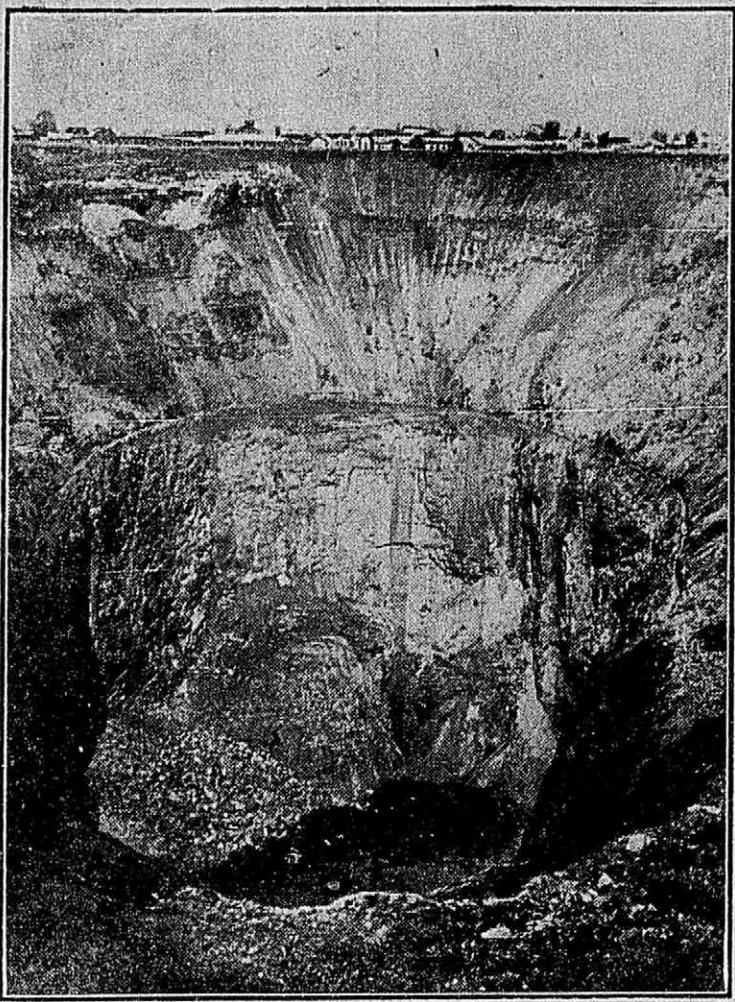


KIMBERLEY DIAMONDS

FRANK G. CARPENTER VISITS THE GREAT MINES OF THE DE BEERS COMPANY, WHICH PRODUCE TWENTY-FIVE MILLION DOLLARS' WORTH OF DIAMONDS A YEAR



THE DE BEERS MINE FROM ABOVE.

How the Diamonds are Found—A Look at the Great Kimberley Pipe— Underground in the Dutoitspan—Blasting for Jewels—A Great Diamond Syndicate Managed By Americans.

of Washington, and their present general manager is Mr. Alpheus Williams, his son.

In another place I shall speak of the workmen and tell how they are hauled outside the mines. An army of over 25,000 is here employed, and of these more than 22,000 are natives, who are not allowed to go outside during the terms of their contracts.

But come with me and take a look at the Dutoitspan. This is the mine which was discovered by the farmer when he was building a clay hut. It is the biggest of all the mines of the De Beers company, and so large that the Kimberley pipe and the De Beers pipe, which together are now producing something like \$15,000,000 worth of diamonds every 12 months, could be put inside it. It has thirty-eight miles of tunnels in its underground workings, and that although it is not yet one-third as deep as the Kimberley.

Before entering the mine I was shown the maps of the surveyors. The blue ground area covers about 20 acres and this is all drawn to scale so that one can tell the condition of every tunnel from the surface down to the 750-foot level. A great shaft has been sunk outside the pipe, and tunnels have been run in at intervals of 50 feet to get the diamond-rich ore. By this shaft this 30-acre pipe has thus been explored to a depth equal to one and one-half times the height of the Washington monument. The blue ground has been found peppered with diamond throughout. From some of the upper levels much of the ground has been extracted, but mining is now going on at every level, the amount of earth taken out decreasing until at the bottom there are little more than the tracks used to carry the cars of blue clay to the shaft.

All the ore is taken from the lowest level. Great wells have been sunk through the pipe from the top to bottom, and the blue ground of each height is carried through tunnels to these wells and dropped into reservoirs at the bottom. There it is loaded by gravity into the cars which carry it to the shaft. At present there are 10,000 loads to the surface every day. Four thousand negroes are employed, and in busy seasons the miners work night and day.

SCENES IN THE MINES.

It was in company with Mr. Fuller that I went through the Dutoitspan. The mines are dirty and the rock is so sharp that it cuts one's shoes. For this reason we were given boots of sole leather such as are used by the miners, and were clad in miners' clothes.

Entering the shaft, we dropped quickly to the 750-foot level and made our way through the tunnels. The shaft is the great pipe. We went along a car track, passing trains of this blue ground hauled by American electric locomotives. The cars are loaded with the blue ground, and the shaft is the great pipe. We went along a car track, passing trains of this blue ground hauled by American electric locomotives. The cars are loaded with the blue ground, and the shaft is the great pipe.

PIPES OF DIAMONDS.

Until these Kimberley mines were discovered, all of the diamonds found were picked up out of gravel which lay on or near the surface of the earth. The Indian diamonds, among which were the Kohinoor, the Great Mogul, the Regent and the Orloff, came from alluvial washings composed of a mixture of broken sandstone, quartz, jasper, flint and granite. The deposit was about 20 feet thick and was covered by a few feet of black cotton soil. It lay near the bed of a river in India not far from Golconda, which was the chief city to which the diamonds were taken and sold. The diamonds of Brazil were first discovered in 1728. They were found in deposits of clay, quartz, pebbles and sand, buried under about 30 feet of other earth. They lay along the banks of rivers and in a few cases were imbedded in sandstone. It was the same with the diamonds of Borneo, of British Guiana, Australia and California, and also of those which were first discovered along the Vaal river near here in South Africa.

It was in company with another American mining engineer that I explored the underground workings of the Dutoitspan, one of the largest diamond mines of the world. This was Mr. J. T. Fuller, a graduate of the Lehigh university. In fact, all of the mines here are managed by Americans. They were opened up and developed by Mr. Gardner Williams, who is now a resident

These two finds set South Africa crazy. Diamond seekers came at once by the thousands, and the Vaal and Orange rivers were soon covered with mining camps. Men went about everywhere digging up the gravel and searching for stones. As the river beds became exhausted, the miners spread out over the country, and finally got here to Kimberley, which is 15 miles from the Vaal. One day a Boer discovered some diamonds in a clay bed out of which he was taking material to build a mud hut. He kept on digging, and the result was the Dutoitspan mine, which has proved one of the richest diamond pipes ever found. About the same time other claims were made up and developed, and as a result came the five great mines which now form the basis of the De Beers syndicate.

As the miners went down into the earth the area in which the precious stones were discovered became narrower and narrower, until at last it was in each case, found to consist entirely of a sort of blue rock or clay, inside great walls of other and harder rock. These walls were in the shape of a pipe, and the pipes were found to extend down, under the surface, and each was filled with this blue ground. As the miners went down the diamonds did not diminish. They were found everywhere, plentifully scattered through the blue clay, and this is so at the depths where they are mining today, although in the Kimberley pipe the lower levels are more than one-half mile from the surface.

THE KIMBERLEY MINE.

The Kimberley mine gives one an excellent idea of how the diamonds lie in these pipes in the earth. The pipe begins with a great funnel which at the top has a mouth covering 35 acres and which slopes down to the pipe proper. The inside of which is about eight acres. The Kimberley mouth is, I judge, about 300 feet wide, and it slopes evenly down on all sides. The pipe itself is almost round. Its walls are of a black rock; they are almost as regularly shaped as though cut out by a chisel, and they narrow only slightly as they go down. The pipe is about 2,500 feet long. The first shaft was dug with pick and shovel and washed in a rude way. Then wires were run down into the mine and the blue ground was carried by means of the wire to the surface. The shaft was dug up with shafts outside the mine itself, and a continuous line of steel cars rising all the way to the top. The 700,000 car loads were taken up last year, and there are now more than a million loads lying out on the floors in order to get the blue ground to the surface. It is now so weathered that the diamonds can be taken out. The value per load is only a few dollars, but there must be at least \$5,000,000 worth of diamonds in the ground on the Kimberley floors.

I walked around the Kimberley mine with the manager, Mr. C. M. Henroth, an American mechanical and mining engineer, who graduated at Cornell in the class of 1897, and the son of the former president of the Women's clubs of the United States. He tells me there are more than a million and a quarter loads of this precious clay above the level at which his men are now working.

UNDERGROUND IN THE DUTOITS-SPAN.

We passed a continuous line of such cars on our way into the mine proper, and then walked for miles through the tunnels made in the pipe to get out the blue ground. The pipe is not very high at one's head and just wide enough for the cars to run through them. They are cut here and there by cross tunnels, and at times we could see an electric light at a crossing a mile or so in the distance.

BLASTING OUT DIAMONDS.

Everywhere we went the natives were working. Here they were loading the blue rock upon cars, and there they were dumping it down through the shafts to the level below. In one place they were blasting. The rock is of such a nature that compressed air

cannot be used, and the men were cutting holes five feet deep by means of long chisels, worked by hand. Many holes are made in a chamber and then the blasts are all set off at once. I cannot describe the terror inspired by these blasts as they go off down there, 500 or 600 feet below ground. The boom is that of a big naval gun, and it strikes the drum of your ear as though it would break it. The vibration blows out the candles, and the dynamite fills the tunnels with a sickening smoke. Thirty-six thousand blasts are shot off in that mine every week, and nevertheless the accidents are few. During the past year only two men have been killed, and this is a small mortality considering that there are 4,000 native workmen, and that the mines are usually operated both day and night. The amount of explosives used is enormous. In 1906 in all the mines of the De Beers company there were consumed more than 3,000,000 pounds of dynamite, and to set this off were used more than 600 coils of fuse each 24 inches long. The De Beers company has its own dynamite factory not far from Cape Town. It finds it cheaper and safer to make its own explosive.

A GREAT ORGANIZATION.

In going through the mines and works I have been surprised at the care and economy everywhere shown. Although the work is very big and divided, not a cent is allowed to go to waste, and most careful watch is kept to avoid any extravagance. As we went through the Dutoitspan we passed a chamber where an electric light was burning, although the work had been stopped for the time. The man in charge was nervous, and the light put out. In another place a white boy who was keeping tally of the cars allowed one to go by which was not quite full. He was warned that he must not credit half cars for full cars, and that he would lose his job if he did not keep his eyes open. The same economy is shown in the engine rooms, in the washing machines, in the management of the blue ground on the floors, and in fact, in every part of the works. The De Beers company pays big dividends because it is thoroughly well managed, and it makes one feel proud to know that, although operated almost entirely by British capital, the managers are Americans.

In another letter I shall take you over the floors where the blue clay melts from the diamonds and leaves them out in the sun, and also into the mighty washing factories where the brilliants are taken out and made ready for shipment to all parts of the world.

FRANK G. CARPENTER.

CURED HAY FEVER AND SUMMER COLIC.

A. J. Nusbaum, Batesville, Indiana, writes: "Last year I suffered for three months with a summer cold so distressing that it interfered with my business. I had many of the symptoms of hay fever, and a doctor's prescription did not reach my case, and I took several medicines which seemed to only aggravate my case. Fortunately I insisted upon trying Foley's Kidney Cure, and it quickly cured me. My wife has since used Foley's Honey and Tar, with the same success." For sale by P. J. Hill Drug Co., "The Never Substitutors."

NIGHT SCHOOL.

To accommodate ambitious young people who cannot avail themselves of the practical training offered at the day session of the L. D. S. Business College, a night school will be conducted on Monday, Wednesday and Thursday evenings from 7 to 9, commencing Oct. 7. There will be courses in Shorthand, Book-keeping, Business Arithmetic, Reading, English, Spelling, Telegraphy, Mechanical Drawing and Typewriting. Our teachers are experts, methods practical and up-to-date, equipment the best, location convenient, lowest rates. Gymnasium. L. D. S. BUSINESS COLLEGE. The School With a Reputation.

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Capt. Baldwin, the famous aeronaut, is now instructing the lieutenants in the United States Signal Corps in the mysteries of how to manage the first airship ever owned by the United States government. He has also, it is said, made an agreement to furnish the government a new dirigible balloon some time next spring, which, it is claimed, will contain certain important improvements. Among these new features is a lighter and more powerful motor, with which the airship will be driven and more lifting power to the balloon section of the dirigible airship. Capt. Baldwin has for years been one of the most internationally prominent among the pioneer navigators of the air.

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