

SOME UNKNOWN AMERICAN NATURAL BRIDGES.
BY T. S. PARSONS.

In the southeastern part of Utah, on the southwestern slope of the Blue Mountains, in San Juan County,

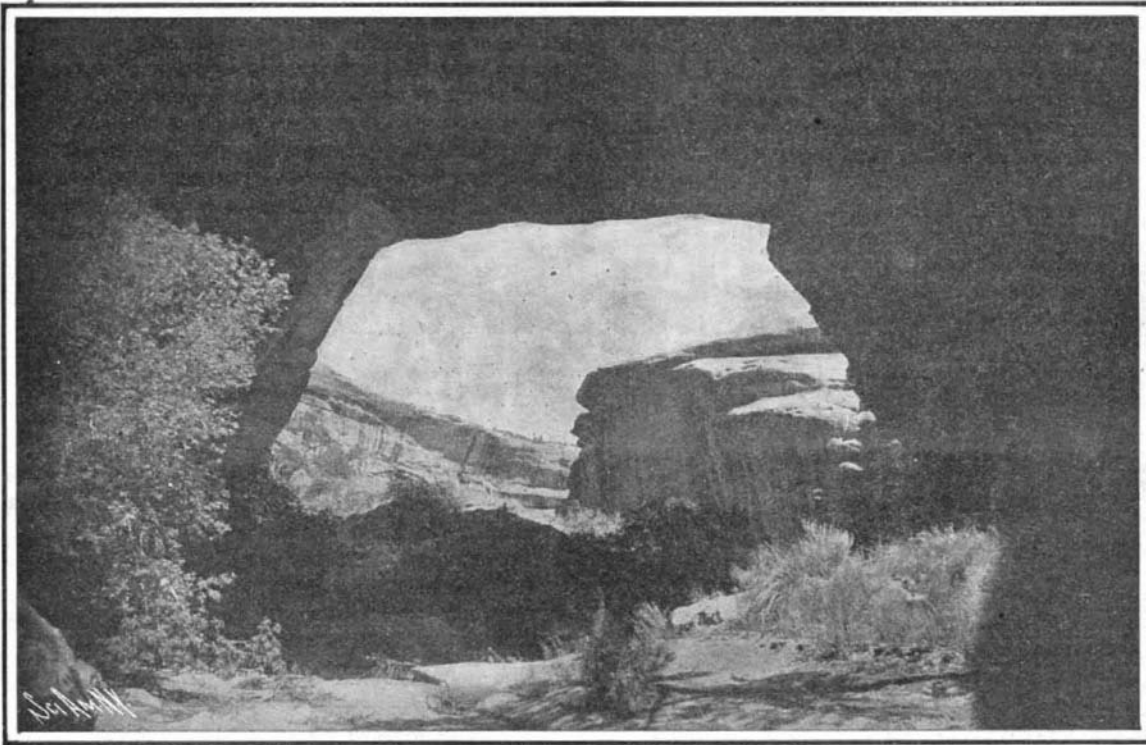
which leads down to the Colorado River. In fact, all of the natural bridges of this region are in cañons leading down to the Colorado. The large bridges are in the very wilds of the continent, about one hundred

ment, is a sort of relay place or half-way point on the journey, which must be made on horseback most of the way.

The dimensions of the bridges, according to estimates and careful measurements that have been made, will give one something of an idea of their magnitude. The largest of the three, the great Augusta Bridge, has a span 320 feet and a height 348 feet, with a roadway on top 30 feet wide. The Natural Bridge of Virginia with its span of 93 feet and height of 215 feet is a mere pygmy compared with this giant of the Rockies. The archway of the Caroline Bridge has a span of 250 feet and a height of 183 feet. The smallest of the three is known as the Little or Edwin Bridge. Though called little it is far from being small with its span of 205 feet and a height of 121 feet to the top of the roadway that crosses it.

These bridges all span dry cañons, as the region is almost rainless, but this condition has not always held, as the ample evidences of erosion testify. The structure of the bridges is peculiar and interesting. They are dikes in a sandstone region, and these dikes may be traced across the mesas to other parallel cañons, where they form other natural bridges. The dikes themselves are a mixture of lime and sandstone, and the whole region overlies a limestone stratum, which in turn rests upon granite, as may be seen in the cañon of the Colorado River.

As one gazes on these mammoth structures he wonders how even Nature, that great architect, with only water as a tool, could accomplish such enormous tasks as these, and we wonder how many years were consumed in the building. No one knows. Conditions in this region were once much more favorable for water erosion than at the present time. For the formation of such structures as we find here it is essential that the limestone consist of massive, thick beds, compara-



The Caroline Natural Bridge, San Juan County, Utah. Span, 250 Feet; Height of Arch, 183 Feet.

far from the main lines of travel and in a region almost inaccessible, are dozens of natural bridges varying in size from a few feet to hundreds of feet across. Three of the largest are shown in the accompanying pictures, and they may well be classed among the wonders of the world.

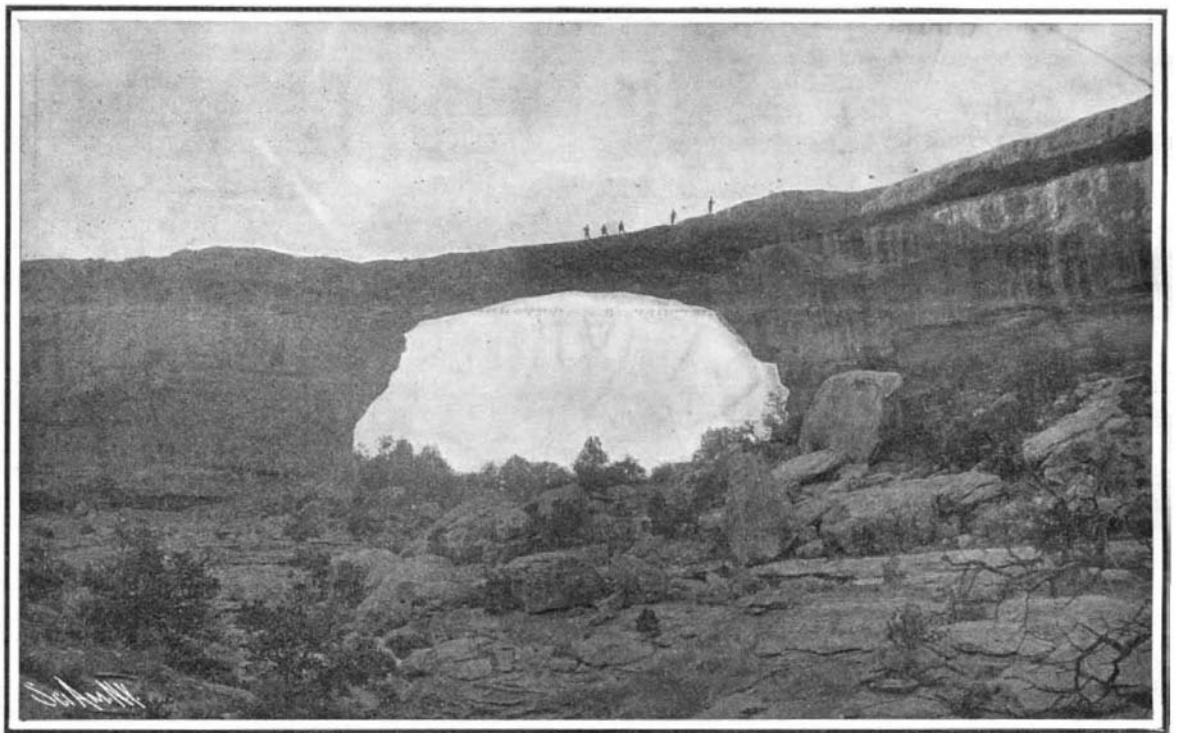
These three bridges are located within a radius of three or four miles, and many smaller ones are found within a comparatively short distance. The smallest of the three shown is a giant compared with the Natural Bridge of Virginia, with which every one is familiar.

On account of the distance from railroads and the difficulties encountered in making the trip, but few people have visited these curiosities, and their discovery being comparatively recent, but little is known about them. Only within the last year or two has anything like a scientific study been made of these peculiar formations. In 1905 Salt Lake City men visited the region, and the scientists of the party made an extended study of the structures and careful measurements as well as numerous photographs.

A picture gives but a faint idea of the magnitude of these gigantic structures, the largest of which is to the natural bridges of the world what the Grand Cañon of the Colorado is to the gorges of the world. It is claimed that the Augusta Bridge is the largest known natural bridge in the world; but Mr. Charles F. Loomis in his interesting book, "Some Strange Corners of Our Country," describes a natural bridge in Arizona that is large enough to contain a five-acre peach orchard upon its floor. Its structure is, however, radically different from that of the Utah bridges, so that it cannot be classed with them.

These three bridges are situated in the White Cañon,

and twenty-five miles from Yellow Jacket Cañon, Colorado, and one hundred and fifty-five miles from Cortez,



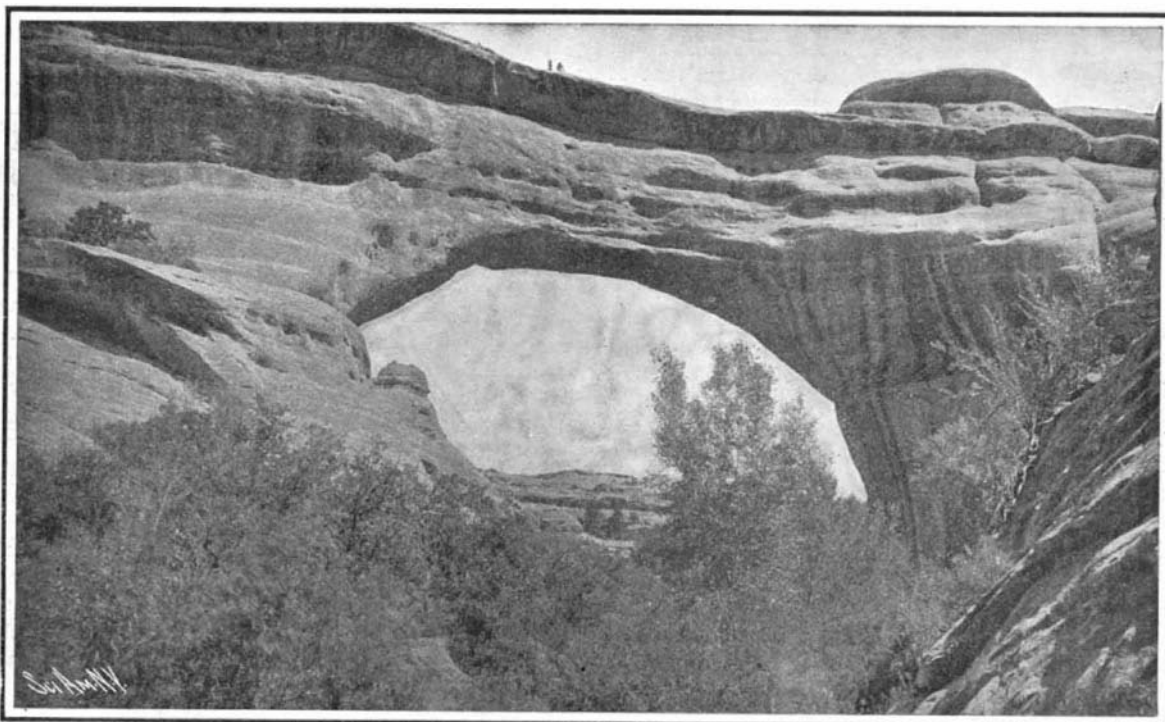
The Little or Edwin Natural Bridge, San Juan County, Utah. Span, 206 Feet; Height, 121 Feet.

Colorado, the nearest outfitting point for travelers visiting the region. Bluff, Utah, a small Mormon settle-

tively free from alternating layers of sandstone or shale. Along the downward line formed by the intersection of two joint planes the waters slowly find their way. The waters are laden with acids, gathered from the air and from vegetation, which was once much more abundant in this region than now, and solution takes place slowly, forming what are called sinkholes. From these the solution works laterally along the planes of bedding, and often at several levels. Thus a region may become honeycombed with a network of vertical and horizontal passages. After these cavernous passages become large enough to permit the free flow of water, they may be enlarged and deepened by mechanical erosion. As the excavation progresses, the roofs of passages which lie near the surface are weakened and fall in. Thus some gorges originate, and wherever portions of the roof remain, the so-called natural bridges are formed. In the case of the Utah bridges, the dike structure probably accounts in a large measure for their immense size.

There is another curious natural bridge in New Mexico. It has an arch of only about 60 feet span, but it is remarkable because it was carved, not by water, but by sand-laden winds, which are responsible for so many of the beautiful and fantastic erosions of the dry Southwest.

The Japanese legation has, states the Brazilian Review, sent word to the Brazilian minister of foreign affairs that there will shortly arrive in Rio de Janeiro a large liner, belonging to a Japanese shipping company, which is fitted up as a floating exhibition of Japanese products.



The Great Augusta Natural Bridge, White Cañon, San Juan County, Utah. Span, 320 Feet; Height, 348 Feet; Width of Roadway on Top, 35 Feet.

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