

ENCIRCLING NAVAJO MOUNTAIN WITH A PACK-TRAIN

An Expedition to a Hitherto Untraversed Region of Our Southwest Discovers a New Route to Rainbow Natural Bridge

BY CHARLES L. BERNHEIMER

With Illustrations from Photographs by the Author

A PARADISE for the faultfinder, for here he would have plenty to find fault with; "The land that God forgot," in the language of my guides who have an eye to happy grazing and hunting grounds; a veritable storehouse of delights for the sympathetic explorer—such is the broad desert country east of the Colorado River, south of the San Juan River, west of Navajo Mountain, and north of the Little Colorado River, stretching along the Arizona-Utah border (see map, page 198).

It is a desert of unique character—it is neither flat nor sterile. The voyager's eye is constantly confronted with startling vistas. A disorderly, unsymmetrical rock jumble, rugged beyond description, suddenly dissolves into a well-ordered canyon inclosed by cliffs, a thousand or more feet high, perpendicular and as straight as if carved with a knife.

Caves, often chains of caves, hundreds of feet deep and wide, the shape of an egg-shell and equally as smooth as its inner surface, stir the imagination, for many of those having a southerly exposure were the dwelling-places of prehistoric races of men.

With a suddenness inconceivable to the uninitiated, yet so familiar in these reaches of surprise, the barren, waterless, and soilless rock masses disappear and one is confronted with an oasis.

A cleft in the rocks serves as the gateway to a veritable Garden of Eden where all looks green, well watered, flourishing, and contented.

The sand blasts of ages have overlooked the canyon spring which faithfully continues to serve. The toiling travelers, man and beast, are joyfully revived.

Then there are the desert flats, sage

covered, pleasing, and interesting in their temporary monotony. Rare minerals abound for the geologist; unusual plants for the botanist; cliff ruins, pottery, basketry, and rock inscriptions for the anthropologist; color and form effects for the artist; and an educational opportunity of superlative worth for the student on his vacation under the chaperonage of a tutor.

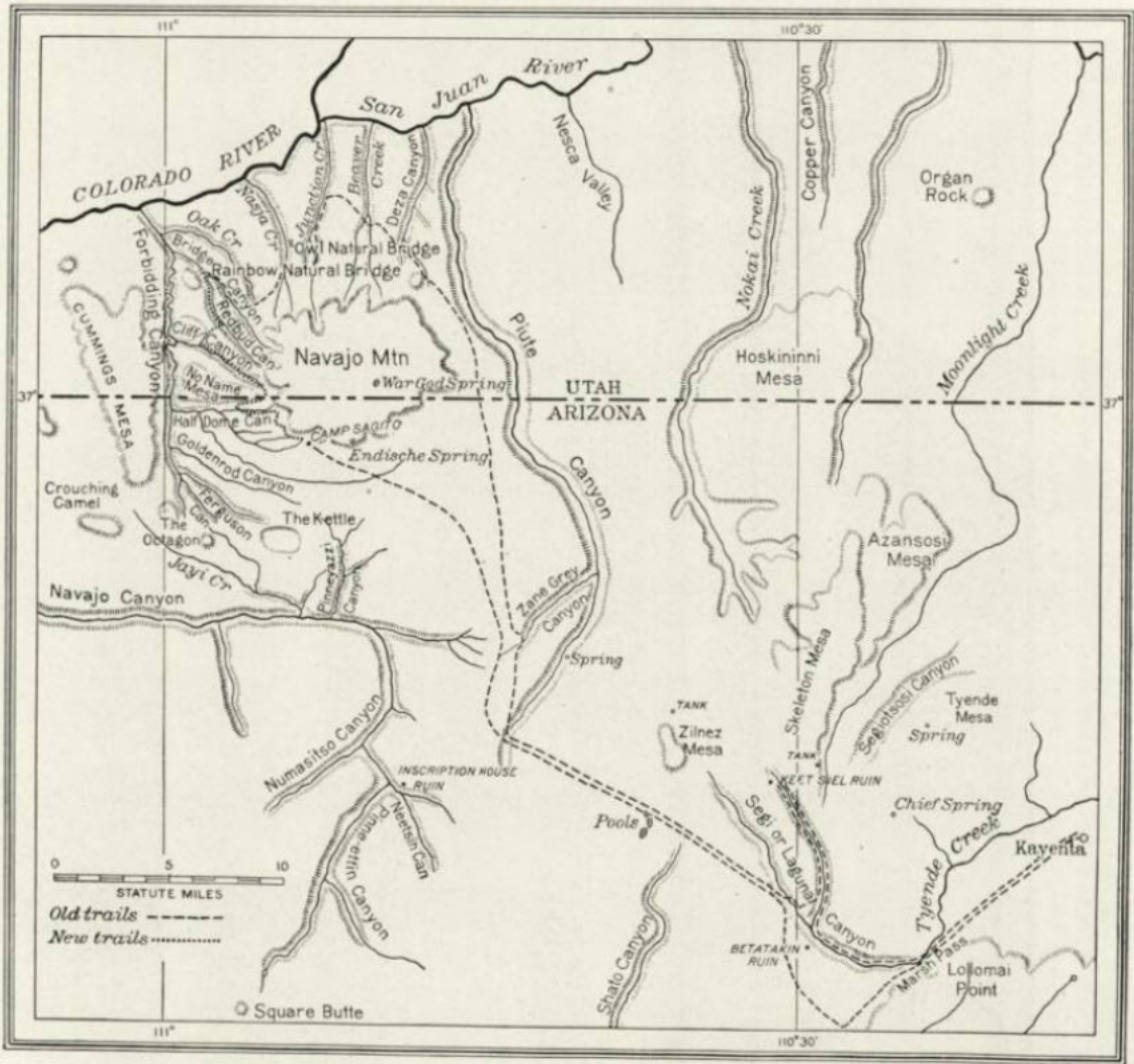
But, permeating all, there is a sense of physical lonesomeness, mingled with an almost constant feeling of the presence of the Creator.

Animal life is scant; but this has its advantages, for who would not do without game, which we at least did not come to kill, if compensated by a comparative paucity of rattlesnakes, gila monsters, scorpions, centipedes, ants, and mosquitoes? All of these are there, but not in annoying numbers.

THE SURROUNDINGS OF RAINBOW NATURAL BRIDGE

In the very heart of this expanse towers the oft-described Rainbow Natural Bridge.* Were it located elsewhere than in this cross-bedded sandstone country, it would be a freak, but in its own setting it is a natural and logical phenomenon. On the northwest slope of Navajo Mountain it partially spans one of the canyons which lies deep in the eroded flanks of the monstrous radiating buttresses that descend from the sides of this 10,000-foot mountain.

*See also, in the NATIONAL GEOGRAPHIC MAGAZINE, "Colossal Natural Bridges of Utah," September, 1904; "The Great Natural Bridges of Utah," March, 1907, and February, 1910, and "The Great Rainbow Natural Bridge of Southern Utah," November, 1911.



Drawn by A. H. Bumstead

SKETCH MAP SHOWING THE NEWLY DISCOVERED ROUTE TO RAINBOW NATURAL BRIDGE

The Bernheimer Expedition outfitted at Kayenta, Arizona, proceeded northwest and, after failing in 1920 and 1921, succeeded in circling Navajo Mountain by continuing west, during the summer of 1922.

Four miles farther down, the streamlet which contributed to the bridge's formation joins a similar watercourse emanating from Forbidding Canyon, and three miles farther on the two, united, empty into the Big Colorado River.

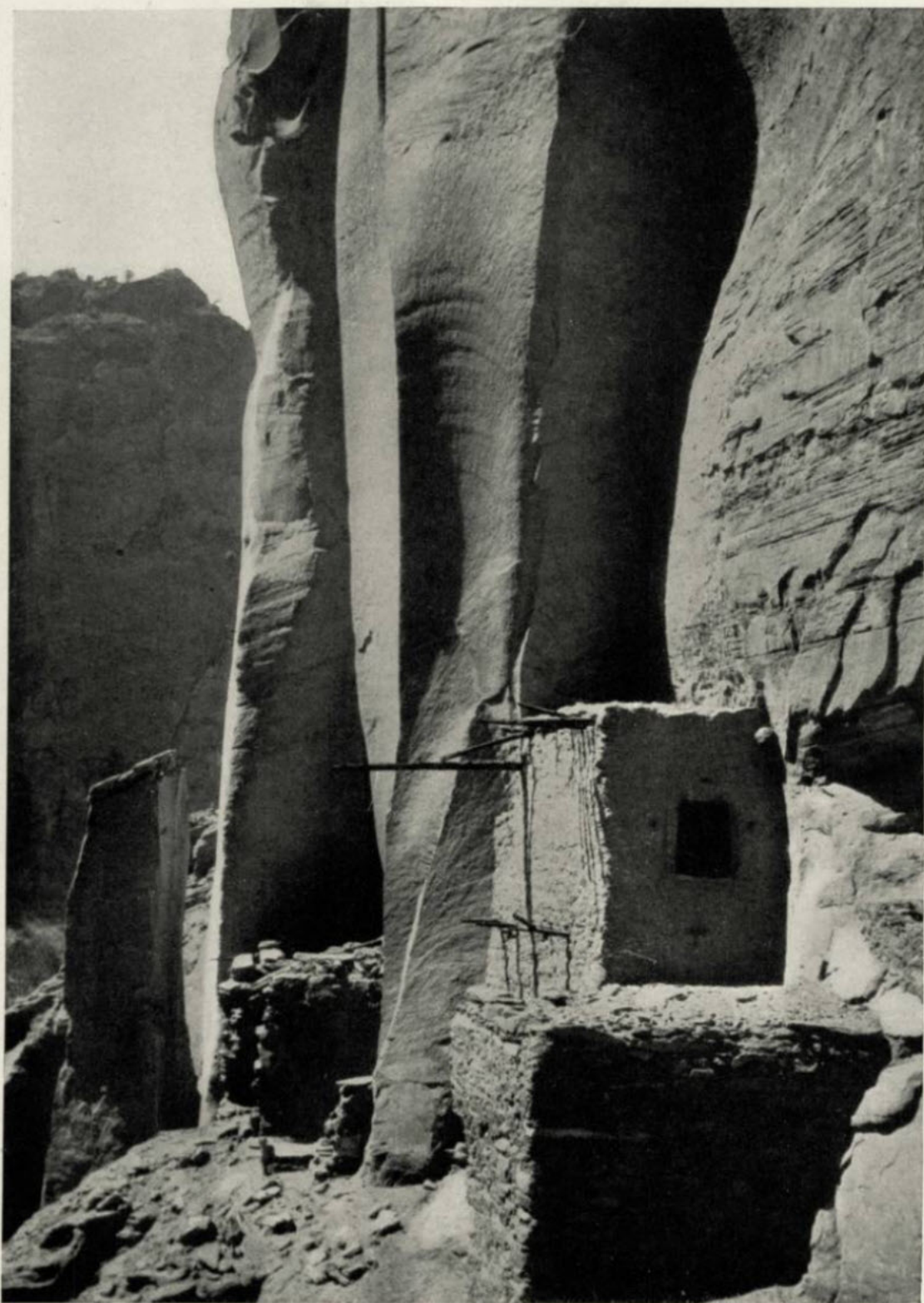
THE 1921 EXPEDITION FAILS

In order to reach the Rainbow Natural Bridge in 1920, we climbed Navajo Mountain, but finally had to skirt it by a circuitous trail to the east.

In 1921 we organized our expedition to reach the Rainbow Natural Bridge by a route to the west of Navajo Mountain, utilizing Forbidding Canyon. We failed

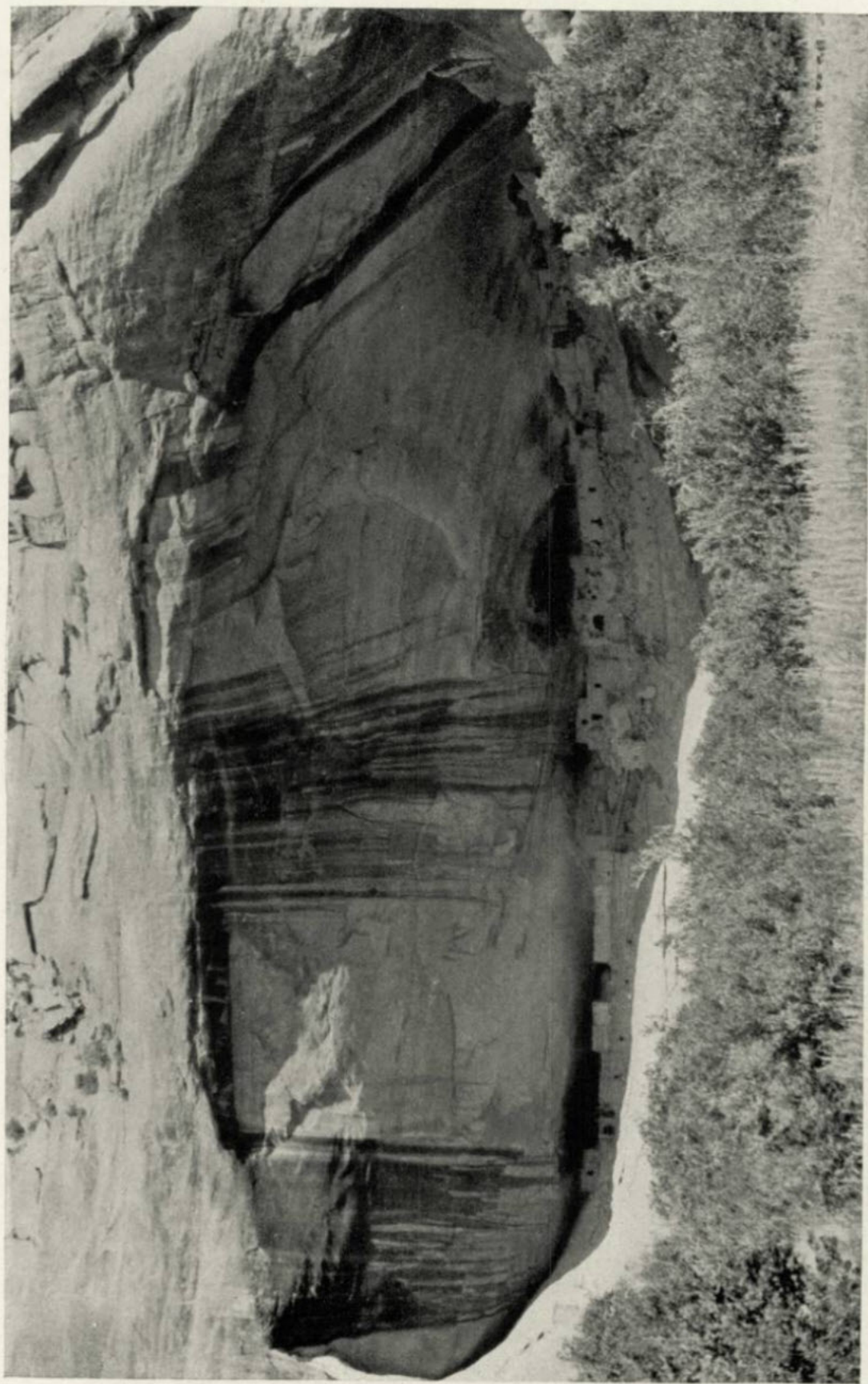
by what we then estimated as about seven or eight miles. Forbidding Canyon proved impassable for a pack-train. Lack of food and feed, horseshoes, tools, and explosives compelled us to leave the accomplishment of our expedition's object for another year, when we would have an equipment calculated to improve our chances for success.

However, it was clear to us that Forbidding Canyon was not to be our avenue of approach; it was too rugged and snarly; it was blocked by steep shelves that could not be descended, necessitating detours on trailless mountain sides, often dangerous to man and beast.



WESTERLY EDGE OF THE BETATAKIN CLIFF RUINS: ARIZONA

Note the massive, sharply defined rock pillars. These ruins are located in a side canyon of Segi or Laguna Canyon, a day's journey from Kayenta.



A GENERAL VIEW OF THE CLIFF RUINS AT KEET SIEL, IN A BRANCH OF SEGI CANYON

In this canyon many prehistoric sites are located in extraordinarily picturesque surroundings. Between the wild gooseberry bushes, aspen, and oak in the foreground and the wall on which nestle the ruins is a 60-foot-deep ditch filled with broken pottery.

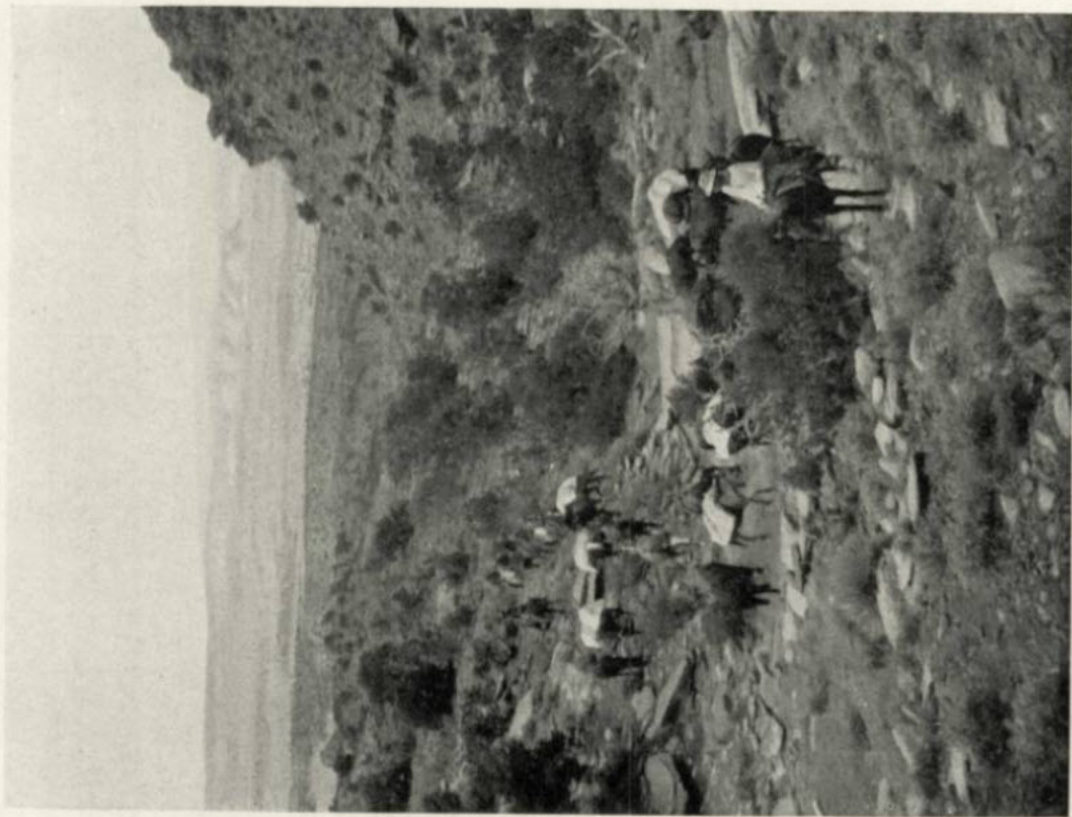


ANOTHER VIEW OF THE KEET SIEL RUINS

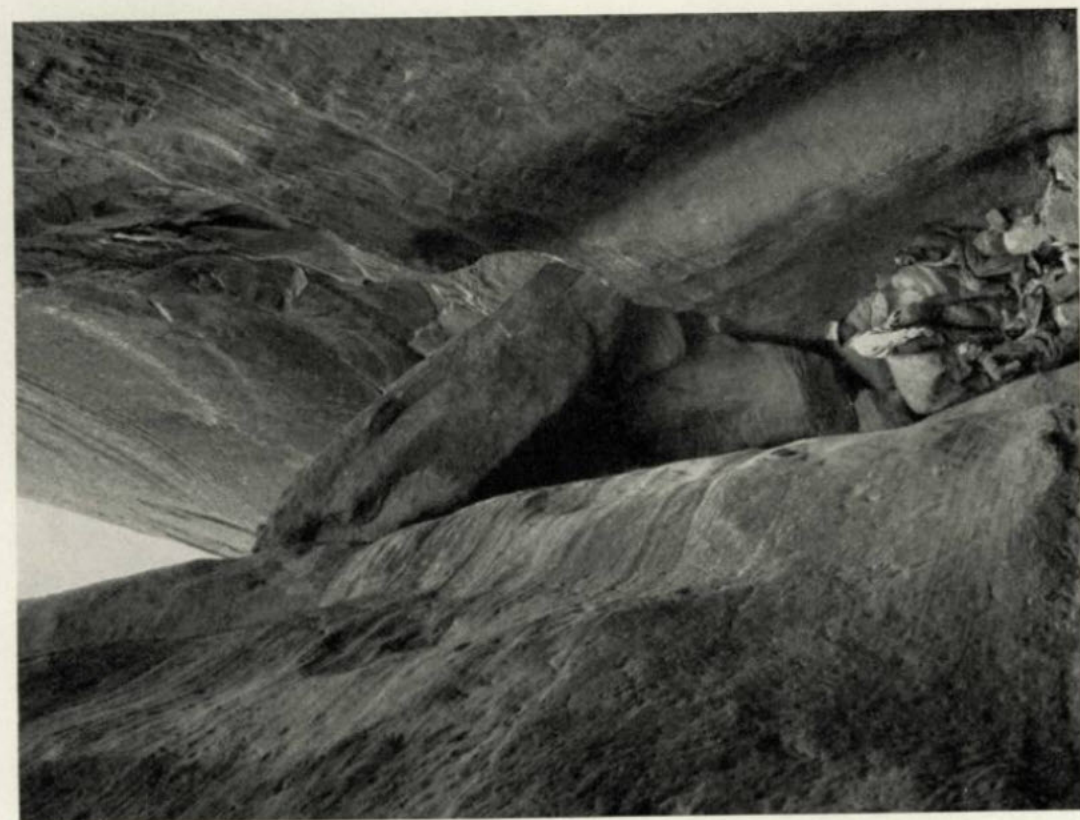
Inscription House, Betatakin, and Keet Siel cliff-dwelling ruins lie to the west of Kayenta, along the trail to Navajo Mountain.



ON THE MESA TO THE WEST OF SEGI CANYON

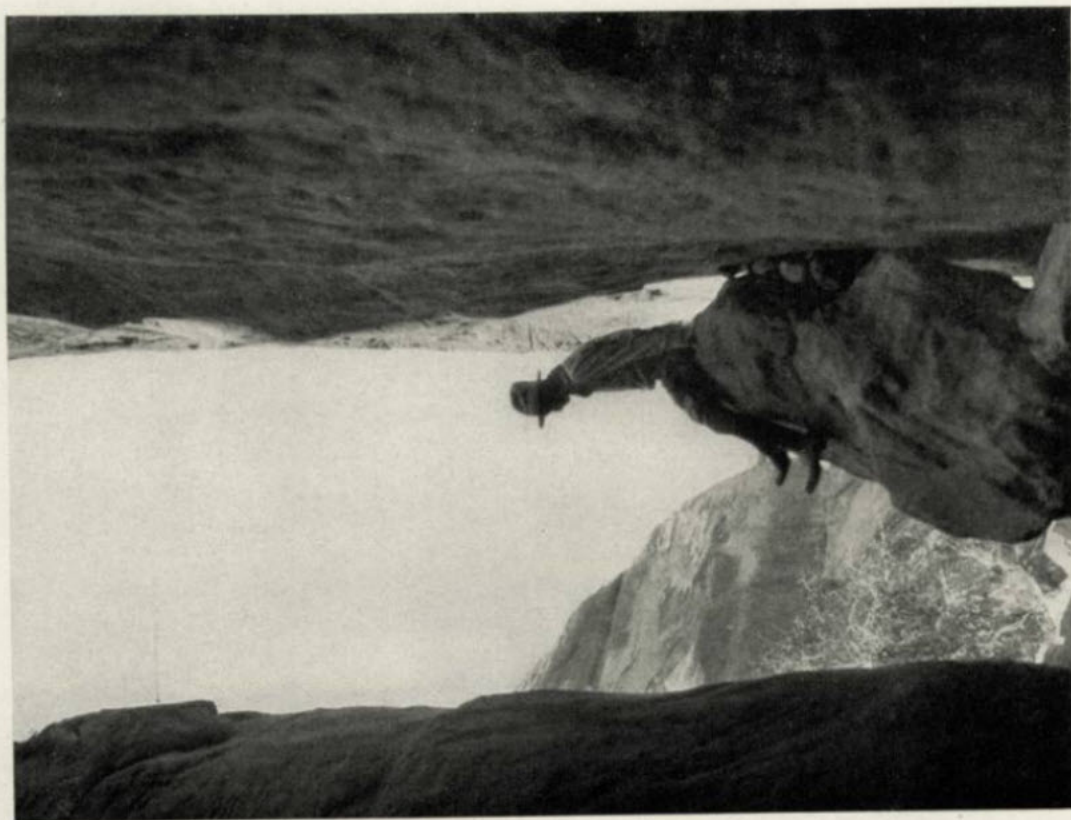


THROUGH CEDAR AND PIÑON PINE, NASJA CREEK



ATTEMPTING TO REACH THE TOP OF NO NAME MESA

Smaller rocks between the larger ones had to be dislodged to create a hole big enough for man to crawl or hoist himself through.



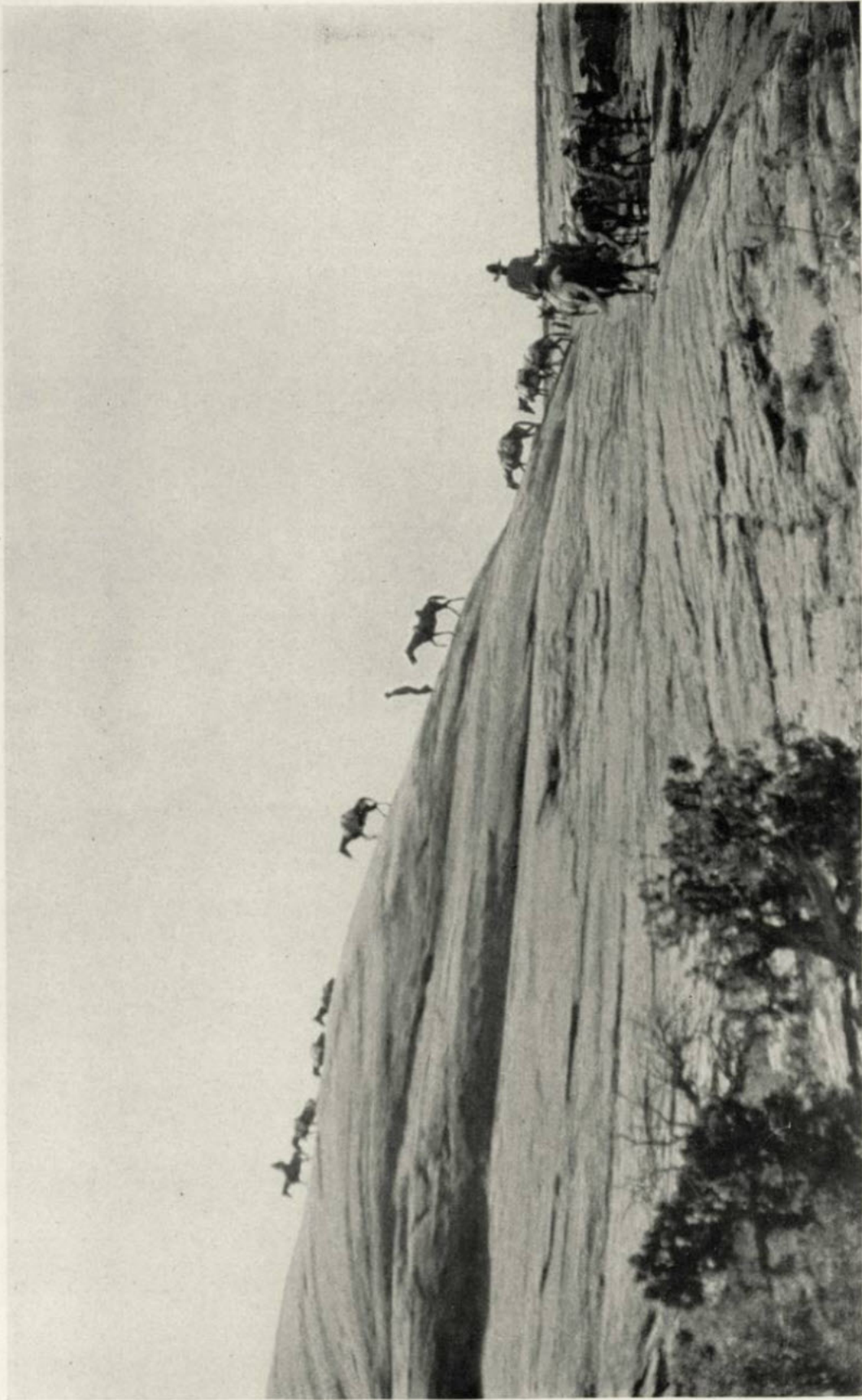
GATEWAY TO THE TOP OF NO NAME MESA

It is called Johnson's Hole, after the guide of the Bernheimer Expedition, to whom its discovery was due.



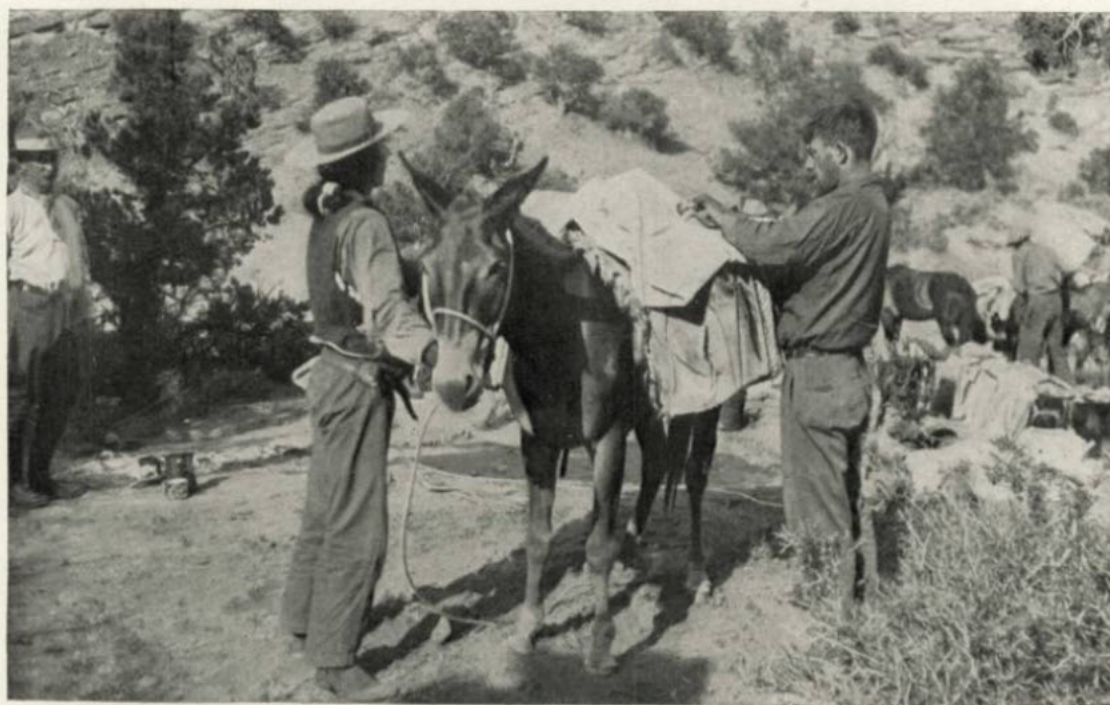
A CARAVAN OF 28 ANIMALS ON THE EDGE OF SEGI CANYON

Note the crowding of the animals, a perilous habit when permitted near the brink of a canyon.



TRAVELING OVER THE "BALDHEADS" ON THE EASTERLY ROUTE TO RAINBOW NATURAL BRIDGE

This sort of travel is not relished by either man or beast. The rocks in places are hard and slippery and there is nothing to stop a fall in case of a misstep. The purple sage, a rare and beautiful flowering plant, found in the crevices of these "baldheads," blooms in May and June.



BREAKING CAMP AT SAGITO, ON THE SOUTHWEST EDGE OF NAVAJO MOUNTAIN

"We knew not where we would arrive, for the journey before us was through lands never before penetrated by white man."

Besides, Forbidding Canyon had a way of abruptly closing up, its streamlet in the meantime forming an underground passage with sudden ghastly pothole vents or crowded polished throats to one side of a high steep shelf which blocked all travel except for man on all fours and with the aid of a rope.

SUCCESS ACHIEVED IN 1922

For many years it had been my ambition to find a passage west of Navajo Mountain to the Rainbow Natural Bridge, thus penetrating one of the most appalling rock jumbles on this continent. This feat was consummated by our expedition of 1922.

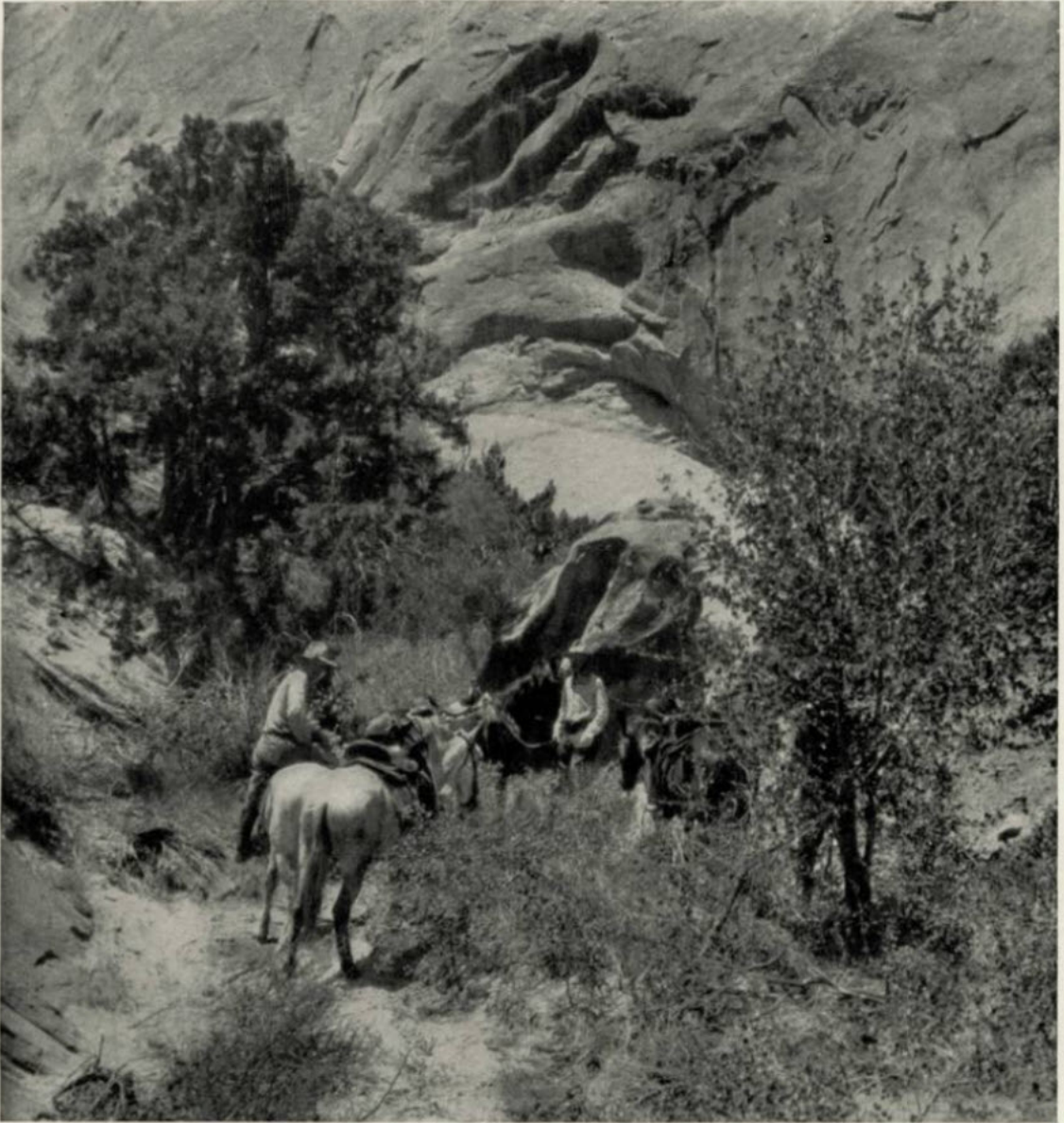
To John Wetherill, of Kayenta, Arizona, who discovered the Rainbow Natural Bridge in 1909, and who has been my guide for three successive years, is also due the discovery of a feasible route to the Rainbow Natural Bridge, the object of our expedition of 1922, namely, the "circumnavigation" of Navajo Mountain and the location *en route* of cliff ruins and prehistoric home sites, the ancient habitations of basket-makers as well as pottery-makers on this continent. Of these latter

we found a great number, many of which at some future time might well become the objects of careful excavation and examination.

Our outfit consisted of seven men and 28 horses and mules. John Wetherill, of Kayenta, Arizona, and Ezekiel Johnson, of Blanding, Utah, acted as guides for Earl H. Morris and the writer; Al and Jess Smith attended to the animals. At one time we had two Indians with us, but we sent one home shortly after we started out, as he proved of no value. We kept the other, even less useful, as he had been injured and we felt it our duty either to get him home to his own people or within reach of proper medical care.

Two days devoted to scouting from our camp, which we named "Sagito," meaning water in the rocks, near the southwestern point of Navajo Mountain, resulted in our finding a route that skirted its western flank.

Two of the mountain's buttresses, steep and trailless, were to be crossed as well as three canyons lying in their depths. These feats accomplished, we arrived at a deep cut, immediately south of No Name Mesa, which we named Half Dome Canyon.



WHERE HORSES AND MULES WERE KEPT WHILE THE ROCKS IN REDBUD PASS WERE BEING BLASTED

Note the redbud tree in the right center, after which the pass was named. From its very tough wood serviceable crowbars were made. The Indians used to fashion their bows from the wood of this tree.

This cut it was necessary for us to follow longitudinally. We struck a very old, disused Indian trail. I call it a trail because in a few places we found stones placed by human hands, at some time in the dim past, on top of rocks where Nature would not have placed them; otherwise there was no trace of path or trail.

We climbed out of Half Dome Canyon in a northeasterly direction to reach what we named The Saddle, a ridge of cream-

colored limestone connecting Navajo Mountain with the terra-cotta colored No Name Mesa.

This was an endurance test of the most distressing sort for man and beast, to be followed by one equally as trying, with all hands afoot, in order to get down on the other side of The Saddle into what we named Cliff Canyon.

That descent, over rolling rocks and sliding sands, around boulders and roots,



THE WESTERLY ENTRANCE TO REDBUD PASS

Note the weather-beaten, harassed, yet luxuriant, desert cedar.



REDBUD PASS, LOOKING EAST

This defile had to be widened with pick and sledge for the pack animals.



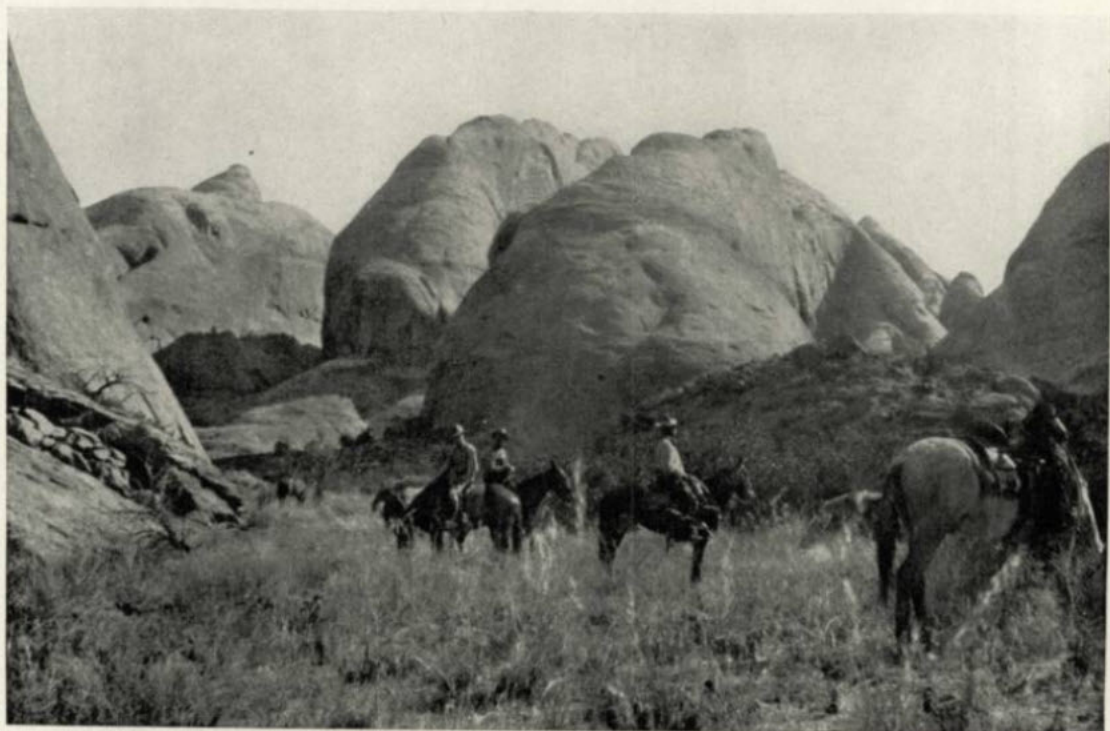
REDBUD PASS HAS ALL THE CHARACTERISTICS OF A FAIRY GARDEN

The trees are twisted, snarled, and split asunder. The bushes, especially the silver scale, are of a glittering whiteness. The century-old yucca plants, having 10-foot-high fruit stalks, added to the fantastic rock structure, give a supernatural aspect to this corner of the Bad Lands.



ASCENT OF REDBUD PASS FROM THE WEST

The dark purple shadows, so welcome in the July sun at noon, create sharp and weird contrasts against the salmon-pink sunlit places. After negotiating this pass the Rainbow Natural Bridge was reached without the necessity of dismounting.

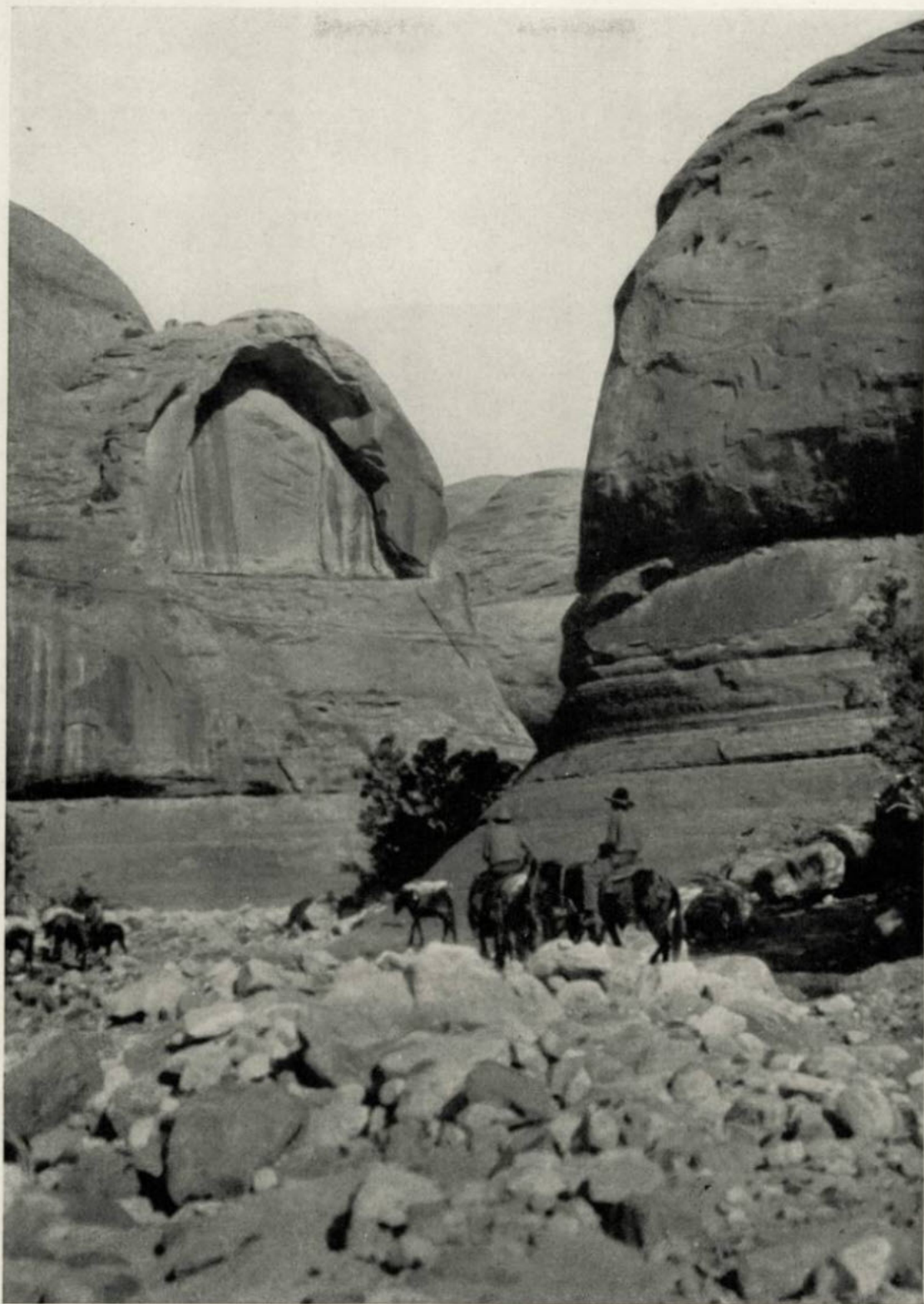


THE END OF REDBUD PASS NEAR ITS JUNCTION WITH BRIDGE CANYON
The rock forms, bald and soilless, are characteristic of this region.



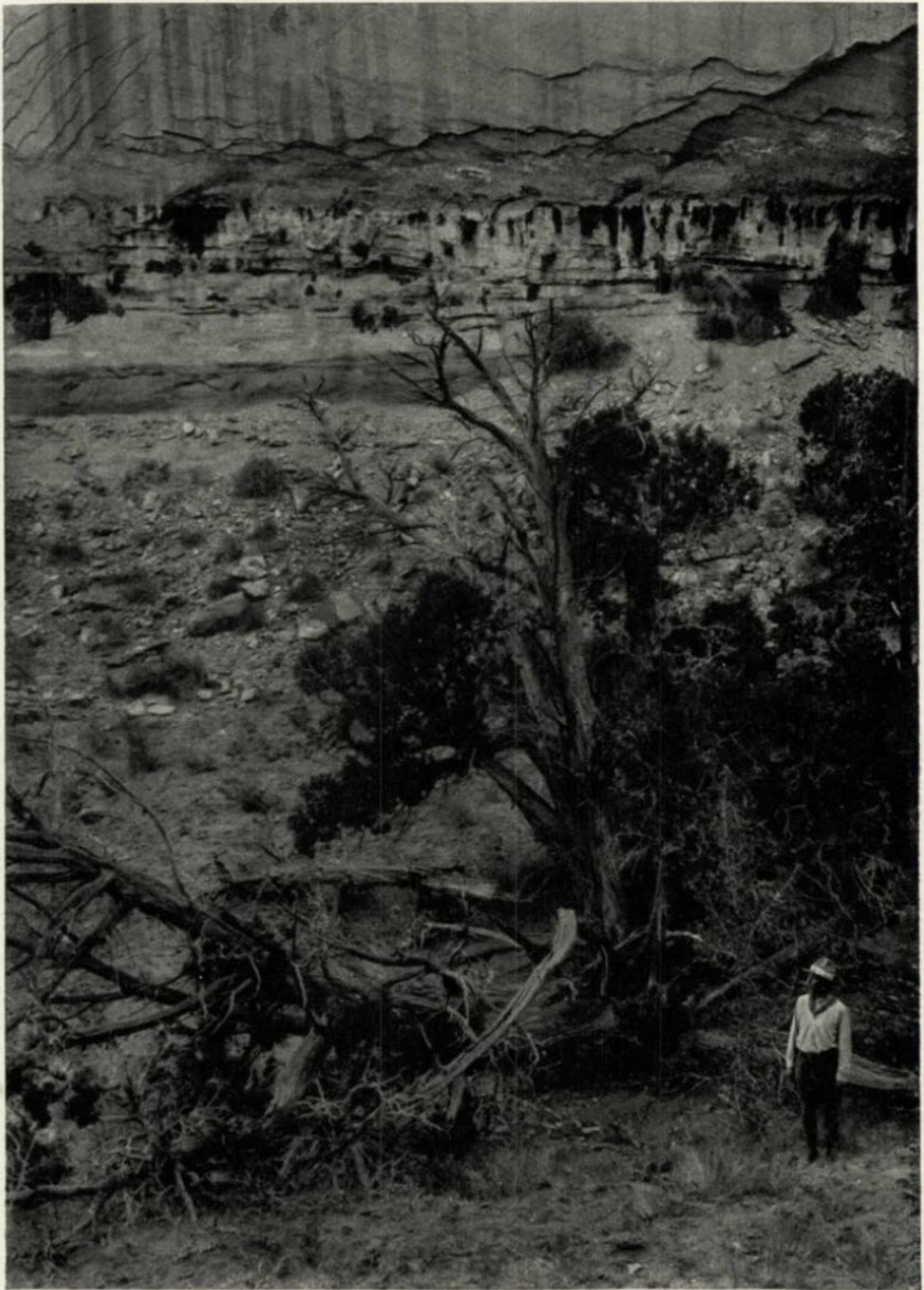
CLIMBING DOWN THE TRAIL, IN REDBUD PASS

It took four days to blast a way with dynamite, black powder, and T. N. T. through one of the three vertical rock ledges, which had to be broken up, the crevasse filled and "leveled."



THE DIVIDE IN REDBUD PASS

To the left is the cleft through which a trail was blasted. Behind the bush in the right-hand center began a series of dried-out, sand-filled potholes. Fortunately, the ninth and lowest of them contained still water, which we could reach with rope and bucket. Without this water, trail-making might have been greatly delayed.



THOUGH ALMOST TORN INTO SHREDS, THIS DESERT CEDAR LIVES ON IN REDBUD PASS

had its thrills, for a caravan of 28 animals must be kept moving at a fairly even and rapid tempo or chaos reigns.

Sliding loads, kicking, biting, and crowding animals, and dust-clouds completely obliterated all thoughts of weariness, dizziness, and danger. It required complete concentration to take us down some 2,500 feet, over a sheer and apparently impassable slope.

It was late in the afternoon when we reached the bottom of Cliff Canyon, so named by us because of the sheer cliffs which lined it.

The heat was "July-esque." The streamlet at its bottom was dry. Our animals had had no water since early in the morning and there was practically no grazing on the way-side.

My half-gallon canvas water-bag was less than half full; no one of us had ever been here before; we did not know when water would be reached. To turn back was impossible, confronting us was the unknown!

The canyon was parched and thirsty-looking. Even the cacti, those reservoirs of moisture, looked shriveled and shrunken. I had been pondering as to the best use for the little water left in my bag; my companions had none whatever. Would it be sufficient to moisten the noses and mouths of our animals next morning, so that they might be able to drag on, if need be, without load?

Such lugubrious reflections kept tormenting me for hours, when suddenly, at about sundown, a silvery shimmer, far ahead, a catching and reflecting of the



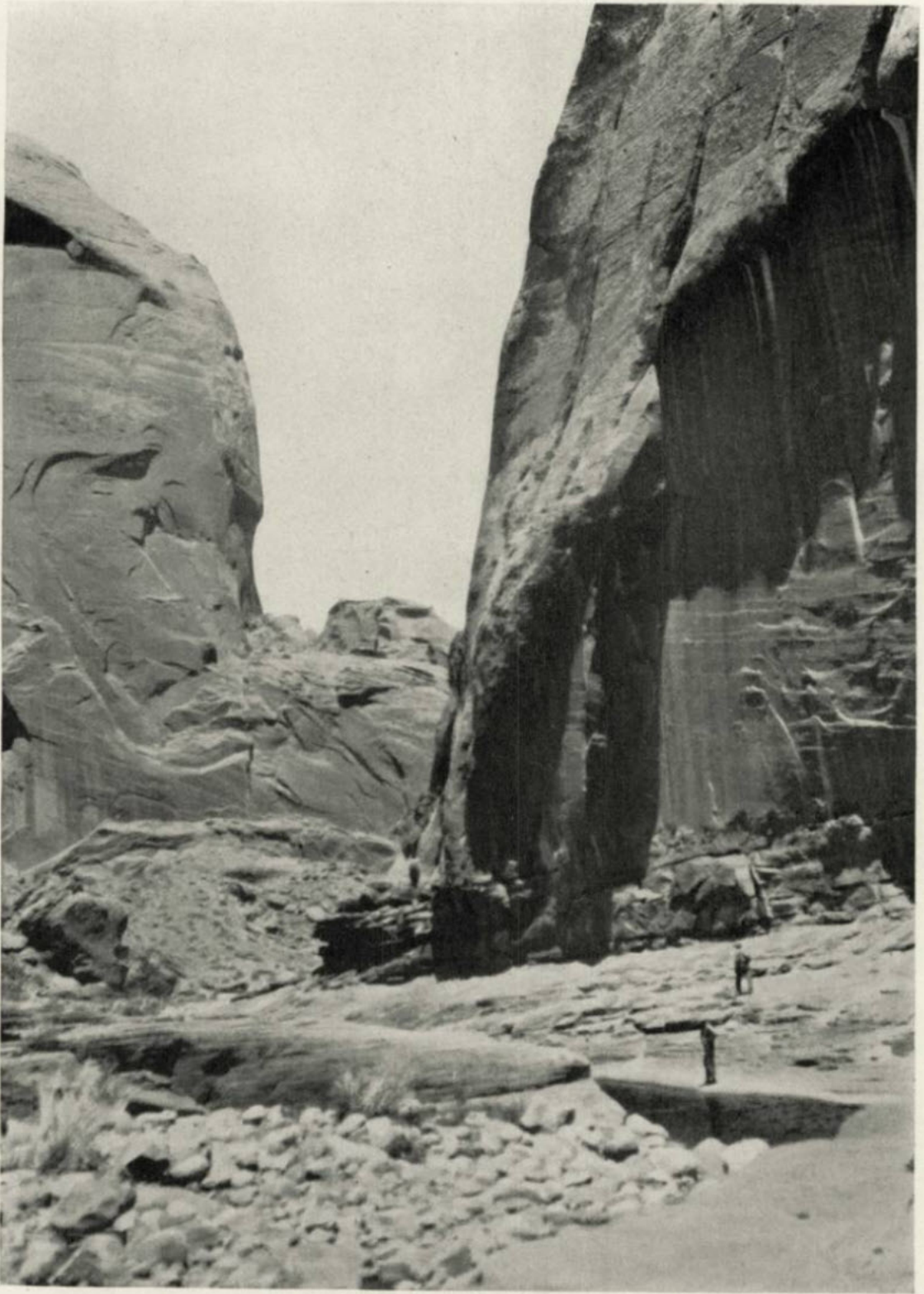
REMAINS OF AN ANCIENT POT IMBEDDED IN ADOBE IN BLACK-BOARD CLIFF RUINS BETWEEN NAVAJO MOUNTAIN AND GOLDENROD CANYON

departing sun-rays, heralded the presence of water. "To," which in Navajo means water, and "shineago," which means food, were on our parched and chapped lips.

We knew we could pitch a camp here and that from it we could reconnoiter farther for a passage east through some cleft in the sheer rock cliffs which we had to put behind us if we wanted to succeed.

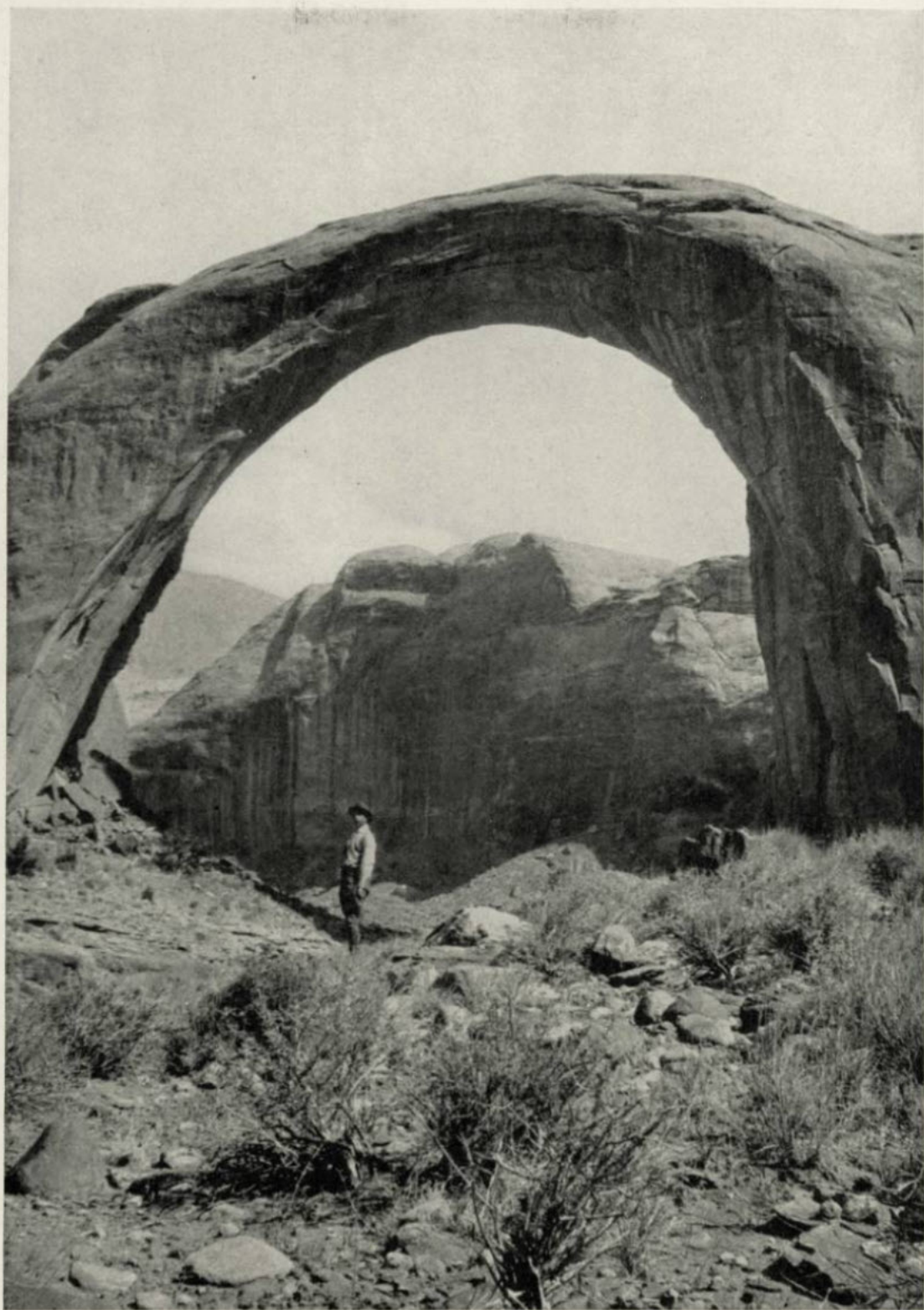
DRAWINGS IN COLOR LEFT BY THE BASKET-MAKERS

Next morning we shifted our camp a mile or so farther down Cliff Canyon into a small grove of cedars and piñons. We named it Painted Rock Camp because of drawings in three colors—red, yellow,



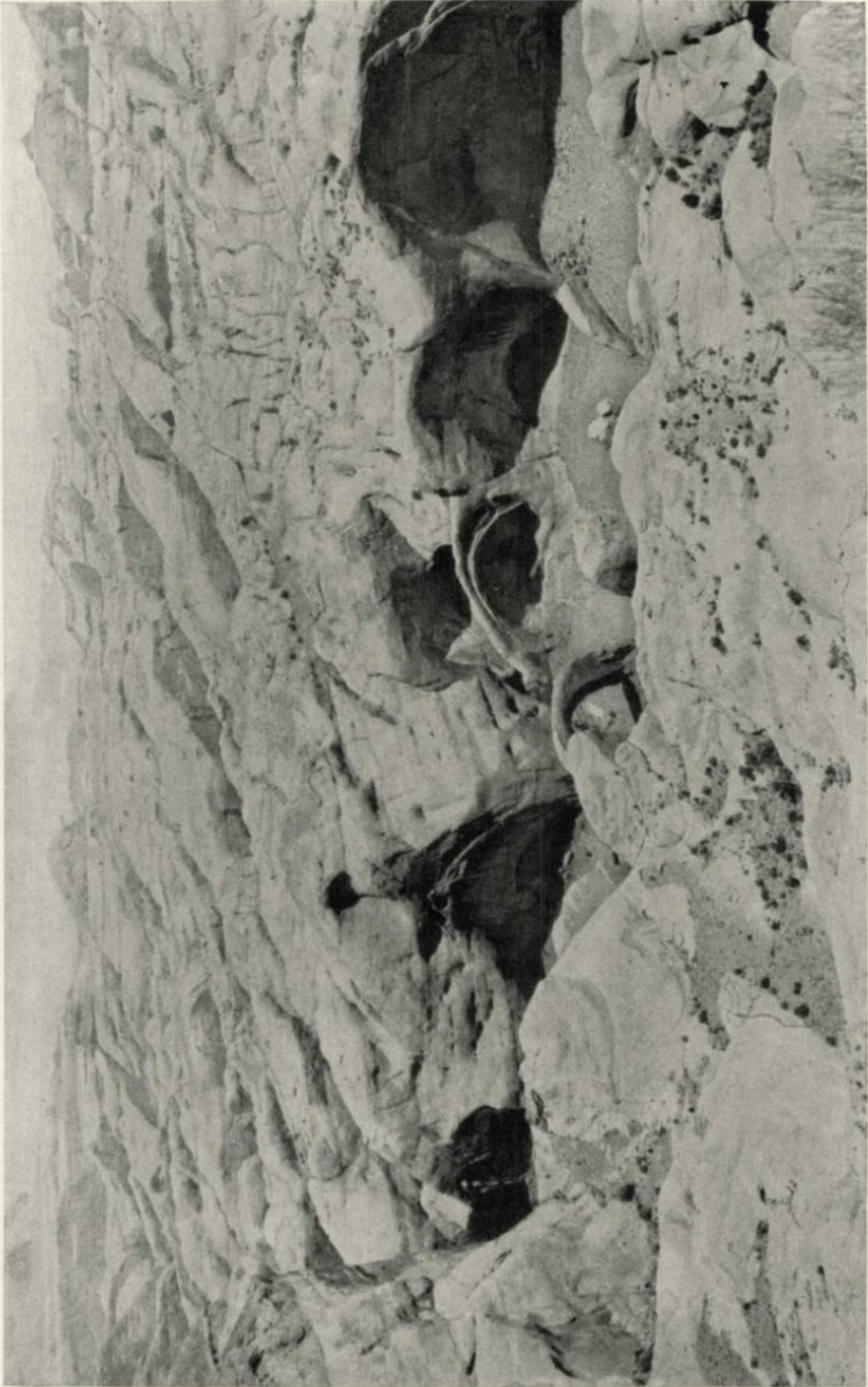
A POOL IN BRIDGE CANYON

Its waters teem with catfish, which probably worked up from the Big Colorado River.



LOOKING SOUTH AT RAINBOW NATURAL BRIDGE

Its arch is 274 feet wide and 308 feet high. In the distance looms Navajo Mountain.



A VIEW OF RAINBOW NATURAL BRIDGE FROM THE TOP OF THE CANYON WALL.

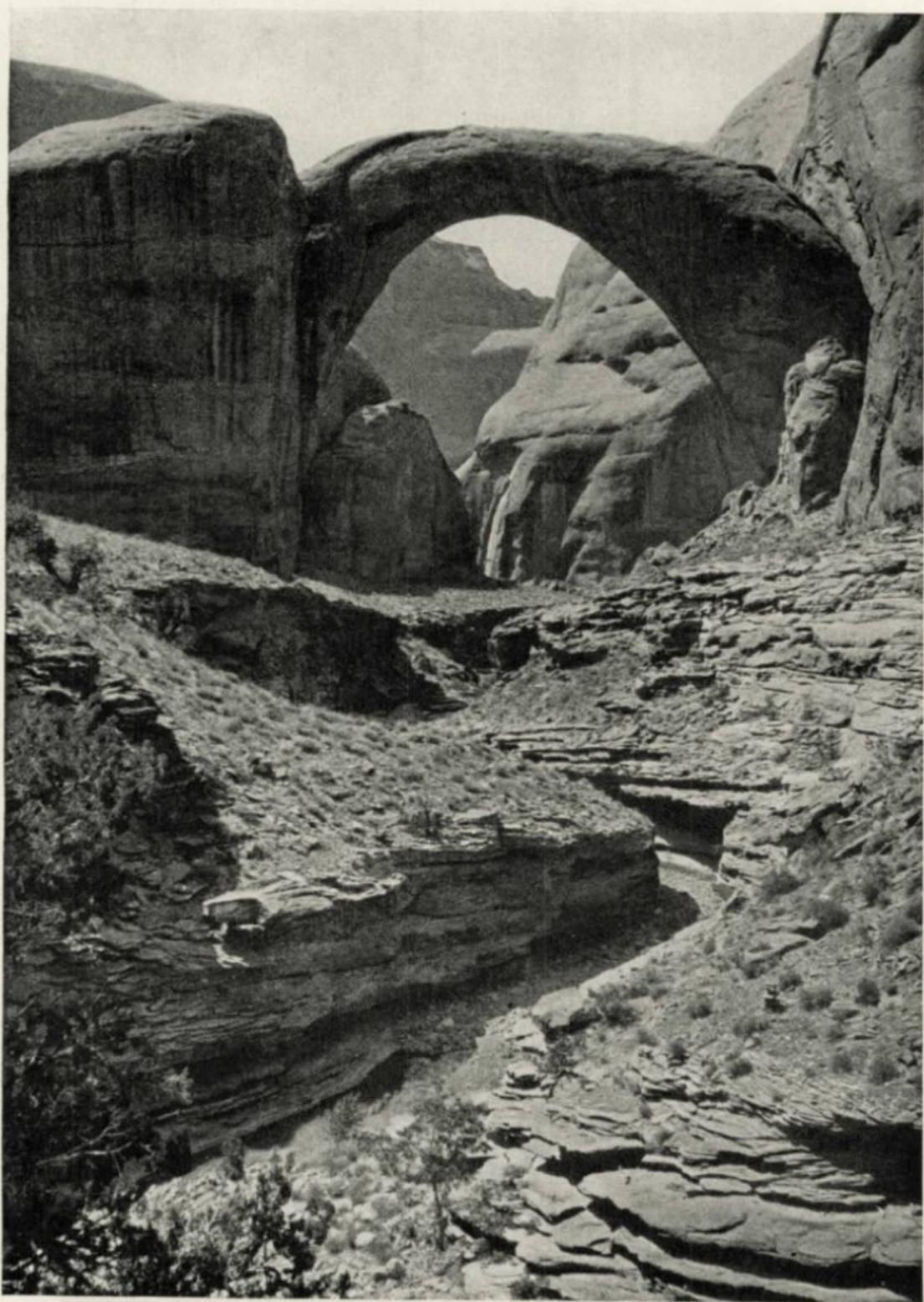
Note the tree standing at the right-hand pier of the arch and the distance between the rocks flanking it—nearly a quarter of a mile (see also page 218).



Photograph by Dr. George Dock

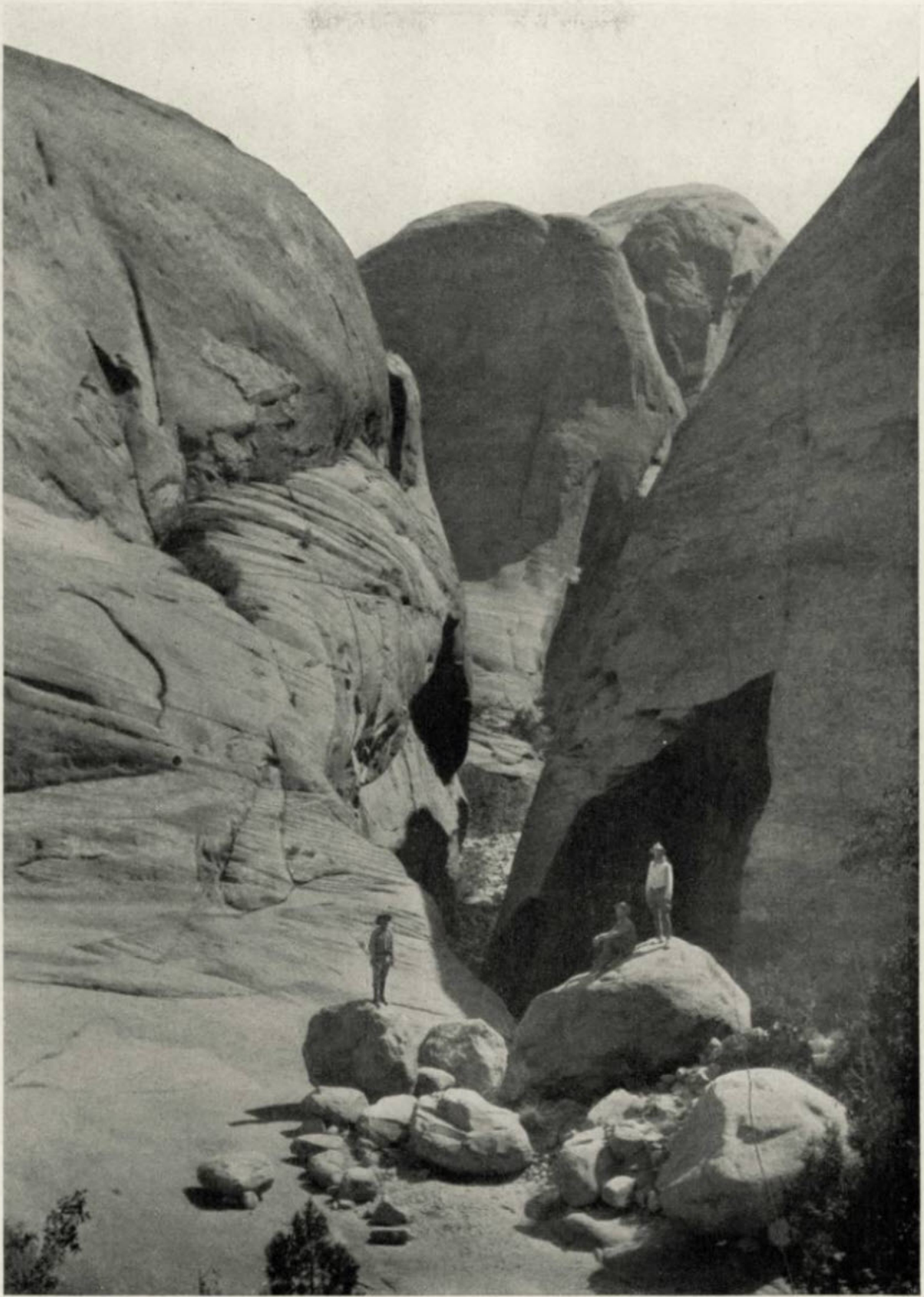
RAINBOW NATURAL BRIDGE FROM THE NORTH

Its arch partly spans a canyon which extends from Navajo Mountain northward toward the Colorado River.



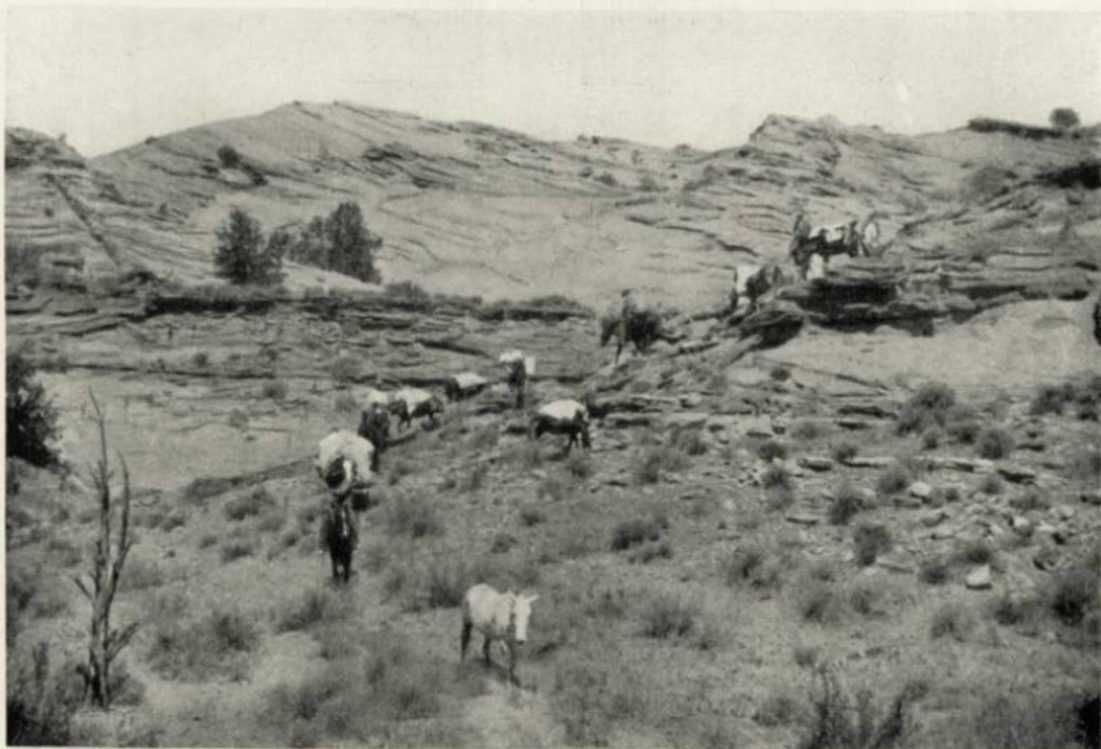
RAINBOW NATURAL BRIDGE, LOOKING NORTH

The arch on the right seems imbedded in the rocks, whereas it stands entirely free, as shown in the illustration on the opposite page. The distance between the two rock masses on the right, one this side of the arch and the other beyond, is nearly a quarter of a mile (see page 216).



NASJA CANYON, NORTH OF SURPRISE VALLEY

This canyon, emptying into the San Juan River many miles to the north, had never been penetrated beyond three or four miles of its boulder-strewn bed. Not far from here the party was stopped by rock walls, for the waters had found a subterranean passage.



ON THE TRAIL, EAST OF BEAVER CREEK

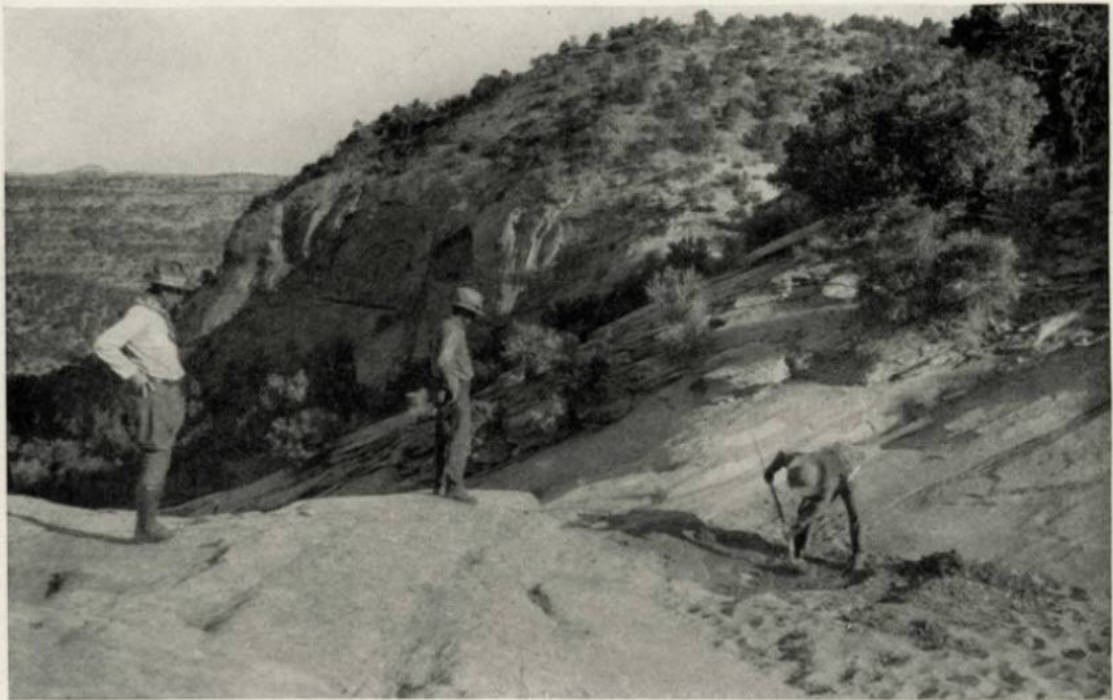


GRAZING IN SURPRISE VALLEY, NASJA CREEK

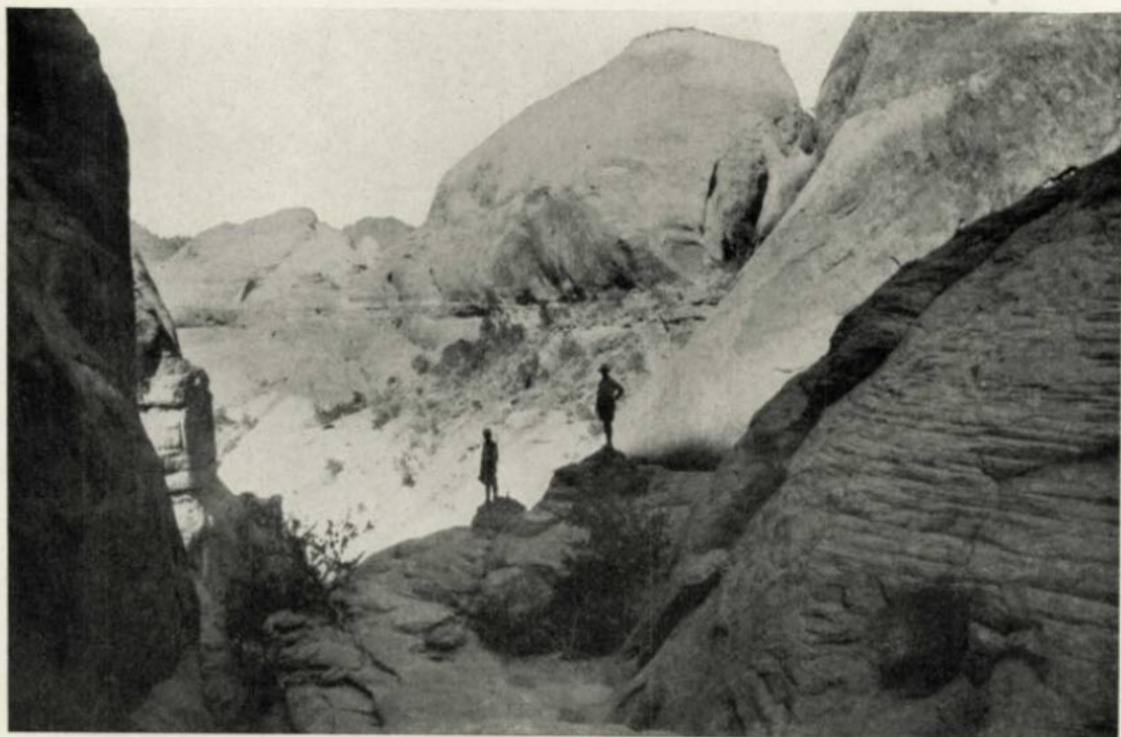
Note the wooden stirrups, which are most restful when one is eight or ten hours in the saddle.



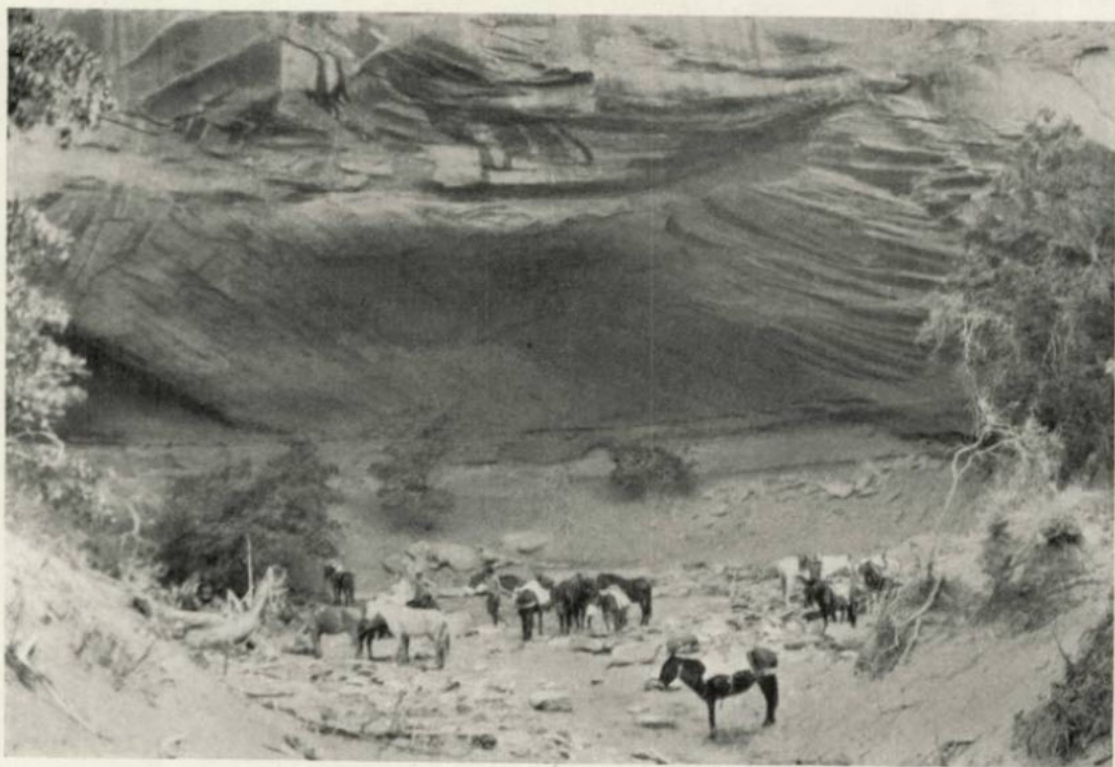
A WELCOME WATERPOOL, BETWEEN PIUTE AND NAVAJO CANYONS



DIGGING FOR WATER AT ROUGH TRAIL, CAMP
Note the easterly slope of Piute Canyon in the distance.

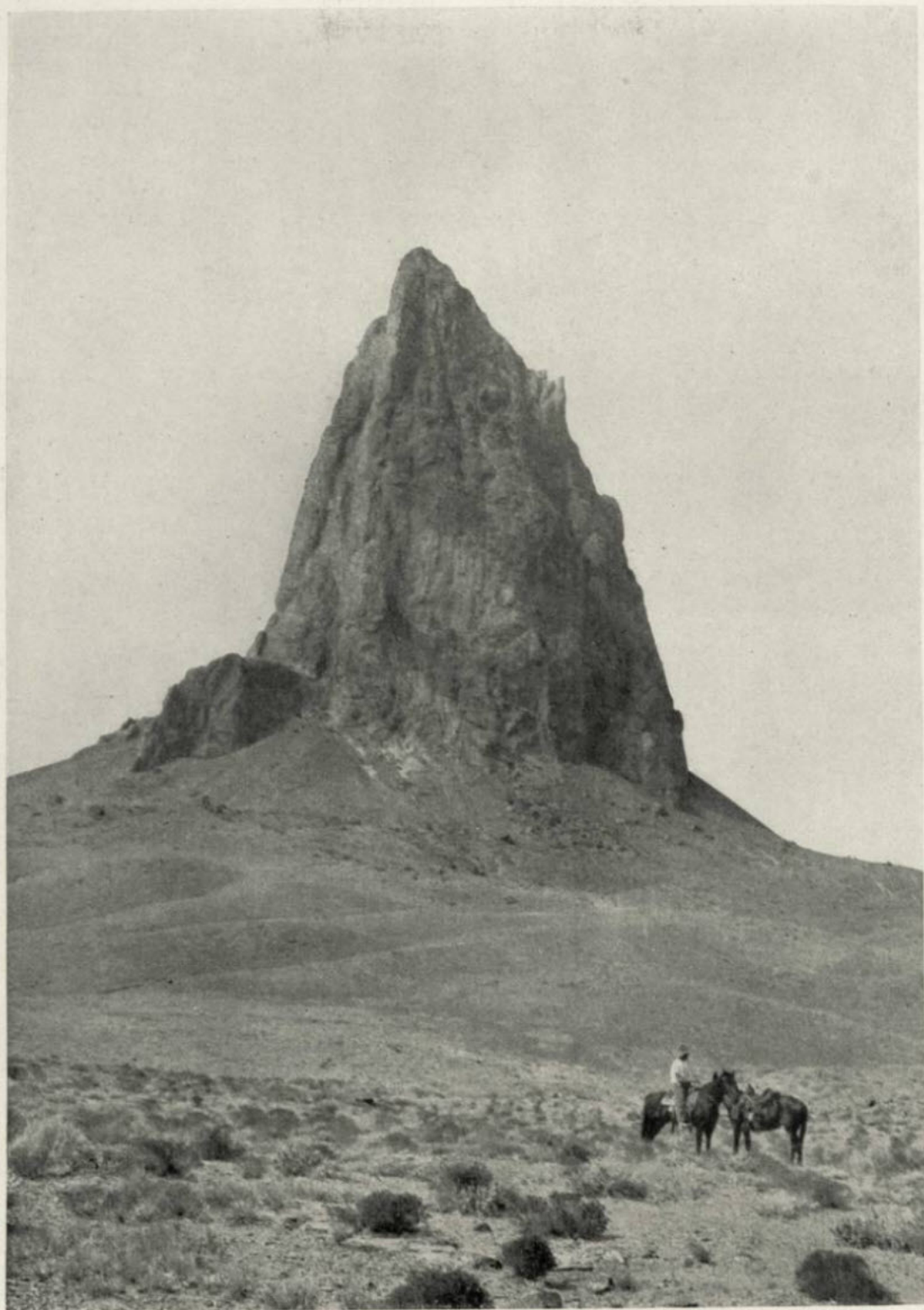


STANDING ON THE DIVIDE BETWEEN THE CLIFF CANYON AND BRIDGE CANYON SYSTEMS



A THIRSTY PACK-TRAIN IN ZANE GREY CAVE

This is the beginning of Zane Grey Canyon, named in honor of the author by the Bernheimer Expedition. This canyon enters Piute Canyon, to the east. The cave was practically dry, but upon digging a trench eight feet deep and ten feet long, sufficient water was obtained for the animals.



Photograph by Dr. George Dock

AGATHLA NEEDLE, NORTHERN ARIZONA, 1,225 FEET ABOVE THE LEVEL OF THE DESERT
This majestic pinnacle rises to the north of Kayenta and is a giant's sign-post directing the tourist back to civilization.

and black—on the rock face near by, above a cliff-ruin site. The type of drawings indicated that it was the former home of basket-maker aborigines, who, by the way, belonged to an era preceding the pottery-makers.

Here we had splendid water for drinking, rock pools for bathing, and our animals had very fair grazing—an important element in our calculations, for we were sorely in need of the feed of the wayside to conserve our 1,500 pounds of oats, which we brought from Kayenta, where we did our outfitting (see map, page 198).

On June 30 we commenced reconnoitering to the east. The most hardy of our little band went to find an opening through the easterly cliffs, while Johnson and I went downstream to ascertain where it would lead and to verify our suspicion that our Cliff Canyon Brook emptied into Forbidding Canyon.

Our suspicions were well founded. Two miles downstream we reached the notorious Forbidding Canyon, which promptly exhibited all its characteristics, so well known to us (see text, page 198). Its course soon became impassable for animals and a bit farther almost so for man, unless provided with rope.

A SKELETON FOUND IN CHARCOAL CAVE

At a cave, which we named Charcoal Cave because of its many fireplaces, we turned back, after digging for remains in the refuse piles. In these piles we only found wooden implements and sandals made of yucca fiber, but on another visit Mr. Morris dug up the complete skeleton of a boy.

Alongside of the skeleton, Mr. Morris found 499 beads of hematite iron, the loosened parts of a necklace, and five arrows and lance-heads fashioned of petrified wood. This cave, which measured about 400 feet in width by 250 feet in depth, seems a promising field for the remains of the basket-makers.

In the meantime, two days' search on the part of our other men resulted in the discovery of a very likely opening in the easterly canyon wall, and we resolved to dig or blast our way through this. It was necessary for us to take this course, as there was no other way out. Our supply of dynamite, T. N. T., and black powder we hoped would be sufficient.

This meant that, besides trail-making, it would be necessary for us to widen the cleft in two places to allow our animals to squeeze through. That, however, was the lesser of the problems ahead of us. The major operation was the blasting of one of the three vertical adjoining colossal rock masses and filling in the forty-foot hole beyond, in order to allow safe passage to our loaded animals.

For nine days we were camped at Painted Rock, two miles distant. Six days were consumed in making a trail over a distance of one mile, four of which were taken up in blasting a way through some 400 feet.

REDBUD PASS LEADS TO SUCCESS

July 9 was a red-letter day. Our trail, which was made with so much care, was finally finished and all of us rode over it. We named it Redbud Pass because we there discovered large numbers of redbud trees, whose strong and tough wood supplied us with material for crowbars. We reached Bridge Canyon and the Rainbow Natural Bridge without the necessity of dismounting and dragging our animals after us.

The feat was accomplished and it only remained for us to get our outfit through. This we did three days later, thus locating the "Northwest Passage," as I often referred to it, and completing the "circumnavigation" of Navajo Mountain.

To attempt to refer to the many other incidents in our Rough Rider journey or to elaborate details—amusing, daring, scientific, or mundane—would lead too far. Mere reference to the perilous ascent of No Name Mesa by some of our men, not including myself, excursions in Forbidding Canyon, and explorations in Nasja and Beaver canyons, must also suffice.

The circling of Navajo Mountain, an intimate contact with hundreds of square miles of continental United States never before visited by white man, photographing and mapping the district, as well as the location of a great number of prehistoric sites and ruins, were the goals long visualized and ultimately achieved by the 1922 expedition.

Credit for this feat is due to the woodcraft of all of our men and the good generalship of our head guide, John Wetherill.