

# An Interview With Nikola Tesla, Electrical Wizard

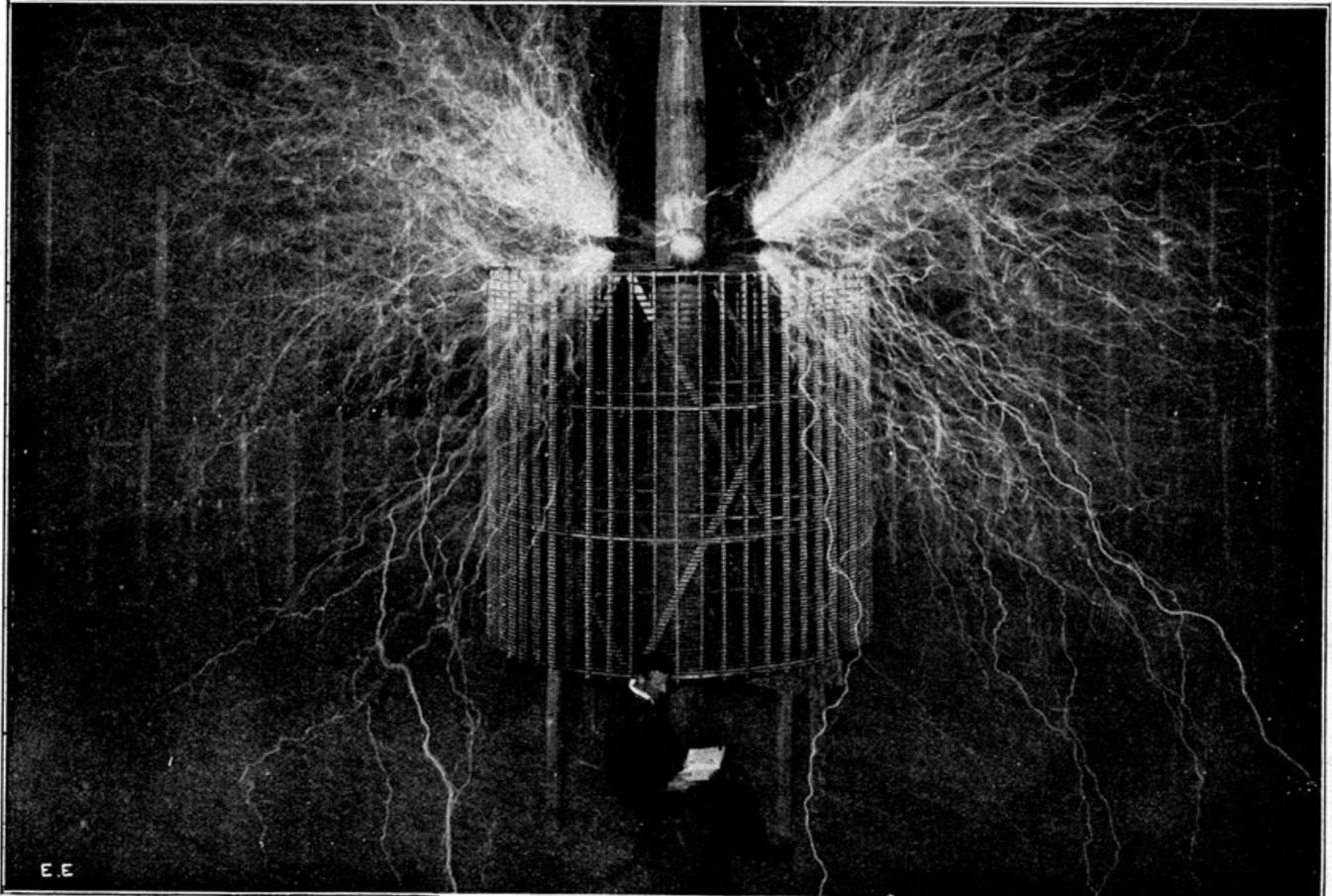
By Samuel Cohen

**T**HERE is no doubt about it—your heart does beat faster when you are about to meet a famous electrical scientist, one of the foremost in the world. Before you go you don't think so. It didn't beat a second faster when

production of extra large electrical discharges, such as here shown.

This display of sparks will be the more appreciated when it is stated that the streamers from end to end measure 70 feet and the current leaping into the air is

chine of such power must be handled with the utmost care, as the slightest carelessness may kill the experimenter; even if he were at a considerable distance from the machine. Mr. Tesla stated that he had had several narrow escapes while experiment-



E. E.

you entered the outer office, perhaps; but as I stood on the threshold of the big waiting room where Mr. Nikola Tesla does his day's work my nerves were highly strung. Why? Why hadn't I felt like this when I had talked to other great inventors and scientists? I had been impressed, truly, by these men, but not to any such extent as when I entered the room where the master electrical wizard lives; he who has produced electrical discharges resembling lightning bolts.

After a few minutes, I was ushered into the presence of Mr. Nikola Tesla, who stood in the corner of the room awaiting me. I asked him regarding his latest achievements, but Mr. Tesla only smiled and told me first of some of his experiences some years ago, when he produced some of the largest electrical discharges ever attempted by man. He spoke of some of his wonderful experiments with high frequency currents at high potentials, which he made in 1899. The photograph Fig. 1, herewith shown, is one of the large Tesla apparatus for the production of very high frequency, high tension currents. This apparatus was built in 1899 for his plant at Colorado Springs. At this plant and in the same year he made a number of valuable discoveries. Among these was one on which a patent was recently granted to him. This patent covers the method of



Top Photo Shows Largest Sparks Ever Produced by Man. Mr. Tesla is Seen Sitting. Seventy Feet Across Spark Streamers. Lower Photo. Mr. Tesla and His Marvelous Wireless Light.

800 amperes, with a maximum potential of 12,000,000 volts. The power supplied to this machine was 300 kilowatts. These voltages are high enough, but Mr. Tesla designed larger apparatus capable of reaching a tension of 100,000,000 volts. A ma-

ing in 1899, caused by "balls of fire" striking out into the atmosphere.

The metal balls of the coil here shown are 80 cm. in diameter. The current oscillates at a frequency of 75,000 cycles per second. Some of these discharges were two and one-half times as large as common lightning discharges, and they could be heard twelve miles away from the apparatus. Mr. Tesla is observed seated and reading one of Faraday's scientific books.

This remarkable man has spent a fabulous amount of time and money in perfecting his apparatus for the transmission of electrical energy without the aid of any wires. The smaller photo, Fig. 2, shows Mr. Tesla holding in his hands a 14-inch glass bulb, which is highly exhausted and containing a drop of mercury. The electrical power received by this tube is obtained from a loop of wire located behind the screen, which is supplied with an ultra-high frequency current. The tube was not connected in any way to the apparatus. As soon as the current was sent through the wire loop a high potential current was induced in the bulb, which vaporized the drop of mercury, causing it to give forth a blinding light of thousands of candle-power. The photograph was taken by the light of this tube, with an instantaneous or snap-shot exposure. Mr. Tesla has a  
(Continued on page 45.)

## EDISON RECEIVES CIVIC FORUM MEDAL.

"Inventor and World Benefactor" was the inscription on the gold medal of the Civic Forum which was presented to Thomas A. Edison on May 6 in Carnegie Hall, as a national testimonial. President Butler, of Columbia University, who presided and made the presentation, said:

"This gold medal is not awarded for any particular achievement, but for distinguished services and great scientific achievements and in recognition of a great career, which has a place among the very highest in the roll of human history."

A brilliant assemblage of world-famous engineers and scientists were present on this great occasion.

Guglielmo Marconi, the distinguished wireless inventor, was present on the platform and said:

"It would be useless for me to say that there is the greatest admiration for Mr. Edison in Europe. If anything, it is greater there than here. Americans may well be proud of the fact that Mr. Edison is an American. I am glad for us Europeans that Mr. Edison belongs to the world."

Letters from ex-President Theodore Roosevelt and ex-President William H. Taft, Alexander Graham Bell, and others were read by Robert Erskine Ely, a trustee of the Forum. Those who lauded the work and personality of Mr. Edison in addresses were Nicholas Murray Butler, ex-Governor J. Franklin Fort of New Jersey, George McAneny, Guglielmo Marconi, President Richard C. Maclaurin of the Massachusetts Institute of Technology, Charles A. Coffin, chairman of the board of the General Electric Co., Dr. John A. Brashear, the Pittsburgh astronomer, and Dr. Charles P. Steinmetz.

Percy Mackaye recited a poem he had written for the occasion. Here are the opening stanzas:

A thousand leagues on the Arctic sea  
A ship went down through the frozen  
floe.  
Captain and crew they watched her go:  
They ran her colors free;  
They cheered her lustily;  
And far peoples chanted her praise with  
them  
Where a phonograph, from her plunging  
stem,  
Pealed to the stars her requiem.

A thousand leagues through the Afric  
wood  
A man went looting the jungle's wealth:  
Leopard nor lion could stay his stealth,  
Nor sleeping-death nor flood:  
He drew not the monsters' blood,  
But he led them alive through the  
scorching day  
By a tape of moving film, to play  
With the wondering children of Broad-  
way.

A thousand leagues, or a thousand years,  
Are motes in the gaze of the seeking  
mind:  
By its own radiance thought can find  
Its way to ultimate spheres  
Dark, till its beam appears  
To blazen them. So on that beam hath  
run—  
Round Arctic moon and Afric sun—  
The electric mind of Edison.

The medal, which is one awarded annually by the Civic Forum for distinguished public service, was massive and elaborate. Last year it was awarded to Col. Goethals.

On July 1st the subscription price of the "E.E." goes to \$1.00. Subscribe now. See page 38.

## The Tower of Jewels at Frisco's Exposition

The Tower of Jewels, the dominating piece of architecture of the entire Panama-Pacific Exposition, is shown here, illuminated for the first time. That it does not belie its title is evidenced by its beauty when it is illuminated. There are 125,000

000 jewels is backed by a mirror the size of 25-cent piece. The tower is a terraced structure, the principal features being the gigantic figures of the Philosopher, the Priest, the Adventurer and the Scholar; the work of John Flanagan, of New York.

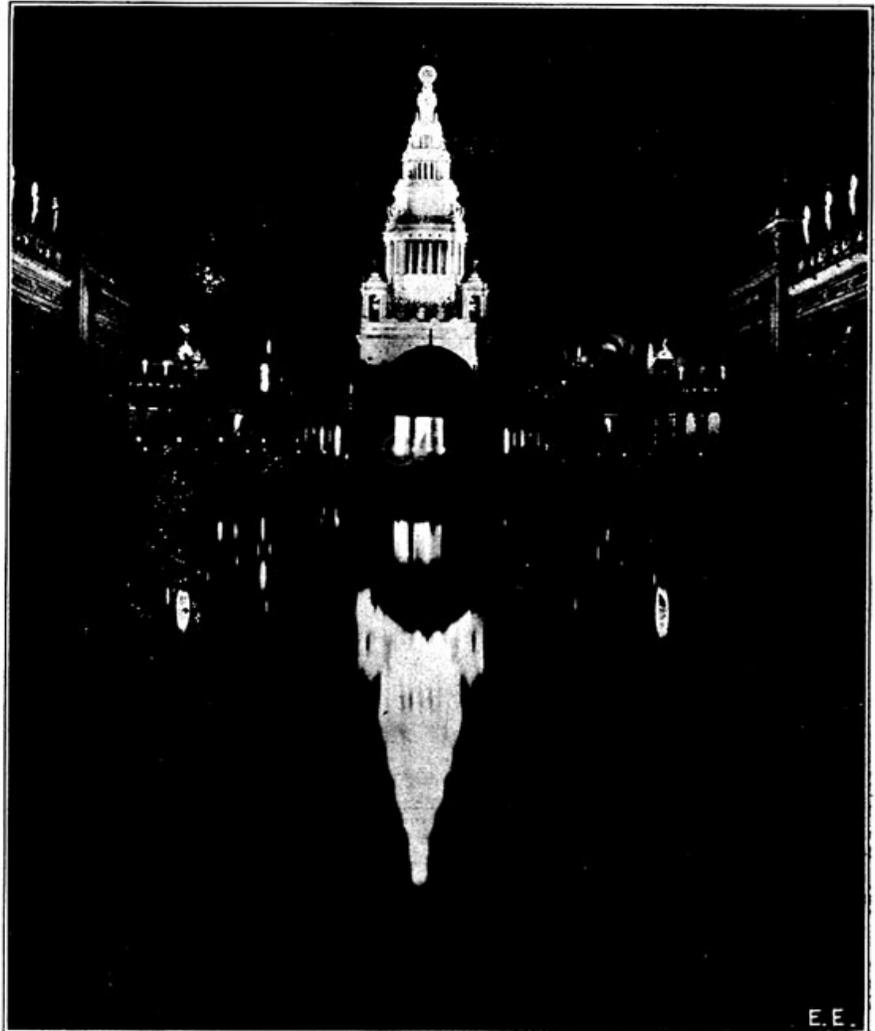


Photo (C.) by Underwood & Underwood.

The Beautiful "Tower of Jewels" at Night, San Francisco Exposition.

jewels or novagems used to decorate the tower which stands on the Avenue of Palms, and is the work of McKim, Mead & White, of New York. Each of the 125-

Under the tower are 44 feet long murals by Edward Simmons. This is only one of the many beautifully illuminated buildings at the exposition.

## AN INTERVIEW WITH NIKOLA TESLA.

(Continued from page 39.)

number of startling new discoveries and inventions in the electrical field, which he does not care to announce at present, and he considers these latter of greater moment than any electrical work he has so far done. He intends in the near future to transmit wirelessly speech and energy around the world from his very powerful electric wave station on Long Island, which is as yet not completed, but which will be finished soon undoubtedly. Mr. Tesla stated, "that the day will soon come when he will show the world that the transmission of power and speech without the aid of any wires is possible."

Mr. Tesla was the first inventor of the induction motor and the system of alternating current power transmission, popu-

larly known as two-phase, three-phase, or poly-phase systems, which created a revolution in electrical engineering and are now universally adopted.

His most important recent work is the discovery of a new mechanical principle which he has embodied in a great variety of machines, such as reversible gas, steam and water turbines, mechanical transformers and transmitters of power, etc. This principle enables the production of prime movers capable of developing ten horsepower, or even more, for each pound of weight in the machine. His present prime mover could be very successfully used in the propulsion of vessels at extremely high speeds, he explained.

The allotted time grew short, and in a few minutes the great inventor bid me adieu and I left the presence of one of the world's most distinguished scientists of whom it has rightly been said: "He lives a hundred years ahead of his time."