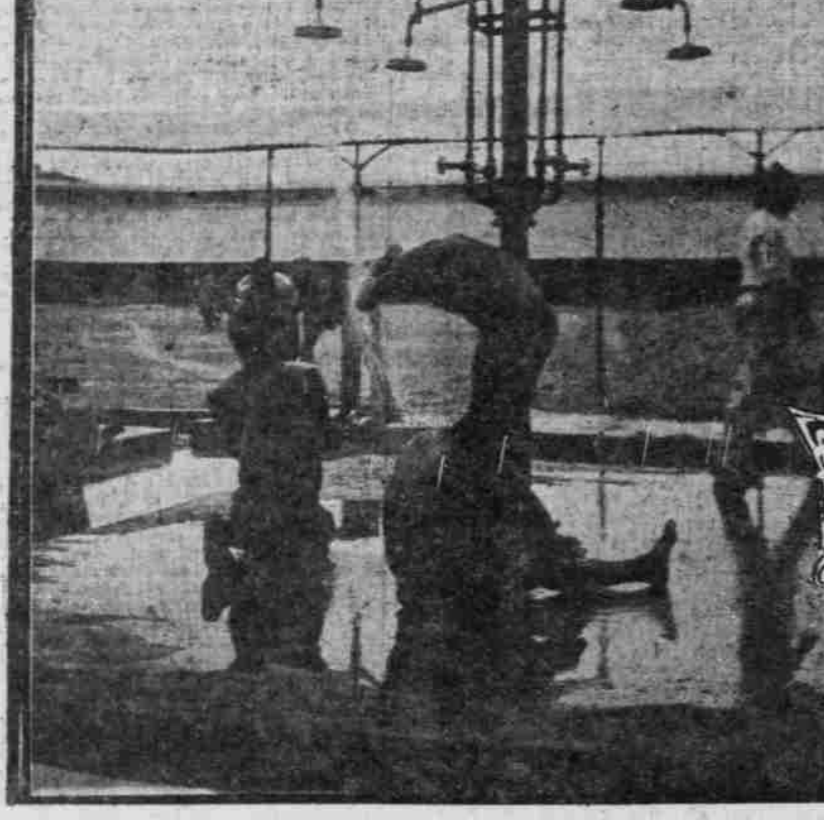


How to Find Diamonds

HOW ELEVEN THOUSAND ACRES NEAR KIMBERLY ARE "CULTIVATED" IN SEARCH OF PRECIOUS STONES



HARROWING THE BLUE GROUND FOR DIAMONDS

THEY STAND IN THE SUNLIGHT AS NAKED AS ADAM

BY FRANK G. CARPENTER.
ELEVEN THOUSAND acres of diamonds! Hundreds of fields of blue clay sprinkled with jewels!
 A mighty farm where the brilliant lie out under the sun and the diamondiferous earth is worked with steam harrows.
 These are some of the things you may see any day here at Kimberly. Last year the crop from this vast diamond farm amounted to \$22,000,000. It was equal to more than \$100,000 for every working day the whole year through. It was more than \$70 for every minute, or more than \$1 for every tick of the watch through all the minutes of all the hours of all the days of that year.

Mining the Blue.
 All the soil of this mighty farm has been taken out of the diamond pipes, which I have described in a previous letter. There are five such pipes at Kimberly, and each contains a pudding of this blue clay, sprinkled with white curds of diamonds. The pipes range from 100 feet to several times that diameter. Two of them, the Kimberly and the De Beers, have already been excavated to a depth of more than 200 feet. The three others, the Wessington, the Bulfontein and the Dutoitspan, are now being mined at 500 or more feet from the surface. In every pipe the blue rock has been found continuous, and everywhere it is peppered with diamonds. How far down the deposits go no one knows. In the Kimberly they have been probed to a depth of more than a half mile, so that it is no exaggeration to say that there are hundreds of millions of dollars worth of diamonds in sight.

As to the origin of the gems, they are supposed to be volcanic, and Mr. Gardiner Williams, who managed the mines for 20 years, believes that they were shot up by mud volcanoes. There is no doubt but that the pipes were formed by some convulsion of nature, and that it was at about the same time that the jewels appeared.
 The mining, as I have described, consists of blasting out and raising to the surface the blue clay containing the diamonds.

On the Diamond Floors.
 I have spent a part of this week in going with the diamond ore to the fields or floors where it is left to weather, and in following it to the washing machines where the jewels are finally won. As the rock comes to the surface it bears no sign of them. I have looked over several thousand cars of it, but have not seen a single brilliant imbedded in the blue, and I am told that the priceless stones are seldom discovered, except when they come out in the washing.

This blue ground is as hard as rock. I can just scratch it with my knife. It is so hard that you could drive a nail with a clunk of it, and it takes a heavy hammer to break it. The ground is carried from the mines to the floors and spread out there to a depth of one foot, all over the surface. It lies out for about a year, being plowed and harrowed from time to time. If the weather is dry it is sprinkled, and as a result it so melts or softens that the diamonds can be washed out of it.

Every one of these great mines has its own fields for such rock-weathering. There are at least 6000 acres in all. Of these, in the neighborhood of 3000 acres belong to each pipe, and all are now covered with this rock, containing diamonds. There are about 10,000,000 carloads lying out under the sun, and I am told that there is something like \$10,000,000 worth of diamonds in them.

Guarding the Fields.
 In looking over these fields one seldom

sees diamonds, but the brilliants are there and they must be carefully guarded. Think of \$25,000,000 being scattered over the earth within easy reach of any town of 20,000 in the United States, and you have the situation at Kimberly. You would imagine that the fields would be raised and the stuff carried off. It is not. The fields are guarded day and night by men who march around them with guns in their hands. They have electric lights which keep them bright from sunset to sunrise, and they are surrounded by high fences of barbed wire, the strands being so close together that a man cannot crawl through, and so high that he cannot easily climb over them. There are two of these fences around every field. They are about 30 or 35 feet apart, and the guards march between them. If they would be sure to be shot before he got to the second, and so diamonds are comparatively safe.

Washing Out Diamonds.
 This blue ground is brought to the fields in steel cars. There are 150 miles of railroad tracks which run from the mines to the floors, and from them to the crushing and washing machines, which handle the earth, after its molting. Over a series of iron tables corrugated like washboards, and the thousands of cars are moved by the steam engines of the five central plants.

Today the process of washing out diamonds at the De Beers mine. The rock was carried there a distance of eight miles by the cable. In reducing it, it was divided into two classes, one soft and one hard. The hard rock was that which had not been affected by the weather, and it had to be crushed to a powder before the diamonds could be taken out. This was done in mighty steel crushers which are so made that they will grind up the rock, and at the same time not injure the diamonds. After crushing, the coarser pieces are crushed again, and at the end it is all reduced to about the consistency of the soft ground, made so by the weather.

Both the soft and the crushed ground are then washed to get rid of the waste, and, as a result, out of every load of loads of the mixture comes one load of gravel containing the diamonds.

Diamonds Saved by Grease.
 It used to be that all the gravel obtained in this way was sorted over by men. Both natives and whites were employed, but the chances for stealing were great, and it was found that many small stones were lost. Indeed, some of the gravel which was sorted over in that way years ago is now being sorted again and at a great profit.

Today the diamonds are saved by tables covered with a grease just like axle grease. The gravel is run through what is known as a pulsator, consisting of a series of iron tables corrugated like washboards. These tables lie at a slight angle, and the machinery shakes them, so that they are always moving as the gravel goes over them. They are covered with this grease, and by the shaking almost every stone at one time or another comes in contact with the grease.

Now it is a curious thing that diamonds will stick in this grease, and that all the other stones will flow off without catching. Every few hours the tables are scraped, and the grease is scraped off. It is found to contain all the diamonds and also small bits of iron pyrites, garnets and pieces of mica. The diamonds are then washed in the grease, and the grease is used in the blasting. It is now put into a steel bucket which is perforated with holes, and this is sunk into boiling water. As the water touches the grease it melts and goes to the top and may be poured off,

leaving only the scraps of metal and the diamonds. The diamonds are picked out and cleaned and sorted after which they are ready to be valued for the market.

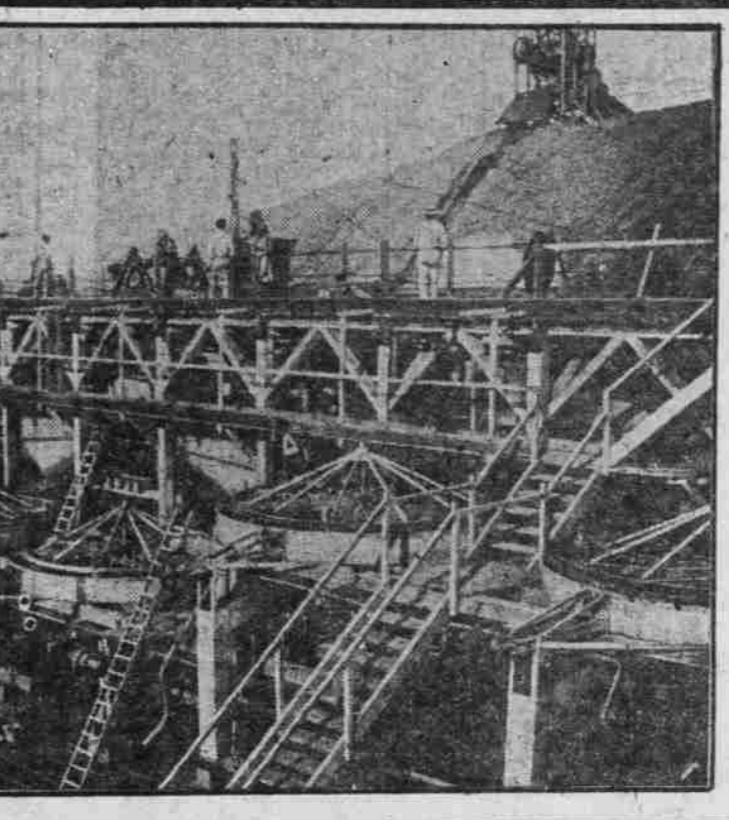
Sorting Diamonds.
 I spent some time watching the diamond sorters pick out the precious stones after the grease was poured off. Each man had on a table before him a handful of diamonds of all shapes and sizes, and he was picking them up one by one with a pair of tweezers and dropping them into a tin cup, which cost, I venture, less than 5 cents. As I watched one of these men he lifted a native, would be in danger of prison. The laws here provides that the who buys diamonds must first take out a license, and that all diamonds bought and sold must be shown to the government officials in order that they may be valued for customs. In fact, every man who takes a diamond out of South Africa must have a certificate showing where he got that diamond and that he has a right to it.

During my stay I have bought a rough stone of a few carats at a cost of about \$75 per carat. I have been able to get it through a special introduction to the officers of the diamond syndicate, and it was sold me at about the same price that the diamond would have cost at wholesale in London. I

had to go to a half-dozen different officials to secure the papers showing that I owned it, and I have paid the customs duty necessary to enable me to get it out of Cape Colony.

Ten Thousand Negro Miners.
 During the year 1907 the mines of the De Beers Company here kept something like 20,000 negroes regularly employed getting out the blue and working the floors and washing machines. They had there, all told, more than 3000 whites. On account of the hard times in America, which has seriously cut the demand for diamonds, about 18,000 of the native miners have been recently discharged and also over 1000 whites. There are still 19,000 native miners at work, and this number will be increased as the market improves. I have had a good chance to see the miners during my trips about Kimberly. They are Kafirs coming from the various tribes of South Africa, the company preferring to have its men from as many different localities as possible in order to prevent strikes. The men work well and are more efficient than the ordinary African labor. They are big fellows, strong and muscular. In the mines they are bare to the waist, although most of them wear trousers and have shoes to protect their feet from the rocks. Each gang has a white overseer, but the laws prevent any mistreatment of the blacks and they have a right to lay their complaints before a "protector of labor" appointed by the government. The natives are never hired for less than four months, although the company is glad to keep them as long as they will work.

These 10,000 miners are practically in prison from the time they begin their job until the end of it. They have to contract that they will stay inside the compounds or great wall inclosures which constitute the native quarters of each mine, and the company sees that they keep this part of their agreement. They do not go outside even when they enter the mines, for every compound



THE MINERS DO THEIR OWN COOKING

has a tunnel from it into the works, and they march down under guards to where they dig and blast out the blue work above ground are not allowed to mix with the men who work underground; and every effort is made to prevent them stealing the diamonds and smuggling them to their fellows.

Take, for instance, the Dutoitspan Compound, which I visited today. It contains about seven acres and looks for all the world like a great racing park walled with stables. Right in the center of it is a platform which might be compared to the grand stand, and all around the walls are rooms about 20 feet wide and 10 feet deep which correspond to the stalls in which the race horses are kept. The grand stand is the public bath where the black boys wash themselves right out in the open. They stand in the sunlight as naked as Adam before Eve gave him that apple, and the water sparkles like diamonds as it pours down in a shower over them.

I took a look at the rooms where the men live. They are walled with great black boards, and the natives sleep in each room. While at rest, or loafing about in the court, they take off their clothes and frequently have nothing but blankets about them.

The men buy their own provisions and do their own cooking. There are storehouses inside the compound which furnish groceries, and butcher shops where meat is sold lower than anywhere else in South Africa. Connected with the buildings are the offices of the managers of the compound, a hospital for the sick and rooms for the guards.

The Natives are carefully watched to prevent them stealing the diamonds while they are working. Their rooms in the compound are built against a wall, around which are marching guards, with guns in their hands. One hundred feet beyond this wall there is a tight fence of galvanized iron about 14 feet high, and outside that are other guards, so that it is impossible to throw diamonds over the fence to confederates outside.

The greatest care is taken by the De Beers Company to prevent diamonds from being smuggled out of the mine until several days after the completion of his contract. During this time he is stripped naked and put into a room, so walled that he cannot cut out. He is kept there for several days and watched all the time. Every bit of his person is then gone over by the diamond detectives, so that he has no precious stones concealed anywhere in it. His toes, ears, teeth, gums and hair are examined, and if he has any sores on his body they are probed. While the examining goes on the natives have mittens of sole leather upon their hands. These are so stiff that they could not pick up a diamond if one lay on the floor before them.

At the same time the miners are paid for being honest. Every man receives \$1.25 per carat for the diamonds he has dug out, and the negro kept in the over-seer. The other day a negro dug out a gem as big as a walnut. It weighed more than 100 carats, and he received a premium of \$150 for it.

It used to be that many diamonds were swallowed. About ten years ago one as big as a chestnut was thus disposed of, and the negro kept it for more than a week. In 1895 about 4000 worth of stones were lost in a mine's stomach and afterward discovered, and the same practice would go on today were it not for the imprisonment in a naked state and the medical and dietary treatment which all must go through before they are allowed to depart. As to other smuggling methods, gems have been found in boot heels, in hollow canes, and in dinner pails with false bottoms. The miners frequently make gashes in their persons under the skin. They put them in their hollow teeth, under their toes and in every conceivable place. The guards are more rigid from year to year, and the detectives have become so expert that they know just exactly which places to search. Kimberly, Africa.

ABRAHAM LINCOLN'S FIRST OFFICE BOY

"WHEN I was office boy to President Abraham Lincoln, back in Springfield, Ill., in 1864 to 1865," said Major E. W. McIntosh, Omaha, "there were no baseball games for a boy to attend, and about the only scheme I ever got to work on him was when I could play 'hooky' long enough to go fishing."
 "I guess I was just about the first office boy Mr. Lincoln ever had—at least I never heard of him having one before me. But he was a mighty good 'boss' and I thought I ran that office just as much as the office boy of today thinks he is the most important member of the firm in any big office in the country."
 Major McIntosh is an old soldier—in fact, is the last survivor of the very first Grand Army Republic ever inaugurated. Immediately after a charter had been drawn up and the charter members signed their names, back in Decatur, Ill., in April, 1868, McIntosh was the first man to sign. And he was the first man initiated into the post.
 "When I was a little boy, I lived across the street from Lincoln," said Major McIntosh. "One day we were playing soldiers. I was leading a pan for a drum and was at the head of a company of about half a dozen ragged little urchins, when Mr. Lincoln looked over the fence and said: 'Boys, train up right; we may need you some day.'"
 "At Christmas, which was only a little ways away, Mr. Lincoln gave me a little toy drum. It practiced on that drum from morning until night. And years afterwards, when I was a young man and President Lincoln issued a call to arms, I was the first man to take my stand in front of the old courthouse at Bloomington, Ill., and I beat the roll which called for volunteers. I didn't use the Lincoln drum that day, but a new one that could be heard all over town. I have the little toy drum yet."
 "I was just 10 years old when I did my first work for Lincoln. That was to whitewash his fence. He liked the work so well that he took me into his office as errand boy, and I remained with him two years, until my father moved away from Springfield.

ANOTHER GOOD CURE FOR FRECKLES

THE woman who freckles easily and dreads the Summer time is to be pitied.
 Tan and sunburn are unsightly and painful, but after a while they disappear, but not so with freckles. They will remain through the Winter months, unless something is done to remove them.
 This, as all know from experience, is much easier said than done. They are as stubborn to remove as to make a willful child obey.
 The following formula is said to be one of the best to remove them: Lactic acid four ounces; glycerine, two ounces; rosewater, one ounce.
 Apply this lotion to the face several times during the day. Put a small portion in a dish and dip a soft linen rag into it and apply.
 All skins will not stand the same treatment, and while some may use this lotion or other face lotions with no ill effect, others may suffer from a burning sensation of the skin.
 To prevent this burning it will be better to massage the face after using the lotion with the elderflower cream: Almond oil, three ounces; white wax, five drachms; spermaceti, five drachms; lanoline, one ounce; witch hazel, one ounce; elderflower water, three ounces; oil of bitter almonds, one drachm.
 Massage the skin with this every night and one will be well repaid for the little trouble. The skin will become soft and supple and a dainty white. If the skin is inclined to be rough and dry, it will be benefited.
 This cream is not only good to use after the freckle lotion, but on any dry ugly skin. It will take away the roughness and give the skin a delicate appearance.
Tots to Make Their Own Toys.
 New York Press.
 One of the many quiet charities in which Mrs. Ogden Mills interests herself promises to have a great many limitations, for it seems to have all the elements of success. She is the principal backer of a vacation school project intended to teach the children of the poor

the war, I believe. They were not going to let me see him, but I got a fellow to tell him that his office boy was down there and wanted to see him. A few minutes later the fellow came back and said Mr. Lincoln said he didn't dare roast his office boy in anything he wanted—and so I got in to see him. And that night I went around to his house and took dinner with him. I never saw him after that day."
 Omaha, Neb., Sept. 22.

ABRAHAM LINCOLN'S FIRST OFFICE BOY

"I've always remembered one thing Lincoln said to me. It was: 'Work hard, be honest, never gamble, keep smiling and you will succeed in life. The world has no use for a grumbler, who always keeps his head down and always sees the dark side of life.'"
 "If a cow kicks over a bucket of milk, just you milk the next cow, and keep on smiling. Don't abuse the cow," was another of Mr. Lincoln's sayings.
 "Lincoln always looked like he ought to have been arrested for running a bone-yard. And his wife was as homely as a mud fence in wet weather. He was always joking, and his wife never had anything to say. In fact, she used to think his jokes were awful, and never could see any fun or wit in anything he said."
 "One day she got mighty mad at him because he laughed and joked and went by. 'Who's dead?' she asked him. 'Why, the man in the box, of course,' I heard him answer. And then he laughed and laughed. And Mrs. Lincoln got up, took her sewing and went in the house."
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