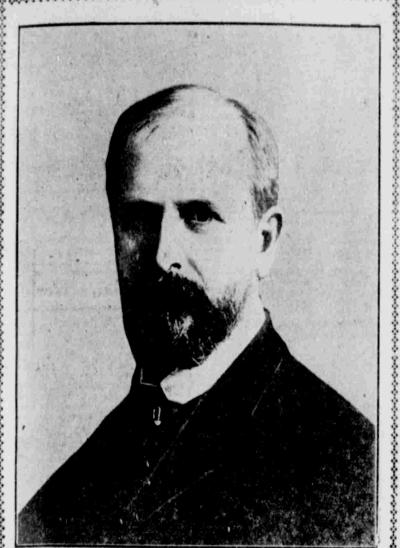
Fortunes In Black Sand

WILL ADD MILLIONS TO OUR NATIONAL WEALTH.



DR. DAVID DAY. The Black Sand Expert Who is Doing a Great Work for the United States. Government in a Line That May Work a Tremendous Industrial Revolution.

(Special Correspondence of the Deseret News by Frank G. Carpenter.)

ASHINGTON, D. C .- Within | dropping of the shore through an earthjuake somewhat like that of San Franthe past year experimentshave the past year experiments have This black sand is also found along

tionize placer mining all over the world, and add millions to the wealth of the United States. They may build up a manufacturing indusuy on our Pacific slope, and populate regions in the northwest which are now as wild as any part of the Rockies. Based upon them, syndicates are already forming and they will give small or large fortunes to a great number of people. I refer to the experiments which, at the direction of Congress, the geographical survey has made and is taking as to the minerals found in black sand.

FORTUNES IN BLACK SAND.

FORTUNES IN BLACK SAND. Every miner knows what black sand is. It is the heavier particles which come from the wearing away of rocks containing certain minerals. All sand comes from rock and the greater part of if from quartz. The quartz sands are white or light brown in color. They are found on our Atlantic shores, and are scattered here and there all over the country. There are many of them There are many of them the country.

the big western rivers. The Columbia has many such deposite, and the Snake river is especially rich. Black sand is bluck sand. to be found in every mineral region, and it is more or less connected with every placer mine. When Director Walcott began to 'avestigate the subject. I sent out letters to \$,00) placer mine scattered all over the United States, and asked each to send him a little bag and asked each to send him a diffe our of this blace sold with which he was working. More than a thousand of the miners resoluted and the samples come from 25 different states and ter-ritories, including the Appatchians and the Rockies and all parts of the Pacific coast even to Alaska. The ramries were analyzed and assave t for the gold and platinum they contained, and

DAVID DAY VS FING SAUL I am like Saul the son of Kish. I started out to hunt my father's asses and lo' I found a kingdem." Dr. David T. Day, the chief of the The Hunt for Platinum; Which is More Precious Than Gold, and How the Japanese-Russian War Started it-Placer Gold Going to Waste-Vast Iron Deposits of the Pacific Coast-Electric Smelters and How They Will Develop the West-an Iron Nugget as Big as Lake Superior-How San Francisco Might be Rebuilt With her Own Steel-A Talk With Dr. David T. Day, Uncle Sam's Expert Geologist.

In my talk with Dr. Day I asked him how the investigation originated. He told me it was through a search for platinum, a metal which 1 have re-terred to above as Saul's father's asses. terred to above as Saul's failter's asses, and in the hunt for which he discovered vast quantities of magnetic iron, chrome iron, zircon and rare minerals valuable in the arts. Chrome iron is used in the manufacture of plants, chrome steel and bichromate of potash. Zircon is valuable in making incandescent gas and electric lights and managite and and electric lights, and monazite and other metals for the same purpose. In addition to them Doctor Day found titanium and other things of which I write further on.

THE HUNT FOR PLATINUM.

The beginning of the hunt was for platinum and it was the direct outcome of the Japanese-Russian war. The hief platinum mines now known to the rld are in the Ural mountains on the release of Siberia. It is from there ast of the world's supply comes, and e supply is controlled by a trust dich furnishes our American markets in platinum at its own prices. When war broke out our manufacturers were greatly alarmed, and they sent in retilions to Congress to have the geo-

scient survey look up platinum in the Inited States. It was known that the netal existed in small quantities in is own supply of this metal and thus best the trust. The geological survey isked for an appropriation, and got it. but they worded their request so that the work covered all the metals in the

WORTH MORE THAN GOLD.

The results of the investigations have shown that we shall supply a large part of our own platinum, and that our miners in some localities will make a great deal from this metal in addition to the gold which is almost always found in connection with it. Platinum is a silvery while metal as hard as from and very fealleable. It is with one ex-ception the heaviest metal in nature; and still it is so ductile and workable that wires have been made of it which are one-twelve-hundredth of an inch In diameter. This metal is of great value in the

arts. It will not analgamate with quicksilver and it is about the only metal which can be used in carrying the electric current through the glass of the incandescent lamp. Every elec-tric globe or bulb has two fine platinum wires running through the glass by which the electricity goes to the filament within. It is used in all kings

eries are due to him. Mr. Day is one of our best known genericities. He has been connected with the survey for almost a quarter of a contury, and has been in charge of the government mining exhibits at our na-tional expositions from the world's fair at Chicago to Portland. It was at portant of the black sand experiments were made. In my talk with Dr. Day I asked him haw the investigation originated He Chicago to Portland. It was at portant of the black sand experiments were made. In my talk with Dr. Day I asked him haw the investigation originated He

size of the ordinary eight filled with size of the ordinary eight filled with how six bottles contain mouth \$10,000 worth of this most provious of the white metals. Just where they he as one has yet been able to accertain, and the hunt goes of. the hunt goes on.

The inverse placer miner of the weat-has long known of the existence of plat-litum in black sould, but he has never made much effect to save in. This has been owing to the ignorance togarding the metal and its value, and nice to heen awing to the ignorance regardluit the metal and its value, and place to some unsuccessful attempts to dispose of it. Not long aga a miner from the gon seni to the cast three skins of the sea otter and 25 points of platheum. He got something like \$1,000 a skin for the otters, but only realized \$1 a pound for his plathoum. How he was defrauded I do not know; but at the present prices his plathoum should have

platinum which has formerly gone to 'United States. That would make the waste can now be saved, and it will form an important by-product of most placer mines. When found in connec-tion with gold, it remains in the sluices with the gold and other heavy materi-tic. In nonder the state is a star here is a In panning, it will even stay bemany localities and the object of the hind the gold in the pan. It is known petitions was to have America furnish by its great weight, its white color, and In genera platinum grains are smaller than gold grains and large nuggets are rare.

The new experiments with the tables to be used for saving the ore will result in an enormous increase of gold from certain of our placer mines. So fan the most of the gold saved has been by means of mercury in shuce boxes, The dist containing the gold has been washed into these boxes and saved with quicksflyer. A great deal of the gold, however, our geologists now find, has never been touched by the quicksliver, It has been coated with copper or other metals which resist the action of mercury and has been thrown away as waste.

SAVED 72 CENTS: LOST \$59.

Dr. Day showed me a little bottle containing what looked like grains and scraps of copper which he told me were grains of almost pure gold. Said he:

"The man who owned the mine from which this gold was taken was saving 75 cents for every ton of dirt washed, while he was throwing away \$55 worth of gold as refuse copper. When speci-mens of the waste were sent to me I thought they were copper. I tested them with nitric acid with no result.

The average placer miner of the west electric furnace made has year wo at able to turn into orealism; steel. All along the Pacific coast from Pucat sound to the southern end of California this black and exists in great quantihis platinum. How he was defrauded I do not know; but at the present prices his platinum should have brought him about \$6,009. PLATINUM AND GOLD. By the use of the separating tables employed by Dr. Day for getting the metals from the black sand, the grains of platinum which has formerly gone to waste can now be saved, and it will

roads may yet come from the black sands of the Pacific."

SMELTING BY ELECTRICITY.

Dr. Day tells me that these from mands can be turned into siech by means of electricity at a lower cost means of electricity at a lower cost than ordinary iron can be smelled with coal. Only a very small amount of coke is needed and the electricity does the work at 50 cents less per ron. This is very important to the Pacific coast, as it is now producing some of the cheapest electricity known to the world. It furnishes it in many places at lower rates than at Niagara, and at as low as seven or eight dollars per at as low as seven or eight dollars per horsepower per year. This means that the Pacific slope, with the many streams running down its mountain sides, is just as well off as though it had vast deposits of smelling coal and that electricity is to make the iron used by the west in the future, make the

UNCLE SAM'S LITTLE FURNACE AT PORTLAND.

During the Portland exposition Uncle Sam, at the instance of Dr. Day, put up a little furnace to experiment as these sands. The Canadian government had sent a commission to Europe to repart on what is going on there in the reduction of iron by electricity, and it was on the basis of that renor



UNCLE SAM'S FIRST INGOT.

Some of it lies along the beach

FRANK G. CARPENTER.

Excursions East.

Cast in Ris Electric Furnace From Black Sand-By Chance it is Almost the Exact Representation of the Chinese Character Standing for Good Luck.

and was producing steel from these sands. His furnace turned out good steel in 50-pound lots the day it began to work, and it had a capacity of a half ton of steel a day. It was, of 50 cents or a dollar. This is what Dr. that one can buy a beer skin there for 50 cents or a dollar. This is what Dr. Day tells me he paid for skins in those regions. Much of the land is good for course, small and experimental, but it worked right along without a hitch. It was rou for a month for \$1.000, and this included the original cost of confarming, but now inaccessible by rail-TOUG. struction and all labor and cost of op-eration during that time. To show how quickly it could be worked, Dr. Day and a party started at 2.55 one afternoon, with everything cold, and and some on the rivers where there is black sand. In the future the farmers may own their own concentration tables, which fier can use for the separa-tion of the metals. They can pile up their from ore, and in time it will be taken out by the railroads. For a thouwithin less than three hours they had made a quarter of a ton of steel. The said used for making that steel was sand dellars a mining proposition of this kind can be established. from bags brought from Monterey bay, just below san Francisco. The sand war taken from the bags, run over the concentrating tables to get out the gold and other minerals, then dried, and the magnetic from in it taken out and The name contest at Calder's is like the weather-it's getting hot, run into steel. At the same time the gold in the sand was melted into a but-

ton, and all was done before 5 p. m. If electrical furnaces were established on Monterey bay they might now be LAST DATES-LAST DATES furnishing the steel for the rebuilding of San Francisco,

the west, but there, mixed with ad often in great beds apart from here is so much of this black stuff long the Pacific coast that the senhore is dark and not white when view-hore is dark and not white when view-rom Cape Flattery on Puget sound of our geological survey, might well down to San Diego. As one comes closer shore he often sees great masses of black rocks and headlands, the latter made up of layers of black and white one running through the other shat like marble cake. These idlands sometimes result from the sand minerals and the principal discov.

with him about his experiments. He has weight in gold. It is now bringing up-been chief investigator of the black ward of \$20 per onnce.

to an old shag of a root Platinum is used in laboratories for crucibles and other utensils, as it is not attacked by solds, and it is also

alloyed with many other metals for va-rious purposes. It has at times been used in Russia for the coinage of high values of money, and, indeed, it is al-most always worth more than its than its Dr. Day tells me that there

nore like gold, and when I showed then to my assistant he said at once that they were gold and he took them and

melted them down into a gold buttor which was worth \$20 an ounce." "There is a great deal of gold in the black sand that has never been gotter out," continued Dr. Day, "and there i much black sand, containing quantities of gold, which has not been worked because the proportion of sand was great that it was hard to handle a the miners preferred to go to othe

The man who dithe work was an expert named Will son of the Wilson Aluminum company day out which has taken out patents for certain electric furnaces. Mr. Wilson arrived

OPPORTUNITIES FOR FARMERS AND MINERS. n Portland last October, and at the end

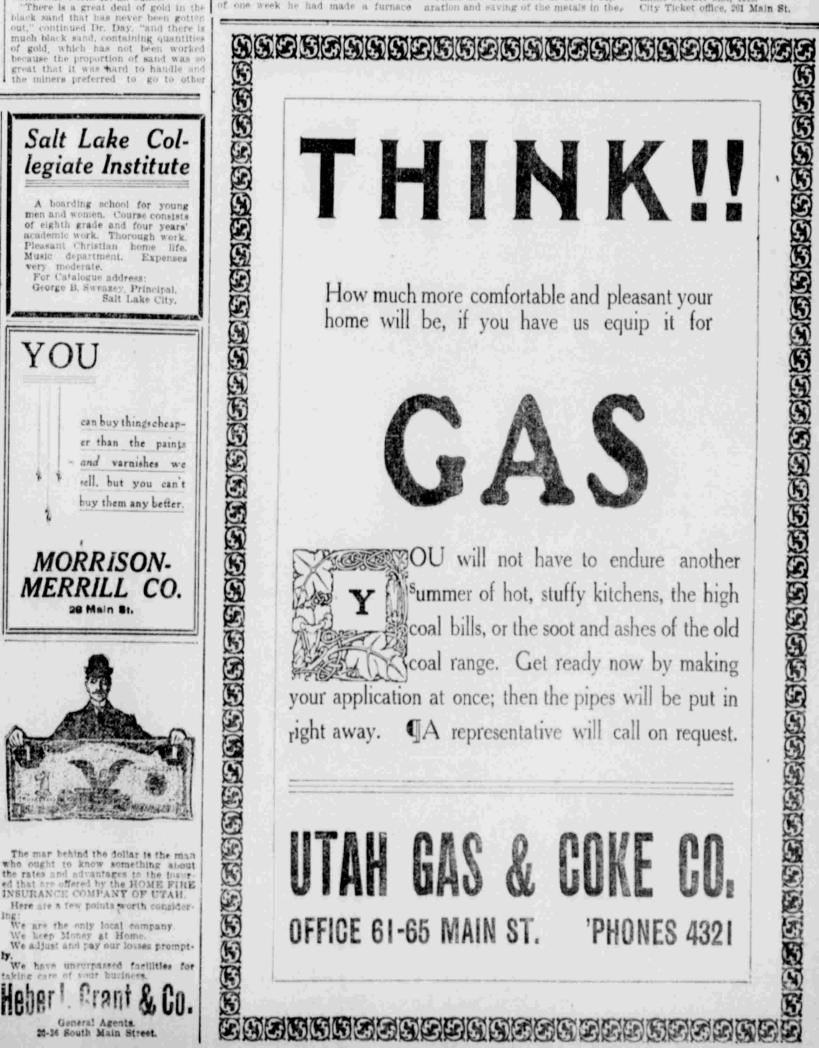
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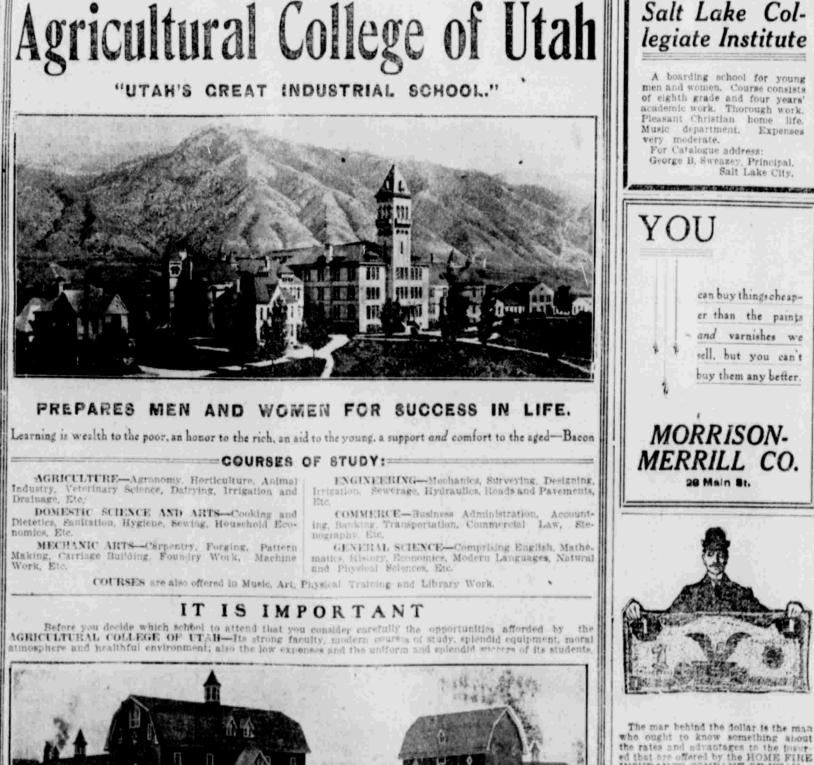
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