DESERET EVENING NEWS: SATURDAY, DECEMBER 9, 1905.

MILLIONS IN NICKEL All About the Vast Ore Deposits North of Lake Huron Owned by Americans.

The Biggest Nickel Mine on Earth and How it is Operated-The Canadian Company and Its Mighty Smelters-Brimstone Damnation-Where Nickel Comes From and the Story of Niekel Steel-How a Greenland Meteor Revolutionized Modern Warfare-Nickels for Coinage and Uncle Sam's Big Profits-King Edward's Face Must Not be Punched.

solid in a great hole in the ground, I saw today a nickel mine out of which n chunk of nickel ore bigger than the

Capitol has already been taken. The miners are working away there today, and they still have millions of tons of nickel in sight. This was at the Creighton mine, about 12 miles from Sudbury, the biggest nickel mine of the world. There are only two places so far fliscovered on our great, round earth where nickel exists in large quantities. One is here in Canada, a few miles north of the Georgian bay, and the other is away down below the equator off the eastern shore of Australia, on the opposite side of the world. It is in the little island of New Caledonia, where France sends her criminals. The ore there consists of grand denosit. The mines are worka green deposit. The mines are work-ed by convicts who use steam shovels, the ore being shipped to France for

treatment. The nickel of this Lake Superior re-The nickel of this Lake Superlor re-gion lies in the earth somewhat like iron ore. It looks like iron, or rather like the brass stuff you sometimes find in coal. It is a combination of nickel, copper, sulphur and iron, and it is found in mighty beds or pockets going down no one knows how deep. There are nickel mines at Copper Cliff, about four miles from here, which are now 1,300 feet deep, and the ore is still rich and plen-tiful. The Creighton mine is apparently deep, and the ore is suff field and piel-tiful. The Creighton mine is apparently inexhaustible. The vast pit from which the ore has been quarried during the the ore has been quarried during the past two or three years is about 300 feet wide and 500 feet long. It looks like the mouth of a volcano and makes me think of the Boma volcano which i visited in the mountains of eastern

The ore here lies between great walks of rock. On one side of it is granite and on the other a black formation known as diorite. The excavation has niready been made to a depth equal to the height of one of the New York sky-scrapers, and all the way down be-tween these rocks there has been noth-ing but ore. The company has sunk a shaft down through the granite, and the vast body of nickel I have men-tioned has been taken out by running tunnels at different levels into the orr and bringing it down from above. While I was at the mine hundreds of workmen were drilling and blasting. They were loading the ore upon cars, raising it to the surface and shipping it The ore here lies between great walls Java.



(Copyright, 1905, by Frank, G. Carpen-tar.) SUDBURY, Outario.—Take a nickel out of your pocket. Now suppose you had a pile of nickels as big as the national Capitol building at Wash-ington, and that they were all packed solid in a great hole in the ground, I in existence.

THE WORLD'S BIGGEST NICKEL DEPOSIT.

But this Creighton online is by no means the only nickel deposit here. The ore is found in every direction, and The ore is found in every direction, and the supply seems to be almost inox-haustiole. The Creighton mine and those at Conper Criff belong to the Canadian Copper company. This is a branch of the International Nickel company, or nickel trust, which owns 20,000 acres of nickel lands here, and which has a monopoly of the nickel business of this continent. Indeed, I might say that it has almost a mo-nopoly of the French mines being much less than that of Canada. It ships be-tween 14,000,000 and 15,000.000 pounds of nickel matte annually, and its prod-uet last year was worth more than nickel matte annually, and its prod-uct last year was worth more than \$1,000,000. It has the biggest nickel smelter on earth, and it has about the only process that is successfully used for getting the nickel out of the matte after it comes from the smelter. It is this process which gives the In-ternational Nickel company the mo-nopoly of the business. Men with small capital cannot compete, although there are great areas of nickel lands outare great areas of nickel lands out-side those belonging to the trust. Such miners would have to build smelters and at the same time invent a process for getting the nickel out of the matte. Indeed, I am told that more than half the nickel ere now available is outside the mines of the Canadian Copper com-pany. Valuable deposits are owned by the Lake Superior corporation, origin-ated by the Clergue syndicate of Sault Sainte Marie. This company has smelt-ers at its mines, and it has been turn-ing out matte which it hopes to reduce

by means of electricity generated by the water power of the St. Mary's river. The Vivians of Wales own the Murray mines, but they have. I am fold, lost more than \$200,000 in working



CANADA'S BIG NICKEL SMELTER.

Photographed for the Saturday News by Frank G. Carpenter.

worth 40 cents, and no one can tell these vast windrows of roasting metal ford process, and the nickel of com-what it will be worth in the future. Is of a light yellow color. It smells merce is made. is of a light yellow color. It smells

THE NICKEL TRUST.

Por all practical purposes there is only one nickel company operating here today. This is the International Nickel company, which is a combination of the Canadian Copper company, which operates here, and its associate com-panies of the United States which reduce the matte and handle the product The company has a capitalization run-ning high into the millions, and I un-derstand that it pays good dividends. The Canadian Copper company was the first to mine nickel in large quanthe first to mine nickel in farge quan-titles. It was organized by Ohio par-ties in 1886, the chief incorporators be-ing Cleveland men, among whom were Judge Stevenson Burk, Senator Henry B. Payne and others. The Canadian Pacific road had made bare the nickel deposits several years before; but no are, had looked upon the ore as nickel.

deposits several years before: but no one had looked upon the ore as nickel, and it was considered valuable only for the copper it contained. The Ohio company subscribed two million and a half dollars to its enterprise and be-gan to work mines at Copper Chuff for the copper in them. They sent part of their copper to New Jersey, and anoth-er part of Wales. The reduction works at New Jersey looked upon the nickel as of no account and let it run off with the slag, while the Wales smelters paid only for the copper and kept the nickel

tent that no vegetation will grow. Be-fore the mines were discovered the country was a green forest, and you may here and there see the chaired stumps standing out on the harren landscape. In the town itself, which has, I judge, over 3,000 people, there is not a green leaf nor a blade of grass, a bush nor a flower to be seen throughout the year. The country around the smelters is as orid as the Desert of Sahara. It makes me think of the nitrate fields about louigul. In northern Chile, where there is no fresh the metallurgist of the International Nickel company, about nickel and the new uses for it. Mr. Browne has been connected with the Canadian Copper company for the past 15 years. He has been working successfully in nickel all the time, and he knows as much, perhaps about it as any man in the country. In speaking of the similarity country. In speaking of nickel steel to meteorites, Mr.Browne remarked that it had practically the same composition as the latter. "A same composition as the latter, "A meteorite," said hc, "might be called a part of a burst world which has shot sand and rock. Indeed, nature here has been blasted by the brimstone damnaoff through space and fallen to earth. The discovery of the process of making nickel-steel was by an Englishman named Riley, who got the suggestion from a meteor found in Greenland, This meteor was an immense mass which had failen from the skies ages ago

Canadian Copper company. One might suppose that they would be injured by these sulphur fumes. They are, on th contrary as healthy as any people in the world. The children have rosy cheeks and the miners are more healthy in appearance than those about Pitisburg or Butte City, Mont.

FOR RAILROADS.

'Is the metal generally used for othpurposes?

"It is too costly for many uses," re-"It is too costly for many uses." re-plied Mr. Browne, "but it is employed where toughness and strength are a necessity. It is largely used on the railroads where there are curves at the bottom of steep grades. If a beavily loaded freight train strikes such a curve there are only two things which hold it on the prack, and these are the fininges of the wheels and the heads of the rails. In the winter time the rails hanges of the wheels and the heads the rails. In the winter time the rails are apt to become brittle, and when the train, rushing down hill, strikes them they sometimes break, and there is a wreck. For this reason nickelficel is used at such curves. The Horse Shoe curve of the Pennsylvania radiroad, for instance, is made of that kind of rolls. The metal is also now employed in bridge building. The new Manhatian bridge will be made of it is going into many of our large apartment houses or other tall steel buildings. In this case it is fifty per cent stronger than ordinary steel, the cant stronger than ordinary steel; the result is that less metal can be used or with an equal weight the building can have double the strength. Nickel-steel does not expand or contract like com-mon steel, and for this reason it is made into clock pendulums, which must be of the same length the year round in order to have the right time. Indeed, it is valuable for many things, and it will be widely used as it grows cheap-er."

UNCLE SAM'S PROFIT FROM 5. CENT NICKELS.

"How about our nickel coins. Mr. Browne?" I asked. "Are they made of the nickel that comes from here?" "Partly so," was the reply. 'All the nickel they contain is from our mines. They are only one-quarter nickel, how-ever, the remainder being pure copper. Indeed, there is only about one-fifth of a cent's worth of nickel in a five-cent piece. Nickel is worth about 40 cents a pound, while conner is worth only a pound, while copper is worth only about 15 cents, so you see there is a tice little profit in money of such com position.

"There are a few countries which use pure nickel for their coinage," contin-ued the metallurgist, "and among them are Belgium and Switzerland. The smaller of the Belgian coins are of nickel with a hole through the center nickel with a hole through the center, in order that they may not be taken for silver coins of a higher denomina-tion. Nickel looks like silver, but it does not tarnish and does not get black. The East Indian government is now considering the use of nickel for its coinage, and a few blanks with holes



"How about nickel-plating, Mr.

"That was one of the first uses of nickel. The metal does not rust, and a thin coating is often put over other metals on that account. This is done by hanging the things to be plated in a solution of nickel, in which a slab of pure nickel metal is hung. A current of eleriticity is sont through the soof electricity is sent through the so-lution in such a way that a small amount of the nickel coats the other metal hanging in the solution, making it rustless.

FRANK G. CARPENTER,

Coughing Spell Caused Death. Coughing Spell Caused Death. "Harry Duckwell agod 25 years, choked to death early vosterduy morning at his home. In the presence of his wife and child. His contracted a slight coid a few days ago and paid but little attention to it. Yesterday morning he was selzed with a fit of coughing which continued for some lime. His wife sont for a physician but before he could arrive, another coughing spell came on and Duckwell died from suffocation.-St. Louis Globe-Democrat. Dec. 1, 1901." Ballard's Horehound Syrup would have saved him. 25c, 50c and 11.00. Sold by Z. C. M. I. Drug Dept. B

DON'T USE POOR OIL.

For use on sewing machines,, bicycles and all purposes requiring a fine lubri-cant the best is cheapest in the end. Genuine Singer oil can only be obtained at Singer stores. Look for the red S. 43 South Main St., Salt Lake City, Utah.

Keep Yourself Strong

Keep fourself strong And you will ward off colds, pneumo-nia, fevers and other diseases. You need to have pure, rich blood and good digestion. Hood's Sarsaparilla makes the blood rich and pure as no other medicine can do. It tones the stomach, creates an appetite and invigorates the whole system. You will be wise to begin taking it now, for it will keep you strong and well. strong and well.

Hood's Pills are non-irritating. Price 25c.

No Fewer Germs

In Salt Lake City Soda Water com-pany's pure distilled water. Let us put a case in your cellar. Costs less than a cent a glass. Phone 155-k.



like burnt matches, and h is almost pure sulphur. Added to the sulphur fumes from the furnaces, it fills the air about Copper Cliff to such an extent that no vegetation will grow.

northern Chile, where there is no fresh water for hundreds of miles, and all is

tion coming out of the ore. There are in the neighborhood of housand miners employed here by USE RUBBER NOSE CAPS.

A TALK ABOUT NICKEL. During my stay at Copper Cliff today I had a chat with Mr. David H. Browne,

From 15 to 25 per Cent Less

WHAT OTHER DEALERS WOULD ASK FOR THE SAME GOODS. EVERY ARTICLE GUARANTEED BY A MAN OF REPUTATION.

SAL SICKLE, The Jeweler the sulphur. 75 East Second South Street, Between Commercial and State Streets. BRIMSTONE DAMNATION.

company discovered that the nickel in their ore was far more valuable than the copper, and since then nickel has their ore was far more valuable that the copper, and since then nickel has been the principal item of profit. The Sudbury region is a nickel country, and the copper in it is not considered. The ore now being taken from the Creight-on mine carries about 6 per cent nickel, 2 or 3 per cent of copper, about 40 per cent of fron and 25 or 30 per cent of sulphur, with other stuff to make up the balance. This equals about six pounds of nickel to the hundred, or 120 pounds per ton. At the selling price of 40 cents a pound each ton of ore there-fore contains about \$48 worth of nickel. A ton of ore which has one ounce of gold in it pays well for mining, and such ore yields only \$20 per ton. IN THE COPPER CLIFF SMELTERS. IN THE COPPER CLIFF SMELTERS.

The Copper Cliff smelters are of enormous size. Through the kindness of Mr. A. P. Turner, president of the Canadian company. I have been able to go through them during my stay. The ore is brought in on cars from Creightore is brought in on cars from Creight-on raine, which is eight miles away. It it first crushed and screened, and then spread out in great heaps on beds of cord wood to be roasted. Hundreds of tons of the coarse ore are piled upon the wood, and the finer ore dust spread over them. The first is started and then the wood, and the mer ofe dust errors over them. The fire is started and the ore gradually burns away day after day for a period of two months or more. This roasts out 15 or 20 per cent of

give

Even after this roasting there is per cent of sulphur left in the ore. T nd it is now in the most of this is roasted out in the smelling. The air about the furnaces is loaded with brimstone to such an extent that the men use rubber nose caps, for all the world like the nipples on for all the world like the hipples on babies' nursing bottles, save that they are as big as your fist and each has a sponge inside it soaked with carbonate of ammonia. This counteracts the ef-fects of the sulphur in the all breathed through it and makes it possible for the men to work. I had one of these bindles on my nose when I went nipples on my nose when I went through the works to keep out the fumes. Notwithstanding this my lungs became filled with sulphur. I coughed and coughed until the tears rolled down my checks; and as I did so I thought that if some of our preachers could re-ally taste the brimstone here their word pictures of the lower regions

would be more persuasive. -I shall not attempt to describe the the process of reducing the ore in the fur-le to nace. The smeller covers many acres The and its machinery is all of the most ight modern make. Everything is arranged to save manual labor and the ores are reduced at the minimum cost. At present the company is constructing new works in addition to those now in use, and a waterfall 28 miles away is being equipped with machinery which will give the company 10,000 horsepower. The output at this writing is about 700 tons of nickel mate per day, which, at 300 working days in the year, would make something like 200,000 tons of matte annually. All this matte is sent to Constable Hook, N. J., where its va-

The smoke which comes up from ous elements are separated by the Or-

and it is how in the center of the all of the Museum of Natural History. Seventy-seventh street. That meteor pure nickel-steel, and the splinters a hammer heads of the Greenlanders we ickel-steel. Riley heard of these dis-coveries and this gave him the idea which ended in the new metal. I think t was Tyndall who first made it public-y known that the meterorlies contained ickel-steel."

and was venerated by the Greenland rs as a god. The natives were wont to

NICKEL-STEEL FOR GUNBOATS. "I suppose the chief use of nicket is

"Yes, although there are many other nanufactures into which nickel enters the beauty about nickel-steel is that The beauty about hickel-steel is that it combines exceeding toughness with great strength. Copper wire has great toughness. A needle or a penknife has great strength. But it is only nickel-steel that has toughness and strength combined. This makes it especially valueble for error place. A way vessel combined. This makes it typecany valuable for armor plate. A war vessel with a hull covered with steel or iron would be shattered to pieces if one of our modern shells should strike it. If the armor plate is made of nickel-steel it does not break. The great projectile makes only a dimple in it, as you would It does not break. The great projectic makes only a dimple in it, as you would in a pat of butter if you stuck your fin-ger in it. This property of toughness is added to the steel by putting in three and pne-half per cent of nickel while it is making. All the war vessels of to-day are plated with that composition. They have an armor plate of nickel-steel, about 18 inches thick. Such were he plates on the hulls of the battle. ships of both countries in the Russian

CATARRH, FOUL BREATH

If You Continually K'hawk and Spit and There is a Constant Dripping From the Nose Into the Threat, If You Have Foul, Sickening Breath, That is Catarrh.

CURED THROUGH THE BLOOD BY B. B. B.

Is your breath foui? Is your voice husky? Is your nose stopped? Do you snore at night? Do you sneeze a great deal? Do you have frequent pains in the forehead? Do you have pains across the eyes? Are you losing your sense of smell? is there a dropping in the throat? Are you losing your sense of taste? Are you gradually getting deaf? Do you hear buz-zing sounds? Do you have ringing in the ears? Do you suffer with nauses of the stomach? Is there a constant bad taste in the mouth? Do you have a hacking cough? Do you cough at night? Do you take cold casily? If so, you have extart. Catarrie is not only dangerous in this way, but it causes ulcerations, death and decay of bones, loss of thinking and reas, loss of thinking and rea-kills ambition and energy eer kills animiteer, indigestion, ee loss of appetite, indigestion, raw throat and reaches to gen-raw throat and reaches to gen-Balm (B.B.B.), it is a quick manent cure because it rid, of the poison germs that permanent cure because if rids tem of the poison germs that (tarth. Blood Baim (B.B.) puri-e blood, does away with every

symptom, giving strength to the entire Mucus membrane, and (B.B.B.) sends a rich, tingling flood of warm, rich, pure blood direct to the paralyzed nerves mu-cus membrane bones and joints, giving warmth and strength just where it is needed, and in this way making a perfect, lasting cure of catarrh in all its forms. DEAFNESS.

If you are gradually growing deaf or are already deaf or hard of hearing, uy Botanic Blood Balm (B.B.B.), Most forms of deafness or purtial deafness are caused by entarth, and in curing catarrh by B. B. B. thousands of men and women have bad their basting connictely restored. B. B. thousands of men and women have had their hearing completely restored. Hotanic Blood Balm (B.B.B.) is pleasant and safe to take. Thoroughly tested for 20 years. Composed of Pure Botanic In-gredients. Strengthens Weak Stomach, cures Dyspepsia. Price 31 per large hot-right gauntity is taken, money refunded. Sample seat free by writing Blood Balm Co. Atlanta, Ga. Describe your trouble, and special free medical advice to suit your case also sent in sealed latter.

