

RADIO

THIRD ELEMENT IN THE VACUUM TUBE

Grid Added to Fleming Valve by Dr. Lee DeForest Was a Big Improvement.

Any device which will pass electricity in one direction and will wholly or partially obstruct the flow in the opposite direction is termed a rectifier.

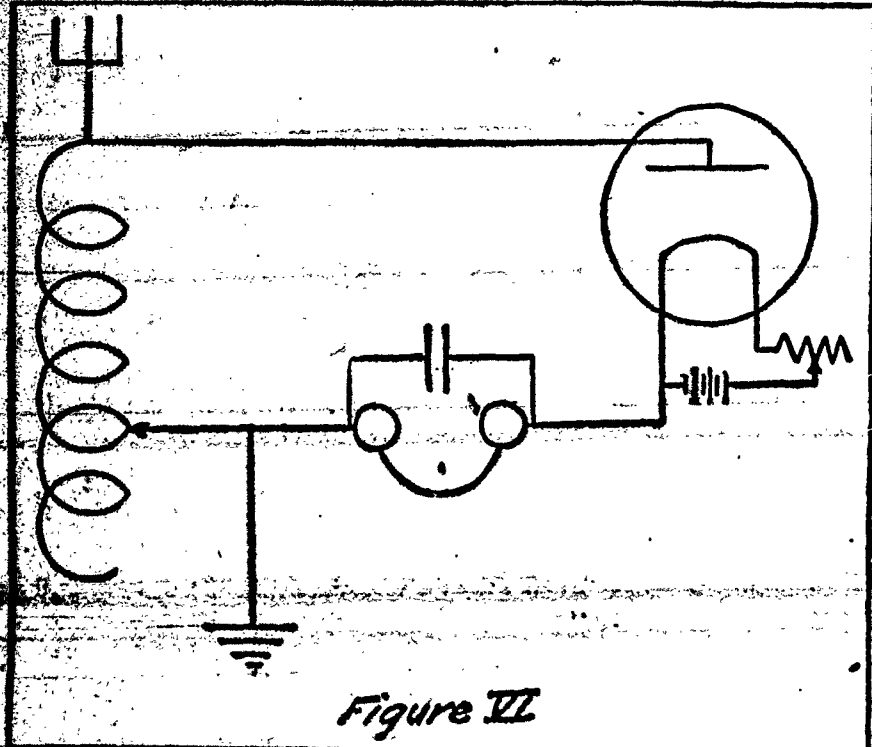


Figure VI

Dr. J. A. Fleming of London, England, was the first to use a two-element tube of the type just described as a medium of rectifying high frequency radio currents.

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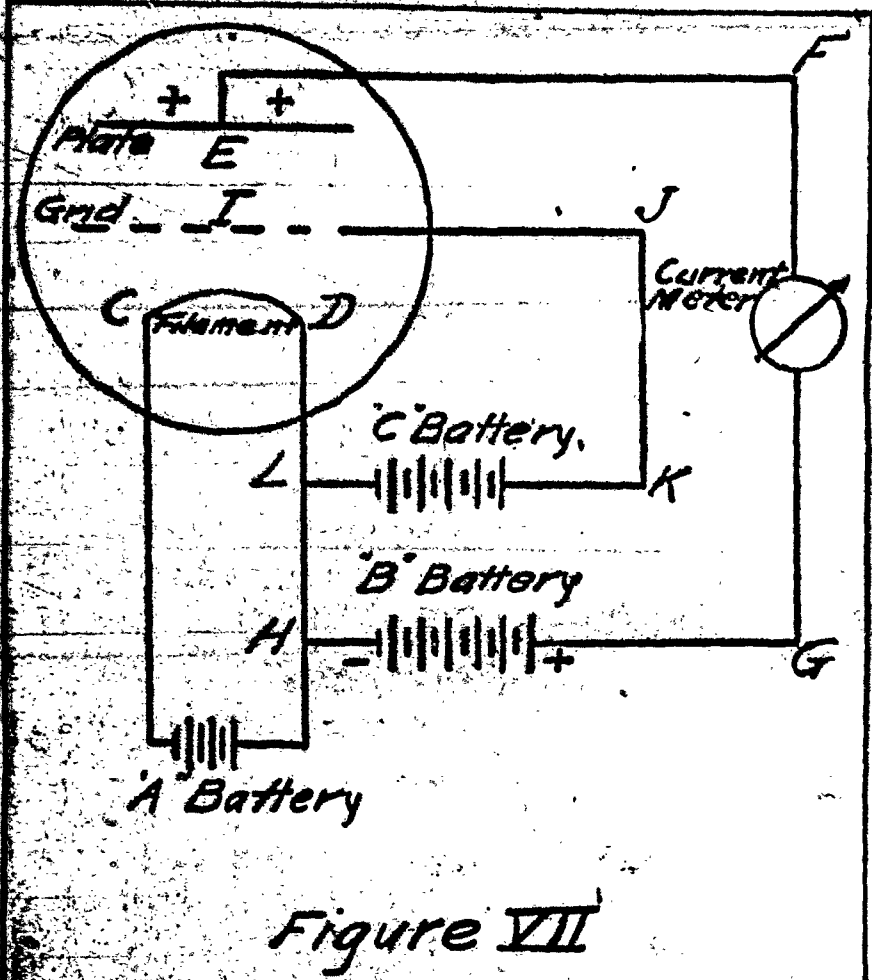


Figure VII

Today marked a very important step in the progress of the radio. The Fleming valve, however, in its original form was not much better than other forms of rectifiers.

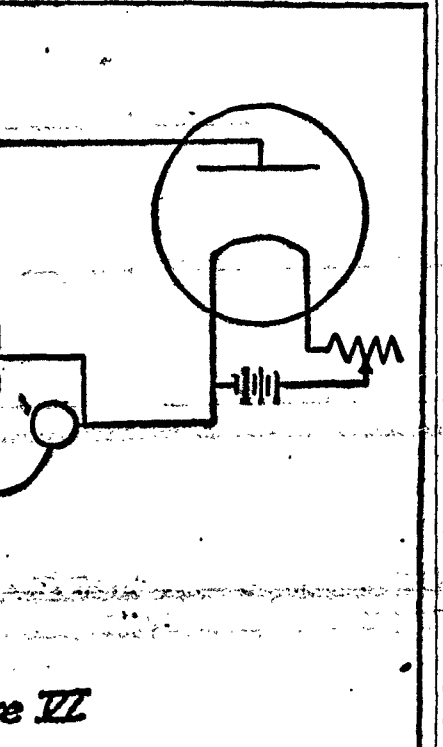
Dr. Lee DeForest, an American, improved the Fleming valve by adding a third electrode called the grid.

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dition of the grid circuit I-J-K-L. The battery in the grid circuit is called the "G" battery.

As a start let us suppose that "G" battery voltage is zero. The operation of the three-electrode tube would then be exactly like that of a two-electrode tube.

Now if the grid is made positive with respect to the filament, it is possible to accelerate the flow of the electron stream from the filament to the plate.



The characteristic curve of a three electrode vacuum tube is shown in Fig. VIII.

It can be seen from the curve that by applying a negative potential of value E to the grid, the plate current can be reduced to zero.

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When the grid is maintained positive with respect to the filament a small current will flow in the grid circuit.

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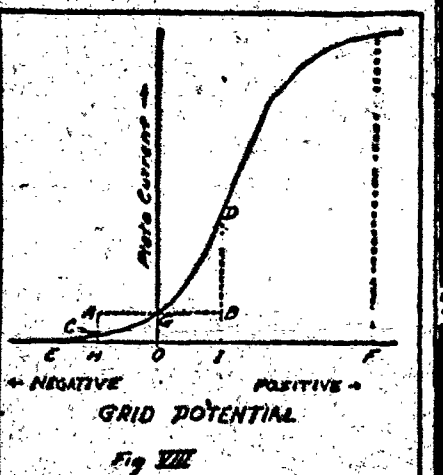


Figure IX

NEW SOURCE OF FUEL FOUND?

What is Called "Wooden Coal" Said to Have Been Proved Practical—Comparatively Cheap.

In an effort to solve the ever-recurring fuel problem two Tacoma inventors have turned their attention to perfecting a wooden coal which is made by the "A" battery.

Waste products of the lumber mills form the basis for the briquets which the pair have evolved.

Rated by the British thermal unit test, the briquets as manufactured by the two rank with the best anthracite coal.

TRAPPER HAS NEW METHODS

Employs Only Lassoes, Lengths of Chain and Bare Hands in Capture of Wild Animals.

A remarkable article illustrated with very unique photographs appeared in the Wide World Magazine under the caption of "Trapping Wild Animals Alive."

"From first to last," says Major Allen, "I never use a gun except in the utmost extremity of self-defense."

The car stopped and three passengers escaped from the confusion of the traffic to the comparative safety of the car's platform.

An expression, not only of regret, but of panic spread over his face. He pressed the button frantically and at the next corner alighted and started back along the car tracks dodging the traffic.

The woman stretched and craned her neck to see if he were rewarded. Yes, he snatched up the rose from the black city mud and stood brushing the dirt from its pure petals.

Original Funeral Floral Pieces. Marie Lloyd, a favorite English comedienne, was stricken dead while on the stage in the midst of her number.

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HOW

MODERATE UNION GETS ITS CHARACTERISTIC AROMA.

Onions of moderate size contain about 91 per cent water; they are succulent and tender, and are thoroughly digested and easily absorbed by the stomach.

The sulphur compound which gives them their characteristic aroma, is believed to stimulate the flow of digestive juices, and also to act as a mild laxative.

As an article of trade, onions rank third among the truck crops of the United States, and, in addition to the large home-grown supply, considerably over a million bushels every year are imported, the majority now coming from Spain.

EFFECTS OF VARIOUS FOODS

How Investigation Has Determined Value of Certain Forms of Nourishment—Some Best Uncooked.

A German investigator has conducted a series of experiments to determine the effects of various foods, beverages, condiments and spices, as well as the effect of cooking, chewing and digestion upon the pulse and cardiac (heart) activity.

The depressive substances become stimulating after they are heated and water increases the stimulating effect.

How Moon Affects Earthquakes. Earthquakes are more frequent in those parts of the world where there is evidence that geological processes may be slowly shaping the major contours of the earth's surface.

Why We Have Horns on Autos. Bells have for centuries been used on horse traffic, and more recently on cycles.

Why the Crust on Bread? An expert baker gives the following explanation: "When a mass of dough is baked in the oven the water in it turns to steam at 212 degrees Fahrenheit."

Why Turkey? History goes to show that the turkey was at one time confounded with the quinal fowl, originally known as the turkey. This name seems to have been given it as a result of its peculiar cry of "Turk, turk, turk!"

WHY

The Humble Biddy Cackles After Laying an Egg.

The accepted explanation of the cackling in which a hen indulges after laying an egg is that she is so pleased that she wants everyone to know it.

The rooster answers the cackle with a crow, and this is taken as further indication that both are immensely proud of the achievement.

If the question is considered fairly, it is easy to see that instinct would teach the hen that to cackle is to call the attention of the enemy to both herself and her embryo offspring.

The cackle is a relic of bygone days when fowls were not domesticated and ran about wild.

By the time she was ready to rejoin the commonwealth the other members had wandered some distance, and she did not know where they were.

The rooster, hearing the cackle, answered it by a crow, and thus informed the hen of the whereabouts of the tribe.

IS PROVISION OF NATURE

Why Average Human Being Breathes More Deeply When Asleep Than When Awake.

Many of us suffer permanently from a slight catarrh, and, while awake, we periodically clear our tubes, as is were, by coughing or blowing our noses.

When awake we naturally put ourselves into a position for easy breathing; but when asleep many of us, particularly if we are inclined to be stout, roll into a position which hinders easy breathing.

Why Heat Passes Through Bottle. Everybody knows that a match can be lighted by the spot of dazzling brightness which marks the focus point of a burning glass.

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