

MARCONI IS BEATEN.

American Inventor Puts Italian's Device in the Shade.

Can Transmit 52 Words a Minute to Two Wires - Atmosphere Will Not Affect the Work of the New Instruments.

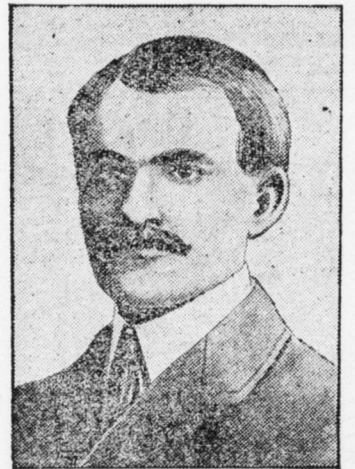
Wireless telegraphy has been taken out of the realm of theory and experiment and made a profitable commercial possibility by the invention of Dr. Lee De Forest, an American inventor and a graduate of Yale. He has perfected the De Forest receiver, or "responder," which consists of a small glass tube, open at both ends and holding in its bore two small wires. Between the ends of this is placed a small bit of special paste which ordinarily offers a passage for the local current. When the electrical wave from the sending machine traverses the responder on its way from the upright wire to the ground it increases the resistance of this device, but its conductivity is automatically restored the instant the electrical wave has passed.

A telephone receiver in circuit with the responder will give a sound which is an exact reproduction of the sound of the sending spark, from which emanates the electrical waves.

No relay or tapping-back device is required, as is the case with Marconi's receiver. Hence the simplicity and the great speed of transmission possible with the De Forest system.

During the last week two operators of the De Forest Wireless Telegraph company accomplished a feat which, while new in the annals of wireless telegraphy, is only significant of the possibilities before the responder or automatic receiver in combination with the telephone.

At the station of the De Forest company at 17 State street, New York, two



DR. LEE DE FOREST. (Inventor Who Has Just Improved the Wireless Telegraph.)

messages were received and read simultaneously by the two operators listening at two separate telephone receivers attached to one and the same De Forest responder, and without any special attenuating or synchronizing device in circuit. One message was from the De Forest Station Island station and was sent quite rapidly, 30 words per minute, with a high-frequency spark (120 per second). The other was from some foreign station, evidently a Marconi installation. The speed was about ten words per minute, sent with a low-frequency interrupter. One operator concentrated his attention upon the station island message while the other was able to pick out by their peculiar drumming sound the signals from the other station.

The fact that without any tuning device this can be accomplished with one and the same responder demonstrates the advantages of the telephone receiver over any sounder or tape-recording device, and the greater immunity of the De Forest system from atmospheric and foreign disturbances.

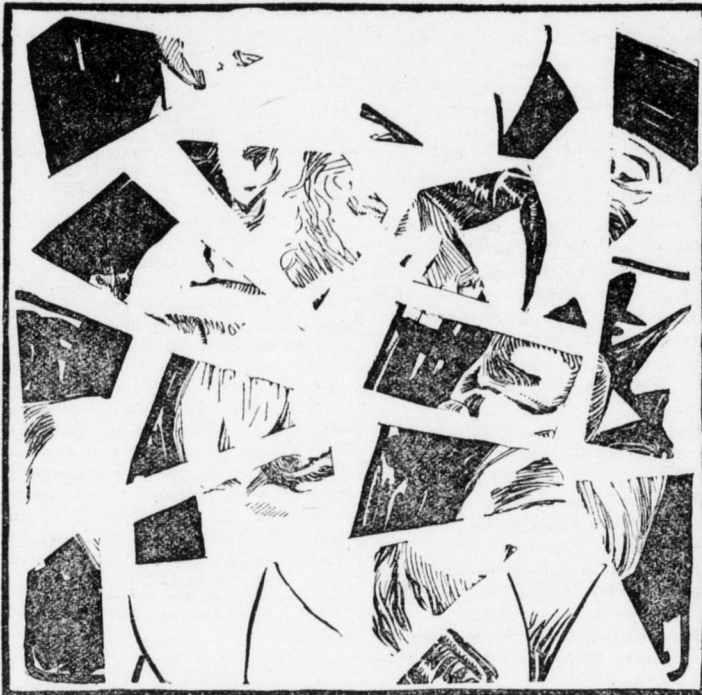
So far as has been published two simultaneous messages is the record to-day for any tuned or synchronized system in its present development, and it is interesting to know that, with two styles of interrupter and sending speed sufficiently diversified, the same can be accomplished by the human ear listening in a telephone connected with a De Forest responder.

Last week also the De Forest operators established a new record as to speed in its wireless transmission. A commercial message 48 words in length was transmitted and successfully read at the rate of 52 words per minute. This is by far the fastest speed yet attained by the wireless telegraph, being five times as rapid as is ordinarily attained by the coherer system, such as Marconi commonly uses, which only has a speed of ten or twelve words a minute.

The United States army has adopted the De Forest system to take the place of the cable system of communication between Forts Wadsworth and Hancock, New York harbor. The signal service of the United States government has purchased a De Forest apparatus to place on a war vessel in the far maneuvers off Sandy Hook.

Freeze Their Winter Milk. Cows are scarce in Labrador, because it is extremely difficult to keep them in the extremely cold weather. The natives procure their milk for the winter and then kill their cows. The milk is kept in barrels, where it freezes and never turns sour throughout the entire season. When one wishes to use any milk he has simply to go to the barrel and cut out a slice.

PUZZLE PICTURE.



WHO IS IT? Cut out the pieces and paste together so as to form the portrait of one of the greatest of American Authors.

NEWSBOYS GIVING CREDIT.

Compared with Capital Invested, the Young Paper Merchants Extend Large Amount.

Who is it in Chicago that extends the largest amount of credit compared with the capital invested in his calling? It isn't the banker, neither is it the dry-goods merchant, nor the grocer, nor the butcher. It is the newsboy, says the Chicago Chronicle.

He buys probably one dollar's worth of papers every day, and his customers pay him if they have time, and if they haven't he has to wait until some other day.

"When it comes to giving credit, us newsboys has got all these millionaire guys skinned to death," said "Manny" Peters, who has a regular "stand" at the Lexington avenue and Sixty-Third street station of the South Side elevated. "I have a regular line of customers who always buy from me," he continued. "One day last week I was laid up with a cold. The next day almost every one of my patrons stopped and wanted to know where I had been. Some of 'em said they had had to go to their offices without any papers just because they had intended to buy from me. You see, I sometimes go up on the elevated trains to scare up extra trade, and my regular people expected to see me after they got aboard. I wasn't there and neither was any other newsboy, so they had to sit around all the way downtown without reading anything except the advertisements on the billboards. I felt pretty bad about it, and made up my mind it would take

more'n a cold to keep me at home the next time.

"What about the credit? Well, if you had been using your eyes since you stood here you would have seen for yourself. Only about three men in every five pay for their papers. If I see 'em coming on the run I have the paper they usually buy ready for them. They grab it as they pass by and pay me for it the next day or the next, when they have both time and change. If I happen to forget, they remind me. In all the time I have stood here, which is about two years, I have never lost but six cents.

"Sometimes a man will expect me to trust him after he has bought from me only three or four days. I never refuse. There isn't a bank in Chicago that gives the amount of credit, compared to the amount of capital invested, that I do. And there ain't no red tape about my dealings with my customers, either. They don't have to have a rating with Dun or any letter of credit, or even an introduction. They ask for credit and they get it—that's all there is to it.

"You see that barrel there? Well, when I go up on the L to sell papers I usually leave six or eight copies of each of the dailies on top of the barrel. There ain't no one to watch 'em, but I never lose any. A customer comes along and takes a paper and leaves the money for it if he has it. If he hasn't he takes the paper just the same and the next day tells me that he owes me two cents. I take his word for it and his money at the same time, although I may never have seen him before."

Christian Tendencies in the Schools

By PROF. T. A. MOTT, Superintendent of Public Schools, Richmond, Indiana.

THE best period of human life is childhood. It is the richest and largest. It has most sympathies, the most capacities, the most pleasure of any time between birth and old age.

IF THE PRINCIPLES OF CHRISTIAN ETHICS ARE TO TAKE ROOT IN THE LIFE OF OUR PEOPLE, THE WORK MUST BE BEGUN IN THE SCHOOLS.

The true warp and web of Christian character and faith are necessarily wrought out in the school period of life. Ideas cannot become the permanent possession of the world unless they enter in through the door of childhood. The results of child study have shown to the educational world that it is at the age of from 12 to 15, the opening period of adolescence, that the individual is most susceptible to the influence of culture and refinement. In most lives this is the time of the dawn of the real educational and religious instincts. It is the waking time of life in body, mind and heart. Now it is we find that subtle emotions are settling into dispositions, and dispositions are becoming character. The great instincts of altruism begin to be felt and to transform the soul, and there comes to the individual the great conception that life is after all not to be lived for self, but for others. There comes to the soul the instinct of subordination and sacrifice, "of being ready to die for that we should live for." It is in this period that the principles of religious character can be most surely appropriated by the life of the individual. This is the age of confirmation in the Greek, Roman and Lutheran churches. The statistics of the leading Protestant churches show that this is the age in which occur the greatest number of lasting conversions.

THE GREAT NEED OF THE COMPLEX CIVILIZATION OF THE TWENTIETH CENTURY, with its diversity of economical interests, its conflict of principles and the struggle for supremacy, IS CHRISTIAN MANHOOD. But the agencies for the development of this quality among the masses of the people are limited. The churches and the Sunday schools in their many lines of activity are doing much; but they have but one or two hours a week, and nearly half the children are not brought under their direct influence at all. If the principles of Christian character are to predominate in the future civilization of America, the state schools must assume the responsibility, in a measure at least, of giving to all the children that come under their charge a basis of religious education.

FAITH CURE FOR CHOLERA.

Sold by the Friars in the Philippines and Hinders Work of Sanitary Boards.

An interesting account of a cholera cure, invented by the friars of Santo Thomas college, in the Philippines, and sold to the natives at two and one-half cents, Mexican, is contained in a copy of the Manila American received at the war department the other day. It is described as resembling faith cure, being issued in form of circulars, at the top of which is printed "Saludable remedio contra la pest," which, translated, means "Remedy against the pest." Below this inscription is a cross and a prayer.

These circulars were sold for two and one-half cents, Mexican, and, according to the reports, received an enormous distribution. Dr. Hermann, of the Manila board of health, in speaking of the issuance of the paper, said:

"In the prayer itself there is no harm. If the natives find any relief from the terrors of cholera in prayer, by all means let them pray. The difficulty, however, does not lie in this direction. The spreading of these circulars through the land has a tendency to influence the natives against the practical efforts of the board of health to down the plague. It is by such means that the priests hold their power over the people and cause them to adhere to the old superstitions that even from the faith cure standpoint could not be justified.

"I certainly cannot commend the sale of these circulars, and believe that the influence of the priest has been an impediment in our campaign against the cholera."

The Man and His Theory.

Once upon a time a theorist believed that he had a plan for making large profits in a short time on a small investment. He took a few friends and their money into his confidence and explained his theory to them. Their joint fortunes went into a pool that was to pay 400 per cent. profit in three months.

One day there came a report that startled the stockholders. Their theory of profits had gone to smash, carrying their money with it, and hurling them all into bankruptcy.

Moral—Theories are likely to explode, with terrible consequences.—N. Y. Herald.

The Chicago & Alton Railway has established an Employment Bureau, the purpose of which is to recruit employees from among the people living along the line of the Alton Road. The head of the Bureau meets citizens living in towns upon and adjacent to the line of the Alton Railway for the purpose of getting in touch with young men of good habits and high character who would like to become employees.

Students in telegraph offices, clerks in various departments, operators, brakemen, firemen, etc., are recruited from persons whose record is kept by the Alton's Employment Bureau. The selections being made from those who are best suited and qualified after having passed mental and physical examinations which have been made a part of the requirements for employment.

One Great Difference.—"What's the principal difference between the wise man and the fool? There's no one so wise that he sn't a fool some time, is there?" "No; but the wise man knows when he makes a fool of himself, and the fool doesn't."—Chicago Post.

The Mobile & Ohio Railroad has inaugurated dining car service between St. Louis and New Orleans and Mobile. The headquarters of the Superintendent of Dining Cars and the Commissary have been located at Jackson, Tennessee. In cost, finish and furnishing, the cars equal any that have yet been built.

And It's Incurable. Judge—What is your profession? Witness—I'm a poet, your honor. "Hub! That's not a profession; it's a disease."—Chicago Daily News.

It Cures While You Walk. Allen's Foot-Ease is a certain cure for hot, sweating, callous, and swollen, aching feet. Sold by all Druggists. Price 25c. Don't accept any substitute. Trial package FREE. Address Allen S. Olmsted, Le Roy, N. Y.

To be thrown upon one's own resources is to be cast into the very lap of fortune.—Franklin.

Stops the Cough and works off the cold. Laxative Bromo Quinine Tablets. Price 25 cents.

There are a good many necessary evils that are not really so necessary as they are convenient.—Puck.

I do not believe Piso's Cure for Consumption has an equal for coughs and colds.—John F. Boyer, Trinity Springs, Ind., Feb. 15, 1900.

With the true artist money is a secondary consideration; but it is usually a very good second.—Puck.

The man who thinks leads the crowd.—Rum's Horn.

Few things are impossible to diligence and skill.—Addison.

Charity is a virtue of the heart, and not of the hands.—Longfellow.

In this world a man must either be anvil or hammer.—Longfellow.

The last pleasure in life is the sense of discharging our duty.—Hazlett.

The cheerful life longest in years, and afterward in our regards.—Bovee.

Good humor and generosity carry the day with the popular heart all the world over.—Alexander Smith.

As long as a man likes to watch a circus parade he is not too old to enjoy life.—Washington (La.) Democrat.

Don't stand in people's way till they kick you out. They'll do it if they have to.—Washington (La.) Democrat.

Wiggles—"Jackson is about the most obstinate man I know." Waggles—"Yes, Jackson is sure to live to be 100."—Somerville Journal.

"If there are two things I hate they are cats and alarm clocks." "Sure, but it's a nice combination if you can manage to hit the one with the other."—Baltimore News.

"Do you take any interest in politics?" asked the professor. "Why, certainly not," answered the politician, indignantly. "All I want is the principal."—Indianapolis Sun.

"I don't suppose it's very expensive to keep a horse down in your country." "Sometimes," replied the Texan, "it's as much as your life is worth to even take one."—Philadelphia Press.

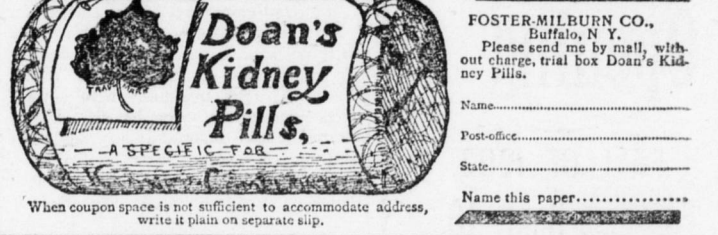
"What do reason Br'er Williams set his eye w'en de collection basket gwine round?" "He say de singin' do him so much good dat he 'bledge' ter fall asleep in dream or Heaven!"—Atlanta Constitution.

FIFTY THOUSAND PEOPLE

personally interviewed at their homes say Doan's Kidney Pills cured them. Thousands took advantage of this following free offer directly it was made. Friends heard of their cure; thus came the great fame of Doan's. They realized what they promised. By their direct action on kidney structure, backache, back, hip, and loin pain is removed. The conditions causing sleeplessness, heart pal-

pitiation, headache, and nervousness passes away; swelling of the limbs and dropsy signs vanish. They correct urine with brick dust sediment, high colored, excessive, pain in passing, dribbling, and frequency. These pills dissolve and remove calculi and gravel. They are free to readers of this paper for a few days. Cut out coupon, fill address plainly, and mail Foster-Milburn Co., Buffalo, N. Y.

You Get this Free by Cutting out this.



When coupon space is not sufficient to accommodate address, write it plain on separate slip.



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Much that all should know about the skin, scalp, and hair is told in the circular with CUTICURA SOAP.

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We will mail Free Total Treatment, with book of instructions, enough to convince you that Paxtine Toilet Antiseptic is unequalled for local treatment of woman's special ills. Its cleansing and healing power as a douche is wonderful. Quickly purifies and breaks and cleanses teeth and mouth perfectly. Sold by druggists or sent postpaid. 50-cent large box. Satisfaction guaranteed or money cheerfully returned. Send 3-cent for postage and packing on large trial package—now with 5¢ bonus. The R. Paxton Co., Boston, Mass.

HAMLEN'S WIZARD OIL DIPHTHERIA-CROUP

FREE HENRY C. BLAIR'S TEETHING NECKLACE

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We don't practice economy here. It uses the very choicest materials. A supply on your pantry shelves enables you to have always at hand the essentials for the very best meals.

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Write for our booklet "HOW TO MAKE GOOD THINGS TO EAT."

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