ELECTRONS HEARD BY NEW RADIO DEVICE

One Hundred Thousandfold Amplification Used.

Ann Arbor, Mich.-Experiments by which scientists have been able to listen to the movement of electrons, the smallest particles of matter, were described here by Dr. A. W. Hull of the research laboratory of the General Electric company, at the annual meeting of the American Physical society.

The vacuum tube amplifier in which the amplification is carried to a hundred thousandfold, and with which a millionfold can be reached, makes this possible, Doctor Hull stated. The sound produced by the electrons is caused by bombardment of the plate by electrons, released from the hot filament. It is these electrons which carry the current and which make the operation of the tube possible. The noise is therefore a fundamental property of electron emission, a characteristic of the electron, according to Doctor Hull. The experiments have been conducted jointly by Doctor Hull and Dr. H. H. Williams of the University of Michigan at the university.

Called Schrot Effect

The noise, due to the electrical oscillation which is set up by the impacts of the individual electrons on the plate, is known as the Schrot effect. The energy of each blow is extremely minute, but, like rain drops, the energies of the many individual impacts add, and their sum becomes very large. With sufficient amplification, Doctor Hull stated, the blows may produce a roar like that of Niagara.

The electron is the unit charge of electricity and the determination of its value is of the utmost importance. The oil drop method, devised by Professor Milliken in the physics laboratory of the University of Chicago, gave science its first accurate measurements of the charge of the electron. Accurate as the experiments are, however, it is desirable that they be checked by some independent method.

Milliken's method of measuring the charge of an electron is based on the influence of gravity and of electric charges on minute oil "droplets." These droplets are so small that the effect of gravity causes them to fall only a quarter of an inch in ten seconds.

In the formation of these small drops with an atomizer, occasionally one becomes charged through friction; for example: it may carry an additional electron. If, then, the droplet is between two electrically charged plates, it will behave differently from the uncharged particles, Doctor Hull stated. Those which are not charged will fall. The charged particles will be attracted to the positive plate. By the use of the proper voltage between the plates, these charged particles can be made to fall more slowly, held stationary, or caused to move upward. If two electrons, instead of one, are held by the droplet, the effect is doubled. Measurements made by this method give the value of the electronic charge very exactly. In recognition of the importance of this work, the Nobel prize in science for last year was awarded to Professor Milliken.

Opens Up New Field.

Doctors Hull and Williams have measured the charge of the electron in a different way, by means of the Schrot effect, and have opened a field for research which promises to add to the knowledge regarding the electron and its properties.

It was not such a long time ago that the electron was unknown, the speaker declared. First scientists had the molecule, itself so small that man's ability ever to see even one of the largest may seriously be doubted. Then came the atom, the minute integral part of the molecule. For a long time the atom was considered as the ultimate particle of matter. But each element presents a different atom. Science was not content to rest. It sought to connect all phenomena, and the electron was the result.

It was discovered that all matter is composed of electrons, the different substances resulting from the different properties possessed by the atoms according to the number and arrangement of the electrons they contain.

Saskatchewan Town Debt Threatens It With Ruin

Regina, Saskatchewan.-The little town of Battleford, whose residents are threatened with a possible levy of 5 per cent of their total assessments to satisfy town debts, has appealed to the Saskatchewan government to save it from financial ruin. The town owes about \$700,000 to bondholders, of which approximately \$300,000 is overdue. A judgment has been secured against the community by some of the creditors and as a result residents are confronted with a possible levy of 640 mills, or about three-fourths of the total assessment.

Army Mule Humiliated by Dappled Percheron

Kansas City, Mo.-The twentysixth annual American Royal Live Stock show saw the redoubtable army mule suffer a setback. A team of dapple gray Percherons won the pulling contest for teams under 3,000 pounds, hauling a load of 27,000 pounds 271/2 feet and developing pulling strength of 25 horsepower They weighed 2,720 pounds.

The mules, entered by the Quartermaster corps, Fort Leavenworth, an weighing 2,880 pounds, were unab to pull the load the required 27 feet.

AIR MAIL SERVICE READY FOR WINTER

Cross-Continent Flying to Go on Unhampered.

Omaha.-An unprecedented contingency for the United States government, that of operating the transcontinental air mail service throughout the winter months, will be met satisfactorily if the already completed plans of the government are carried out, according to Carl F. Egge, general

superintendent of the air mail service. Mr. Egge, at his headquarters here, has announced that the cross-continent flying service will go on regular schedule, hampered only slightly, if at all, by snowstorms and blizzards.

Every air mail flying base and emergency landing station has been equipped with winter flying facilities, "monkey suits" for pilots, stoves to heat water and gasoline, protection of beacon lights, and skils to be attached to the landing gear in case heavy snowfalls prevent the use of wheels.

The "monkey suit," Mr. Egge explained, has been adopted after extensive experimenting with various flying garments. The suit, fur-lined, includes everything from helmet to socks. The electrically heated suit, the air mail chief said, transmits heat too rapidly, affording no even heat for the comfort of pilots.

In addition the cockpit of every plane will be heated by a pipe running from the engine parallel to, and on top of, the exhaust pipe. This new arrangement, the speaker declared, prevented fumes from entering the tonneau, as was the case when the cockpit was heated direct from the exhaust pipe.

All main beacon lights, from Hazelhurst field, New York, to San Francisco, Cal., have been equipped with plate glass housing, assuring pilots of adequate guiding lights even in the heaviest of storms.

The wheel landing gear, pilots have found, can be used in case of a 10 or 12-inch snowfall, but in excess of this, the ski landing apparatus must be employed. This winter landing apparatus is on hand at every field.

Astronomer Sees Crack in Steeple; Saves Church

London.-Sir Frank Dyson, astronomer royal, while testing the big telescope at Greenwich observatory turned it on London. A church steeple caught his eye. He observed a menacing crack at the base of the

Although the church was ten miles away he measured the crack with the instruments used to determine lunar distances and was convinced it was

but with the aid of a large scale map and instruments Dyson placed the church. He telephoned the vicar, who when he heard a voice say the astronomer royal wished to warn him his steeple was about to fall thought it was a practical joke.

Sir Frank finally prevailed upon him to examine the steeple, in which was found the crack which, invisible from the ground, was so dangerous the church has been closed.

Ohio Wesleyan University Gets John Wesley's Cane

Delaware, Ohio.-Frank S. Monnett of Columbus, former attorney general of Ohlo, has given Ohlo Wesleyan university a riding cane carried by Rev. John Wesley.

The cane will be displayed permanently in the Ohio Wesleyan library, along with other valuable relics.

Mr. Monnett, a graduate of Ohio Wesleyan in the class of 1880, recently came into possession of the cane during his trip to England. The founder of Methodism is said

to have left the cane by accident in a London coach operated by Thomas Park, a follower of Wesley's teachings. Park preserved the cane and took the first opportunity to return it. Meanwhile, however, Rev. Mr. Wesley had purchased another; so he pre-sented Park with his original riding

The cane since has been preserved continuously in the Park family. During a trip to England last summer Mr. Monnett was a guest at the home of Sir John Powell, a relative of T. E. Powell of Columbus. Sir John Powell is a descendant of the Powell family which originally owned the land upon Ohio Wesleyan university

During Mr. Monnett's visit Cecil Wellington, great grandson of Thomas Park and for many years a chauffeur for Sir John Powell, presented the riding cane to him with the understanding that it was to be brought to America and presented to Ohio Wes-

Capt. Eagle and Priv.

Hawk Real Birdmen Washington. - Capt. G. I. Eagle, late of the office of the chief of air service of the War department and now of Bolling field, whose name has been used in many puns upon the air service, has at last found companionship. It appears that there is a Private Hawk in the air service, too.

WORLD FLYERS ARE

Lose Their Bars Through Army Regulations.

Washington.-Although the plaudits which greeted the return of the triumphant army flyers from their spectacular flight around the world have hardly ceased, one of the six lieutenants who gained enduring laurels for the United States is a noncommissioned officer in the ranks and another is wearing the garb of a civilian mechanic at a flying field in Dayton,

Furthermore, it is said that there was nothing that the army could do about it. It was pointed out that it was army regulations issued under the national defense act and only congress can go beyond that. The fate of the two members of the expedition who happened to be reserve officers instead of regular army officers is up to con-

It's Up to Congress.

Just what congress will do is still a question, but there is no doubt a bill will be introduced in the house of representatives this session to give proper recognition to the world flyers.

The two men affected are Civilian Mechanic Henry Ogden, now assigned to McCook field, Dayton, Ohio, and Technical Sergeant John (Happy) Harding of Selfridge field, Mount Clemens, Mich.

When the flyers left the shores of the United States, Harding, who was a second lieutenant in the officers' reserve corps, was called to active service so he could receive sufficient money to bear his increased expenses. Ogden was allowed to fly as a sergeant. However, when the flyers arrived at Shanghai, China, Ogden also was appointed a second lieutenant in the officers' reserve corps and placed on active duty.

Army officers said army regulations, as set forth in the national defense act of 1920, forbid the promotion of General any man to the grade of a commissloned officer except through regular channels. In other words, these two men, in order to become officers, would have to pass their examinations the same as any other man seeking a commission in the regular army. They are allowed, however, to hold their rank as reserve officers.

Even President Coolidge cannot intervene to make either Sergeant Ogden or Mechanic Harding commissioned officers in the regular army.

Army officers explained that it was largely to provide against possible misuse of power that the system of It was difficult for him to find out it was suggested by General Pershing probate thereof, and for the issuance where the church was, because the in his final report as chief of staff of letters of administration with the magnification was so great only the steeple showed in the telescope's field, tains who showed signal ability. Weeks' Hands Tled.

ing as officers of the regular army, but he is powerless to act.

do is to write each of the officers a letter of commendation, but Secretary Weeks has gone further. In his report this year to President Coolidge he recommended that the present system of promotion by seniority be modified. In this connection he said:

"It should be possible to provide for special promotion, one grade at a time, of some portion of the officers of the army as long as such promotions do not exceed 2 per cent of the promotions by seniority. Such a system would find room for all officers who have particularly distinguished themselves in the service of the United States.

"I therefore recommend the adoption by congress of an amendment to the national defense act whereby the President might be authorized to promote, not to exceed one grade, any officer below the grade of colonel who, by some conspicuous act of service, has demonstrated his special fitness for such promotion."

Finds Paralyzed Hand Cured as He Grabs Weapon

Tiffin, Ohio.-Fright has cured Russell Lewis, Seneca county farmer, of paralysis. Lewis' left hand had been paralyzed for three years. He was alone in his home near Bascom recently when he heard a noise at a rear

Fearing some one was trying to break into the house, Lewis caught up an ax handle with his left hand and started for the door.

Suddenly he realized he was using the hand which had been helpless for three years. He stopped and moved his hand, working his fingers back and

With a shout of joy he ran from the house, discovering as he did so that a pet dog, scratching at the door, had been the cause of his alarm.

Dresden Cheers Unhappy With Symphony Concerts

Dresden.-To cheer the downtrodien, a series of free symphony concerts has been given to the unemployed of this city by the League for Musical Culture. The attendance was overwhelming, and the interest of the audience keen, especially when the management provided musical experts as speakers who, previous to each performance, sketched the life of the composer and explained in simple language the underlying musical ideas of

NEVADA TAX COMMISSION BACK IN THE RANKS PRESCRIBED FORM FOR CITY BUDGETS, 1925

Estimated Receipts and Expenditures of the City of Las Vegas for the Year Ending December 31, 1925, as Provided by Section 9, Chapter 42, Statutes of Nevada, 1923

	RECEIPTO		and the same and the
		Actual 1924	Estimated 192
dcenses			\$12,000.0
ines		5,352.50	5,000.0
'oli Taxes		5,568.00	5,000.0
urplus Funds			2,700.0
axes Collected, 1924		18,099.81	
axes Required, 1925			22,440.0
Totals		\$40,815.66	\$47,140.0
	EXPENDITUR		Est. Ta
	Actual 1924	Estimated 192	5 Rate 192
Administration—			
eneral	The second secon	\$ 7,340.0	
alary		3,660.0	
olice and Fire Protection		8,000.0	
treets and Alleys		10,000.0	
Aght	The state of the s	4,000.0	
emetery Department		1,500.0	
ublicity		2,000.0	
ewer Bond Interest		1,400.0	
lewer Bond Redemption		4,000.0	ATT THE PARTY OF T
lighway Bond Interest	1,800.00	3,240.0	
lighway Bond Redemption		2,000.0	.08
Totals	\$42,174.14	\$47,140.0	0 \$.88

ш	ASSESSED VALUATION	CARL TRANSPORT OF THE PARTY OF
1	Actual 1924 Realty	Estimated 1925 \$1,300,000.00
SOURCE SERVICE	Improvements 766,155.00 Personal 493,132.00	760,000.00 490,000.00
ď	rersonar	430,000.00
	Totals\$2,561,780.00	\$2,550,000.00
ľ	Tax Rate on \$100	.88
1		
	Cash on Hand, January 1, 1925	\$14,697.85
	Balance Due from Second Half Taxes, 1925	10,000.00
1		

The above is a true and correct statement of the estimated receipts and expenditures of the City of Las Vegas for the current years as required by Section 9, Chapter 42, Laws of Nevada, 1923.

(Signed) W. C. GERMAN, Mayor. Attest: FLORENCE S. DOHERTY, City Clerk.

Dated February 17, 1925. Note: Licenses and fines to be distributed as follows: Police and Fire Fund \$ 8,500.00 50% 8,500.00

First publication February 28, 1925. Last publication March 7, 1925.

Notice for Hearing Probate of Will and Petition for Letters of Administration With Will Annexed

in the District Court of the Tenth Judicial District of the State of Nevada, in and for the County of the Matter of the Estate of George

E. Allgood, Deceased. An instrument in writing which urports to be the last will of George promotion provided under the national E. Allgood, deceased, having on this defense act was devised. To relieve day come into the possssion of said the congestion in the grade of captain District Court, and a petition for the

of said District Court, hereby fix and appoint Tuesday, the 3rd day of Secretary of War Weeks, it is said, March, A. D. 1925, at ten o'clock in would welcome both Ogden and Hard- the forenoon of said day, and the court room of said court, at the court house in said County of Clark, State One officer said all the secretary can of Nevada, as the time and place for proving said will and for hearing said

petition Dated February 20, 1925. FLORENCE S. DOHERTY, [Seal] Clerk of said Court.
By THELMA NORRIS, Deputy Clerk First publication Feb. 21, 1925. Last publication Feb. 28, 1925.



100%



you see Buick pull away in front when the traffic starts is the extra power in the Buick Valve-in-Head engine. Buick's get-away and Buick's mechanical 4-Wheel Brakes take care of any traffic emergency.

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STAGE SERVICE

Commencing May 20, 1924, the Packard Stages will operate their first car from Las Vegas to Needles, Calif., via Searchlight. Regular Service will be continued, operating regilarly and passengers. PACKARD TWIN SIX STAGE CARS

C. M. ADAMS

The Well Known and Reliable PIANO TUNER

Solicits your orders for tuning and also sole agent for Southern Nevada for the Steinway Inc of pianos. Other makes. from

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HALL'S CATARRH MEDICINE has been used successfully in the treatment of

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Millions of red-blood cells, oxygen carriers, are born in a healthy body every day. The ability of these cells to enrich the blood depends upon how well you are nourished.

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brings to the body rich vitaminnourishment that is easily absorbed by the blood-making organs to build strength. Scott's Emulsion nourishes

and strengthens wonderfully well. Scott & Bowne, Bloomfield, N. J.

Service

(They taught me All I Knew):
Their names are WHAT and WHY
and WHEN,
and HOW and WHERE and WHO"

WHAT was the Declaration of London? WHY does the date for Easter vary? WHEN was the great pyramid of Cheops built? HOW can you distinguish a malarial

WHERE is Canberra? Zeebrugge? WHO was the Millboy of the Slashes? Are these "six men" serving you too? Give them an opportunity by placing

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