

# GOLD MINING IN AUSTRALIA

A Visit to Ballarat Diggings, From Which Have Come \$350,000,000.

FRANK G. CARPENTER.

Copyright, 1901, by Frank G. Carpenter. Ballarat, Australia, April 15.—In the heart of one of the chief mining districts of Australia, within a stone's throw of where the "Welcome" nugget, a lump of gold as big as a football, was found, surrounded by the smokestacks of quartz mills, I write of the gold of Australia. Under the very floor of my hotel rich deposits of gold have been mined, every bit of earth in sight, has been run again and again through a sieve to wash out the precious dust it contained, and the valley for miles above and below me has been honey-combed with diggings. Today thousands of men are harvesting here through the bowels of the earth, the best of modern machinery is taking out and hoisting the ore to the surface, and it is even said that the water in some of the deepest mines contains gold. One story is told of how several barrels of water were hermetically sealed, until sent away to Paris. They were then opened for years, and when opened were discovered to have precipitated several gold nuggets. As to the truth of this I do not vouch.

## THE BIG GOLD NUGGETS OF AUSTRALIA.

There is no doubt, however, about Australia's production of enormous gold nuggets. The greatest of them was found shortly after the discovery of gold, away back in the fifties. It had long been known that there was gold in Australia, but it was not until 1851 when Hargrave, an Australian, who had visited California, announced that there was gold here in paying quantities. The first of it was discovered in a water hole in New South Wales, and a month later it was shown that every creek for seventy miles had gold. Later on the placer mines were opened up at Ballarat, and from them came some of these enormous nuggets. One of the first nuggets weighed 101 pounds, another 38 pounds, and the "Welcome" 154 pounds and nine ounces, or as much as a good-sized man. There are models of these nuggets in the various mining museums of the Australian capitals. I have seen them in Queensland, in New South Wales and Victoria, and also in the mining schools here. The "Welcome" nugget measured twenty inches in length, twelve inches in breadth and seven inches in thickness. It was sold in Melbourne for \$50,000. Five months after it was discovered another nugget was dug up which was sold for \$20,000, and later on came the "Welcome Stranger," which weighed 185 pounds, and was valued at \$50,000. In 1888 a lump of gold worth \$20,000 was found in New South Wales, and early in the eighties a number of nuggets were discovered, some of great value. So far, California has the record of producing the largest nugget. It weighed 156 pounds, and was taken out of a mine in Calaveras county. The "Welcome" nugget was found at a depth of 180 feet, but most of the others were nearer the surface.

## PLACER MINES VS QUARTZ.

Altogether \$350,000,000 worth of gold have been taken from the mines of Ballarat, and it is estimated that out of this state of Victoria alone the product has been \$1,250,000,000. At first all of the gold was alluvial. At present the most of the mining is quartz mining, and some of it is very deep. There are a number of mines that are as deep as 2,000 feet, and the South Star is mining at a depth of 2,500 feet. There are twenty mines here which have paid out more than \$15,000,000 in dividends on an original investment of less than \$2,500,000. The mines in Victoria are economically managed. In some of them the ore runs less than three pennyweights to the ton. There is one mine in Victoria which averaged only an ounce of gold to every six and one-half tons of ore last year, and notwithstanding this paid \$14,000 in dividends. Among the incidents of economical management are seven mines which have netted 40 per cent on their paid up capital stock. In these mines about 68 per cent of the gold found is spent in getting it out and paying the cost of management, etc. Over 60 per cent of the gold produced goes to the dividends.

## THE DEEP MINES OF BENDIGO.

Some of the most remarkable mines of this state are at Bendigo, or Sandhurst, about a hundred miles from Melbourne, where the gold fields yield about a million dollars a year. The mines are very deep. The Laurel mine is already down 3,352 feet, and it is going lower. There are eleven other mines more than 2,400 feet deep, and of these five have a depth of over 2,800 feet. They are being worked at a profit, and it is thought that the heat will not be too great at a depth of 4,000 feet. Bendigo has already produced about \$100,000,000 worth of gold, and at the present time 5,000 miners are working there. The men are paid \$12.50 a week. They work eight hours a day with a half holiday every Wednesday. Most of the mines have day and night shifts, three sets of men be-

ing employed to fill out the twenty-four hours.

## AUSTRALIA'S BIG GOLD PRODUCTION.

A steady growth is going on in Australia's gold production. Every state is producing the product, and new mines are being discovered in all parts of the country. Some of the largest mines today are in Queensland and Western Australia. In places where gold was not known to exist until a few years ago, Mount Morgan, the richest gold mine of the world, is in Queensland. It is a mountain of iron and gold which has

been employed to fill out the twenty-four hours.

## HOW THE GOVERNMENTS HELP MINERS.

In such places water is worth money. In the Coolgardie fields it has brought as much as 25 cents a gallon, and there is a regular business of taking salt water from the lakes and wells and running it through condensers to make it fresh.

The government does all it can to help the miners. In Western Australia an appropriation of \$12,500,000 for wa-

ter washed off. The machine could be built, I should judge, for less than \$100 and would seem to me to be fitted to the Idaho, Washington and others of our gold fields. It is used for all sorts of free milling gold. I saw one crushed to a powder and run through a screen which had 3,000 holes to the square inch, holes so small that you could not prick your hand with a pin through them. The dust was run through these holes and over the plates with the result of a saving of 85 per cent of the gold, as I have described.

During my stay in Ballarat I have visited some of the mines. They are very carefully managed, but seemed to me dirtier than the big quartz mines of our country. The timbering is not so well done, and some of the machinery is antiquated.

## BALLARAT IN 1901.

The Ballarat of today is not like the Ballarat of fifty years ago. Then it was a city of tents. Now it has perhaps less people for its population is only 40,000, but it is as well built as any city of its size anywhere. It is typically Australian. The streets are as wide and well paved as those of Washington. The chief one is lined with marble statues, and there are statues in it red through-out the large part of its suburbs. It has good stores, banks and public buildings. It has a theater which will seat three thousand people, an art gallery containing some fairly good paintings, a stock exchange and a mechanics' institute with a library of 25,000 volumes. It has four other free libraries, and churches of every Christian denomination under the sun. It has four mills, wooden mills and iron foundries. It has good public schools and many very comfortable homes. Its hotel charges \$2 a day, and are good. On one edge of the town is a lake of six hundred acres, and another feature is the horse cars, which jolt you to pieces as they take you about it.

Ballarat is surrounded by a rich pastoral and agricultural region. It is seventy-five miles from Melbourne by rail, and on the main road from Melbourne to Adelaide.

## HOW THEY COIN GOLD IN AUSTRALIA.

Speaking of the gold production of Australia, I went through the mint in Melbourne, where for thirty years they have been turning the dust and bullion into sovereigns. Already more than \$2,000,000 have been coined, an amount equal to more than 400,000,000 gold dollars. The mint differs from our mints in that it coins only gold, no silver or copper being handled. The gold comes here from different parts of Australia and after coining is shipped chiefly to London. A few \$40 gold pieces are made for the Indian rajahs, but the greater part of the metal goes into sovereigns and half sovereigns, \$5 and \$2.50 each. It was a little different, I went through the money mill. We first watched the gold as it came in. Much of it was in the shape of the little dull yellow grains which have been washed out of the streams, and much in the lullion bits from the smelters. As it was handed over to the counter the clerk weighed it, using scales so fine that they will accurately weigh a lump of gold as big as your head or one as small as the point of a pin. After weighing a memorandum of the amount is given to the depositor. The gold is assayed and later on he gets just what it is worth.

## MELTING GOLD.

Leaving this room we went on to see how the melting was done. The gold is melted in crucibles or pots of the cast iron, made of a material which will stand an intense heat. Each pot has a capacity, I should think, of perhaps half a gallon of liquid gold. It is fitted into a little furnace not unlike the forge of a country blacksmith, save that it is in a long, narrow ledge on one end of the melting room. There were perhaps a score of such furnaces, and nearly all were filled with gold at the time of my visit. The fuel was coke, and a strong draught made such a heat that the gold bubbled like boiling water. I was dazzled when I looked into the pots. The liquid was green rather than yellow, I saw it poured out into molds and the stream was a current of emeralds on a bed of light yellow more beautiful than anything of the kind I have ever seen. Later on, when the molds were opened, the green had disappeared and the metal had become a bright golden yellow.

## GOLDEN HOOPS.

I next watched them roll out the bars into the hoops from which the gold coins are cut. Each bar was worth \$2,500, or \$500. It was a ruler of gold twenty-five inches long, two inches wide and not quite half an inch thick. A lot of such bars were wheeled on trucks out of the melting room into the rolling room. Here they were pressed between great steel rollers, which made them longer and thinner. At the start each bar was twenty-five inches long at the finish each had become fourteen feet long. It had grown, as thin as a sovereign and the pressing had polished it so that it shone like a new brasspin. The gold grows hot as it is rolled. The men employed wear thick gloves, or their hands would be blistered.

## MAKING GOLD SOVEREIGNS.

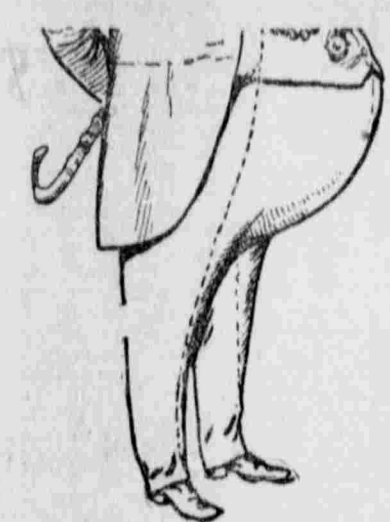
The next process is cutting the blanks. This is done by steel punches worked by machinery. The machines cut out the gold metal in much the same way that the baker cuts dough in making gingerbread men or animal crackers. The only difference is that the gold is cut out by a steel disk worked by a steam engine. I saw the chop, chop, chop, as it punches out sovereigns at ninety to the minute, or at the rate of \$2,500 per hour.

Each blank will make a sovereign, and it has just that much of gold in it. Each blank is weighed to see that it is absolutely accurate, and is then run through a coining press which stamps the image of the king upon it and at the same time presses in the milling about the edges. All of this work is done with cold steel pressing upon the gold. The only heat after the milling is that which comes from the friction caused by the enormous weight on the metal.

## It Saved His Leg.

P. A. Danforth, of LaGrange, Ga., suffered for six months with a frightful running sore on his leg; but writes that Burley's Anker Salve wholly cured it in five days. For Ulcers, Wounds, Piles, it's the best salve in the world. Cure guaranteed. Only 25c. Sold by Z. C. M. I. Drug Dept.

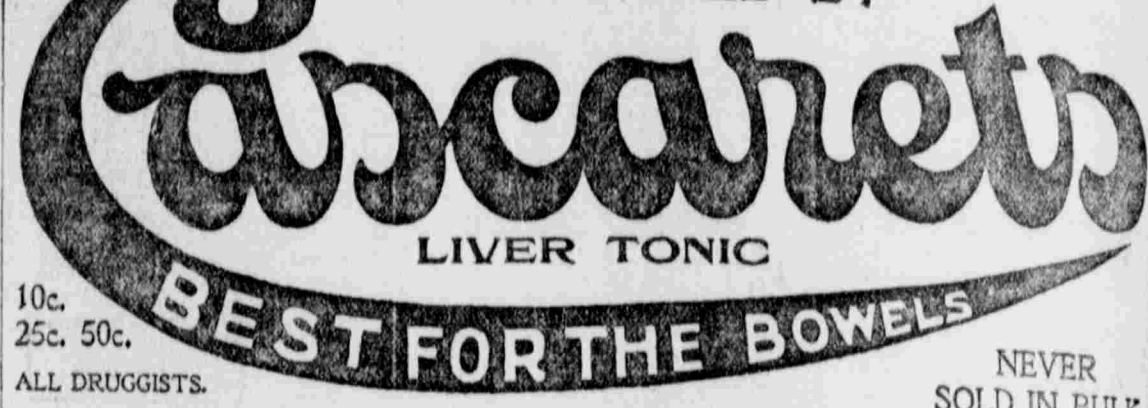
When the liver fails to secrete bile, the blood becomes loaded with bilious properties, the digestion becomes impaired and the bowels constipated. HERBINE has a direct action on the liver and excretory organs, and a few doses will cure any case of biliousness. Price 25 cents. Z. C. M. I.



# EDUCATE YOUR BOWELS

Don't neglect the slightest sign of irregularity but see that you have at least one natural, easy movement a day. Pills, salts and black draughts are dangerous because they strain and weaken the bowels. What you want is a mild but sure tonic laxative, that tones and strengthens the bowels and stimulates their movements. Such a laxative is CASCARETS, and when you try them, you will find that it is the easiest thing in the world to make and keep your bowels clean and regular, strong and healthy. Sample box 10c. Month's treatment 50c. By keeping the bowels clean, all serious disorders are

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TO CURE: Five years ago the first box of CASCARETS was sold. Now it is over six million boxes a year, greater than any great merit, and our best testimonial. We have fifth and sixth editions of our medicine absolutely guaranteed to cure or money refunded. Go buy today, two 50c boxes, give them a fair honest trial, as per simple directions, and if you are not satisfied, after using our 50c box, return the unused dose and the empty box to us by mail, or the druggist from whom you purchased it, and get your money back for both boxes. Take our advice—no matter what ails you—start to-day. Health will quickly follow and you will bless the day you first started the use of CASCARETS. Sold free by mail, address: STERLING REMEDY CO., NEW YORK or CHICAGO.



# Indorsed for Women

Timmonsville, S. C., August 4, 1900. I have had the "whites" for two years. Nothing would cure me until I began using Wine of Cardui and Theodor's Black-Draught. Now I am a well woman. Miss ALICE CARTER.

Thousands of women before Miss Carter found out that Wine of Cardui would relieve leucorrhoea. She need not have endured the dragging torture two years. Why do you continue suffering that baneful malady when thousands of women indorse Wine of Cardui as a cure? Mrs. Waters suffered six years and tried twenty-five doctors to no avail. Two bottles of Wine of Cardui cured her. Hundreds of others could be quoted as Miss Carter and Mrs. Waters are. If only one woman in the world had been cured by

# WINE OF CARDUI

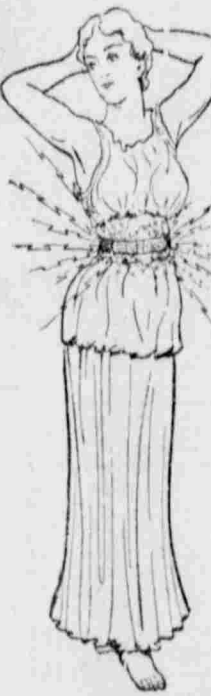
It would pay you to try it. But every woman who tries it gets a permanent cure or some substantial benefit. You should not suffer another day when Wine of Cardui, at \$1.00 a bottle, will stop that nerve-racking distress. Can you conscientiously ignore this positive relief offered you?

Murray, Ala., August 7, 1900.

I have been down with the "whites" but two bottles of Wine of Cardui and two packages of Theodor's Black-Draught made me well. I have suffered six years during which time I tried twenty-five doctors and got no relief. My husband told me to try your medicine and I did. So I am well. I told about fifty other women about it. Mrs. SUSIE WATERS.

For advice and literature, address, giving symptoms, "The Ladies' Advisory Department," The Chattanooga Medicine Company, Chattanooga, Tenn.

# Squandering Vitality.



MEN AND WOMEN who are continually dopping themselves with strong drug combinations in a vain hope of finding relief from ailments of a nervous character are simply adding those ailments to destroy their vigor and lay waste their physical structure. You can cure yourself to death and never touch the deep-rooted seat of your malady. Electricity when properly applied is the only remedy which may be depended upon to make a cure in every case. I guarantee my Electric Belt to cure and to cure perfectly. If it fails I do not want your money. There are a great many electric belts (so-called) being offered to the public. You must not confuse my Belt with those; it is entirely unlike them.

## Dr. Bennett's Electric Belt

Will not burn and blister as do others, as it has soft-silken, chamois-covered sponge electrodes—my exclusive patent. Others have bare metal electrodes. Has interchangeable battery cells and can be renewed when burned out for only 75c; when others burn out they are worthless.

Nature has a limit. If you have disobeyed Nature's laws you are a sufferer; you are prematurely weak and lack the Vim and Vitality you should have. Electricity—that vital fluid of every man's and woman's nervous system—restore you to the Vigor Nature intended you to have.

NOT A CENT PAY WILL I RECEIVE UNLESS YOU ARE PERFECTLY CURED.

Absolutely guaranteed to cure Varicose, and all Weaknesses in either sex; restore Lost Vigor and Vitality; cure Rheumatism in any form, Kidney, Liver and Bladder Troubles, Stomach Disorders, Constipation, all Female Complaints, etc. My new Electrical Suspensory free to Male Patients.

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Amalgam or silver filling \$1.00  
Gold fillings \$1.50  
Teeth cleaned \$1.00  
Gold crowns \$5.00  
Bridges, per tooth \$2.00  
Crown & Bridge Work a Specialty.

## SECRETS OF THE EYE.

We have some very curious instruments to detect eye troubles and measure eye refractions. Invented by done wood-ruff things, it develops the eye to the expert examiner. You will be interested, as well as satisfied when you bring your eyes to us. Examination free.

RUSHMER, Manufacturing Optician, 73 W. First St.

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## TRYING TO STOP MAGISTRATE JEROME.



Here is Magistrate Jerome New York's famous justice, who is making a national reputation by his energetic midnight raids on New York gambling dens. He is doing the work of police captain and committing magistrate at one and the same time.

Here is a photograph of General Testrada Palma, the popular Cuban general who served as the representative of Cuba in this country during the struggle between the latter and Spain. The delegates strongly favor him as a candidate for the first President of Cuba.

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