

Utah's Arches of Stone

BY JACK BREED

"BEYOND those mountains," said Harry Goulding one evening as we watched the sunset from the porch of his Monument Valley trading post, "is a natural arch as long as a football field!"

Harry was looking north toward the Blue (Abajo) Mountains in southeastern Utah. Beyond this range we could clearly see, 100 miles from us, the La Sal or "Salt" Mountains, which served as a towering landmark for Arches National Monument of Utah, to which Harry was referring.

An arch that almost equals a football field in length was worth investigating!

The next morning I climbed into the station wagon and headed up the rough, dusty trail that leads from Monument Valley* over the San Juan River at Mexican Hat, past the Goosenecks turn-off,† to the Utah towns of Bluff, Blanding, and finally Monticello, at the very base of the Blues (map, page 175).

From Monticello the snow-capped 13,089-foot peak of Mount Peale in the La Sals, 40 miles ahead, beckoned us to continue along US Highway 160, which boasts a paved surface for most of the journey. We wound through a narrow gorge below the peaks and finally burst forth into a broad valley, paralleled on either side by brilliant red cliffs, that leads to the Mormon town of Moab, Utah.

Center of a Scenic Wonderland

Moab, with a population of about a thousand, is the county seat for Grand County and the center of an extensive sheep- and cattle-grazing area for a little-known sector of eastern Utah. The valley in which the town is located was first settled in 1855. Continuous trouble with the neighboring Piute and Navajo Indians, however, prevented any permanent settlement for nearly 25 years, when in 1879 the town itself was established.

Moab has never grown large. Many of its people are descended from the original settlers of the region.

Most travelers pass right through Moab and remember the place as a verdant farming community sleeping amid a setting of brilliant red cliffs. However, the speeding traveler is really missing some of the most spectacular scenery in the United States.

Behind the ruddy abutments of Moab Valley lies a veritable galaxy of natural wonders—delicate arches, giant natural bridges, and the deep canyons of the Green and Colorado Rivers, climaxed by the startling vistas from Dead Horse and Grand View Points.

Nestled against the slopes of the La Sal Mountains are lovely lake and aspen glades to tempt fisherman and hunter, lonely Castle Valley, and awe-inspiring Fisher Towers, which dwarf modern skyscrapers.

The most readily accessible attraction is the maze of sand-blasted formations included in Arches National Monument, which lies just a few miles north and west of the town.‡

Wagons Lowered by Rope to Valley

With Custodian Russell L. Mahan of the National Park Service as guide, I set out toward the Windows section early one morning to study and photograph its geologic wonders (Plates III, X, XII, XIII, and XVI). We sped northwest on the paved highway up the steep incline of Moab Canyon, following the route of the old Mormon dugway (Plate XIV).

"Over here," said Russell, "you can see where some early settlers lowered their wagons over the rock. They had to dismantle them and let them down piece by piece through these clefts."

Paralleling the road in many places are unusually regular steps cut into the rocks, and on close examination we could still find the marks worn by the old wagon wheels.

Near the top of the dugway, where the highway bursts out of the red-rock canyon into the open prairie, we passed the original jumping-off place, a perpendicular ledge which offered Mormon settlers their first real obstacle in reaching the fertile valley beyond.

A few miles along on the prairie we turned off to the right on an unobtrusive dirt road that leads to the Windows section of the Arches, nine driving miles away.

In the fall of 1936, Harry Goulding of Monument Valley, in his specially equipped car, managed to traverse the rugged sand and rock of the Arches region and thus became the first person to drive a car right into the Arches. Soon afterward a bulldozer followed Harry's tracks and made a passable trail.

Little improvement was done on this rough road to the Windows section until recently. Mahan, aided by members of the Highway Department, has done much to make the way

* See "Flaming Cliffs of Monument Valley," by Lt. Jack Breed, NATIONAL GEOGRAPHIC MAGAZINE, October, 1945.

† See "Desert River Through Navajo Land," by Alfred M. Bailey, in this issue of the NATIONAL GEOGRAPHIC MAGAZINE.

‡ See "Utah, Carved by Winds and Waters," by Leo A. Borah, NATIONAL GEOGRAPHIC MAGAZINE, May, 1936.

an easier drive for the most discriminating motorist.

We followed Goulding's original route, twisting and winding over small dunes and tablelands, across "slickrock," and through several washes which are invariably flooded after heavy rains or during spring thaws.

Windows Section Most Easily Accessible

At the end of eight miles we were in the midst of the red-rock formations that could be seen from the highway, and began to pass many weirdly eroded towers, spires, balanced rocks, and finally some arches. We parked the car, and after a hike of a few minutes and several hundred yards toward Double Arch (Plate I) we passed between two huge buttresses jutting out on either side of the trail. Strewn on the ground below were the chunked remains of a former complete span.

"That used to be a fine big arch," said Russell, "but it eroded too far and fell through. You'll see arches in all stages of erosion here."

In the Windows section the basic geology of the Arches can be studied. The rock strata stand out in bold relief; it is easy to see where one layer ends and another begins.

The arches are holes blasted mainly by the wind through long sandstone reefs. Throughout the Monument I noted that these thin reefs or fins are sometimes 300 feet or more in height, and often hundreds of yards in length.

The freezing of rain water in cracks and joints in the rock mass, along with subsequent thawing, enlarges the cracks until big chunks become loosened and start to fall out.

After this process has been repeated for several thousands of years, huge caves develop in the reefs and eventually, in many instances, a complete break results. Fine sand, driven by high winds, helps speed the process and smooths out the jagged breaks into finely sculptured contours.

In the Arches these windows have been formed in a 300-foot layer of rock called the Entrada sandstone, which lies on top of a darker red sandstone called the Carmel formation. Below is the better-known Navajo sandstone, common throughout southern Utah and northern Arizona.

Since geologists class these rocks in the Upper Jurassic period, it would mean that the general rock matrix of the Arches is some 40 million years old!

It took us a full morning to hike around the Windows section of the Arches to visit each of the major features. In the afternoon we returned to Mahan's headquarters to prepare for the climb to the Courthouse Towers sector (Plates VI, VIII, XIV, XV).

I could see little sign of a trail to Courthouse Towers. We started climbing up the talus slope and slickrock immediately behind the Monument headquarters, picking the easiest way over or around the huge sandstone boulders. Mahan showed me where some work had been started during C.C.C. days to build a road by means of hairpin switchbacks up the face of the escarpment.

This feat has not yet been completed. Eventually it will make the Courthouse Towers section available to travelers in their cars.

Fifteen minutes of steady climbing brought us to the base of the sheer sandstone cliff that forms the north wall of Moab Canyon.

Beneath us was the black thread of highway US 160, which follows the route of an old Mormon trail.

To the left, three miles away, we could see the break in the south wall of Moab Canyon where the Colorado River starts winding through hundreds of miles of high red walls that will eventually bring it into Lake Mead, Nevada.*

The pattern of deep-green fields and trees around Moab contrasted sharply with the brilliant red walls of Moab Canyon and the "behind-the-rocks" escarpment which hems in the town from the south. Farther to the eastward, receding rain clouds atop the 13,000-foot La Sal Mountains formed a backdrop to this breath-taking sight.

We continued along the base of the cliff, working our way back over the rim on to the sandy juniper flat that leads to the junction with Park Avenue Canyon (Plate XV).

At the head of this hidden gorge there is a sudden but easily traversed drop-off into a winding dry wash that runs to the Courthouse Towers section.

Park Avenue of the Arches

Arches' Park Avenue is well named indeed. For a mile down to Courthouse Wash, huge, silent, sandstone skyscrapers looked down on us as we made our way toward Great Organ Rock at the far end (Plates VI and VIII).

The monoliths in this section were named by the citizens of Moab who have explored the area, and the visitor can readily recognize such formations as Sausage Rock, the Three Gossips, Sheep Rock, the Tower of Babel, and many others.

Early the next morning we set out to explore the more distant sectors of the Monument and selected as our first objective remote Delicate Arch.

* See "Nevada, Desert Treasure House," by W. Robert Moore, NATIONAL GEOGRAPHIC MAGAZINE, January, 1946.

We sped northwest on Highway 160, up the old Mormon dugway again and past the turn to the Windows section. Twelve miles beyond, we cut off to the right on an unimproved dirt trail used by shepherders and cattlemen to reach grazing lands in Salt Valley, which we soon entered.

Twenty-two miles from the highway turn-off, the trail drops to the floor of Salt Valley Wash, and the rest of the drive was tedious and rugged going.

We plowed through sand, bumped down over rock ledges, straddled boulders, and finally were forced to stop on the brink of a three-foot embankment.

We continued on foot for the remaining half-mile of the trail down the wash to a dilapidated log cabin, known as the Turnbow Cabin, which ordinarily marked the terminus of the automobile road.

The little hut had been tumbling to ruin so long that it virtually melted into the landscape. Years ago shepherders used it as a camping headquarters, but it has long since passed its usefulness. From here a trail leads across sandy grasslands to the foot of a smooth slickrock ridge where the ascent to Delicate Arch begins.

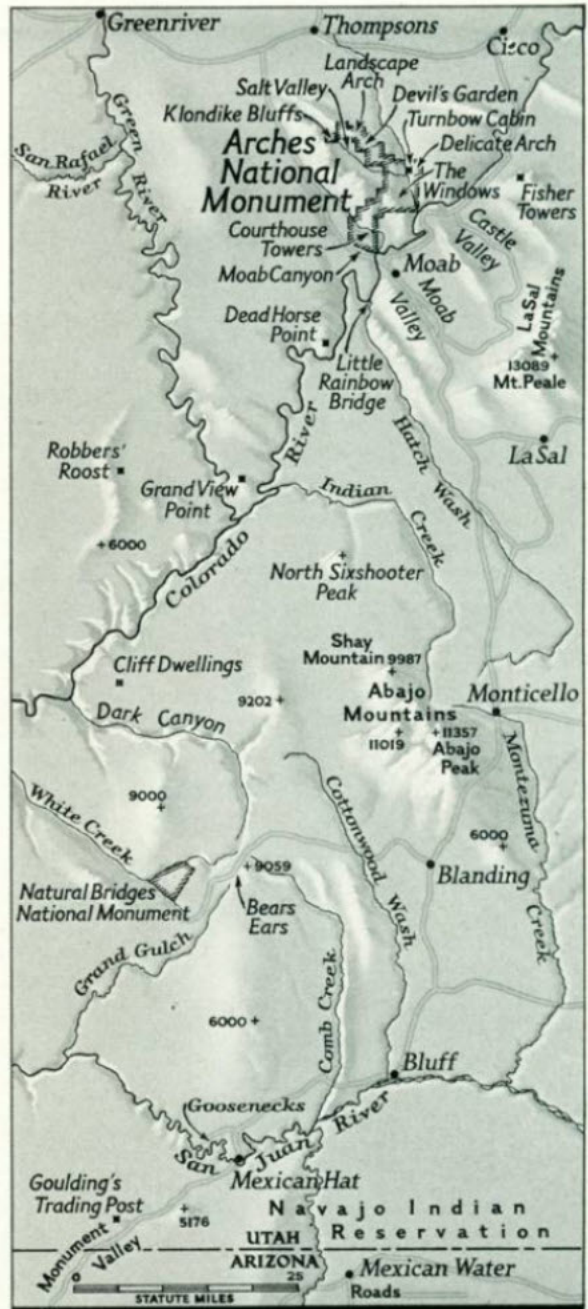
Delicate Arch Is Well Named

Another mile of easy climbing brought us to a gnarled and weirdly eroded mesa top of gorgeous coloring and commanding views of the surrounding countryside. However, the indescribable beauty and unbelievable formation of Delicate Arch itself made everything else insignificant.

Isolated and alone, the arch seems to sprout from the rim of a natural rock bowl (Plates IV and V). The matrix reef in which it was originally carved has been eroded away, leaving only this finely sculptured semicircle of more resistant sandstone.

"Delicate" is indeed an appropriate name for the arch, for one leg of its 65-foot span is not more than 6 feet thick at its narrowest! Its beauty is further enhanced by the pastel colors which change continuously throughout the day as the sun moves around to the west. On clear days the arch perfectly frames the whole range of the La Sal Mountains, 20 miles southeast, and at any time an inspiring view of Cash Valley may be seen immediately below.

The Devil's Garden section of the Monument (Plates II, VII, and XI) is not far from Delicate Arch. We drove in there the day after our visit to Delicate and cut off to the extreme northwest corner of the Monument before reaching the difficult wash we had had to traverse the day before.



Drawn by Theodora Price and Irvin E. Alleman

Nature Wrought Weird Sculptures in Utah

From Arches National Monument to Monument Valley on the Arizona line the southeastern part of the State is a wonderland of awesome canyons and strange figures carved in glowing rock by mighty rivers and restless winds of the desert.

Leaving the car at the base of a steep, rocky escarpment, we started climbing toward the plateau area that forms the base of Devil's Garden. Our guiding landmark was a massive 125-foot, black-rock pinnacle, the Dark Angel, visible from most sections in this part of the Monument.

On some of the cliff walls along our route we encountered our first visible signs of Indian

peoples believed to have frequented this area. Hundreds of petroglyphs, depicting human figures and animals, are scratched into the blackened walls. Because of the present lack of potsherds or other concrete signs of early Pueblo culture,* some archeologists think these drawings may have been made in comparatively recent times by the Ute Indians, whose range includes the Arches area.

Of the Monument's 83 known arches, 64 are found in the Devil's Garden. We first paused to examine unusual Double-O Arch, a phenomenal feature where one arch has been carved immediately above another (Plate II).

Beyond Double-O the trail enters an unbelievably rugged maze of fins and reefs that seems to form an impenetrable forest of wildly eroded slickrock. The most concentrated group of these fins, known as the Fiery Furnace (Plate XI), is located at the lower end of the appropriately titled Devil's Garden.

Longest Known Natural Arch

Mahan led the way over dozens of these fins, each one of which looked just like its predecessor, and at times even he had trouble making certain we were not lost. Our goal was the giant sandstone fin in which ribbonlike Landscape Arch has been carved—the longest known arch of its kind in the world (Plate VII). After an hour of laborious hiking we came upon it suddenly, hidden in its own little canyon draw that frames the lovely desert landscape from which it gets its name.

"This is one place that few people get to," Mahan told me. Remembering the ruggedness of the terrain, I could understand why. A friend who visited the Monument sometime later told me he had spent a day wandering hopelessly among the hundreds of fins trying to find Landscape Arch. He never did catch sight of it until nearly sundown when it was too late in the day to approach it.

Admiring Landscape Arch, which averages more than 100 feet above the canyon floor, I could not help wondering if it would fall through in the next windstorm. Its 291-foot span, just nine feet short of the length of a football field, has been eroded down to six feet at one point!

Talking with some of the residents back in Moab, I became aware of the feeling in the town that the arches are certainly not the most unusual features in the region.

Several individuals were anxious to take me by boat down the Colorado River to visit Little Rainbow Bridge or the Colorado's junction with the Green River. Upstream were fluted Fisher Towers, knifelike pinnacles of deep ruddy sandstone, isolated in a remote canyon

that is reached only by a treacherous drive up a stream bed noted for its quicksand.

However, Moab's residents firmly believe that Dead Horse Point (Plate IX), at the end of a broad mesa top overlooking the Colorado River, commands a canyon vista surpassing that of the Grand Canyon to the south in Arizona.

Accompanied by Mahan and his family, I drove to Dead Horse Point one morning to have a look for myself. The winding dirt road twisted through lovely pink mesa and sandy grassland country for 35 miles to a point only 11 airline miles from the town.

We left the car in a grove of junipers and walked across a rocky neck only a few feet wide with a sheer drop of a thousand feet on either side to reach the main point itself.

My first view from Dead Horse Point convinced me that here indeed is another Grand Canyon! Three thousand feet below us was the Colorado River, meandering through immense goosenecks before it continues in a less circuitous pattern to its junction with the Green River, 40 miles downstream. The maze of brilliant colors is breath-taking.

In one sweeping view was unfolded to us some 5,000 square miles, one of the largest relatively roadless areas in the United States. Southwest of us was another commanding promontory, Grand View Point, which marks the junction of the Green and Colorado Rivers.

On our right were the isolated Henry Mountains, which guard the entrance to Utah's little-known Wayne Wonderland.

To the south we could see the Bears Ears buttes, which pinpoint the location of Natural Bridges National Monument, and directly beyond them Monument Valley and the Navajo country.

Also to the south were the Blue Mountains near Monticello, and to the east the snow-capped La Sal Mountains.

Here in one magnificent vista was one of the largest areas of incompletely explored country remaining in the United States, forbidding, colorful, silent, and inaccessible.

It was easy to realize that Dead Horse Point, Arches National Monument, and the many other attractions of spectacular beauty in this region place the peaceful farming community of Moab, Utah, at the hub of a long-neglected scenic wonderland.†

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, by Matthew W. Stirling, "Indian Tribes of Pueblo Land," November, 1940.

† For additional material in the NATIONAL GEOGRAPHIC MAGAZINE on scenic southern Utah, see: "Encircling Navajo Mountain with a Pack Train," by Charles L. Bernheimer, February, 1923; and "Beyond the Clay Hills," by Neil M. Judd, March, 1924.

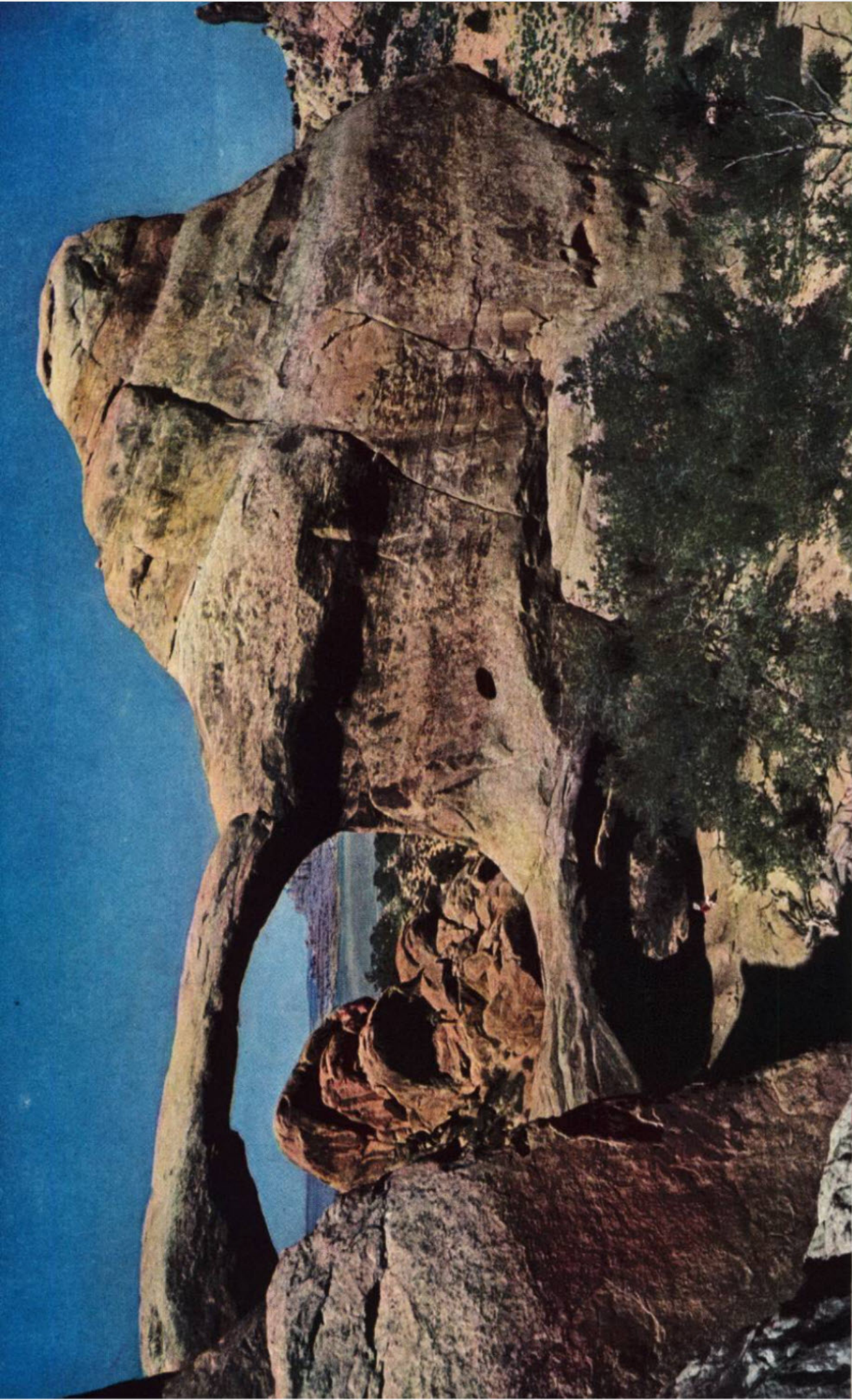


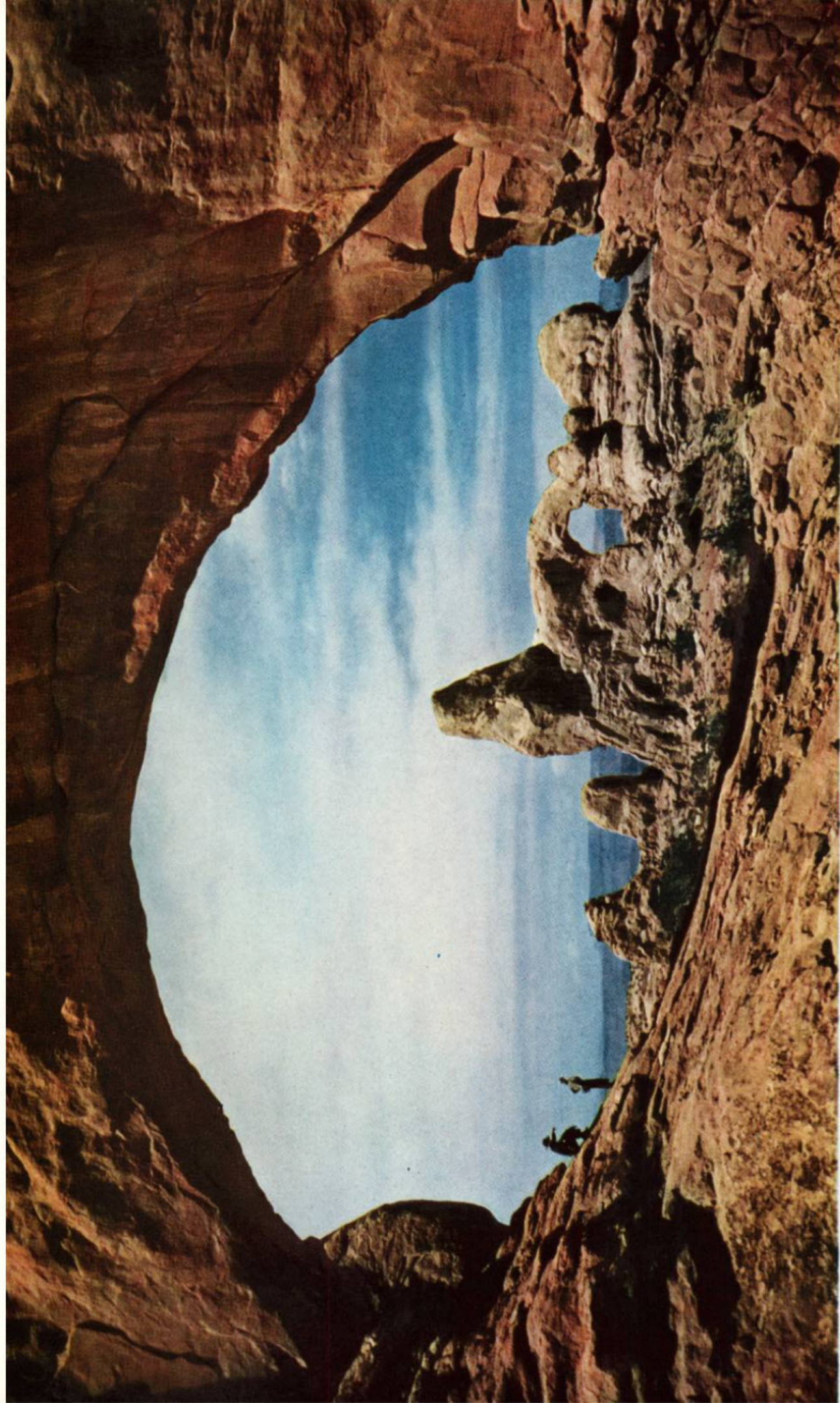
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Kodachrome by Jack Breed

Mormon Settlers Called Double Arch, in the Windows Section, "The Jug Handles"

The larger of these two sandstone rainbows in Arches National Monument, Utah, towers 157 feet, spans 163.



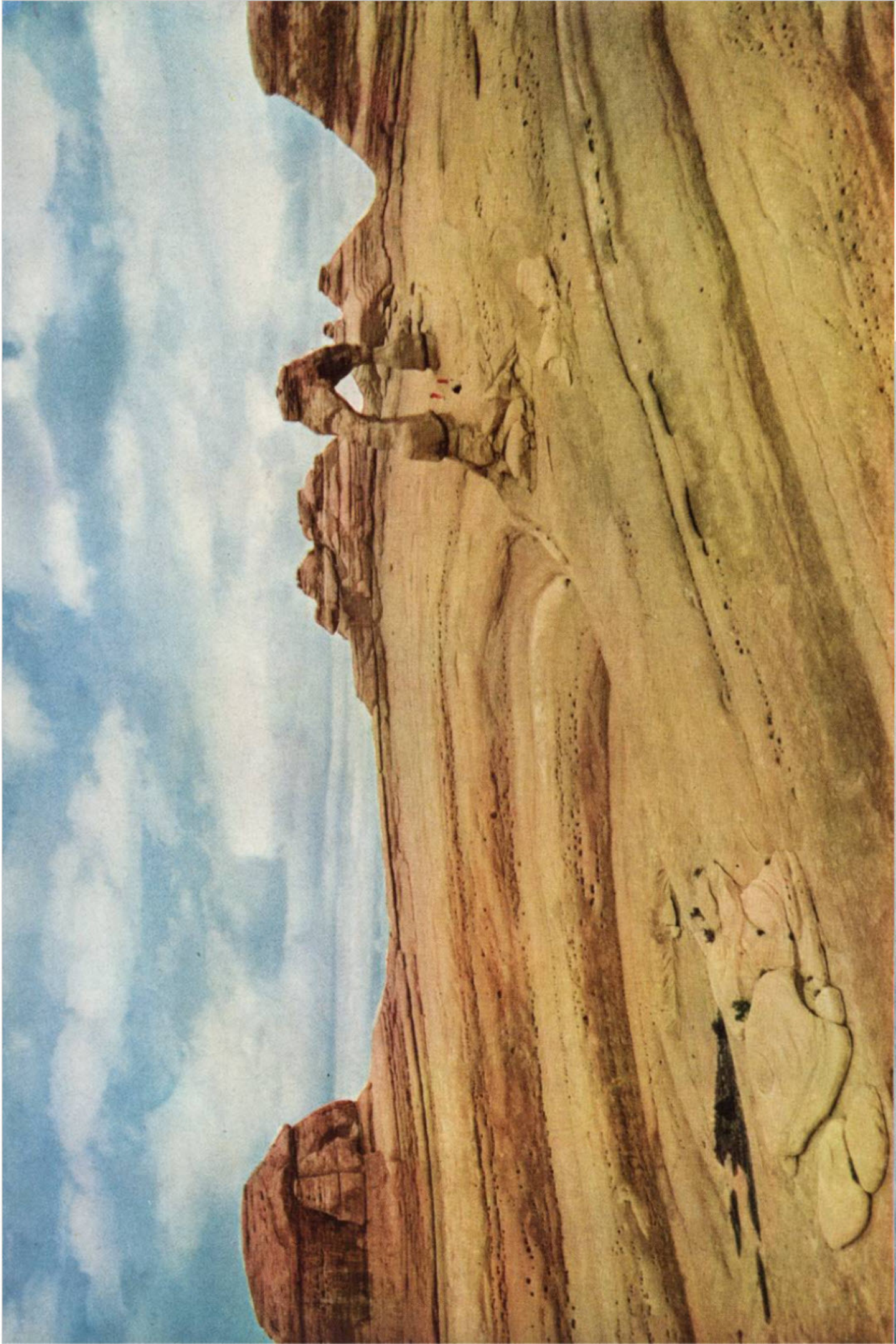


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III

Framed by 98-foot North Window Is Turret Arch: As the Cracks Weather, Rock Will Fall, Thus Enlarging the Opening

Kodachrome by Jack Breed



**To Cowboys and Sheepherders
Lovely Delicate Arch Is
"The Old Maid's Bloomers"**

High atop a remote expanse of "slickrock," this amazingly sculptured freak of wind erosion stands on slender legs, one only 6 feet thick.

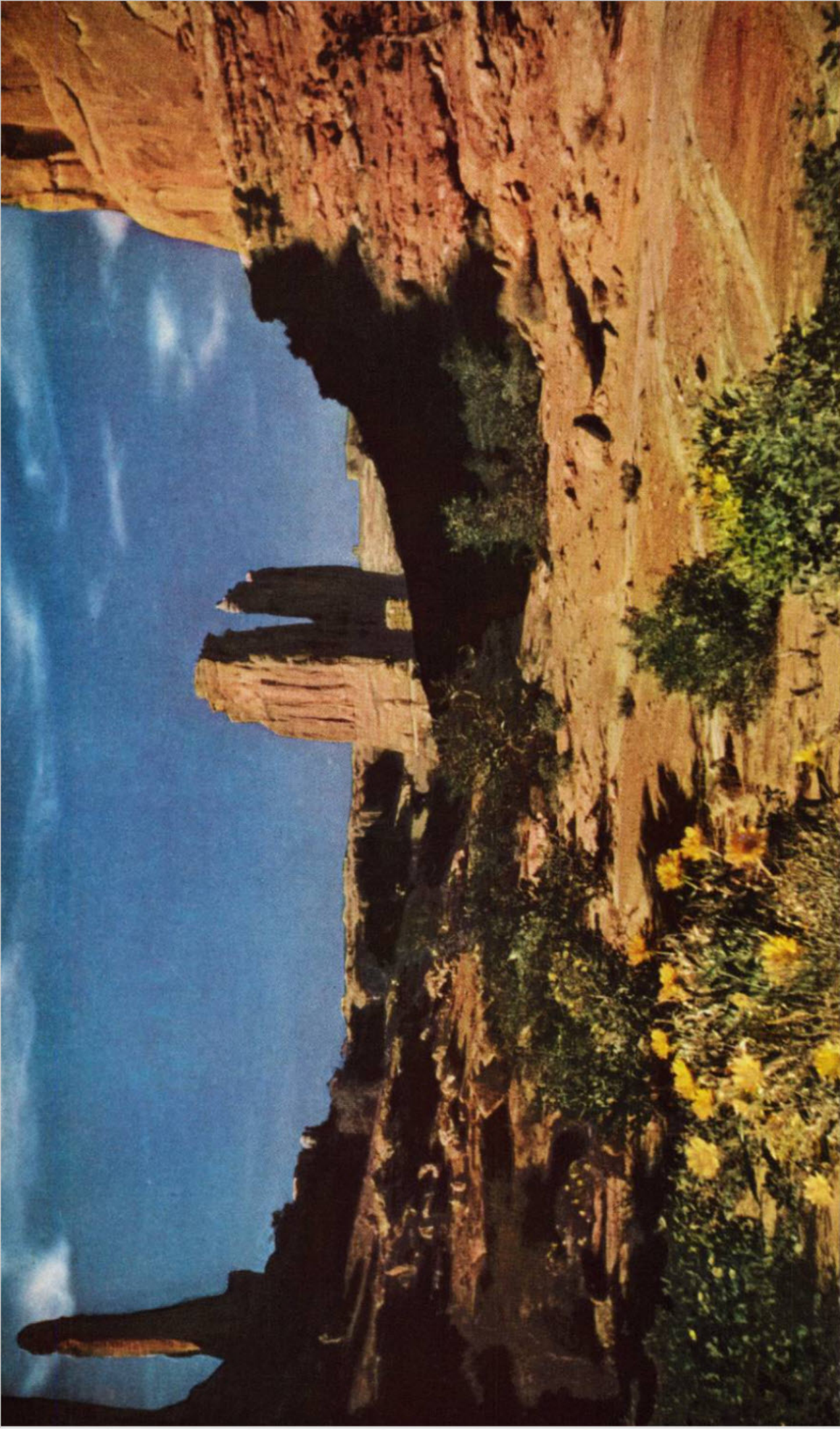
The arch is reached by a tedious motor drive of many miles down an almost impassable wash, followed by a hike of two miles through sand and up slickrock.

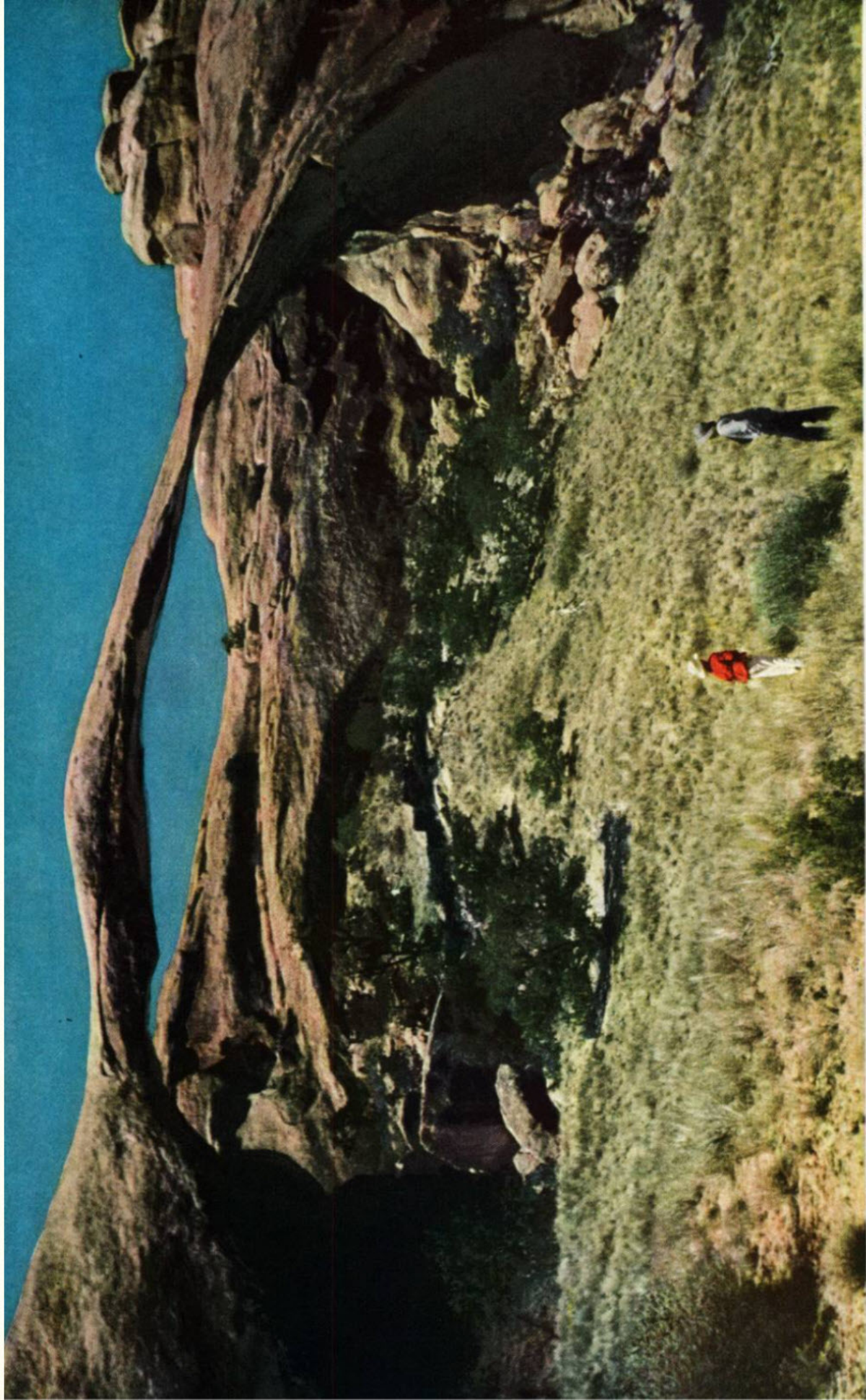
Framed here by the arch (left), Salt Valley and Cash Valley provide fine grazing for many herds of sheep.

Salmon pink in color, Delicate Arch is 85 feet high and 65 feet wide.

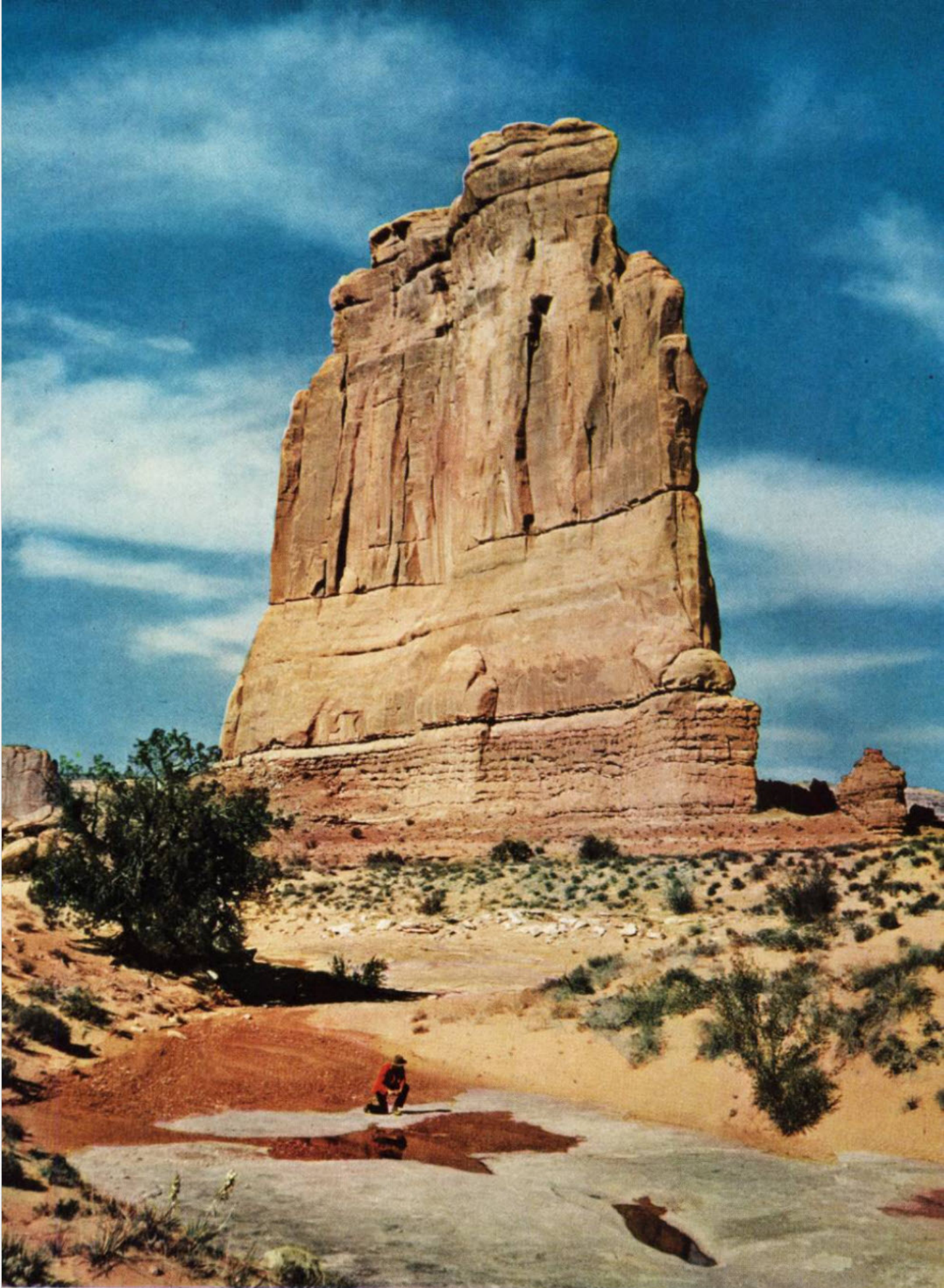
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Nearly as Long as a Football Field, Ribbonlike Landscape Arch Is Only Six Feet Thick at Its Thinnest Spot



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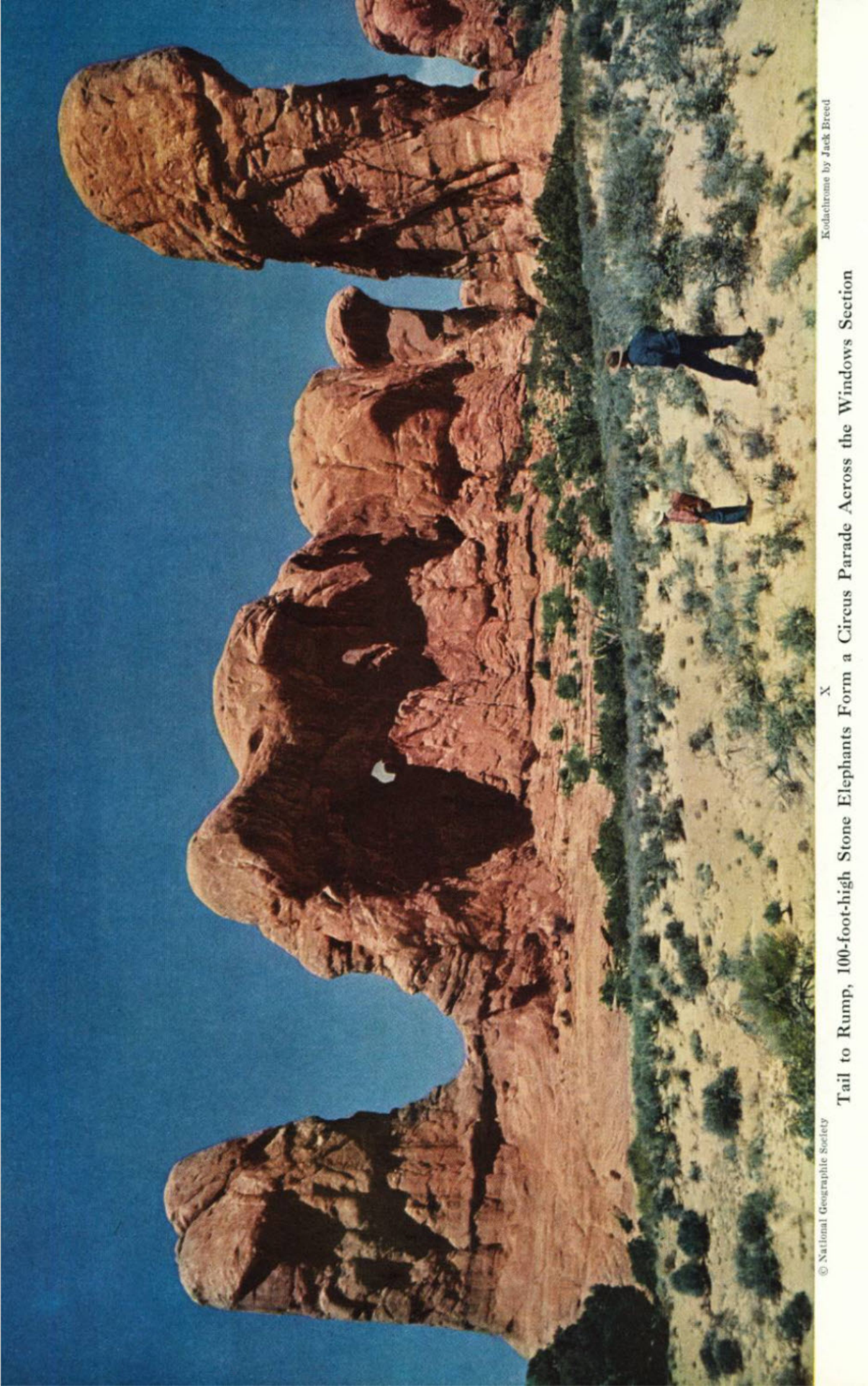
Like a Stone Knife Blade the Great Organ Thrusts Up Hundreds of Feet from Courthouse Wash
Sandstone skyscrapers rise from a canyon floor in contrast to the neighboring arches carved from cliffs.

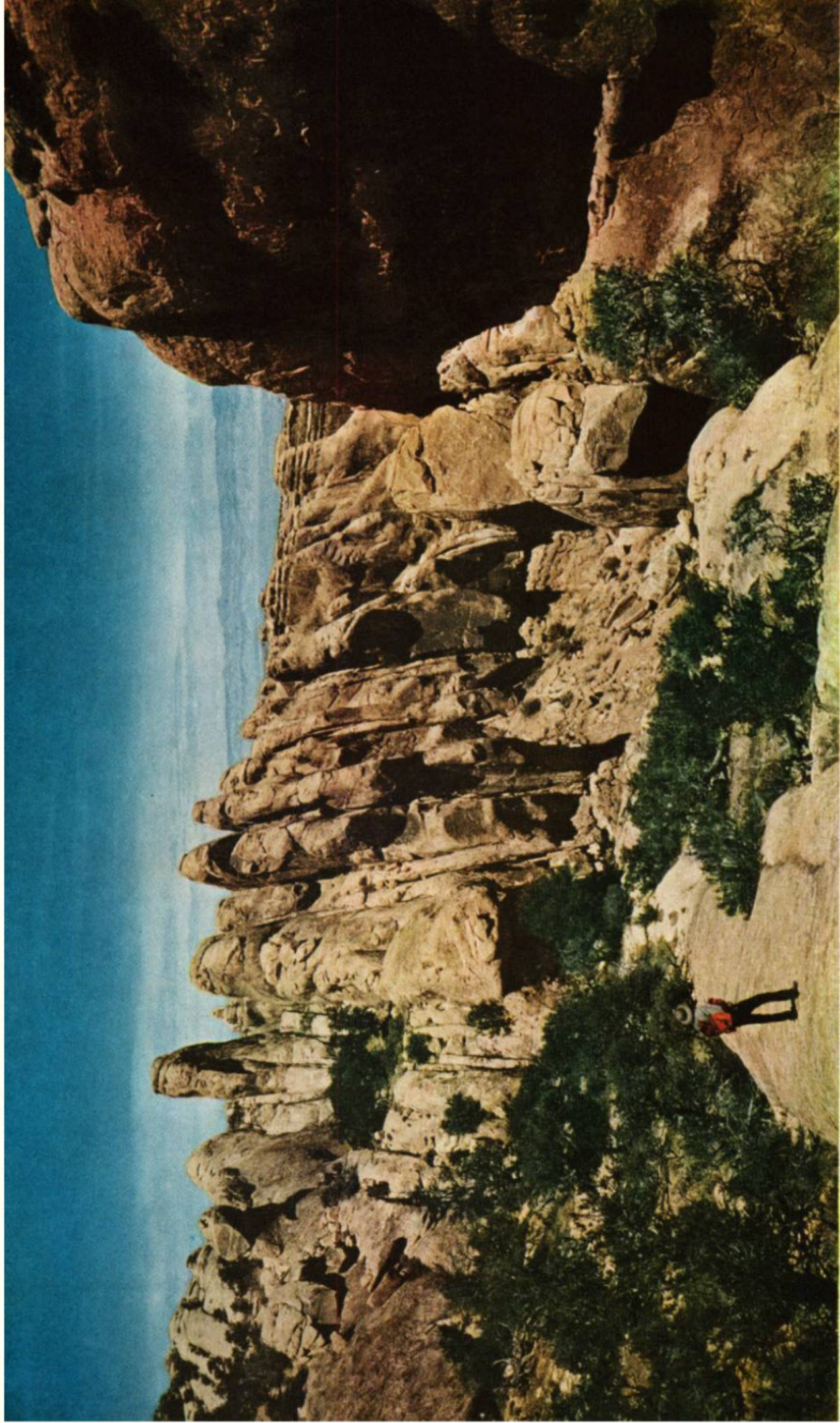


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Within Sight of the Colorado, Confused Wild Horses Died of Thirst on Dead Horse Point
Eleven airline miles downstream from Moab, Utah, this point drops a breath-taking 3,000 feet to the river.





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XI

Fiery Fins in the Devil's Garden Defy Penetration by the Hardest Walker

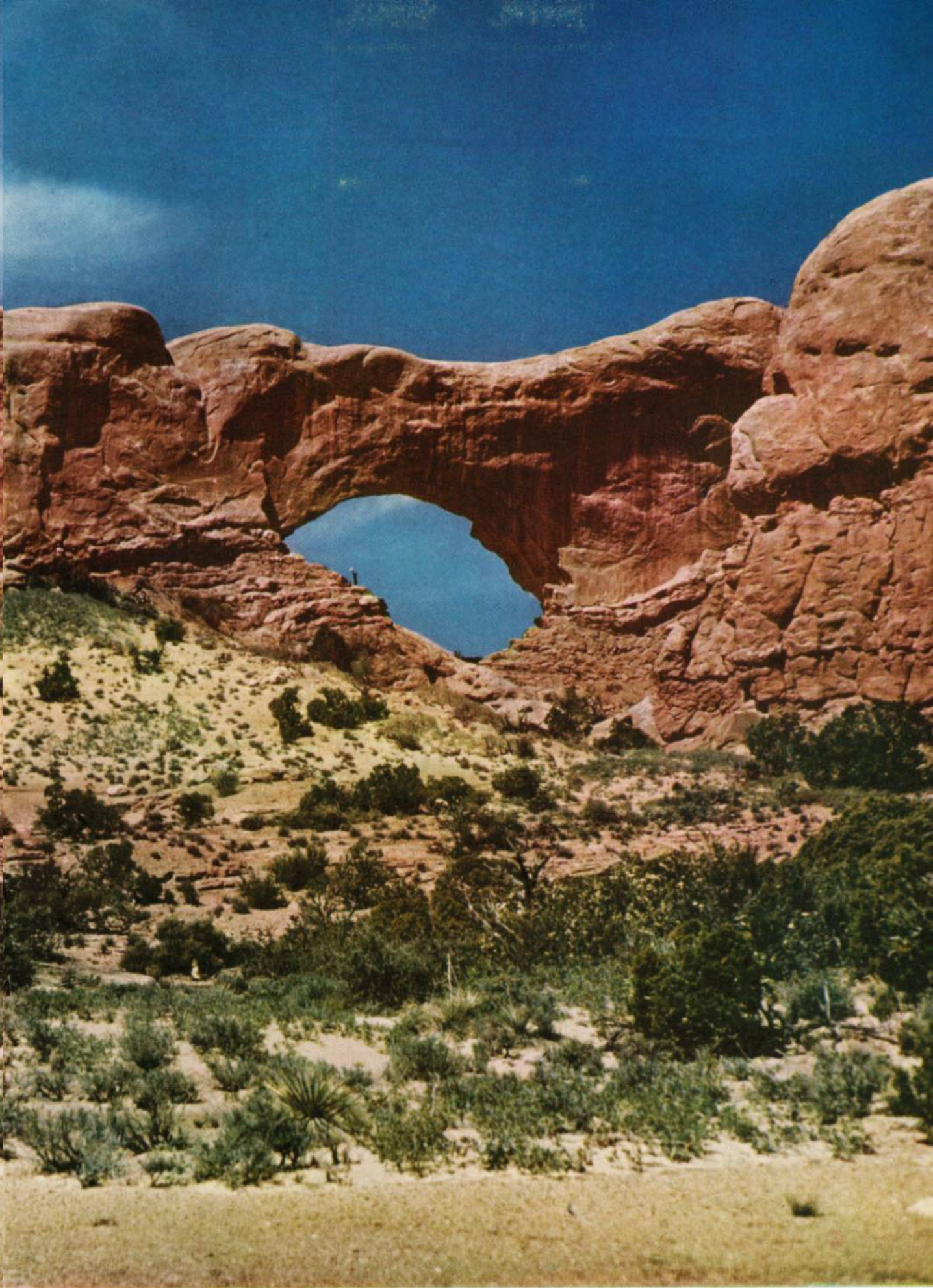
Freezing and thawing in the crevices, leaching by water, and blasting by wind-blown sand created these sandstone slabs. Many arches have been gouged from such fins.

Kodachrome by Jack Breed



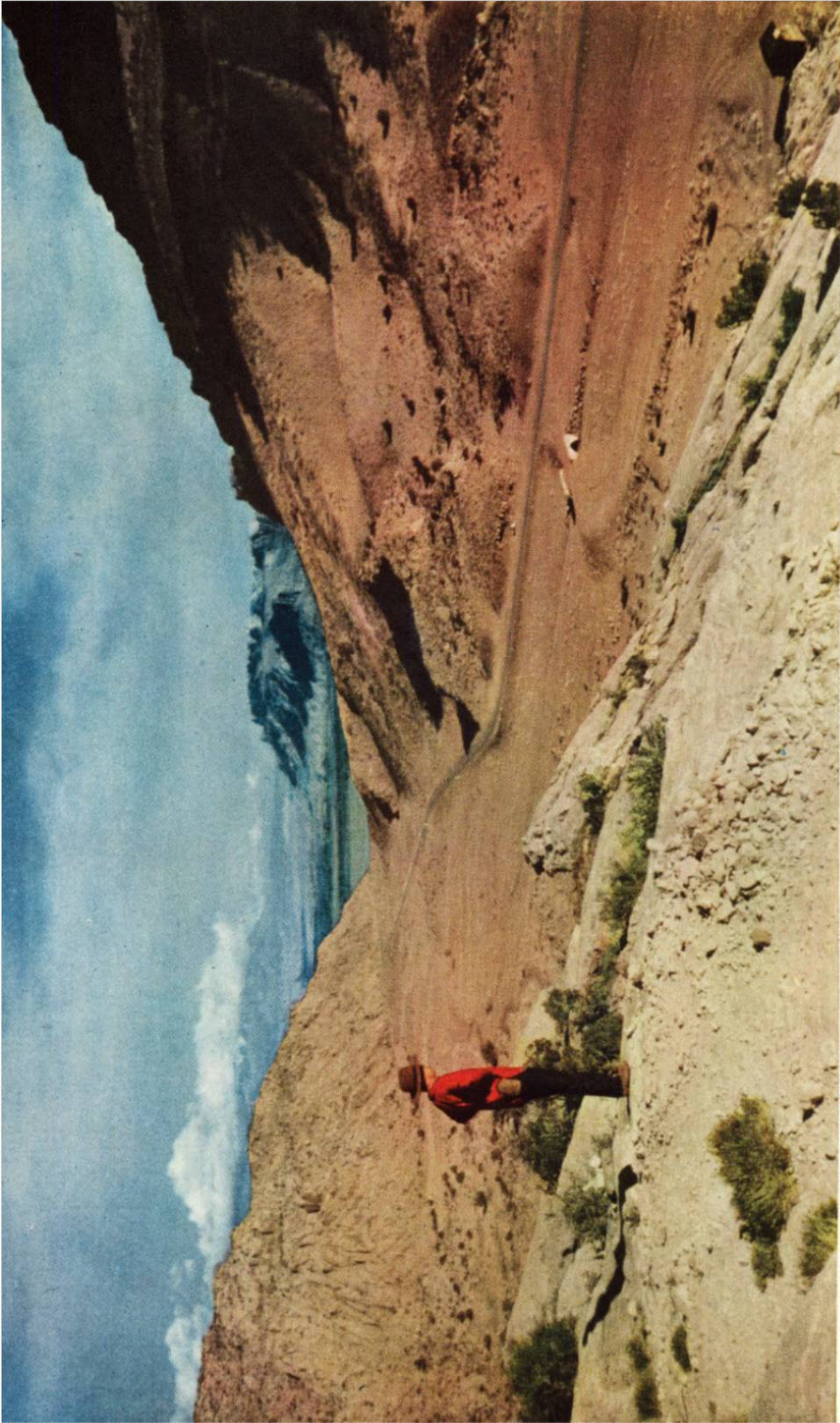
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In the Windows Section of the Monument Nature Has Cut a Pair of Spectacles

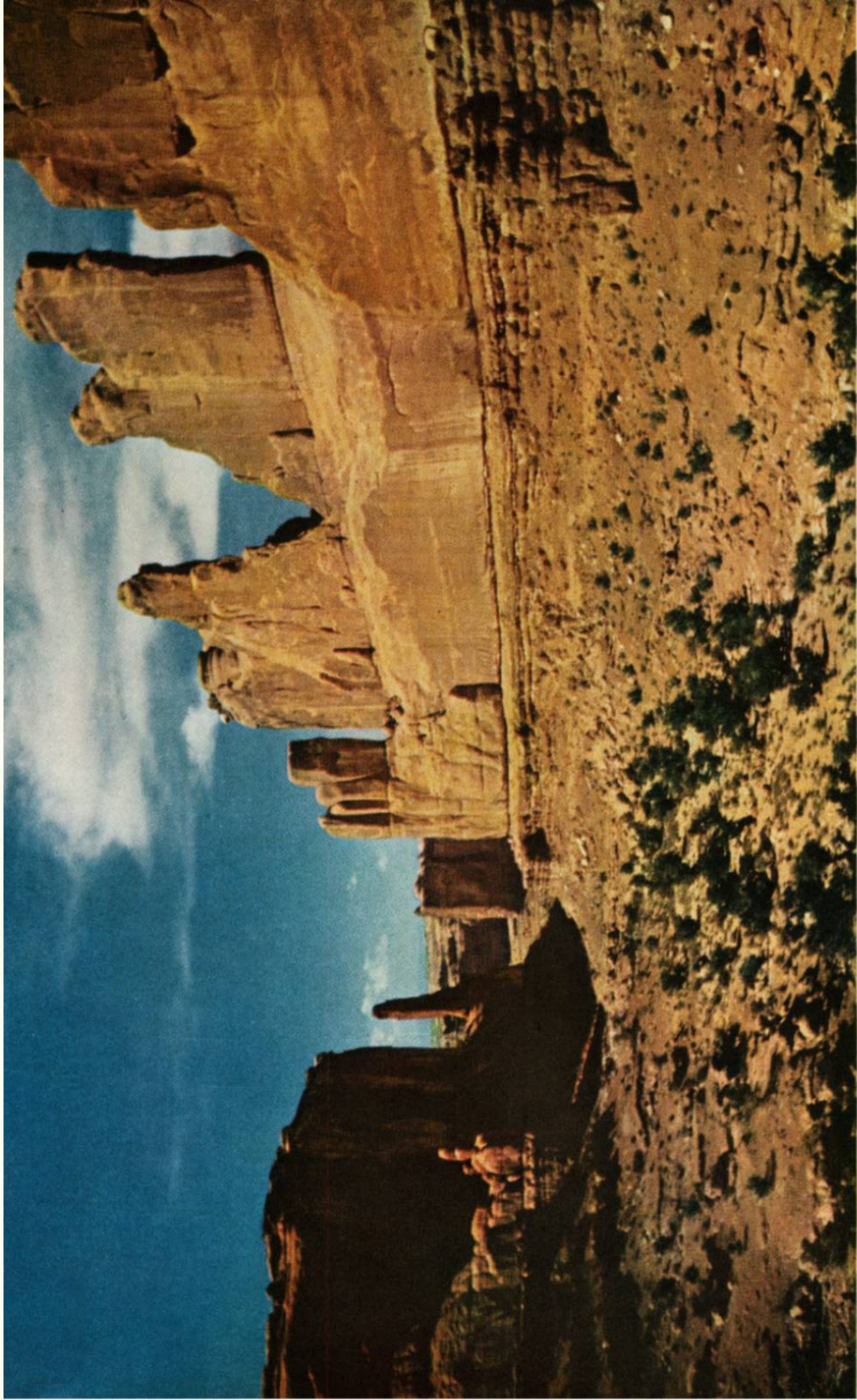


Kodachrome by Jack Breed

South Window, on the Left, Is Separated from Its Mate (Above) by a 100-yard "Nose Bridge"



Where 90 Years Ago Mormons Had to Lower Wagons by Ropes, a Paved Highway Leads to Moab



A Mile-long Avenue of 300-foot Sandstone Skyscrapers Rambles down to Courthouse Wash and the Great Organ (Plates VI and VIII)



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Kodachrome by Jack Breed

An 86-foot Keyhole Is Turret Arch in the Windows Section—Beside It an 8-foot Opening