

GREATEST CAVERN IN THE WORLD

MAMMOTH CAVE, the largest of all known caverns of the world, is situated in Edmonson county, Kentucky, about eighty-five miles by railway southwest of Louisville and not far from Green river, into which the cave's subterranean waters empty. This section of Kentucky, where may be found limestone beds frequently reaching a thickness of 500 feet, is noted for its rocky grottoes, sink holes and caverns. The rocks in the vicinity of Mammoth cave give evidence of but little disturbance by the dynamic forces of past ages. It is such areas of limestone deposits, showing comparatively level strata and located somewhat above a drainage level, with small crevices or joints, that furnish the conditions for the formation of underground passageways and enlarged chambers by the chemical agency of underground waters, says the Spanish edition of the Bulletin of the Pan-American Union.

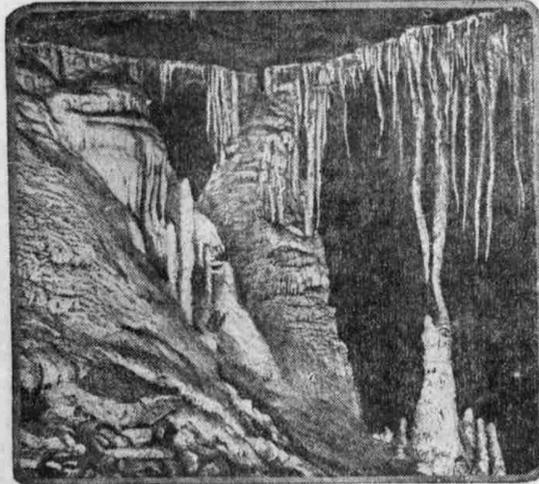
From a geological viewpoint the Mammoth cave is of comparatively recent origin, its formation having begun something less than 1,000,000 years ago, in the Pliocene age. The cave action began after Green river had cut its channel down into the limestone stratum which underlies this section. The rain water, with its carbonic acid content, seeped through the overlying earth and passing into and through the crevices and joints of the stone, at that time above the level of the river, began the work of solution and erosion. These underground waters naturally gathered along the planes of least resistance, and by the process of solution and subsequent erosion gradually formed what are now the passageways and chambers of the upper levels of the cave. As the crevices grew in size more and

more of the surface water drained into them through the sink holes, and as Green river cut its bed deeper into the limestone underlay the cave waters kept pace with the process until what had once been mere subterranean rills grew into that remarkable underground stream which is responsible for the immensity of the cave's development. This stream now flows through the lowest levels of the cave, no less than 195 feet below the highest level, and empties into Green river.

Entrance Is Picturesque.—The cave is reached by means of a branch railway from a small station on the Louisville & Nashville railroad called Glasgow Junction, about ninety miles south of Louisville. This spur of the railroad was built to accommodate the thousands of tourists who visit this natural wonder during all seasons of the year. Eight and a half miles from the junction the railway stops close to a picturesque old hotel, portions of which were built early in the nineteenth century.

The hotel is located on a bluff directly over the main portion of the cave, the entrance to which is reached by means of a pathway leading down into a wild and rocky ravine in a primeval forest. At the foot of the bluff, in the midst of a picturesque tangle of tulip, maple and butternut trees, in a setting of grapevines, fringing ferns and green mosses, is this entrance formed by a natural arch having a span of 70 feet. From a frowning ledge above leaps a cascade of water which disappears among the rocks below without leaving a visible stream.

A winding flight of 70 stone steps conducts the visitor around the cas-



"VIOLET CITY," MAMMOTH CAVE

spots caused by the efflorescence of the sulphate of magnesia.

Among the many deep abysses perhaps the most interesting is what is called the Bottomless Pit. For many years no one dared to venture to cross this dangerous chasm, but in 1840 a guide threw a long, slender cedar tree across its black depths and discovered a new portion of the cave. Since then a bridge has been constructed over it, and it has been found that the abyss is really only 105 feet deep. One enlargement of the cave is known as Revelers' Hall, and here tables and benches are provided and visitors may enjoy a banquet down in the dark depths in a magnificent banquet hall large enough to seat a thousand people.

Among the many marvels of the cave perhaps none is more beautiful than the magnificent passageway known as Cleveland's avenue, extending a distance of nearly two miles, spanned by an arch of 50 feet and having an average central height of about ten feet. From end to end this avenue is encrusted with the most beautiful formations of a thousand varied shapes. The base of the whole is sulphate lime, some parts of dazzling whiteness and perfectly smooth and in other places crystallized into forms of beautiful flowers, leaves and wreaths. In the flickering light of the torches the walls and ceiling seem to be covered with diamond roses, camellias, chrysanthemums and all the delicate floral beauties of a botanist's paradise. One of the great chambers is known as the Temple, having an area of about five acres covered by a single dome of solid rock 120 feet high; another, known as Lucy's dome, is over 300 feet high and 60 feet in diameter.

sign of inflammation appeared, and 48 hours later it had healed, there being only a small, healthy scab to mark the place of entrance of the knife.—Cleveland Leader.

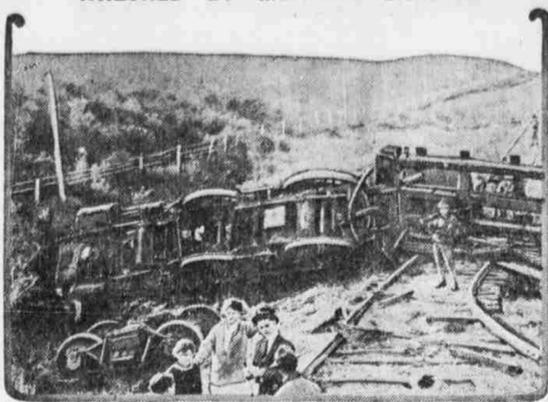
IODINE A FINE ANTISEPTIC
Cleveland Writer Tells of Excellent Results Which Followed Its Application in His Case.

A striking illustration of the efficacy of iodine as an antiseptic was had by the editor of this page the other day. A pointed knife which he had used for all sorts of dirty work, such as cleaning out pipes and scraping blots of paper, ran into the fleshy part of the palm of his hand at the base of the thumb. Its point went in almost half an inch. A deep, punctured wound made by a dirty knife is about as dangerous a lesion as it is possible to have.

Sucking the wound, he went to a druggist and asked him to touch it with some iodine. Holding the puncture open, the druggist let a drop of tincture of iodine fall from a cork into the wound. It dried in a minute and he paid no further attention to it, but ting no bandage or adhesive plaster over it, and continued using his hand as usual.

Spareribs.
In the domestic department of a newspaper we find a recipe for stuffed spareribs. We didn't read it. Anybody who thinks he can improve spareribs by stuffing them is mentally deranged. Spareribs are perfect in their own right. The idea of putting anything in them to improve their taste is on a level with painting the lily. In every really great food there is a far-away, indefinite taste, as dreamful and divine as the nectar of heaven that the soul sips at. The sparerib has it, and the man or woman who monkeys with that ineffable savor should be sentenced to a diet of hash. A sparerib is in a class by itself, and is endowed by nature with a delight of its own. It cannot be improved. It was created perfect. It is a sacrilege to doubt its excellence or to question its pre-eminence.—Ohio Statesman

WRECKED BY MEXICAN BANDITS



On the day that Carranza was recognized as president of Mexico by the United States and the Latin-American republics, Mexican bandits derailed a train near Brownsville, Tex., and robbed the passengers, murdering several who resisted. Among the dead and wounded were United States soldiers. The picture shows the wrecked train and United States soldiers on guard.

PINNACLE ROCKS ARE MENACE TO TRADE BY WATER

Federal Department Discards Sounding for Dragging System to Root Up Obstacles.

ARE DIFFICULT TO LOCATE

A Pinnacle Rock Is Like an Undersea Dagger to a Ship—Legal Importance of Having Dangerous Rocks Charted Cannot Be Overestimated.

Washington.—If an aviator flew over New York some dark night, plumb for the Woolworth tower with an ordinary sounding line, he'd have just as much chance of locating the building as the hydrographic experts of the department of commerce have in locating pinnacle rocks from ten to thirty feet under the surface of the water by using the same method. Accordingly, the department is no longer "sounding" for pinnacle rocks; it is "dragging" for them.

Pinnacle rocks are one of the gravest menaces to navigation that exist in the coastal waters of the United States. New England has the most abundant crop of any locality and the coast of that section is probably the hardest to chart of any American coast. With the new "drag" method in operation, however, charting of pinnacle rocks is becoming an easy matter.

Not only is a pinnacle rock extremely dangerous to navigation, but it is extremely difficult to locate. A pinnacle rock is exactly what its name implies. It is a tall, rocky pinnacle which rises straight from the bottom of the ocean and often the area of its top surface would not be ten square yards. When a vessel strikes one, though, a pinnacle rock is like nothing so much as an undersea dagger.

Speed Was the Thing.

Years ago, when the coasts of the United States were first charted, it was necessary to make as much speed as possible and cover the greatest possible territory in the shortest possible time. Under such conditions the plumbing of coastal localities with a sounding line and the determination of shoals by consideration of the general characteristics of the locality were necessary, but these surveys left many uncharted pinnacles behind, to bring disaster to ships later on.

They tell a story of a pinnacle rock incident that occurred on one of Peary's trips to Greenland, back in the late nineties. Peary's ship was holding a straight course for Greenland, but owing to the cloudiness of the weather a lookout was posted. The routine of the ship was suddenly disturbed by the cry of the lookout: "Breakers dead ahead!" The helmsman spun his wheel and the ship heeled sharply to port, just in time to escape a sunken rock which was about three feet under water. Had it not been for the lookout Peary might never have reached the pole.

The department of commerce has been aware for a long time of the lack of authentic charts of many portions of the American coast, and the danger of pinnacle rocks was the real reason why the old plumbline system was discarded for the wire-drag method, which is very much similar to the old-fashioned seine.

A line is run between two motor boats, several hundred yards apart. This line is supported on the water by floats, but suspended from it are other lines, all attached to a long wire, under water, which is held down by weights. The wire under water corresponds exactly to the lower edge of a seine.

Motor Boats Active.

The motor boats are started forward, keeping an even distance apart. The bottom wire is far enough under water

GHASTLY SCENE ON BATTLEFIELD NEAR MEAUX

Paris.—"It was as though some blight from heaven had descended upon the German ranks, smothering them in an embrace of death," declared a member of the American branch of the Red Cross, who returned to Paris after a visit to the battlefield near Meaux. He had gone with an ambulance to collect wounded soldiers.

"I saw trenches filled with German dead, just as they had been left by the trench guns. It was not so much the mere sight of death that was so appalling; it was the outlandish postures of those rigid corpses and the look upon the faces. Since the angel of death passed above the camp of the Philistines I am sure nothing like it has been seen.

"Dawn was just breaking as I came upon the trenches where the fighting had been bloodiest. The gray light rested upon a ghastly scene. Clusters of corpses, with rigid arms and

to intercept anything which would rise high enough from the bottom to be a navigation danger, and as long as the floats on the surface drag along without going under the motor boats chug away on their course.

But at the first dip of the floats, anywhere along the surface line, the motor boats stop, for the disappearance of the floats indicates the wire under water has struck a snag. If the snag is found to be a rock, its distance from the surface is ascertained and its location immediately charted. Then the wire is disengaged, the motor boats are started again and the department "snag fishers" are off after another "catch."

The department, in a bulletin recently issued, admits that the most certain way to locate a pinnacle rock is to let a ship strike one. This effort, however, is admittedly dangerous to the passengers and extremely expensive to the owners of the boat, particularly if the rock is struck at night. In the old days pinnacle rocks were not half the menace they are today.

Boats were not built so large in those days and there were not so many lines of coastwise steamers running. These coast steamers have a regular course up and down the coast, and they hold to their course so true that they may pass a pinnacle rock at very close quarters for years without knowing of its existence.

Wire-Drum System.

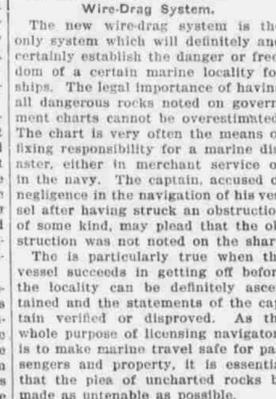
The new wire-drum system is the only system which will definitely and certainly establish the danger or freedom of a certain marine locality for ships. The legal importance of having accurate charts cannot be overestimated. The chart is very often the means of fixing responsibility for a marine disaster, either in merchant service or in the navy. The captain, accused of negligence in the navigation of his vessel after having struck an obstruction of some kind, may plead that the obstruction was not noted on the chart.

The is particularly true when the vessel succeeds in getting off before the locality can be definitely ascertained and the statements of the captain verified or disproved. As the whole purpose of licensing navigators is to make marine travel safe for passengers and property, it is essential that the plea of uncharted rocks be made as untenable as possible.

The cost of wire-drum work, considering the value of the results obtained, is not regarded as excessive. The cost of dragging the New England coast ranges anywhere from \$125 to \$175 per square mile, while the work of charting the waters of Florida in the vicinity of Key West runs much higher. Here it costs from \$450 to \$600 a square mile.

SUFFRAGE CAMPAIGN LEADER

Mrs. Norman De R. Whitehouse was one of the leaders in the recent suffrage campaign in New York. Notwithstanding the defeat at the election, Mrs. Whitehouse expresses unbounded faith in the ultimate victory of the cause.



legs protruding, filled the bottom. Along the rim, with rifle to shoulder and head bent along the barrel, stood a line of dead. They died as they stood upon the firing line.

"It was a ghastly sight. Upon the faces of many were no expressions of fright or horror. Except for the glaze of death in the eyes, one would not have guessed that their souls had passed the boundary of sterility. Never have I seen anything so terrible as that erect, silent company of still figures in the chill dawn

GIRL TAMES HORSES

Buys Ill-Tempered Animals and Then Cures Them.

Kindness Is Her Rule, but She Can Give Lesson When Necessary—Has Her Own Training Field.

Philadelphia.—In a field near Swarthmore college a girl who is believed to be the only woman horsebreaker in the world goes quietly about her daily business of taking the temper out of half wild equines. No one is there to see, but it is a show that has all the exciting features of a broncho exhibition, with the added interest that the "buster" is a slender little woman.

Miss Betty Brown, the woman horsebreaker, says she took up the business because she knew little about anything but horses. For two years Miss Brown was a trainer for a New York firm.

Besides taking unbroken horses belonging to dealers and training them for saddle or harness, Miss Brown buys ill-tempered animals on her own account and by special treatment makes them fit for a child to ride.

"There is usually a reason for a horse being vicious," she said, from her seat, cross-saddle on a splendid thoroughbred.

"Take the case of this mare. I bought her for a song because her owner could do nothing with her. I traced her history and found she had been attached to a racing stable where a lot of half-grown boys used her for joy rides around the track. The consequence was that a good mare was almost hopelessly spoiled by a lot of frolicsome young fellows who would yank her out of the stable at all hours, and beat her and ride her with or without a saddle at the fastest gait they could get out of her.

"Naturally the mare became possessed of the idea that all men were born enemies and every chance she got she tried to protect herself or get even with her tormentors. They replied in kind, and the last gleam of good-natured intelligence was soon beaten out of her.

"The fact is she is a splendid mare, and if I can but bring back her original sweetness of temper and undo the havoc done by that pack of boys I shall be able to sell her for \$1,000 easily. If I cannot do this she will still be worth more than I gave for her. She is quite untrustworthy now, and it will be a long fight to bring her around, but I think I shall win.

"I depend upon kindness and firmness rather than the whip to achieve results. You see, I do not even wear spurs. A horse responds more readily to masterful kindness than to brutal ill treatment.

"But sometimes it is necessary to use drastic measures. The worst case I can remember was a horse that persistently threw himself. No sooner would I be in the saddle than this ill-mannered brute would up in the air and flop over.

"It takes skill and agility for a rider to avoid injury when a horse, without warning, throws himself on the ground. One has to disengage one's self without a second's delay or a nasty bump is likely to result.

"Well, I stood this horse's antics for a few times and then decided that a sharp lesson was needed. I threw him and threw him hard. This was repeated until he got it firmly into his head that throwing was a punishment and not a pastime. When he learned that, he was a good horse.

"It's interesting work. I vary it by teaching riding, but I like horsebreaking best. There is a certain amount of risk about it, but I have never been hurt. My natural quickness has saved me at critical times."

HAS A FAMILY OF TWINS
Man at Sabinal, Tex., Is the Father of Seven Children, All Under Seven Years.

San Antonio, Tex.—T. A. Patterson of Sabinal, who claims the championship for twins in Texas, was a visitor in San Antonio recently.

Mr. Patterson is the father of three sets of twins out of seven children, none of whom is yet seven years old. The oldest are a boy and a girl, Allison Burton and Bertie, six years old.

The next in age are twin girls, Sarah Etelle and Hattie Alice, four, and the youngest twins are a boy and a girl, Burdette and Bernice, four months old. The other is a girl, Allie May, three years old.

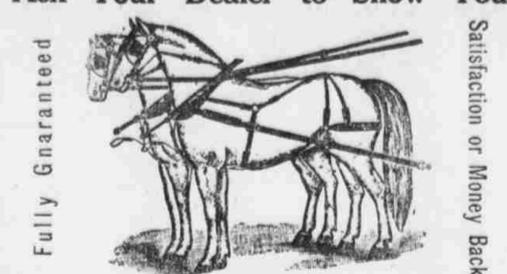
82,500 MILES IN ONE MILE

Steam Pleasure Boat on Small Michigan Lake Travels Record in Small Circle.

Grand Rapids, Mich.—The Major Watson, a steam pleasure boat operated on Reed's lake, near this city, has a distinction not possessed by any other boat. Although it has traveled more than 82,500 miles, it has never been more than a mile in a direct line, from the spot where it was built.

The boat has been in operation for 25 years. It makes trips around the lake, which has a circumference of more than three miles, running five months every year. This gives a total mileage of 82,500.

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