VACUUM TUBES POWER SOURCE

Within Fragile Shells Are Great Possibilities, Science Believes

By John L. Cooley
(Associated Press Science Writer)

NEW YORK (AP) — Vacuum tubes, those fragile lamps of science that run the world's radio and are making a back number of Jules Verne.

Within their fragile shells are possibilities for electric power development, application and control that lead to a new field of engineering so vast that it requires the imagination of a Verne to suggest its limitations—if indeed there are any.

Open Doors Turn On Lights

Research men, science practitioners who direct the progress of a long a orbit from their silences laboratories, already have developed tubes capable of connecting with electric accessories of distribution so garage doors, arrange Goodnights and numerous infinite systems, what these scientists have up their sleeves is not for public disclosure.

but they have designed enough to keep industry busting as it endeavors to keep up with them.

But long ago the late Elihu Thomson waved a hand in front of a little glass bulb in the New York office and the new electrical skills of the Homestead Steel Works, miles of miles away, were started for the first time. Recently the Westinghouse Electric & Manufacturing Company demonstrated a "mechanical hand", a device permitting the mind control of power at great distances. Again, the same company showed how the roar of an airplane motor, impersonating a landing field at night, could be made to turn on the floodlights of the airway.

Operate Crossing Signals

In each case the miracle was worked by a vacuum tube, so sensitive to light or sound that the click of a lead, the vibration of a voice or motor, with the electrons of the tiny chamber acting as their servants, of electrical energy enough to operate an ordinary relay and circuit.

Utilizing the same principle, engineers say it would be possible for a motorist to open his garage door at night simply by allowing the searchlight to shine on a little glowed near the doors. Railway automatic sound operated block gates, traffic or grade crossing signals and in the manner the merging of cars or of drawn would automatically turn on and off a miniature lighting plant, thus eliminating the human agent.

Some day, say those prophets of the new engineering, a lone man stationed at a strategic point will control completely and infallibly the operation of a vast power system extending over half a continent. "Mechanical men"—vacuum tubes — on duty throughout the network of wires will instantly tell him when anything goes wrong, and he will be able to ascertain at a glance the location of the trouble.

Medical Science Next

Already this principle of remote control has been applied to water system, so that the rise or fall of the water, by operating a vacuum tube circuit, is instantly communicated to headquarters.

Medicine also may reap the benefits of this new science. The highpower cathode ray tube, perfected by Dr. W. D. Coolidge of the General Electric Company, has opened wonders that may have a bearing for medical science. It has been observed that these rays, expected into the air from an X-ray tube, have a penetrating effect equal to that of large quantities of radium. The ultimate services

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GEE, MAYBE RUTH ELDER STARTED A FAD

HEALTH

SMALLPOX AGAIN
By Dr. Frederick R. Sawyer

An outbreak of smallpox in a boarding school in the state making it necessary for us to call attention to the danger of allowing children to attend school without vaccination. For the past 12 or 15 years smallpox has been comparatively of a very mild type all over the United States. As a result people have lost the wholesome respect which formerly prevailed for this disease. This has led to a laxness in vaccination and as a result several epidemics of old time severity have appeared in many parts of the United States.

Smallpox is one of the most dreaded of all diseases. This is because it is extremely infectious, frequently fatal and usually disfigures the skin with deep scars or pock marks. During the pre-vaccination period one out of every ten or twelve deaths was due to smallpox. The danger of smallpox cannot be overestimated nevertheless must not be lost sight of.

The New England and Atlantic states have been added requires vaccination of all school children. In localities where this law is enforced, smallpox rarely appears among the native population. The inhabitants of such a community are comparatively safe, but this does not preclude the unvaccinated element having the disease. In 1924, virulent smallpox appeared in one of the large mid-western cities and it was significant to note that the disease did not occur among those who had been successfully vaccinated within seven years. Ten per cent of the cases were among those whose vaccination were very old, giving proof that vaccination, once in a lifetime, to those exposed to the disease is not sufficient. Ninety per cent of the cases were among those who had never been vaccinated. No further argument should be necessary to establish the perfect protection which is secured against smallpox when vaccination and revaccination are universally followed.

Without vaccination to control it, control has any appreciable effect on the control of this disease.

Oregon is not so completely isolated from the remainder of the world that each man, woman or child should not be revaccinated against smallpox about every seventh year.

The best and only effective way of preventing and controlling smallpox is vaccination. People who neglect to be vaccinated are dangerous citizens. Their presence in a community in any number may cause a severe outbreak of this dreaded disease at any time. Smallpox would be exclusively from Oregon if everyone understood the importance of vaccination.

of this type have not been forecast by Dr. Coolidge, but the indications are that physicians may be able to utilize his product.

Anti-Saloon Body Elects McBride

WASHINGTON, Dec. 7 (AP)—The Rev. F. Scott McBride, Westerville, Ohio, was formally notified today as general superintendent of the Anti-Saloon league and Dr. Bruce M. Cherrington, of Westerville, Ohio, was elected director of the newly created department of education and publicity of the league.

SHORTAGE OF TIN

LONDON—A shortage of tin may be that now for seems to be no fixed price. Lord Ashwin said the London The president that there is urgent need of increased production. Said only the recent fall in Dutch plants saved the world from a serious shortage.

TO GO UNINSTRUCTED

WASHINGTON, Dec. 7 (AP)—Informed that Charles Evans Hughes had said he was in no sense a candidate for President in 1928, Charles D. Hilles, republican national committeeman for New York, said today that the delegation from New York to the convention unconditionally would go uninstructed.

SELLS OUTFIELDER

DALLAS, Tex., Dec. 7 (AP)—Tom Turner, president of the Portland club of the Pacific coast league, announced today the sale of Outfielder Paul Strand to Atlanta of the Southern association.

AFTER THE FIGHT

The upper photos testify to the character of the battle at the Columbine mine, Erie, Colo. At the top is the auto that served as a rallying point for the state police when the strikers marched on the shaft. Retreating, when they reached the auto, they halted and opened fire; a volley of rocks from the strikers crashed through the windshield of the car and wounded the three troopers shown below. Left to right, the injured troopers are: Sam Lee, K. W. Murrell and Harold Woodacks. At the bottom is one of the tanks of the Colorado National Guard being unloaded at the mine ready to help keep the peace.

A nut load of car coal rolled in this morning. Place your orders now if you want it day before yesterday.

We have some No. 1 Netted Gem dry land potatoes at $1.25 a sack. The No. 2s for 60c. We deliver in five-sack lots.

I think perhaps tomorrow we can furnish you all the Linco glass that you want, both single and double strength. It is less than one-fourth the price of window glass and all you have to do is to look up information in your poultry journal to see which is giving the best results. Mothers are buying it to make little sleeping apartments for their babies and families are buying it where they have a T. B. patient, and hog men are buying it for their hog houses and school boards are buying it for the health of the pupils. The double strength is used more in making roofs for hotbeds and brooders. It makes excellent covering for screen doors to keep out the cold.

Oh, yes, we just received a large carload of extra Star-A-Star shingles and if you want to save some money on some real good No. 2 shingles of an intermediate grade, speak quick as there are only about 50,000 included in this car. We expect a car of lump coal tomorrow

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Farmers Produce More Per Man in U.S. Than Abroad

WASHINGTON (AP) — While production per acre in some crops may not be as high in America as in other countries, American farmers produce more per man than farmers in any other part of the world.

This conclusion is reached by Charles J. Brand, executive secretary and treasurer of the American Fertilizer association, after a close study of farm efficiency. Brand served 20 years in the department of agriculture and as a consulting specialist in marketing was a close advisor of the late Secretary Henry C. Wallace.

"Farmers are efficient," Brand declares, "but the lack of prosperity on our farms has stood in the way of a more efficient agriculture. Our problem is not to grow a greater aggregate quantity of farm products, but to grow the same amount at a smaller cost per unit of production. We must grow fewer acres with greater profit."

Brand points to several measuring sticks of rural efficiency.

"In 1890 less than 24 crop acres per farm, whether were utilized, whereas the average farm worker now cultivates 32 acres. In 1900 it was considered a fine performance if a cow raised a litter of five or six pigs that would attain a weight of 200 to 225 pounds at eight months, or approximately 1,200 pounds per litter. Now one-ton litters are common and in many instances ten-and-a-half and twelve-ton litters have been raised in six months.

"Hens used to produce 150 eggs in a year. Now many individuals produce more than 300 in a year, and whole flocks average more than 200.

"Since 1900 farmers have increased their yields of wheat by 37 per cent, oats by 34 per cent, and potatoes by 23 per cent. Production of grain per man per acre increased from 11,000 pounds in 1909 to 21,000 pounds in 1925."

Aviation is a longing a lot of people have for a more pleasant place in which to do nothing.

Named Envoy

Colonel Noble Brandon Judah of Chicago, civilian aid to the secretary of war during the World War, has been appointed ambassador to Cuba by President Coolidge. The appointee, a Chicago attorney, is a reserve colonel, director of the executive committee of the Chicago Title and Trust Company, and trustee of Brown University.

Opinions differ. Some think that when a fellow shows his mettle, it means he has brass.

A Tennessee woman who is 82 years old used the telephone the other day for the first time. Of course, she was on a party line.

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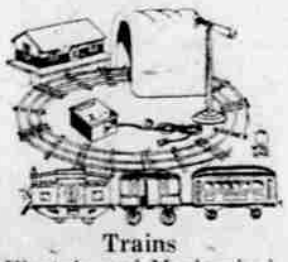

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