

DRIVERLESS AUTO, STEERED BY RADIO, TO TOUR SEATTLE

"Phantom Car" Will Be One of Features of Pacific Northwest's Show Opening Here on Sept. 8.

VISIONS of Jules Verne are to be viewed in actuality in Seattle during the first Radio Exposition which opens in the Masonic Temple for four days, beginning September 8, when the "Phantom Car," an automobile controlled entirely through radio transmission, will appear. The phantom car is to be Chrysler driven from the foot of the city, and will be operated in the city streets without a driver or any direct human control.

An automobile will be made to operate through ordinary traffic by means of control equipment contained in another vehicle, following in its wake. Radio principles are utilized throughout. In fact, the control car is essentially a broadcasting station in miniature and the phantom car is the receiving station. When a switch is turned in the control car, a series of relays is actuated, radio waves flash forth into ether to be picked up by the phantom car, where the signals are actually another set of relays that cause the car to stop, move forward, turn to the left or right, slow down, or accelerate in fact, to execute any motion of a human driver.

A \$1,000 reward. As proof of the authenticity of its demonstration, the management of the phantom car is offering a reward of \$1,000 to the person or persons who can furnish proof that a driver is concealed in the car. In the Seattle demonstration, which by the way is the first in the Pacific Northwest, the operators will conduct a series of lectures showing just how the control is accomplished. In reality, it is a simple feat, one the entire secret of which is the simple laws of radio, electricity and physics.

Control of Volume Essential in Radio

Volume control has come to be an essential feature of the modern radio receiving set, according to J. R. Loebow, professor of physics of the University of Cincinnati, who is well known as a technical writer on radio.

The method of detuning or turning the tuning controls so that they are not adjusted exactly for the particular station being received, which was used by fans of an earlier day when broadcasting stations were few and far between, is no longer practical, he said. This was ascribed to the fact that there are now so many stations broadcasting at neighboring frequencies that in the process of detuning other stations almost invariably are picked up. Mr. Loebow stated that in his opinion the volume control is best accomplished by regulating the "A" current supply in all of the radio frequency tubes, citing the new "C" converter as an excellent example. In this set volume control is provided by means of a filament rheostat in series with the filament circuit of the first three tubes. In some sets volume is controlled by regulating the "A" current supply to but one of the radio frequency tubes, but a greater range of volume control is obtained when all of the radio frequency tubes are controlled, he asserted.

Fraud Over Radio Is Laid to Brokers

In Paris recently four financiers—two Russians, a Hollander and a German—were arrested for having installed a secret radio broadcasting station and station the speculation of confederates in their own countries by broadcasting, many times a day, the Bourse quotations, especially exchange rates, from July to December.

It was stated that the broadcast quotations were concealed by the use of additional figures. Though the amount of the profits is unknown, the men were sentenced to pay small fines on a charge of infringing the law of the state monopoly of telegraph, telephon and the law regulating broadcasting.

Girl Plays for Her Parents Miles Away

Before forty minutes had elapsed after Nellie Callender, 15-year-old violinist, received a wire from her parents in Minneapolis requesting two of their favorite musical selections, she had arranged with KFI to get on a program, rushed to the KFI studio, played the numbers, returned to her home and received another wire from them in appreciation.

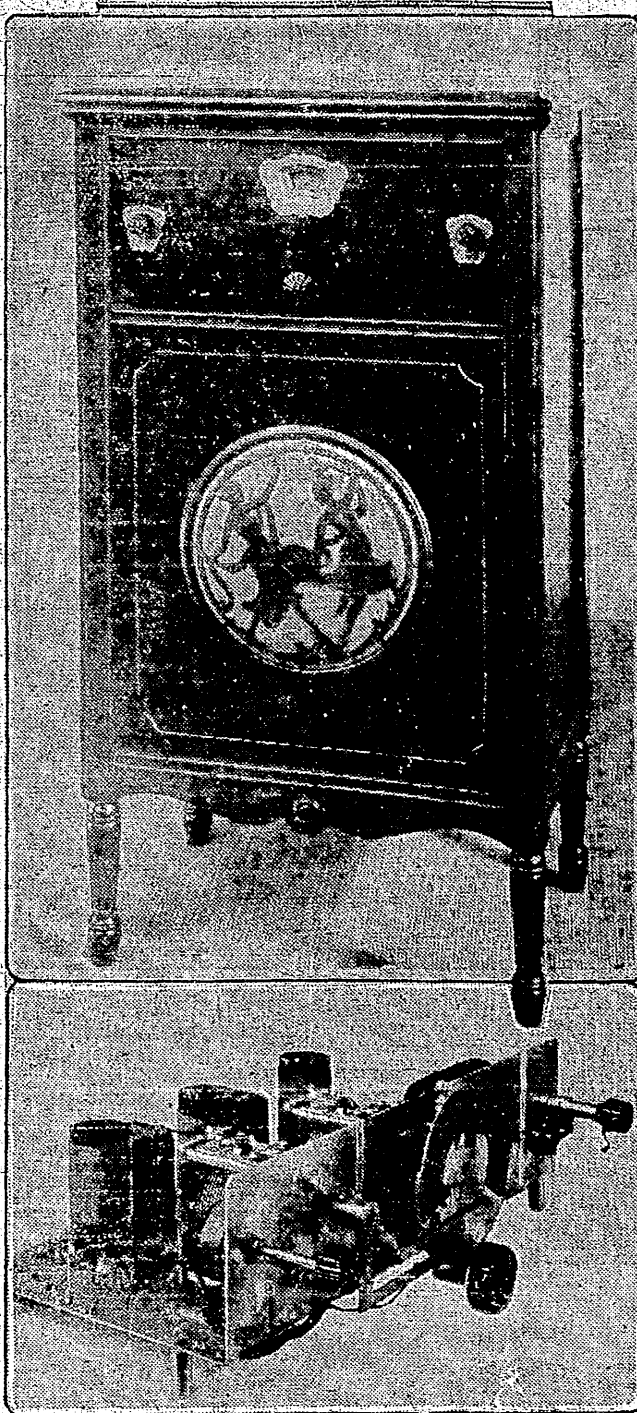
How to Determine Polarity of Battery

To determine the polarity of storage batteries or the plus and minus leads of any direct current main, prepare a solution of ordinary salt mixed with water in a small glass tumbler. Then place the two leads of the battery or the electric main in the solution. From one wire a profusion of bubbles will arise, and although both wires will cause a certain amount of gas, the one that sends off the most will be the negative lead.

Location For Fuse

When installing fuses in a receiving set, especially in the "A" battery circuits, place them as close to the terminals as possible, so that the current will have to flow through them whether the battery is on charge or operating the set. The fuses should be not greater than 10 amperes capacity, and either automobile or electric light type of

NEW "MATCHED UNIT" MODEL

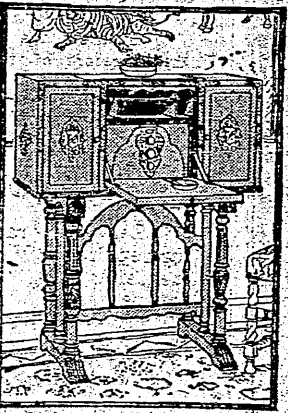
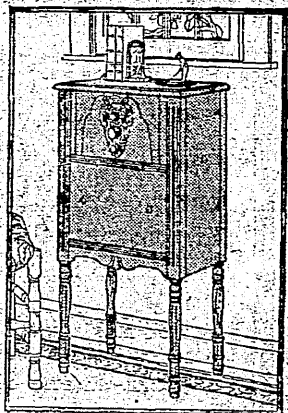


Stewart-Warner Highboy. Above: The new Stewart-Warner Highboy is distinguished by the graceful design of the built-in cone speaker. Below: The six-tube single dial chassis used in the Highboy.

mountings and fuses may be used. The porcelain-socket may be fastened to the wooden case with ordinary wood screws, as there are holes provided in it for this purpose.

Be very careful, however, that the screws are not long enough to go completely through the wood to damage the rubber cells of the battery.

Mohawk One Dial Radio



PAWNEE CONSOLE
Rich walnut, hand-rubbed, piano finish, duo-tone, with apron maple spindle-carved, four turned legs, battery compartment with front removable panel but without speaker compartment or speaker, with set compartment accommodating Mohawk interchangeable battery or electric drawer unit. Dimensions: 38 1/2 x 19 1/2 x 18 1/2 inches. Battery operated, less accessories. List—

\$97.50

Electric operated, complete with accessories \$110.00 additional.

SEMINOLE SPANISH VARGUENO CONSOLE

A superbly unusual Mohawk Creation. Complete in every detail of design, originality and construction. Dimensions: 45 1/2 x 36 x 20 inches. List—

\$290

With A. C. Electrical Equipment, \$110 extra.

RADIO IS ASKED TO FIND WIFE FOR LONELY BACHELOR

RADIO has been recruited to the service of almost everything under the sun. The latest task it has been asked to perform is to help a man find a wife.

The request came to Station KQAD, Denver, Colo. It had to be turned down, which might be thought heartless considering that the man was "40 years old and still a bachelor."

This man would have made somebody a good husband, too, for he wrote, "I am, and I am proud of it, that I am a staunch teetotaler."

HARMONICS PROVING AID IN BROADCASTING

Expert Tells How Various Musical Instruments Can Be Told Apart.

Were it not for harmonics, which are present whenever a musical note is sounded, it would not be possible for the ear to distinguish one instrument from another. In broadcast reception, and likewise transmission, inadequate or faulty amplification of these harmonics can be the cause of extremely poor tone quality at the loud speaker. Discussing this topic in a comprehensive article in The Radio Broadcast Magazine, Edgar Felix writes as follows:

"The lowest tone of a giant organ actually goes down to sixteen impulses per second. No commercial reproducing instrument goes so far down in frequency. In fact, only a few radio receivers respond to less than 100 cycles frequency, while most of them confine their attention only to frequencies higher than 100. Yet even these latter receivers reproduce a sound when the organ is broadcasting its lowest tone. That sound is due to the harmonics, or overtones, which are released as double, triple and higher multiples of the fundamental frequency."

"The individual characteristics of different instruments, which enable a hearer to distinguish one from the other, even when sounding the same pitch, are embodied in these harmonics. When three instruments, for example, sound the same tone, not only is the fundamental alike in frequency, but so also are the harmonics. It is the proportion of the fundamental frequency to the frequency of about 500. If the reproducer cut off at 500, you could recognize the highest pitch, but you could not distinguish what kind of an instrument was being broadcast. In the case mentioned, the French horn's individuality lies in the proportion of energy distributed among the fundamental frequency and higher harmonics. In a good reproducer the French horn is distinguished by the clarinet, for example, because the latter ranges the energy among the harmonics in a different way."

RECEPTION IS BEST IN HISTORY OF RADIO

Even Greater Improvement Predicted by W.M. Hansen of Stewart-Warner.



W. M. HANSEN.

"THE present radio season promises to be the best from a reception standpoint of any year since the development of radio." This prediction was made by W. M. Hansen, Stewart-Warner radio distributor of Seattle, and based on information compiled by his assistants in his own testing laboratory and from reports received by him from the branches of the Stewart-Warner Speedometer Corporation, located in more than sixty-five points throughout the United States.

"I am basing my prediction on the results that have already become apparent," said Mr. Hansen. "From our own testing with the new Stewart-Warner receivers, we have observed unusual clarity of reception. I have been surprised at the absence of static, except on occasional nights. Distant stations have been coming through so well that we have had little trouble in tuning them in through the local. Possibly the new allotment of wave lengths recently made by the Federal Radio Commission has had much to do with the clearing up of the interference problem."

"We have also received reports to confirm our own information from the sixty-five Stewart-Warner distributors who are scattered all over the United States. They report that they have been able to receive distant stations with a minimum of interference or, at least, with only such interference as can be attributed to natural conditions."

BURNING AIRPLANE WILL THRILL WITH FALL FROM SKIES

"OH, MAMMA, LOOK!" little Willie will say this week when he sees an airplane actually burning and falling from the skies. But little Willie will be disappointed, because the plane will be driven by Jack Clemence, Pacific Coast's famous stunt flyer and dare-devil pilot. Clemence brought his Great White Bird to Seattle to thrill thousands of radio fans who are here to attend the radio exposition.

The Great White Bird, with the aid of a patented red flare, is able to show exactly how it looks to see a plane burn, and fall through the skies, and he will perform each evening during the show, it was said.

AMERICA OWES MUCH TO EUROPE MASTERS

Italy Takes Lead and Britain Follows in Furnishing Classical Music for Radio.

WITH the turning of the century mark in the series of Sunday night radio concerts, Walter Damrosch, famed conductor and composer, has taken occasion to remind America's listening public that the broadcasting of classical music to increasing millions has proportionately increased the obligation to European masters.

World famous opera and concert artists in presenting their concerts over the network of nineteen stations have naturally drawn heavily on the masterpieces of European composers.

Italy Leads in Music. The sons and daughters of Italy have helped greatly the cultural development of our country," declared Mr. Damrosch. "What should our opera houses have done without Italy's singers, conductors and composers?"

"The masters of Germany, the musical mother of our people, were the first to sow the seed and cultivate the ground from which we now garner so rich a musical harvest."

"Great Britain's golden age of music, which began in the time of Queen Elizabeth and which flowered in the creation of the most exquisite unaccompanied madrigals, as well as chamber music, and which after that lay dormant for centuries, is now returning again in the works

THE NEW

Stewart-Warner Matched-Unit Radio

INSTRUMENTS TUBES REPRODUCERS ACCESSORIES

Will be One of the Outstanding Features at the Radio Show



Six tube, single dial, shielded and unshielded models will be on display.

All out-of-town dealers are invited to make our office their headquarters. We're "just around the corner" on Broadway.

Stewart-Warner Products Service Station
Seattle and Tacoma

Distributors:

Stewart-Warner Radio—Ray-O-Vac Batteries
Majestic "B" Power—Cunningham Tubes
Stewart A-B Power Units—Kodak Products

of Elgar, Vaughn Williams, Gustav Holst, and many others.

British Names Quoted.

"British names and works are well known in this country, and they have contributed largely to the cultural union of the great English speaking peoples."

"And France! In her music the finest of aesthetic qualities and loftiest conception of the proper form of symmetry in art find high expression. From Rameau and Lully down to Debussy and Ravel, what an unbroken and perfect line of beauty. Their music has always

found peculiarly sympathetic reception in our country."

Radio Clock Now Is Being Used in East

The heaviest bell ever cast in England, and the largest in America, eighteen tones, is on the roof of the Wanamaker store in Philadelphia. The bell announces standard time once a day from a radio clock.

STEWART-WARNER MATCHED-UNIT RADIO

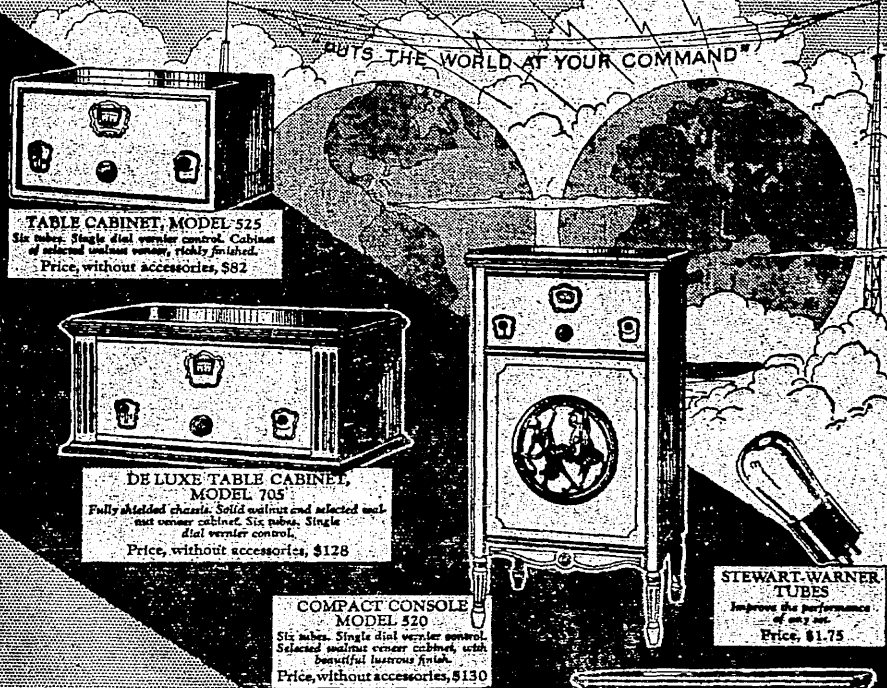


TABLE CABINET, MODEL 525
Six tubes, single dial, volume control. Cabinet of selected mahogany veneer. Price, without accessories, \$92.

DE LUXE TABLE CABINET, MODEL 705
Fully shielded chassis. Solid mahogany and selected mahogany veneer. Six tubes, single dial, volume control. Price, without accessories, \$128.

COMBACT CONSOLE, MODEL 520
Six tubes, single dial, volume control. Selected mahogany and selected mahogany veneer. Price, without accessories, \$130.

STEWART-WARNER TUBES
Improves performance of any set. Price, \$1.75.

DE LUXE CONSOLE, MODEL 710
Especially designed of solid mahogany, and especially selected mahogany veneer. Six tubes, single dial, volume control. Price, without accessories, \$263.50.

STEWART-WARNER SPEEDOMETER CORN
CHICAGO, U.S.A.

STEWART-WARNER REPRODUCER, MODEL 425
Dimensions 11 1/2 inches. Absolutely perfect. Price, \$25.

STEWART-WARNER REPRODUCER, MODEL 420
Dimensions 11 1/2 inches. Absolutely perfect. Price, \$18.25.

TABLE CABINET, MODEL 300
For those who prefer direct control. Single dial, volume control. Price, without accessories, \$52.50.

NEW MODELS!

THESE new Stewart-Warner Models incorporate the very latest developments known to the radio industry! Tone quality, starting in its reality! Knife-like selectivity! Super-sensitivity to distant stations! Volume in excess of your demands! Here are these long desired qualities incorporated within cabinets of supreme beauty—all as you would expect, bearing the name "Stewart-Warner." Today, more than 16 million users have found that "Stewart-Warner" is the brand to demand, when buying mechanical and electrical products. See—hear—and be convinced that the new Stewart-Warner Matched-Unit Radio is all you have been waiting for. On display, now, in our Blue Ribbon Dealers show rooms.

Now check these Mohawk features: 1—The first and the foremost One-Dial, shielded, 6 tubes. 2—The exclusive Mohawk Interchangeable Drawer, an insurmountable barrier to competition. 3—Consoles that must be seen for adequate appreciation. 4—A. C. electrically operated sets. 5—The Mohawk Dealer Franchise—unprecedented in its broad terms. 6—The astounding Mohawk Pyramonic Speaker. 7—Absolutely unparalleled prices!

MOHAWK RADIO

Is now licensed under Radio Corporation of America Patents

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71 Columbia Street

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