

stairways following in a zig-zag line up the face of the bluff. These stairways will be about feet apart and the space between them will be converted into a waterfall. The distance from the level of the railroad tracks to the top of the bluff is about thirty-three feet, and this distance will be divided into three waterfalls, each having a fall of about ten feet. This arrangement will give the landscape architect ample opportunity for producing pleasing effects and Architect Walker believes that the approach will be an attractive feature to visitors. It will be necessary to dispose of over 1,000,000 gallons of water each day in order to keep the water in the lagoons to good condition, and it is thought that the waterfall will accomplish this result, while adding a pleasing feature to the grounds.

The department of exhibits has opened negotiations with the management of the New York Central & Hudson River Railroad to secure the old DeWitt Clinton engine and train, the first passenger train ever operated in this country.

One of the five passengers carried by this historic train is a resident of Bancroft, Neb. His name is Giles P. Ransom and he is 84 years of age. He is a tall and hearty specimen from the hills of Vermont and one of the most promising citizens of the flourishing Nebraska town where he resides. Mr. Ransom was a prominent figure at the World's Fair, where he formed a part of the exhibit of the first passenger train, and he has written the department of exhibits of the Trans-Mississippi exposition that he will be glad to perform the same duty in connection with the exhibit here.

The historic old relic made its first trip from Albany to Schenectady August 9, 1831, and Mr. Ransom, who at that time was about eighteen years old, was one of the five passengers. At that time the railroad was known as the Mohawk & Hudson River road, but is now a part of the great New York Central system.

If this engine and train can be secured, it will make a fit companion piece for the car which was used to convey the remains of the martyred Lincoln from Washington to Springfield. This old car is now the property of the Union Pacific and the officials of that road have agreed that it shall form a feature of the transportation exhibit.

The board of managers of the Trans-Mississippi exposition have decided to provide for an extensive railroad exhibit in the transportation department. Manager E. E. Bruce of the department of exhibits, said today that his plans to this end are now being formulated and that he is in consultation with some of the big railroad people who have volunteered to assist him in the work of getting together a creditable transportation exhibit.

A proposition covering a feature of the transportation exhibit is for a cycloramic portrayal of a railway journey from coast to coast, depicting with accuracy the diversified scenery along the line of great railway systems.

Nearly \$1,000,000 is in sight, from all sources, for the exposition. This sum is being constantly added to and

it is expected will be more than doubled by the end of 1897.

The estimated cost of the Exposition buildings, apart from the government and state buildings, is \$550,000. It is said that the sum total of cost of Exposition buildings of every kind, including those of different states and of concessionaires, will approximate \$1,000,000.

Estimates already submitted fix the probable cost of putting the Exposition grounds in shape at \$500,000. The fence enclosing the ground is about five miles in extent.

The government and state appropriations, aggregating \$300,000, will be available in July. Montana, Utah, New Mexico, Louisiana and Iowa have made preliminary appropriations to cover cost of representation at the Exposition, the total sum being about \$55,000.

Mr. Rosewater is in close communication with agents of the Exposition at Springfield, Ill., and hopes to announce soon the passage of a bill pending before the Illinois legislature, appropriating \$50,000 for the Trans-Mississippi Exposition.

UTAH MADE CEMENT.

New projects and enterprises are generally hedged around by obstacles, and particularly is this so with commercial undertakings in new countries where money is scarce and the natural resources undeveloped. But patient, persistent and well-directed effort overcomes, one by one, these obstacles and success in the end falls at her feet. Such has been the experience of a modest, deserving enterprise, namely, the Utah Portland Cement company. Its struggle with adversity has dragged through six long years, and years of especially discouraging conditions.

In 1890 a company of local men undertook to manufacture cement from the native stone found in the endless resources of our mountains, and the genuine quality of the material was at once demonstrated. Two years later Messrs. Cairns and La Due, eastern experts in the manufacture of real Portland cement came this way and investigated the work undertaken by the home company. Their discoveries in the laboratory gave them all the encouragement needed so far as the capabilities of our native material were concerned. They negotiated for a fifty years' lease of the plant, situated on the R. G. track at Eighth South street, and also the quarries belonging to the company.

So assured of success were these gentlemen that they at once secured the investment of eastern capital and incorporated the concern. A new and costly kiln was erected with the guarantee from the contractor that it would do the desired work, but it failed in this and put the corporation not only to the annoyance of a long delay but great expense. Being disappointed, and funds low, failure seemed almost inevitable without additional aid. Like Pallas, the potter, fuel pottery and credit consumed, with success still in the dim future. They hesitated for a moment. But the material, like his lost art, had not disappointed them, it was their working of it that was at fault.

Continued confidence in the possi-

bilities of the material moved the company to construct a new kiln, which was the one thing necessary to the production of cement second to none in present use. This was done, and a natural death averted by the friendly investment of additional capital. The construction of this kiln after the models of eastern factories was completed this spring and the factory is at present in full operation and is producing an article equal to the sanguine desires of the projectors. The cement manufactured has been put to the severest tests and is equal if not superior to any imported cement such as the English or German.

The success of this enterprise means to Utah the saving of home capital to the amount of \$170,000 annually and the employment of many men. The day is long passed wherein it could be said that no good thing can come out of Utah.

"After a most thorough test of this cement I can conscientiously recommend it for all purposes wherein cement is used," says Mr. Elias Morris, one of the original members of the company. City Engineer Kelsey also gives it his highest recommendation. In fact the Utah cement is a perfect article, and what is encouraging for its successful manufacture is the fact that it is put on the market cheaper than the present price of the imported cement.

The material for the cement comes from Parley's canyon, about four miles from the mouth, where there are vast quantities of perfect cement stone. The material is taken to the cement works on Fifth West street, and there is ground and mixed in the right proportions. In the quarries some of the stone has too much lime, some too little. This has to be regulated, and at the works is done by the most careful chemical tests. Then the material is baked in bricks, being hardened like clinkers. It is then ground up and prepared for market.

Under the process with the old kiln, which was improperly made, a high grade article was not always secured. Now it comes every time, the new kiln working to perfection. An experienced man, brought from Germany, and employed because of his superior skill, directs the turnace operations; and every time a high class cement comes from the kiln. As at the Lehi sugar factory every run of the best sugar in the market, so at the cement works, every lot of cement is above the standard tests for tensile strength.

When the Butte committee was here, tests were made with the Utah and imported cements in competition. In every instance the Utah article proved the equal or superior, not once did it fall back. The result is that when Butte goes to work with its pavements, 20,000 barrels of Utah cement will be wanted for the work now projected.

The Utah cement can be furnished to Montana, Idaho, Colorado, and Wyoming, in competition with the Portland cement from abroad; and the article produced here is superior to anything of the kind in Western America. If this cement works had been in operation as now when Salt Lake was using so much Portland