

THE PROJECTORS OF THE ATLANTIC CABLE.

A special meeting of the New York Chamber of Commerce was recently held formally to receive the painting entitled "The Projectors of the Atlantic Cable," presented to it by fifty-two of the leading citizens of New York. Morris K. Jesup, chairman of the special committee having the matter in charge, presented the painting to the Chamber in an appropriate speech. Dr. Chauncey M. Depew delivered the oration, paying a glowing tribute to the memory and achievements of Cyrus W. Field, Moses Taylor, Marshall O. Roberts, Wilson G. Hunt, Professor S. F. B. Morse, Chandler White, and David Dudley Field.

The painting represents a meeting of the projectors of the Atlantic cable at the residence of Cyrus W. Field, in Gramercy Park. The venerable Peter Cooper is presiding. To the right stands Mr. Field, who is calling attention to a chart of Trinity Bay, pointing to Heart's Content as a safe harbor for landing the cable. David Dudley Field stands behind the president with a law book. Chandler White is handing estimates of expenses to Marshall O. Roberts, next to whom at the table is Moses Taylor. At the end of the table stands Wilson G. Hunt. Professor Morse is standing behind Mr. Roberts and by his side Daniel Huntington, the artist, sketching. The original idea

of the picture was suggested by Mr. Field to Mr. Huntington shortly after the completion of the cable.

GREAT FALLS AND GEYSERS—YELLOWSTONE NATIONAL PARK.

The accompanying illustrations are views in Yellowstone Park. Of all the remarkably beautiful localities of this country, that tract of land stands pre-eminent in the grandeur of its glacial and volcanic scenery; its lofty snow and ice capped mountains; its silvery lakes; and its turbulent rivers, cascades and falls. The park covers an area of about 200 square miles and comprises the greatest geyser region of the world, together with some of the most wildly beautiful scenery.

Foremost among the natural attractions of this place is the Grand Cañon of the Yellowstone and its Falls. At places this grand gorge is 2,000 feet deep, while the bottom of the cañon is hardly wide enough to permit the river to pass through, notwithstanding its wildly turbulent character. The falls are two in number, the upper and lower, and are about one-quarter of a mile apart, the first being 140 feet in height, and formed by a perpendicular cliff over which the water dashes in a smooth, silvery sheet. Below the falls the speed increases as the cañon narrows, and the river breaks into a grand roaring stream of foam and spray, only calming the instant it takes its second leap over a precipice 390 feet in height and forming the second fall. The first portion of the illustration is a view of the cañon and its upper fall.

If the Yellowstone, its cañon and its falls, can be surpassed in point of beauty and interest, the geysers and other volcanic features of the park present perhaps still more striking objects, for here are found the most beautiful geysers of the world. Some hourly shoot vast streams of steam and water high into the air, and others make themselves known only at periods of months or years. The principal and most regular geyser of Yellowstone Park is Old Faithful, which may be seen in eruption hourly, while the larger geysers erupt at greater in-

tervals; the Giantess after days and Excelsior only in years.

Geysers are only found in volcanic regions, the principal localities being Iceland, New Zealand and Yellowstone Park. They are generally thought to be

is to this fact that is due the eruptions of the geysers. Assuming a geyser tube to be filled with water and to be at an elevation where water will boil at the mouth of the tube at 100° Centigrade, under normal conditions the water at the mouth of the tube has not this

heat, while the water some distance below has this or even a greater heat, but as we descend the boiling point becomes higher, and this greater heat of the water is always below its corresponding boiling point in the same manner as at the mouth of the tube. When, however, the increase of water and vapors at the base of the tube and in the subterranean caverns with which they communicate results in a sudden lifting of the water in the tube, the highly heated water at the lower parts thereof is lifted to an elevation at which it will boil, whereupon the water in the tube is started to boiling, and the geyser is then in the height of its eruption. As soon as these abnormal conditions cease the geyser subsides into inaction, only to be again awakened when the above conditions recur.

Closely related, both in origin and nature, to the geysers, are the hot springs. These are most plentiful in Yellowstone Park, along Gardner River, where they bubble continuously and where their clear, limpid water soon cools and settles in terraced reservoirs along

the sides of the mountains, presenting a most beautiful appearance in the blending of the many colors of the coral-like formations at the terraces, and in the exquisite clearness of the water. Principal among the terraces is the Minerva Terrace, which is composed of a series of successively elevated reservoirs, from one to the other of which the water flows in beautifully clear and smooth sheets. This terrace is shown in the illustration.

The Organ of the American Liner St. Louis.

The *SCIENTIFIC AMERICAN*, in its issue of June 15, presented an illustration of the saloon of the new American Line steamer *St. Louis*, showing at the further end the organ built for the vessel by Messrs. Jardine & Son, of this city. The organ is the first ever put into a sea-going vessel, and some interesting modifications in construction were necessary to adapt it to the peculiar conditions to which it is subjected. Each pipe is supported separately by fastenings which admit of expansion and contraction. All the metal fittings are of brass, instead of iron or steel, that the dampness may not affect them injuriously, and, for the same reason, no glue is used in the woodwork, but everything is screwed fast.

The entire action of keys and stops is electric, and the keyboard is forty feet away from the pipes. The contacts are frictional and, therefore, self-cleaning. The magnets controlling the pipe valves consume only 0.05 of an ampere in current, and but 2 volts tension is required. The current is supplied by a 300 ampere-hour storage battery, charged when necessary from one of the ship's lighting dynamos.

Another organ, similar to that of the *St. Louis*, is now being built for her sister ship, the *St. Paul*.

ELECTRIC cars have been prohibited on the road from Berlin to Charlottenburg. They would have passed by the Imperial Technical Institute, and experiments showed that the current for the railroad strongly affected all the apparatus in the building, so as to make delicate scientific observations and experiments impossible.

D. D. Field.

S. F. B. Morse. Daniel Huntington.

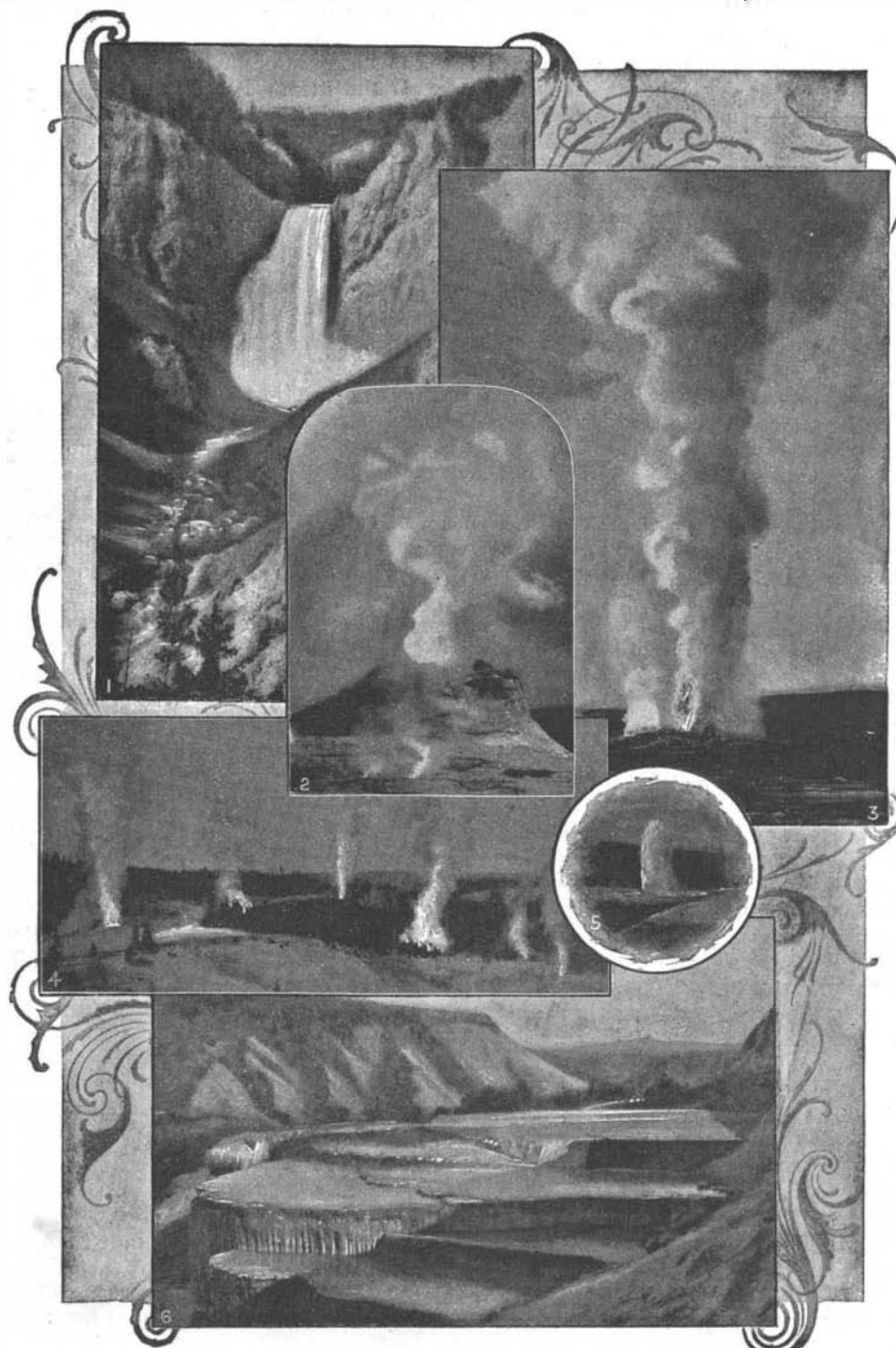
Wilson G. Hunt.



Peter Cooper. Chandler White. Marshall O. Roberts. Moses Taylor. Cyrus W. Field.

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passages in the earth communicating with subterranean caverns or reservoirs of hot water, the periodical discharges of steam and water being due to convulsions occasioned by the generation of steam in the passages or tubes. It is known that water will boil at different degrees of heat at different elevations, and it

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