. Doane, to request 930 kc., instead of 630 kc., and 500 watts instead of 250 watts with unlimited hours; WLIT, Lit Brothers, Philadelphia, Pa., C. P. to install new equipment; WOAI, Southern Equipment Co., San Antonio, Tex.,

license application amended to cover direct crystal control in equipment; WCAZ, Superior Broadcasting Service, Inc., Carthage, Ill., license to cover C. P. to install a new transmitter; KRE, 1st Congregational Church of Berkeley, Berkeley, Cal., request for authority to voluntarily assign license to the Community Broadcasting Corp., Ltd.; KDB, Dwight Faulding, Santa Barbara, Calif., C. P. to change equipment; KJBS, Julius Brunton & Sons Co., San Francisco, Calif., C. P. to install a new transmitter.

Applications Other Than Broadcasting

January 17 - W3XAJ, RCA Victor Co., Inc., Camden, N. J., C. P. for additional transmitter on 1604, 2398 kc., 500 watts, experimental service; R.C.A. Communications, Inc., Rocky Point, N.Y.: WAJ, modification of limited public license for additional point of communication to include Berne; WQV, modification of limited public license to include Vienna in points of communication; WGV, Radiomarine Corp. of America, Galveston, Texas, modification of Marine Relay license for additional frequency of 500 kc.; KPE, City of Seattle, Harbor, Dept., Seattle, Wash., license for 170 kc., 500 watts, marine relay service; Globe Wireless, Ltd., Island of Oahu, T. H., KYG, license covering C. P. for 5525, 11050, 16580, 22100, 4116, 6515, 8630, 11020, 11080, 11140, 11200, 16900, 22130 kc., 1.5 KW, coastal service; Midwest Wireless Co., Inc.: at Buffalo, N. Y., new C. P. for 184 kc., 1 KW, limited public service; new C. P. for 143, 165, 171, 410, 425, 454 kc., 1 KW, coastal service; new C. P. for 165, 171 kc., 1 KW, marine relay service;

January 20 - WJP, Press Wireless, Inc., Hicksville, N.Y., license to cover C. P. for point-to-point station for 7340, 7335, 7370, 7820, 7835, 7955, 15910, 15610, 15640, 15670, 15730, 15760, 15830 kc., 5 KW; Aeronautical Radio, Inc.: WAEB, Columbus, Ohio, C. P. for new transmitter for point-to-point aeronautical service on 8015 kc., 1 KW; KGUN, Douglas, Arizona, license to cover C. P. for new transmitter for point-to-point aeronautical service for 278, 2326, 2344, 4140, 6260, 6275, 12210 kc., 150 and 15 watts; also, license to cover C. P. for new transmitter for aeronautical service for 278, 3484, 5600, 5630 kc., 400 and 15 watts; KGSD, Albuquerque, N. M., license to cover C. P. for new transmitter for point-to-point aeronautical service for 2722, 4108, 6350, 8015, 12180 kc., 150 watts.

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DECISIONS OF THE FEDERAL RADIO COMMISSION

The Commission on January 20th, granted the following applications:

WNBR, Memphis Broadcasting Co., Memphis, Tenn., C. P. to change transmitter location locally in Memphis, install new equipment, increase maximum rated power of equipment from 700 w. to 1 KW; WGN-WLIB, The Tribune Company, Chicago, Ill., C. P. to make changes in equipment; WCRW, Clinton R. White, Chicago, Ill., C. P. to make

changes in equipment, reducing maximum power output from 250 to 100 watts, and install automatic frequency control; WBZ, Westinghouse Electric and Manufacturing Co., Boston, Mass., modification of C.P. to extend completion date to Feb. 28, 1931; WDBO, Orlando Broadcasting Co., Inc., Orlando, Fla., license authorizing change in equipment, 1120 kc., 500 w. night, 1 KW LS, half time; WLEX, Carl S. Wheeler, d/b as Lexington Air Stations, Lexington, Mass., consent to voluntary assignment of license to Bay State Broadcasting Corp.; WRDW, Warren C. Davenport's Musicove, Inc., Augusta, Ga., consent to voluntary assignment of license to Musicove, Inc.; WMC, Memphis Commercial Appeal, Inc., Memphis, Tenn., involuntary assignment of license to Paul Dillard and Enoch Brown, Jr., as receivers; WCAZ, Robert E. Compton & Walter H. Tanner, d/b as The Superior Broadcasting Service, Carthage, Ill., consent to voluntary assignment of C.P. to Superior Broadcasting Service, Inc.

Also, KPSN, Pasadena Star-News Publishing Co., Pasadena, Cal., authority to install automatic frequency control; WISN, Evening Wisconsin Co., Milwaukee, Wis., authority to use an auxiliary transmitter at same location as main transmitter; KXA, American Radio Telephone Co., Seattle, Wash., authority to make changes in equipment; New York Telephone Co., in or near New York, C. P. frequency 1672 kc., 400 watts (this frequency is available under G. O. 74, it will need to be changed to 1676 or frequency comparable characteristics if and when the new maritime plan is adopted by the Commission; DeForest Radio Co., Portable, Mass., C. P. 1662 kc., 500 watts, daily except Sundays 8 to 5 P. M., until tests are completed; Don Lee, Inc. near Gardena, Cal., C. P. 2100 to 2200 kc., 500 watts, unlimited; City of Pittsburgh, Pittsburgh, Pa., C. P. 1712 kc., 400 watts, A3 emission, for police service; Aeronautical Radio, Inc.: KMP, Omaha, Neb., C. P. for new transmitter, 2432, 2506, 4124 kc., unlimited; 6215, 6230 kc., day only, 50 watts, A1 emission; Also, 7 new licenses for stations at Indianapolis (2); Shreveport, Atlanta, Omaha, Kingman, Ariz. (2). WAEG, Suburban Gresson, Pa., modification of C. P. to change equipment, change power from 100 to 50 watts, and change frequencies to 3082, 3088 kc., 5540 day only.

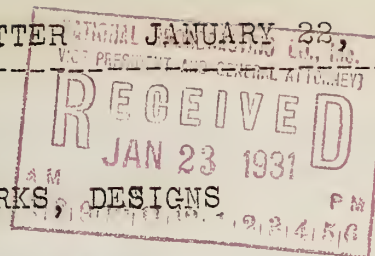
Also, WPN, Globe Wireless, Ltd., Garden City, N. Y., license, frequencies 5525, 11050, 16580, 22100 kc., calling; 4116, 6515, 8630, 11020, 11080, 11140, 11200, 16900, 22160 kc., working, 20 KW; WMDU, Pan American Airways, Inc., San Juan, P. R., license, frequencies, 4164 kc., unlimited; 6305, 6320, 8015, 12210 day only; transmitter 200 watts, 1 transmitter 350 watts; also renewal of license; WLXT, Tropical Radio Telegraph Co., Bingham, Mass., license for general experimental station; KGPG, Police Dept. City of Vallejo, Vallejo, Cal., license 2410 kc., 7½ watts; KDG, Press Wireless, Inc., Honolulu, T. H., modification of C. P. to extend completion date to 6/19/31; KGPA, Seattle Police and Fire Dept. Pier #1, with remote control at Police Headquarters at 3rd and Yealer, modification of C. P. to extend completion date to 3/30/31; WML, Mackay Radio & Telegraph Co., Inc., Sayville, N. Y., modification of license for additional points of communication to include Austria; WLXO, General Radio Co., Cambridge, Mass., renewal of license; Boeing Air Transport: KMP, Omaha, Neb., and KQX, Bakersfield, Cal., consent to voluntary assignment of license to Aeronautical Radio, Inc.

Also, Bell Telephone Laboratories: W2XBX, Airplane NC-952-V, license (to use aircraft frequencies) 1608, 2302, 3076, 3106, 4108, 5310, 6511, kc., also 5690 kc. for period Jan. 19 to Feb. 2, 50 watts; W3XR, Manham Twp., N. J., license 1608, 2302, 3076, 4108, 5510, 6155 kc., 278 kc., for 2 weeks beginning Jan. 19th, 400 watts; W2XAA, Portable on truck to be used in N. J., renewal of license for additional frequencies 1604, 2398, 3256, 4795, 6425, 8650, 12850, 17300, 23100, 25700, 26000, 27100, 34600, 41000, 51400, 30,000-400,000, above 401,000, 1 KW; W2XM, Holmdel, N. J., W2XG, Ocean Twp., N. J., and W10XK, Portable on ship principally in North America, licenses renewed.

Set For Hearing

W5X0 Short Wave Broadcast Co., Lee Shaeffer and Chas. Shaeffer, Oklahoma City, Okla., requests C. P. 9500 kc., 100 w., 5 hrs. daytime, 4 hrs. nighttime; The Cleveland Electric Illuminating Co. (Portable) in Ohio, requests C. P. adjustable within band 2850 to 3500 kc., normally on 2900 kc. (also application for 3400 kc.) 0.25 watts, 8 Hrs. daytime and emergency only nighttime; WOA Pan American Airways, Inc., North Beach, N. Y., requests license for point-to-point aeronatic frequencies.

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PATENTS, PATENT SUITS, TRADE-MARKS, DESIGNS

The following patents were granted during the week ending January 20, 1931:

- 1,789,303. Electrical Signaling. Henri Chireix, Paris, France. Filed March 23, 1925, and in France June 17, 1924.
- 1,789,348. Battery Substitute. Ernest V. Amy, New York, N. Y., assignor to Radio Corporation of America. Filed June 29, 1927.
- 1,789,350. Radio Receiving Apparatus. Ettore Bellini, Paris, France, assignor to Societe Francaise Radio Electrique, Paris, France. Filed June 3, 1927, and in France June 4, 1926.
- 1,789,364. Method and Means for Combining and for Eliminating Frequencies. Clarence W. Hansell, Rocky Point, N. Y., assignor to Radio Corporation of America. Filed November 28, 1925.
- 1,789,369. Means for Indicating Changes in Gases. Alexander Meissner, Berlin, Germany, assignor to Gesellschaft fur Drahtlose Telegraphie m.b.H., Berlin, Germany. Filed June 30, 1927, and in Germany August 10, 1926.
- 1,789,371. Signaling by Frequency Modulation. Harold O. Peterson, Riverhead, N. Y., assignor to Radio Corporation of America. Filed July 12, 1927.
- 1,789,416. Neutralized Vacuum-Tube Circuits. Ralph K. Potter, New York, N. Y., assignor to American Telephone and Telegraph Co. Filed November 3, 1927.
- 1,789,419. Radio Receiving System. John Stone Stone, San Diego, Calif., assignor to American Telephone and Telegraph Co. Filed May 7, 1925.
- 1,789,496. Electrical System. George W. Pierce, Cambridge, Mass. Original application filed February 25, 1924. Divided and this application filed January 18, 1928.
- 1,789,521. Television System. Samuel Feingold, Brooklyn, N. Y. Filed April 10, 1928.
- 1,789,554. Electrostatic Sound Reproducer. Colin Kyle, Geneva, Ill., assignor by mesne assignments, to United Reproducers Patents Corporation, St. Charles, Ill. Filed July 11, 1928.

- 1,789,556. Method of Manufacturing Gas-Filled Envelopes. Raymond Robert Machlett, New York, N. Y., assignor to Rainbow Light, Inc. Filed September 16, 1925.
- 1,789,607. Photo-Electric Sound-Transforming Device. John H. Steurer, Rockville Center, N. Y. Filed January 4, 1930.
- 1,789,626. Electrical Discharge Device. William H. Hendry, Ossining, N. Y., assignor, by mesne assignments, to Manhattan Electrical Supply Company, Inc., Jersey City, N. J. Filed May 19, 1927.
- 1,789,664. Electrical Amplifier System. Sidney Y. White, New York, N. Y., assignor to Edward H. Loftin, as trustee. Filed August 8, 1927.
- 1,789,673. Amplifier Coupling. Harold Potter Donle, Meriden, Conn., assignor, by mesne assignments, to Radio Inventions, Inc., Filed March 30, 1926.
- 1,789,686. Light-Chopping Disk. Richard Howland Ranger, Newark, N. J., assignor to Radio Corporation of America. Filed March 22, 1929.
- 1,789,687. Analyzing System for Multiplex Facsimile Transmission. Richard Howland Ranger, Newark, N. J., assignor to Radio Corporation of America. Filed May 3, 1929.
- 1,789,700. Sound Reproducing and Amplifying System. John F. Engle, Lakewood, Ohio. Filed May 10, 1927.
- 1,789,810. Locking Device for Sound Disk Records. Charles W. Ebeling, New York, N. Y., assignor to Phonodisc Corporation, New York, N. Y. Filed April 30, 1929.
- 1,789,912. Tuning Device. Harold A. Snow, Boonton, N. J., assignor to Radio Frequency Laboratories, Inc., Boonton, N. J. Filed October 17, 1924.
- 1,789,949. Electrolytic Cell. Alexander Georgiev, Brooklyn, N. Y., assignor to Aerovox Wireless Corporation. Filed October 18, 1930.
- 1,789,950. Electrical Signal Amplifying and Repeating System. Benjamin F. Miessner, South Orange, N. J., assignor, by mesne assignments, to Radio Corporation of America, New York, N. Y. Filed May 13, 1925.

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- 1,674,603, H. Matzner, Radiodial, filed August 19, 1930, D.C.,
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Inc.
- 1,712,214, L. L. Jones, Tuned radio frequency amplifying system,
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- Ser. No. 305,804. The Crosley Radio Corporation, Cincinnati, Ohio.
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Claims use since March 30, 1930.

Designs

- 83,126. Radio Receiving Apparatus Cabinet. Emil C. Ritter, Rahway,
N. J., assignor to F.A.D. Andrea, Inc., New York, N. Y.
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- 83,139. Casing for a Radio Circuit-Controlling Apparatus. Leonard
D. Whaley, Los Angeles, Calif., assignor, by mesne assign-
ments, to Taylor-Travers Corporation, Ltd., Los Angeles,
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 $3\frac{1}{2}$ years.

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