

THE NEWEST THING IN ELECTRICITY

The Important Discovery of an Italian Savant in London.

HE FOUND A NEW KIND OF ENERGY

A Specimen of Waves That Can Be Used To Send Messages Through Thick Walls--Conjectures About Brain Waves--Are We on the Verge of a Revolution in the World of Science?

From the New York Tribune. Within the last few months the scientific world has been gradually waking up to the immense possibilities of a recent discovery by a young Italian named Macaroni, who lives in London. This discovery promises not only to develop a practical usefulness equal or superior to that of Rontgen's which it resembles in some respects, but also to give fresh stimulus to a variety of fascinating and fruitful researches in other directions.

When electricity passes along a copper wire without interruption, it pervades the whole of the conductor from surface to surface. But when it is made to alternate to and fro with great frequency, it confines itself to the surface. Something more happens, too. It is now believed that each time that an electric current begins to rise in a material conductor, what is called an "electro-magnetic field" is created around it; that is to say, a sort of strain is set up in the air immediately surrounding it. As soon as the current ceases, this strain is relaxed, and the "file" ceases to exist. It is as if there were a certain case, an infinite series of tiny rings of force are made from the surface; in the other case, that these rings shrink down simultaneously into nothingness. But if the alternations of current in the wire be very rapid (20,000, 30,000 or 40,000 per second), then the case is another. An infinite series of tiny rings of force are made from the surface; in the other case, that these rings shrink down simultaneously into nothingness. But if the alternations of current in the wire be very rapid (20,000, 30,000 or 40,000 per second), then the case is another.

Here is a curious discrepancy in the accounts of Hertz's work. In some places it is reported that the waves with currents having 100,000,000 alternations per second, while elsewhere he is said to have devised apparatus which gave him 500,000,000 waves a second. The number, however, is immaterial for present purposes. The great discovery which he made was that he could retract these waves by a peculiar prism, could reflect them and make them exhibit what are called the "interference" and "polarization" phenomena of light. He also discovered that these waves or rays traveled with the velocity of light. His conclusions have been generally received by the leading scientific authorities of the day.

Now, Hertz would set up exceedingly rapid surges of current in one metallic conductor and then place a second conductor at a distance from it in what was found to be an advantageous position. The magnetic waves which radiate laterally from the primary conductor through space would be caught by the secondary, and could be made to manifest themselves in various ways. The highest success was obtained, however, when the secondary was set up so as to respond; that is to say, it was especially designed to vibrate more naturally at the same rate as the radiance from the primary wire than at any other frequency.

TO DEDICATE TOMB FOR GRANT

An Elaborate Ceremony Soon to Take Place in New York City.

ARRANGEMENTS, THUS FAR MADE

The Parade Expected to Be One of the Greatest of Modern Times.

New York, March 19.—The next anniversary of the birth of General Grant will be a day long to be remembered by the residents of New York city and their guests. On that day the Grant monument will be dedicated, and the pomp and ceremony of the occasion will mark the closing scene in a pageant which has been a long time in preparation. It is expected that the city will take formal possession of the monument which many artists have pronounced the most impressive tomb in the world, not even excepting the mausoleum in St. Petersburg over the tomb of Peter the Great, the Kaiser Wilhelm Denkmal or the Prince Consort's monument in Hyde Park.

WHAT TESLA WILL ACCOMPLISH NEXT

He Now Proposes, as It Were, to Harness the Globe.

GREAT STRIDES IN ELECTRICITY

The Wizard of Electrical Science Has Some Ambitions That Almost Take One's Breath Away--Hopes to Telegraph to the Planets and Hitch a Telephone to a Ray of Light.

Writing in Leslie's Weekly about the wizard of electricity, Nikola Tesla, D. P. St. Clair says: This revolving globe generates every moment enough electricity to light the cities of the world to run all the machinery of the world for the balance of time. At the North Pole this electricity streams off in beautiful red ribbons called the auroras, and we see this phenomenon on account of the highly attenuated condition of the atmosphere. But everywhere, as high as the air reaches, around this earth is this immense wealth of nature, yet man, in his blindness and perversity, continues to manufacture with his little Yankee wheels and gears, placed before him in such abundance. He does not need to manufacture another spark; he needs only to use an infinitesimal fraction of what is already made and the world of intelligence will become a whirling galaxy, and the world of his machinery will revolve in its appointed motion out of the forces of the invisible air.

For more than ten years scientists have known that man was wasting his time and energy burning coal and wood, sending his waste products of his soil, and blackening the air of his cities, and then, with all his boasted speed, to move comparatively as a cripple. A few of them knew this, and one of them, Nikola Tesla, was bold enough to say that he could harness the world. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said.

THE GRANT MAUSOLEUM.

possession of the monument which many artists have pronounced the most impressive tomb in the world, not even excepting the mausoleum in St. Petersburg over the tomb of Peter the Great, the Kaiser Wilhelm Denkmal or the Prince Consort's monument in Hyde Park. The gigantic Doric monument which stands at the upper end of Riverside drive has not only location and architectural features in its favor, but it typifies true Americanism, as Grant, springing from seven generations of ancestors born on American soil, was a typical representative of American training and American institutions. The money for its erection came from the people by voluntary contribution and in sums ranging from a fraction of a dollar to thousands. It came from men who had fought with the hero of Appomattox and from soldiers and seamen whose husbands and fathers had fallen in the cause. It came from the banking house and the workshop, from the church and the school, and in hundreds of cases from people who asked that their names be omitted from the lists. All grades of society, all sects, creeds and denominations contributed toward the work, and while the object was to provide a resting place for the remains of General Grant, that and a higher object was accomplished; for as long as the monument shall stand to please the eye and inspire the soul, it will symbolize the appreciation of the people of New York for the services of their illustrious fellow citizen.

GOTHAM CHOSEN.

General Grant was a citizen of New York when disease laid a heavy hand upon him, but still, when the news came from Mount McGregor on July 23, 1885, that the victor had been vanquished, the sturdy soldier had passed away, many municipalities asked that his body be entrusted to their care and that they might erect a sepulchre of fitting magnitude. Washington was first in line. There Grant had stood by the side of Lincoln to repulse the "traitor" troops--there he had looked upon them as they tramped down the board avenue thousands upon thousands, bronzed and burned by the southern sun, yet bearing aloft with pride the bullet-riddled battle flags which they had carried to victory. There, in Washington, he had acted as secretary of war at a critical period in the life of the nation, and there he had rounded off his remarkable career as president. West Point, where he had received his education, and where the seeds were sown which in later years bore fruit in his greatest achievement, claimed for the mortal remains, which many thought should have been laid near the historic academy, Chicago, where the general had hosted of friends, wanted the honor of housing all that was earthly of Grant, and St. Louis and Galena felt that they also had rights in the matter. But the city of New York offered the site of the river front, the family thought well of it, accepted the proposition, and ten days after the end had come to the little mountain cottage, amid strains of martial music, between miles of dense masses of silent mourners the body of General Grant was borne to the temporary tomb near the spot where the monument now stands.

COLLECTING FUNDS.

A committee was organized to raise funds for the purpose of placing a suitable monument on the site, and in the course of a few years about \$150,000 was subscribed, but then, possibly because the proper methods were not employed, subscriptions ceased, and in 1892 some people expressed doubts as to the possibility of raising the sum necessary to erect a structure on the scale originally contemplated. About this time, at the request of the various military bodies of which he was a member, and because of his having been a member of General Grant's staff, General Horace Porter was chosen chairman of the Grant Monument committee, and within sixty days under his energetic and careful direction, the fund had grown to \$500,000 and the monument was an assured fact. Plans had been made by J. H. Duncan, and the original designs have only slightly modified or changed. A careful study had been made of similar buildings, with a view to avoiding their shortcomings. The work proceeded steadily, the officers of the committee gave much of their time to the cause, although not one cent of the fund was raised either for rent or clerk hire, and it is believed that much of the actual work on the monument has been done for less than cost. Although the monument in its present condition one as beautiful and

WHAT TESLA WILL ACCOMPLISH NEXT

He Now Proposes, as It Were, to Harness the Globe.

GREAT STRIDES IN ELECTRICITY

The Wizard of Electrical Science Has Some Ambitions That Almost Take One's Breath Away--Hopes to Telegraph to the Planets and Hitch a Telephone to a Ray of Light.

Writing in Leslie's Weekly about the wizard of electricity, Nikola Tesla, D. P. St. Clair says: This revolving globe generates every moment enough electricity to light the cities of the world to run all the machinery of the world for the balance of time. At the North Pole this electricity streams off in beautiful red ribbons called the auroras, and we see this phenomenon on account of the highly attenuated condition of the atmosphere. But everywhere, as high as the air reaches, around this earth is this immense wealth of nature, yet man, in his blindness and perversity, continues to manufacture with his little Yankee wheels and gears, placed before him in such abundance. He does not need to manufacture another spark; he needs only to use an infinitesimal fraction of what is already made and the world of intelligence will become a whirling galaxy, and the world of his machinery will revolve in its appointed motion out of the forces of the invisible air.

For more than ten years scientists have known that man was wasting his time and energy burning coal and wood, sending his waste products of his soil, and blackening the air of his cities, and then, with all his boasted speed, to move comparatively as a cripple. A few of them knew this, and one of them, Nikola Tesla, was bold enough to say that he could harness the world. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said.

THE GRANT MAUSOLEUM.

possession of the monument which many artists have pronounced the most impressive tomb in the world, not even excepting the mausoleum in St. Petersburg over the tomb of Peter the Great, the Kaiser Wilhelm Denkmal or the Prince Consort's monument in Hyde Park. The gigantic Doric monument which stands at the upper end of Riverside drive has not only location and architectural features in its favor, but it typifies true Americanism, as Grant, springing from seven generations of ancestors born on American soil, was a typical representative of American training and American institutions. The money for its erection came from the people by voluntary contribution and in sums ranging from a fraction of a dollar to thousands. It came from men who had fought with the hero of Appomattox and from soldiers and seamen whose husbands and fathers had fallen in the cause. It came from the banking house and the workshop, from the church and the school, and in hundreds of cases from people who asked that their names be omitted from the lists. All grades of society, all sects, creeds and denominations contributed toward the work, and while the object was to provide a resting place for the remains of General Grant, that and a higher object was accomplished; for as long as the monument shall stand to please the eye and inspire the soul, it will symbolize the appreciation of the people of New York for the services of their illustrious fellow citizen.

GOTHAM CHOSEN.

General Grant was a citizen of New York when disease laid a heavy hand upon him, but still, when the news came from Mount McGregor on July 23, 1885, that the victor had been vanquished, the sturdy soldier had passed away, many municipalities asked that his body be entrusted to their care and that they might erect a sepulchre of fitting magnitude. Washington was first in line. There Grant had stood by the side of Lincoln to repulse the "traitor" troops--there he had looked upon them as they tramped down the board avenue thousands upon thousands, bronzed and burned by the southern sun, yet bearing aloft with pride the bullet-riddled battle flags which they had carried to victory. There, in Washington, he had acted as secretary of war at a critical period in the life of the nation, and there he had rounded off his remarkable career as president. West Point, where he had received his education, and where the seeds were sown which in later years bore fruit in his greatest achievement, claimed for the mortal remains, which many thought should have been laid near the historic academy, Chicago, where the general had hosted of friends, wanted the honor of housing all that was earthly of Grant, and St. Louis and Galena felt that they also had rights in the matter. But the city of New York offered the site of the river front, the family thought well of it, accepted the proposition, and ten days after the end had come to the little mountain cottage, amid strains of martial music, between miles of dense masses of silent mourners the body of General Grant was borne to the temporary tomb near the spot where the monument now stands.

COLLECTING FUNDS.

A committee was organized to raise funds for the purpose of placing a suitable monument on the site, and in the course of a few years about \$150,000 was subscribed, but then, possibly because the proper methods were not employed, subscriptions ceased, and in 1892 some people expressed doubts as to the possibility of raising the sum necessary to erect a structure on the scale originally contemplated. About this time, at the request of the various military bodies of which he was a member, and because of his having been a member of General Grant's staff, General Horace Porter was chosen chairman of the Grant Monument committee, and within sixty days under his energetic and careful direction, the fund had grown to \$500,000 and the monument was an assured fact. Plans had been made by J. H. Duncan, and the original designs have only slightly modified or changed. A careful study had been made of similar buildings, with a view to avoiding their shortcomings. The work proceeded steadily, the officers of the committee gave much of their time to the cause, although not one cent of the fund was raised either for rent or clerk hire, and it is believed that much of the actual work on the monument has been done for less than cost. Although the monument in its present condition one as beautiful and

WHAT TESLA WILL ACCOMPLISH NEXT

He Now Proposes, as It Were, to Harness the Globe.

GREAT STRIDES IN ELECTRICITY

The Wizard of Electrical Science Has Some Ambitions That Almost Take One's Breath Away--Hopes to Telegraph to the Planets and Hitch a Telephone to a Ray of Light.

Writing in Leslie's Weekly about the wizard of electricity, Nikola Tesla, D. P. St. Clair says: This revolving globe generates every moment enough electricity to light the cities of the world to run all the machinery of the world for the balance of time. At the North Pole this electricity streams off in beautiful red ribbons called the auroras, and we see this phenomenon on account of the highly attenuated condition of the atmosphere. But everywhere, as high as the air reaches, around this earth is this immense wealth of nature, yet man, in his blindness and perversity, continues to manufacture with his little Yankee wheels and gears, placed before him in such abundance. He does not need to manufacture another spark; he needs only to use an infinitesimal fraction of what is already made and the world of intelligence will become a whirling galaxy, and the world of his machinery will revolve in its appointed motion out of the forces of the invisible air.

For more than ten years scientists have known that man was wasting his time and energy burning coal and wood, sending his waste products of his soil, and blackening the air of his cities, and then, with all his boasted speed, to move comparatively as a cripple. A few of them knew this, and one of them, Nikola Tesla, was bold enough to say that he could harness the world. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said. Well, it hasn't yet been changed, but while I was in his laboratory the other day he looked up from one of his machines with the confidence of Archimedes lighting his face. "I have found the way of harnessing the world, and I can show it to the world," Mr. Tesla said.

THE GRANT MAUSOLEUM.

possession of the monument which many artists have pronounced the most impressive tomb in the world, not even excepting the mausoleum in St. Petersburg over the tomb of Peter the Great, the Kaiser Wilhelm Denkmal or the Prince Consort's monument in Hyde Park. The gigantic Doric monument which stands at the upper end of Riverside drive has not only location and architectural features in its favor, but it typifies true Americanism, as Grant, springing from seven generations of ancestors born on American soil, was a typical representative of American training and American institutions. The money for its erection came from the people by voluntary contribution and in sums ranging from a fraction of a dollar to thousands. It came from men who had fought with the hero of Appomattox and from soldiers and seamen whose husbands and fathers had fallen in the cause. It came from the banking house and the workshop, from the church and the school, and in hundreds of cases from people who asked that their names be omitted from the lists. All grades of society, all sects, creeds and denominations contributed toward the work, and while the object was to provide a resting place for the remains of General Grant, that and a higher object was accomplished; for as long as the monument shall stand to please the eye and inspire the soul, it will symbolize the appreciation of the people of New York for the services of their illustrious fellow citizen.

GOTHAM CHOSEN.

General Grant was a citizen of New York when disease laid a heavy hand upon him, but still, when the news came from Mount McGregor on July 23, 1885, that the victor had been vanquished, the sturdy soldier had passed away, many municipalities asked that his body be entrusted to their care and that they might erect a sepulchre of fitting magnitude. Washington was first in line. There Grant had stood by the side of Lincoln to repulse the "traitor" troops--there he had looked upon them as they tramped down the board avenue thousands upon thousands, bronzed and burned by the southern sun, yet bearing aloft with pride the bullet-riddled battle flags which they had carried to victory. There, in Washington, he had acted as secretary of war at a critical period in the life of the nation, and there he had rounded off his remarkable career as president. West Point, where he had received his education, and where the seeds were sown which in later years bore fruit in his greatest achievement, claimed for the mortal remains, which many thought should have been laid near the historic academy, Chicago, where the general had hosted of friends, wanted the honor of housing all that was earthly of Grant, and St. Louis and Galena felt that they also had rights in the matter. But the city of New York offered the site of the river front, the family thought well of it, accepted the proposition, and ten days after the end had come to the little mountain cottage, amid strains of martial music, between miles of dense masses of silent mourners the body of General Grant was borne to the temporary tomb near the spot where the monument now stands.

COLLECTING FUNDS.

A committee was organized to raise funds for the purpose of placing a suitable monument on the site, and in the course of a few years about \$150,000 was subscribed, but then, possibly because the proper methods were not employed, subscriptions ceased, and in 1892 some people expressed doubts as to the possibility of raising the sum necessary to erect a structure on the scale originally contemplated. About this time, at the request of the various military bodies of which he was a member, and because of his having been a member of General Grant's staff, General Horace Porter was chosen chairman of the Grant Monument committee, and within sixty days under his energetic and careful direction, the fund had grown to \$500,000 and the monument was an assured fact. Plans had been made by J. H. Duncan, and the original designs have only slightly modified or changed. A careful study had been made of similar buildings, with a view to avoiding their shortcomings. The work proceeded steadily, the officers of the committee gave much of their time to the cause, although not one cent of the fund was raised either for rent or clerk hire, and it is believed that much of the actual work on the monument has been done for less than cost. Although the monument in its present condition one as beautiful and

Cottolene. There's only one. The best cooking fat. Cleanlier than lard and more healthful. THE N. K. FAIRBANK COMPANY, CHICAGO, ILL.

HUNT & CONNELL CO., Builders' Hardware, Gas, Plumbing and Electric Fixtures, Electric Light Wiring, STEAM AND HOT WATER HEATING, 434 LACKAWANNA AVE.

DUPONT'S MINING, BLASTING AND SPORTING POWDER. Manufactured at the Wapwallopen Mills, Luzerne county, Pa., and at Wilmington, Delaware.

GENERAL BELIN, Jr. Henry Agent for the Wyoming District, 118 WYOMING AVENUE, Scranton, Pa.

PENNSYLVANIA RAILROAD COMPANY, PERSONALLY CONDUCTED TOURS, MATCHLESS IN EVERY FEATURE.

CALIFORNIA. Tour to CALIFORNIA and the PACIFIC COAST will leave New York and Philadelphia March 27, returning on regular trains within nine months.

OLD POINT COMFORT TOURS. RETURNING DIRECT OR VIA RICHMOND AND WASHINGTON, will leave New York and Philadelphia March 15 and April 15, 1897.

NEW YORK HOTELS. EVERETT HOUSE, 145 Broadway, New York.

POPULATION. But the reason Philadelphia has the lower death rate is not because 3,000 people alive at the end of the year who would have died under Glasgow's economical city government is because in Philadelphia the population averages 1264 to the acre. In Glasgow it averages 563 to the acre.

WESTMINSTER HOTEL, Cor. Sixteenth St. and Irving Place, NEW YORK.

AMERICAN PLAN, \$3.50 Per Day and Upwards. EUROPEAN PLAN, \$1.50 Per Day and Upwards. GEO. MURRAY, Proprietor. The St. Denis, Broadway and Eleventh St., New York.

WILLIAM TAYLOR AND SON.