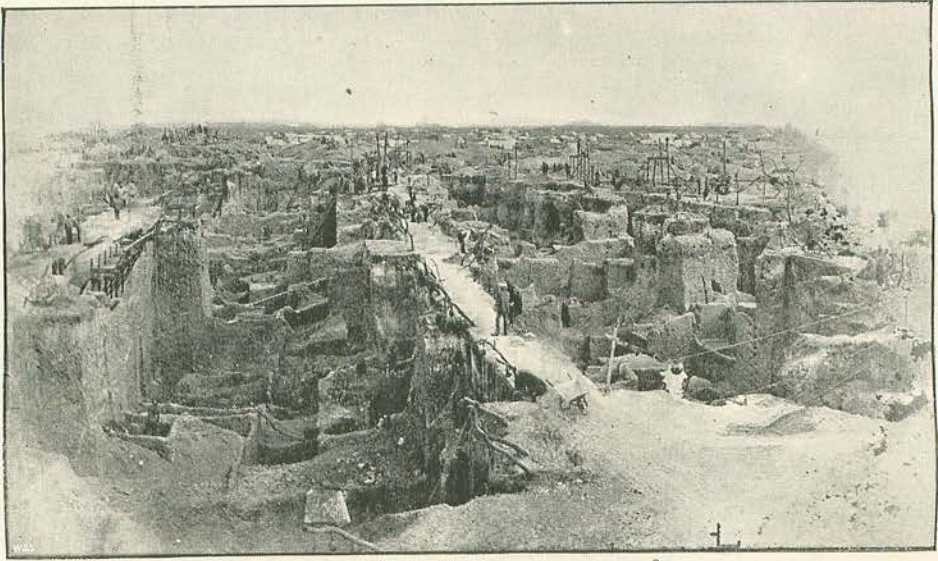


Diamond Mining in South Africa.

BY J. BUCKNALL SMITH.



VIEW OF THE KIMBERLEY DIAMOND FIELDS IN 1870.



THE history of the diamond mines of Griqualand West, South Africa, is one long romance—more thrilling, more varied than any yet seen on the stage of the Adelphi or Old Drury. This wonderful and very unique history is made up of sensational experiences relating to camp and detective life; shocking catastrophes; amazingly skillful robberies; equally amazing blunders; the fatuous bigotry of geological experts; and the speedy realization of colossal fortunes. For fully a decade the value of the annual output of these precious stones has averaged several million pounds sterling, and the labour involved in the production of the gems may be realized on learning that a load containing 16 cubic feet of diamondiferous ground only yields an average of one carat.

Notwithstanding this, in dealing with diamonds, an enormous value may be comprised within an exceedingly small compass; hence the terrible temptations with which the winning of these gems is beset. It is a remarkable fact that many of the most valuable stones obtained of late years have been recovered stolen property.

In their natural form diamonds possess the appearance of semi-transparent pebbles or crystals, with a dull, metallic lustre; indeed,

the uninitiated might easily pass them by as of little importance or value. The stones are usually discovered in the beds of rivers and like places, but at Kimberley they are found many hundred feet below the surface of the earth, embedded in a blue ground, composed of a magnesian conglomerate. So phenomenal is the occurrence of diamonds in this particular deposit, that in the early days the alleged existence of the stones under such conditions was denounced by European geological experts as an impudent fraud. Now, however, it is considered that the mines are probably formations in extinct volcanoes.

It may be mentioned that the stones are cut and polished in Europe by grinding them on a lapidary wheel with some of their own dust.

Some fifteen or twenty years ago, before the railway was laid up country, Kimberley was at best a dreary place to live in; and, moreover, in those days the steamship service to the Cape was, to put it mildly, execrable. In order to show the cheerlessness of this district, we reproduce above a view of the diamond fields in 1870, showing the indiscriminate manner in which each proprietor worked his allotments in those primitive days. Even to-day Kimberley is far from being beautiful, the chief object in the land-

scape being the heaps of débris and "tailings" scattered over the district from the mining operations. However, the average individual does not regard Kimberley as a pleasure resort; rather the contrary, for the place has killed thousands who were bitten with the diamond mania, and ultimately succumbed to heart-break and bitter disappointment. Now let us commence this wondrous story.

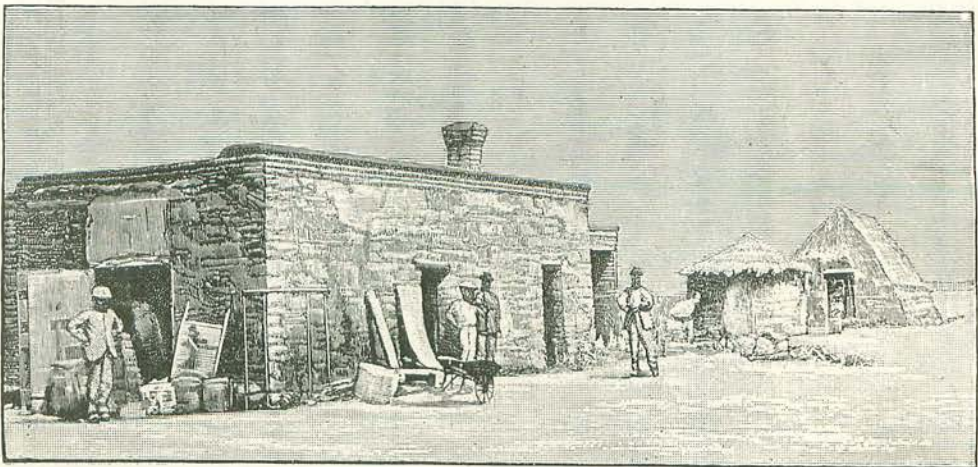
Early in the year 1867 a traveller named O'Reilly, bound southwards from the Orange River, rested himself awhile at a farm in the Hope Town district. His host, one Niekerk, presently brought to his notice some nice-looking stones that had been obtained from the river; and while examining this collection of pebbles, O'Reilly pounced upon the "first diamond." This gem he at once took to Dr. Atherstone, of Grahamstown, who pronounced it to be worth £500, and this sum it very soon realized. Naturally, the lucky wayfarer then hastened back to the spot where such good fortune had befallen him, but his subsequent assiduous searches were unavailing. Some two years now elapsed without anything momentous transpiring. However, in 1869, Farmer Niekerk acquired from a native, for about £400 worth of stock, a large diamond which was readily sold to a firm in Hope Town for £10,000. This famous gem was later christened, "The Star of South Africa"; it weighed 83 carats, was estimated to be worth £25,000, and found a final resting-place among the Countess of Dudley's magnificent jewels.

One of the most peculiar incidents in connection with the diamond fields is that, although these early discoveries were made

in the neighbourhood of Hope Town, no mine has ever been found there.

The very natural result of the sensational "find" just mentioned was a frantic rush of diggers to the district from all parts. Careful prospecting demonstrated later on that diamonds also existed on the banks of the Vaal River. Consequently, barely a year after the finding of "The Star of South Africa," no fewer than 10,000 persons had arrived on the scene in spite of the dreary, not to say appalling, prospects that confronted them. Good food and pure water were unknown at that time; while shelter from the scorching sun was mainly afforded by primitive canvas structures. Many miners thus succumbed to pestilence, disease, and sunstroke before they even reached the threshold of their Eldorado. At this time, however, crime was almost unknown, partly because the journey from Port Elizabeth was accomplished in rough bullock waggons over frightful roads, and occupied about three weeks, at a cost of fully £50, an amount beyond the means of the lowest class of rogues. Furthermore, the cost of living was simply prodigious.

In 1871 a new diamond deposit was discovered near Dutoitspan on a farm called Vooruinzigt, the property of a Mr. De Beers, and three years later these diggings were proclaimed by law as "mines," including those of Dutoitspan, De Beers, and Kimberley. The Bultfontein mine was not discovered until eight years after. The old native farmhouse shown in the accompanying illustration once stood on the site of the last-named mine. In the walls of this rude structure diamonds were discovered which first gave rise to the belief that the home-



FARMHOUSE IN THE WALLS OF WHICH DIAMONDS WERE DISCOVERED,

stead had been erected over a mine. The figure seen approaching the house with clasped hands is the late Mr. J. Fry, then Chief of the Police Detective Department. That this gentleman and his successors have had plenty to do will be apparent later on.

Before diamonds were found in this locality the arid land was not worth more than a few pence per acre; indeed, the homestead that was built over the Kimberley mine was originally bought for less than £8. The Vooruinzigt farm, which included the De Beers mine, was sold later on for £6,000, and was shortly afterwards acquired by the Government for £100,000, whereas the property has since proved to be worth nearly one hundred million pounds. From four to five million pounds worth of gems have been raised from these mines in the course of a single year. The feelings of the poor farmers who thus parted with their land for a mere pittance may be better imagined than described when they discovered that they had been living and sleeping over hoards of almost fabulous treasures. As we have already stated, the presence of diamonds in this district was first suspected by the detection of valuable stones in the primitive sod-walls of the farmhouse. The Boer, however, was too phlegmatic or too ignorant to recognise their nature, or inquire about their value.

Clearly, the district was a veritable Tom Tiddler's ground, for diamonds were even picked up in the old Camp Church—a unique structure of canvas and corrugated iron. Originally the Orange Free State authorities controlled the district, but they presently came into collision with Waterboer, paramount chief of the Griquas, who appealed to Queen Victoria, with the result that in 1871 both he and his people were proclaimed British subjects. The Orange Free State continued cantankerous, however, so a few years later,

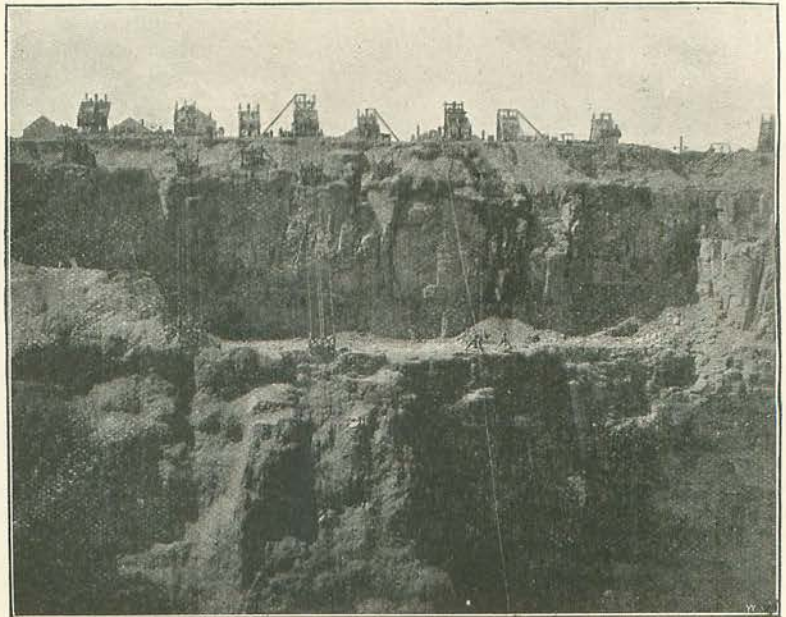
when President Brand came to England, the whole business was amicably settled for a consideration of £90,000.

In October, 1871, mining laws were first formulated and proclaimed in Griqualand, and then it was that the license money for mining claims was fixed at 5s. per month for areas of about 30 square feet, if not worked by more than three persons; 10s. if worked by six, and so on *pro rata*. On these easy terms many fortunate diggers acquired wealth with amazing rapidity, while others went quickly down into an untimely grave.

As there was at this time a fine go-as-you-please system of mining, the irregular excavations gradually assumed vast dimensions and depths; while the multitude of wire ropes stretching across the diggings, by which the soil was raised to the surface in buckets, resembled monstrous metallic cobwebs.

Look at this view of open-quarry working. The photograph was taken looking towards the earth's surface, and it shows the aerial rope-ways whereby the diamondiferous soil was raised.

At one time, probably, a greater quantity of wire was used in these diggings than in any other industry extant. Ropes of steel were sold for handsome sums. They were composed of thousands of fine filaments spun together, and combined the elasticity of hemp with a breaking strain of some eighty tons to the square inch, an invention with

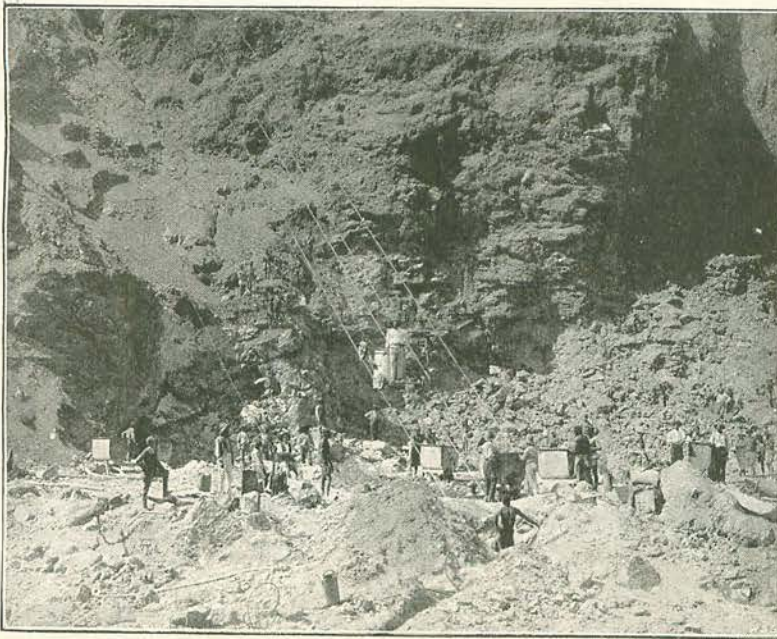


OPEN-QUARRY WORKING.

which the name of Bullivant is indelibly associated and inseparable.

The story of the London and South African Exploration Company is typical of many similar romantic and successful ventures. This company, the only freeholders in the Cape Colony and the owners of the Dutoitspan and Bultfontein mines, located close to Kimberley, was founded in 1870 with a capital of £20,000, in £10 shares—which, by the way, not many years later fetched £600 in cash. It may, perhaps, be desirable to mention that the Kimberley mine is situated one mile west of the De Beers mine, while about two miles distant, in a south-westerly direction, are the mines of Dutoitspan and Bultfontein.

Here is another view of an open mine



AT THE BOTTOM OF AN OPEN MINE.

showing both European and native labourers excavating the "blue" ground and filling the aerial tram buckets.

Up to 1874 the industry was controlled by the Diggers' Committee, but after that date a representative Mining Board was constituted for the purpose. We are now discussing a period when the railway to Kimberley was far advanced, while hundreds of acres had been allotted in small claims to thousands of diggers from all parts of the world. The scene throughout the district at this period was animated and impressive to an astonishing degree, and

white labour was energetically assisted by native tribes. About this time, windlasses worked by horses were first employed for hauling up the baskets of soil over the aerial rope-ways before mentioned. This enabled larger quantities of the deposits to be raised at a time. About a year later, the primitive cradle washing-machine was supplanted by improved mechanical rotary devices, and this is the type of washing apparatus used at this day. Shortly after, the steam engine was introduced upon the busy, but somewhat dismal, scene.

In April, 1875, the diggers armed themselves and openly rebelled against the Mining Council. This hoisting of the "black flag" and the conflict resulted in the recall of Mr. Southey, the Lieutenant-Governor.

As we have already hinted, the excavations were assuming colossal dimensions, consequently landslips commenced on a pretty extensive scale. In 1878 one-quarter of the Kimberley mine was covered by a terrific avalanche of débris, and the following year the Mining Board spent over £300,000 in removing the fallen reef. Two years later over one and a half millions sterling had been spent in removing landslips alone; the total quantity of fallen debris

exceeding 10,000,000 loads, each of 16 cubic feet. This led to the abolition of the "open" or quarry system of mining, which necessitated the use of an enormous quantity of blasting materials.

In 1884 something like thirty tons of dynamite blew up and wrought appalling havoc. The times of blasting in the mines were midday and sunset, when one would think one was within a besieged city. At these times things were decidedly lively. Occasionally monstrous pieces of earth and rock were hurled into the streets, killing human beings and cattle and destroying

houses—not that the latter required much demolishing.

At the period to which we now refer, the memorable share mania had arisen, when most of the private holdings were converted into public companies.

Some idea of the hugeness of the gaps dug in the earth under the old system may be gathered from the fact that the open depth of the Kimberley Mine in 1885 was about 450ft., with an area of 40 acres; St. Paul's Cathedral itself might be buried in such a cavity. This led to the introduction of shaft-sinking, by an English miner named Jones. This individual advocated a system of diamond mining after the manner in which we procure our coal at the present day, and the next illustration shown here depicts the first shaft sunk in the Kimberley Mine. The

baffle them and get away with stones, in spite of a severe and marvellously thorough system of searching.

At one time Kimberley simply teemed with detectives, and all strangers and suspected persons were carefully watched, and traps were even laid for them. There are two classes of diamond thieves to be dealt with, namely, those who succeed in getting the stones clear of the mines, and those who buy or receive gems and contrive means of getting them out of the country.

For all comparatively irresponsible work in the mines natives are employed—Kaffirs, Zulus, and Basutos. The value of the diamonds raised from the Kimberley mine alone during 1883 was nearly £1,000,000 sterling, whilst the total yield up to 1885 probably exceeded the value of £20,000,000. The quantity of earth excavated during the same period would be represented by the same figures in tons.

On an average the diamondiferous soil produced gems to the value of from 30s. to 90s. per cubic yard.

Enormous net profits were about this time being earned by the various mining companies.

In 1887 Mr. Cecil Rhodes conferred with his

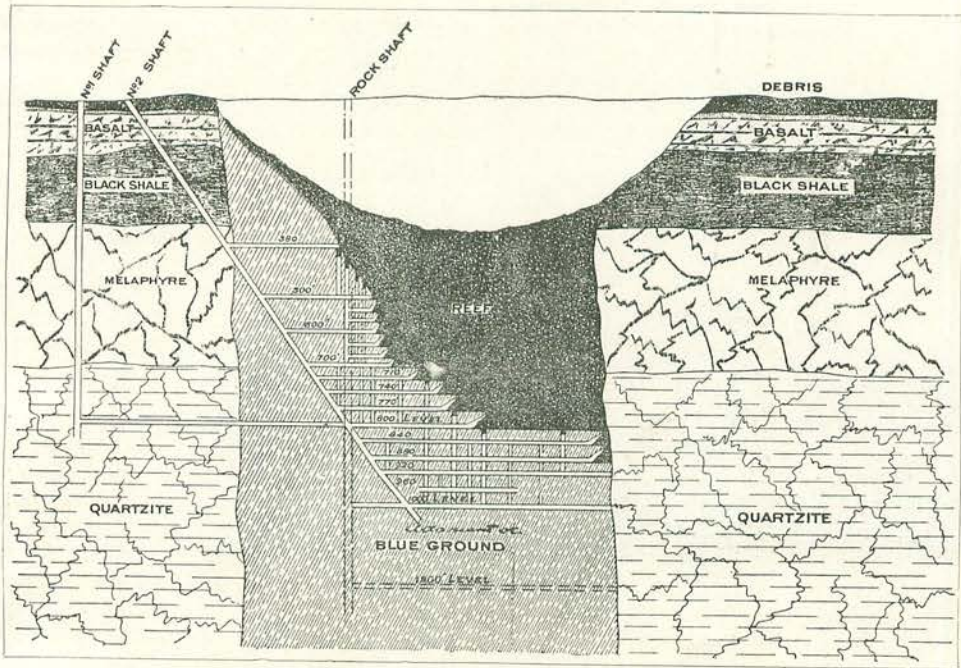
colleagues, and suggested a plan by which the mines could be all consolidated into the property of one powerful company. One motive for this was to avoid the possibility of a plethora of diamonds flooding the market, and the consequent depreciation of the gems. After the consolidation had been achieved, the works in Dutoitspan and Bultfontein were closed. Just previously an awful conflagration had taken place in the underground galleries of the De Beers mine, resulting in a frightful loss of life and property. We show here a vertical section of the De Beers mine, representing the underground method of "winning" the diamondiferous soil through vertical and inclined shafts, connected with horizontal levels or galleries. As is well known, the



THE FIRST SHAFT SUNK IN THE KIMBERLEY MINE.

construction of this shaft marked the abandonment of the open for underground working.

In June, 1882, the Diamond Trades Act became law, some of the objects in view being to restrict transactions with diamonds and to inflict heavy penalties on those convicted of theft or illicit diamond buying—"I. D. B.," as it is called. Some few years ago a great number of European convicts, largely Jews whose diamond hunger had got them into trouble, were always to be seen working on the Cape Town breakwater for offences committed under this Act. Some were sentenced to ten and others to fifteen years' hard labour. Experience has shown, however, that no matter how alert or shrewd the detectives may be, the natives frequently



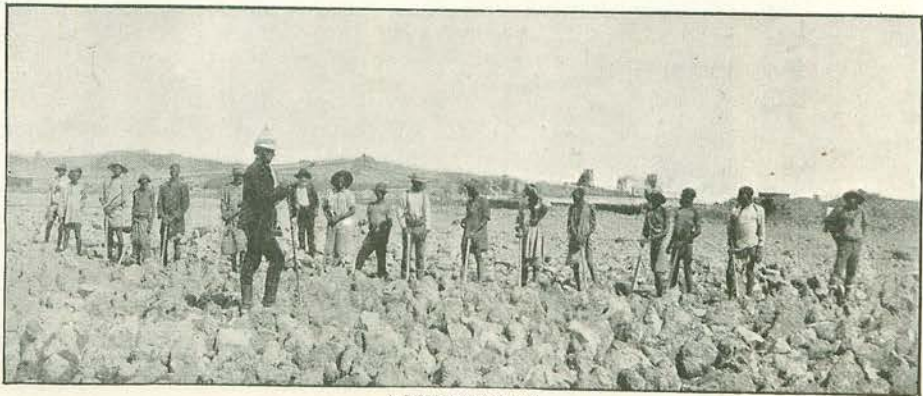
VERTICAL SECTION OF THE DE BEERS MINE, LOOKING NORTH.

Honourable C. Rhodes, the able Premier of Cape Colony, left England for the diggings in the early days, and became a millionaire in about ten years.

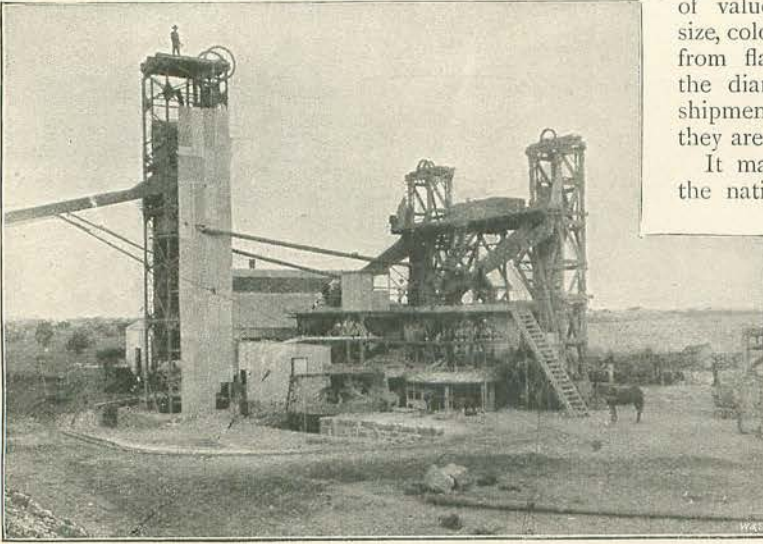
Let us now consider the method of subterranean diamond mining, as carried out at the present day by the De Beers Consolidated Mining Company. In the first place, vertical timbered shafts are sunk through the barren reef, or inclined ones driven through the rock to the required depth; and from the bottom of these, horizontal tunnels are advanced through the deposits. The precious soil is hewn or blasted out in these galleries, and then conveyed by small waggons to the mouths of the shafts, up which it is

raised in buckets by means of wire ropes actuated by winding engines on the surface. At the ground surface the diamondiferous soil is transferred into trucks mounted on light railways and carried to depositing sites, where it is exposed to the influence of the atmosphere for several months. Our next illustration shows one of these depositing sites, on which the "blue" ground is placed after having been raised from the mine. The soil is picked and turned over most carefully by natives under the surveillance of a guard, as seen in the picture.

When the soil has been sufficiently picked, raked, and harrowed at intervals and is disintegrated generally, it is again shovelled



A DEPOSITING SITE.



A MODERN WASHING-MACHINE.

into the trucks and carried off to the great rotary washing-machines, wherein the loose ground is washed away and the stones automatically retained. The modern washing-machine is shown in the above view. The "screenings" are afterwards put into another machine provided with sieves that vibrate horizontally, and in this way is effected the separation of the different-sized stones; from among these latter the diamonds are picked out by hand. The examining and sorting of the stones are conducted upon large metal-topped tables.

In our next illustration we see Europeans at work separating the diamonds from the pebbles that are extracted by the washing and sifting machines. As the gems are picked out, they are dropped into locked cans or receptacles like money-boxes. The contents of these boxes are afterwards re-examined by experts, who sort the stones into grades

of value, according to their size, colour, form, and freedom from flaws. After packing, the diamonds are ready for shipment to Europe, where they are cut and polished.

It may be mentioned that the natives employed in the mines are paid bonuses for finding stones, independently of their wages. They work in the mines in a condition of practical nudity; yet, nevertheless, when each eight hours' day is over, they are carefully searched for the secretion of gems, which the wily

fellows have been known to conceal in the joints of their toes, in their hair, and even in their stomachs—by the comparatively simple process of swallowing them.

About 4,000 blacks are employed in the industry, and they earn on an average about £3 a week. During their engagement with the company these natives are never allowed to mix with the outside world, but live in "compounds" or inclosures specially constructed for their accommodation within the precincts of the company's property. These



EUROPEANS SEPARATING THE DIAMONDS FROM THE PEBBLES.



A "COMPOUND."

inclosures are fenced in with barbed wire—for all the world as though the men were cattle and had to be kept from straying into a neighbour's field. The boundaries are periodically patrolled by guards to prevent the escape of natives or their communication with scheming outsiders. There are dormitories provided for the men, also swimming baths, hospitals, instruction and recreation rooms, stores, food, and clothing. About 2,000 white men are also employed in the industry.

Here we see a couple of experts sorting and classifying the rough diamonds according to size and colour.

According to a recent report of the De Beers Consolidated Mining Company, the result of the year's operations produced a net profit of £1,692,397; and the total quantity of the soil raised during the twelve months is given as two million loads, each of 16 cubic feet. The average yield per load manipulated is about 30s. The working levels vary from about 625ft. to 1,000ft. below the surface.

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The average cost of "winning" and washing the ground is stated to amount to about 7s. per load; and the total annual cost of working the mines is about $1\frac{1}{4}$ millions sterling. From the nefarious causes before mentioned, it is estimated that no less than 25 per cent. of all the diamonds found never reach the company's coffers, notwithstanding that a bonus of $7\frac{1}{2}$ per cent. of

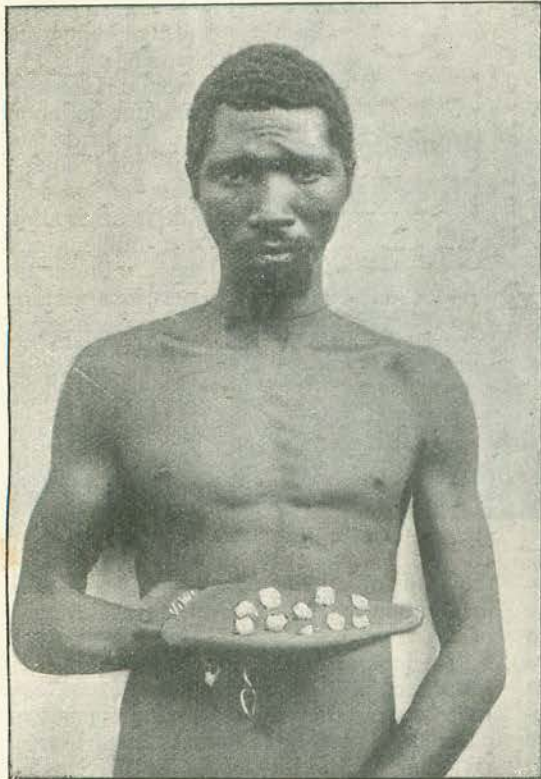
the value of all finds is allowed to natives, in addition to $2\frac{1}{2}$ per cent. to the overseer of the men.

Just look at the culprit overleaf. The ten gems seen in his hand weigh 210 carats, and were swallowed by the man, but ultimately recovered. It will be seen that leather mittens are chained on his hands to prevent his further manipulation or secretion of the stones. The expression of his face clearly indicates the troubles that are in store for him, as punishment for his crime.

Amsterdam and Antwerp are the chief centres of the diamond cutting and polishing industry; and a stone that "finishes" at not less than 50 per cent. of its original weight



EXPERTS SORTING AND CLASSIFYING THE ROUGH GEMS.



A DIAMOND-STEALER WITH HIS BOOTY.

is considered a very satisfactory result. The time occupied in these processes may range between four and fourteen days, according to the size of the stone and the number of facets to be formed.

In March, 1888, a yellow diamond was found in the De Beers mine which weighed 428 carats in the rough, and 228 carats when cut. It was stolen by a native, but recovered by a detective three hours afterwards. This flawless diamond measured 1 7/8 in. across the major axis, and weighed over three ounces; it is shown in the accompanying illustration.

All diamonds, however, are overshadowed by the colossal stone discovered two years ago at Jagersfontein, in the Orange Free State. This superb diamond weighs 970 carats, or 6 1/2 oz. avoirdupois, and is of the finest water. It is the property of a syndicate of London diamond merchants. Strange to say, as illustrating

A RECOVERED STOLEN DIAMOND,
WEIGHING 428 CARATS—ACTUAL SIZE.

the extraordinary luck of mining speculation, it was found almost within the last hour of the above-mentioned syndicate's contract for the products of the Jagersfontein mine. The native who found the great stone evaded his overseer, and ran with it to head-quarters to obtain the whole reward, which took the substantial form of £100 in gold and a horse and cart. This diamond, however, has a black flaw in the centre, as may be seen in the accompanying



THE LARGEST DIAMOND IN THE WORLD—ACTUAL SIZE.

picture, which shows the actual size of this enormous gem.

Therefore it is not yet decided whether this diamond is to be cut as one large stone—"the biggest in the world"—or to be divided into two parts. To the uneducated eye this priceless piece of portable property looks like a lump of alum, and we may here mention that imitation rough stones have been formed of that substance for the purpose of testing the honesty of the operatives in the mine, it being a common trick to swallow gems. Obviously, if the most Spartan-like native or white man incontinently swallowed a mouthful of alum as large as this, his facial expression could not fail to betray him.