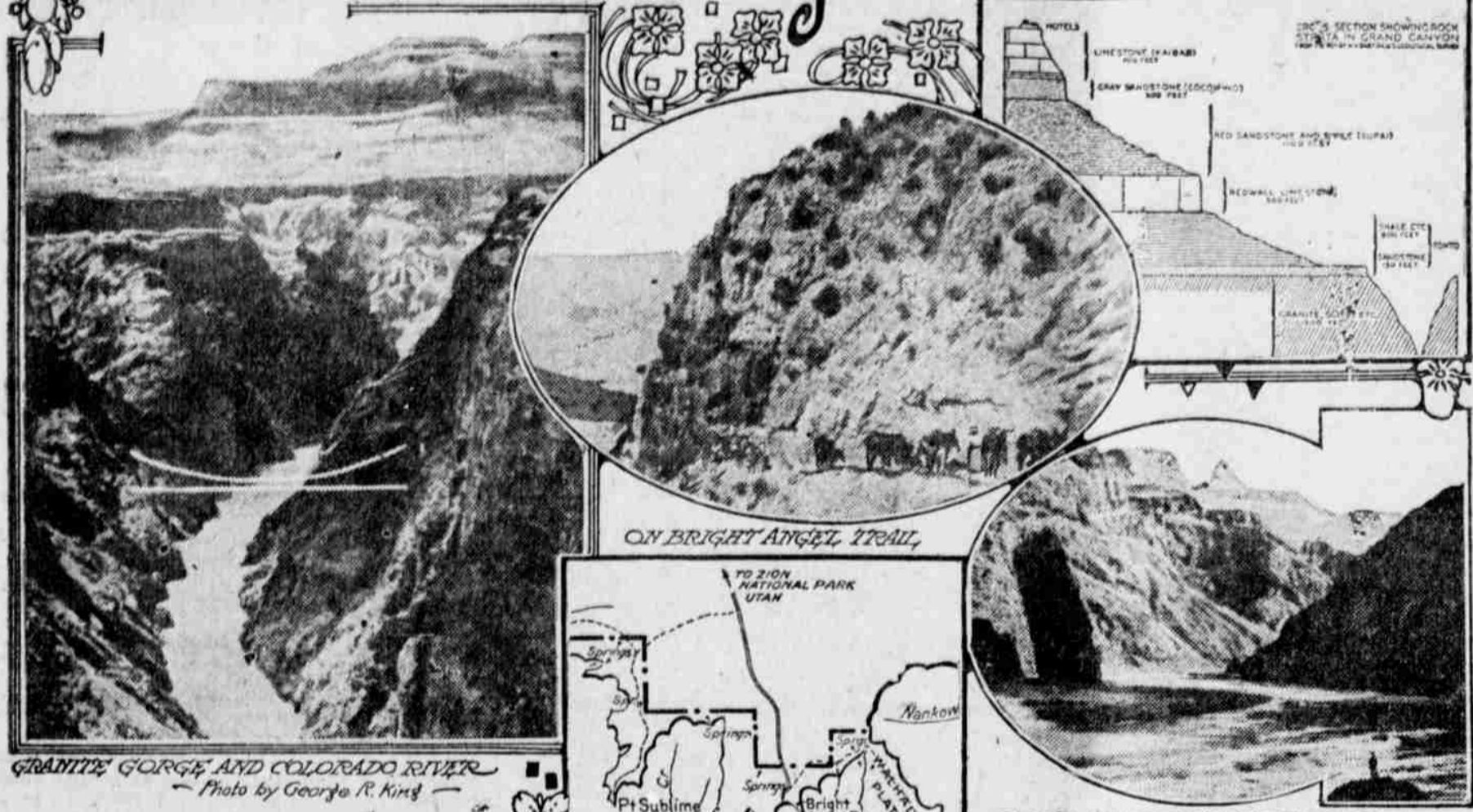


Suspension Bridge in the Grand Canyon

By John Dickinson Sherman



GRANITE GORGE AND COLORADO RIVER
Photo by George R. King

SUSPENSION bridge across the Colorado river in the depths of the Granite gorge in Grand Canyon National park! That means that you and your horse can get across the Grand canyon from El Tovar to the North rim. And that means that you will get some entirely new views of the Grand canyon and of the surrounding country. For the North rim is 1,500 feet higher than the South rim.

Presumably you will be able to use this suspension bridge this season. The national park service is working on the bridge now and has been for some time. But you can easily guess that building this bridge is some considerable job—especially if you have ever traveled Bright Angel trail, down which all the materials and tools have to be packed. Anyway, here's a sample of the kind of doings that may happen any minute on that famous trail.

Homer J. Arnn is one of the packers engaged in getting stuff down Bright Angel trail. The other day he was taking down a string of animals. Several of them were loaded with TNT for blasting. At one of the sudden turns one of the pack animals slipped. The rest got excited. Pretty soon one animal went off the trail. All eleven in the string were tied together. Before long two more were dragged off the trail. About this time Arnn succeeded in getting into the middle of the mixup. He cut the other eight animals loose and they staid on the trail.

Of course all three of the animals that fell off were killed. One fell 1,000 feet—without injuring his pack. One fell 200 feet—without exploding the 150 pounds of TNT in his pack. And that's what getting the bridge stuff down Bright Angel trail is like.

A look at the map gives the lay of the land. Bright Angel trail begins near El Tovar on the South rim and winds down to the Colorado at the bottom of Granite gorge. Hermit trail begins farther to the west and also goes down to the river. Part of the way down, the Tonto trail, running east and west, connects Hermit and Bright Angel trails.

At the foot of Bright Angel trail there is an aerial cableway, which is used to ferry across venturesome visitors. The cross marks the site of the suspension bridge. The new trail will run south along Bright Angel creek. The visitor will ascend to the North rim at Bright Angel point. It is 16 miles across the Grand canyon here.

The descent from El Tovar to the river is about 4,500 feet. The North river is about 6,000 feet above the floor of the Grand canyon.

The view from the North rim is radically different. The temples lie in its foreground. One looks down upon them at close range. The Granite gorge is miles in the background, and the opposite rim presents an apparently straight wall. The observer is twelve or fifteen hundred feet higher than the south rim and sees over it the desert plain for many miles south, with a far horizon of distant mountains. Many who have seen both prefer the south rim view, which has the temples in broad perspective and confines the eye to the spectacle of the canyon. Others prefer the north rim because of its closeness to the temples and its grasp of distant horizons. In the future thousands of travelers will not be content until they see the canyon from both rims.

Building the suspension bridge, once the material is on the spot, will not be difficult. The worst of the job is getting the stuff to the site on mule-back. The material for the bridge will consist principally of steel wire, seven-eighths and three-eighths of an inch respectively in diameter; heavy wooden timbers, strips of flooring of nine-foot length and tools and blasting powder. The matter of getting the long cables down is going to require the harnessing of at least four mules in each and stranding of the load between them. The main cables will weigh between 700 and 800 pounds apiece. A cable will be gathered into several coils, with about twenty to thirty feet of slack between each coil. These coiled cables will then be put on mules, a coil to each.

At the bridge site an anchor of steel rails and concrete will be constructed in the solid rock. The upper cables will then be carried across to the north side and secured in like fashion. From end to end these upper cables will measure about 500 feet. Eighty feet below them the floor of the bridge will be anchored to the walls of the gorge. From the overhead cables side cables will come down and run through the heavy timbers. The nine-foot planking will be riveted to these rafters and a hog mesh wiring will be strung along either side of the bridge to protect tourists. The bridge will be built forty feet above the ordinary height



STAR SHOWS BRIDGE SITE

of the river and thirteen feet above the highest known water-mark. It will cost approximately \$13,000.

Grand Canyon National park was established in 1919 and was dedicated in 1920. The suspension bridge is but one of many improvements planned by the national park service. Concerning the suspension bridge and other things Director Stephen T. Mather says, in part:

"The park is both a summer and winter resort. Though thus far developed by private capital, the results generally have been achieved with refinement and success. The character of existing buildings is commendable, and, although considerable adjustment will have to be done in the location of certain future buildings, this can readily be effected. Our landscape engineer has studied the future layout of all buildings, and construction for both the public operators and the park administration will proceed along well-laid-out lines.

"Although the first appropriation was not large for the amount of work to be done, since it amounted to only \$40,000, these funds were carefully distributed and some improvements accomplished. In part these consisted in the construction of a stable and garage building, of a mess house, ranger quarters, which are being temporarily used for administrative offices, and improvements to a log cabin now being utilized by the acting superintendent as a residence. These are all at the Grand canyon administrative site. Ranger and construction and maintenance forces have been established, and there is at this writing a competent nucleus for carrying on all the park work under present conditions. The appropriation of \$60,000 for the present fiscal year enabled me to plan somewhat more extensively for actual improvements.

"One important piece of construction is a suspension bridge across the Colorado river at the foot of the south-side Bright Angel trail to connect with the north-side Bright Angel trail. At present the only method of crossing is in a small swinging cage traveling over a small cable, which only the most venturesome persons care to use; animals cannot be transported. Without some means of animal travel from the south to the north side of the park it will be difficult to administer the north rim or provide for its proper development and use by park visitors.

"The north rim, which is, from my own observation this summer, more beautiful than the south rim, is practically undeveloped by roads and trails. As soon as this first suspension bridge is completed across the Colorado river it is planned to reconstruct a portion of the Bright Angel trail on the north side of the river, which will make the north rim easily accessible. Later another bridge across the Colorado will be constructed near the foot of the Hermit trail, which in turn is to be connected by a trail to the north rim as a part of the trail development planned on the north side of the park; also an additional bridge should be placed in the vicinity of the present Bass cableway (about 8 miles to the west). I predict north and south rim travel will constitute the most interesting and popular of all our scenic park trips.

"With the construction of these bridges travel between the north and south rim will cause the establishment of additional camps. One of these camps should be located at some convenient place on the trail, which will be constructed from the Hermit suspension bridge through to the Plateau trail, and as near the north rim as it will be possible to secure water. Expansions into the Indian Gardens camping area are planned for the immediate future. These camps will in a way supplement the El Tovar hotel and the Hermit camp on the south side, and also the present Wylie establishment on the north rim. The influx of tourists carries with it an increased demand for camping space, and also larger hotel facilities, and, as quickly as this demand is recognized, the facilities will be expanded.

"Our most important present road project at the canyon undoubtedly is the repavement of the Rim road. Only horse travel was permitted on this road; I directed the opening of the road to motor travel, and the public transportation service was changed from horse to motor-propelled vehicles. Since then the road has suffered a great deal from the heavy travel over it. Eight miles in length, it was paved in 1913 by the Santa Fe railroad in order that an attractive trip might be available for winter visitors. It was practically worn out when taken over by us, and is only single width and not adapted to two-way travel.

"I have also submitted an estimate to commence the construction of a rim road eastward from El Tovar toward Desert View. Upon its completion, within two or three years, we will have a rim-road drive from Hermit Rest on the west of official headquarters to Desert View, a distance of over 40 miles. For scenic beauty it will challenge comparison.

"The estimates also include an item for securing a right of way for the El Tovar-Desert View Rim road. I hope this expenditure of government funds will not be necessary, as I feel that the private holdings which will be crossed by the proposed road will be sufficiently benefited by its construction to make it to the advantage of the owners of these lands to donate a right of way. I feel sure these owners are so public spirited as to take this point of view, and that in donating this right of way they are not only benefiting themselves and Grand Canyon park but also the people who visit the park.

"In addition to the improvement and maintenance work on the Rim road and other upkeep work on the other park roads, the present El Tovar-Desert View road has been widened, straightened, and reshaped for about one-half its entire length. Many dangerous curves and grades have been eliminated and the general condition of the road improved.

"A complete telephone system which will connect the north and south rim of the canyon and the ranger stations that will be built for the ranger force is one of our future needs. This can be postponed until next year, and I have not included it in my estimates to congress. It may be practicable to connect the north and south rims by wireless, either telephone or telegraph, and this question is receiving careful study.

"There are some developments planned by the Santa Fe railroad in Grand canyon, one of which is the construction of a water system which will probably have for its source Bright Angel creek on the north side of the river, and possibly the establishment of a small power plant on that creek. The establishment of an adequate water supply for the south rim of the canyon is a serious problem and one that must soon be definitely solved. Water on the north rim near Bright Angel Point is secured at present from several small springs, that with little improvement will probably be adequate in quantity and quality. On the south rim of the canyon, however, the hotel and railroad have to haul their water by train from Del Rio, about 125 miles distant. Every gallon of water has to come that distance. The tremendous daily cost of this is at once apparent, and the great desirability of installing some system by which water can be pumped either from the floor of the canyon, about 1 mile below the surface of the rim, or from elsewhere is obvious. It is apparent that travel may sometime reach a point where with the present method of securing water we will not be able to secure a sufficient quantity of that precious fluid to supply each traveler.

"The organic act creating this park authorizes us to negotiate with the county of Coconino for the purchase of its rights in the Bright Angel toll road and trail, and to report to congress the terms upon which this property can be secured. An effort has been made the past year to arrive at some satisfactory basis of settlement with the county of Coconino for the transfer of the Bright Angel trail, but thus far without definite results. Our engineer department has, however, made preliminary examination of the situation, covering in fact the entire trail situation in the park.

"Probably the greatest problem confronting the service upon its taking over the administration of the park was the existence of the many claims of alleged mineral value. Among these were the claims located by Ralph H. Cameron, which have been in litigation for several years. Twenty-three Cameron claims have been declared invalid: Golden Eagle, Cape Horn, Wizard, Alder mill site, Willow mill site, Magician, Banjo, Millionaire, Sentinel Treasure, Peg Leg, Hill Top, Sunflower, Limestone, Goldenola, Ida May, Buttinsky, Cheyenne, Dakotah, Bannock, Apache, Polly, Hermit, Gorge."

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Mrs. J. Brummel, Armour, S. D., says: "A cold settled in my kidneys and I had backache. My feet swelled badly, because my kidneys didn't act freely enough. I thought I'd try Doan's Kidney Pills. I used them a few days and I felt one hundred per cent better. One box of Doan's cured me and my back is well and strong now."

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Send for circular and prices on Carter Combination Grain Bins and Cribs. Made in three sizes, \$40, \$70 and \$100 by
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Her Frank Opinion.

Last year my mother went to visit a friend of hers in a neighboring town. One day they went to the sewing club that was sewing for Belgian orphans, and it happened that she was asked to give her opinion as to what they might do for charity.

My mother replied that she thought that charity begins at home; that as she was leaving for the club she saw some of the most ragged children playing before the house across the street.

A woman present replied: "Excuse me, but those were my children," and left the club.—Exchange.

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A Salt Lake in Miniature.

About 40 miles south of Zuni, N. M., there is a singular depression. In a plain of Cretaceous sandstones, about a mile in diameter, with walls 150 feet high. In the midst of this exists a shallow lake, 4,000 feet long by 3,000 broad, the waters of which contain 25 per cent of salt.

This has been a source of supply of salt used by Indians and Mexicans for centuries, and lately the salt has been hauled to surrounding ranches, everybody helping himself.

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The mortifying and unsightly skin and facial disfigurements on fluid enriched before the disfigurements are cleared up. For this you old are seldom due to anything naturally want an efficient, tested blood remedy—like S.S.S., the famous old herb medicine.

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WOULD TAKE BACK HIS RIB

Tommie Planned Dire Vengeance for the Faithfulness of His Fickle Playmate.

Little Tommie, a precocious six-year-old, had been disappointed in love. He had a date to play with little Mary Ann in her house across the way. When he got there he found she had forgotten all about him and was sliding down hill on his rival's new sled.

Tommie returned home, disgusted with all girls in general and one in particular. He didn't cry nor did he contemplate suicide. Instead he went straight to his mama and with childish natvete said:

"Mama, d'you know what I'd do if I was Adam? I'd go right up to heaven and I'd say, 'Please, Mr. God, if it's just the same to you, I'd like to have my rib back.'"

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Warning! Unless you see the name "Bayer" on package or on tablets you are not getting genuine Aspirin prescribed by physicians for twenty-one years and proved safe by millions. Take Aspirin only as told in the Bayer package for Colds, Headache, Neuralgia, Rheumatism, Earache, Toothache, Lumbago and for Pain. Handy tin boxes of twelve Bayer Tablets of Aspirin cost few cents. Druggists also sell larger packages. Aspirin is the trade mark of Bayer Manufacture of Monoaceticacidester of Salicylicacid.—Adv.

Her "Cheekens."

A charming little French was bride whose husband brought her last year to a home in an Indiana town, received the assessor, this spring, and in her husband's absence from home, endeavored to assist him in filling out his blank. In her broken English, she mentioned the machine, which, in its modern case, the assessor took for a graphophone. After many desperate attempts, she finally opened the case, and let him see for himself that it was a sewing machine. Then he continued down the list, finally inquiring if she had any chickens. "Oh yes, yes," she replied, nodding, "yes, I have cheekens." "How many dozen?" asked the assessor. "No douzaine no!" she said, "I have just only a lady and her husband."—Indianapolis Star.

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For many years druggists have watched with much interest the remarkable record maintained by Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder medicine.

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Tact.

"How did you get your boy to study arithmetic? I thought you said last winter that the study was positively distasteful to him."

"Well, you see, I told him that arithmetic was useful if he wanted to figure the batting and fielding averages of the ball players, and now we can't keep him away from his multiplication and division tables."