

ILLINOIS

by LESTER COLEBY

Five hundred years ago the kings and queens of Europe and the royal sheiks and shebas who made up their courts wore cloths fashioned of fine spun gold and silver. The finer the threads of these metals the rarer and costlier the garments and so the more loved.

In a little village in southern France a small group of peasant artisans learned the secret of drawing these threads finer than anyone else anywhere. This was because they found out how to drill amazingly small holes through sapphires and rubies. These were used as the dies.

And finally, as demands for finer threads came, they drilled diamonds making holes smaller than in the rubies and sapphires. For all these five hundred years this little group of peasants in a little village in southern France have kept their secret.

In Illinois town I picked up the trail of these medieval French artisans the other day in an Illinois town. I found here, in a plant in North Chicago, diamonds brought from France which are used in one of the most remarkable laboratories in all the world — a laboratory which is doing special research work in three rare metals. They are tungsten, molybdenum and tantalum.

Tantalum was named for Tantalus, the character in Greek mythology whose name gives the world tantalize. Tantalum is the most tantalizing metal ever found, from the viewpoint of the metallurgical chemist. Tantalus, you should know, was the one who because he cast a covetous eye on a goddess, or something like that, was doomed by one of the angry gods to a strange punishment.

He was to sit always in a stream of cooling water, always thirsty, and whenever he bent over to take a drink, the waters would recede. Bunches of grapes hung about him and whenever he reached out for them they would swing away, just beyond his reach.

Interesting History

In this Illinois laboratory the Fansteel Products Co., Inc., spent six years time and \$250,000 learning how to handle this elusive metal and figuring out what it is. Then these scientists spent two more years working to create a market. Today they are doing a business of \$4,000,000 a year in this strange metal and they found success in seeming defeat. It came when they learned that tantalum would pass an electric current in only one direction. The idea came to use it as a valve. That was an amazing thing. Why it acts as it does no one knows. But out of that known fact came the tantalum rectifier. What does it do? I will mention two things:

1. Makes possible elimination of interference in radio.
2. Solves the problem of obtaining direct current from alternating current.

Sixty-five railroads have adopted the tantalum rectifier because it gives signals greater perfection and so makes life safer.

Other Precious Stones

Let us return for a moment to the rubies, sapphires and diamonds. In this manufacturing laboratory I was shown wire drawn from tungsten and tantalum to a fineness of 4-10,000ths of an inch. The means that this wire is so fine that it would take 2,500 strands of it, laid side by side, to measure an inch. Compare that with the hairs of your head or the threads of a spider's web.

It is so fine that when it was laid across my finger tips I could not feel it and could see it only when it got a glint of the sun. Yet when I pulled it, it had definite strength.

What is this fine wire used for?

It is this very fine wire that has made the radio tube possible and so, you see, when the kings and queens of the old world, five hundred years ago, started a craze for cloth woven of fine gold and silver threads, they laid the foundation for radio and a most amazing industry in North Chicago, Illinois.

Other Wonders

There are other wonders in this peculiar laboratory, more than I can tell here. I met there Dr. Clarence W. Balke, for whom baltite is named. I saw photographs of sections of metals enlarged 5,000 times. I saw some cerium, a sparkling metal. Draw a knife across it and a stream of fire pours out.

"I find this work filled with romantic and dramatic interest," commented Dr. Ronald Webster, one of the super-scientists there. "I like it because we are working all the time on the absolute edge of human knowledge. It is fascinating and stimulating."

I learned that tungsten, molybdenum and tantalum melt only at from 5,000 to 6,000 degrees Fahrenheit. That means that no crucible has ever been made which will hold them in melted form; the crucible will melt first. They are worked in vacuum.

Another Industry

We turn now to pills. In this same city, North Chicago, are the Abbott Laboratories. They are on a twenty-four acre site and the buildings cover twelve acres. The plant, just being completed, represents an investment of more than \$1,000,000.

"The great business of today started yesterday in a most humble way," says Roger W. Babson, eminent authority on industrial development. "And the great businesses of tomorrow are

today being operated in cellars and garrets."

How did the Abbott Laboratories start? Well, back in the 90's a family physician, Dr. W. C. Abbott, lived in Ravenswood, Chicago. There were a few certain medicines he used which were not packaged as he thought they should be for convenient handling. So he had them packaged according to his ideas for his own use. One day he said to himself, "Other physicians ought to want these."

So he made an advertising appropriation of twenty-five cents. It was for a "four-liner" in a medical journal. It worked — pulled business. The advertising appropriation of the Abbott Laboratories now is \$200,000 a year. There are a lot of facts between the first advertisement and now.

The company is the largest in the United States manufacturing "coal tar synthetics." Its business is solely with the pharmaceutical manufacturer, the wholesale druggist, the retail druggist and the physician. It markets no so-called patent medicines at all.

Further Example

Another example of the little business growing. The Chicago Hardware Foundry Co. of North Chicago, was incorporated in 1897, capital \$5,000. Employees took all the stock. John Sherwin, foreman of the plant thru prior years of vicissitudes, became president. E. P. Sedgwick, superintendent, became secretary and treasurer.

Today that company is incorporated for \$1,300,000 and has 880 people on its payroll.

It is building a \$100,000 addition to its plant which now covers the most of 24 acres. It is manufacturing porcelain ware of many kinds; bases for barber chairs, white tops for porcelain tables, cafeteria equipment, hospital equipment, parts for merchandising scales, dish washing machines.

It has a gray iron foundry, makes ornamental electric lamps, ornate aquariums, parts for "Hot Point" irons. They do come up from small startings.

Idea Is Born

One day back in 1919 W. J. Grotenhuis stood in a show window on Michigan avenue, Chicago, watching a stream of cars go by. The driver of a light delivery truck swung around a corner and struck a passenger car head-on. Right there another business was born.

Riding home with W. G. Pancoast, a business associate late that afternoon, Mr. Grotenhuis told of the accident and pointed out that one bumper had gone over the top of the other bumper, resulting in serious damage to both cars. "They're not made right," he said. These two men went to work to improve the bumper of 1919 and developed the Biflex bumper.

They sold 31,000 of them in 1920; 91,000 in 1921; 131,000 in 1922; 169,000 in 1923; 175,000 in 1924, 190,000 in 1925 and they plan to make 250,000 in 1926. Their plant investment at North Chicago is \$350,000, on their payroll about 280 people. The plant covers 6 1-2 acres and their advertising appropriation this year will be \$200,000.

Thus was another industry born of such a little thing as a delivery boy forgetting his boulevard stop.

Other Big Plants

Among the other large plants at North Chicago are the American Steel and Wire Co., 4,000 employees; Cyclone Fence Co., 1,200; National Envelope Co., 600; Yale & Towne Mfg. Co., Sager Lock Works, 300; Creamery Package Co., 200. There are fifteen or twenty smaller plants making everything from wood patterns to incubators and from candy to vacuum cleaners.

The federal census gave North Chicago a population of 5,839 in 1920. Its population, based on the school census, is put at 9,000 today. It is the only town in Illinois that I have heard of that has more people on its payrolls than live in it.

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HOOPER RECOGNIZED

THE AMERICAN LINGO

In an article on Herbert Hoover in the September Scribner's Magazine, Silas Bent relates an amusing story of how while he was engaged in relief work in Europe after the war a message sent to Hoover in a language perplexed all but the director himself.

"After the World War Hoover took charge of a relief program covering nearly all Europe, with powers as sweeping as had accompanied his work in Belgium. His bright young men commandeered trains, fed multitudes, and arbitrated incipient wars. There was the case, for example, of a certain archduke whose ambitions threatened to interfere with Samaritanism. Mr. Hoover's young men did not intend to permit a mere nobleman to cramp their style in good works. One day a puzzled Britisher called at Mr. Hoover's London office with a cablegram.

"Can you make this out?" he asked. "It is in code, but it is not our code, and it is not American Relief code. Queer bird, it is."

"The message read: 'Archie on the carpet at twelve ten. Through the hoop at twelve thirty.'

"I think I understand this," said Mr. Hoover, unsmiling. The archduke had been persuaded to see reason."

TROUBLE AHEAD

Asked whether she would "love, honor and obey," a rebellious Scranton bride replied, "I will not." A new version of the nuptial not.—Farm & Fireside.

HENCE JAZZ

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These are the startling declarations of Charles Francis Potter, formerly of Antioch College and now called to New York as head of one of the great churches, writing in the Woman's Home Companion.

"While learned professors in their studies are laboring to disprove the historical existence of the alleged law-giver, around the corner comes the protector of urchin and sage, the Irish policeman, whose steps beat out the eternal words of Moses: 'Thou shalt not kill. Thou shalt not steal,' Dr. Potter continues. 'His life seems actually between superstition and religion. His own religion had a content of superstition, but through the windows of his personal experience our human race saw a bright light where hitherto had been darkness.

"The question is not: 'Did Moses ever live?' The real question is: 'Will Moses ever die?'"

AUTOBIOGRAPHICAL FIBS

Literature by man on the subject of women is the most interesting and unreliable in the world. It is unreliable because it is autobiographical and all autobiography is fiction.—The American Magazine.

Remember the good old days when the baseball players wore flowing mustaches and checked tobacco?

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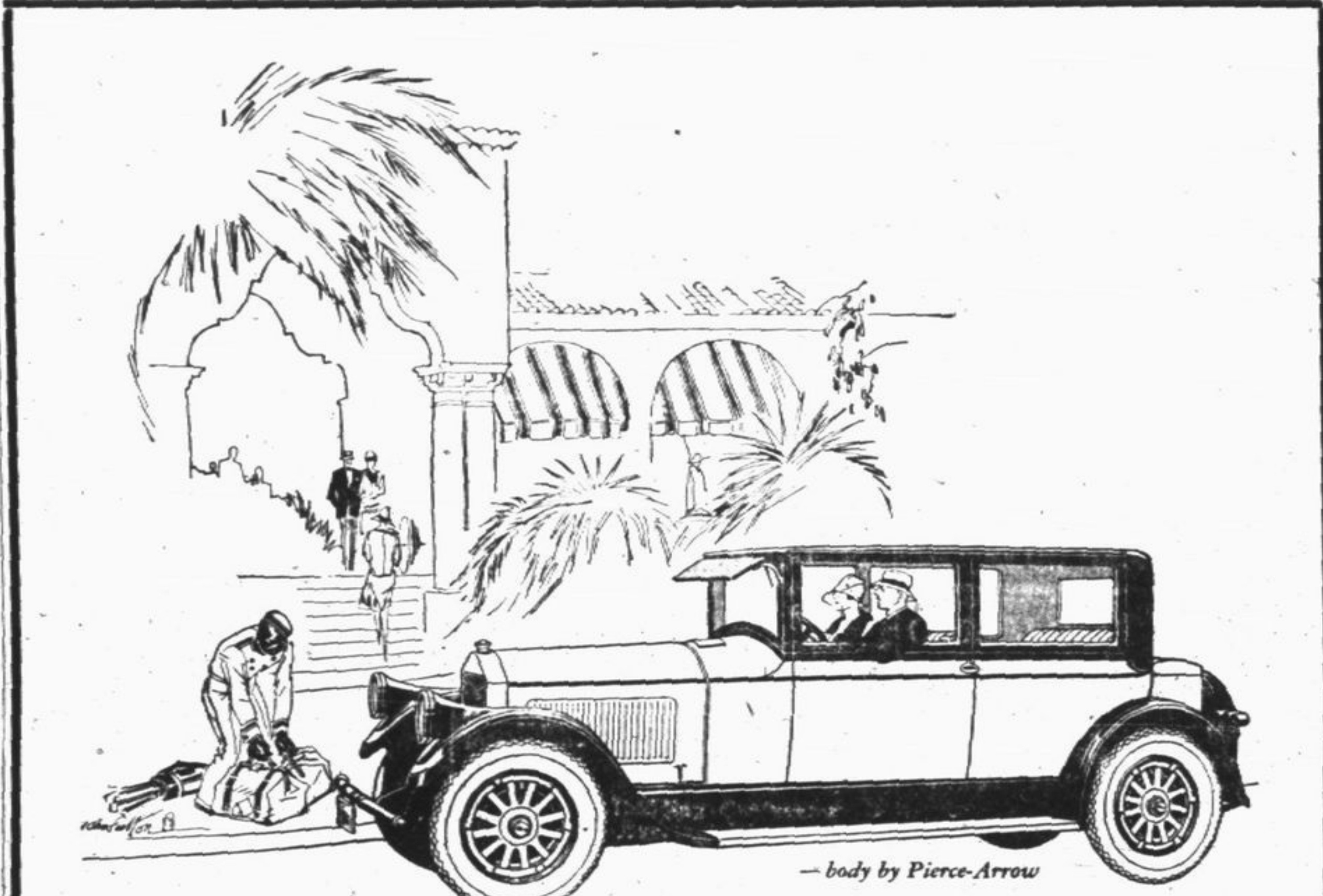
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