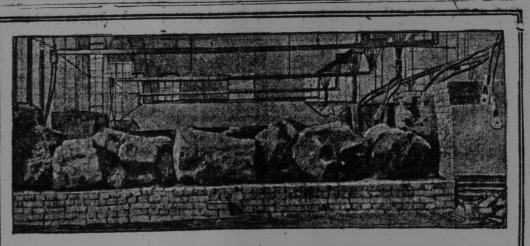
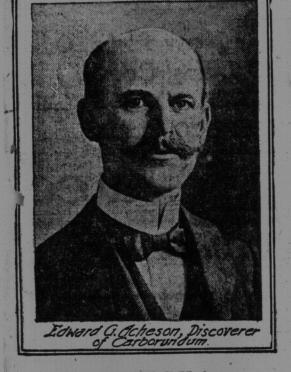
MC2289

POOR DOCUMENT

The Romance of Carborundum, Harder than Diamonds AWonderful New Substance Born of Carbon, Saltand Sand at a Temperature as Hot as the Sun



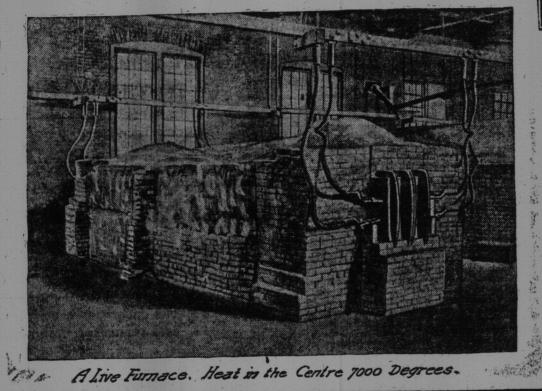


By Leigh Mitchell Hodges NE day, fifteen years ago, a man named Acheson, in Monongahela City, Pa., was experimenting with an electric current.

This man was a sort of dreamer. Some folks called him a fanatic on the subject of electricity, about which comparatively little was then known.

"But if he gets any pleasure out of it," they said, "let him go on."

That's what he did. And on the day referred to he took a little iron bowl, lined with carbon, and a carbon rod, and, after he





Carborundum Furnace After Bunnin

metal be turned to gas, you feel that the term is

It is a regal sort of heat; an astounding heat; a sat that makes you wonder if, after all, the orthodox e right about their ideas of one part of the here-

There are fifteen of these furnaces, each the height of a man and about ten by twenty feet in size. They are built loosely of brick, and after each charge taken to pieces and rebuilt for the next charge, since the in-tense heat often melts the bricks together. In each furnace is plied a mixture of powdered coke, fine white sand, granulated carbon, salt and sawdust—the latter to provide vents for the escaping sas, ten tons of which is generated at each burning. Through the centre of each furnace is laid a cors of carbon, around which is packed the mixture, and after the top has been rounded the electricity is ap-plied. There are fifteen of these furnaces, each the height

cables that carry the current fr The The cables that carry the current nom one one on another are as thick through as a strong man's wrist. They are securely connected to the furnace at either end, and a current having an energy of 2000 horse-power is turned on. In a few hours blue flames begin to shoot out between the bricks and from fissures in the top of the mass. But there is no other evidence of the interse best within

The burning goes on for thirty-six hours. Then the mrent is turned off and the furnace allowed to cool several hours.

ugh heat has been used in the 144,000 gallons of water to the boiling point; i est 1,400,000 pounds of iron red hot! Is it any wor er it produces something new and strange!

SPARKLING CRYSTALS UNCOVERED

Is it any wonder that as the workmen, standing va-heavy planks to keep from blistering their feet, showd off the black covering they come presently to 14,000 pounds of sparkling crystals, shining with all the col-ors of the rainbow and giving out what is left over of the heat that made them for hours to come. In big iron "buggies" the crude Carborundum is carted to the crushers. Here it is granulated by the swift revolution of ponderous wheels, and after this it is sifted. The result is a mass that might be mis-taken for breakfast food but for the color. And then comes the grading. For the large thirty-six-inch abrasive wheels, which are used for grinding car wheels, the coarsest grade is used, and for razor hones the finest --it looks like black flour. All these are pressed into

had placed the rod in the bowl, he piled a mixture of carbon and clay all around it and turned on a high current, to see what would happen. Then he waited patiently.

When the mass cooled, he opened the tiny furnace and found a few bright blue crystals surrounding the rod. They were so small he could barely see them, but they sparkled like diamonds, and, what was more, he found they would cut glass like diamonds, too!

This man-E. G. Acheson is his nameknew a great deal about metals and all that sort of thing, but he couldn't classify these crystals. Yet he was unwilling that such pretty things should remain nameless, so he called them Carborundum.

So this, then, is the beginning of the romance of Carborundum, a substance no trace of which has ever been found in nature, and which strayed into being through accident. No, not by accident. Nothing ever happens that way.

The time had come for Carborundum; that's all.

THE new substance possessed a strange 'ascina-tion in the eyes of its discoverer. The irides-cent crystals seemed to be the bearers of some message to him. But what was this message? He set about to see. First he tried the ...cking of it on a slightly larger scale, building a furnace with four bricks, and the result was an increased produc-tion. Then he studied it and tested it, and found that it was almost, if not quite, as hard as the diamond; intensely sharp and infusible at any known heat. This made him wonder if it might not be used for the pol-ning of precious stones. It was foolish to think of adapting it to ordinary abraive uses, for the world already employed emery

It was foolish to think of adapting it to ordinary abrasive uses, for the world already employed emery in these, and emery could be sold profitably for 5 cents a pound, while Carborundum would cost 40 cents a carat, or \$880 a pound, and then, how did he know he could ever make so much as a pound of it! It now sells for 10 cents a pound and 10,000,000 pounds of it are produced annually in Niagara Falls, But this is an ante-climax. It occurred to Mr. Acheson that jewelers paid 70 cents a carat for diamond powder with which to polish

It occurred to Mr. Accesson that jeweiers paid 70 cents a carat for diamond powder with which to polish gens, and he felt sure they would like to save the 33 cents if they could. So when he had made enough of this new stuff to fill a vial that had once held sugar

this new stuff to fill a vial that had once held sugar pills, he put the world's entire supply of Carborundum in his vest pocket and started for New York. The first gem merchant he went to laughed a laugh that had grown rusty through constant use, and said he would try it just to show it wouldn't work. But it did work, and Acheson went back to Monongahela City with an order for ten carats at 40 cents a carat.

THE RISE OF AN INDUSTRY

On the strength of this order he organized the Car-borundum Company and built a furnace that would produce four ounces a day. These improved methods fairly swamped the market, and the price soon fell to \$440 a pound. And the supply outstripped the demand, until t was found that the operation of valve-grinding could be performed in a mere fraction of the accus-

could be performed in a mere fraction of the accus tome: time if Carborundum was used. Then the price fell to \$10 a pound, and purchasers would keep one or two pound cans in their safes and weigh out the contents to the foremen as they needed it. And all of a sudden the demand passed the supply, it. And all of a sudden the demand passed the supply, and the company started an electric light pla t and a one-car electric railway to secure a steady flow of the Carborundum secured to have made needed current. Carborundum seemed to have made

When the annual production had mounted to fortyfive tons, however, the demand failed to show further ingrease, owing to the high cost, and the world might have suffered the loss of one of its most valuable and widely used products had not the dentists come to the

For today Carborundum smooths the soles of our shoes and roughs up our suede gloves, and scrapes our bones after we are dead and in the dissecting room, and ornaments our street signs and hulls rice for our friends in India, and polishes our tombstones for our friends in India, and polishes our tombstones and the stones we wear before we get to these, and carves our pearl buttons and sharpens our carving knives and our razors, and keeps us from slipping down the stairs when we descend to the subway cars,

sens by two-thirds the time required to excavate an exquisitely sensitive tooth! This is one of the things Carborundum has dons. But just about the time it began to do this well, it was discovered that in order to continue its manufac-ture with any profit electricity would have to be se-cured for less than any one thought it ever could be got. The possibilities seemed great, but it would take the key of oheap electricity to be found? At that crucial moment the harnessing of some of Niagara's vast power was planned and accomplished, and so when cheap electricity became a necessity, it became a fact. And the little company that had been

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And it does all these things because the dentists found it would greatly facilitate their business of mouth-mining, and said to the manufacturers: "Go Novel Swindles That Entice the Gullible Rich men were accused recently of swindling a wealthy widow of Cincinnati, who had gone to New York to select new furnishings for her house. How they learned of her intention is another story, simply an evidence of their alextense

<text><text><text><text><text><text><text><text> learned of her intention is another story, inhere evidence of their alertness. The two men, it is charged by the police, rented a vacant store for a short time, borrowed some hand-some and costly rugs, carpets and other furnishings from merchants in the vicinity, and proceeded to trans-act business with the Cincinnali oman. It is said she selected goods to the amount of \$51,900, giving a check for \$800 and notes for the bal-ance. Returning to Cincinnati, she was soon called upon by one of the men and induced to cash her own notes.

A FINE SCHEME FOILED.

A FINE SCHEME FOILED. This was a case of collusion, and, as a chain is no stronger than its weakest link, the entire conspiracy fell apart when one of the accused confessed. A simple scheme it was; so simple that it puzzled the best detectives for weeks. When a merchant wished to ship a case of goods to a customer in the South, for ex-arple, and it was called for by a truckman in the plot, it never reached the wharf. It was taken immediately to a receiver of stolen goods. The truckman then took his bill of lading to a checker. who checked it as the goods having been received; then it went to a clerk for his "O. K." in order to complete the record. Of course, all these persons were in the plot and they divided the proceeds of the sale of the goods filed.

coarsest grade is used, and for razor hones the meat --it looks like black flour. All these are pressed into shape hydraulically and then fired in a kiln where white heat reigns. And this product of such vast heat will cut any-thing in the world, even the surface of a diamond. It will eat its way through chilled steel as easily as you and I eat our way through a slice of home-made bread. It will put a gloss on the ruby and the sapphire, and there is no acid in existence that will dissolve it. It will resist any known heat. / It is the child of the greatest known heat.

It will resist any known heat. It is the child of the greatest known heat. Such are the properties of the substance Acheson discovered through his "fooling" fifteen years ago. Every month widens the scope in its practical use. As before enumerated, it now enters vitally into the production of an amazing number of articles, and its versatility seems in no wise exhausted. The company is doubling its furnace capacity. The whole world is calling for Carborundum, and to spend a few hours in the shipping room of the plant is like taking a course in geography. It is sent to every nook and corner of the earth. And it is rather interesting to think that if the price of it had not changed in its growth from a caray product to a carload product, the value of the annual output would now be \$4,400,000,000! Even though it does fail short of this amount by a few hundred millions, it was worth the "fooling," wasn't it?

wasn't it?

SOME CURIOUS FACTS AND FANCIES

I NGERMANY, during May, hundreds of children run about the streets without hats on when it rains; as it is generally believed that May rain is most healthy, and that when it falls on their bare heads the children will grow quicker and gain in

In France a man under 25 years of age, whose

In France a man under 25 years of age, whose parents are dead and whose grandfather or grand-mother is alive, cannot marry without the written au-thority of both, or either, of them. The natives of the Sandwich Islands estimate women by their weight. The Chinese require them to have deformed feet and black teeth. A girl must be tattooed sky-blue and wear a nose ring to satisfy a South Sea Islander. Certain African princes require their brides to have their teeth filed into the sem-blance of a saw. The Japanese farewell, "Sayonara," means some-thing like "If it must be so," or "If we must part thus, so be it."

Kissing and shaking hands are rarely practiced

in addition to whatever the girl brings with her as dowry; or if the "prize" in question does not please him, he can turn the ticket over to a friend. The Tartars regard onions, leeks and garlic as perfumes. A lady of Tartary will rub a piece of freshly cut onion on her hands and over her coun-tenance to enhance her attractions. In Scotland it was long customary to place on a man's tombstone the symbols of his trade; and in burial grounds tombstones so ornamented are to be found. Thus, at the Abbey of Dunblane a sugar cone may be seen as showing the grave of a grocer; an axe and a saw, with hammer and nails, occur on the grave of a carpenter; and an awl and hammer on that of a shoemaker.

In wont to a clerk for his the second were in the plot in the distribution of the socies of the sale of the socie socie is at the other socies in the distribution of the books, that the orman set of the socie is provided to be distributed in the borner of the socies in the socie is a constrained to be socied by the socies in the socie is provided to be distributed in the borner of the socies in the socie is provided to be distributed to be socied by the socies in the socie is provided to be distributed to be distributed

leased. The owner came over at the same time, lived at an expensive hotel, and entered into negotiations with a number of wealthy art patrons to dispose of the "Old Master." One such man, it is said, had virtually agreed to buy the painting. Then entered in bond the owner gave \$50,000 as its lowest valuation. At a rate of 20 per cent, the so oppressive, if the painting could be sold for \$65,000 The glittering bubble was pricked, however, when the customs appraiser, after a careful examination, placed on the painting a valuation of only \$200. Ne-solutions for its sale of course, came to an end right there, and the chagrined speculator returned to France with his "Old Master." The said by experis that this line of operation had performed what seemed to be a promising field Many American collectors of paintings and art objects are better endowed with means than special training; they are greatly impressed by names- and it is easy to at-tibute canvases to "Old Masters." With equal adroitness and greater success, two

\$65,000 and \$75,000. Mystery surrounds the ownership, since it failed to change hands. The painting was supposed to have been the product of a noted Italian master whose name is widely known to the art world through his frescocs. At any rate, it was brought to America with a con-siderable flourish of trumpets, held in an elaborately con-structed packing case and surrounded with the precau-tions that are usually thrown about a treasure. Coming over in bond, it was held in the New York Custom House until the duty should be paid and the painting re-leased.

 MANY MYTHICAL ESTATES

 One of the most extensive swindles popular just now is that dealing with a vast estate somewhere-interpretent of the property subscription of the property subscriptions of the property and property and property is subscriptions of the property is subscriptions of the property and property is subscriptions of the property subscriptions of the property and property and property and property is subscriptions of the property and property and property is subscriptions of the property and property and property is subscriptions of the property and pr

then why work? There are probably more swindlers busy today with ingenious and, in some cases, really unique swindles than ever before were known, and the victims seem hungrier than ever.

The Furnace Room in Which Carborum

and does a hundred other odd jobs of importance, in addition to its principal work done through abrasive

The owner came over at the same time, lived at

wheels

then why work?

NLY a few weeks ago an "Old Master," as it had been generally regarded, was suddenly withdrawn from the American market and shipped back to France. This, too, after negotiations had been ost completed for the sale of the painting at between

The the second s upon by one of the men and induced to cash her own otes. If the bold dealers had really purchased the goods from the merchants from whom they borrowed, they would have made a profit of about \$30,000. As it was, the police assert they simply returned the goods to the owners and pocketed the entire amount, minus the temporary rent of the store. It is perhaps unnecessary to state that the widow failed to receive the goods she had pald for. The two men were arrested and lodged in jail. Later, it is stated, they compromised by returning \$30,000 of the money, and the woman refused to press the charge of swindling.

men were arrested and lodged in ling \$30,000 of the stated, they compromised by returning \$30,000 of the money, and the woman refused to press the charge of the semicling.
The word of the woman refused to press the charge of the incinnation of the same name as one in the similar stated to be a book venter.
The transactions was stated to be a 'book venter.' although its exact nature had not been revealed. The police said, intrusted \$50,000 to be a 'book venter.' although its exact nature had not been revealed. The 'book venture.' while the widows of an Ullinois between invested \$10,000 in a rosy dream.
Much more easily satisfied was a smooth individual widow of an ullinois be eventure and the source of the transaction of the same name as more than the police shald, intrusted \$50,000 to bin, one of the police shald. Intrusted \$50,000 in a rosy dream.
Much more easily satisfied was a smooth individual widow picked up \$2500 or more for suits of clothes through the country about Columbus, Ind., when he set the event materialized.
Having samples of goods, order blanks and an intrusted \$10,000 in a rosy dream.
What proved to be the really cluring bail, how, was an offer that, if the customer would buy there suits and two dress patterns for \$60, the house and offer ins houses. The specific material present his wife daughter or any one he wished and present his wife daughter or any one he wished and two dress patterns for \$60, the house patterns for \$60, the house and offer that. If the customer would buy three suits and two dress patterns for \$60, the house and offer the the daughter or any one he wished and present his wife daughter or any one he wished and two dress patterns for \$60, the house and some tailor-made suit free or charge.

MANY MYTHICAL ESTATES

