

**GUIDE BOOK TO THE  
MAMMOTH CAVE OF  
KENTUCKY. HISTORICAL,  
SCIENTIFIC, AND DESCRIPTIVE**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649418497

Guide Book to the Mammoth Cave of Kentucky. Historical, Scientific, and Descriptive by  
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Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

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THE ROBERT CLARKE COMPANY.

1895.

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# MAMMOTH CAVE.

## CHAPTER I.

Pioneer Patriots—Saltpeter Miners—Discovery of Mammoth Cave—  
War of 1812—Change of Owners—The Croghan Heirs—The Guides  
—Early Literature of this Cavern—Its Geological Survey—Its Fauna  
—Map-making under Difficulties.

THE pioneers who followed in the wake of Daniel Boone, a century ago, were thrown on their own resources in all respects. Gunpowder was one of the necessities of life for men in daily peril from wild beasts and more savage Indians; but its importation was attended with expense and difficulty. Hence they sent out such strolling chemists as happened to be among them, to hunt for niter beds. These were found in considerable quantities under the shelter of ledges at the heads of ravines. The jutting crags reminded them of "Gothic cathedrals and the ruins of baronial castles" (as one of them expressed himself in writing to his friends), and therefore they called the smaller ones "Rock Houses," and the larger ones "Rock Castles." The soil and sand-banks, thus protected from the rains, proved to be richly impregnated with the coveted saltpeter, and solid masses were sometimes found weighing from 100 to 1,600 pounds. Usually, however, three men would not obtain more than from 50 to 100 pounds a day at the works.

The tools and methods used were of the most primitive kind, and the workmen were readily induced to forsake a niter-bed as soon as its yield grew scanty, and were continually searching for masses of pure niter, and hoping to find veins of precious ores. This led to the exploration of calcareous caverns, of which as many as twenty-eight are said to have been found in Kentucky before the year 1800. A Mr. Fowler obtained from them more than

100,000 pounds of niter, and they were so far from being exhausted that, according to the estimate of local chemists, the deposits remaining in six of them exceeded 2,000,000 pounds.

In the year 1799 a pioneer, named Baker, entered an arched opening near Crooked creek, in Madison county, about 60 miles south-east of Lexington, and proceeding a short distance under-ground, saw so many things to excite his wonder, that he returned to his cabin and took along with him his wife and three children to enjoy the further exploration. They carried with them a torch and a supply of pine splinters, but no food. Advancing about 500 yards, Mr. Baker unfortunately dropped his torch and it was extinguished. "For two days and nights this miserable family wandered in total darkness, without provision and without water, though sometimes within hearing of a cataract which they durst not approach. At length Mrs. Baker, in attempting to support herself on a rock, perceived that it was wet, and conjectured that this was caused by the mud which they had brought in on their feet. Baker immediately ascended the rock, and saw the light of day!"

This locality became known throughout the region as "the Great Cave," and was particularly described by Samuel Brown, M. D., of Lexington, in a paper read by him before the American Philosophical Society, in 1806—probably the very first of all communications of its kind in this country.

Dr. Brown describes the Great Cave as having two mouths, 646 yards apart, with a commodious passage for wagons from one to the other, the floor having the appearance of a public road that had been much frequented. The level is 80 feet above that of Crooked creek, from which its entrance is 150 yards distant. The arch varies from 10 feet to 60; and the breadth averages 40 feet, though in some parts it is 70 or 80 feet. The narrator enlarges on the scenes romantic and sublime that astonish the beholder, when the vast chambers are "sufficiently illuminated by the torches and lamps of the workmen."

The statement is made that the temperature of the cave never falls much below 52 degrees Fah., even in the coldest winter weather, and does not rise above 57 degrees at any time. To this, however, a curious exception is made, which I give in Dr. Brown's own words: "In one chamber the heat was frequently so great as to be disagreeable. The room is nearly circular and about 20 feet in diameter. The air which fills the main avenue in summer and autumn is forced into this chamber, whenever the external atmospheric air becomes so much condensed by cold as to rush into the mouth of the cave; and whenever during the winter any portion of air in the main avenue is heated by fires or lamps, as this heated air can not escape by the mouth of the cave (for the arch descends toward the mouth) it ascends into this chamber and rises to the ceiling, where it must remain." He then compares this peculiar cell to the Russian vapor bath to which Count Rumford had recently called the public attention.

Workmen dug down fifteen feet into the soil on the floor of this cave, and found it still rich in niter, although no animal remains are mentioned, nor Indian relics.

The learned authority quoted next enters into the details of preparing saltpeter for the market, claiming for it superiority to that found in Spain and India, and closes his really remarkable and historic paper with an appeal to the patriotism of Americans to make themselves independent of foreign sources of supply. "A concern for the glory and defense of our country," observes Dr. Brown, "should prompt such of our chemists as have talents and leisure to investigate this interesting subject. I suspect that we have much to learn with regard to this salt, so valuable in time of peace, so indispensable in time of war."

Had Mammoth Cave, with its immense deposits of nitrous earth, been known at the time the exhaustive description from which I have made extracts was prepared (viz., in 1806), the important fact would certainly have been recorded. I am led, therefore, to set aside the statement made by Bayard Taylor and others—I know not on what authority—that this cavern was first entered in 1802,



and to accept the commonly received tradition that it was discovered by a hunter named Hutchins, in 1809, while pursuing a wounded bear. The aperture by which Hutchins entered was small at the time, and has since been considerably enlarged. It is not regarded as the original mouth, which is supposed to have been in reality the mouth of Dixon's Cave, about a quarter of a mile north of it, a magnificent hall, 120 feet high, 60 feet wide, and 1,500 feet long, as measured by me.

The first purchaser of what is now held as very valuable property, was "a small, dark, wiry man of great energy and industry," whose name was McLean, and who, for \$40, bought the cave and 200 acres besides! He soon sold it to Mr. Gatewood, a brother-in-law of the founder of Bell's Tavern—that celebrated hostelry of by-gone days. After enlarging the works, Gatewood sold them to Messrs. Gratz, of Philadelphia, and Wilkins, of Lexington, Ky., who brought experience and capital to aid in developing the hidden resources of Mammoth Cave. Their agent, Mr. Archibald Miller, employed a large number of negro miners, who were reported as finding there a quantity of nitrous earth "sufficient to supply the whole population of the globe with saltpeter!"

During the war of 1812, our government being excluded from foreign sources of supply, had use for all that the miners were able to furnish under the circumstances. There were lofty mountains and interminable forests between them and the sea-board, but under the two-fold impetus of patriotism and high prices, Gratz and Wilkins, and others who embarked in the speculation, though with less brilliant success, transported thousands of pounds of the precious salt by ox-carts, and on pack-mules, mainly to Philadelphia. Let it be remembered by a grateful people that this Kentucky *salt* went far toward saving the nation in its hour of deadly peril!

The method of manufacture, as nearly as I have been able to ascertain it, was as follows: The nitrous earth was collected from various parts of the cave, by means of ox-carts for which roads were constructed that are in them-

selves surprising monuments of industry, and the soil thus gathered was carried to hoppers of simple construction, each having a capacity of from 50 to 100 bushels. Cold water, conveyed by wooden pipes into the cave, was poured on the charge in each hopper, and in a day or two a solution of the salts would run into the vats below, whence it was pumped into a second set of pipes, tilted so as to let the liquor flow out of the cave. After boiling a while in the open air, it was run through hoppers containing wood ashes, the result being, if skill had been used in mixing materials, a clear solution of the nitrate of potash, which, having been boiled down sufficiently, was put in troughs for cooling. In about 24 hours the crystals were taken out ready for transportation.

Ordinary "peter dirt," as the miners called it, was expected to yield from three to five pounds of the nitrate of lime to the bushel; and to make 100 pounds of saltpeter it would be necessary to use 18 bushels of oak ashes, or 10 of elm, or two of ashes made by burning the dry wood in hollow trees. It is stated that "the contract for the supply of the fixed alkali alone, for this cave, for the year 1814, was twenty thousand dollars;" from which we may infer the extent to which saltpeter was manufactured at that time.

When the war was happily ended by the treaty of Ghent, the demand for saltpeter fell off to such a degree that Messrs. Gratz and Wilkins stopped the manufacture at Mammoth Cave, and since then it has been valued mainly as a place of exhibition. The original territory of 200 acres has grown to nearly 2000 acres, a portion of which has some value for farming purposes, while other parts are covered by heavy timber. Most of it was acquired for the sake of controlling all possible entrances to the under-lying cavern.

Mr. Archibald Miller, aided by his brothers William and James, was the agent of Messrs. Gratz and Wilkins, and remained at the cave to look after their interests and to show the place to visitors. His brother-in-law, Mr. James Moore, at one time a wealthy merchant in Phila-

delphia, took possession of the property in 1816. He became mixed up, in some manner, with the conspiracy of Burr and Blennerhassett, and was financially ruined. Gatewood again took charge of the cave for a number of years, a period not marked by any important events, either of manufacture or discovery.

Mr. Frank Gorin bought the property in 1837, employing Messrs. Moore and Archibald Miller, Jr., as his agents. The circumstance of Mr. C. F. Harvey's being lost in the cave for 39 hours, determined the proprietor to make more thorough explorations, in the course of which he found the great chamber called, in honor of him, "Gorin's Dome." He also placed Stephen and Matt, as guides, who aided in making further discoveries; so that, within the next five years, the known regions of the cave were at least trebled.

At the close of the Revolutionary war, special land grants having been made to officers and soldiers in the vicinity of Green river, Major William Croghan, a Scotchman who had distinguished himself in the United States army, was sent to survey and distribute them. His office was located at Louisville, where he also married a sister of General G. R. Clarke. He left five sons and two daughters. John, the second son, was graduated from the University of Pennsylvania, in 1813, and studied medicine with Dr. Rush, of Philadelphia, afterward taking a supplementary course at Edinburgh. During his travels in the Old World, Dr. Croghan was repeatedly asked for particulars as to the chief curiosity of his native state, and the result of his mortification at his inability to reply was that, on returning, he visited and finally purchased the Mammoth Cave. He continued the management as he found it, but expended large sums on roads, bridges and buildings. Dr. Croghan never married; and when he died, in 1845, he left the estate to trustees, to be managed for his eleven nephews and nieces, the children of Col. George Croghan, Mr. Wm. Croghan, and Gen. Thomas S. Jessup. Seven of these now survive; of whom four reside in Washington, D. C., two in New York, and one in