A Message to Circle the Earth In a Minute

THE Fourth of July will witness a celebration unique in the history of Independence day. This will be the formal opening of the Pacific cable by an interchange of congratulatory messages between President Roosevelt and Governor Taft. The significance of the event is manifest, for the United States will at last be in direct communication with all her insular possessions and messages can be transmitted as easily and rapidly between San Francisco and far away Manila as between San Francisco and Washington. As things stand today, cable messages from the Philippines to this country have to be sent by a very roundabout route, traveling via Hongkong, Singapore, Madras, Bombay, Aden, Suez, Alexandria, Malta, Gibraltar, Lisbon and the Azores, and vexatious delays are constantly experienced. Under the new order of things, however, whatever happens in any part of the United States and her dependencies can be almost instantaneously communicated to every other part.

The new cable will incidentally render empty the vaunting words of Will Shakespeare's Puck: "I'll put a girdle round about the earth in forty minutes." Just by how much Puck's record is to be excelled may be made known in connection with the Fourth of July opening, for the Postal Telegraph company, in conjunction with the Commercial Cable company, is planning to celebrate the day by transmitting a message around the world and the officials of both companies are hopeful that the test will be completed in forty seconds rather than in forty minutes. To that end arrangements are now being made that will insure virtually instantaneous communication between the various relay points. The officials do not minimize the difficulties they will have to overcome, the most serious of which will be encountered in the journey from Manila to the Azores, owing to the numerous relays and the red tape of foreign governments, but they expect that their plans will be so perfected that everything will go through according to schedule and an unapproachable world's record will be established.

As a matter of fact the test is important only in so far as it will be in the nature of another tribute to the American genius—a demonstration of what has been accomplished by the building of the Pacific cable, which is essentially an American enterprise owing its inception to the late John W. Mackay and its completion to the company of which his son, Clarence H. Mackay, is the head. For commercial purposes, however, there will be no necessity of sending messages on similar world girdling trips—unless breakages along the cable route necessitate very roundabout journeys—for the greatest distance that need be traversed between any two points will be only half way around the world. But it is interesting to know what can be accomplished in the way of rapid communication, and if only for this reason the test is certain to arouse a worldwide interest.

Seven years ago a somewhat similar test was made, and it will be remembered that on that occasion twelve thousand people assembled in Madison Square Garden, New York, to witness what was then the most difficult experiment ever attempted in long distance telegraphy. The Postal Telegraph company was sponsor for the trial and had arranged to send a message from New York to New York, via San Francisco, Vancouver, Winnipeg, Montreal, Canso and London, where the Eastern Telegraph company stood prepared to transmit a copy of the message from London to Tokyo, Japan, and return, when it was to be hurried to New York once more. In this way the test, while not world girdling, would be as nearly so as was possible under the circumstances. The message traveled a total of 25,416 miles and was received in New York forty-seven and a half minutes after it had started on its journey. Naturally the feat was hailed as wonderful, but it will pale into insignificance if present plans do not miscarry.

Undoubtedly especial interest will attach to the rapidity with which the message is flashed from San Francisco to Manila over our new cable, for this will show just how great a stride has been made in the direction of bringing the United States and her colonies nearer to one another. After leaving San Francisco the first relay will be at Honolulu and the cable next lands on Sand island, in the Midway group, which takes its name from the fact that it is midway between the United States and the orient. Sand island, one of the most desolate of the group, is practically uninhabited and rises but a few feet above the sea level. In fact its highest point is said to be a sand dune thirty-eight feet above high water mark. The cable company will maintain on Sand island a force of twenty-five or thirty operators and intends to do everything possible to make them comfortable. They will live in houses built by the company, which will also erect a chapel, library and gymnasium and install ice making and distilling plants.

From Sand island the cable will run 2,293 miles before making another landing, finally coming to the surface at Guam in the Ladrone group, one of the islands ceded to us under the treaty of Paris. This island has a population of about 9,000 and a large American colony, so that the cable exiles will be much better off than their colleagues on Sand island. From Guam the cable will continue direct to Manila, a distance of 1,360 miles. It will first touch the island of Luzon at its northern extremity, proceeding south along the west shore until it comes to Manila. From Manila the wire will be extended to Shanghai.

The total length of the new cable, from San Francisco to Manila, will be 6,871 miles, plus 10 per cent "slack" to follow the contour of the sea bottom, or 7,558 miles in all. To keep this long line in repair the Commercial Cable company will have two ships constantly in commission, one of which will be stationed at San Francisco or Honolulu and the other at Manila or Shanghai. It is estimated that the entire cost of the completed cable, exclusive of the Manila-Shanghai extension, will be in the neighborhood of $12,000,000.

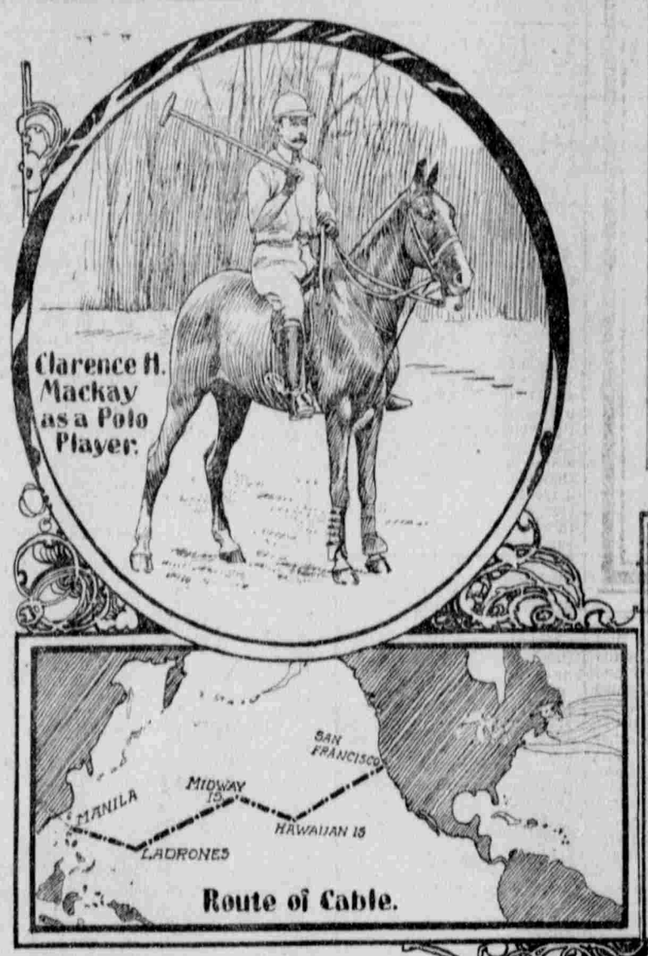
While these figures suffice to disclose the magnitude of the undertaking they show nothing of the delicate engineering problems involved in the construction of the cable, problems only equaled by those that confronted the builders of the all British cable from Canada to Australia, which was ready for business last November. Indeed, it is safe to say that were it not for the advances in engineering science during recent years the construction of such monster links as those joining Sand island and Guam or Vancouver and Fanning island would have been out of the question. Apart from this the builders of the all American line encountered two obstacles which, while not insurmountable, necessitated some skillful cable laying.

One of these was a submarine mountain west of the Midway group, rising from a depth of 2,200 fathoms to within eighty fathoms of the surface. The other was encountered about 500 miles east of Guam and was one of the deepest marine abysses ever found, having a depth of nearly 5,000 fathoms, or nearly six miles. Each of these involved the making of a detour and a corresponding increase in the length of the cable.

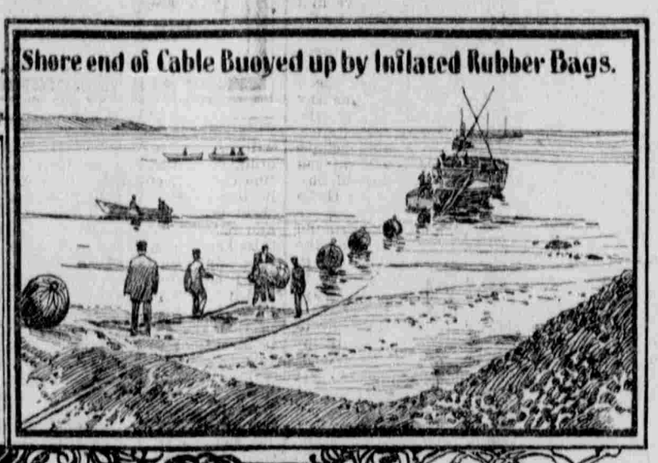
Great as has been the task the triumph will be still greater, and those who have been instrumental in bringing about this latest American achievement must feel a pardonable pride when, on Independence day, they start on its world girdling tour the message that will proclaim the opening of the all American link between the two hemispheres. It is not such a far cry back to the time when it required not forty seconds, but forty weeks, to convey a message over the territory that will be covered in the course of the coming test, nor is it so very long ago that the first cable was laid. Although it was in the eighteenth century that the Spaniard Salva suggested the possibility of subaqueous telegraphy it was not until the closing half of the nineteenth that his theories were put to practical use.

True, there are evidences of successful subaqueous telegraphy as long ago as 1828, but it was 1851 before the cablegram became a public utility. In that year communication was definitely established between England and France and the line then in operation is today practically intact, the gutta percha insulation having withstood the action of the waters of the English channel. Other attempts soon followed, culminating in 1858 in the building of the first transatlantic cable, in which Cyrus W. Field, one of the original projectors of the Pacific scheme, took a prominent part. Today the cable lines in operation are long enough to girdle the earth eight times or reach two-thirds of the distance to the moon. And to these will soon be added the all American line across the Pacific. The dream of the late John W. Mackay will thus become the realization of his son Clarence.

Clarence Mackay is not only an exceedingly clever business man, but has a sporting strain in his blood which has manifested itself in several ways. He is a skillful polo player and until his father's death was a devoted patron of the turf. Altogether he is a healthy, ambitious American, unspoiled by the inheritance of riches, the type of man from whom great achievements may be expected. LEE M. HARBISON.



Route of Cable.


Shore end of Cable Buoyed up by Inflated Rubber Bags.


Hauling Guam End of Cable Ashore.

THE CZAROWITZ IN AN OLD RUSSIAN COSTUME.

St. Petersburg society is still discussing the great court ball at which all the guests appeared in costumes belonging to that most interesting period in Russian history the reign of Peter the Great's father. Naturally special

attention was directed to the czarowitz, who appeared in the gorgeous uniform of a boyar of that day, and, as the illustration shows, made a very picturesque figure. Everything possible was done to keep up the illusion, even the orchestra being garbed in a dress which has not been worn in Russia for over 200 years.

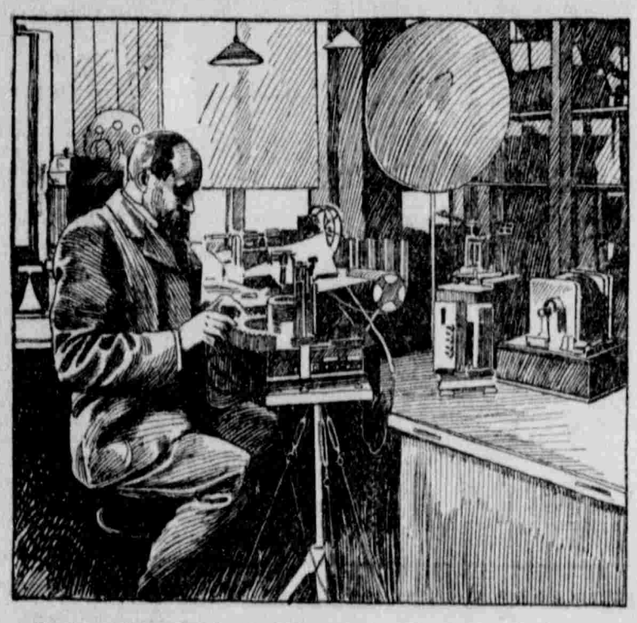
DOG TRAINED TO PLAY PIANO.

The accompanying illustration shows Turk, one of the cleverest trick dogs in the world, performing on the piano. Turk is owned by a Frenchman, who is planning to put him on exhibition in

this country. The piano trick is only one of Turk's many accomplishments, among his noteworthy feats being the picking out of numbers and letters on pieces of cardboard. Turk has for some time been the sensation of Paris. He is eight years old.

Persons, Places and Things Worth Reading About

"AIR WAVE" TYPEWRITER THE LATEST.



An interesting sequel to the discovery of wireless telegraphy is found in the invention by Professor A. Kamm of an "Air Wave" typewriter, whereby messages written on one machine are transmitted by wireless telegraphy to another machine and are then printed directly on a tape. The machines are said to be so delicately adjusted that "interference" is impossible. Professor Kamm is a well known English engineer and member of the Royal institution. He has been working for years on various forms of electric typewriters and this is undoubtedly his greatest success. The accompanying illustration shows the professor in his laboratory at work on the "Air Wave."

A FEROCIOUS LITERARY CRITIC.

While William E. Henley is recognized as one of England's most able literary critics, he is undoubtedly one of the most ferocious of ink slingers. Two years ago he aroused widespread indig-

WILLIAM ERNEST HENLEY.

nation by attacking Robert Louis Stevenson, and now he is to the fore in an assault upon Wordsworth, whom he describes as a bumpkin, yokel and lout in the treatment of meter. Wordsworthians are now busily engaged in defending the memory of their master. Mr. Henley is not only a brilliant critic, but a poet of merit and has published several volumes.

A NEW KING IN COTTON.

One of the most daring operators who ever appeared in the cotton pit is William P. Brown of New Orleans, who not long ago attracted great attention by succeeding Daniel Sully as leader of the bull contingent on the New York exchange. Mr. Brown is a member of the "self made" family. After leaving a country school he began life behind a counter in a small store, made some

WILLIAM P. BROWN.

lucky speculations, acquired a bank roll of $2,000, hastened to New Orleans and embarked in the cotton business. Luck and wisdom combined rapidly increased his capital until he is now rated a millionaire.

A DARING AERONAUT.

Stanley Spencer, the first man to cross London in an air ship, holds many other ballooning records of which the public knows little. The highest ascent ever made by an aeronaut in Great Britain was accomplished by Mr. Spencer from the Crystal palace just four years ago.

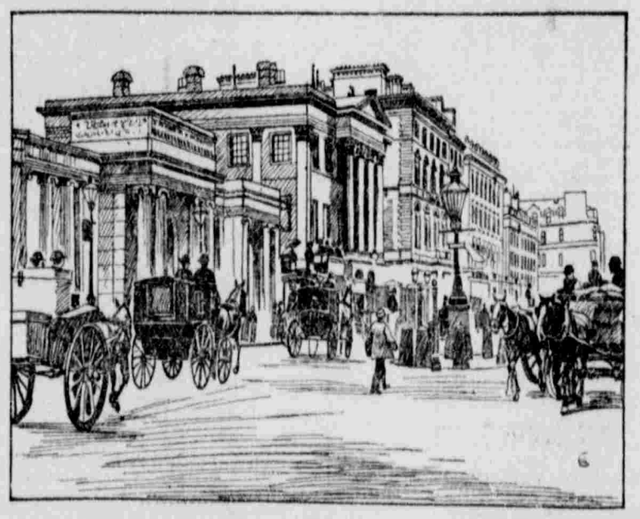
Accompanied by Dr. Berson, the scientist, the balloon on that occasion had soared to a height of 25,000 feet when the occupants of the car were nearly choked and began gasping for breath. Dr. Berson happily carried with him a tube of compressed oxygen fastened to the car, and by inhaling this oxygen Mr. Spencer and his companion were enabled to reach a height of five and a quarter miles.

SCHWAB TRAINING SCHOOL.

Thanks to Charles M. Schwab the boys and girls of Homestead, Pa., now have an opportunity to secure without cost a course in a first class industrial

school which Mr. Schwab has established at Homestead. Manual training has long been a hobby with Mr. Schwab and seven years ago he fitted up a school in the basement of a building in Homestead. The eagerness with which the young people availed themselves of the opportunity thus offered impelled Mr. Schwab to construct the present fine school, which is a three story and attic building.

AMERICAN MAY BUY HISTORIC LONDON HOUSE.



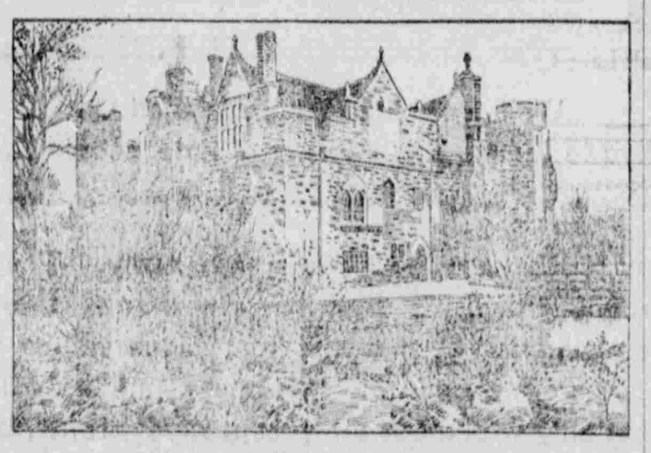
Coincident with the news that Apsley House, famous as the home of the Duke of Wellington, is to be placed on the market comes a report that it is likely this noted London dwelling will pass into the hands of a wealthy American. In the cut it is the dwelling with the four big pillars in front. It contains a wonderful picture gallery, wherein a banquet in honor of the battle of Waterloo was held annually until 1852. Englishmen have long nursed a species of veneration for Apsley House, recognized by a witty foreigner when he described the residence as No. 1, London.

MONUMENT TO A DEBATE.

The granite rock in Freeport, Ill., shown in the accompanying illustration is known as the Lincoln and Douglas

rock and marks the spot where Lincoln and Douglas stood during one of their famous debates. The stone was brought to Freeport from Devil's Lake, Wis., by funds raised by the members of the Freeport Woman's club.

CASTLE BOUGHT BY WILLIAM WALDORF ASTOR.



The famous Hever castle has just passed into the hands of an American. The castle is in Kent, and the purchaser is William Waldorf Astor. It was here that Henry VIII. courted Anne Boleyn, who lived there with her father. As the illustration shows, Hever castle is a very fine specimen of the fortified manor house. It is completely surrounded by a wide moat.

A HUMAN BRIDGE IN SWAZILAND.

As the illustration shows, the camera has caught a most interesting scene, the queen of Swaziland crossing a stream on a bridge composed of interlocked shields held up by her brawny bodyguard. Like most dusky monarchs the queen is rather stout, but if one of the warriors is rash enough to let his shield move out of position he is certain to suffer from the royal wrath. The queen is wearing her symbols of royalty—leopard skin and monkey tails.

YALE LAW SCHOOL'S NEW HEAD.

Professor Henry Wade Rogers, who was recently appointed dean of the law school at Yale, has been connected with

HENRY WADE ROGERS, LL. D.

the New Haven institution since 1900 only. He was graduated in 1874 from the University of Michigan and from 1885 to 1890 was dean of its law school, later becoming president of Northwestern university.

AT HOME AND ABROAD.

Three hundred and fifty square miles have been added to the British empire by the rectification of the frontier between India and Tibet.

The Church of England bishopric of the Mackenzie river in Canada covers an area five times the size of the United Kingdom.

The bishop of Quimper, in Brittany, states that out of 310 parishes in Finistere only five use French as the common language, while in 177 parishes no child of ten knows a word of French. In further Brittany 482,000 persons are totally ignorant of the French language.

No member of Oxford university may take his degree until after a residence of twelve terms. The fees to university students are $40.

Tariff was the name of a Moorish chief who, having a port in Spain, levied tolls on passing vessels; hence our present word tariff.

The only British university degree confined entirely to women is that of lady literate in arts—L. L. A. The degree is given at St. Andrews.

Malta is the most thickly populated island in the world. It has 1,360 people to the square mile. Barbados has 1,054 people to the square mile.

Twelve per cent of all the deaths in Switzerland, which is supposed to be a paradise for people afflicted with consumption, are caused by that disease.

Dr. Ludwig has melted carbon by subjecting it to a pressure of 22,000 pounds to the square inch. He kept it liquid for some time, and on suddenly cooling it solidified in the form of a gray powder containing minute diamonds.

During the past ten years British imports exceeded exports by 46 per cent.

Dorsetshire and Hereford, England, are the counties with the highest ratio of pauperism.

One year's drink bill of the United Kingdom would nearly pay for the South African war or would pay the rent of all the houses and farms in the kingdom.

A ton of coke of suitable quality for domestic purposes runs about forty-eight to fifty bushels to the ton as against thirty-six to thirty-eight bushels of hard coal.

The population of England and Wales is increasing at the rate of 400,000 a year.

According to Sir James Crichton Browne, the air of London contains 150,000 proportional parts of dust to 210,000 in Paris.

The fastest torpedo boat destroyer in the American navy, the Stewart, made a speed of 33.8 miles an hour on her official trial.

The amount of gas made by the various companies in the United Kingdom amounted in the year 1901 to the enormous total of 152,907,811,487 cubic feet.