

HEINL RADIO BUSINESS LETTER

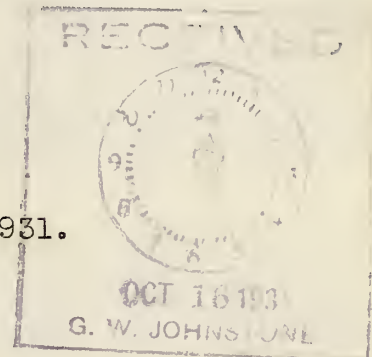
INSURANCE BUILDING

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 :: :: **CONFIDENTIAL—NOT FOR PUBLICATION.** :: ::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. 478

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WOWO PROTESTS HIGH POWER ASSIGNMENTS OF WCAU AND WHAM

A protest against the action of the Federal Radio Commission in granting to Station WCAU permission to broadcast with maximum power of 50,000 watts, tentatively decided in the high power decision of October 1st, has just been filed with the Commission by Station WOWO, operated by the Main Auto Supply Company, of Fort Wayne, Ind., according to information made available at the Commission.

The Fort Wayne station bases its petition on the fact that its broadcast area will be materially reduced by interference if WCAU, at Philadelphia, operates with maximum power. Other stations, too, will be affected, it was said. They are WGBS, NOV, WKJC, WWVA, and WJBI.

The following information was made available:

Besides interference from WCAU, the Indiana station claims that Station WHAM, at Rochester, granted permission to use 25,000 watts, also will interfere and reduce WOWO's broadcast area.

The protest states that simultaneous operation of these three stations will materially injure WOWO, because of insufficient geographical separation between Fort Wayne, and Rochester and Philadelphia. The petitioner's station operates on a frequency between WCAU and WHAM, with but a 10-kilocycle difference.

The recommended separations of the Engineering Division of the Commission state that mileage separation should be greater than that existing between the protesting station and WCAU and WHAM.

Station WOWO, through its attorney, George O. Hutton, requests that the Commission rescind its grants to WHAM and WCAU, and restrict them to their former power.

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LEGAL DIVISION HONORS SPEARMAN

The fifteen members of the Legal Division of the Federal Radio Commission, headed by Col. Thad H. Brown, were hosts at a luncheon yesterday at the National Press Club in honor of Paul D. P. Spearman, who left the Commission recently to join the law firm of Littlepage & Littlepage. Commissioners Sykes, Robinson and Lafount were present.

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COLUMBIA PROGRAMS ON WGN

Negotiations have been completed whereby WGN, the Chicago Tribune radio station, will serve as an added outlet in Chicago for programs of the Columbia Broadcasting System.

While the Tribune will continue to own and operate the station, a number of hours each week have been allotted to the network on a long-term contract, effective November 1st. Other Columbia programs will be carried in Chicago by Station WBBM.

WGN operates with 25,000 watts on a 720 kilocycle band. The station maintains a staff of close to 150 employees, comprising program directors, composers, writers, musicians, announcers, actors and operators.

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GRIGSBY DECLARES FOREIGN SALES OUTLOOK GOOD

The following statement has been received from M. W. Thompson, of the Grigsby-Grunow Company:

B. J. Grigsby, President of the Grigsby-Grunow Company, has just returned to his office from Europe, greatly improved in health. He spent most of his time while away at Aix-Les-Bains in Southern France, where he took the baths.

Mr. Grigsby, who lived eight years in England, and who has made many trips across in recent years, and who is a close student of business conditions abroad, made the following observations:

"Europe, especially Western Europe, has suddenly become 'radio conscious'", said Mr. Grigsby, "and the season now opening bids fair to being a 'boom' comparable on a smaller scale to sales in this country in 1928-29.

"Better broadcasting stations, better programs, and the new-found knowledge by the public that quality reproduction is possible if the 'home-made' set is shelved and properly engineered and manufactured sets obtained are the reasons.

"Patent restrictions have retarded progress. A complete monopoly is rested in the so-called 'radio pool', which is largely controlled by the same interests as the so-called 'Radio Trust', in this country, but absence of anti-monopoly statutes gives them better control through higher royalties and better restrictions than here. British independent manufacturers are already beginning to chafe at the yoke."

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NEW YORK THEATRE TO DEMONSTRATE TELEVISION

Television will be called into play next week to link two New York theatres, and a few days later it will become a regular feature on the variety bill of the B. S. Moss Broadway Theatre at Fifty-third Street, New York City, according to an announcement in the New York Times.

Next Wednesday morning, bits of productions by Theatre Guild players, presented before the television "eye" of apparatus installed for the purpose in the Theatre Guild on West Fifty-Second Street, will be intercepted as ten-foot-square television images on the Moss Theatre stage for a group of invited guests. Special wire lines will convey the images from one theatre to the other. The apparatus used will be that developed by Ulysses Sanabria, Chicago television inventor, who demonstrated his apparatus before thousands in Madison Square Garden during the Radio Show.

On October 24th, the entire television apparatus, including sending and receiving equipment, will be in operation during each variety program at the Moss theatre. The television transmitting booth will be wheeled out on the stage. Suspended above the stage will be the ten-foot translucent screen on which the images will be shown. Thus, the actors will be seen by the audience both as microphone and television eye pick up their voices and images, and as they appear on the television screen suspended above. Loud-speakers will reproduce the voices.

"As soon as I had seen television on a large screen, I was convinced that the time had arrived to make an important theatrical experiment", said Mr. Moss. "I believe television in the next few years will reach a stage of unusual perfection, that it will be developed basically with an eye to its theatrical possibilities, and that the theatre should begin to think as to how its future is to be linked with television. Probably we shall see more living actors in the future, televised actors. Thus the theatre will appeal to many millions and will have larger scope than ever. I believe that in the future we will have as many television theatres as there are now motion picture houses."

Mr. Moss said he had signed a contract with Mr. Sanabria for the exhibition and that the inventor would superintend operation of the equipment. Morris Gest, the producer, who was one of the speakers at the Broadway Theatre when the television plans were revealed, declared belief in the future of television by saying he planned to present "The Miracle" or some other production by television from a central point in the country as soon as found feasible.

Television at present is limited to close-up views of faces of those who stand before the television eye to be projected on the screen. The stage views will be of this type.

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COMMISSION MAY DESIGNATE HIGH FREQUENCIES FOR TELEVISION

The Federal Radio Commission may decide shortly upon setting aside a definite part of the radio spectrum for visual broadcasting purposes. This problem which has bothered the scientists and engineers since the advent of television may be disposed of within the next six months.

"Although it is not possible to say definitely what position television stations will occupy", said Gerald C. Gross, engineer of the Federal Radio Commission, "experiments now being conducted indicate that visual broadcasting probably will be established in the high frequency bands between 43,000 and 80,000 kilocycles."

At present there are about 20 television experimental stations operating throughout the country, Mr. Gross explained.

Most of these stations are experimenting on both high frequencies and those just above the present broadcasting band. Results of experiments now being conducted, and of those conducted in the past, indicate a definite trend toward the higher frequencies.

There are four bands, each of 100 kilocycles, just above the frequencies allocated to broadcasting. These are 2000 to 2100, 2100 to 2200, 2750 to 2850 and 2850 to 2950 kilocycles. It is obvious that these few narrow bands could not accommodate all television stations should the visual broadcast industry assume anywhere near the proportions of the present broadcasting organization.

On the other hand, in the higher frequencies, there are sufficient channels to accommodate enough stations to serve the public if television should become practical. Three high frequency bands are being used for experimental purposes. They are 43000 to 46000, 48500 to 50300 and 60000 to 80000 kilocycles.

Although experiments have not definitely determined advantages and disadvantages of visual broadcasting in the low and higher bands, results indicate that the double-image effect and fading are less noticeable in the higher than in the low frequencies. If further experiments substantiate this theory, it is almost certain that television will be assigned to the higher channels, especially in view of the already crowded condition of lower bands.

There may be some possibility of using the ultra-high frequencies in the millions of kilocycles, but experiments in this field are so elementary that nothing more may be said about it.

The experiments of about 20 television stations in all parts of the country are doing much to dispel the mystery of the so-called "great unknown field" of radio, above 28000 kilocycles. Further experiments will increase knowledge of this field, with a possibility, not so far in the future, of having the great unknown field include for the most part frequencies in megacycles.

In addition to the stations already experimenting with television, the Commission is receiving more and more applications to construct experimental stations for visual broadcasts. Since Sept. 1st the Commission has received 11 such applications. One, just received, requests permission to construct an experimental station for television, operating on a frequency of 43.5 megacycles, or 43,500,000 kilocycles. If the application is granted, the station, which will be operated by the Journal Company, at Milwaukee, Wis., will be one of the few transmitters experimenting on ultra-high frequencies. The other 10 applications request permission to operate television stations on frequencies included in the low or higher bands explained above.

Should experiments definitely determine where visual broadcasting will be placed, a problem long before radio scientists will be solved. It will be an outstanding step in the progress of television.

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CHICAGO RMA TRADE SHOW ADVANCED TO MAY

Chicago next May will again be host to the "largest industrial gathering of the United States", the Seventh Annual Convention and Trade Show of the Radio Manufacturers' Association, which attracted over 22,000 persons last June, according to announcement by B. G. Erskine, of Emporium, Pa., Chairman of the Show Committee of the RMA. The RMA Show Committee met in New York this week and decided unanimously upon Chicago and the week of May 23rd for the 1932 industry events.

The RMA events for 1932 were advanced to May for several reasons. With the National Republican and Democratic Conventions being scheduled in June and the national election campaign, expected to stimulate radio sales, in full swing, it was believed by the RMA Show Committee that the earlier week of May 23rd would give manufacturers, jobbers and retailers more opportunities to sell radio and also shorten the period before the trade show in which trade has sometimes been reduced.

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U. S. CONTINUING R. C. A. SUIT NEGOTIATIONS

The Government is said to be continuing negotiations seeking a satisfactory settlement of its anti-trust suit against the Radio Corporation of America and affiliated companies.

No final settlement has been reached but Attorney General Mitchell said that this does not mean efforts to reach an agreement out of court had failed.

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: BUSINESS LETTER BRIEFS :
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The Federal Radio Commission has granted WOL, operated by the American Broadcasting Company, Washington, D. C., permission to intervene in the "booster station" application by Columbia on Monday, October 19th.

Mr. Edison's greatest contribution is surprisingly little known to the public, according to O. H. Caldwell, former Federal Radio Commissioner. "It was his discovery in 1883 of the 'Edison Effect', or flow of electrons from the hot filaments of his early lamps, which discovery, after lying idle for twenty years, finally was utilized and made possible the modern electronic tube which, in its myriad forms, underlies radio, broadcasting, long-distance telephony, sound-pictures, television, rectification, the electric eye, the X-Ray, high-frequency surgery, electronic musical instruments and a host of other modern devices. Undoubtedly posterity will rank this discovery of the feeble electron flow of the 'Edison Effect' as the most epochal in all the Wizard's eventful career."

Station WHAM, operated by the Stromberg-Carlson Telephone Manufacturing Co., at Rochester, N. Y., has filed a motion that the Commission strike from its files as immaterial, insufficient and without warrant of law, the notice of protest and petition to rescind, filed by Station WOWO, Fort Wayne, Ind., in opposition to the granting of the application of WHAM for increase in the power of its transmitter.

The appointment of William W. Behrman, of Evansville, Ind., as manager of Station WBOW, Terre Haute, has been announced. Behrman, who formerly managed WGBF, Evansville, will assume his new duties the latter part of the month.

Noel C. Ruddell, former manager of WBOW, will become affiliated with WJMS, Ironwood, Michigan. Mr. Ruddell is part owner of the Michigan station.

The General Electric Company has announced that its net profit available for dividends on the common stock during the first nine months of this year was \$30,753,850, equivalent to \$1.07 a share on 28,845,927 shares outstanding. This compares with a net profit of \$42,518,708, or \$1.47 a share in the corresponding period of last year. The quarterly dividend on the stock is 40 cents a

share. The net profit in the third quarter was equivalent to 32 cents a share, compared with 37 cents in the second quarter and 45 cents in the third quarter of last year.

Orders received by the company in the first nine months of this year amounted to \$202,700,016, compared with \$267,651,832 for the corresponding period of last year, Gerard Swope, President of the company, announced. Sales billed for the nine months of this year totaled \$206,138,967, compared with \$287,886,541 for the corresponding period of last year.

The Director of the Census announced the results of the radio count in Texas to show that 257,686 families report receiving sets, or 18.6 per cent. The number of families reported was 1,383,280.

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APPLICATIONS RECEIVED BY FEDERAL RADIO COMMISSION

October 13 - WPCH, Eastern Broadcasters, Inc., New York, N. Y., modification of license to change frequency from 810 kc. to 570 kc., and hours of operation from daytime to sharing with WMCA (facilities of WNYC); WELL, Enquirer-News Company, Battle Creek, Mich., C. P. to move station locally, install new equipment and increase power from 50 watts to 100 watts; WFBG, The William F. Gable Co., Altoona, Pa., C. P. to install new transmitter; Henzia Ortman, Batesville, Ark., C. P. to erect a new station to use 1500 kc., 10 watts, daytime.

Also, KMLB, J. C. Liner, Monroe, La., voluntary assignment of license to Liner's Broadcasting Station, Inc.; KGJF, Arkansas Radio & Equipment Co., Little Rock, Ark., involuntary assignment of license from First Church of The Nazarene to Arkansas Radio & Equipment Co.; KOY, Nielsen Radio & Sporting Goods Co., Phoenix, Arizona, modification of license amended to request facilities of KOB; John Brownlee Spriggs, Pittsburg, Pa., C. P. to erect a new station to use 300 kc., 5 kilowatts, daytime.

The following applications were returned to the applicants:

Louis Reis, New York, N. Y., C. P. for station to use 660 kc., 5 KW, unlimited (applicant did not reply to Commission's letters); WTAG, Worcester Telegram Publishing Co., Inc., Worcester, Mass., increase power (no reply to Commission's letters); WNYC, City of New York, Dept. of Plant and Structures, New York, N. Y., increase power (no reply to Commission's letters); WBEN, Edward H. Butler, etc., trading as Buffalo Evening News, Buffalo, N. Y., C. P. for changes in equipment (G. O. 111); WNBO, John Brownlee Spriggs, Silver Haven, Pa., automatic frequency control (did not reply to Commission's letters).

Also, KDKA, Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa., for new equipment (not necessary); Frank Leon Treadway, Sulphur Springs, Ark., new station, 1420 kc. (no reply to Commission's letters); H. J. Porter & Sam A. Fenberg, d/b as Pampa Broadcasting Co., Pampa, Texas, new station, 1310 kc., (did not reply to Commission's letters); Will Dorbradt, Athens, Texas, new station, 1420 kc., (did not reply to Commission's letters); WSOC, WSOC, Inc., Gastonia, N.C., move transmitter (did not reply to Commission's letters); WSMB, Saenger Theatres, Inc., and Maison Blanche Co., New Orleans, La., increase power (did not reply to Commission's letters); W. E. Hiler, Lake Charles, La., new station, 1370 kc. (did not reply to Commission's letters); Lynn Dickerson & C. A. Nietert, d/b as The Edison Shop, Brownsville, Texas, new station, 1420 kc. (did not reply to Commission's letters).

Also, KLCN, Charles Leo Lintzenich, Blytheville, Ark., increase power (did not reply to Commission's letters); KGDA, Mitchell Broadcasting Corp., Mitchell, S. Dakota, change equipment (did not reply to Commission's letters); Louis F. Kuester, West Bend, Wis., new station, 1310 kc., (did not reply to Commission's letters); Jenny Wrenn Company, Hutchinson, Kans., new station, 1220 kc., (did not reply to Commission's letters); The Call Publishing Co., Racine, Wisc., new station, 1310 kc. (did not reply to Commission's letters); KGCR, The Greater Kampeska Radio Corp., Watertown, S. D., move station locally (did not reply to Commission's letters);

Applications Other Than Broadcasting

October 13 - General Electric Co., South Schenectady, N. Y., license for use of relay broadcasting service on 21500 kc., 25 KW; The Journal Company, Milwaukee, Wis., Portable, new C. P. for 43.5 megacycles, 75 watts, visual broadcasting service; WPEA, Syracuse Police Department, Syracuse, New York, modification of C. P. for change in location, change in frequency to 2458 kc., and extension of completion date to 12/8/31; Examiner Printing Co., NC-11118, renewal of license for 3106 kc., 50 watts, aircraft service; WRDT, City of Cleveland, Dept. of Airport, Cleveland, Ohio, renewal of license for 278 kc., 10 watts, aeronautical service.

Also, Aeronautical Radio, Inc.: at Dallas, Texas, new C.P. for 278 kc., 15 watts, aeronautical service; WUCG, Chicago, Ill., license covering C. P. for 3160, 3166, 3172, 3178, 3182.5, 5570, 5660 kc., 400 watts, aeronautical service; at Oakland, Calif., new C. P. for 278 kc., 15 watts, aeronautical service; WOE, Radiomarine Corp. of America, Palm Beach, Fla., modification of C. P. for extension of completion date to 12/12/31; W3XX, United States Daily Publishing Co., Washington, D. C., modification of C. P. for extension of completion date to 12/30/31.

DECISIONS OF THE FEDERAL RADIO COMMISSION

The Commission on October 13th took the following action:

Applications Granted

WBEN, Buffalo Evening News, Buffalo, N. Y., consent to voluntary assignment of license to WBEN, Inc.; KFWB, Warner Bros. Broadcasting Corp., Hollywood, Cal., authority for direct measurement of antenna input; KGIX, J. M. Heaton, Las Vegas, Nevada, authority to remain off the air until November 1st to finish work on transmitter and make tests; WAA, Radiomarine Corp. of America, Detour, Mich., permission for station which has been closed since Fall of 1930, to continue out of service during remainder of 1931 season of navigation; WASH, WASH Broadcasting Corp., Grand Rapids, Mich., authority to operate with 400 watts output for 3 days from October 9th.

Also, National Broadcasting Co., Inc.: W2XCZ, W10XAO, W10XAL, New York City, authority to use stations as follows: W2XCZ on Airplane American Clipper; W10XAO on ground, Anacostia Naval Airport, W10XAL, at Marlborough Road, Woodbridge, N. J., October 9th to 14th inclusive; WKDL, Pan American Airways, Inc., Miami, Fla., special permission for another 30 days from October 10th, to operate WKDL for purpose of handling emergency messages with understanding that the handling of press and routine messages shall not cause interference to service of other stations.

Miscellaneous

KFJY, C. S. Tunwall, Riverdale (suburb of Ft. Dodge), Iowa, The Commission directed the Secretary in accordance with G. O. 114, Sec. 2, to request this licensee to file application for renewal of license through the office of the Supervisor of Radio, on or before October 28, 1931; KWCR of Cedar Rapids has applied for KFJY's facilities.

Application Denied

KTHS, Hot Springs Chamber of Commerce, Hot Springs National Park, Ark., denied special authorization to change frequency from 1040 to 970 kc., only on Saturday afternoons during football season, Thanksgiving afternoon before 6 P.M., and for the Atwater Kent audition October 31st 1 to 4 P.M.

Set For Hearing

W. H. Allen, Eugene Levy & S. B. Pearce, d/b as W. H. Allen Co., Alexandria, La., requests C. P. for new station, 1210 kc., 50 watts, daytime operation; KRMD, Robert M. Dean, Shreveport, La., requests C. P. to make changes in equipment increasing maximum rated power of equipment from 75 to 100 watts, and operating power from 50 to 100 watts, also requests modification of license to increase hours of operation from sharing with KTSL to part time without division.

KFWF, St. Louis Truth Center, St. Louis, Mo., motion of Station WIL, Mo. Broadcasting Co., St. Louis, overruled, in which they protested the granting of C. P. to KFWF to remove their transmitter within the city of St. Louis.

WOL, American Broadcasting Co., Washington, D. C., ^{granted}/per-mission to intervene in the hearing of the Columbia Broadcasting System for a booster station in Washington, to be held on October 19th;

KGJF, First Church of the Nazarene, Little Rock, Ark., granted temporary license subject to Commission's decision as a result of an investigation now being conducted with respect to the station, its equipment and operation.

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PATENTS AND TRADE-MARKS

The following patents were granted during the week ending October 13, 1931:

- 1,826,715. Cleaning Device For Radio Tuning Dials. Harold C. Baker and Oscar A. Ross, New York, N. Y. Filed August 7, 1930.
- 1,826,727. Radio Apparatus. Chancy J. Britten, Charlotte, Mich., assignor to Britten Light & Power Company, Lansing, Mich. Filed April 30, 1928.
- 1,826,743. Apparatus For Energizing An Audion Circuit. George B. Crouse, Woodcliff, N. J., assignor to Conner Crouse Corp., New York, N. Y. Filed January 19, 1928.
- 1,826,751. Radio Loud Speaker. Charles Hugh Duffy, Miami, Fla. Filed October 8, 1930.
- 1,826,754. Method Of And Apparatus For Making Photo-Phonographic Records. Frzna Ehrenhaft, Berlin-Lichtenberg, Germany. Filed October 1, 1928, and in Germany October 1, 1927.
- 1,826,766. Interlocking System For High Frequency Transmitters. Louis A. Beghard, Washington, D. C., assignor to Wired Radio, Inc., New York, N. Y. Filed December 23, 1929.
- 1,826,786. Method And Apparatus For Reproducing Sound In Connection With Pictures. Philip S. Hopkins, Binghamton, N. Y., assignor, by mesne assignments, to Agfa Ansco Corporation. Filed August 10, 1927.
- 1,826,812. Electrooptical Transmission. Harry Nyquist, Millburn, N. J., assignor to American Telephone and Telegraph Co. Filed May 26, 1927.
- 1,826,836. Television Scanning Device. Michael Stacho, Cleveland, Ohio. Filed May 1, 1930.
- 1,826,845. Remote Control Radio Receiving System. Arthur M. Trogner, East Orange, N. J., assignor to Wired Radio, Inc., New York, N. Y. Filed March 26, 1929.
- 1,826,924. Photographic Sound Recording Means. Avery B. Chereton, Chicago, and William L. Cummings, Berwyn, Ill., assignors to The Vitaglo Corporation. Filed April 26, 1930.
- 1,826,970. Television And Telephoto Device. Jack L. Walker, Dallas, Texas. Filed November 9, 1928.
- 1,826,993. Mercury Switch. Paul K. Cramblet, Milwaukee, Wis., assignor, by mesne assignments, to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Filed November 24, 1928.

- 1,827,051. Recording And Reproducing System And Apparatus. Adolph A. Thomas, New York, N. Y. Filed March 8, 1928.
- 1,827,054. Communication By Electromagnetic Waves. Georg von Arco, Berlin, Germany, assignor to Gesellschaft fur Drahtlose Telegraphie m.b.H., Berlin, Germany. Filed October 18, 1926, and in Germany October 20, 1925.
- 1,827,089. Controlling And Indicating Device For Radio Sets. Ralph H. Langley and Julius K. Drexelius, Cincinnati, Ohio, assignors to The Crosley Radio Corporation, Cincinnati, Ohio. Filed July 11, 1930.
- 1,827,098. Supervisory System. Martin L. Nelson, Park Ridge, Ill., assignor to Reserve Holding Company, Kansas City, Mo. Filed October 18, 1928.
- 1,827,114. Acoustic Device. Vesper A. Schlenker, Rochester, N. Y. Filed September 20, 1928.
- 1,827,172. Metal Vapor Rectifier. Oskar Seitz, Baden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri and Cie, Baden, Switzerland. Filed June 27, 1928, and in Germany June 30, 1927.
- 1,827,196. Piezo Electric Oscillator. Raymond A. Heising, Millburn, N. J., assignor to Bell Telephone Laboratories, Inc., New York, N. Y. Filed May 1, 1929.
- 1,827,211. Electrode Structure. Alfred Henry Staiger, New York, N.Y. Filed October 25, 1929.
- 1,827,229. Capsule of Microphones. Josef Greiner, Vienna, Austria, assignor to G.A. Ungar and Eric Benjamin, New York, N.Y. Filed November 27, 1929, and in Austria, Nov. 29, 1928.
- 1,827,283. Sound Reproducer. Lee de Forest, New York, N. Y., assignor to General Talking Pictures Corporation, by mesne assignments. Filed January 29, 1927.
- 1,827,332. Radio Circuits. Wladimir J. Polydoroff, Chicago, Ill., assignor to Johnson Laboratories, Inc., Chicago, Ill. Filed July 6, 1926.
- 1,827,519. Apparatus For Radio Recording And Reproduction. Edmund H. Hansen, New York, N. Y. Filed June 14, 1928.
- 1,827,520. Recording And Control System and Apparatus Therefor. Thomas Randolph Harrison, Wyncote, Pa., assignor to The Brown Instrument Co., Philadelphia, Pa. Filed Nov. 1, 1926.
- 1,827,590. Course Finding System For Aircraft. Halsey W. Kline, Schenectady, N. Y., assignor to General Electric Company. Filed November 21, 1930.

Trade-Mark Registrations Not Subject To Opposition

- 287,902. The Aerofonic Company, Los Angeles, Calif. Filed June 9, 1928. "AEROFONIC" for Loud Speakers for Radio Receiving Sets. Claims use since February 15, 1928.
- 287,903. Victor Talking Machine Company, Camden, N. J., Filed September 4, 1928. "PICT-UR-MUSIC" for Talking Machine Records. Claims use since June 6, 1928.

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