

### How Wireless Works

By GARRETT P. SERVISS.

More truly than any other telegraphic device, the wonderful wireless is a speaking voice. It makes itself heard just as the human voice does, by a series of waves moving freely through

simple as the other, but they act through different mediums.

When I speak, my voice is sent out in undulations of varying length through the air. (When the wireless "speaks" its voice

is conveyed by undulations in the ether, which is a more refined medium than air, carrying the waves of light and electricity as the air carries those of sound.

The oscillator of the wireless is a "mouth" sending out undulations in the ether as our mouths send out undulations in the air, and the resonator of the wireless is an "ear," catching the etherial waves as they impinge upon it, as our ears catch the atmospheric waves that strike them.

We see nothing wonderful in vocal sounds, because nature gave us, in our heads, one instrument to produce them and another to receive them. But it left us to find out for ourselves how to produce and receive "vocal" waves in the ether. Since we had to make the instruments that deal with them, the etheric waves seem to us marvelous, although they are in principle, no more marvelous than the waves of air.

From the beginning of time it has always been possible for man to speak across the sea, if he had known how to employ the electric waves that were at his disposal. But he started at the wrong end. He began to use electricity for conveying intelligence by sending a current of it along a wire. He pressed a button at one end of the line and the electric current passing along the wire induced a corresponding motion in a tapper at the other end. It was a roundabout way of employing an agency which we now know can be employed more simply and directly by throwing away the wires and making the electric waves "speak" straight through the ether.

spoken tongue, but it is one that can known to man, and so it is the most uni- suffrage movement? versal of all languages.

Now let us see how it is employed. placed near. The air between them acts tant movement as an insulator because it is a poor conand a spark passes between the two conductors, by which equilibrium is restored

ether instead of through the air.

garded if we had no apparatus for repeiving them. The receiving apparatus is called a

cillator, but it will catch the waves as to jail is absolutely repellent. they undulate to it through the ether, and it can be made to reproduce them in an audible, or legible form by causing them to operate a Morse dot-and-dash instrument, as in ordinary telegraphy

But the electric voice and the electric ear are in some ways more manageable than the human voice and ear. We can only produce and hear air waves of a limited range of frequency, and we cannot do much to alter that limit.

Sound waves vibrating less than forty times per second or more than 40,000 times are inaudible to us. But electric waves varying in frequency from a few hundred up to hundreds of millions per second can be rendered perceptible, and it is also possible to so construct the instruments that they will send forth nence from moat and receive particular ranges of waves and be mute and deaf to others.

the elimination of Then the distance over which the electric waves can be detected is almost infinitely greater than that of ordinary and all sorts of gluttony with untsound waves. It takes a strong-voiced versal refinement man to make his words audible across a and virtue and the little river, but, as everybody knows, the legislative evoluelectric cry of a ship in distress can be tion to civie peace electrically heard from the middle of the and order. The Atlantic ocean. And there are enthusibody of man will asts who predict that before very long come so refined we shall be able to speak by wireless to that this transinsome other planet, if only there is sometion into a spirit body there to hear and understand us! body will be as

try a remedy for freckles with the guarantee of a reliable dealer that it will not cost you a penny unless it removes the freckles; while if it does give you a clear complexion the expense is trifling.

Simply get an ounce of othine-double strength from the Beaton Drug Co., also stores, and a few applications should show you how easy it is to rid yourself of the homely freckles and get a beautiful complexion. Rarely is more than one ounce needed for the worst case. Be sure to ask the druggist for the double strength othine as this is the pre-

## Suffragists of the World | Elizabeth Freeman and the English Militants



SUFFRAGISTS OF EAST INDIA.

This picture shows the Indian empire contingent of suffragists as they appeared at the coronation ceremonies. Few persons, except those who have made the question of woman suffrage a study, are aware that this great question is so far-reaching, even extending into the Punjab district. That young girls, as It is true that the language employed well as women of maturer age, are vitally interested in the fight for better condoes not consist of the words of any ditions, is strikingly shown by the appearance of the characters in the picture.

went to Elizabeth Freeman, an Ameri- the following Tuesday when we found First as to the electric "mouth." When can girl, who has recently returned from that Parliament had risen without keepa charge of electricity is accumulated six years spent in England, and who was ing its promise to present our bill, we on a "condenser," a similar but opposite there swept into the great cause of suf- marched round to the side entrances in charge is induced upon another condenser frage and into the Toretrout of the mili-

"The woman militant is herself ready ductor of electricity. But when the charge to perish for the cause-but she respects fence of St. James park marking its and. attains a certain degree of intensity the human life since she has the mother instrain upon the air becomes too great, stinct to save, not to destroy life," said and suddenly the police arrived. We were

The passage of this spark produces, so One night I was on my way to meet some barrier so that at last we became like to speak, a shock in the ether, which, friends after the theater. As my bus cattle milling around and around in like the explosion of a gun, or the utter- went through Parliament Square I looked dazed horror. ance of a sound, sets up a series of down from the top and saw a big policewaves in the surrounding medium, which man striking a little woman. I got down through the air they found their mark, radiate away on all sides. These waves and protested. He said, 'You come along o' too. One woman was thrown to the in the ether produce the electric "veice." me, Missie" Gladly, said I, meaning to ground again and again, so that ner If the sparks are regulated in number bear witness to his brutality-I did not chest bone was broken and mangled; and frequency the consequent waves are know I had been arrested. But I spent and a man who tried to stop her orsimilarly regulated. An instrument for ten days in Holloway prison-amidst the the production of such waves is called most frightful conditions-and in a state an oscillator or exciter. It is a kind of of mental agony. 'Assault and obstruc-

edge of the passage of sound waves if the brute in Englishmen. But they con- I was not myself, but only a spirit that we were provided with ears to hear them. fess they are beaten by their fear of let- must save that gray head from torture, so the electric waves would go unre- ting the suffragists starve themselves to I forced my hand through the bandage death in jail or go free. And forcible that is worn around the London policefeeding' is horrible. It tears and lacerates the throat beyond hope of recovery. resonator, or detector. It may be sit- But the treatment to which gentlewomen uated hundreds of miles from the os- are subjected before they are dragged off fingers in that bandage as in a noose,

had been subduing a suffragist.

"Let me tell you of one riot I

By ELLA WHEELER WILCOX.

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"What imagination can compass the

Consider the result

ultimate refinement and rarification of

upon the body of continued absti-

water into gas."-William Hemstreet in

Electricity and the Resurrection."

the human body?

eating, wine and

rum drinking and

natural and instan-

taneous as the

translation of

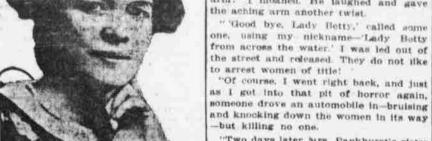
be directly translated into any other influence has it on the world's woman | through. November 1, 1910, was known as Black Friday-riot and bloodshed marked For the answer to these questions I that day Parliament Square. But on

Downing street "Now Downing street is a little blind alley less than a block long, with the

"We reached the head of the street "The militant attitude of mind is forced against the iron palings of the on women-take my case, for example: park-on and on against an impassable

"Stones as big as a man's fist hurtled mentors was arrested for his pains.

"I saw a burly policeman with nis hands at Mrs. Pankhurst's throat-throtvocal apparatus for speaking through the tion' was the charge-you see that officer tling her and forcing her head backward until I fancied that I could hear her spine But, just as we should have no knowl- "This whole movement seems to rouse crack. In a nightmare of horror, in which man's forearm as a hadge of office, and tried to twist his band away. With a quick jerk of his arm, he caught my and twisted it once and yet again, so my went strained muscles ached in torture.



"Two days later ars. Pankhurst's sister. died of the injuries she had received that for a liddle boy like you to come to skule day-but the press gave it only two lines, with his skule books under his arm than

"The censorship of the British press spoarting page. loes inestimable harm to the cause. It with its seating capacity of 18,000-again nen are coming to see the rightcoursess of our cause. It only tells of our 'out-

"Sometimes the press calls us hysterics -fanatics-self-made martyrs. Of course, martyr 'ls 'self-made'-he chooses to suffer for a righteous cause. And it is nly for a cause that suffering like ours an be endured. Some American newsopey women went over for the prison experience. After three days they paid thele fines and got out!

The English women did not become nilitant until 'the sword' was forced upon them and all constitutional ways and means falled. They were arrested for street speaking and for parading; when they went on their constitutional right to petition the king or his proxy, they were arrested.

But the American constitution allows for ever better constitutional procedure. If we petition legislatures here, we receive courtesy-all we care for and more accompanying article by Miss than we expect from politicians.

'We need not be militant-we need only feet deeply enough here in American and "Another officer arrested me. He took we will get the suffrage."

course, miss it at first, but after a few

cruct and disgusting-connected with the

the beef trust exposures, but not one-

### Little Bobbie's Pa

By WILLIAM F. KIRK

This morning Pa had his breakfast erly, at the time I always have my years, and as yet have had no adbreakfast to go to school. The reason mirers among the boys, I am anxious to Pa had his breakfast so criy was because have some boy care for me and take me he didn't go to the banquet last nite about. There are a great many affairs I which was gave by the bowling club of which Pa is a member. He didnt go beekaus he sed he was going and Ma said he wasent. I cud see that Pa was kinda cross while he was reeding his morning paper, backaus Pa never likes to get up erly.

read me sum of the spoarting news he. grown up and were away back there playfire I go to school. I don't get a chanst ing with my dolls. They, at least, never to see any papers at school & you always caused any heart aches. take the paper away with you when you go to the offin. Reed me something about the heartaches to begin. Free to do as Mattle and Marquard, I sed to Pa, & she pleases, with no tyrannical lover see if there is anything about Clark Grif- troubling her heart with his moods and fith & his Washington club, beckaus I wan to see them win the pennant in the Americkan Leeg Piesse daont bother me, Bobbie, sed

Pa. I am reading the market news and don't want to be disturbed by any fool talk about base ball. I supposs, Pe sed, that all your mother & me will hear all summer is base ball, base ball. I nevver could see anything to that gaim, Pa sed. may paint it as cruel or indeous-but we You must have changed a hole lot since | want it! last seeson. Ma sed, wen the Jiants was at home, you harly evver got home in are only 18, it is natural for them to time for anything but a cold dinner. O. seem very, very old. Eighteen and so lover I have made up my mind that I am thru instead of going on in her sweet, merry bothering about the grate nachinal gaim. way, taking no thought of tomorrow, in the Halcans, sed Ma, & that another at some turn in the road, she wants to of them crasy eastern princes has ran heat the bushes! off that used to play in burlesque in the United States.

Doesnt it say anything there about how fast Walter Jonson is pitching this season. I asked Pa?

I tould you oust not to bother me. Pa sed, now you hurry up & git yure break- growth. fast finished and go to skule. If you ast me another question about base ball I am going to use the pam of my hand for a bat, Pa sed, and preetend that your are a baseball yureself.

So I finished my breakfast & on the independent and happier time. way to the skule hous I bought a morning paper. I that that if I got to skule erly I cud git the principle to reed me something about how the players was arm?' I mouned. He laughed and gave gitting along at the beginning of the sec-

> The prin-ciple was there when I got thare & I galv him the paper and ast him if he would plees reed me some news on the spoarting page. What do you want me to reed the spoarting page for, the prin-ciple ast me. I want to know if Matties wing is alright, I tould him. Matties what? said the prin-ciple. His wing, I sed, his whip, I meen his arm, I am sure I am not in-ter-ested in the person you speek of, ser the principle, and bee sides I think it would look a lot better

to walk in heer and show me a vul-gar There was never a grait man, the prinnever reports how we fill Albert hall- ciple sed, that started erly in life reading spoarting pages. Do you suppose, he and again. It does not tell how thinking sed to me, that Abraham Lincoln would ward appearance, but will walk 12 miles to buy a newspaper with a spoarting paig to it? No, he sed, when he walked 12 miles for sumthing to read, it was always a law book or the work of some grate master that he brought home

> with him. I am sur-prised and dis-sapoint-ed in you, Bobbie, he sed, give me that paper and go to your seat. Study yure jografy lesson, he sed, so you wont tell aggen today the way you did yesterday that

> Brazil was the capitol of Nue Jerzy. So I went to my seet and I studied my jografy until the rest of the skellers caim, but I notised that wile I was studing the prin-ciple was all the time reeding the paper I had brot him & I was almost sure that it was the spoarting page he was looking at.

> All of the kids made mis-takes in their lessons all the forenoon. I gess thay was all thinking about baseball same as me, beeknus wen the teecher asked Reddy Blake who was the graitest living Amarikan outside of Rusevelt Reddy sed Johnnie McGraw, and wen the teecher asked the boy next to him who was the graitest Living Amarikan he sed Frank Chance.

The teecher dident know what to think & the prin-ciple got outul meen and gave all of us a skoalding. He sed he dident have any little boys, but if he did have he hoaped thay would not grow up to be silly & go crasy over buseball.

After skule was caver some of us kids was going hoam & we heard two men quarling about baseball. We cud hear them a block Frank Chance is going to show up

McGraw in New York this yeer, sed one of the men. You are crazy, plum crazy, ned the other man. McGraw is going to have penant-winning teem & the Yankies will be luckey if they finish in

the lat divishun. I donnt care to talk to a lunytick, sed the 1st man. Neether do I, sed the other

Wen we got clost to the 2 men we seen who they was. One of the men was the pin-ciple of ou

The other man was Pa

### "Hail Columbia"

When any man is prenounced by the days of abstinence you will cease to crave

specialist to be suffering from kidney the corpses of animals, and you will

diet. Especially is he forbidden the use If you knew all the horrible facts-

vegetarian diet would render the possi- ket, you would never be able to touch it.

So, if you are unable to buy good meat tenth of the frightful truth is known by

trouble he is at once put on a meatiess benefit from the change of diet.

By. REV. THOMAS B. GREGORY, by writing a song for the play that was with his whole cabinet to hear the song, April 29, 1798, is the Hith birthday of about to be performed. Hall Columbia," one of our two nu-

ELIZABETH FREEMAN.

appears in

you or loss of strength.

What to Eat How the Human Body May Be Refined Through Proper Diet—The Evil Effects of Too Much Meat

The time will come when man will no would show a sooner eat any dead animal than he would profit suther than

tional hymna In April, 1796, a. named Gibbert Fox was about to give a benefit performinasmuch as the

seats promised to be poor. Fox began thinking of wars ceipts up to the point where they

an eye full of vigor and a complexion from which we now suffer and which we tion, he called on him to help him out President Adams attended the theater land.

try was all a-whirl with excitement at try.

Birthday of National Song

Has Just Been Celebrated

either with France or England, or both some as it was pronounced. As between of them, and he auggented to Hopkinson the belligerent nations some of our peothat it might be well to make the piece ple were for siding with France, some strongly patriotic. Hopkinson sat down for siding with England, but "Hail, Coto write and the result was "Hall, Colum- lumbia," made them feel like saying. "Noi

### The Cry of Youth

By BEATRICE FAIRFAX.

"Anxious" writes: "I am a girl of 1 miss on this account."

"Anxious" evidently did not read a letter from one of my girls a week ago, in which she said:

"I find so much anxiety in loving, an much depression, so much fear, that Pa. I sed to him, I wish you would many, many times I wish I had never

> Here is a little miss of 18, who wants his whims, she chafes at her freedom. She wants a taste of that bitter cup of love which the girl who wrote the other letter wishes had never been pressed to

> We may know love at its real worth, or attire it in a value that is ficutious; we

"Anxious" is only 18, and when girls used to go onst in a while, Pe sad, but in sight seems hopeless, so hopeless that see that there is danger of moar trubbel knowing that in due time a lover will wait

That is the modern way, and it is a way that robs love of all its sweetness. It is a way of foreing love and love that is forced stands as little chance in the storms of life as a plant of hothouse

"Anxious" exuggerates her pitght. She complains that she has no boy to take her about, forgetting that there are no places these days where a girl cannot go with some other girl, and have a more

If "Anxious" is one of the great and growing army of girls who are self supporting she is free to enjoy the greatest treat youthful independence knows-that of escorting her mother. An occasional concert or lecture brings a joy to mothet all the greater because it has been such s rarety and giving her pleasure is a fine way for making time less tedious while

awaiting the coming of a lover. And when he comes, the evenings she has spent with her mother will have, unconsciously, given her wisdom and discrimination. She will not rush as blindly to his arms as if she had spent the time of waiting in selfish repining and moping. She will look him over dispassionately and critically, realising that while he may bring happiness to her. she has learned the way to happiness without him.

She will be less likely to love mistakenly; she will not love for the outlearned what pleasure these outlags give her mother, she will have unconsciously taken note of the dreariness and monotony of married life, and be less foolhardy in rushing into it.

By her filial love a girl attracts a better man, and trains herself to discriminate

### Advice to the Lovelorn

By BEATRICE FAIRFAX.

You Need Not Fear.

Dear Miss Fairfax: I am a young man 22 years of age. I love a girl three years my junior. I love her not for her beauty but for her settled mind and manners. She is a very sensible girl. But she comes from a rough and uncivilized family. In that family the boys are like the father, rough; and the girls, like the mother, are refined and very pleasant. I did not tell her of my love, though I know well that she knows it and cares very much for me, because I think it proper not to express it to her until I come to the conclusion that our future life will not suffer from any family inheritance on her part.

H. H.

There is an old adage, "Like mother, like daughter," which should give you every assurance.

I hope you are as critical of yourself. Are you fit to mate with her?

### Clears Face of Pimples, Blackheads

Wonderful ZEMO Also Stops Terrible Itching AT ONCE; Cures All Skin Troubles.

Get a 26c Bottle of ZEMO Today.

"At last! At last! One application of ZEMO, the wonderful new treatment, quickly put an end to those awful, humiliating pimples and blackheads. For the first time in months I haven't been ashamed to go out in public." A trial of ZEMO will convince you of its astonishing results in clearing the complexion.



Don't Look this Way When Es Cure You of Pimples and Bir Surely and Quickly.

Burely and Quickly.

ZEMO is a clean, antiseptic solution, not a greasy paste or cintment. You aimply apply it on the afficted partyour pimples, blotches and blackheads,—all eczems sores and pains, prickly heat, rash, tetter inflamed or recidened skin, all disappear. It also cures dandruff, which is scalp eczems. ZEMO is guaranteed to step itching immediately. It gives instant relief.

"I have had wonderful benefit from your famous ZEMO for the skin. It has cured my face completely." Miss E. N., Rugby Place. St. Louis, Mc. Go to any first-class drug store and get a 25c scaled bottle of ZEMO, of sent direct on receipt of price by E. W. Kose Medicine Co., St. Louis, Mo.

Sold and guaranteed in Omaha be

Sold and guaranteed in Omaha Sherman & McConneil Drug Co., and al. other leading drugglata

# Here's a chance, Miss Freckle-face, to

ing the filth of meat as served to all classes by the trust, it would be an excellent opportunity to test the efficacy of a vegetarian diet. I am not a vegetarian, as the word is understood, although I omit red meat in twenty years a still greater change from my diet, and have for years. I shall ome one in the course of time.

But I have lived at various occasions for eight weeks on nothing but milk and any of Sherman & McConnell Drug Co.'s a few prunes and pears and thrived in health and strength always on that diet. Recently I met and talked with a man who was a magnicicant specimen of humanity. Six feet and some inches in height, weighing 200 pounds, with firm muscles and a face radiant with health. scription sold under guarantee of n back if it falls to remove freckles.

vious: this man told me that he had lived the earth for six years on three quarts of milk a

Each quart taken slowly, in small sips, morning, noon and night. He was a wreck when he began, given of beef in any form. up as a hopeless dyspeptic by half a It is a natural supposition then that a preparation of animal meat for the mardozen specialists.

After trying all kinds of health foods bility of the now common kidney main- Some of these facts were given out by in the market he was advised to try the dies most remotemilk diet, and, as a result, he is able to work twelve hours a day without fatigue for your family do not get discouraged some of the consumers of the meat. and to forget that he has any digestive and do not imagine that starvation faces. May progress speed the day when no organs, so free from all pains of any

kind or any atiments is he. Having permanently injured his internal nachinery by years of wrong food and pernicious medicines, this man finds it impossible to return to a diet of solid foods for any length of time without dis-But since he finds sustenance and

health and happiness and good looks by

keeping to his milk diet he does not find the sacrifice of the table a serious one. I know a man who has not touched any flesh, fish or fowl as food for twentyfive years, living wholly upon vegetables, Now, that the absolute facts have been fruits, nuts, milk and eggs, and he is given to a long-suffering public regard- vigorous and strong in mind and body and never knows an hour's Hinesa. All the prevalling ideas of the foot necossary to sustain life and to premote Quaker City, and health and stimulate the brain will dergo is great change in the next dequie;

> will take place The revelations of the food trust and and the exposures of the best trust atrocities bringing the will help the himan rave to a higherstandard.

today eat a dead himan being.

Fox was a "practical" man. The coun-

way to New York.

The song was an immense success.

and in a very short time the piece was being wildly sung all over the counactor the time over the probability of a war. The effect of the song was as whole

bin," which was sung to the tune of the we will give both England and France President's March," an air that had a grand letting alone. We will be the been composed by a German-American tail to neither kite. We will stand on our named Roth for Washington's first own dignity as a free, proud, independent inauguration, and played for the first nation, and, without foreign entangletime in Trenton as the 'Father of His ments, make all nations respect us while Country," passed through there on his we are attending to our own business." Hence it turned out that from the petty. personal ambitions of Fox regarding the

Again and again was it encored, each pecuniary success of his little benefit time with renewed applause, and at the there sprang the song which was to a loss and being acquainted with Joseph and the great crowd sprang to its feet create a new spirit in the hearts of the With the doing away of the use of Hopkinson, a son of Francis Hopkinson, and rapturously joined in the striging, people, even that spirit of Americanism corpses for food a thousand and one ills one of the signers of the Great Declara- A few nights ofter the first presentation which, fortunately, is still strong in the