

IMPORTS OF GEMS TO UNITED STATES

Reports concerning the precious stone industry from consuls in all parts of the world are summarized in a pamphlet issued by the department of commerce and labor.

The imports from the several countries into the United States during the year ended June 30, 1903, totaled in value \$31,479,223, the countries from which they came being principally Austria-Hungary, Belgium, France, Germany, Netherlands, Switzerland, United Kingdom, Costa Rica, Mexico, British Guiana and British India.

In this total, diamonds figured for \$26,507,786, the remainder being divided among rubies, sapphires, emeralds, opals, turquoises, beryls, crysolites, tourmalines, cats-eyes, peridots, olivines, spinels, amethysts, topazes, garnets, moonstones, lapis lazuli, rose quartz, spodumene, sphenes, sunstones and Amazon stones.

The diamond industry of South Africa completely overshadows all other branches of the precious stone industry of the world. The entire diamond output of South Africa is exported from the Cape of Good Hope to London; yet, strange to say, it finds no place in the British official publications showing the imports into the United Kingdom.

After South African diamonds leave the Cape of Good Hope all official record of them seems to be lost. The only record of the exports of these diamonds is the attestation of the Cape of Good Hope custom officers that over \$26,000,000 worth are annually exported to London.

Diamonds do not appear among the exports from the United Kingdom, save to a very small extent. British statistics make no mention of diamonds exported to the Netherlands, Belgium and France, nor do the official publications of those countries note the import of diamonds from the United Kingdom, although practically all the diamonds imported into these countries are from South Africa, shipped through London.

As the majority of all South African diamonds, after passing through the hands of European traders and lapidaries, find a market in the United States, it follows that American dealers and purchasers have as much interest in the trade in them as even the London, Amsterdam, Antwerp and Parisian dealers and manipulators who buy and work them over and sell to American dealers.

Evidently this whole diamond business is the closest and most powerful of trusts, for not only is the trade conducted in an "underground" way, concealed from all public scrutiny, but it seems to be managed independently of all custom houses intervening between Cape Colony and the United States.

Nearly one-half of the cut diamonds imported into the United States come from the Netherlands. There are in Amsterdam more and larger establishments than in the rest of the world combined for the manipulations and processes of cleaning, cutting and polishing "rough stones," from which the brilliant is turned out.

Diamonds are the only precious stones found in British South Africa. It is in the city of Kimberly, 674

miles from Cape Town, that the De Beers, the greatest diamond mines in the world, are situated. Here many of the most responsible positions are occupied by Americans. The De Beers company occupies 200,000 acres of land, employs 15,000 natives and 25,000 whites, consumes each month in the "compounds" 25,000 pounds of mutton and 200,000 pounds of beef and turns out 220,000 carats of diamonds a month.

In the Bahia district of Brazil, diamonds, sapphires, topazes, amethysts and rubies are found. Diamonds, beryls, chrysoberyls, chrysolites, tourmalines, topazes (rose colored), amethysts and garnets are mined in the section of Brazil tributary to Rio Janeiro. In southern Brazil diamonds are mined to a limited extent near Farnos, in the state of Sao Paulo, and near Tibagy, in the state of Parana, and to a larger extent near Dagageu, Agua Suja and various other points in Southwestern Minas Geraes and at various points in Goyaz. Hyaline quartz (Brazilian pebbles) and, to a more limited extent, citrine quartz (false topaz) are mined at the Serrados Cristoes, in Goyaz. Agates and amethysts are gathered from the surface at various points of Rio Grande Sul. There is no fishing for salt-water or fresh-water pearls anywhere in Brazil.

Diamonds are the only precious stones mined in British Guiana. Many small sapphires, running from 20 to 30 to the carat, are encountered in the search for diamonds, but these are considered of no commercial value and are not saved.

Columbia produces various precious stones, but the emerald is the one stone mined in that country, and large quantities are taken from the Muzo mines, situated in Boyaca, 70 miles by mule road from the Magdalena river and 670 miles from the Atlantic coast. The rental paid to the Columbia government has ranged from \$250,000 to \$300,000 a year.

These mines were discovered by the Spanish in 1555 and have been worked intermittently since that date, but only of late years on a large scale. About five years ago a mine, extensively worked 200 years ago by the Spaniards, was rediscovered by means of old records, and, according to expert reports, is likely to compete with the Muzo group in production.

CRUCIBLE ASSAY OF TELLURIDE ORES

Mining men in certain districts of the United States will be interested in Bulletin No. 253 of the United States geological survey, in which the subject of inquiry is the accuracy of the crucible assay method for telluride gold ores. The main point definitely established is the fact that the doubts which have been entertained as to the accuracy of the dry method are not well founded. It is clearly determined that the fire assay by crucible for gold telluride ore gives results which are quite equal to those obtained by the wet method, provided due corrections are made for slag and cupel losses.

The gold losses in the slag is very small, but the cupel losses are very appreciable. The cupellation loss of gold by volatilization is generally slight as compared with that by

absorption. At a temperature which allows the formation of abundant feather litharge the volatilization is negligible, or is perhaps compensated by retention of lead. The case is otherwise, however, at high temperatures, as the volatilization may then average one-half of that by absorption in the case of a quartation alloy. The loss of gold by absorption is very important, and is influenced, far more than is generally supposed, by slight changes in temperature. It is greater with pure gold and alloys poor in silver than with alloys rich in silver.

The experiments of Messrs. W. F. Hillebrand and E. T. Allen, the authors of the bulletin, failed absolutely to show the need for a higher temperature at the end of cupellation with gold beads than with those of silver. The most exact results were obtained when feather litharge was still abundant at the time of brightening. Furthermore, it is altogether unnecessary to have gold beads in the muffle for some time after brightening in order to remove the last of the lead, for there is no loss in weight from so doing, but if anything, a very slight tendency to increase. The results on absorption, as influenced by the amount of lead used in cupellation, were inconclusive. The error caused by the retention of lead in the beads is serious, if the result of two careful tests are to be depended on, which shows 0.30 and 0.37 per cent of lead. The amount of this retention is not lessened by leaving the beads in the muffle for some time after brightening.

Silver can be completely extracted from quartation alloys by nitric acid, but more than two repetitions of the acid treatment and subsequent washings are called for, if any certainty of complete extraction is to be expected.

Tests made with mixtures of pure nitrous and nitric acid, show that the solvent action of acid is so slight if indeed there is any at all, that it need not be considered as a possible disturbing factor in parting. It was similarly shown that the losses in parting with pure nitric acid, whether traces of gold really dissolve or not, may be ignored, in an ore assay, at least.

This bulletin, which is entitled "Comparison of a wet and crucible fire methods for the assay of gold telluride ores, with notes on the errors occurring in the operations of fire assay and parting," is among the survey's free publications. It may be obtained on application to the director of the United States geological survey, Washington, D. C.

Mining Crook Arrested.

C. R. Griggs, wanted for alleged frauds whereby he secured \$30,000 in Nome mining swindles from many parties in various parts of the country was arrested in Portland Saturday. He located many claims in the Nome district sold interest in them, took purchasers in specially chartered vessel to show the mines, but disappeared before their arrival. The claims were always found to be fictitious.

Freeze-Up at the Dixie.

A sudden cold snap at the Dixie mine, near Quartzburg, owned by Zoeth Houser, has delayed the opening of the new Dixie five-stamp mill. It was Mr. Houser's intention to put on a double shift but the freeze forced a suspension of all but underground work.

KING SOLOMON'S MINES LOCATED

The mines of King Solomon, sung and told of in psalm and story, have been found at last. The country mentioned in the Bible as the Land of Ophir, where the gold was so plentiful that Solomon, when the Imperial treasury ran low or there was a temple to be decorated, had to but order the captain of the palace guards to take an army of slaves and bring back such wealth to the temple as never a Rockefeller or Morgan dreamed of, lies in the northern part of Rhodesia, in the country of the great Zimbabwe, if the generally credited reports of R. W. Hall, F. R. G. S., an English archaeologist, are to be taken as true.

Mr. Hall has but recently returned to London, after two years spent in delving into the ruins of what is supposed to have been the city of Ophir of Biblical times. His researches have settled to the satisfaction of all scientific men the mines of King Solomon and the wealth of the kingdom over which ruled the beautiful queen of Sheba.

In the ruins of the old city, Mr. Hall has found evidence of a wealth of gold beyond the dreams of the many who have lost life and reason on the sands of Sahara, and the jungles of Mashonaland searching for the gold of Ophir. Apparently gold was the most common thing in this city.

The floors of the houses were built of it, the utensils of the home, cooking pots, drinking cups, food bowls and knives were all made of the precious metal. All the ornaments found in the ruins of the buildings and tombs are of gold and of excellent design and make.

The existence of this wonderful city of ruins in the heart of Africa was first known in 1510. In that year Arab gold, ivory and slave traders found their way into this region and brought back tales which the early Portuguese heard of and gave to the world. Then the ruins were still standing nearly intact, but no white man ever penetrated into the country to gaze upon them in this state. From then the ruins were lost sight of until in 1868, when Adam Renders, an intrepid elephant hunter, following his native hunter far into the continent, rediscovered them. By this time the sands of the desert, carried by the winds of hundreds of years, had swept down upon them and buried them.—Exchange.

Gold King Will Resume.

The Miner is in receipt of a letter from President W. F. Calvert, of the Gold King Mining company, the general offices of which are in Seattle and the properties in the Cracker Creek district, south of Bourne, saying that though work has been suspended for the remainder of the winter; the company will start early in the spring with a big force of miners, to develop the mine on a large scale. The work already done demonstrates that the property is a valuable one and justifies the extensive development which has been planned and will be executed during the coming season.

John Arthur came down from the Imperial mine last night.