

Electric Fountain at the Pan-American Exposition.

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The expectation is that the electric fountain of the Pan-American Exposition will surpass every feature of this kind that has yet been presented for the public entertainment or consideration. The fountain will be located in the North Bay, which is a beautiful sheet of water 800 feet wide by 900 feet long, a part of the Buffalo Park lake system. The average depth of water in the bay is 10 feet, the depth at the center being about 16 feet. The surroundings form an ideal setting for such a picture as will be displayed when the electric fountain is in operation. The banks of the bay are about 28 feet high, and run in a gradual slope down to the water. There is a forest growth all about, and it is easy to conceive the beauty of the scene when the fountain effects are displayed against the background formed by the banks and their wooded covering.

The plans provide for the construction of an island for the accommodation of the electric fountain in the center of the bay, extending southwest by northeast. This island will be 160 feet long and 80 feet wide, while its surface will rise 10 feet above the level of the water. The island will be built of rock, in order that by day its appearance will be in thorough harmony with the lake and woodland scene. There will be no wires nor pipes in sight to indicate that the island is a fountain. The rocks will be whitened to give a better light effect as the water falls over them, but even this will not be out of harmony with the setting.

This island will be so built that throughout its entire dimensions it will form a submerged chamber, in which there will be pumps, a motor, switches, levers and valves, together with pipes and wires in great quantity. It is from this chamber that the light and water effects of the electric fountain will be controlled by operators stationed there during the evening exhibition. According to the present plans, the electric fountain will play each evening for a period of about 25 minutes. It will be possible to display from 100 to 150 combinations.

In all there will be nine different piping systems, each controlled by operating levers, which will allow the various combinations. There will be about 102 fountain effects and 22 holophote orifices. The individual jets that will make up the several combinations will be known as the grand geyser, ring curtains, ring jets, wheat sheaves, geysers, lily jets, pulverizers, fan jets and mist banks. When in operation the grand geyser will throw a 1½-inch, solid, unbroken stream of water perpendicularly 250 feet in the air. Its location will be approximately at the center of the fountain, and in certain portions of the programme it will be the center of a mammoth pyramid of water in motion. In other figures the grand geyser jet will form in itself a jagged outline not unlike a pine tree in shape. The ring curtains, when in operation with other jets, will form a cylindrical figure of water cut off evenly at the top by the limit of force given to the streams by the operating valve. The ring jets will be somewhat similar to the ring curtains, with the exception that the individual jets are further apart, and each orifice maintains its pillar of water to the highest point of projection without breaking, thus permitting, when illuminated, an appearance of threads of light thrown vertically. The pulverizers will throw water in pulsating vertical streams to a height of 25 feet. These streams will be intermittent in their action and will be automatically operated. The fan jets will form a fan-shaped figure, 15 feet high and 20 feet wide in extent, the streams of which will radiate from a common center like the ribs of a fan. The mist banks will be jets that will completely cover the surface of the whole electric fountain with a dense mist formation.

The lighting effects that will accompany the fountain display will be obtained by the use of 22 searchlights, which will be furnished by the Charles J. Bogue company of New York city. These searchlights will be the regular fountain lamp of 20-ampere capacity, so arranged that they can be diaphragmed and focused at will. The lights will show through the holophote openings, and at each holophote there will be a color screen with disks having the primary colors, through which the light will be projected.

The operating chamber proper will be located below the central portion of the fountain deck. In this chamber there will be two pumps made by P. H. & F. M. Roots company, Connersville, Ind., one of which will have a capacity of 3,000 gallons a minute, with a pressure of 50 pounds. The other pump will have a capacity of 600 gallons a minute, with a pressure of 150 pounds. The smaller pump will supply the grand geyser jet, while the larger pump will supply the other fountain orifices. The water supply will be taken direct from the bay.

In this chamber there will also be a 500-volt, direct-current motor, made by the Westinghouse Electric and Manufacturing company, which will operate the countershaft that will be belted to the pumps. The energy for operating this motor will be taken from the 500-volt circuit provided for use of motors on the exposition grounds and which will come from the service plant. The current for operating the lamps will be obtained from a motor-generating set to be installed in an artistically designed booth, situated on the west bank of the North Bay.

To Luther Stieringer, electrical engineer, and Henry Rustin, chief of the mechanical and electrical bureau, must be given credit for the plans and details of this electric fountain. In reviewing the plans, Mr. Rustin was enthusiastic over the creation and is greatly impressed with the belief that it will be one of the most pleasing effects of the Pan-American Exposition.