

**RADIUM.**

**Interesting Facts Concerning This Rare Metal.**

Notwithstanding all the wonderful discoveries in the natural world with which we are now acquainted it may be concluded that we have not yet been able to form an adequate idea of the unlimited riches and resources of nature. Some new wonder is continually coming to light. One of the latest and most curious is the metal radium, which here and in Europe is attracting attention on the part of scientists. Its qualities are very singular and unaccountable. Its most remarkable nature is that which enables it to maintain constantly a higher temperature than that of the bodies surrounding it, so that it is giving off heat continuously, and without diminishing its own mass. Phosphorus and other substances ignite and burn at the ordinary temperature of the common air, but they burn away, their substance combining with oxygen of the air. In the case of radium however there is no wasting away of the mass. It seems to have the property of creating and radiating heat.

There are some substances that waste away in air, but at so slow a rate as to appear undiminished year after year. A piece of musk will scent a room for many years, a hundred years, it is said, and never seem to grow any less, yet it is certain that portions of its substance are carried away to produce the sensation which we describe as its perfume. But in radium we possess a substance whose power to radiate heat is perpetual, while its mass continues undiminished.

Calcium sulphide and phosphorus will shine in the dark, as they slowly burn away. It is the phosphorus which enters into the composition of fishes which cause them to shine when put away in a dark place. But radium placed near these substances causes them to shine and burn away without burning away itself, and continues to maintain undiminished its heat-giving and light-giving properties. A very small quantity in a glass tube put near a man's temple produces a sensation like a flash of light; and placed near the skin, even if some amount of clothing intervenes, it will produce a sore. It is fatal to small insects, and to many living germs. Here is a puzzle in the natural world, a substance which perpetually maintains its size and its energy while perpetually radiating heat. If one could be provided with a sufficient quantity of radium one might be better able to withstand the rigors of a coal famine. But a ton of radium, if so much could be found on earth, would be worth more than \$2,680,000,000. It is valued at \$75,000 per ounce; and only a very small quantity of it has yet been discovered. It is found associated with iron, barium, uranium and other rare metals, and is obtained at very great expense and trouble from an ore called pitchblende, which is found in Saxony.

Radium is yet of little use to mankind, except to impress the mind that the stores of nature may be filled with wonderful things of which we have not yet begun to dream, and which may some day be turned to good account for the pleasure and

benefit of mankind.—Journal for Investors.

**EDISON'S PLACER MACHINE.**

**Its Success Questioned by the Denver Republican.**

The machine devised by Edison to extract gold from dry placers seems practically to be the same in theory as many another device to separate gold from sand by means of strong blasts of air, says the Denver Republican. It is possible, however, that he has accomplished what numerous other inventors have failed to achieve.

It has been long recognized that if the gold contained in dry placers could be economically separated from the sand and gravel in which it is found, millions of dollars of that metal could be added to the world's supply and thousands of acres of gold-bearing sand could be made productive. In the southern parts of both Arizona and New Mexico dry placers of this kind exist, and many attempts have been made to develop them. Assays show that they contain large quantities of gold, but thus far all attempts to separate it have failed.

It is possible that if the Edison device should prove practicable it could be used to extract the gold from the clay and sand beds south of this city, which cover an area of many square miles. Numerous experiments have shown that gold exists in these deposits, but no method of extracting it has ever been successfully devised. The problem is complicated in this instance by the presence of clay which, when wet, takes up the gold and hence no system of sluices can be successfully operated. It would seem, however, that if a air blast will separate gold from ordinary sand it would work as successfully where, with the sand, ordinary clay is intermixed.

The area of these gold beds around Denver is so large—extending far up the northern slope of the Colorado Springs divide and for many miles east and west—that its development would give employment to thousands of men through a long period of years. There is hardly any estimating the amount of gold that might in this way be produced.

It is claimed that experiments near Santa Fe have shown the Edison device to be successful; but all such statements should be taken with many grains of allowance until practical work demonstrates the value of the invention.

**New Insurance Firm.**

Captain E. C. Overton, of San Francisco, special agent for the Milwaukee Fire Insurance company, was in the city last week and appointed The J. H. MacCallum company Sumpter representative.

**Help Build Up The West.**

The low rates from the east to the west and the northwest, February 15 to April 30, will undoubtedly bring out thousands of settlers. Where they will go is largely a question of inducement. If you are interested in securing any eastern people for your section of the west, send their names and addresses to the undersigned. All the facts and figures about the trip will be promptly sent them. H. S. Rowe, General Agent, Chicago, Milwaukee & St. Paul Railway, 134 Third Street, Portland, Ore.

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