

THE AUGUSTA NATURAL BRIDGE (SEE PAGE 507), COMPARED WITH THE CAPITOL AT WASHINGTON AND THE GREAT PYRAMID

THE COLOSSAL BRIDGES OF UTAH

A RECENT DISCOVERY OF NATURAL WONDERS

BY W. W. DYAR

WITH PICTURES BY HARRY FENN, FROM PHOTOGRAPHS

IN the winter and spring of 1902 Mr. Horace J. Long was engaged, with a party of miners, in prospecting and placer-mining in the uninhabited region along the cañon of the Colorado River in southeastern Utah. During one of his lonely trips of over fifty miles to the nearest post-office at Hite, Utah, Mr. Long fell in with a cattleman named Scorup, who, a few years before, had ranged his cattle toward the borders of Colorado, over the barren and broken country in the angle between the San Juan River and the Colorado.

In the course of conversation, Scorup spoke of certain very wonderful "arches" which he had seen near the head of White Cañon in San Juan County. Long had often heard the term "arches" applied in that region to overhanging cañon-walls in places where they had been undermined by erosion, and masses of rock had fallen out, leaving sheltered shelves or recesses on which cliff-dwellers' ruins are often

found. He therefore naturally supposed at first that these were the sort of arches that Scorup referred to, and took but little interest in the matter. But as Scorup continually recurred to the subject, and described the objects more particularly, it gradually became clear that his arches were natural bridges, spanning a wide and deep cañon from side to side.

Mr. Long's curiosity was aroused, and he soon became convinced that these arches or bridges greatly exceeded in size and grandeur any similar natural curiosities then known to exist in any part of the world. From Scorup's statements it seemed probable that they had never been seen by any of the white race, save perhaps a half-dozen cattlemen and cow-boys and possibly an occasional fugitive from justice. So far as Scorup knew, they were first discovered by Emery Knowles, in 1895. Scorup himself saw them in the fall of the same year, in company with two cow-boys, Tom Hall and Jim Jones. Lack of water made the region about the head of White

Cañon almost inaccessible by ordinary means, except in the early spring, when the melting of the light snowfall afforded a temporary supply.

Scorup greatly desired to revisit this remarkable region, and wished especially to obtain photographs of the bridges. He believed himself to be the only person then living in Utah who knew their exact location. He offered to conduct Mr. Long thither, but annexed to his offer the condition that one of the arches should be named the "Caroline" in honor of his mother.

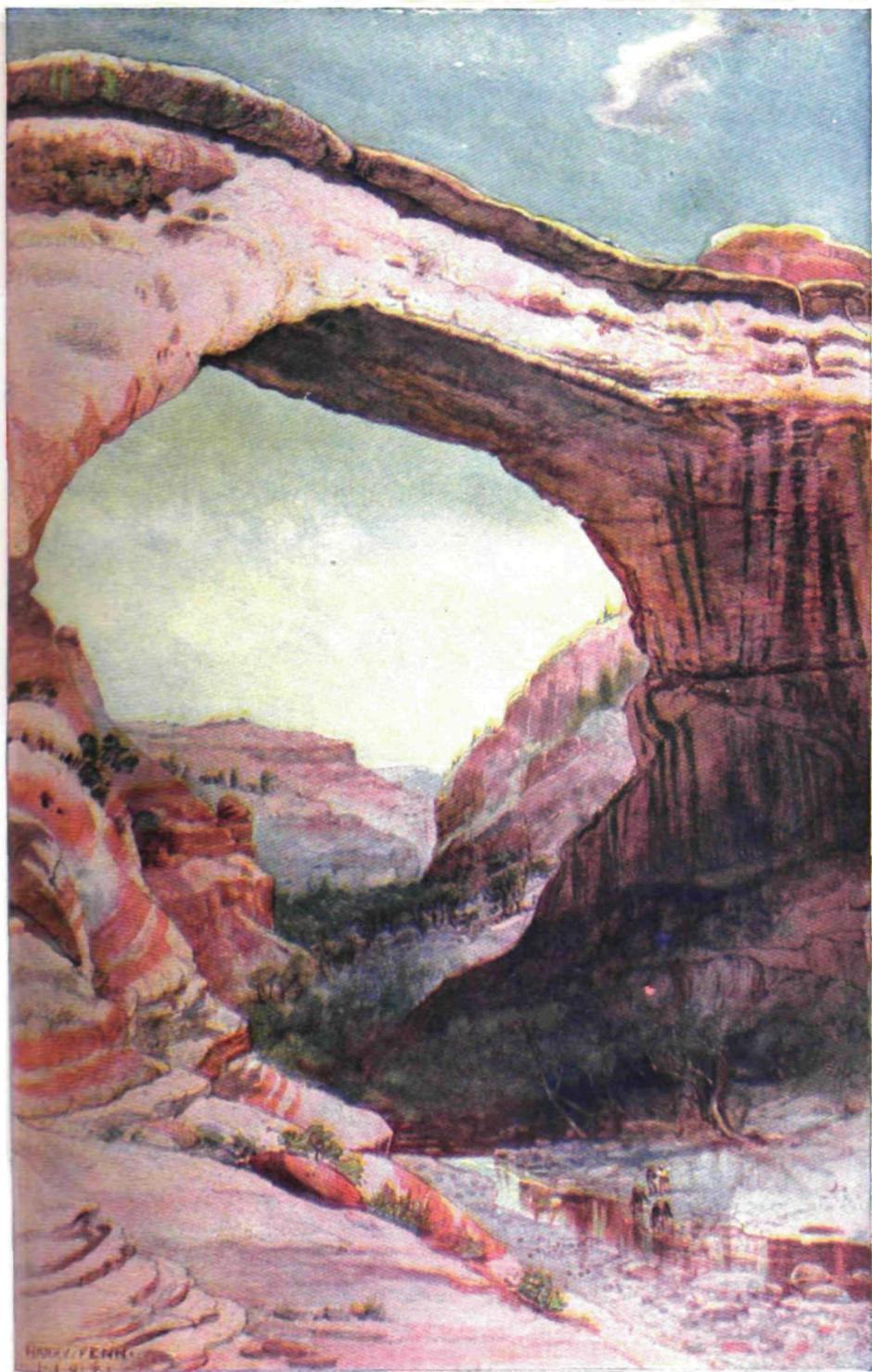
On March 13, 1903, Scorup and Long set out from Dandy Crossing, on the Colorado River. They had two saddle-horses, and two pack-animals carrying provisions and supplies for a week's journey. They traveled in an easterly direction, following a scarcely discernible trail over barren wastes of rocks and sand. They camped the first night at Fifteen Mile Crossing, which is about three miles beyond Copper Point. Fifteen Mile is a small wash or gulch opening into White Cañon, and, like all the smaller water-courses in that region, is entirely dry most of the year. They took their horses down into White Cañon for water, cooked their supper by a fire of desert scrub, and slept in their blankets on the bare sandstone bed-rock. The next forenoon, at a place called Soldiers' Crossing, they came upon the graves of two soldiers of the regular army, killed in some nameless skirmish with the Ute Indians. A rough inscription on a slab of sandstone recorded their names, —Worthington and Higginson,—and the fact that their bodies were buried by F. M. Chandler, March 30, 1885.

At noon of this day the travelers camped at a place called Fry Cabin. The cabin had entirely disappeared, but a fine spring welling from the foot of an overhanging ledge of rocks marked the spot where a lonely ranchman had had for a time his ephemeral dwelling in the desert. Between Fifteen Mile and Soldiers' Crossing the country was almost entirely barren of vegetation. For long stretches the flat bed-rock of the plateau had been swept clean of sand by the fierce desert winds, so that there was no footing for even the hardy sage-brush. In all this distance not an animal or a bird was seen. Beyond Fry Cabin, however, desert scrub and small pines were again encountered, the surface of the country became

rougher and more broken with outcropping ledges and buttes, and by mid-afternoon the travelers descried the Elk Mountains, with dark masses of pines upon their slopes. Toward evening they passed through an opening in a rocky ridge stretching like a wall across the country, and descended the tortuous course of a small wash leading into the chasm of White Cañon. That night they camped on a cliff-dwellers' ledge, which, contrary to the usual habit of that wary people, was only about thirty feet above the bottom of the cañon and easily accessible. The foundations of the ancient dwellings were still easily traceable, and near them was a large, flat stone for grinding grain. The most perfectly preserved structures were large, round underground receptacles like cisterns, which probably served as granaries. The interior walls were covered with a hard, perfectly preserved cement, and there were large, flat stones cut to fit the circular openings. These stones, when in place, formed part of the floor of the dwelling.

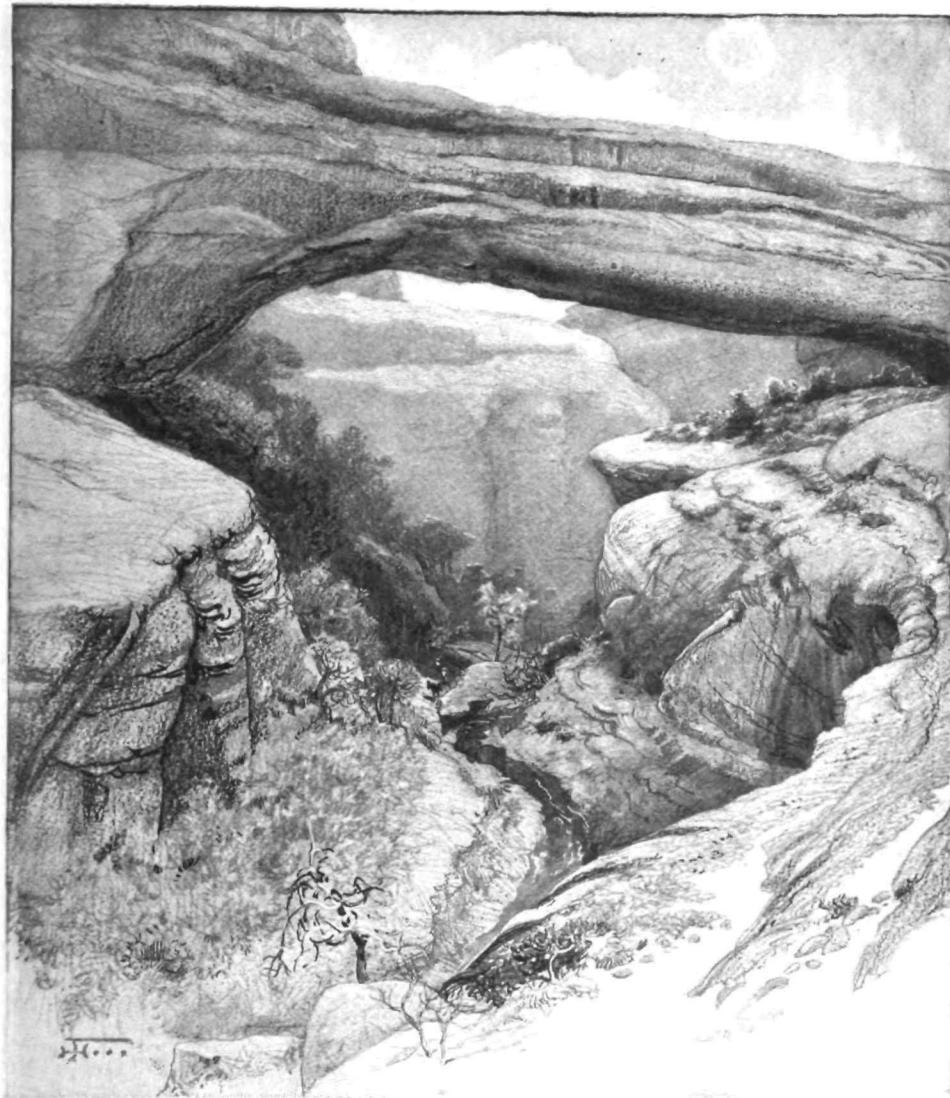
On the morning of March 15, Long and Scorup were early in the saddle. They were in the immediate vicinity of the bridges, and Long has confessed to a rising excitement as they turned their horses' heads up the cañon. Scorup himself showed signs of nervousness, as if apprehensive that his memory had magnified the size and grandeur of what he had seen nearly eight years before, and had thus prepared a disappointment for them both. The cañon varied from perhaps three hundred to five hundred feet in width, and had many curves and abrupt changes of direction. The walls rose to a perpendicular height of about four hundred feet and in many places far overhung their bases. The bottom was very rough and uneven, and at that season a considerable stream of water was flowing in a narrow channel cut in most places to a considerable depth below the average level. Wherever a bed of gravel or finer debris covered the scoured-out bottom of the cañon, bushes and small trees had found a footing, and here and there were clumps of large cottonwoods.

Pushing their horses as rapidly as possible up the cañon, and eagerly making their way around the masses of debris, which in many places had fallen from the cliffs above, the travelers proceeded about a mile when they rounded a short curve in



Color drawing by Harry Fenn, from a photograph

THE AUGUSTA BRIDGE



Half-tone plate engraved by S. Davis

THE CAROLINE BRIDGE

the cañon-wall and had their first view of one of Scorup's arches. Extravagant indeed must have been their expectations to experience any disappointment at sight of the colossal natural bridge before them. Yet, from the scenic point of view, this bridge was the least satisfactory of the three which they visited. Its walls and buttresses are composed of pinkish sand-stone, streaked here and there with green and orange-colored moss or lichens. But its outlines are quite irregular; the projecting walls of the cañon interrupt the view, and the tremendous mass of stone above

the arch tends to dwarf the height and width of the span. The travelers had with them no scientific instruments for making accurate measurements, but by a series of rough triangulations Long obtained results which are doubtless correct within narrow limits. This bridge, which they named the Caroline, in compliance with Scorup's stipulation, measures two hundred and eight feet six inches from buttress to buttress across the bottom of the cañon. From the surface of the water to the center of the arch above is a sheer height of one hundred and ninety-seven feet, and over

the arch at its highest point the solid mass of sandstone rises one hundred and twenty-five feet farther to the level floor of the bridge. A traveler crossing the cañon by this titanic masonry would thus pass three hundred and twenty-two feet above the bed of the stream. The floor of the bridge is one hundred and twenty-seven feet wide,

Remounting their horses, Long and Scrup passed under the mighty mass of the Caroline and pushed on up the cañon. At a distance of three and a half miles they found themselves in the presence of what is doubtless the most wonderful natural bridge in the world—a structure so lofty and magnificent, so symmetrical and beau-



Half-tone plate engraved by J. W. Evans

THE LITTLE BRIDGE

so that an army could march over it in columns of companies, and still leave room at the side for a continuous stream of artillery- and baggage-wagons.

Unfortunately, owing to the winding course of the cañon at this point and the consequent lack of perspective, it was impossible to obtain photographs conveying to the eye any adequate impression of the magnitude of these dimensions. It will help the mind to realize them, however, when it is known that the forked cottonwood-tree standing apparently under the arch, but really well in the foreground, is nine feet in circumference and of a corresponding height, and that the small ant-like objects seen in one of the views to the left of the tree and still farther in the foreground are the saddle-horses of the explorers.

tiful in its proportions, as to suggest that nature, after completing the mighty structure of the Caroline, had trained herself for a finer and nobler form of architecture. Here, across a cañon measuring three hundred and thirty-five feet seven inches from wall to wall, she has thrown a splendid arch of solid sandstone, sixty feet thick in the central part and forty feet wide, leaving underneath it a clear opening three hundred and fifty-seven feet in perpendicular height. The lateral walls of the arch rise perpendicularly nearly to the top of the bridge, when they flare suddenly outward, giving the effect of an immense coping or cornice overhanging the main structure fifteen or twenty feet on each side, and extending with the greatest regularity and symmetry the whole length of

the bridge. A large rounded butte at the edge of the cañon-wall seems partly to obstruct the approach to the bridge at one end.

Here again the curving walls of the cañon and the impossibility of bringing the whole of the great structure into the narrow field of the camera, except from distant points of view, render the photographs unsatisfactory. But the lightness and grace of the arch is brought out by the partial view which Long obtained by climbing far up the cañon-wall and at some risk crawling out on an overhanging shelf. The majestic proportions of this bridge, however, may be partly realized by a few comparisons. Thus its height is more than twice and its span more than three times as great as those of the famous natural bridge of Virginia. Its buttresses are one hundred and eighteen feet farther apart than those of the celebrated masonry arch in the District of Columbia, known as Cabin John Bridge, a few miles from Washington city, which has the greatest span of any masonry bridge on this continent. This bridge would overspan the Capitol at Washington and clear the top of the dome by fifty-one feet. And if the loftiest tree in the Calaveras Grove of giant sequoia in California stood in the bottom of the cañon, its topmost bough would lack thirty-two feet of reaching the under side of the arch.

Emulating the example of Mr. Scorup, Long named this bridge the "Augusta," in honor of his wife; and it is fortunate that the lady was so appropriately christened.

This bridge is of white or very light sandstone, and, as in the case of the Caroline, filaments of green and orange-tinted lichens run here and there over the mighty buttresses and along the sheltered crevices under the lofty cornice, giving warmth and color to the wonderful picture.

Our explorers were unable to scale the walls of the cañon in the immediate neighborhood of either of these two bridges, and their time was too limited to permit an extended search for a ravine or wash that would lead them to the top of the cliffs. After a day of severe labor in making measurements and taking photographs, they were therefore reluctantly compelled to retrace their steps without the sensation of crossing the cañon by these lofty highways.

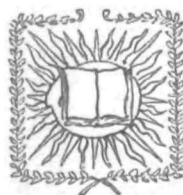
They spent the night at the cliff-dwellers' ruins, and on the following morning rode

down the cañon in search of the third bridge which Scorup remembered having seen. This they found at a distance of about five miles. Long, in his rough notes of the trip, calls this the "Little Bridge," and we may well retain this designation. Its dimensions, however, are small only as compared with the gigantic proportions of the Caroline and the Augusta; for it has a span of two hundred and eleven feet four inches, and the under side of the arch is one hundred and forty-two feet above the bottom of the cañon. The crown of the arch is eighteen feet eight inches thick, and the surface or roadway thirty-three feet five inches wide. The slenderness of this aerial pathway, and the fact that the cañon here opens out into a sloping valley beyond, rendered it possible for the camera to give a proper impression of loftiness. Indeed, judging from the photographs alone, one might suppose this to be the highest of the three bridges, whereas in fact it has but little more than one third the altitude of the wonderful Augusta arch. It was comparatively easy to reach the top of this bridge, and among Long's notes I find the following: "Rode our horses over. I am the first white man who has ever ridden over this bridge."

On the way back to camp they visited another cliff-dwellers' village, situated on a sheltered ledge three hundred feet above the bottom of the cañon. While searching among the ruins, which were extensive and in some places well preserved, Long stumbled over the rim of a vessel just projecting above the sand. By scraping away the debris with his hands, he uncovered a splendid earthenware vase, beautifully molded, of a capacity of about four gallons, and in a perfect state of preservation. This magnificent specimen of ancient pottery he carried back to their camp, where they spent still another night. By means of cords and straps they made a sling for the vase, and the next morning started on their return journey, Long carrying this precious relic on his back like a huge but exceedingly uncomfortable knapsack. They slept that night under the ledge at Fry Cabin. Early in the morning they parted, and during the day Long rode alone clear through to Dandy Crossing, a distance of over forty miles, without a moment's relief from his heavy burden, being unable to take it from his back without assistance.

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